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Scientific Editors

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Preface

The **Africa24 Conference: Conservation of Built Heritage in Africa** provided an international platform for dialogue, reflection, and knowledge exchange on the conservation of built heritage across the African continent. Held in Mombasa, Kenya, in November 2024, the conference brought together researchers, heritage professionals, community representatives, and institutional stakeholders united by the shared aim of strengthening connections between technical knowledge, traditional practices, and contemporary approaches to heritage management. The event was jointly organized by individual African ICOMOS expert members alongside eight of its International Scientific Committees and Working Groups — ICTC, ISCCL, ICICH, ISCES, ISCEAH, OCD-RBA, EPWG, and CIAV. This collaboration reflects ICOMOS's commitment to inclusive, diverse, and context-sensitive approaches to heritage conservation. By focusing specifically on African contexts, Africa24 highlighted both the challenges and the opportunities inherent in safeguarding the continent's built heritage

Africa24 was conceived as a platform to support local communities and professionals working in key areas such as vernacular architecture, earthen architecture, cultural landscapes, intangible heritage, cultural tourism, energy and sustainability, and rights-based approaches to heritage. At the same time, the conference sought to broaden participation within ICOMOS by encouraging new memberships and raising awareness of the organization's initiatives and activities related to African cultural heritage.

The idea originated from concerns within CIAV, being the ICOMOS International Scientific Committee for Vernacular Architecture, which noted that less than 5% of its members from Africa, despite the continent's extraordinary welth of surviving built heritage. A communication was made with other ICOMOS international scientific committees and working groups. This prompted outreach to other ICOMOS International Scientific Committees and Working Groups, which was met with overwhelming enthusiasm. Words of encouragement, followed by logistical support, were provided by the ICOMOS International Secretariat. A shared recognition emerged of the importance of African heritage and the need to strengthen communication and collaboration with African colleagues and stakeholders. The journey, from the inception of the idea, to the realization of the conference in the beautiful city of Mombasa , generously hosted by Swahilipot Hub, was a labor of love by all those who were involved in the preparation and organization of the different aspects of the event, including the edition of this volume.

The conceptual framework of the conference was inspired by the **African Union's Agenda 2063**, which outlines a long-term vision for the continent's cultural, social, and economic development. In alignment with the ongoing work of the African Union's Culture Division, Africa24 also aimed to foster institutional partnerships and long-term collaborations that strengthen local and regional capacities in heritage conservation. The contributions gathered in these proceedings reflect the richness, diversity, and vitality of the research and experiences presented during the conference. Through case studies, theoretical reflections, and methodological proposals, the texts underscore the importance of built heritage as a cultural, social, and environmental resource, as well as its fundamental role in shaping more sustainable and inclusive futures for African communities.

It is hoped that this volume will serve as a valuable reference for researchers, practitioners, and policymakers, and that it will contribute to strengthening networks of cooperation and knowledge exchange in the field of built heritage conservation in Africa.

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Préface

La **Conférence Africa24: Conservation du patrimoine bâti en Afrique** a offert une plateforme internationale de dialogue, de réflexion et d'échange de connaissances sur la conservation du patrimoine bâti à travers le continent africain. Tenue à Mombasa, au Kenya, en novembre 2024, la conférence a réuni chercheurs, professionnels du patrimoine, représentants communautaires et parties prenantes institutionnelles, unis par l'objectif commun de renforcer les liens entre les connaissances techniques, les pratiques traditionnelles et les approches contemporaines de la gestion du patrimoine. L'événement a été organisé conjointement par des membres experts africains de l'ICOMOS et en collaboration avec huit de ses comités scientifiques et groupes de travail internationaux — ICTC, ISCCL, ICICH, ISCES, ISCEAH, OCD-RBA, EPWG et CIAV —. Cette collaboration reflète l'engagement de l'ICOMOS envers des approches inclusives, diverses et contextuelles en matière de conservation du patrimoine.

En se concentrant spécifiquement sur les contextes africains, Africa24 a mis en lumière à la fois les défis et les opportunités inhérentes à la sauvegarde du patrimoine bâti du continent. Africa24 a été conçue comme une plateforme pour soutenir les communautés locales et les professionnels œuvrant dans des domaines clés tels que l'architecture vernaculaire, l'architecture en terre, les paysages culturels, le patrimoine immatériel, le tourisme culturel, l'énergie et la durabilité, ainsi que les approches fondées sur les droits du patrimoine. Parallèlement, la conférence cherchait à élargir la participation au sein de l'ICOMOS en encourageant de nouveaux membres et en sensibilisant aux initiatives et activités de l'organisation liées au patrimoine culturel africain.

L'idée est née des préoccupations de l'intérieur de la CIAV, qui est le Comité scientifique international de l'ICOMOS pour le patrimoine vernaculaire bâti, tout en notant que moins de 5 % de ses membres viennent d'Afrique, malgré le continent qui possède un patrimoine bâti extraordinaire et extraordinaire. Une communication a été établie avec d'autres comités scientifiques et groupes de travail internationaux de l'ICOMOS. Theis a suscité des échanges auprès d'autres comités scientifiques et groupes de travail internationaux de l'ICOMOS, ce qui a suscité un enthousiasme immense. La réaction et l'enthousiasme étaient écrasants de la part de tous. Des mots d'encouragement, suivis d'un soutien logistique ultérieur, ont été proposés par le Secrétaire international de l'ICOMOS. La reconnaissance de Une reconnaissance commune de l'importance du patrimoine africain et la nécessité de renforcer la communication, la communication et la collaboration avec les collègues et parties prenantes africaines ont été ressenties par tous, de l'ICOMOS ainsi que d'autres organisations et individus. Le parcours, depuis la naissance de l'idée jusqu'à la réalisation de la conférence dans la magnifique ville de Mombasa, avec la généreuse organisation du Swahilipot Hub, a été un travail d'amour de tous ceux qui ont participé à la préparation et à l'organisation des différents aspects de l'événement, y compris la préparation de la publication de ce volume.

Le cadre conceptuel de la conférence s'inspire de l'Agenda 2063 de l'Union africaine, qui expose une vision à long terme pour le développement culturel, social et économique du continent. Conformément aux travaux en cours de la Division de la Culture de l'Union africaine, Africa24 visait également à favoriser des partenariats institutionnels et des collaborations à long terme qui renforcent les capacités locales et régionales en matière de conservation du patrimoine. Les contributions recueillies dans ces actes reflètent la richesse, la diversité et la vitalité des recherches et expériences présentées lors de la conférence. À travers des études de cas, des réflexions théoriques et des propositions méthodologiques, les textes recueillis ici soulignent l'importance du patrimoine bâti en tant que ressource culturelle, sociale et environnementale, ainsi que son rôle fondamental dans la construction d'un avenir plus durable et inclusif pour les communautés africaines.

On espère que ce volume servira de référence précieuse pour les chercheurs, praticiens et décideurs, et qu'il contribuera à renforcer les réseaux de coopération et d'échange de connaissances dans le domaine de la conservation du patrimoine bâti en Afrique.

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Climate Change
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Built Heriatge Conservation in Lake Tana area, Northwest Ethiopia: challenges and prospects

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Abstract

This study aims to investigate the challenges and prospects of built heritage conservation in Lake Tana, northwest Ethiopia, a region with a rich history of socio-political and religious sites and buildings. The research uses primary and secondary sources, including observations, interviews, and literature reviews. Factors such as climate change, bio-colonization, lack of awareness, unintended activities, and poorly organized restoration efforts pose significant threats to these sites and monuments. Population growth and associated human activities, such as clearing vegetation and agricultural encroachment to the built environments, also contribute to degradation of these sites. Despite these threats, conservation efforts remain limited. The limited restoration efforts on historical buildings are unprofessional and focus on fixing cracks, fissures, and lost parts without considering the original material integrity. The lack of expertise and funding also necessitates active stakeholder engagement in conservation activities to address these critical challenges that built cultural heritages are facing.

Keywords: *Lake Tana, climate change, conservation, built heritage, challenge*

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1. Introduction

Built heritage refers to heritage resources consisted of physical objects and sites including building, properties, artifacts, landscapes, structures, monuments installations, or physical remains, which are associated with architectural, cultural, social, economic and political history (Adrienne Muir, 1994; Shin Bin Tan and Edward S., 2020). It is an integral and essential part of the history and identity of the people where it is found and useful for understanding our past and analyzing change and continuity through the passage of time.

Built heritage conservation encompasses all strategies and initiatives aimed at preserving cultural heritage while making it accessible to current and future generations. It includes preventative preservation, adaptation, reconstruction, and restoration with critical consideration of values of cultural heritage items, physical qualities and its material integrity (ICOM-CC, 2008; Mason, 2002). Humans' desire to own, conserve, and use cultural heritage emanates from a variety of values, which can be broadly classified into two categories: socio-cultural value which includes historical, cultural, social, spiritual, aesthetic, and political values, and economic value in which heritage can be marketed to generate economic significance (Mason, 2002). Conserving cultural heritage is consider as preserving identity of a given community. The need to conserve cultural heritages has become increasingly apparent in recent time since they are irreplaceable humans' assets (Mabulla, 2000). However, it remains a mere aspiration of most developing nations particularly of Africa; and conservation activities are too limited (Ibid). as such, built heritage is challenged by both natural and anthropogenic factors climate change, bio-colonization, rainfall, sunlight, lack of fund, lack of skilled conservator and restorer. Heritage values and conservation are likewise given low attention and there is no proper plan to use such priceless cultural assets for socio-economic development (Chirikure, S., Manyanga, M., Ndoro, W., & Pwiti, 2010; Ndoro, W. 2016; Keitumetse, S. O, 2016). With this, built heritages are deteriorating at a faster rate that exhibits the absence of effective conservation activities by stakeholders. As stated by Johari H.N. Amar & Lynne Armitage (2019) the scanty heritage sector's effort to protect cultural built heritage coupled with the natural processes of decay causes degradation of the built environment than ever before.

Historic monuments and sites; and associated artifacts constitute the history of the people who created, shaped and utilized them for different purposes of great historic significances. They are also live evidences or reflections of the fundamental and governing principles of innovation or technological knowhow, creative imaginations, thoughts, decisions of site use, human choice of landscape and settlement patterns (Ierek, 2022; Scott Allan Orr, Jenny Richards & Sandra Fatorić, 2021). In recent scholarship and understanding, historic buildings are considered not only as surviving material relics that demonstrate the level of technological and architectural development of a particular group of people sometime in the past, but they have also been viewed as intangible heritages which represent several other non-technological aspects of history that had guided, governed and defined the overall life ways of the people who built and made use of them. According to Guillaume Blanc and Bridonneau Marie (2016) historic buildings, as relate to intangible elements, are thus embedded with immense values and issues including the governing ideology, politics, socio-cultural practices, religious beliefs and value systems and other valuable experiences of the past that are crucial to the socio-economic, cultural and political system and development of present society and succeeding generations. As confirmed by scholars built heritage is one of the few surviving artifacts of the past that may still inform us about human experiences and work practices. It is instructive and historically significant, teaching us the great deal about architecture, interior design, earlier lifestyles, and the manner of life of our ancestors. Furthermore, built heritage is one of the most important asset of the country's tourism sector, contributing significantly to our visible and invisible profits (policy studies institutes, 1992). In short, as living evidences of the deeds and achievements of our ancestors, relics of historic buildings constitute one of the tangible cultural heritages and the diverse intangible aspects of the past that are in turn inherited and integrated into the various life ways and activities of contemporary society.

Ethiopia has very diverse and important material relics and sites which demonstrate the role of the region as major center of ancient states, urbanization and civilization. In this regard, the numerous monuments, temples, burial tombs, cave sites, palaces, steles, inscriptions, churches and several other archaeological relics of great antiquity found mainly in northern Ethiopia can be mentioned (McPherron *etal*, 2010; Phillipson, 2009a; Phillipson, 2009b). However, such built structures are not well conserved due to lack of an organized and effective national

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conservation and management system, and absence of skilled manpower (Demssie, 2019). The country's cultural heritages are not well-utilized to conserve its cultural values for sustainable socio-economic developments.

Likewise, Lake Tana and its vicinity, one of east Africa's most unique wetland ecosystems and the home of several built heritages is situated in Amhara National Regional State, Northwest Ethiopia. The area is one of the major principalities and entities that had been active part of the socio-political, religious and historic processes and dynamics unfolding mainly in the northern part of the country since ancient times (Sador Ethiopia Tours; Cheesman, 1935). As a result, it has many historic buildings, and different royal seats, capitals and enclosures, many medieval religious sites, churches and monasteries that are very famous for their enormous manuscripts, paintings and various other religious collections (Phillipson, 2009b). The rich and diverse built heritage which includes landscapes, archaeological sites and historical buildings are the integral part to the identity of the people (Nigatu, T.F.; Haider, E. A. and Ambaw, Z. G., 2023).

Despite all its historical, socio-economic, aesthetic, architectural and cultural value, built heritage in Lake Tana area has never received the attention it deserves from the government, scholars, conservators, restorers, and other stakeholders. Culture and tourism offices at regional, zonal and district level are not equipped with financial and skilled manpower, major impediments in conservation and promotion of cultural heritage. Furthermore, scientific works on heritage conservation are insufficient in Ethiopia, let alone in Lake Tana area. This suggests that, like in other developing countries, built heritage in Ethiopia as valuable and irreplaceable cultural legacy that is inextricably linked to peoples' identity has received less attention and understanding. This study therefore, aims to examine built heritage conservation in lake Tana area, northwest Ethiopia, emphasizing on its challenges and prospects. Because, addressing the issues of built heritage conservation along with challenges and its prospect is a critical issue; and the product of this study could be a modest contribution to the very little literature in conservation and other related fields in the area under investigation.

2. Context

Travelers and scholars had explore Ethiopia since time imperial and they left their account about the country's history, religion, landscape, and political issues (James Bruce, 2011; Alvarez,1881; James McCann, 1995; Phillipson, 1998, Philipson, 2009a; Phillipson, 2009b, Phillipson, 2009c, Pankhurst, 1960; Gerster, 1970; Heldman, 1992; Plant, 1985; Finneran, 2007; Gobezie, 2018 are just a few list). Most of their works focus geographically on the north and northwest particularly of Tigray and Lalibela, somehow on Gonder plus their works' contents are confined with history. This mean, with the exception of those sites registered in world heritage lists, the attention and focus given to many of the historic buildings and monuments conservation study by researchers is very limited. They are not even properly identified, documented and studied. For example, in the proposed study area, available historical accounts rather give better discussions and documentations about the political history, the active role and involvement of the province in the prolonged regional power rivalry and the religious controversies during the Gondarine period, the establishment of different royal seats, capitals and enclosures since around the medieval times and the famous medieval churches and monasteries and their enormous religious collections.

Although some of the region's historic past is relatively well studied and better documented, written sources regarding conservation of historic buildings and palaces found in different districts of the province are very rare or otherwise fragmentary. Perhaps due to lack of attention and emphasis on the importance and meanings of these historic sites and built environment and absence of written sources, we therefore know little about the history behind these built structures, their material components, technical, artistic and architectural elements as well as the socio-political and historic values and their spatio-temporal context of use and role as vital parts of the cultural heritages for succeeding generations. As a result, the study could contribute to Ethiopia's very limited literature on cultural heritage conservation and management, as most scholarly works in the country as a whole and in the Lake Tana area in particular have revealed built heritages from historical, archaeological, political, and religious perspectives.

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3. Methodology of the study

3.1 Description of the study area

Lake Tana is the largest lake in Ethiopia and the source of the Blue Nile, situated in the northwestern part of the country. The lake is protected as a natural heritage site. It is surrounded by wetlands that provide a sanctuary to a diverse set of flora and fauna some of which are endemic to the region. It is also a culturally significant area. Surrounding the lake and on the islands are found many of stone built monasteries, churches, and palaces built in the Gondarine period (17th and 18th Century AD) and earlier. The area experiences different rainy and dry seasons. There are two distinct rainy seasons: minor and major in which the distribution of rainfall is determined by the migration of intertropical convergence zone to the north and south (Abebe et al., 2017). According to Uhlenbrook et al. (2010), the rainy season (June-September) accounts for around 70-90% of annual rainfall. Rainfall peaks in July/August, averaging 250-330 mm each month. The average annual rainfall is almost 1280 mm (Setegn et al. 2009). This short and intense rainy season has its own contribution to the nature, diversity and intensity of the challenges like biological colonization, weathering and subsequently alteration and degradation of these stone structures. The climate in the region is tropical highland monsoon, with one wet season from June to September (Getachew et al., 2021). The air temperature varies greatly during the day with an annual average of 20 degrees Celsius (Abebe et al., 2017).

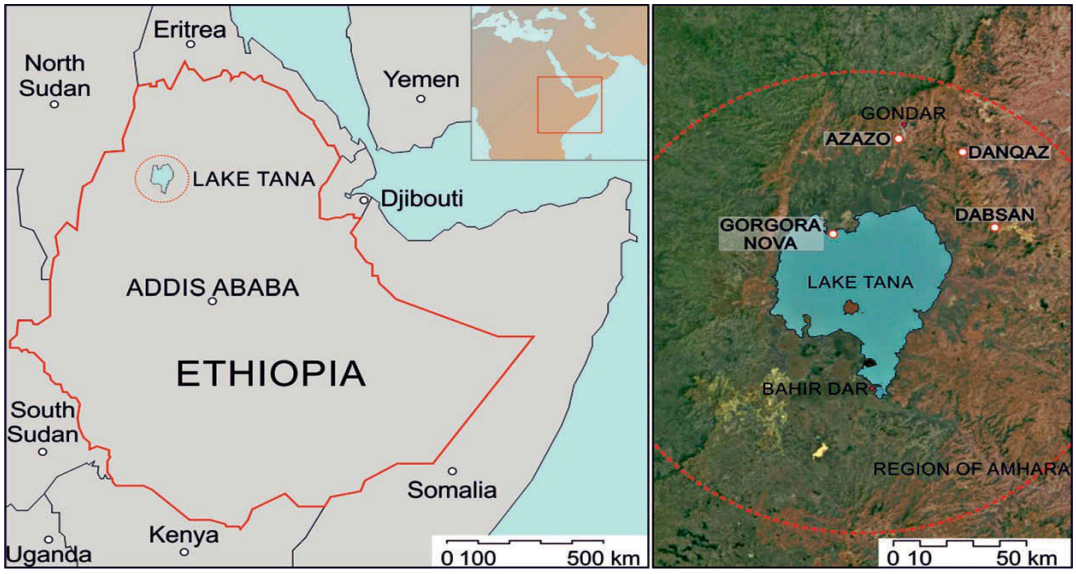


Figure 1. Location map of the study area. Source: Jorge Alberto Durán-Suárez & Paz Sáez-Pérez (2018). Characterization of Classical Construction Materials used in Ethiopian Architecture for the Restoration of their Historic and Artistic Heritage, *International Journal of Architectural Heritage*

3.2. Data collection instrument and analysis techniques

The study purely relies on the qualitative research approach with descriptive research design. The data used in this study are both primary and secondary sources. The primary data include first hand sources related to field observation and interviews. In the preliminary study, the authors visited the sites and historical buildings, and conducted physical observations, have checked its status. In the meantime, they also conducted interviews with stakeholders consisted of local communities, tourism expert, and office holders in culture and tourism office in Amhara National Regional State. In these filed works, authors have taken photos and notes using mobile camera and notebook respectively. The physical observation combined with an extended stay with identified stakeholders and informants build the authors' confidence to speak with them about the issues under investigation. It provides an in-depth and contextual understanding of the traditions, challenges, and perspectives of conservation practice in Lake Tana area, northwest Ethiopia. In addition, the archives available in study area were consulted.

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Secondary sources of the study include data related to practices of built heritage conservation and its challenges in Lake Tana area. These data were obtained through examination of written sources (both published and unpublished). Thus, the authors reviewed several literatures such as scientific articles, books, reports, and bulletin of the culture and tourism office at national, regional and provincial level. Such approaches also allow the authors to gain a plausible understanding about the history of conservation practices; and the impact of climate change on built structures and sites in Lake Tana area through such a range of qualitative methods. Finally, sources collected using different tools were described and analyzed qualitatively.

4. Result and discussions

4.1. Challenges of built heritage conservation

This study is basically focuses on the investigation of the challenges that hinder built heritage conservation in Lake Tana area mainly the climate change related impacts. Despite the presence of plenty of built heritages along with their obvious all-round values, potential for local economic and social development, their sustainability is becoming questionable. As inferred from photographic analysis and physical observation, most them are found under threat from various natural and human induced factors. According to the observation and data gathered from different sources, human activity and natural agents of deterioration and degradation appear to be the major challenges in practicing built heritage conservation in lake Tana area. Perhaps the most pervasive threat is population growth followed by the encroachment of agricultural lands towards the heritage sites which constitutes an essentially alien environment; an responsible factors for climate change.



Figure 2. Shows the encroachment of agriculture towards the heritage site (Danqaz palace).
Source. a photo by the authors

4.1.1. Climate change and related challenges

The issue of climate change impact on heritage was not well studied till the late 20th century, and it was in the 1990s that the first empirical literature appeared on the issue, has since become major emphasis (Orr S. *et al*, 2021). Since then climate change caused by anthropogenic greenhouse gas (GHG) emissions is increasingly acknowledged as one of our society's most pressing concerns, having far-reaching consequences for both human and environmental systems; and built environment accounts for a major portion of these emissions (Leif Gustavsson, Ambrose Dodoo and Roger Sathre, 2015). According to Orr S. *et al* (2021) "natural environments are inherently dynamic and undergo constant change due to interactions and feedback between different parts of the Earth's system." Anthropogenic climate change, caused by the increase in CO_2 has resulted in unprecedented rates of environmental change, which subsequently become critical danger for the sustainability of built cultural heritage (Phillipson, M.C., Emmanuel, R & Baker, P.H., 2016). Human action such as deforestation and land use changes are responsible factor for the global carbon emission between 15-25% (Ludwig F. *et al*., 2007). As a result, as stated by Athauda, R.S., Asmone, A.S. and Conejos, S. (2023) the average global temperature has risen since the

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middle of the twentieth century as the concentration of greenhouse gases has increased due to both human and natural factors, and become critical challenge for built heritage. This all could be associated with the growth of population number and the subsequent expansion of agricultural land by clearing all vegetation cover without taking into consideration of leaving buffer zones to the heritage sites.

Africa is one of the most vulnerable continents to climatic variability and climate change due to various pressures and inadequate adaptive capability; and Ethiopia is often cited as one of the most extreme examples (Conway Declan and E. Lisa F. Schipper, 2011). Ethiopia, located in Eastern Africa, has a diversified climate with dry to tropical monsoon conditions and significant multi-decadal variability in rainfall. However, temperatures increased by 1.5 to 2 degrees Celsius on average between 1963 and 2012, which in turn the country has been significantly impacted by climate change and fluctuation since the second half of the 20th century (Gashaw T. *etal,* 2023).

Lake Tana area is no isolated in this case. The built heritages in this area have been affected by the climate related problem. Its climate is mostly tropical highland monsoon (Getachew et al., 2021) with mean annual temperature of around 20°C. This is the optimal temperature for most of the microorganisms to germinate and involve in the biodeterioration activities of cultural artifacts that ranges between 16°C and 35°C (Thomas Warscheid and Hans Leisen, 2011). However, the temperature in lake Tana exhibits significant daily fluctuations (Abebe et al., 2017). This fluctuation also poses significant threat to the heritage properties in the lake Tana area, potentially affecting their physical structure and sustainability for the future generations. The photos taken by the researchers clearly show that the mural paintings on the interior wall of some churches are highly degraded and the facades of the building are discolored. This degradation is not necessarily because they are ancient, but also due to a variety of climatic factors such as humidity, temperature, wind, and rainfall, which can finally cause the buildings to collapse. The freezing-thawing process in study area has been occurring as a result of daily and seasonal temperature variations which in turn impacting stones and lime mortars to deteriorate.[1] This process of temperature fluctuations and condensation resulted in material fatigue and caused for fractures, blistering, peeling and breakage.

Humidity is another critical problem threatening the sustainability of built heritage in Lake Tana area, causing it to deteriorate (Nurelegn Weldemariam, 2024). Numerous observations were conducted at a few chosen historic structures in the vicinity of Lake Tana, with particular emphasis mostly on endangered historic buildings. Several photos of the chosen historical structures taken by the authors illustrate how climate change affects monumental buildings; and make evident that rising temperatures and an unanticipated rise in precipitation have contributed to an increase in humidity. The annual relative humidity in Lake Tana area (data from Bahir Dar) is 58% that could be categorized under the potential challenges/ threats for built heritage in the study area. It's effect is evidently visible on the mural painting in Narga Sellase monastery (see figure 3) which are deteriorating as a result of humidity and other related factors. As inferred from figure 3 below, the mural paintings in the western and eastern side of the inner wall (*Mekdes*) of the church is endangered and demanding immediate intervention from the stakeholders.



Figure 3. Peeling and scratching of the mural painting in the interior wall of Narga Sellase monastery due to fluctuation of temperature (day and night), condensation. Source. Photo by authors

[1] It is highly visible in Narga Sellase monastery after church's roof made of grass was replaced by corrugated iron sheeting. Condensation is becoming high since the iron roof absorbs direct heat from sun and become cold again in the night.

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4.1.2. Observation on the impacts of biological activities

Biological activities are another challenges for built heritage all over the world. The most severe effects are found in tropical climate (in which the study area is situated) where the climate is extremely conducive for the growth of microorganisms and higher plants that can cover and destroy even big artistic monuments and other built environment. The very short but intense rain in the lake Tana area that lasts from June to September causes the growth of microbials, and this expose the built environment for biodeterioration. Its impact is mainly manifested by the formation of biofilms consisted of fungi, mosses, lichens, mold and bacteria.

Built heritage is highly affected by fungal activity. The summertime environment with intense rain leads to the formation of lichens and mosses, which erode and/or deteriorate historic buildings. In the course of the microscopic organism's development, biochemical reactions that take place at particular temperatures are accompanied by degradation processes. However, the growth of organisms is influenced by substrate type, moisture content, and temperature. According to Leissner et al (2015) spores may germinate at temperatures higher than 0°C and moisture levels higher than 70%; and in this case fungi are mostly active between 0°C and 50°C.

As stated in the previous section of this paper, Lake Tana area experiences an average annual temperature of 20°C. So, the area is conducive for the growth of fungi, mosses and other organisms since it account the optimal moisture and temperature required for germination. It was noted that the plants were grown on the wall and the top of the built structure, as shown below in figure 4 (a & c) of the Narga Selasse monastery. This, in turn become severe threat for built heritage due to the fact that there is no effective maintenance and preventive intervention like physical cleaning to remove smaller plants as soon as they grow on and near the historical buildings. Another factor contributing to the degradation of historical structures is mold growth. It demands the barest minimal temperature to start its activity and expose the built heritage to deteriorate. Since the study area experiences temperature fluctuation, and/or condensation, built heritages available in Lake Tana have been suffering from the growth of mold. With this, some artistic elements on the building are chipped and mural paintings on the interior wall of the buildings, particularly of the churches are deteriorating (see fig. 3).



Figure 4. Bio colonization on the historic building in Narga Sellase monastery(a), tells the of impact of bio-deterioration, and the architectural elements on the top of the dome is lost (b), growth of biofilms (c &d).
Source: Photos (a &c) adapted from Mario Di Salvo, Stanisław Chojnacki, Osvaldo Raineri (1999). *Churches of Ethiopia: the Monastery of Nārgā Śellāsē*; and photos (b & d) are taken by the authors

Weathering is another challenge facing cultural heritages in Lake Tana area. Stone, wood and lime mortars have been utilized by the local community over centuries since they are available and durable. However, their availability is becoming minimal and durability is challenged by climate factors, weathering, as proved on the historic buildings of Lake Tana area. Apart from problems on heritages emanate from human action, humidity and air movement have also had a negative impact on the preservation of built structures. With this, chipping and fragmentation are visible in most of historic building in study area due to internal tensions and temperature fluctuations. There is also acid formed by chemical reactions around the roots of plants which in turn caused for deterioration of built heritage that evident on the Fasil's bath. Because, both higher and vernacular plants' root

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indue physical and chemical weathering that facilitate the deterioration of the building. The remaining vascular trees and micro plants have also negatively impacted the heritages since their roots are penetrating deep in to the buildings and make them to crack and deteriorate. As inferred from informants, even in some cases, trees are fallen down on the building due to strong wind and subsequently lead to destruction of monuments.



Figure 5. Photo taken from the Fasil's bath indicates the formation of biofilms caused by production of moisture by tree roots, and chemical reaction will be available around tree roots that results in the formation of acid.
Source. a photo by authors

Most of the of historical buildings in Lake Tana area have been exposing for direct sunlight and rain. Because, they have neither roofs and nor scaffolding. Some of them are ruins, and some are in use, but lack maintenance and protection. They are highly threatening by the direct sunlight (UV), wind and the rain without any protection. This pave way and conducive environment for the growth of microorganisms and macro plants on the wall, nearby as well as in side of the buildings. Moreover, the photographic analysis tells that rising temperature and an unanticipated rise in precipitation have contributed to an increase in humidity; and causes for the formation of biofilms and discoloration on the façades (see fig. 4 & 5). Higher plants are also growing on the top of the structure, as shown in the image taken from Narga Selasse monastery (see fig. 4).

In sum, as inferred from previous photographs and consultation of local informants, many of these valuable heritages are being exposed to severe degree of degradation. some of these buildings are dug, uprooted and damaged by local farmers who currently own the land where the buildings are found. Similarly, remnants of the ruined castles in Gorgora, Danqaz palace, Maryam Gemb, and Guzara that are attributed to the Gondarine period are encroached and threatened by the dense growth of higher trees recently planted by local farmers. According to local informants, these problems have become more aggravated and severe particularly in recent times. Since they are left unexplored and unprotected by concerned institutions or bodies, such historic buildings in other areas are likewise prone to many human induced destruction and deterioration due to natural processes of decay.

4.1.3. Population growth and encroachment of agriculture

As it's obviously known Ethiopia is a country with a fastest population growth rate (Fekadu Beyene, 2015; Simachew Bantigegn, 2020; de Quadros, 2011), and Amhara region is not exceptional in this regard. According to CSA (Central Statistics Agency, 2008), since the dawn of the second half of 20th century, the population of Ethiopia has been increasing as a result of mortality decline by malaria and smallpox eradication programs in 1950s and 1960s (de Quadros, 2011). The census result conducted in 1984, 1994, and 12007 confirmed that Ethiopia's population has almost doubled in 23 years with extreme high growth rate (Mesfin Anteneh, 2017). The average growth rate has increased to 2.9%, 3.0% in 1984 and 1994 respectively. Later in 2007 the rate has dropped to 2.6%, however, it is still high (ibid).

According to the report compiled by Central Statistics Agency after population and housing census of 2007, the population of Lake Tana basin was 3,434,623 (CSA, 2008). Moreover, the projection adopted in the same year by

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Amhara National regional State, the population was expected to reach 4.1million in 2015 (CSA, 2008). It appears that the basin's population and it's density has been significantly increasing. It is recorded that in 1994 and 2007 the population density in Lake Tana area was 166 people/km^2 and 228 people/km^2 respectively (CSA, 2008; Mesfin, 2017). According to Goraw Goshu and Shimelis Aynalem (2017), this population growth and high density subsequently posed pressure on land; and people has forced to clear forest to get farm land for livelihood. In this case, the human interaction with their natural environment impacted the climate of the area through cutting down of trees and in the meantime agricultural land is approaching to the heritage sites. As it evident on the Guzara castle, Danqaz palace, and other archaeological sites in Lake Tana area, particularly of Gorgora (northern shore of the Lake) the encroachment of agriculture is significantly threatening built heritage (see fig. 2). Some parts of the area near the historic buildings that supposed to be buffer zone for the heritage sites has changed in to farm land.

4.1.4. Lack of awareness

Lack of awareness is another critical challenge in heritage conservation in Lake Tana area. Heritage conservation and community awareness development has been the two integral part that most organizations working on heritages recognize local community' role in the protection of cultural assets. However, in the research area, there is a severe lack of knowledge on the issue under discussion among both the local people and government agencies. This impedes the maintenance and protection of heritage assets, as well as the sustainable use of built heritage to support the socio-economic development of the nation, and sustain it for the generation to come. For example, the authors observed that local residents use the heritage sites for grazing and farming, as evidenced on Gorgora, Guzara and Danqaz palaces which contributes to the sites' degradation. With this, the cattle use to itch their body using the façade of the historic building that causes weakening its structure and perhaps crumpling to its portion. Furthermore, lack of public awareness on the need of preserving heritage assets could result in demolishing of ancient structures and replaced by new ones. This is evidenced in Rema Medhnaialem Church, situated in island in Lake Tana that the local community demolish the old church and construct new one without any consideration for its historical and cultural significance.

4.1.5. Poor conservation practices

Unprofessional conservation practice is commonly visible in most of the built heritage in lake Tana area that lead to the loss of authenticity and originality of the materials using in conservation and restorations activities. Expertise and abilities in heritage management are required for successful conservation. Conservation strives to avoid further degradation while also protecting heritage from loss and destruction. However, some conservation activities on historical buildings available in the Lake Tana area have been carried out without professional expertise, focusing merely on fixing the problem (crack, fissures, hole etc) with no regard for the principle of material integrity. Local conservators, for instance, sought to use mud like material on Guzara palace to make some restoration activities on it that subsequently become problematic even for the other portions of the palace. Originally, the palace was made of lime and stone. So, the conservation efforts in which local conservators made compromises the principle of material integrity due to lack of expertise.

On the other hand, local communities use cement to fix some lithologies like cracks and fissures. As seen on figure 3, the cement is used to fix cracks on the facades of the church of Narga Sellase. It is due to lack of expert assistance and clear coordination between offices culture and tourism in national, regional and district levels.

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Figure 6. Photo taken by authors, shows poor restoration practice (using cement) on façade of the Narga Selassie Church



Figure 7. Show the stair to the dome building in Narga Sellasie is being eroded by rain water, and being fixed using only stone in which the stair supposed to have been built using stone and lime mortar.

4.1.6. Lack of financial resources

Culture and tourism in general and heritage in particular has been the most neglected sector in Ethiopia. Most of the informants confirmed that it is less funded and experts working in the sector are less paid. With this no one is interested to work in heritage sector. There is no collaboration between private organizations and heritage sectors due to the fact that the former lacks interest to invest on heritage conservation and management activities. So, there is limited financial resources for comprehensive conservation programs in the Lake Tana area.

5. Prospects

Since the last quarter of the twentieth century, the Ethiopian government with the support international collaborators initiated several measures to protect the country's heritage; several interventions have been undertaking that safeguard cultural heritage assets of the people (Nair 2016). In this regard, the International Campaign launched by UNESCO in 1989 that aimed to safeguard the ancient Principal Monuments and Sites of Ethiopia can be worth mentioning. This was followed by various intervention to protect the country's heritage assets. Moreover, international organizations that closely working with world heritage are becoming increasingly involved in conservation activities all over the world. UNESCO, for instance, notified the impact of climate change on cultural heritage in 2005 and began to involve in exploring and managing its further effect. So, in its first step, the organization prepared a report on "Predicting and Managing the effects of climate change on World Heritage" and a strategy to assist States Parties to the Convention in implementing appropriate management responses. This led to the adoption of a Policy Document in 2007 by the General Assembly of States Parties to the World Heritage Convention on the impacts of climate change on World Heritage properties. This implies that first, climate change is a global problem; and secondly, irrespective of their place of origin, cultural heritages are the properties of all. Thus, we do hope that this scenario will bring an opportunity to improve the status of built heritages in Lake Tana area through the provision of technical and financial support for conservation activities. Moreover, there is a tendency to launch conservation education and research program by the local universities. The authors do hope that professional will be produced and make them available to the conservation activities once the program is launched.

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6. Conclusion

Lake Tana area has an outstanding constructed legacy, notably historic buildings such as palaces, castles, royal residences, bridges and other archaeological sites that have tremendous architectural, aesthetic, and cultural value. However, these irreplaceable cultural relics are regularly threatened by many factors of both natural and human that makes heritage conservation activities too challenging. The finding of the study coupled with the environmental and structural features of the built heritages in Lake Tana area, lead us to the conclusion that climate change (humidity, temperature fluctuation, rainfall), bio-colonization, population growth and associated accouchement of agriculture to the heritages sites, poor conservation practices, lack of expertise and financial support are just a few of the many critical challenges of heritage conservation. On the other hand, absence of complete inventory and recording of historical sites, the minimal coordination of the National Ministry of Culture and Tourism with local level offices of the sector are another challenge that need to be addressed. All these worthening the status of built heritages in Lake Tana area and demands immediate intervention and further research that could sustain their multifaced values for the local people and the country at large. Above all, the lack of government attention to heritage management is costing the country a significant loss of its wonderful built heritage, notably historic structures. All of the evidences offered in this study indicate that cultural heritage conservation in Lake Tana area is in a critical state that necessitates the involvement of stakeholders in order to preserve the country's past before it becomes mere legend.

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A framework to assess climate risks rock art and architecture face in Africa

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Abstract

Climate change poses risks to the protection and preservation of cultural heritage globally. Recent research has highlighted geographic limitations in climate change and cultural heritage literature, namely that the focus is predominantly on Europe, and has called for more studies to address the challenges of climate change elsewhere in the world. The 2022 IPCC Assessment Report drew attention to the poor state of knowledge regarding the direct climate risks rock art faces across Africa. Rock art and other similar heritage assets, such as rock-cut architecture (carved structures on cliff faces, e.g., Abu Simbel, Egypt) are found in the thousands in Africa. These types of heritage, which we can collectively refer to as Rock Art and Architecture (RAA) face unprecedented risks due to climate change. This research proposes an innovative approach to climate risk analysis by exploring if studying heritage types with common characteristics (such as RAA) is a better way to identify and respond to climate-driven hazards to cultural heritage. Employing the IPCC's climate risk assessment framework, this theoretical paper defines what the climate risk determinants (exposure, vulnerability and hazards) are for RAA. Based on this, the paper proposes a new approach to climate risk assessment of RAA in Africa.

Keywords: *Climate change, rock decay, weathering, climate risks, exposure, vulnerability, hazards*

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1. Introduction

The 6th IPCC Assessment Report notes that Africa is a rich reservoir of heritage resources and indigenous knowledge, but there unfortunately remain gaps in knowledge of climate risks African cultural and natural heritage face (Trisos et al., 2022). The impact of climate change on cultural heritage has been the focus of a growing body of research (Fatorić & Seekamp, 2017; Orr et al., 2021). However, to date research of climate risks to European and North American cultural and natural heritage dominates the research field, despite calls for change in funding and research priorities (Simpson et al., 2022). Scholarship on the impact of climate change on African heritage has focused on site-specific adaptation (Day et al., 2022), site-specific risks (Rainer et al., 2011; Tola & Brimblecombe, 2022), risks to timber heritage (Richards et al., 2023) and broad assessment of the impact of rising sea level on coastal heritage sites (Vousdoukas et al., 2022). As a new area of study, that entered research agendas in 2003 (Fatorić & Seekamp, 2017), research on climate change risks to cultural heritage has methodological, geographical and knowledge gaps that have yet to be addressed.

Africa's cultural heritage is diverse and abundant. Brooks et al. (2020) draw attention to the risks of climate change on coastal heritage, rock art, earthen buildings and intangible heritage in Africa. There have been site-specific assessments of climate risks on earthen heritage (Brimblecombe et al., 2011; Day et al., 2022) and masonry heritage (Thondhlana et al., 2023). Material focused and location based climate risk assessments of heritage sites and the climate-driven hazards they face have been done (Richards et al., 2023; Vousdoukas et al., 2022), but as highlighted in the most recent IPCC report, rock art in Africa is one of heritage that has received very minimal attention regarding how climate change will directly impact them (Trisos et al., 2022).

Rock art, including carvings on naturally occurring rock faces, petroglyphs, pictographs, engravings and reliefs, share similar characteristics, namely that they are found carved or painted in naturally occurring rock outcrops. Another heritage type that shares this characteristic are rock-cut or rock-hewn structures. While the style may differ, rock art in the form of reliefs or paintings and rock-cut/hewn made by the removal of significant amounts of material to create hollow spaces, are essentially alteration of an existing natural feature to create art or architecture in rock. They are made in a similar processes with comparatively minimal alteration from how the stones existed naturally and can therefore be considered as a part of rock art and architecture (RAA). Figure 1 shows examples of RAA found in Africa.



Figure 1. Examples of rock art and architecture in Africa: (a) Cave Swimmers, Egypt 2013 ©TARA/David Coulson (b) Lalibela, Ethiopia, and (c) Wadi Mathendous, Libya 2013. Credits: TARA/David Coulson

Sloggett and Scott (2022) note that, despite the vulnerability of rock art, there are few studies that provide practical advice on how to adapt them in the face of climate change. This is especially true in Africa, where heritage sites are "neither prepared for, nor adapted to, future climate change" (Trisos et al., 2022). Rock art and architecture experiences changes over long timescales due to persistent, but slow-acting deterioration mechanisms. Their exposure and vulnerability to climate change is not well understood. The risks from extreme events such as sea level rise or flooding occurring in the future has been noted (Brooks et al., 2020), but risks from cumulative and cyclic processes are not well known.

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Recent studies on defining the climate risks to heritage have focused on characterising the change in intensity or frequency of climate hazards such as sea-level rise (Vousdoukas et al., 2022) or precipitation (Wang et al., 2022) or understanding the susceptibility of heritage to a specific climate hazard such as floods (Salazar et al., 2024). This study aims to use the IPCC risk framework to define what exposure, vulnerability and hazards are for rock art and architecture in Africa. By using the IPCC's most recent definition of exposure vulnerability and hazards this study will define the set of properties and characteristics that will lead to loss and damage of rock art and architecture in Africa from a physical degradation perspective. Primarily it will answer what climate hazards, exposure, and vulnerability are most relevant for RAA in Africa.

2. Literature review

2.1 Rock art and architecture in Africa

Multiple distinct rock art traditions are exist all across the continent of Africa (Le Quellec, 2018) these range from geometric patterns, animal engravings and finger paintings. Rock art can be found in varying geographical contexts from "open-air sties in tropical forests, sandstone rock shelters in deserts, schist outcrops in high mountains and limestone caves at the seafront" (Chalmin et al., 2017). These rock art sites span thousands of years of history and one of the very first art forms humans ever made. There is still much that is unknown or not well understood about rock art sites in Africa and their protection is of paramount importance if we are to unravel about the origins of human art. Rock architecture sites such as Abu Simbel, Egypt and Lalibela, Ethiopia are well known and some efforts have been made for their protection and management. However, less high-profile rock architecture sites existing in Africa have not been given the same attention.

2.2 Climate change in Africa

Africa is experiencing a more rapid increase in temperature than the global average (Trisos et al., 2022). Future projections of climate also echo this finding in that "a robust and pronounced warming" is projected at the conservative 1.5 Global Warming Level (Nikulin et al., 2018). Precipitation frequency and intensity is changing at varying degrees across the continent and is also projected to continue to be variable with a greater amount of uncertainty in future trends (Dosio et al., 2019; Trisos et al., 2022). Climate change fuels existing threats to heritage (Simpson et al., 2022). This threat is amplified by the fact that in Africa heritage often ranks very lowly in terms of government priority scales (Chirikure, 2013), which makes adaptation and management of climate change risks to heritage challenging.

2.3 Weathering of RAA

The natural processes (weathering) that affect RAA are influenced by various factors influenced primarily by the rock and climate interaction that determine the nature and rate of degradation of the rock. "This involves a combination of physical, chemical, and biological processes controlled by the lithology, with the main control parameters of rock decomposition being climatic" (Chalmin et al., 2017, p. 2). Other factors such as rock mass property and propensity for differential weathering have also been noted as influencing factors for rock structures (Gemeda, 2022). Weathering of RAA is also hugely influenced by geologic and geomorphologic stability (Fernandes et al., 2022). RAA is often found in geologic settings characterised by joints and discontinuities and susceptible to fracturing of rock slopes, discontinuities and rockfall (Abay et al., 2017; Cesaro et al., 2017; Spizzichino et al., 2017).

Climate change is likely to result in changes in weathering mechanisms and rates (Brooks et al., 2020)**.** Increases in temperature may enhance temperature-dependent weathering processes such as thermal stress and shock. RAA is susceptible to water-related damage such as wetting-drying cycles and surface erosion (Agnew et al., 2015), changes in the intensity and duration of wetting events may amplify this damage mechanism. Climate change can also influence the processes that contribute to failure at the rock mass scale – particularly extreme climatic events

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such as flooding and storms. Changes in microbial, plant and animal life at rock art sites can result as a secondary effect of climate change (Brooks et al., 2020).

2.4 IPCC climate risk framework and heritage

The IPCC defines risk "as the potential for adverse consequences for human or ecological systems" (IPCC, 2022) and it recognises the adverse consequences can be on social and cultural assets and investments. "The risk of climate change impacts can be usefully understood as resulting from dynamic interactions among climate-related hazards, the exposure and vulnerability of affected human and ecological systems, and also responses" (Simpson et al., 2021). Hazard, vulnerability and exposure are defined by the IPCC as follows:

> **Hazard**: The potential occurrence of a natural or human-induced physical event or trend that may cause loss of life, injury, or other health impacts, as well as damage and loss to property, infrastructure, livelihoods, service provision, ecosystems and environmental resources.
>
> **Vulnerability**: The propensity or predisposition to be adversely affected. Vulnerability encompasses a variety of concepts and elements, including sensitivity or susceptibility to harm and lack of capacity to cope and adapt.
>
> **Exposure**: The presence of people; livelihoods; species or ecosystems; environmental functions, services, and resources; infrastructure; or economic, social, or cultural assets in places and settings that could be adversely affected.



Figure 2. The IPCC's risk framing with the three risk determinants: hazard, vulnerability and exposure. Source: adapted from Ara Begum et al., (2022)

Viewed from the perspective of the IPCC risk framework, most broad studies that cover the impact climate change causes to heritage has been done in a way that has focused on one of the determinants of risk. different conceptual and methodological framing of risk. The approaches are: (1) **site specific:** identifying the potential risks of future climate change evaluating multiple hazards at the site (Rainer et al., 2011; Tola & Brimblecombe, 2022), (2) **hazard specific:** looking at the specific hazards such as wind-driven rain (Orr et al., 2018) or precipitation (Wang et al., 2022) across different types of materials but limited to a specific geography or country. Risk of flooding of built cultural heritage (Ribera et al., 2003) and historic sites and monuments (Daungthima & Kazunori, 2013) have also been done. (3) **material specific**: exaiming how a material will cope with a change in different climatic conditions/hazards (Brimblecombe & Richards, 2022; Richards et al., 2023) at a country, continental or global level. These approaches have their own advantages and disadvantages. Site specific approaches means that the data generated, and approach developed are challenging to extrapolate to other sites. Hazard specific methods might not consider fully the compounding effect of other hazards, for example Wang et al. (2022) studied the intense precipitation for wood, brick, stone and earth, increasing temperature and more wetting events combined are more likely to lead to biological colonisation of stone surfaces. By looking at specific hazards, the relationship between different types of hazards and their interrelationship in compounding risk are ignored. Similarly, material

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specific approaches don't take into account site conditions or the age of material and how that might increase or decrease vulnerability of the material within a specific location.

3. Methodology

Literature and conceptual analysis of climate change and heritage literature, risk assessment methods, reports and survey methods were reviewed in this theoretical paper. The main takeaways relevant to constructing a framework to understanding rock art and architecture future climate risk is synthesised based on these reviews. Papers and reports for this review were selected in a non-systematic way. This methodological approach was taken as a way to understand the gap in knowledge on managing future risks to rock art and architecture in Africa and to identify future directions of research.

4. A risk assessment framework for RAA

Based on the review of the literature and the different approaches to conceptualising risk to cultural heritage, below the risk determinants for rock art and architecture in Africa are defined and discussed in detail.

4.1 Hazard

Hazards in the context of rock art and architecture are various climate parameters that occur at micro and macro scale. Temperature related weathering can be driven by differential heating (at the micro scale) between pigments and rock surface (Hall et al., 2007) and thermal stress fatigue (Hœrlé, 2006). Given the setting of rock art and architecture, water related impacts such as rain infiltration (Germinario & Oguchi, 2021; Huang, 2007), surface water runoff (Dinçer et al., 2016; Ulusay et al., 2006), flooding (Ángel Molinero Polo & Soler Javaloyes, 2019; El-Gohary, 2017), ground water uptake (Taye et al., 2022) and rain infiltration (Vouvé et al., 1997; Ziegler et al., 2019) can act at the macro scale.

Mean air temperature and extreme heat are projected to increase all across Africa (Trisos et al., 2022). This can intensify differential heating between pigments and rock surface and lead to thermal fatigue. Depending on the rate of temperature change thermal shock can occur and result stress that leads to instantons fracturing (Hall & Thorn, 2014). Heavy precipitation and pluvial floods are also projected to increase across the continent (Trisos et al., 2022). As noted in the previous paragraph, the susceptibility of RAA to water related damage is significant. These changes in climate may change or amplify weathering processes or lead to catastrophic failure (thermal shock). Therefore, increase in mean air temperature, extreme heat, heavy precipitation and pluvial floods can be considered as a hazard to RAA.

4.2 Exposure

"Understanding the rock art of a cave or rock shelter requires position the art in its landscape setting" (Delannoy et al., 2018). Exposure as a determinant of risk for rock art and architecture can have two characteristics: location and setting. Depending on the geographical location the RAA is found in, it may be exposed to different climatic hazards these can range from sea-level rise to high temperatures. Setting can be defined as the context in which the RAA is present - this can mean whether it is present on a cliff face in a cave like structure, found underground or above ground – in essence the architectural configuration of the RAA. Setting can hugely influence exposure, (Pillans & Fifield, 2013) showed that rock surface erosion rates of Aboriginal rock art showed that vertical rock faces had a higher rate of erosion than horizontal rock faces. Figure 3 lists some of the settings in which RAA often exist and the different climate hazards and how it influences their exposure to hazards.

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RAA sites	Exposure
	a) Tombs in a vertical cliff - Abu Simbel, Egypt • wind driven erosion • Water run-off
	b) Reliefs on the ground - Aar Farm, Namibia • Rainwater likely to pool on the surface • Exposed to flooding
	c) Painting under a rock shelter- Djanet, Algeria • Moisture ingress through top • Somewhat sheltered from wind and rain
	d) Rock paintings, Somalia Painting on the downward facing ceiling of a cave • High humidity • Sheltered from wind and rain • Moisture ingress through rock wall

Figure 3. Images and descriptions showing the relationship between the setting of RAA. Source: Alam, Y and Coulson, D.

4.3 Vulnerability

Rock art and architecture are found in areas where there is often abundant rock surface for carving or painting. In this sense, geology plays an important role in the presence and density of RAA in a given location. The vulnerability of RAA to climate change is primarily driven by physical property of the rock at both the rock mass and rock surface scale. Geomechanical properties of the rock mass RAAs are carved or etched in having discontinuities or joints makes them vulnerable to rock mass failure. Factors such as the geological setting and age control the propensity for rock mass failure, as such the vulnerability of RAA to failure is also linked to these factors. Similar to building stone, the lithological properties of the rock, its porosity, density and mineralogical composition determine how vulnerable RAAs are to weathering. The vulnerability of RAAs to decay processes is

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also influenced by type of the RAA, for instance, fine line engravings are more susceptible to permanent loss than deep engravings. The types of paintings used and their capacity to withstand environmental elements also contribute to their preservation.

5. Discussion and conclusion

This study highlights the urgent need to address the escalating threats posed by climate change to rock art and architecture in Africa. There is a significant gap in research focused on African heritage, particularly rock art, which has been overlooked in cultural heritage studies. This is concerning given the unique and diverse nature of African rock art traditions, which span thousands of years and offer invaluable insights into human history and culture.

The proposed risk assessment framework applies the IPCC risk framework and reveals that RAA are threatened by climate hazards such as increased temperature, heavy precipitation and flooding. Location and setting significantly influences the exposure of RAA to hazards. Existing vulnerabilities such as poor rock mass integrity and low strength rocks are exacerbated by hazards such as heavy precipitation.

This study also emphasizes the need for a comprehensive understanding of the cumulative and cyclic processes that affect RAA. While previous research has focused on site-specific or hazard-specific assessments, a more integrated approach is necessary to capture the complex interactions between different climate hazards and their impacts on RAA. This holistic perspective can inform better management and conservation strategies that consider the multifaceted nature of climate risks.

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African World Heritage site tourism management: Applying the ICOMOS International Cultural Heritage Tourism Charter towards Destination Sustainability and Resiliency

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Abstract

Cultural and natural World Heritage site (WHS) nominations are often sought by African nations to leverage their nascent tourism industries and subsequent community economic development and revenues that can be put towards site conservation. When a venue does achieve this unique status, however, there are myriad number of factors that can affect a community ranging from realizing continuous use and sustainable livelihood opportunities. One of the significant challenges comes from climate change, affecting sites in coastal, desert and montane environments. The consequences of not being able to adapt or mitigate to these evolving weather circumstances can result in the material stability degradation and erosion of the cultural landscapes underneath and around these properties. One of the oldest WHSs in Africa, Ghana's Forts and Castles, Volta, Greater Accra, Central and Western Regions is provided as a case study to outline the challenges being faced by even the most prominent properties and the efforts being made to improve destination management against climate change impacts. There have been many recommendations made through UNESCO reporting cycles on how to better support and maintain this WHS and others in Africa, with varying results. This article posits that through the application of the ICOMOS International Charter for Cultural Heritage Tourism's (ICCHT) principle on addressing climate change impacts and the use of the World Heritage-aligned monitoring tools, that these sites will be better able to be more resilient visitor destinations while dealing with changing, adverse weather circumstances.

Keywords: *Africa, world heritage, destination management, climate change, impacts, ICOMOS, cultural tourism, charter.*

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1. Introduction

World Bank President Ajay Banda stated at the institution's April 2024 Spring Meetings session *Energizing Africa: What Will It Take to Accelerate Access & Improve Lives?* that tourism, along with four other areas (e.g., energy, infrastructure, agri-business and healthcare), are driving economic transformation in Africa, while representing the principal source of future jobs for the continent's young people. At the same time, it was noted after his presentation that African nations are buffeted by a number of challenges, where it is imperative for international financial institutions and multilateral development banks, to step forward and offset the funding squeeze that countries are facing. This includes allocations towards strengthening countries' resilience to climate shocks (World Bank, 2024).

This perspective resonates with a February 2022 study reported in the scientific journal *nature* noted that the continental African coastline contains UNESCO designated sites (i.e., World Heritage, Biospheres, geoparks and Ramsar wetlands) which face increasing risk from anthropogenic driven climate change (Vousdoukas, M.I., Clarke, J., Ranasinghe, R. et al. African heritage sites threatened as sea-level rise accelerates. Nat. Clim. Chang. 12, 256–262 (2022). The assessment determined that 56 sites (20%) are at risk from a 1-in-100-year coastal extreme event, including the iconic ruins of Tipasa (Algeria) and the North Sinai Archaeological Sites Zone (Egypt). By 2050, the number of exposed sites is projected to more than triple, reaching almost 200 sites under high emissions. These findings highlight the urgent need for increased climate change adaptation for African World Heritage sites (WHSs), including the development of more sustainable and resilient forms of tourism management, through improved governance approaches, site-specific vulnerability assessments, exposure monitoring, and protection strategies (CVI Africa, 2024).

The International Council on Monuments and Sites (ICOMOS) International Charter for Cultural Heritage Tourism (henceforward 'the ICCHT') was ratified at the ICOMOS 2022 Annual General Assembly in Bangkok by organization members present. In addition to recognizing the intensified tourism use of cultural heritage places and destinations, the ICCHT addresses increasing concerns about the degradation of cultural heritage along with social, ethical, cultural, environmental and economic rights issues associated with tourism (ICOMOS ICTC, 2023). With specific reference to climate change, the Charter's Objective 3 is: "To guide cultural heritage and tourism management in supporting the UN Sustainable Development Goals and Climate Action policy." Its Principle 7 advocates: "Integrate climate action and sustainability measures in the management of cultural tourism and cultural heritage."

2. Aims and Objectives

The aims and objectives of this article are to:

- Provide a current appraisal of the overall issues and challenges being faced by African WHS management and stakeholders, particularly from those caused by climate change.
- Present the history and roles of previous and current iterations of ICOMOS Cultural Tourism Charters with their intended applications.
- Demonstrate how African WHSs can be impacted by site conservation, destination management and climate change aspects.
- Outline how the most recently developed cultural tourism doctrinal document can be specifically applied to improving destination resilience in the face of increasing climate change impacts.

3. Methodology

This article will examine the current destination management challenges posed by climate change on African WHSs, and how the principles of the ICCHT can be used to support sustainable tourism and community resiliency. This will include associated tools and frameworks, and array the difficult choices that will have to be made in some cases, and the impacts on local communities and visitor economies. Ghana's Forts and Castles, Volta, Greater

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Accra, Central and Western Regions WHS as a case study where these could be applied to improve destination management. The results of this overall assessment, using the climate change approach outlined in the ICCHT's Principle 7 will then be used to demonstrate how climate change at African WHSs can be better planned for and managed to improve adaptation and mitigation strategies.

3.1 African Tourism, World Heritage Sites and Climate Change

UN Tourism, the United Nations official body responsible for planning, policy and advocacy in the sector, has been a strong supporter for promoting sustainable tourism across Africa. In its July 2021 publication, Brand Africa – A Guidebook to Strengthen the Competitiveness of African Tourism, the organization underlined that destination brands are both an asset and a catalyst for a destination's (i.e., national, regional and/or local) competitiveness and ultimately, the substantive contribution to a country's economic growth and development (UN Tourism, 2021). The continent and its natural and cultural heritage arguably remains a 'bucket list' destination for most prospective tourists, with each African country unique tourism offerings. The UN Tourism branding guidebook highlights several including: Mosi-oa-Tunya/Victoria Falls (Zambia and Zimbabwe), Djemaa el Fna and Sahara Dunes (Morocco), mountain gorillas located in Volcanoes Biosphere Reserve (Rwanda) and the Bwindi Impenetrable Forest (Uganda), Table Mountain (South Africa), Mount Kilimanjaro and Zanzibar (Tanzania), Maasai Mara National Reserve (Kenya) and the Okavango Delta (Botswana). All of these are either current or tentative World Heritage sites.

Sub-Saharan Africa, however, only represents 8.6% of the sites inscribed on the World Heritage list for the 36 state parties in the region. Moreover, Africa has a higher percentage of World Heritages sites in danger than any other continent, and 11 countries (Burundi, Comoros, Djibouti, Equatorial Guinea, Eswatini, Guinea-Bissau, Liberia, Sao Tome and Principe, Sierra Leone, Somalia and South Sudan) do not have a single entry on the list (Economist, 2021). To tackle these challenges, UNESCO has announced "Priority Africa," a plan to boost identification and preservation across the continent between now and 2029 (UNESCO, 2024d).

At the 45th session of the World Heritage Committee convened in Riyadh, Saudi Arabia in September 2023, UNESCO announced five new locations had joined the list of World Heritage Sites, taking sub-Saharan Africa's total over 100 for the first time. Rwanda's first two World Heritage Sites were named among 42 new entries worldwide. One, Nyungwe National Park, has a diverse topography including forests and peat bogs, and is home to the Eastern Chimpanzee, Golden Monkey and other endemic species. The other is a collection of sites in Nyamata, Murambi, Gisozi and Bisesero, memorializing the 1994 genocide that targeted Rwanda's Tutsi population. Ethiopia's 215,000-hectare (531,000-acre) Bale Mountains National Park, which includes the continent's largest afro-alpine habitat, and Gedeo Cultural Landscape, home to 250,000 indigenous Gedeo people in the Eastern Highlands, were also inscribed on the World Heritage list, along with the Forest Massif of Odzala-Kokoua in the Republic of Congo, a vital habitat for the region's forest elephants (CNN, 2023).

UNESCO's Second Cycle of Periodic Reporting in the Africa Region in 2011 deemed that the high level of potential negative impacts from climate change should be noted, and that several properties were starting to experience the direct effects, with many affected by severe weather events. The most significant factor impacting the properties was storms, but a large number of properties experienced negative impacts from droughts; desertification; flooding; temperature change and other climate change impacts (UNESCO, 2011).

Climate change is deemed as the greatest threat facing World Heritage today, with one-third of natural World Heritage sites threatened by climate change (IUCN, 2020). Many World Heritage sites, however, do not have climate adaptation plans, or lack adequate capacity and funding necessary to assess the vulnerability of their sites (CVI, 2023). African WHSs in particular are 'neither prepared for, nor adapted to, future climate change', according to the Intergovernmental Panel on Climate Change's (IPCC's) Sixth Assessment Report (IPCC, 2023).

UNESCO has intimated that these World Heritage properties can serve as climate change observatories to gather and share information on applied and tested monitoring, mitigation and adaptation practices. The global network

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of World Heritage also helps raise awareness on the impacts of climate change on human societies and cultural diversity, biodiversity and ecosystem services, and the world's natural and cultural heritage. (UNESCO, 2024a).

There have been significant consequences caused by climate change for these high-profile African WHS destinations. The water flow of Mosi-oa-Tunya/Victoria Falls located between Zambia and Zimbabwe on the Zambezi River came to a trickle in 2019. Data from the Zambezi River Authority shows water flow at its lowest since 1995, and well under the long-term average, which the Zambian President, His Excellency Edgar Lungu, had called it "a stark reminder of what climate change is doing to our environment" (The Guardian, 2019). The Indian Ocean facing cultural site the Ruins of Kilwa Kisiwani and Ruins of Songo Mnara in Tanzania are built of coral and limestone mortar that date back to the 14th century. Coastal flooding and erosion are major threats to as sea levels rise due to climate change and increase the historic city's vulnerability (UNESCO, 2016).

3.2 The ICOMOS International Cultural Heritage Tourism Charter (ICHTC) and its World Heritage Site applications

There have been two previous iterations of the cultural tourism doctrinal documents developed by ICOMOS' International Cultural Tourism Committee (ICTC) prior to the ratification of the ICCHT in 2022. *The ICOMOS Cultural Tourism Charter* (1976) can be considered the first international document focused on the need for a responsible tourism approach to cultural heritage and it also anticipated the recognition of sites and monuments as a source of economic benefit and cultural education. Its successor, the *ICOMOS International Cultural Tourism Charter* (1999), emphasized as one of its key points that tourism can capture the economic characteristics of the heritage and harness these for conservation by generating funding, educating the community and influencing policy (ICOMOS ICTC, 2023).

Since the previous Charter's introduction in 1999, a number of significant developments occurred, notably with the Convention for the Safeguarding of the Intangible Cultural Heritage (2003); the United Nations Declaration on the Rights of Indigenous Peoples (2008); the 2030 Sustainable Development Goals (SDGs – 2015) and the designation by the United Nations of the International Year of Sustainable Tourism for Development (2017). The development process for the ICCHT took five years from the inception meeting in May 2017 in Florence to its ratification at the ICOMOS Annual General Assembly convened in Bangkok in October 2022.

The climate emergency, the exponential growth of tourism and of visitors to cultural sites and its several degrees of impacts in the last twenty years are addressed in the ICCHT. These subjects are dealt from the perspective of rights-based and people-centered approaches to cultural heritage and its enjoyment. The heritage commons perspective and their participatory governance encourage a new vision of cultural heritage tourism aimed to avoid its perpetual commercial exploitation and to encourage the fair and inclusive distribution of its positive effects within a destination's community and visitor economy.

The ICCHT has subsequently been applied in a number of cultural tourism sector and World Heritage circumstances. These include:

- Served as the basis for the Buzludzha Monument's Sustainable Tourism Plan for a dissonant cultural heritage site in Bulgaria;
- Used in the development of the Global Sustainable Tourism Council's (GSTCs) criteria for certifying cultural heritage destinations;
- Applied to the development of the ISO Standard 21902 Accessible tourism for all: recommendations for key players in the cultural tourism ecosystem in conjunction with UN tourism;
- Enabled a wide range of accessibility through its translation into eight languages, including Sub-Saharan Africa's principle European languages: English, French and Portuguese; and
- Integrated with the 2030 Sustainable Development Goals (SDGs) and Visitor Management Strategy and Assessment Tool (VMAST) to form the basis of the Cultural Tourism and Visitor Management Framework the (CTVMF) on behalf of the Organization of World Heritage Cities (OWHC).

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The adoption and use of the 2030 United Nations Sustainable Development Goals (SDGs) in 2015 includes SDG Goal 13: Take urgent action to combat climate change and its impacts. By recognizing the need to maintain cultural and natural heritage destinations that may be impacted by climate change, Goal 13 can be aligned with the development of more sustainable forms of tourism. Specifically, there are four SDG Targets out of the 165 total that can correlate to tourism and cultural heritage management at World Heritage sites. These Targets include:

- 8.9 – By 2030 devise and implement policies to promote sustainable tourism which creates jobs, promotes local culture and products
- 12b – Develop and implement tools to monitor sustainable development impacts for sustainable tourism which creates jobs, promotes local culture and products
- 14.7 – By 2030 increase the economic benefits to SIDS and LDCs from the sustainable use of marine resources, including through sustainable management of fisheries, aquaculture and tourism
- 11.4 – Strengthen efforts to protect and safeguard the world's cultural and natural heritage (UN, 2024)

UNESCO officially launched its VMAST in Autumn 2023, as part of its newest addition to its World Heritage Sustainable Tourism Programme and Toolkit. Within the context of UNESCO's World Heritage Convention (1972) VMAST is intended to assist site and destination management authorities to proactively manage visitation and tourism for protection of heritage values while enhancing community sustainability and resilience. As a resource included in ICOMOS's Heritage, Climate Justice and Equity Guide, one of the VMAST's key goals is to enhance climate resilience and adaptive capacity across communities and stakeholders living in and around UNESCO WHSs (World Heritage Catalysis, 2024).

The seven Charter principles were integrated with the VMAST and the SDGs, to form the OWHC's CTVMF. The Framework specifically supports a collaborative and strategic approach for operationalising principles and good practice related to cultural tourism, visitor management and heritage protection, and the formulation of recommendations that can be brought forward to the highest level of political attention and support. Applied on a regular basis it supports adaptive and proactive site- and destination management for community resilience and protection of heritage of a site's OUV (OWHC, 2023).

3.3 Case Study: Forts and Castles, Volta, Greater Accra, Central and Western Regions WHS

Ghana's attractiveness as a destination is based on its rich network of historical landmarks, heritage, cultural attractions, forts and castles, beaches and national parks. Adding to these its unique gastronomy offering, vibrant nightlife, music and the warmth of its people (UN Tourism, 2021). It has two WHSs which were amongst the earliest added to the international list: Forts and Castles, Volta, Greater Accra, Central and Western Regions (1979) and Asante Traditional Buildings (1980). There are also six sites on the country's Tentative WH list, all of which were added in 2000 (UNESCO, 2023).

The Forts and Castles were erected by traders from Portugal, Spain, Denmark, Sweden, Holland, Germany and Britain between 1482 and 1786 along 500 kilometres of Ghana's Atlantic Ocean coastline. They served the gold trade of European chartered companies. Latterly they played a significant part in the developing Transatlantic slave trade, and therefore in the history of the Americas, and, subsequently, in the 19th century, in the suppression of that trade.

The Forts and Castles WHS is a serial nomination composed of 28 separate properties These include: three castles, fifteen forts, four forts partially in ruins, four ruins with visible structures, and two sites with traces of former fortifications. The most prominent of these sites, St. George's d'Elmina Castle, was built in 1482, is one of the oldest European buildings outside Europe, and the historic town of Elmina is believed to be the location of the first point of contact between Europeans and sub-Saharan Africans.

The increasing interest in Ghana's tangible and intangible cultural heritage was driven in part by the Year of Return initiative in 2019, a year-long programme of activities to commemorate the 400th anniversary of the arrival of the

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first recorded enslaved Africans in the State of Virginia in the United States (McCormack, 2019; Ghana Tourism Authority, 2024). This sparked diaspora interest resulting in a compelling narrative of the growth and evolution in the country's tourism sector, where strategic enhancements and the preservation of cultural heritage have not only sustained visitor interest but also played a pivotal role in driving tourism success.

This has subsequently witnessed the role that the Forts and Castles WHS sites play in the country's top ten destinations. At number five is the Cape Coast Castle. The tourist site recorded 101,134 visitors in 2023. Although this is an increase from the 86,692 visits in 2022, it still fell down the rankings from number four. The Elmina Castle, which previously ranked at number five, fell two spots down. The site secured the seventh spot with a recorded total visit of 78,870 in 2023 (Ghana Tourism Authority, 2023).

While the National Tourism Development Plan (NTDP) profiles and acknowledges the importance of Ghana's two inscribed World Heritage properties and those on its tentative list, including planning for their inclusion as destinations, it also highlights challenges associated with their management. The NDTP confirms concerns raised in; the Forts and Castles being managed under outdated laws, limited financial resources to carry out conservation and protection action, absence of management plans for components inscribed as World Heritage, and the fact that Ghana Museums and Monuments Board that serves as the oversight body for the country's two WHSs, does not have direct control over potential development in close proximity to their heritage sites. There was no linkage nor connection made, however, between the potential devastating effects of climate change and destination resilience and attraction.

Several climactic incidences over the past five years indicate the extent of climate change impacts on the Forts and Castles WHS sites. This is evident from the aggressive rains together with a high rising water table (as seen in April 2019); the salt-laden atmosphere and carried by strong winds are very corrosive to the lime-washed stone buildings; the siltation with an increase in sediment deposits; and the soil erosion along the property's shorelines. Several of these factors were previously referred to, by the World Heritage Committee throughout the years, without a response or pro-active approach by the State Party. As such, a more pro-active stance to avoid some of the mentioned factors, such as the implementation of legislative measures of protection, inspection and monitoring, as well as minimum maintenance of the components would avoid the escalation of the observed situation (UNESCO, 2024b).

The UNESCO State of Conservation Reporting 2024 for the Forts and Castles WHS reinforced that amongst ongoing concerns, that changes to oceanic waters, water (rain/water table), wind and a salt-laden atmosphere were impacting the site from a climate change standpoint, while dealing with the lack of adequate management systems/management plans, major visitor accommodation and associated infrastructure, and interpretative and visitation facilities spread across the property's 28 sites (UNESCO, 2024c)

The most prominent and visited properties of the Forts and Castles WHS including Cape Coast Castle, Elmina Castle and Fort Christiansborg may be at lesser risk, as they are built on rocky terrain. Over time, even they will not be spared from climate change incursions. Hoping to slow the damage, the government has in recent years constructed a series of sea defence walls along parts of the coastline to prevent towns, villages and heritage sites from being inundated (Bhalla, 2022). These sea walls, however, are fighting erosion, but not managing erosion. There has to be an entire coastal ecosystem approach, not just focusing on what happens in certain areas, and develop nature-based solutions such as using mangroves (Mensah, 2022).

4. Results

The Forts and Castles site example presents a prominent serial WHS that was one of the first of twenty-five sites to be named to the World Heritage list. Its OUV is based in part on the invaluable tangible cultural heritage that is represented in the individual site components that are representative of the horrors of the dark history of the enslavement era. These iconic venues are also recognized as leading tourism destinations that are significant enough to attract diaspora tourists and investors, as part of Ghana's successful Year of Return and Beyond the Year of Return marketing initiatives (McCormack, 2019; Ghana Tourism Authority, 2024) .

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The issues that are regularly raised in UNESCO's reporting cycles for the individual sites, and the *Report on the joint World Heritage Centre/ICOMOS/ICCROM Reactive monitoring mission to the Forts and Castles, Volta, Greater Accra, Central and Western Regions* in 2020 indicate that no matter the significance of the properties to global and national heritage, even a solid emerging nation like Ghana is hard pressed to maintain its built cultural heritage resources (UNESCO, 2020). Necessary funding, effective long-term planning and investment, and sufficient management capacity and systems are all deemed as WHS challenges across the continent (AgnesAfrica, 2023; PreventionWeb, 2022).

African World Heritage sites face many operational and management challenges, but the most daunting may prove to be climate change. To build future resilience, the article recommends changes in how threatened tourism heritage sites are presented to visitors, improved funding for the documentation of the impacts of climate change on the heritage sites and developing anticipatory action via management plans and systems to both monitor and address potential climate change impacts. Integrate climate action and sustainability measures in the management of cultural tourism and cultural heritage

Using the Charter for guidance, there are three key areas that are embedded in *Principle 7 – All cultural tourism stakeholders must take action to mitigate, reduce and manage climate impacts*, that can be applied to African WHSs destination planning and management to address and better manage climate change (ICOMOS ICTC, 2023).

4.1.1. Minimize Greenhouse Gas Emissions

Actions should enhance the ability of communities to generate, retain and maintain sustainable benefits from cultural tourism. Tourism activities must minimize their greenhouse gas emissions. This is a shared responsibility of governments, tour operators, tourism businesses, destination managers and marketing organizations, site management authorities, land-use planners, heritage and tourism professionals, civil society and visitors. Enforcement should be ensured via incentives, bylaws, policies and guidelines that are updated as necessary.

Proposed actions for African WHSs to address climate change and destination management challenges:

- Act upon, and subsequently report on SDG Targets 8.9 and 12b to both promote sustainable tourism at WHSs which creates jobs, promotes local culture and products and develop and implement tools to monitor their sustainable tourism impacts.
- Minimize the generation of any greenhouse gas emissions at WHSs due to site operations, visitor traffic, local industry and infrastructure, and any other identifiable sources.
- Work with all parties involves in the WHS's visitor economy (i.e., tourism operators and services, ancillary businesses, government officials, civil society, etc.) to ensure that they are aware of the impacts of their operations and how they can reduce their individual sector impacts.
- Use positive reinforcement to recognize climate change adaptation and mitigation guidance and policy outlined by national and local governments and WHS site management, by visitor economy stakeholders, whether through financial incentives or other benefits, and highlight via digital and print media the differences that these efforts are making.

4.1.2. Develop Broad-Based Planning, Implementation and Evaluation of Tourism and Visitor Management Strategies

Climate action is a personal, collective and professional responsibility beyond national commitments and the Paris Accord. Tourism and visitor management must contribute to effective carbon and greenhouse gas reduction, waste management, reuse, recycling, energy and water conservation, green transport and infrastructures that comply with international and national targets. Measures to support heritage conservation, biodiversity and natural ecosystems need to be a priority in planning, implementation and evaluation of tourism and visitor management strategies.

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Adaptive reuse and retrofitting of built and vernacular heritage can contribute to climate adaptation and retain a more authentic visitor experience.

Proposed actions for African WHSs to address climate change and destination management challenges:

- Strengthen and harmonize WH management policies between African nations, and thus also to better protect cultural properties across the continent.
- Share conservation knowledge and expertise among those nations that may share common climate change challenges with their WHSs (e.g., coastlines, deserts, mountain environments, etc.) to identify evolving good practice as management circumstances change.
- Ensure that climate change is factored in as a key component of destination management planning relative to individual WHSs.
- Support the introduction of measures that integrate climate change mitigation and/or adaptation strategies for any new buildings, infrastructure, retrofits and conservation within WHSs and consider where it may be necessary to devolve some properties from a serial site, as they do not meet the site's OUV criteria as they become irreparable.

4.1.3. Improve Communication, information, heritage interpretation, education and training

Climate action strategies must consider traditional ownership, knowledge and practices. Communication, information, heritage interpretation, education and training must increase the awareness about the climate emergency and its consequences for natural and cultural heritage, especially where communities and destinations are at risk. The presentation and interpretation of heritage places open to the public must also contribute to these tasks including messages about climate impacts on preservation and the environment. This invites the consideration of innovative technologies that can be used for these purposes.

Proposed actions for African WHSs to address climate change and destination management challenges:

- Place the mitigation and adaptation of climate change impacts on WHSs in the forefront of any educational or training systems dealing with conservation, preservation or tourism, and incorporating useful, relevant documentation from ICCROM, IUCN, ICOMOS and UNESCO, where feasible.
- Incorporate climate change discussion into WHS site interpretation for visitors to present the issues and management challenges facing the conservation of hundreds and thousands-years old sites.
- Consider the provision of digital models for visitors to indicate what the site could have originally looked like, and the subsequent effects of climate change on structural integrity and loss.
- Encourage local community voices to be presented in any WHS interpretation and communications materials to indicate how their tangible and intangible cultural heritage is being affected and/or lost.

4.1.4. Monitoring process adoption and use

There are a number of funding, technical expertise and capacity challenges that may prevent the ability to conduct consistent, thorough monitoring of African WHSs. It is evident over time that whether there are sites languishing on African nations' Tentative Lists, or are not able to correctively respond to deficient conservation and visitor management areas impacting sites,

The VMAST and CT&VM Framework represent validated approaches to assess a range of management and sustainability facets that WH destinations have to deal with, including climate change planning, mitigation and adaptation measures. While both of these monitoring systems are voluntary and not mandatory, they are one of the few means by which African governments can determine how their WH sites are functioning, the areas to be addressed, and how to do so. At the same time, their may be reluctance in adapting either of these systems, as they

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can underline areas where government is non adequately acting upon or financing the necessary management of these sites.

It is incumbent on international agencies and organizations involved with cultural heritage provide the necessary financial and technical assistance to ensure that climate change related concerns for individual sites receive the necessary support to both maintain their OUV and viability as destinations.

5. Conclusions

The increasing number of World Heritage sites in Sub-Saharan Africa is widely viewed as a boon to many countries hoping to elevate their unique tangible cultural heritage to a global audience. Simultaneously, despite often best efforts, and often related to funding and management capacity, the continent overwhelmingly has repeated concerns on the most sites on the World Heritage in Danger List and ongoing operational and management issues highlighted in site reporting. These circumstances are being exacerbated by the inexorable growth of climate change impacts.

The Global Assessment Report on Disaster Risk Reduction 2022 issued by the United Nations Office for Disaster Risk Reduction underlined that the continued threat of climate disruption is intensifying at a disturbing pace in every region, with disproportionate impact on the poor and vulnerable. Indigenous, local knowledge systems and practices were recognized as the basis for appropriate action which can foster the integration of age and cultural perspectives into the design and implementation of DRR and climate change adaptation strategies and plans, while recognizing the importance to protect cultural heritage from disaster risks. (UNDRR, 2022). The report acknowledged the five most prominent issues and responses to these concerns:

- Disasters are set to increase by 40%
- Extreme temperature events will triple
- The most vulnerable are the most affected
- Disaster costs are rising
- More nations are adopting Disaster Risk Reduction plans

In response to these and other climate change-related concerns, the ICHTC notes that climate change is calling for a transformational and regenerative approach to cultural tourism where the priorities focus on building resilient and adaptive communities and heritage places. All cultural tourism stakeholders must subsequently take action to mitigate, reduce and manage climate impacts. There are funding and capacity challenges, but a more structured, incremental approach to planning, management and monitoring of these invaluable cultural heritage resources and their roles as key tourism destinations through instruments like the ICHTC, VMAST and CT&VM Framework are both needed and feasible. With funding and training support from multilateral UN agencies and bilateral aid programs, and knowledge sharing and good practice between African nations with similar can make a difference in stemming the negative impacts of climate change while supporting a better, tangible future for African WHSs.

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Pratiques traditionnelles de gestion des risques naturels en Afrique. Quels apports aux programmes d'aide internationale?

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Abstract

Climate change is leading to an increase in natural disasters and extreme events, such as cyclones, droughts, heat waves and floods, the impacts of which are particularly severe in Africa. Yet humanitarian aid remains insufficient: according to the Global Shelter Cluster, shelter assistance covers on average only 15% of the needs in the first year following a disaster. As a result, many populations have to recover on their own, revealing the limitations of approaches focused solely on emergency response. Contemporary risk management strategies now emphasise resilience, understood as the ability of communities to withstand, adapt and rebuild while preserving their essential functions. For centuries, African communities have developed traditional practices that contribute to this resilience, mobilised before, during and after crises. This article aims to highlight this local knowledge and demonstrate its relevance in relation to the approaches promoted by international risk management organisations. It analyses the methods of action of these organisations, illustrates the contribution of African heritage practices and highlights the need for greater cooperation between heritage and risk management actors. The study is based on the work of research laboratories and a bibliographic analysis combining community knowledge and recommendations from international organisations.

Keywords: *Resilience, traditional knowledge, prevention, risk management*

Résumé

Le changement climatique entraîne une intensification de catastrophes naturelles et événements extrêmes, tels que cyclones, sécheresses, vagues de chaleur ou inondations, dont les impacts sont particulièrement sévères en Afrique. Pourtant, l'aide humanitaire demeure insuffisante : selon le Global Shelter Cluster, l'assistance en matière d'abris ne couvre en moyenne que 15 % des besoins la première année suivant une catastrophe. Ainsi, de nombreuses populations doivent se relever seules, révélant les limites des approches centrées uniquement sur l'urgence. Les stratégies contemporaines de gestion des risques mettent désormais l'accent sur la résilience, entendue comme la capacité des communautés à résister, à s'adapter et à se reconstruire tout en préservant leurs fonctions essentielles.Depuis des siècles, des communautés africaines ont développé des pratiques traditionnelles contribuant à cette résilience, mobilisées avant, pendant et après les crises. Cet article vise à mettre en valeur ces savoirs locaux et à montrer leur pertinence par rapport aux approches promues par les organismes internationaux de gestion des risques. Il analyse les modalités d'action de ces organismes, illustre la contribution des pratiques patrimoniales africaines et souligne la nécessité d'une coopération renforcée entre acteurs du patrimoine et de la gestion des risques. L'étude s'appuie sur les travaux de laboratoires de recherche et sur une analyse bibliographique croisant savoirs communautaires et recommandations des organismes internationaux.

Mots-clés: *Resilience, savoirs traditionnels, prévention, gestion des risques*

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1. Introduction

Le changement climatique provoque une intensification de catastrophes et événements extrêmes — cyclones, sécheresses, vagues de chaleur ou inondations — dont les conséquences se révèlent particulièrement graves en Afrique (UNESCO, 2020). Face à ces crises, l'aide internationale reste limitée : selon le Global Shelter Cluster, « l'aide fournie par les organismes humanitaires au cours de la première année suivant une catastrophe majeure ne couvre en moyenne qu'environ 15 % des besoins en abris, et souvent moins. Par conséquent, de nombreuses personnes doivent reconstruire leur logement sans assistance — elles s'auto-relèvent » (Global Shelter Cluster, 2022). Les décennies d'intervention humanitaire ont mis en évidence les limites des approches centrées sur l'urgence ponctuelle et soulignent l'importance d'appuyer les capacités locales. Ainsi, les stratégies contemporaines de gestion des risques privilégient désormais la résilience, définie comme la capacité d'une communauté à résister, à s'adapter et à se relever rapidement tout en préservant ses fonctions essentielles (UN/ISDR, 2009).

2. Objectifs et methodologies

2.1. Objectifs

Depuis des siècles, certaines communautés africaines ont développé des stratégies traditionnelles visant à renforcer la résilience des populations face aux aléas, avant, pendant et après les périodes de crise.

L'objectif de cet article est de mettre en lumière les savoirs et pratiques traditionnels de réduction des risques développés au sein de certaines communautés africaines et d'en montrer la pertinence au regard des approches promues par les organismes internationaux de gestion des risques naturels. Dans un premier temps, il analyse les modalités d'action de ces organismes et met en évidence, à partir de leurs retours d'expérience, les concepts clés ainsi que les pratiques mobilisées dans ce domaine. Dans un second temps, il illustre la manière dont des pratiques patrimoniales traditionnelles, observées sur le continent africain, sont en accord avec ces concepts de gestion des risques. L'article conclut sur la nécessité d'une collaboration renforcée entre les acteurs du patrimoine et ceux de la gestion des risques, afin d'accompagner les communautés dans leur autonomisation face aux aléas.

2.2. Méthodologies

Cette étude s'appuie sur les recherches conduites par l'association CRAterre – Centre international de la construction en terre depuis 1979 et le laboratoire éponyme depuis 1986 – dans les domaines de l'aménagement, de la préservation de l'environnement, de la conservation du patrimoine, de la gestion des risques et de la pédagogie. Elle intègre également des analyses bibliographiques visant à examiner la corrélation entre les savoirs et pratiques traditionnels communautaires documentés sur des biens patrimoniaux en Afrique et les recommandations issues des bonnes pratiques du Bureau des Nations Unies pour la réduction des risques de catastrophe (UNDRR).

CRAterre a une expérience significative dans le domaine du patrimoine. On relève notamment : le programme Terra lancé en 1997 en collaboration avec le Getty Conservation Institute (GCI) et le Centre international d'études sur la conservation et la restauration des biens culturels (ICCROM) ; le programme Africa 2009 (1998-2009) soutenu par l'UNESCO et l'ICCROM aux côtés des institutions sub-sahariennes ; et enfin sa contribution à la reconnaissance, conservation et gestion de près de 50 biens inscrits sur la Liste du patrimoine mondial de l'UNESCO.

L'implication de CRAterre dans la gestion des risques se concrétise en 2003, lors du séisme de Bam, en Iran. CRAterre a été impliqué dans un important programme d'appui à la réhabilitation de Bam. Il s'agissait d'étudier et de tirer des enseignements des savoirs traditionnels pour proposer des systèmes constructifs ayant fait leur preuve, afin de réduire la vulnérabilité des habitats. Aussi, depuis le séisme de 2010, CRAterre accompagne Haïti dans le relèvement. Les activités entreprises comprennent la caractérisation et l'évaluation des savoirs constructifs

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traditionnels et le développement de méthodes et solutions constructives adaptées au niveau local au travers de processus de retro conception (Joffroy, 2019).

Enfin, CRAterre collabore depuis près de 5 ans avec le Global Shelter Cluster (organe de coordination de l'aide humanitaire face aux crises) dans la documentation des compétences, connaissances et pratiques locales en matière de construction dans les projets d'hébergement et de reconstruction (CRAterre, 2020).

L'ensemble de ces expériences ont permis de bâtir une importante documentation que l'autrice a étudié pour élaborer cet article.

3. Résultats

3.1. Le cadre international

3.1.1. La reconnaisance des savoir traditionnels dans les stratégies internationales de gestion des risques

L'intégration, dans le discours de la réduction des risques de catastrophes, du rôle majeur des savoirs locaux a débuté dans les années 1960 – 1970 grâce au développement des sciences sociales dans les domaines de l'écologie culturelle, de l'écologie humaine et de l'anthropologie de l'habitat (RAPOPORT, 1972 ; CRAterre-AE&CC, 2014).

Ceci se traduit par de nombreux accords internationaux, conventions qui définissent et positionnent les savoirs autochtones comme éléments clés pour le développement durable. On peut citer : la Convention sur la biodiversité, 1992 ; le Protocole de Nagoya, 2010 ; les sommets sur la sécurité alimentaire (Forum alimentaire mondial, 1996 ; Déclaration de Rome sur la sécurité alimentaire mondiale) ; les déclarations sur la médecine (Stratégie de l'Organisation mondiale de la santé pour la médecine traditionnelle, 2002 et 2014) ; les conventions dans le domaine du patrimoine (Patrimoine culturel immatériel de l'Unesco, 2003 ; Déclaration de Nara), les droits des peuples autochtones (Déclaration sur les droits des peuples autochtones de l'ONU, 2007). Il ressort de ces accords que les savoirs autochtones sont convoqués comme leviers pour sauver la planète de la famine, de la pollution et pour affronter les changements climatiques. (Kleiche-Dray, 2017)[1]

Par ailleurs, plusieurs laboratoires de recherche se sont intéressés à l'étude du patrimoine (matériel et immatériel) et ont développé des notions de plus en plus précises concernant la réduction des risques basées sur les « savoirs locaux » et les pratiques de transmission de la mémoire du risque. Ainsi dès les années 1970, les chercheurs de CRAterre ont développé la notion de « culture constructive». Ils entendent par « culture constructive » l'ensemble des valeurs (pratiques et techniques) définissant un savoir local lié à l'acte de construire et élaboré par une société, au cours du temps et dans un environnement donné, de manière telle qu'il la caractérise et la différencie d'une autre (CRAterre-AE&CC, 2014). Dans les années 1980, les chercheurs du CUEBC (Centro Universitario Europeo per il Beni Culturali) ont fait émerger la « culture du risque » associée aux techniques constructives parasismiques (Ferrigni, 2005). Les cultures du risque « visent à réduire les risques de catastrophes et se manifestent par des organisations sociales, des mesures stratégiques, des méthodes d'implantation, de construction, d'entretien, de gestion et d'amélioration du bâti, ainsi qu'en termes de choix d'exploitation des matériaux, de leur transformation et de leur accessibilité » (CRAterre-AE&CC, 2014). Les travaux de l'IPOGEA (Research Center on Local and Traditional Knowledge) dans les années 1990 se sont intéressés aux formes d'adaptation et de réponse de groupes humains à des contextes spécifiques (sécheresse, inondations, etc.) (CRAterre-AE&CC, 2014).

3.1.2. L'évolution des pratiques internationales

Le retour d'expérience de plusieurs décennies d'appui de la communauté internationale aux victimes de catastrophes, démontre que les populations touchées sont les premières à réagir et à initier leur processus de rétablissement immédiatement après le choc, en mobilisant leurs propres ressources et savoir-faire ; elles

[1] Kleiche-Dray, 2017. Les savoirs autochtones au service du développement durable

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poursuivent ensuite leurs efforts d'amélioration indépendamment de tout soutien extérieur (Morel, 2018). Ces constats soulignent l'importance de fonder l'action sur les ressources locales (Global Shelter Cluster, 2022) et mettent en évidence la pertinence du concept de « self-recovery » ou autorelèvement (Parrack et al., 2014), qui constitue un levier essentiel du renforcement de la résilience communautaire. Celle-ci est définie par l'UNDRR comme « la capacité d'un système, d'une communauté ou d'une société exposée à des aléas à résister, absorber, accommoder, s'adapter, transformer et récupérer des effets d'un aléa de manière opportune et efficace, notamment grâce à la préservation et à la restauration de ses structures et fonctions essentielles par une gestion appropriée des risques » (UNDRR).

Ces constats surlignent également la limite des appuis ponctuels d'urgence, et orientent vers des démarches soutenant les actions qui s'inscrivent dans le temps. Quatre actions clés correspondant à des étapes avant et post catastrophe et contribuent à la stratégie de réduction des risques. Il s'agit de : 1) la prévention : analyse des risques, sensibilisation, éducation, etc.. ; 2) la préparation : système d'alerte précoce, plan de contingence, stocks, formations, etc... ; 3) l'atténuation : digues, canalisation, diversification des moyens d'existence et 4) la réponse : analyse des besoins, aide d'urgence, reconstruire mieux. (Croix Rouge française,2020)2.

3.2. Les savoirs traditionnels et la gestion des risques

Le patrimoine offre de nombreux exemples de dispositifs et de pratiques de gestion des risques, ayant anticipé judicieusement les approches récentes développées par les organismes internationaux de réduction des risques et de réponse aux effets des aléas. Dans ses travaux, Caimi montre que, dans les zones exposées aux risques naturels, l'architecture locale et traditionnelle constitue souvent une réponse ingénieuse issue d'une gestion adaptée des risques (Caimi, 2014). Ces expériences fournissent de précieux enseignements, comme l'illustrent les recherches menées dans le cadre du projet *VerSus* (Correia, M., Dipasquale, L., Mecca, S., 2014), qui ont permis de documenter un large éventail de stratégies environnementales, socioculturelles et socio-économiques durables en matière de gestion des risques et de réduction de la vulnérabilité des communautés et de leurs constructions. Cette partie évoque quelques exemples inspirants issus du continent africain, qui correspondent à des phases clés de stratégie de réduction de risques.

3.2.1. Prévention

Au niveau mondial, le secteur du bâtiment compte parmi les principaux émetteurs de CO_2, contribuant ainsi au réchauffement climatique et, par conséquent, à l'aggravation de certains aléas naturels. Depuis des siècles, en Afrique, des milliers d'artisans utilisent la terre crue disponible à proximité pour construire. Cette matière peu ou pas transportée et transformée contribue valablement à la réduction des émissions de gaz à effet de serre et du réchauffement climatique. Ainsi, dans le territoire frontalier du Togo et du Bénin, pour les Batammariba, l'installation sur un lieu et son aménagement relèvent de modalités culturelles anciennes très élaborées qui visent à assurer un équilibre et une harmonie durables entre les humains, mais aussi entre les humains et la nature (Fig.1). Ces principes d'aménagement et d'organisation sociale ont été reconnus de valeur universelle exceptionnelle par la communauté internationale (UNESCO, 2004).

Le site archéologique de Thimlich Ohinga au Kenya, classé sur la Liste indicative de l'UNESCO, est situé au nord-ouest de la ville de Migori, dans la région du lac Victoria. Il s'agit d'un établissement fortifié en pierre sèche qui a été probablement construit au XVI^{e} siècle. Isaya o. Onjala et Ephraim k. Kamaru rapportent dans l'ouvrage « Pratiques traditionnelles de conservation » (Joffroy, 2005) les modalités fines de gestion des risques mises en place par les communautés : « L'inspection et le contrôle des murs pour identifier toute menace incombaient à chaque habitant. En cas de problème, un rapport était présenté au chef et aux Anciens qui devaient mettre au point une stratégie appropriée en vue d'une rapide solution. Une fois le problème identifié et les autorités supérieures informées, les personnes intéressées se rendaient sur place pour approfondir la question. Cette opération consistait à examiner les causes du problème pour tenter de le résoudre. Un diagnostic exact du problème ouvrait ensuite la

[2] https://www.youtube.com/watch?v=K0bTfFUHcr8

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voie à la mobilisation de la main-d'œuvre et des ressources requises pour le travail de manutention et de réparation. ». On remarque la clarté de la répartition des tâches de la phase d'alerte, jusqu'à l'organisation de la réponse.



Figure 1. Le paysage culturel des Batammariba. Source CRAterre, Joffroy (2004)

La prévention des risques peut être mise en place dès la conception des ouvrages architecturaux. Les cases Mousgoum au Cameroun illustrent le savoir-faire particulièrement élaboré pour faire face à des mois de pluies annuelles dans la région, qui engendre une érosion progressive des cases Mousgoums. D'après les maçons, pour éviter que la case ne subisse des dégradations très fortes, trois dispositions devaient être prises : une courbure précise de la case, une attention portée dans la réalisation des moulurations et un entretien annuel de l'extérieur de la case (Joffroy, 2005).

À Tombouctou, au Mali, la prévention des risques repose sur la mise en place d'un système traditionnel de maintenance. Ainsi, les travaux de réfection des mosquées inscrites sur la Liste du patrimoine mondial sont programmés avant l'hivernage, afin de les préparer à l'épreuve des pluies. Une inspection est ensuite effectuée après la première forte pluie pour vérifier l'efficacité des interventions réalisées. En cas de défaillance constatée, des maçons se mobilisent rapidement pour entreprendre les travaux complémentaires nécessaires (Joffroy, 2005).

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3.2.2. Préparation aux risques

Les kayas des Mijikenda au Kenya, classés sur la Liste du patrimoine mondial en 2008, témoignent de dispositifs de préparation aux risques. Les communautés Mijikenda veillent à préserver les kayas (forêts), sources majeures de plantes médicinales, en les sacralisant et en en contrôlant l'accès. Les Mijikenda gèrent également avec précaution leurs ressources forestières en interdisant la coupe des arbres verts. Ils assurent toutefois la réponse aux besoins primordiaux, en autorisant dans certains kayas, la cueillette des bois sec au sol. Dans le cas du kaya Kauma, cette cueillette est régulée, en effet les femmes ne pouvaient emporter que la quantité de bois qu'elles pouvaient porter dans leurs bras, sans devoir recourir à l'utilisation d'une corde (UNESCO, 2008).

3.2.3 Atténuation des risques

A Thimlich Ohinga pour faire face aux besoins de main d'œuvre exceptionnelle, il était constitué une équipe d'intervention « ad hoc », appelée *Saga*. Il s'agit « d'un système d'organisation sociale dans lequel des membres de la communauté se regroupaient pour effectuer des tâches au bénéfice de la communauté, dans son ensemble ou au profit de certaines catégories. Sur ordre du chef de village, les *Saga* se rassemblaient rapidement et effectuaient les travaux dans les plus brefs délais. Ce système a prospéré jusqu'à l'époque du colonialisme qui a malheureusement mis fin à la plupart des systèmes traditionnels. » (Joffroy, 2005).

3.2.4. Réponses aux risques

Le principe d'auto relèvement est bien illustré par les communautés Tofinu installées il y a 400 ans à Ganvié au Bénin, au milieu du lac Nokoué. Celui-ci s'étend parallèlement à la côte atlantique dont il est séparé par un cordon de sable. L'histoire de Ganvié remonte à l'époque de l'esclavage. Pour échapper à l'armée des royaumes Fon et Dahomey qui craignaient un démon sous la surface de l'eau, les Tofinu ont installé des villages lacustres sur ce lac. C'est ainsi que Ganvié, qui signifie « nous avons survécu » en langue locale, a été fondé. Les Tofinu ont choisi de vivre sur l'eau, ont su créer un habitat adapté au milieu ainsi qu'un système d'aquaculture autosuffisant. Le risque d'être rendu à l'esclavage a permis à ce peuple de développer des savoirs et savoir-faire spécifiques dans un contexte environnemental complexe et à risque. Il s'agit d'un exemple d'auto relèvement et de résilience remarquable. L'évolution des pratiques de cette communauté et en particulier leur capacité d'adaptation au milieu, méritent études, notamment au regard des effets du changement climatique actuel et de la remontée des eaux marines (Klima, 2024).

4. Conclusion

Ces observations rappellent les rôles centraux qu'ont les communautés concernées dans la gestion des risques et en particulier leurs capacités, savoirs et savoir-faire pour réduire l'exposition aux risques, être moins vulnérables et renforcer leurs capacités et autonomie.

Bien que les pratiques traditionnelles patrimoniales et les cultures constructives — notamment celles élaborées par certaines communautés pour faire face aux sinistres — suscitent un intérêt croissant et soient de plus en plus reconnues par la communauté scientifique, en particulier dans les sciences humaines et sociales, elles demeurent encore trop peu intégrées par les acteurs de l'aménagement de l'habitat et des territoires, tant au niveau international que local.

Cette situation soulève la question de la reconnaissance et de la validation de ces savoirs et savoir-faire, ainsi que les capacités à les transmettre et à les mettre en œuvre. Leur disparition pourrait entraîner une rupture profonde du fonctionnement d'une communauté ou d'une société, avec d'importants impacts et pertes humaines, matérielles, économiques ou environnementales, que la collectivité affectée ne pourrait surmonter par ses seules ressources. Autrement dit, ce scénario correspond à ce que l'UNDDR définit comme une catastrophe, cette fois-ci culturelle.

Cette réflexion met en lumière les connexions possibles et nécessaires entre les professionnels du patrimoine et ceux de la réduction des risques au bénéfice des communautés, afin que celles-ci puissent se ressourcer dans leur patrimoine pour y puiser le pouvoir d'initier des stratégies de réduction des risques et de reconstruction et de les

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poursuivre seules. Ainsi, la notion de participation s'effacera progressivement au profit de celle d'autonomisation, souhaité par le principe de résilience.

Ces observations invitent les professionnels du patrimoine et ceux de la réduction des risques à :

- Approfondir la connaissance scientifique des cultures constructives liées aux aléas naturels ;
- Soutenir et accompagner les dynamiques existantes (traditionnelles ou non), en termes de prévention, préparation, atténuation et réponse aux risques ;
- Convoquer la mémoire du risque, les bonnes pratiques (traditionnelles ou non) d'implantation, de construction, d'entretien, d'aménagement du territoire et de gestion collective.

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Learning from Kenya
Apprendre du Kenya

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Revitalizing Tradition: A Sustainable Reassessment of Vernacular Constructive Architecture among the Luo People in Kenya within the Framework of Circular Economy

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Abstract

The demographic projections for Kenya assume a doubling of its population by 2050, which leads automatically to the assumption of increasing demand for construction materials. And already today it faces economic challenges, particularly in rural areas, aggravated by escalating costs of contemporary building materials like steel and cement. Simultaneously, the imperative to address climate change demands sustainable building solutions. Amidst these challenges, the traditional knowledge embedded in vernacular building cultures offers environmentally conscious, social, and economically sustainable methodologies. However, globalization and industrialization, coupled with former colonial suppression, have marginalized vernacular architecture in Africa, including the vernacular architecture (VA) techniques of the Luo community in Kenya. This study seeks to identify and preserve the VA of the Luo community and assess its potential contribution to modern sustainable architecture, specifically in line with circular economy principles. Utilizing a comprehensive approach, a literature review was conducted, complemented by field observations and semi-structured interviews with local experts. The study's results indicate that the VA of the Luo community holds promise for the sustainable development of the building sector in ecological, socio-economic, and economic terms. It offers constructive solutions for implementing circular economy strategies, emphasizing practical, tangible benefits. At its core, this research endeavors to shed light on the underappreciated cultural legacy of the Luo community and the potential it holds for enriching sustainable architecture. By acknowledging and assimilating these traditional practices, the study advocates for a construction approach that strikes a balance between cultural preservation and environmental mindfulness.

Keywords: *vernacular architecture; sustainable building design; circular economy; Luo community; Kenya; rammed earth*

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1. Introduction

Worldwide there is a growing demand for buildings that are environmentally, economically, and socially sustainable due to climate change. Especially an upcoming focus on implementing circular economy strategies seems a resolute solution for a sustainable future [1], [2], [3]. Kenya is showing a keen interest in implementing circular economy principles [4]. Kenyan revised building code, published on 20th February 2024, is about recycling building waste, promoting reuse, and reducing resource consumption [5]. A criteria for the selection of building materials in Kenya are based on categorization provided by the Housing and Building Research Institute (HABR) of the University of Nairobi, which includes: "(1) Consider the prevailing climatic conditions; (2) Make use of local, readily available raw materials, that are easy to work with, implying a preference for technologies favoring low-skill labor; (3) Incorporate indigenous techniques and skills; (4) Exhibit low energy consumption - referring to embodied energy; (5) Make use of building materials of high availability and acceptability; (6) Avoid the use of heavy machines for production, transport and handling, and consider the needs of family." [6]. Organizations like the Kenya Green Building Society (KGBS) advocate for environmentally friendly construction materials, including recycled ones.

The increasing interest in sustainable architecture has also led to a reconsideration of vernacular architecture (VA) around the world [7]. Indigenous building practices are still prevalent in Kenya [8]. VA adapts to building styles that have been used by local communities for generations, shaped by local resources, needs, and cultural identification [9], [10]. Due to growing global industrialization, the vernacular construction knowledge is at risk of being forgotten [11]. However, these country-specific techniques can demonstrate solutions for sustainable construction techniques and help to find answers for the implementation of the circular economy for each specific region. M. Dabaieh et. al demonstrate, for example, that Egyptian vernacular architecture incorporates all the principles of the circular economy, as well as that of ancient and modern vernacular architecture [12]. Also, Jahed, N. et al found out that the use of low-carbon materials and construction techniques derived from vernacular architecture can contribute to minimizing waste, reducing environmental impacts, and promoting a circular economy in the building industry [7]. These and other studies show how important the study of VA is for finding solutions for sustainable construction. However, a previous review on methodologies for studying sustainable qualities of vernacular architecture shows that research in this field is still limited.

2. Aims and Objectives

This study aims at recognizing the sustainability and circular economy principles in traditional Luo architecture. By involving the members of the selected community, the aim is to revitalize and preserve the knowledge and culture of the region's traditional architecture, while at the same time linking it to the principles of the circular economy and sustainability in general.

3. Methodology

This study uses the sustainability principles of the project "VerSuS" (Lessons form Vernacular Heritage for Sustainable Architecture) which were developed "to gain operation knowledge form the study of vernacular architecture" [13] and combines them with the Circular Economy principles summarized as different Circular Design Principal Classifications by M. Dabaeih: (1) reducing by design; (2) refusing, reducing, and re-using; (3) repairing, refurbishing, and remanufacturing; and (4) repurposing and recycling; with the Cradle-to-Cradle Certification (C2C) system principals developed by William McDonough and Michael Braungart: (1) Material Reutilisation; (2) Material health, water stewardship; (3) Renewable energy source; (4) Social Responsibility , and the four principals of the World Green Playbook, which is a global framework that promotes sustainable practices across industries: (1) Design for disassembly, reuse and recycling, and the elimination of all waste; (2) Regeneration of nature; (3) Optimization of lifespan for material and product use; (4) Reduction in consumption of materials and resources. The various principles and orders are shown in Table 1-3.

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Field observations at the selected case study location in Nyang'oma Kogelo Siaya County, and 10 interviews with contractors, artisans, architects, professors of architecture, and citizens all contribute to the final findings in this paper.

4. Results

4.1. Case Study Description – Luo Hut in Alego, Kenya

4.1.1. Geographic Location

The location of the study is Siaya County in Kenya, near Lake Victoria and close to the Ugandan border. Siaya County is divided into different sub-counties, Alego Usonga, Ugunja, Gem, Bondo, and Rarieda. The specific location of the study is Nyang'oma Kogelo in Alego Usonga. It is directly on the equator, about 60 kilometers northwest of Kisumu, the provincial capital. Nyang'oma Kogelo is 1288 m above sea level [13].

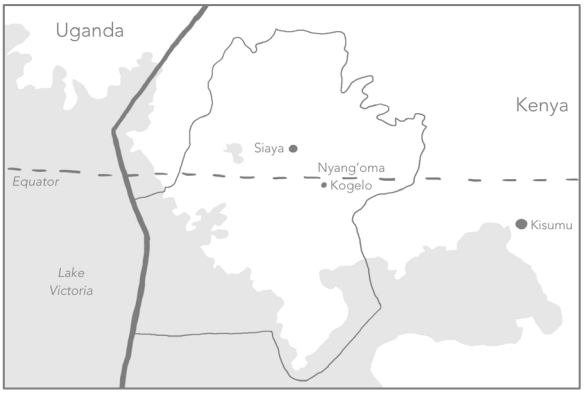


Figure 1. Map of Siaya county – by author



Figure 1. Map of case study location*, Nyang'oma Kogelo* – Google Maps

4.1.2. Climate Conditions

The climate zone of Siaya county is classified based on the Köppen-Geiger climate classification system as Af – tropical rainforest climate. The average daily temperature is between 21°C and 23°C. The rainy seasons are mainly in April/ May and October/November.

According to the interviews with local farmers, the weather conditions have changed and are no longer as predictable as they used to be, which makes farming difficult to plan. Also, the county is facing heavier rainfalls, that lead to floodings.



Figure 3. Climate diagram of Siaya [14]

4.1.3. Luo Community

The Luo ethnic group is the second largest in Kenya among 70 different ethnic groups [15]. "Around the sixteenth century, the ancestors of the Luo began migrating from the Bahr al Ghazal region, south of the Nile, finally settling on the eastern side of the Lake Victoria basin." [16]. The predominant economic activity of the Luos is fishing and agriculture. Traditionally, and still today, Luo men were allowed to live in a polygamous marriage, as long as the first wife agreed. Traditionally, the size of a Luo homestead was determined by the number of wives and sons in a family. This is because each wife had to have her own hut. The boys too each had their own hut (Simba). Only the daughters didn´t. They slept in their mother's hut until a certain age and then moved to their grandmother´s hut until they got married.

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4.1.4. Building Typology

The traditional Luo hut is a round structure, with a wooden framework out of Siala (lt. Markhamia lutea) round poles and a mud/stones infill. This building technique is also known as "wattle and daub". The wall plaster is made of mud and cow dung. The floor is rammed with mud and also plastered with cow dung.

The roof structure is also built with Siala timber and then covered with grass. Traditionally, all joint connections were made using natural, home-made sisal rope. Today, predominantly nails are used.



Figure 4: Luo Homestead, photo by author at Kisumu Museum

4.2. Framework of a Circular Economy with Sustainability Goals

The globally dominant economy is organized according to the linear system, in which products and buildings are produced, used, and at the end of their life cycle disposed of in a recycling facility [17]. The circular economy (or Cradle-to-Cradle - "C2C") keeps the materials in the cycle so that a disposal is not needed. Thereby material cycles can be divided into technical and biological cycles [18]. Based on prevalent reviews it is clear that a Circular Economy (CE) has many different definitions and strategies, but they are not mutually exclusive and can even complement each other well. The following Table 1-3 highlights the order of the circular design principles according to M. Dabaeih: (1) Reduce by design, (2) Refuse, reduce, and re-use, (3) Repair, refurbish, and remanufacture, and (4) Repurpose and recycle; the 5 pillars of the Cradle-to-Cradle Certification - alongside "Material Reutilisation" with "Material Health", "Water Stewardship", "Renewable Energy Source", and "Social Responsibility" [17]; and the 4 principals of the World Green Playbook - Reduction in consumption of materials and resources", "Optimization of lifespan for material and product use", "Design for disassembly, reuse, and recycling, and the elimination of all waste", and" Regeneration of nature" under the 15 sustainability contributions of vernacular architecture, that are defined by the "VerSus" project [9].

Sustainability goals of "VerSus"	Environmental				
	Respecting environmental context and landscape	Benefit of natural and climatic resources	Reduce pollution and waste	Contribute to human health and welfare	Reduce natural hazard effects
CE Principals precised by M. Dabeieh et. al	(1) Reduce by design		(2) Refuse, reduce, and re-use		
C2C Certification			Material Reutilisation	Material health, water stewardship	Renewable energy source
CE Principals of "World Green Playbook"			Design for disassembly, reuse and recycling, and the elimination of all waste		Regeneration of nature

Table 1. Environmental sustainability goals + CE

Sustainability goals of "VerSus"	Socio-Economic				
	Support autonomy	Promote local activities	Optimise construction efforts	Extend building lifetime	Save resources
CE Principals precised by M. Dabeieh et. al				(3) Repair, refurbish, and remanufacture	(4) Repurpose and recycle
C2C Certification					
CE Principals of "World Green Playbook"				Optimization of lifespan for material and product use	Reduction in consumption of materials and resourcse

Table 2. Socio-economic sustainability goals + CE

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The main features of CE principles are focused on ecological and economic areas. In contrast, C2C certification also includes a social component. The aim is to ensure that the community and product development function as a healthy ecological system [19].

Sustainability goals of "VerSus"	Social-Cultural				
	Protect the culture landscape	Transfer construction cultures	Enhance innovative and creative soultions	Recognise intangible values	Encourage social cohesion
CE Principals precised by M. Dabeieh et. al					
C2C Certification	Social Responsibility				
CE Principals of "World Green Playbook"					

Table 3. Socio-cultural sustainability goals + CE

4.3. Traditional Luo Hut aligned with Sustainability Goals and Circular Economy Principals

4.3.1. Environmental

Reduce by Design

Respecting environmental context and landscape, the Luo homestead and the number of huts built are minimalistic and tailored to the needs of the users. Each hut is a room that fulfills multiple purposes. While the man's hut is only used for sleeping and is the smallest hut on the compound, the women's huts are used for cooking, sleeping, and socializing. In terms of minimizing the impact of interventions on site, the traditional Luo hut has no foundation that seals the terrain permanently. The main supporting structure consists of Siala poles that are rammed into the earth, to strengthen the building.

To benefit nature and its resources, the homestead is preferably situated on a hill and close to a water source (lake or river), to which usually the back gate of the homestead was aligned. The land for a new homestead was traditionally passed on from grandfather to father to son. A natural live hedge, consisting of Euphorbia trees ("Ojuok"), among others, served as a boundary for the homestead.

Refuse, Reduce, Reuse, and Recycle

The traditional Luo hut is built with locally available natural resources – clay and timber for the walls; and grass and timber for the roof. This is in keeping with vernacular architecture, which rejects using materials from outside the community and would incur an expenditure. If industrial components/materials are used, they are kept to a minimum. Nowadays, for example, roofs in the region are predominantly covered with corrugated iron sheets, allowing for a gutter to collect rainwater. However, the use of corrugated iron sheets has its drawbacks. Due to the lack of insulation, the rooms heat up considerably in direct sunlight. In addition to this, rainfall on the roof generates a great deal of noise, making indoor communication next to impossible.

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The wooden supporting structure is made from the Siala (lt. Markhamia lutea) tree. The advantage of using and growing the Siala tree, is that it has a very big base of roots and multiple stems. When a stem is cut for poles "fittos", a new one sprouts. In this way, nature automatically ensures the continuity of construction resources for future generations.

The Siala poles for the walls and roof are joined together by handmade ropes made of sisal fibre (Figure 4). This can easily be reassembled or, when the house is no longer needed, disgarded and because biodegradable return to nature without damaging it.



Figure 2:Roof structure of a Luo hut at Bomas of Kenya Museum, Nairobi – photo by author

Material Health and Welfare

The clay walls are a slow heat accumulator. They provide a cooling atmosphere during the day and at night they release the heat gained during the day through solar radiation. The thatched roof of 40 to 100 cm thickness has an insulating effect against solar radiation heating. Additionally, the gap between the roof and the wall offers natural ventilation. In addition to the physical advantages, the natural materials do not emit any toxic substances that are often found in industrial building products.

Reduce Natural Hazard Effects

The main risks to the traditional clay hut in Siaya County are the intense heat from the sun and the heavy rainfalls, often with hailstorms and strong winds. To prevent damage to the walls due to the rain, the roof is low and overhangs the wall at a mínimum of 75 cm. Additionally, there is a veranda (in Luo: “Ndiri”) at the lowest point of the wall, approximately 40 cm high, which strengthens the foundation of the structure.

4.3.2. Socio-economic

Extend Building Lifetime / Repair, Refurbish, and Remanufacture

As part of the aim of the circular economy to make the buildings durable, the various elements of the huts had to be preserved after different periods of use. The walls had to be re-plastered after 3 months, as well as the floor inside to keep the hut clean. Depending on the effect of the rain on the roofs, the type of grass, and the accuracy of its building technique, the thatched roofs had to be redone after 1 or 2 years. One of the biggest threats to the durability of the huts is termites. Although the Siala is a hardwood and hence more durable, it can be eaten by termites too after a certain time. They then have to be replaced.

If an extension of the huts was needed due to family growth, separate huts were built. The homesteads were large enough to accommodate this. As soon as the first son moved out to start his own family, the hut remained empty and was left to decay. All the natural materials returned to the soil as part of a biological cycle.

Save Resources / Repurpose and Recycle

Saving resources is an important aspect of the circular economy. In the construction of Luo Homes, "Siala" wood (lt. Markhamia lutea) is used. Only the branches and larger trunks of this tree are harvested. The roots expand and act as a base from which, even when cut right back, the stump continues to sprout branches directly from that very same stump. For the walls, floor, and plastering, soil directly on site is used, mixed, for the plastering, with cow dung.

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Support Autonomy / Promote Local Activities

The use of local materials also supports the local economy, e.g. by buying grass, or soil, from a local farmer and employing a local artisan.

4.3.3. Socio-cultural & Social Responsibility

Transfer Construction Cultures

The construction techniques were passed down from generation to generation. The building site was not particularly dangerous, as heavy construction equipment was not needed. This meant that the children could help, as they were able, with the construction work. They too learnt as they went along. That said, certain construction techniques, such as the construction roof and thatching of the roof with grass, could only be carried out by skilled artisans. They, in turn, taught their sons their trade.

Encourage Social Cohesion

The construction of a new homestead was a community event. Depending on how much a member of the community was valued, a correspondingly large number of people from the community would help to build their homestead. Each homestead had the same layout. The first wife's hut was always opposite the gate. This gave visitors an orientation and they were immediately able to find their way around the homestead.

A centrally located tree, near the husband's (old man) hut served as a shaded meeting place. Another place where meetings were also held was the first wife´s hut because it was the largest hut in the homestead.

In addition to the regular structure, the huts were adorned with symbolic ítems that provided important information about the family, e.g. broken peaks on the roofs of all the huts in the homestead indicated that the head of the family/ homestead had died. An upturned pot on top of a wife's hut indicated problems in marriage. It is important to note that these symbols were not generic and varied from community to community among the Luo depending on the region.

To create an interesting façade and stand out from the neighbors, the women, who were mainly responsible for plastering the houses, used different types and colors of earth to create patterns and pictures to decorate their hut.

Among the Luo, each step of the process of constructing a hut was deeply embedded in very specific traditional rituals and values. For example, the first hole for the first pole had to be dug by the owner of the homestead. It was placed on the right-hand side of the entrance to the homestead, measured from the inside of the hut being built.

The homestead as a whole symbolized the cycle of life, in which not only one was born, but was also buried. The hut could then no longer be occupied and was left to decay over time. Again, as only natural resources were used, the building materials returned to the soil without contaminating the environment.

The above-mentioned construction methods integrated into the Luo customs and traditions are still practiced today.

5. Conclusion

In conclusion, the Vernacular Architecture (VA) of the Luo community embodies a practical approach to sustainability, balancing ecological, social-cultural, and economic aspects. By using natural local resources for construction, the community minimizes the environmental impact and reduces the economic burden of purchasing expensive materials. However, there is a growing desire for modernization to allow for amenities such as larger windows, separate cooking spaces (kitchen huts), privacy (divided spaces within the hut), and durability. These desires reflect a need to blend traditional and contemporary living spaces.

In light of this, one might envision a future where Luo architecture grows through a sustained dialogue between tradition and innovation. Community-led exchanges could spark designs that carry forward the wisdom of vernacular building while thoughtfully embracing elements of modern living. In doing so, the Luo built

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environment may continue to reflect its cultural roots, adapt to changing needs, and stand as a testament to a heritage that remains alive and evolving.

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3



Post-colonial/Decolonial Approaches
Approches post-coloniales et décoloniales

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Rethinking World Heritage Cities preservation: A critical re-exploration of the Medina of Fez

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Abstract

Since its inception in 1972, the UNESCO World Heritage designation has underscored a global commitment to preserving our collective heritage. Yet, in African urban settings shaped by colonial histories, such preservation efforts can be problematic, leading to adverse effects. The historic Moroccan city of Fez, known as the 'Medina of Fez', exemplifies the complexities involved in heritage preservation. As a UNESCO World Heritage Site, Fez represents both a city of immense cultural importance and an area grappling with significant socio-economic challenges rooted in its colonial past. This research aims to explore how the World Heritage nomination process may perpetuate colonial legacies, affecting the livability of such urban environments. By investigating Fez as a case study, the research critiques the prevailing preservation paradigms and proposes an alternative methodology that aligns historical preservation with sustainable urban development.

Keywords: *World Heritage, Cities, Coloniality, Historic Urban Landscapes, , Liveability, Alternative, Methodology, Decoloniality*

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1. Introduction

Since its inception in 1972, the UNESCO World Heritage designation served as a testament to mankind's commitment to safeguarding our shared heritage. However, heritagization and preservation processes can be problematic, especially in African urban environments shaped by colonial dynamics. A compelling example illustrating heritagisation issues is the Moroccan historic city of Fez, officially known as the 'Medina of Fez'. Fez holds a dual identity as a UNESCO World Heritage Site of exceptional cultural significance, and an urban environment wrestling with socio-economic challenges and bearing the weight of a colonial past. Despite the apparent disconnect between these aspects, there is a nuanced relationship between the Medina's living conditions and its World Heritage status. This is due to governance relying more on the UNESCO framework than on Moroccan legislations and the fact that Fez's transformation into a heritage site began during the French Protectorate period (1912-1956), with its nomination deeply influenced by French bibliography and legislations.

2. Aims and Objectives

This research explores the World Heritage nomination process in Fez, examining how it might have perpetuated colonial legacies affecting the urban configuration and living conditions. It aims to question the prevailing preservation paradigm and propose a methodology that integrates historical preservation with sustainable urban development.

3. Methodolgy

The adopted methodology combines archival research, exploring both French colonial archives and UNESCO nomination records, with empirical analysis based on the New Urban Agenda frameworks. The research begins by examining Fez's historicization during the French Protectorate period, focusing on urban legislations and interventions. The second phase investigates Fez's heritagization post-independence, scrutinizing the processes that led to its World Heritage designation and how they addressed colonial legacies affecting the Medina as an urban space. It then employs the UN-Habitat New Urban Agenda framework to analyze the key spatial components affected by the perpetuated colonial interventions. In light of the findings, the study concludes by proposing a methodological tool that allows for conciling historic preservation with urban development.

4. Results

4.1. Fez, a problematic preservation process

4.1.1. Historic overview: Fez, an interrupted process

Fez, established in the 9th century, has historically served as Morocco's capital during multiple periods, including the early 20th century. The city evolved around the 'Oued Fez' river, witnessing significant changes in urban configuration over centuries (Fig.1), evident in the distinct layouts of Fez El Bali (9th century) featuring an organic layout, and Fez Jdid (13th century), showcasing a more orthogonal design (El Idrissi, 2010).

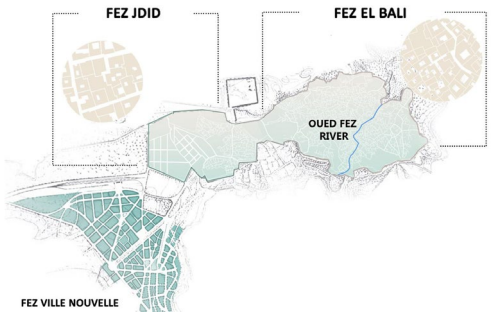


Figure 1. Configuration of the Medina of Fez (composed of Fez El Bali and Fez Jdid) and Fez Ville Nouvelle.
Source: Author (2023)

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However, the French Protectorate's establishment in 1912 marked a major shift. New urban centers like *Fez Ville Nouvelle* were developed (Fig.1), catering mainly to French residents, and managed by the Department of Urbanism and Architecture. In parallel, the local cities, therafter named 'Medinas', became subject to historic preservation, led by the Department of Fine Arts and Historic Monuments (Wright, 1991), with a special attention given to Fez. In 1913, Fez was officially designated a historic city, initiating particular preservation efforts (Holden, 2008). Post-Protectorate, the *Ville Nouvelle* continued to expand, while efforts to preserve the *Medina* intensified, particularly after its World Heritage inscription in 1981. Today, Fez includes two contrasting entities: the continuously evolving modern city, and the strictly preserved '*Medina*'.

4.1.2. French Protectorate impacts on Fez

The creation of new European urban centers and the historicization of the existing Moroccan cities created a stark dichotomy. On one hand, the *Villes Nouvelles* were developed as real cities. On the other, the *Medinas* were reduced to mere artefacts (Radoine, 2003). For Fez, this was further accentuated by the transfer of the capital to Rabat, stripping the city of its political power and relegating it to a relic of a vanished civilization (Ricard, 1954). Furthermore, French officials catalogued architectural features, inspired from the 16th-century buildings, to define an 'indigenous style'(Bernard, 1916). The city was then purposefully reshaped to conform to this orientalistic image through the alteration of existing structures (Fig 2), the implementation of building codes for future constructions, and the construction of new monuments in the so-called indigenous style, such as the iconic 'Bab Boujloud' gate. This approach largerly disregarded Fez's sociocultural and functional dynamics, and was further reinforced by the distortion the Arabic word '*Madina*' (City) and its use as a proper name, hence dissociating the city from its meaning.

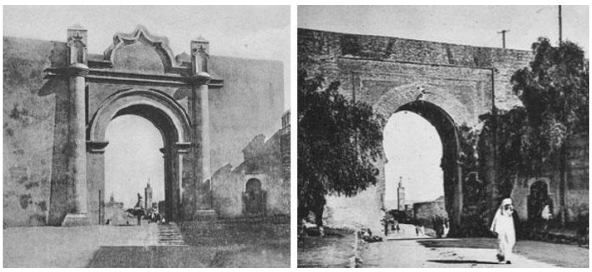


Figure 2. City gate from the late 1800s, before (left) and after (right) alteration. Source: Le Maroc Illustré

Historicisation also significantly affected the urban fabric. With Moroccans not having access to residing in the *Ville Nouvelle*, migrants from rural areas to work in French industries were forced to settle in the *Medina*, leading to rapid population growth. However, a French-established law prohibited the *Medina*'s expansion by designating the surrounding areas as non-aedificandi zones, aimed at preserving a picturesque character for the aesthetic appreciation of the *Ville Nouvelle* (UNESCO, 2024). This resulted in intense densification, as intra-muros urban gardens, previously composing 20% of the total area of Fez El Bali, were converted into housing (Fig.3) and turned Fez into what Radoine terms an " overpopulated dormitory" for rural immigrants (Radoine, 2003).



Figure 3. Areas built during the French Protectorate period: superposition of the current map of the Medina of Fez and the 1913 map by Oertelieb, by author. Source: Agence Urbaine de Fes (2010) and Bibliothèque de France (1913)

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Moreover, attempts by Moroccans to improve the *Medina*'s spatial quality, such as introducing a public transport line (De Lunel, 1924), building houses with windowed facades (Borely, 1932), and enlarging city gates to accommodate vehicle access (Tazi, 1932), were opposed by French officials, who argued that they would tarnish its historical allure. Beyond limiting physical changes, these restrictions stifled the development of Moroccan urban and social structures, reinforcing a division that Holden eloquently describes as between the perceived modern superiority of the French and the ostensibly backward colonized society (Holden, 2006).

4.1.3. UNESCO's perpetuation of the colonial legacies

Following Morocco's independence in 1956, Fez witnessed two opposing processes unfold simultaneously. Locally, initiatives sought to enhance the Medina's connectivity and functionality. Conversely, an external impetus prompted heritagization, marked by UNESCO's preservation campaign in 1972. This led to the development of an Urban Development Plan by Morocco's Ministry of Habitat, commissioned by UNESCO, aimed at balancing historic preservation with urban renewal (Fig. 4).

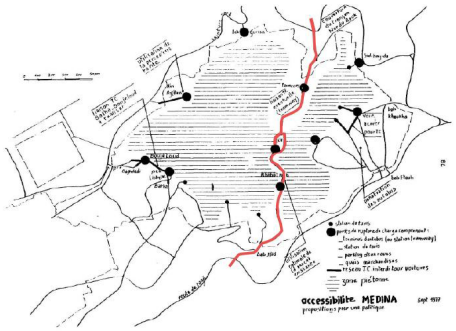


Figure 4. Schmatic transportation plan for the Medina of Fez. Source: Fez Development Plan, UNESCO Archives (1978)

However, upon the completion of the Development Plan in 1980, the UNESCO's Appeal for the World Heritage nomination of Fez depicted the city as untouched by "today's rapid transformations", and "1000 years could not affect the urban tissue" (M'Bow, 1980). This view overlooked Fez's evolution and the impact of French colonialism, and revived colonial definitions. This was further entrenched by the World Heritage designation. The nomination team, including UNESCO experts and French-educated Moroccan architects, demonstrated a lack of cultural sensitivity, and relied heavily on French literature, as acknowledged by expert Stefano Bianca (Bianca, 1983).

To date, Fez is described as inhabited only until the late 19th century (UNESCO, 2024). The ICOMOS evaluation claims the Medina was "abandoned since 1912 in favor of the modern city" (ICOMOS, 1981) disregarding that it was the main living space for locals, while the modern city was designed for and inhabited by the French. Additionally, the designation includes the entire intra-muros area of the Medina, without distinguishing the areas developed during the Protectorate period. The UNESCO's site description and Statement of Outstanding Universal Value (SOUV) of Fez also reveal adherence to the French orientalist narrative, evident in both terminologies and legal frameworks. Notably, UNESCO adopts the French-invented term 'Medina'. The SOUV also supports the law of non-aedificandi zones around the city walls, aimed at preserving the Medina's visual character. Paradoxically, it considers the local community as a threat to the site's integrity due to demographic growth, disregarding the direct link between the overpopulation of Fez and the non-aedificandi zone law.

Beyond legitimizing the colonial narrative, the SOUV set the stage for future interventions, framing the Medina as a static entity. This led to the abandonment of the initial Development Plan in favor of a more a conservative approach, prioritizing architectural restorations over the emerging needs in public space and transportation. The few large-scale urban interventions were focusing mainly on the areas outside the Medina walls, revealing a perception of the Medina as a one object. Accordingly, development projects (Fig.4) were rejected to preserve the urban and social fabrics (UNESCO, 2004), disregarding their intrinsic changing nature. This also had a far-reaching impact, by dissuading future urban development proposals. While UNESCO's operational guidelines evolved over time, Fez's conservation approach has remained stagnant. Radoine elucidates this inertia, arguing

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that the conservative approach has transformed Fez into a "sacrosanct object," for which "extreme respect leads to its abandonment not as a negative reaction but for fear of dealing with it" (Radoine, 2003).

4.1.4. Liveability assessment of the Medina of Fez: Fez El Bali

To understand the impact of Fez's historicisation and later heritagisation on its liveability, an assessment was conducted on the open public space of Fez El Bali, which was most affected by French interventions. This choice is also motivated by the significant socio-cultural shifts in Moroccan society from a privacy-oriented urban life to open public spaces being crucial for social dynamics, a transition Fez El Bali struggles to adopt. The assessment used the UN-Habitat New Urban Agenda's Open Public Space Site-specific Assessment Toolkit, applying 23 quantitative sub-indicators. It evaluated aspects like accessibility, amenities, comfort, safety, and environment, using data from the Fez Master Plan and on-site surveys. To ensure contextual analysis, modern Fez was used as a comparison. Additionally, the connection with French alterations on Fez El Bali's urban fabric was assessed in light of the archival research, from 'no impact' to 'direct impact' (Fig.5).

The analysis revealed that accessibility, green environment, and public health in Fez El Bali's public spaces face significant challenges. These issues stem from the scarcity of open spaces and from the street network's dimensions and configuration, directly attributed to French interventions. (Fig.5).

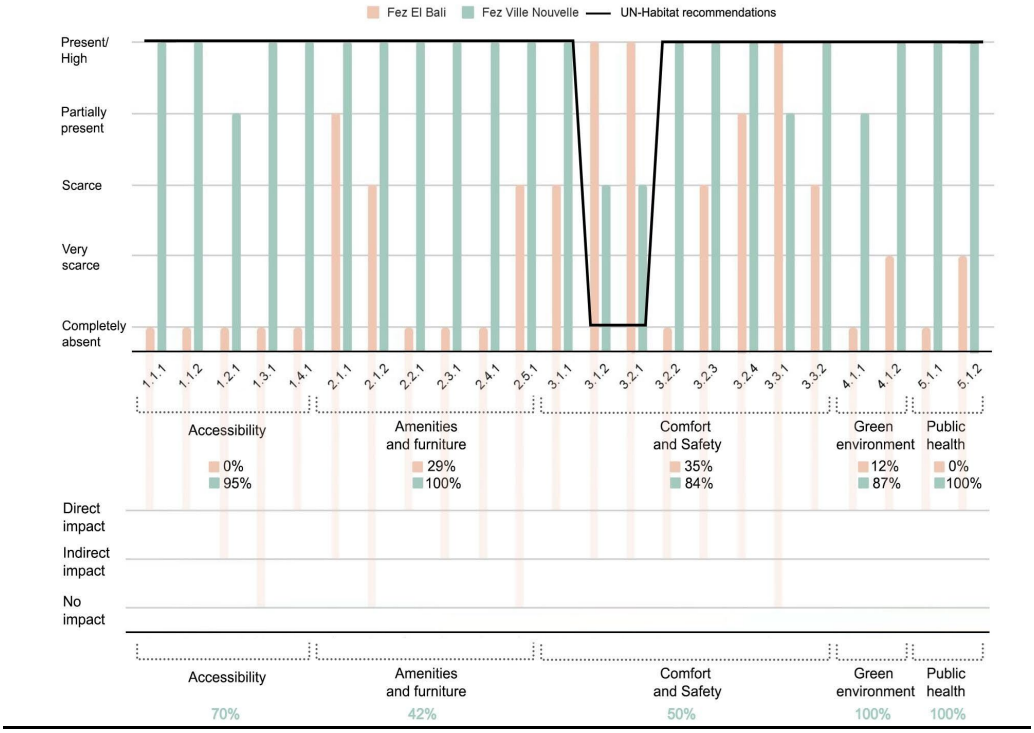


Figure 5. Open Public Space Site-specific Assessment findings. Source: Author (2023)

4.2. Towards an alternative preservation methodology

Changing the status-quo of Fez requires changing the preservation paradigm, through acknowledging that cultural significance is only one aspect of a multifaceted environment, and addressing the site as a complex, heterogeneous, and dynamic ecosystem where the authenticity of many components is questionable.

4.2.1. Defining the framework: the Historic Urban Landscapes Approach (HUL)

With the evolution of the Operational Guidelines and the introduction of the Historic Urban Landscape (HUL) Approach, there has been a shift in how urban World Heritage sites are viewed and managed. The HUL acknowledges that they are dynamic entities facing new challenges. It emphasizes the need for a nuanced interplay between urban development and heritage conservation, and preconises the development of planning policies and

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tools that intertwine the ‘’monitoring and management of change to improve the quality of life and of urban space’’, and the protection of ‘’the integrity and authenticity of the attributes of urban heritage’’ (UNESCO, 2011). HUL hence brings a significant paradigm shift: repositioning heritage within its broader urban context, and delineating the elements to be protected -The Attributes- instead of strictly preserving the entire Heritage Site.

4.2.2. Significance mapping: a methodological tool to implement the HUL

While inventorying and mapping Heritage attributes facilitates nuanced analysis, integrating these attributes with socio-economic, political, and historical factors is crucial for an accurate and holistic understanding of the dynamics shaping the historic urban environment. For Fez, it was imperative to consider how the political dynamics have interacted with and influenced the urban fabric. Therefore, the nomination of Fez was reevaluated to identify the heritage attributes, with an integration of the research findings on colonial legacies impacting the urban space. This process enabled a detailed dissection of the urban fabric, allowing for a clear differentiation of the components' varying levels of significance. It hence facilitated the identification of areas requiring strict preservation versus those where changes could be implemented.

The attributes identified were further examined using a methodological approach, based on a compilation of previous analyses conducted on other World Heritage sites, presented at the Meeting of the Mediterranean European Focal Points for World Heritage in 2013 (De Marco, 2013). This analysis aimed to delve deeper into the characteristics of the attributes and the physical components that embody them, providing insights into the levels of significance of the Medina’s different physical components. Consequently, the following attributes, along with their characteristics and the components that embody them, were identified:

Table 1. Identification of the heritage attributes of the Medina of Fez

Category	Attributes	Attributes characteristics	Spatial components
Urban scale	Town planning	‘’Example of a medieval town created during the very first centuries of Islamisation of Morocco and presenting an original type of human settlement’’	Network of streets and squares, Buildings, Districts, City delimitation, Natural components
	Land occupation	‘’Taditional occupation of the land representative of Moroccan urban culture over a long historical period (from the 9th to the beginning of the 20th centuries).’’	Network of cadastral lots, Structure built by the beginning of the 20st century.
	Monuments density	‘’The ancient fragmented district of the medina with its high density of monuments’’	Number of monuments within a given perimeter
	Urban landscapes	‘’Wide variety of urban landscapes’’	Architectural ensembles, Viewpoints, Natural components, Districts fragmentation
Building scale	Monumental arts	‘’A flourishing city of the eastern Mediterranean having exercised considerable influence mainly from the 12th to the 15th centuries, on the development of architecture, monumental arts and town-planning, notably in North Africa’’	Zellij tilework, Roof tilework, Plaster carving, Wood carving, Wall painting
	Monuments function	‘’Monuments of religious, civil and military character (functional diversity)’’	Network of non-residential buildings and structures
	Architectural forms	‘’Wide variety of architectural forms’’	Architectural components, Spatial organization

Referring to these categorizations, four levels of significance at the urban level could be identified:

1. **Intrinsic Significance:** Elements that are inherently significant due to their uniqueness, role, or symbolism, such as the main lreligious hubs, the Oued Fez river, the network of streets, squares, and plot demarcations, These should be entirely preserved.

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2. **Featural Significance:** Buildings and structures that convey cultural significance through specific features, like their function (e.g., religious and defensive structures), typology, or size (e.g., large residences). These should be preserved, with the possibility of minor modifications not affecting the main features.
3. **Conditional Significance:** Buildings and structures that, on their own, do not convey cultural significance but are significant when associated with other architectural ensembles, particularly in residential areas. These could be partially altered or demolished, without affecting the collective features of the ensemble.
4. **Contested Significance:** Buildings and structures constructed outside the historical timeframe mentioned in the nomination, specifically those stemming from the impositions of the Protectorate period. These could be completely altered or demolished in favor of high-impact urban development interventions.

To proceed to architectural significance and explore the possibilities that can arise from this urban significance assessment, the eastern district of Fez El Bali, known as 'Adwat Al Andalus,' was selected. This area was chosen for its diverse urban fabric and architectural features, coupled with marginalized socio-economic conditions. In contrast to the western part of Fez El Bali, 'Adwat Al Andalus' has fewer prominent monuments and lacks commercial zones, which results in its exclusion from tourist itineraries and and relegation to primarily residential use. The district is also characterized by its compact and dense layout, without major streets, and includes many neighborhoods constructed during the French Protectorate era.

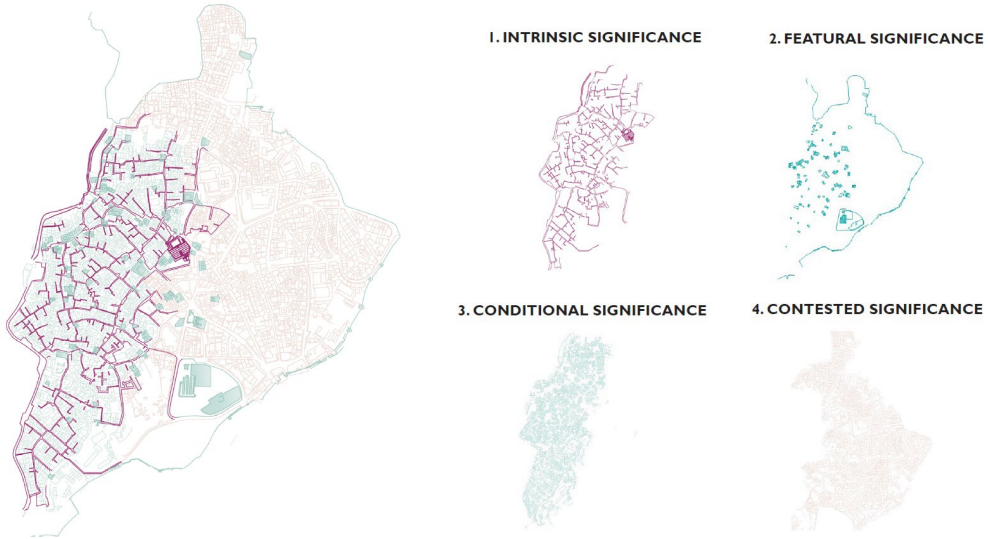


Figure 6. Urban significance map of Adwat Al Andalus. Source: Author (2023)

Subsequently, an architectural significance assessment was conducted on a residential plot of conditional urban significance. With limited access to information on interiors, essential components for preservation were identified. Following this, speculative, theoretical interventions were designed to create and enhance open spaces (Fig.7). These interventions served as a visual exploration of development possibilities while preserving the heritage attributes.



Figure 7. Speculative design intervention: preservation of the houses layouts and patios. Source: Author (2023)

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5. Conclusions

Beyond identifying and mapping urban heritage attributes, the significance assessment of the spatial components provides a clearer understanding of the urban fabric, demystifying its complexities and bridging the divide between heritage attributes and the other spatial, socio-economic, and political layers. Notably, this approach pivots from the narrow focus on preservation to a more holistic perspective, evaluating which elements should be preserved, modified, or removed to ensure not just the seamless integration of new developments within historic environments, but also the reappropriation and decolonisation of environments historically shaped by external dynamics of imposition and despotism, while preserving their Outstanding Universal Value.

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Etat des lieux du bâti colonial et propositions pour une synergie entre patrimoine culturel et développement urbain durable au Togo

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Abstract

This communication intitled "Inventory of colonial buildings and proposals for a synergy between cultural heritage and urban sustainable development in Togo" is based on the inventory of colonial buildings to propose a practical model for reconversion of the Kamina site, a former wireless transmission radio station from the German colonial era in Togo. This work reveals that there are still well-maintained colonial buildings in Togo which still survive the vagaries of time because of their construction methods adapted to tropical climatic conditions. However, a significant number of these buildings remain exposed to human and natural threats. Thus, apart from the colonial buildings destroyed during the First World War in Togo, several buildings were simply demolished to recover space and others modified by renovation just to meet current construction standards. Our analyzes resulting not only from documentation but also from field surveys reveal that Togolese colonial heritage could constitute a resource for the local and sustainable development of Togo if an effective strategy based on an interdisciplinary and participatory approach is set up.

Keywords: *colonization, heritage, reappropriation, sustainable development.*

Résumé

Cette communication intitulée « Etat des lieux du bâti colonial et propositions pour une synergie entre patrimoine culturel et développement urbain durable au Togo » s'appuie sur l'état des lieux du bâti colonial pour proposer un modèle pratique de reconversion du site de Kamina, un ancien poste radio de transmission sans fil de l'époque coloniale allemande au Togo. Ce travail révèle qu'il existe encore au Togo des bâtiments coloniaux bien entretenus qui subsistent toujours aux aléas du temps à cause de leurs modes de constructions adaptées aux conditions climatiques tropicales. Cependant, une quantité importante de ces bâtiments demeure exposée aux menaces humaines et naturelles. Ainsi, en dehors des constructions coloniales détruites lors de la Première Guerre mondiale au Togo, plusieurs bâtiments ont été simplement démolis pour récupérer de l'espace et d'autres modifiés par la rénovation juste pour répondre aux normes de construction actuelles. Nos analyses issues non seulement de la documentation mais aussi des enquêtes de terrain révèlent que le patrimoine colonial togolais pourrait constituer une ressource pour le développement local et durable du Togo à condition qu'une stratégie efficace basée sur une approche interdisciplinaire et participative soit mise en place.

Keywords: *colonisation, patrimonialisation, réappropriation, développement durable.*

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1. Introduction

Contrairement aux autres pays de l'Afrique, le Togo a connu une histoire coloniale différente car ayant subi à des degrés différents, trois colonisations successives : allemande, anglaise et française . Cependant, de nos jours, avec l'évolution des villes qui n'est pas toujours sans dommage pour la conservation des traces du passé, la conservation du patrimoine de la période coloniale devient très indispensable pour la compréhension de l'histoire du Togo. À une époque où l'Afrique est en quête de sa propre identité, l'analyse du concept de « patrimoine colonial » dans le contexte africain s'avère nécessaire pour guider les professionnels et les décideurs dans le choix du type de patrimoine colonial qui mérite ou non d'être conservé et les stratégies à adopter . Ainsi, plus d'un siècle après le départ de l'administration coloniale allemande du Togo et plus d'un demi-siècle après la domination franco-britannique au Togo, il convient de s'interroger sur l'état de leurs réalisations au Togo et leurs enjeux de patrimonialisation. Que deviennent les réalisations de l'époque coloniale allemande et franco-britannique au Togo (1884- 1960) ? Quelles est leur état de conservation? Quelles stratégies patrimoniales face aux menaces sur cet héritage ? Comment mettre la richesse patrimoniale coloniale togolaise au profit du tourisme durable local et international ?

2. But et objectifs de la recherche

L'objectif principal de notre étude est de contribuer à la préservation et à la mise en valeur des éléments patrimoniaux de l'héritage colonial bâti du Togo tout en les conciliant avec le développement territorial durable. De façon spécifique, il s'agira de :

- montrer le bien fondé et l'intérêt de la préservation et de la mise en valeur du bâti colonial ;
- faire l'état des lieux de cet héritage en décrivant avec images à l'appui leur état de conservation ;
- proposer des pistes de réflexions et des stratégies afin que ce patrimoine puisse contribuer au développement socioéconomique et culturel durable du pays ;.

3. Approche méthodologique de la recherche

Pour arriver à bout de notre travail, nous avons mis en place une méthode de travail appropriée qui n'est pas comme une simple addition de techniques qu'il s'agira d'appliquer telles qu'elles mais comme une démarche de l'esprit qui demande à être réinventée pour chaque travail. Notre démarche a été faite en 3 étapes savoir les recherches documentaires, la collecte des données puis l'analyse et l'interprétation de ces données.

Premièrement, nous avons procédé aux recherches documentaires qui nous ont aidé à faire le point sur les connaissances concernant le thème de notre recherche car il serait absurde et même présomptueux pour nous de croire que nous pouvons nous passer purement et simplement des apports externes d'un minimum de travaux de référence sur le thème. Ainsi, dans le cadre de cette étude, nous nous sommes servies des documents disponibles à la Direction des Archives Nationales et la Bibliothèque Nationale du Togo.

La collecte des données a été faite grace à un guide d'entretien et une grille d'observation ont été élaborés. Un appareil photographique et un enregistreur de son nous ont permis de prendre respectivement les images et des enregistrements audio et vidéo en relation avec notre objet d'étude. Quant à la grille d'observation, elle nous a permis de poser le regard sur les sites coloniaux et à sélectionner les éléments qui sont de nature à expliquer ou à décrire leur état de conservation.

Après la collecte des données, nous avons procédé à leur traitement. Le dépouillement des données collectées a consisté à classer et à analyser les informations recueillies auprès des personnes interviewées pour en faire un texte structuré et cohérent. Les informations liées à nos observations sur les sites et aux commentaires liés aux images photographiques et enregistrements audio et vidéo ont été également intégrées en plus des données documentaires.

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4. Les resultats de la recherche

4.1. Etat des lieux de l'heritage colonial au Togo

Que ce soient les bâtiments construits de 1884 à 1914 par l'administration coloniale allemande au Togo ou ceux construits par l'administration française lors de sa domination coloniale de 1919 à 1960 au Togo, le constat d'état montre que le sort réservé à cet héritage colonial demeure presque le même : beaucoup de traces architecturales de l'époque coloniale ont disparu alors que d'autres se dégradent sans une quelconque intervention des pouvoirs publics et de la communauté. Ainsi, en dehors des constructions coloniales détruites lors de la première guerre mondiale au Togo, plusieurs bâtiments ont été simplement démolis pour récupérer de l'espace et d'autres rendus méconnaissables par la rénovation juste pour répondre aux normes de confort actuel. Bien qu'il existe encore des bâtiments coloniaux bien entretenus qui subsistent toujours aux aléas du temps à cause des modes de constructions fonctionnels adaptés aux conditions climatiques extrêmes des tropiques (WILHELM, 1993), une quantité importante demeure exposée aux menaces humaines et naturelles. Cette réalité incontournable nous permet de classifier cet héritage colonial togolais en quatre grandes catégories selon leur état de conservation : les bâtiments disparus ou inexistants ; les bâtiments en disparition ou en état de dégradation avancée, les bâtiments rénovés et les bâtiments restaurés ou en bon état de conservation.

4.1.1. Les bâtiments disparus, inexistants ou détruits

Cette catégorie de bâtiments regroupe majoritairement les réalisations de l'administration coloniale allemande (1884-1914). Ceci s'explique par la première guerre mondiale qui a eu lieu au Togo et qui a crée des dommages aux réalisations architecturales de l'époque. C'est le cas des bâtiments abritant la station radio sans fil de Kamina, le pont de Wahala et autres. Par la suite, d'autres bâtiments coloniaux ont été démolis pour récupérer une parcelle stratégique du centre-ville. C'est le cas de l'ancienne douane à la place de laquelle on a construit l'hôtel Palm Beach puis le bâtiment du service de télégraphie allemande construit en 1913 et détruit au début des années 1950 après avoir été affecté au service de conservation foncière. D'autres bâtiments ont été également supprimés pour en construire d'autres parce qu'ils étaient devenus inhabitables. Toutefois, s'agissant de la spécificité de l'architecture coloniale allemande au Togo, il s'avère nécessaire de rappeler qu'en dehors du Palais des Gouverneurs qui constitue le seul bâtiment de cette époque qui contient des éléments empruntés à l'art nouveau. En outre, les bâtiments allemands au Togo sont caractérisés par une large véranda qui englobe l'édifice entièrement au rez-de-chaussée et à l'étage, avec une toiture, bien plus large que le bâtiment-même, et soutenue par des piliers au premier étage. Par ailleurs, au lendemain de l'indépendance du Togo, peu de personnes étaient tournées vers la préservation des traces du passé colonial qui était considéré comme les vestige et le symbole de tous les malheurs du passé.

Le site de Kamina : poste radio de la période coloniale allemande au Togo .



Figure 1. Les ruines du site colonial de KAMINA

Ce site abritait lors de la période coloniale Allemande au Togo (1884-1914) la radio de transmission sans fil (TSF) permettant d'assurer la liaison avec Nauen en Allemagne mais aussi jouait le rôle de station relais pour les colonies allemandes d'Afrique du Sud-ouest et de l'Afrique de l'Est. Cette construction qui constituait à l'époque, la plus grande œuvre de l'Allemagne coloniale dans l'une de ses colonies africaines a été réalisée par l'ingénieur autrichien Anton von Codelli. Inauguré le 20 juillet 1914, cette radio qui constituait au 20è^{me} siècle une réalisation technique exceptionnelle pouvant émettre à plus de 6000 km n'a fonctionné qu'un mois 4 jours avant sa destruction mais avait permis d'échanger plus de 229 télégrammes. Ce fut l'une des conséquences de la Première Guerre mondiale au Togo. En effet, lors de la premiere guere mondiale au Togo, dans l'optique de prendre des dispositions pour arrêter l'avancée des ennemis vers Kamina qui représentait un site stratégique pour les Allemands, le 19 août 1914, les Allemands ont établi des postes de défenses à Chra. C'est là donc que s'est déroulé le réel affrontement entre

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Français, Anglais et Allemands le 21 août à Chra. Cette rude bataille obligea les Allemands à se replier sur Kamina. Ayant senti leur défaite et vu l'intérêt que Kamina représentait pour eux, von Doering, le gouverneur allemand qui était en poste au Togo, donna l'ordre à ses troupes, de dynamiter le poste avant de se rendre aux troupes franco-anglaises. Dans la nuit du 24 au 25 août 1914, les Allemands ont fait sauter la radio de Kamina avant de capituler. Ainsi donc disparaissait ce qui en 1914, était considéré comme la plus grande œuvre de l'Allemagne coloniale dans l'une de ses colonies africaines. On y trouve actuellement les ruines de la station ainsi que trois bâtiments en état de dégradation avancé. Ce site a été inscrit sur la liste du patrimoine national du Togo par l'arrêté no 010/MCJS/CAB portant inscription des sites sur la liste nationale des biens culturels le 07 juillet 2003

4.1.2. Les bâtiments en état de dégradation avancée

A côté des bâtiments rendus méconnaissables par la rénovation, se trouvent d'autres bâtiments exposés aux menaces humaines et naturelles : leurs matériaux de construction sont fortement altérés et la couverture s'est effondrée. C'est le cas de plusieurs maisons privées et quelques écoles ou bâtiments tel que l'hôpital Gustav Nachtigal à Aného, des bâtiments restants sur le site colonial de Kamina, à Missahoe et autres. Ce patrimoine en mauvais état de conservation présente des signes inquiétants de vieillissement qui nécessite une intervention urgente. La majorité de ces immeubles se trouve dans un état alarmant de dégradation tel que le montre les différentes photos : une prolifération de végétation, une fragilisation des murs par des fissures, un état de dégradation avancée, des fuites aux joints et aux assemblages, un vieillissement des matériaux, une humidité permanente, les suintements de condensation, un décollement des enduits et autres.



Figure 3. Les batiments coloniaux du site de Kamina. Credits : auteur



Figure 2. Les batiments coloniaux du site de Missahoé. Credits : auteur

4.1.3. Les bâtiments rénovés

Cette catégorie de bâtiments regroupe les réalisations coloniales allemandes réhabilitées par l'administration coloniale française après la première guerre mondiale au Togo puis les constructions françaises de l'époque sous mandat et sous tutelle de la France qui furent rénovées par l'administration togolaise après l'indépendance. C'est le cas des bâtiments du quartier administratif qui sont devenus des ministères et des directions (Direction de la promotion des Arts et Culture, cabinet du Ministère de l'Environnement, Secrétariat Général du Ministère des

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Droits de l'Homme et autres). Leur transformation vise à répondre aux normes de confort actuelles. Étant donné que l'administration coloniale allemande avait eu à édifier les monuments prestigieux au Togo, l'administration française, ayant pris possession du territoire togolais en a fait aussi pour égaler leurs prédécesseurs afin de s'imposer. C'est pourquoi le gouverneur Auguste Bonnecarrere qui avait pour objectif d'arracher les Togolais à l'influence allemande procédé à la réhabilitation des infrastructures détruites lors de la première guerre mondiale au Togo (MARGUERAT, 2000).Par ailleurs, au lendemain de l'indépendance du Togo, les bâtiments coloniaux furent réutilisés et modifiés, sans volonté de les conserver, pour laisser la place à des immeubles modernes, dans le but d'effacer les traces du passé douloureux.



Figure 4. Hopital Gustav Nachtigal en 1907, 1930 (archives) et en 2024. Credits : auteur



Figure 5. Immeuble Woermann en 1910, 1930 (archives) et 2024. Credits : auteur

4.1.4. Les bâtiments restaurés ou en en bon état de conservation

La majorité des bâtiments coloniaux restaurés ou en bon état de conservation au Togo sont des bâtiments religieux appartenant à l'Église catholique, l'Église Évangélique Presbytérienne du Togo et l'Église Méthodiste du Togo. A ces bâtiments, s'ajoutent les édifices gouvernementaux tels que le palais des gouverneurs allemands. On y trouve également le palais de justice de l'époque coloniale française et l'Office Togolais des Recettes construit entre 1912-1913 par l'administration coloniale allemande, qui fut transformé en services financier sous mandat français puis en Direction de Douanes Togolais avant d'être converti en Office Togolais des Recettes. Ces bâtiments ont été bien entretenus et certains d'entre eux ont subi des restaurations. Cependant, l'architecture fondamentale de ces bâtiments n'a pas été modifiée. La cathédrale de Lomé, la cathédrale de Kpalimé, et le temple évangélique d'Apegamé en sont des exemples. De nos jours, certaines de ces réalisations architecturales subsistent encore aux aléas du temps et sont encore utilisées. Cette résistance témoigne les modes de construction fonctionnels adaptés aux conditions climatiques tropicales (TIEGBE 2014).

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Figure 6. Eglise Evangelique de Lomé en 1907, Archives et en 2024. Credits : auteur

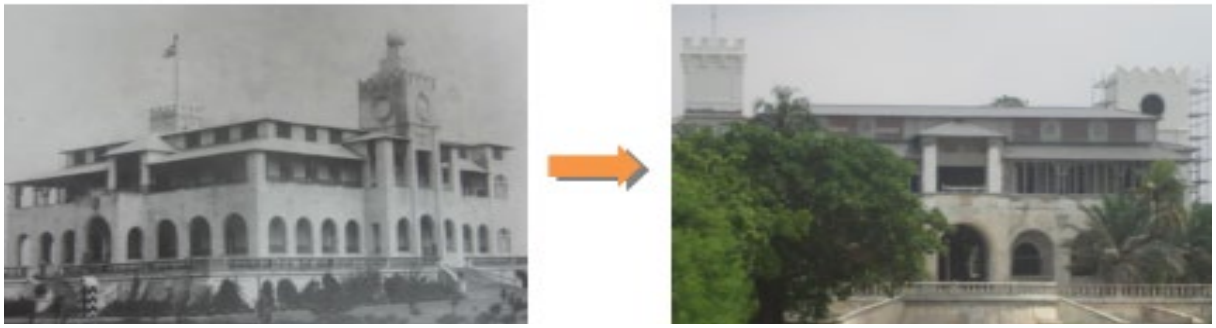


Figure 7. Palais des Gouverneurs allemends , Archives et en 2016. Credits : auteur

4.2. strategies pour une synergie entre patrimoine et developpement urbain durable

4.2.1. La reconversion des bâti coloniaux en entreprises culturelles

L'utilisation des bâtiments constitue l'un des moyens les plus appropriés pour sa préservation car les bâtiments abandonnés, sans habitations ou sans utilisation finissent par se dégrader voire s'écrouler. A cet effet, dans le souci de préserver les bâtiments des aléas climatiques et de la dégradation anthropique, il s'avère judicieux de procéder à leur reconversion en leur changeant leur fonction selon les besoins tout en tenant compte de leur valeur patrimoniale. C'est le cas par exemple de la gare d'Orsay en France qui est reconverti entre 1983 et 1986 en musée ; la reconversion de la cartoucherie de Vincennes, (ancienne fabrique d'armes et de poudre), en lieu de création théâtrale ; la reconversion du bâtiment colonial français du Bénin en Musée Sinou Adandé de Porto-Novo et la reconversion du fort esclavagiste portugais de Ouidah en musée pour ne citer que ceux-ci. Ainsi, étant donné que la reconversion exprime une volonté consciente et raisonnée de conserver un édifice dont la valeur patrimoniale est reconnue en lui redonnant une valeur d'usage qu'il a perdue, la reconversion des bâtiments coloniaux en industries culturelles constituerait une véritable démarche de préservation de ce patrimoine.

4.2.2. L'adoption d'une démarche participative impliquant les populations à la base

Puisque la participation des habitants constitue une condition indispensable au succès de la sauvegarde du patrimoine, les communautés à la base doivent être impliquées à tout le processus de patrimonialisation allant de l'identification à la promotion et à la valorisation de ce patrimoine. Une approche sélective et évolutive permettra donc à la communauté de décider de ce qu'elle juge important à sauvegarder et pourquoi tel élément plutôt que tel autre. Cette approche nécessite au préalable la décentralisation et le transfert des responsabilités vers le local car le patrimoine se construit à partir de l'attachement des individus qui y reconnaissent des valeurs partagées. Ainsi, les communautés d'accueil et les populations locales doivent participer aux programmes de mise en valeur des sites en définissant les enjeux, les stratégies, les politiques et les procédures permettant d'identifier, d'interpréter et de gérer leurs ressources patrimoniales (ICOMOS, 1999). Par ailleurs, pour que le projet de valorisation du patrimoine historique puisse connaitre un plein succès, il faut nécessairement l'implication, l'adhésion et la

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participation de la communauté. C'est pourquoi le principe 3 de la charte de Washington précise qu'« *il ne faut jamais oublier que cette sauvegarde concerne en premier leurs habitants* » (ICOMOS, 1987).

4.2.3. L'adoption d'une approche basée sur l'interdisciplinarité

Étant donné que la pertinence de l'approche d'intervention se mesure par rapport à la capacité à rassembler et à coordonner les acteurs d'intérêts multiples, toute intervention efficace sur le patrimoine exige participation d'acteurs multiples dont l'efficacité repose sur la compétence de ces derniers et leur représentativité des différentes disciplines nécessaires à la sauvegarde du patrimoine (BOUKHALFA, 2007) . Les principes de l'ICOMOS donnent des orientations à ce propos: « *la conservation, le renforcement et la restauration des structures du patrimoine architectural requièrent une approche pluridisciplinaire (ICOMOS,2003)*; *la conservation et la restauration des monuments constituent une discipline qui fait appel à toutes les sciences et à toutes les techniques qui peuvent contribuer à l'étude et à la sauvegarde du patrimoine monumental* » (ICOMOS, 1965). En outre, dans le souci d'éviter les dérives d'une mise en valeur à caractère purement lucratif et commercial apportant des richesses mais occasionnant des conséquences négatives sur les habitants, la sauvegarde et la mise en valeur du patrimoine doivent être menées avec prudence et précautions. Pour y arriver, les actions de mise en valeur des sites historiques doivent être précédées d'études pluridisciplinaires associant les aspects archéologiques, historiques, architecturaux, techniques, sociologiques et économiques (ICOMOS,1987).

4.2.4. La prise en compte de l'intérêt des populations à la base

Dans le cas des processus de patrimonialisation, initiés par les pouvoirs publics ou internationaux, la conduite des projets se traduit souvent par la dépossession des populations résidentes, non seulement de la mise en œuvre, mais aussi de l'essentiel de ses bénéfices économiques. Cependant, selon ICOMOS, les activités de tourisme et de protection du patrimoine doivent bénéficier aux communautés d'accueil et promouvoir des mesures qui favorisent une répartition équilibrée des bénéfices en contribuant à soulager la pauvreté (ICOMOS, 1999). Il est évident que le processus de patrimonialisation soit initié par le pouvoir public ou autres. Cependant, pour une valorisation durable, il faut que la communauté locale s'approprie l'intervention car c'est cette implication effective et participation active de la communauté qui conditionne le succès de toute action de valorisation du patrimoine.

4.2.5. Le renforcement du système de protection du patrimoine culturel

La protection du patrimoine culturel précède toute action de promotion et de valorisation. A cet effet, les autorités chargées de la protection du patrimoine culturel doivent renforcer le cadre juridique et institutionnel de protection du patrimoine culturel au Togo : des instruments juridiques adaptés aux réalités togolaises doivent être mis en place en mettant un accent particulier sur la conservation préventive. Par ailleurs, la décentralisation prévue par la loi no 2007-011 du 13 Mars 2007 portant décentralisation et libertés locales au Togo doit être poursuivie et véritablement mise en œuvre créant des directions préfectorales des arts et cultures et impliquer davantage les communautés dans la gestion participative de patrimoine togolais.

4.2.6. La conciliation des exigences de l'urbanisme avec celles de la conservation

A cause du phénomène de mondialisation sans cesse croissant, les fonctions nouvelles et les réseaux d'infrastructure exigés par la vie contemporaine doivent être adaptés aux spécificités des villes historiques (ICOMOS , 1987). Ainsi, il faut associer les autorités chargées de la protection du patrimoine culturel immobilier à l'élaboration de programmes de planification urbaine car pour être efficace, la sauvegarde des villes et quartiers historiques doit faire partie intégrante d'une politique cohérente de développement économique et social et être prise en compte dans les plans d'aménagement et d'urbanisme à tous les niveaux. A cet effet, il s'avère nécessaire de prévoir la consultation des autorités chargées de la protection du patrimoine culturel immobilier lorsque les projets de construction ou d'aménagement affectent des éléments du patrimoine culturel immobilier car ces interventions exigent prudence, méthode et rigueur(ICOMOS,1987) .

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4.3. Reconvertir le site colonial de Kamina en un centre historique et culturel

Etant donné que l'utilisation des bâtiments constitue l'un des moyens les plus appropriés pour sa préservation l'objectif principal de ce projet est de contribuer à préserver et à mettre en valeur le patrimoine culturel du Togo. De facon spécifique, il'agira de mettre en valeur les éléments patrimoniaux du site de Kamina, développer des stratégies pour augmenter le nombre de visiteurs du site et susciter la valorisation du patrimoine culturel en tant qu'outil de développement socioculturel et économique durable au Togo.
Dans cette perspective, plusieurs propositions de mise en valeur historique et culturelles ont été faites :

- l'inventaire, le marquage, la documentation et la protection des ruines de Kamina contre les dégradations ;
- la réalisation et l'implantation de trois monuments représentant respectivement les formes du Togo (1884-1914 ; 1914-1922 ; 1922 à ce jour) sur le site ;
- la réhabilitation des bâtiments du site de Kamina et leur reconversion en centre historique et culturelle ;
- la réalisation et l'exposition de 100 photos des personnalités historiques coloniales et togolaises puis des images des grandes réalisations historiques au Togo en mettant en exergue leur état de conservation ;
- la diffusion du patrimoine culturel togolais à travers un site web et la distribution de 5000 dépliants relatif au patrimoine togolais ;
- le renforcement des capacités de 300 leaders communautaires à travers l'organisation de 5 tables rondes régionales et une table ronde nationale ;
- la réalisation et l'exposition de 100 images culturelles du Togo (danses, rites et pratiques traditionnelles, sites touristiques du Togo et autres)
- le developpement des actions de visibilité et des activités génératrices de revenus sur le site;

5. Conclusion

La présente étude révèle que l'héritage colonial togolais est depuis un bon moment dans un état de dégradation alarmante. Bien que certains bâtiments résistent toujours aux menacent anthropiques, beaucoup de traces de l'époque coloniale ont disparu alors que d'autres s'estompent lentement sous les regards indifférents de la société civile, des autorités publiques et de la communauté. Cependant, le bâti colonial constitue une partie des traces de l'histoire du Togo et non les stigmates d'une domination qu'il faut faire disparaître. Nous avons donc le devoir de les préserver pour leur transmission aux générations futures comme preuves de l'histoire coloniale du Togo. En valorisant ce patrimoine, le tourisme local et international permettra d'irriguer économiquement l'ensemble du territoire togolais et faire bénéficier les communautés les moins riches en ressources. Ainsi, pour une sauvegarde efficiente de ce patrimoine, il est important de dépasser les clivages idéologiques et mettre en place une véritable politique impliquant autant les pouvoirs publics que les citoyens afin de mettre en œuvre des stratégies efficaces indispensables à la protection et la valorisation de cet héritage.

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Créole houses in Port Louis, Mauritius: how French Colonial architecture was appropriated into a vernacular architecture

Les maisons Créole de Port Louis, Maurice: comment l'architecture coloniale française s'est appropriée dans une architecture vernaculaire

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Abstract

This paper explores the development of Créole houses in the Mauritian capital, Port Louis, looking at how French Colonial architecture appropriated Indigenous building techniques. The study is set in the rich historical and cultural backdrop of Mauritius and looks at how the enslaved used their Indigenous Knowledge Systems to use local resources, methods, and cultural customs, to create a Créole architectural style. The process of Creolisation is metaphorical to social and architectural adaptations. This paper explores the historical evolution of Créole houses from their colonial origins using archival research, fieldwork, and architectural analysis. It looks at important aspects such as construction techniques, and building materials, inherited from non-European context. By doing so, it sheds light on climate responsive designs that influenced the development of Créole architecture over time. The study also investigates the social relevance of Créole houses as markers of legacy, identity, and community within Port Louis' urban fabric. This paper advances our comprehension of the intricate relationship between Indigenous Knowledge Systems and colonial legacies in forming Mauritius' physical environment. Furthermore, it provides understanding of the larger dynamics of colonial architecture and how vernacular architectural traditions continue to be influenced by it in postcolonial situations.

Keywords: *Créole architecture, Mauritius, decolonisation, Indigenous Knowledge Systems, ethnographic study of architecture, colonial architecture, creolisation*

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1. Introduction

Is there a story to the Créole architecture of Mauritius that history has intentionally ignored? This paper elaborates on the impact of the slave trade on Créole architecture during the French colonial period in Mauritius. Créole architecture is defined as "the architectural tradition genetically descended from a synthesised tropical colonial form" (Edwards, 1994:157). This definition reframes Créole architecture as a climatically responsive evolution of French colonial architecture without considering the non-European influences at play during this period. The principle builders of Créole architecture were the enslaved people, even though, the colonial archives depicts the French as a "meticulous elite capable of overseeing architectural development in a burgeoning colony" (Carey, 2018:69).

The purpose of this paper is to create an epistemic break between the science of climatically responsive architecture and the non-European Indigenous ways of constructing to coexisting in climate and nature, by establishing the factors that contributed to the evolution of Créole architecture in Mauritius. There exist two opposing paradigms within Créole architecture which is a contested heritage in Mauritius as it is viewed as the architecture of settlement and also the vernacular architecture of self-authorship into a new context. As a heritage it has represented the whitewashing of historical violences by reframing the colonial project as a developmental tool to the island. This paper uses Créole houses as a site to study the phenomenon of Indigenous knowledge transfer and climate determinism theory. Therefore, this approach supports that the vernacular creolisation of colonial architecture is parallel to the creolised social identity in Mauritius. The vernacular appropriation of Créole architecture involved historical factors and non-European influences. Architectural historians critiqued the term "European-derived architecture" used for Créole architecture and emphasised the impact of Indigenous knowledge from continental Africa onto the rest of the Créole world (Carey, 2018; Chapman, 1995; Edwards, 1994 & Vlach, 1976).

The century of French colonisation in Mauritius resulted in a forceful cultural and social process known as creolisation. Creolisation is a concept known in Creole spaces such as Mauritius to describe how the population have combined different aspect of cultures and language to create new ones. This happened as a resistance mechanism against colonial oppression. This phenomenon was witnessed in plantation economy where the enslaved from brought from East and West Africa, and Asia; needed to collaborate as enslaved labour. Collaborative effort among the enslaved was crucial to adapt their Indigenous wisdom to the local context. Créole architecture was informed by nature, climate and cultural needs which resulted in a visually coherent and consolidated architectural style. This architecture displayed vernacular tropical motifs, pastel colours, and a spatial layout that was economical and enhanced the internal climate of the buildings. However, previous research has restricted the global phenomenon of Créole architecture to the West (Carey, 2018; Edwards, 1994; Pickens, 1948). According to architectural historian Dwight Carey, Mauritius's capacity to contribute to the global study of Créole architecture has been ignored (Carey, 2018).

Similarly, through the Trans-Oceanic slave trade, the French exploited territories which became linked by visually similar Créole architecture that responded to tropical climate and material resources. Créole architecture were associated with Créole spaces and cultures of resistance. It is important to note that the enslaved people who were the primary builders, demonstrated ancestral cultural retentions and resistance to colonial oppression (Brown, 2009; Butterworth, 1822; Carey, 2016), known as Indigenous Knowledge Systems, through their building techniques. The enslaved people were Indigenous people from Southern Africa, West Africa, and Asia, territories which were close to Mauritius and shared similar climate. The enslaved built structure which co-existed with the natural world of the colony. Their wisdom and embodied culture are forms of precolonial understanding, expertise, customs, and beliefs that are recognized as existential knowledge on co-existence with nature (UNESCO, 2022). Their contribution, which have only lately been investigated, shows that their wisdom was undoubtedly among the most significant factors in the expansion of Créole architecture. The paper argues that the IKS of the enslaved did not completely disappear, and some building knowledge were preserved within the architectural making of Créole houses. The knowledges adapted and took on new appearances to fit within colonial construction a sort of architectural creolisation. By identifying the factors that influenced the development of Créole architecture in Mauritius, this study will demonstrate the holistic approach of non-European Indigenous ways of building to

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cohabit in climate and environment through an an epistemic breakdown of climate as a science and climate responsive design as a existential phenomenon of reading landscape and constructing accordingly.

1.1. Aims and Objectives

A major drawback of Mauritius's Créole architecture is that the historical information available is through a colonial lens which is biased (Seetah, 2005). Those records reinforce the colonial legacies on the history of Créole architecture. Their rudimentary forms and architectural features are associated with classical European layouts, which ignores non-European factors. The research of Créole architecture is thus burdened with colonial misconceptions, which attributes the vernacular expression of Créole houses to climate determinism theory. However, by studying the IKS of the enslaved the paper adopts a decolonial lens which involves the restructuring of our understanding of culture, climate and Créole architecture. This paper aims to investigate the factors which contributed to the vernacular evolution of Créole architecture. To achieve this aim, the following objectives will be focused on:

1. setting out the historical background of Mauritius,
2. establishing the global and regional literature review on Créole architecture,
3. an investigation of the factors which affected vernacular appropriation of French colonial architecture,

1.2. Methodology

This paper is an exploratory endeavour based on a literature review of local and global Créole architecture and uses the French capital of Port Louis as a study site. The authors used a mixed-methods approach to focus on the St. George Street neighbourhood, where Créole houses are still standing in conditions ranging from precarious to excellently preserved. An examination of Créole houses demonstrates how architecture may be employed as a tool to navigate precolonial historical legacies, social realities, and changes in the island's culture. The selected Créole houses demonstrate the interweaving of IKS and climatic design responses. The paper approaches the residents of the Créole houses for interviews and sites visits from an ethnographic lens. The superposition of an ethnographic study onto desk research, is a methodology used by scholars in the study of IKS in South Africa and the broader Global South (Papanicolaou, 2017; Pattrick, Minguzzi, Weidberg, and Porri, 2022 & Streule, 2020). The island went through many phases of colonial occupation and can offer new understandings of the lives of the enslaved and their impact in the architectural development (Brown, 2009). The paper looks into these present experiences and seeks a reframing of the historical background of Mauritius which reveals the first instances of creolised architecture until the establishment of Créole architecture as a vernacular style on the island.

2. Historical background of Mauritius

Mauritius experienced three waves of colonialism, and this impacted its urban expansion as well as cultural and social demographic. The island was a crucial port in the slave trade and the colonial expansion between Africa and Asia due to its strategic location as seen in figure 1.

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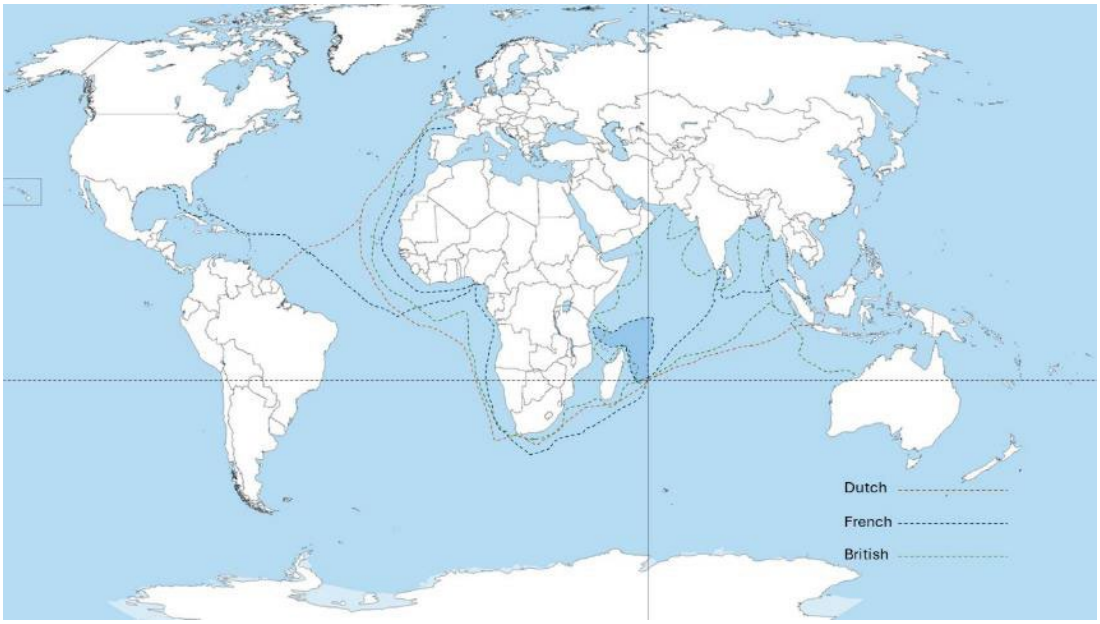


Figure 1. Mauritius was a strategic threshold and refreshment point between the journey from Africa to Asia.
Source: Jeewa (2024)

In 1638, the Dutch East India Company settled on the island which was uninhabited. It served as a "refreshment station" along their route to Asia. They brought enslaved people from surrounding regions for timber production and sugarcane agriculture. The island's material and climatic characteristics were similar to the origin of the enslaved. Consequently, the Dutch foresaw that Indigenous labour from Madagascar, India, Southeast Asia, and Southern Africa would easily acclimatise to the island's climate (Truth and Justice Commission Vol 1., 2011). The Indigenous wisdom of the enslaved reflected in how they accommodated to the island's conditions. The enslaved knew how to fish, to collect coral to create limewash and how to grow according to the seasons. Therefore, they quickly became the main labour force.

The enslaved people were given architectural blueprints to create a fort compound with thick walls. The enslaved built The Fort Frederik Hendrik, as seen in figure 1, using Dutch design plans and vernacular materiality such as "armagasse" (a self healing mortar) and limewash, from coral harvesting and processing. The fort became the first example of creolised architecture in Mauritius (Carey, 2018). It responded to contextual problems such as moisture damage by creating the armagasse using sugar, sand, eggshells and coffee; all materials which were available in the Dutch storage. Additionally, the limewash allowed the buildings to regulate their internal temperatures during the summer heat. Essentially, the Dutch colonial building plans used on site were adapted to the limited material resources and the climate. According to Carey, the enslaved practiced "creole architectural translation"—the process by which enslaved people employed various non-European building methods to construct colonial buildings—therefore producing a creolised architecture which blends contrasting building ethos (Carey, 2018).

The enslaved tapped into their memory and to reconnect to their past, the reconnection was possible through the ancestral building techniques. On the construction site they became exposed to other types of culture and building methods, and the processes include collaborative experiments which adapted the colonial architecture to the limits of the context. Scholars believe that the creolisation of French colonial architecture did not occur in a historical and political vacuum, and they support the idea that the slave trade movement created a forceful cultural, social, and skills exchange (Boswell, 2013; Carey, 2018; Eisenlohr 2007 & Eriksen, 2007).

The colonial records and cost logs relate that the enslaved population largely outnumbered the Dutch settlers on site (Carey, 2018). The enslaved organised themselves onto the building site according to skills, hierarchy and knowledge of materiality. The construction required them to modify local materials into visually Dutch architecture, which was generally suited to a colder and drier context. Given that Mauritius is geographically situated in a cyclonic belt, it requires very specific building systems to resist the high winds and rain. The roof had

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to be redesigned due to strong winds and persistent rain. Therefore, the historical belief that the enslaved contributed only to manual labour is erroneous as it ignores their agency and knowledge of the context. The IKS of the enslaved were spiritual and ontological methods of existing and inhabiting the landscape that the Dutch did not inherently possess. Hence, the Dutch departed in 1710 after settling in Cape of Good Hope, South Africa, which became at the time, one of the most prominent port within the region.

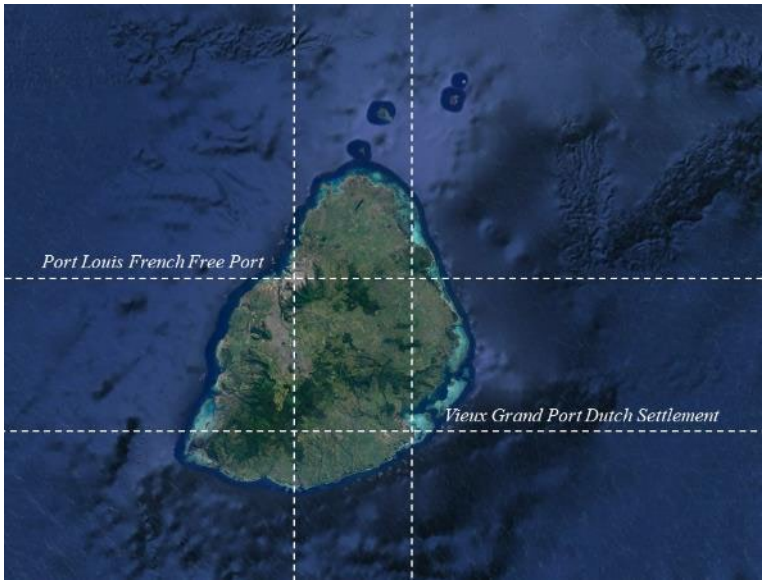


Figure 2. The location of the Dutch settlement where Fort Frederik Hendrick was built, and the Port Louis French Free Port. Source: Jeewa (2024)

In 1715, the French Company of the Indies took over Mauritius to construct a free port in "a deliberate imitation of the VOC settlement at the Cape" (Worden, 1992). This region of the Indian Ocean had multiple colonies: the British, the Dutch, the Portuguese, and the French too. The French sought to develop the neighbouring islands into a network within their global colony, which increased their economic territory to rival the colonial competitors. The island was renamed Isle-de-France, and its design was based on French urban character. The French had the immense task of creating large settlements in a short time span. As seen in figure 1, the French created a free-port of commerce called Port Louis, which was developed into the island's capital. This port attracted commerce from overseas and became a platform of exchange which was cosmopolitan. The French brought enslaved people from the surrounding regions to build the capital.Through these exchanges, enslaved labour became exposed to Créole architecture within French urban planning across these colonies (Vaughan, 2005, p.23).

The capital became rapidly urbanised through the use of "generalised architectural templates" which were circulated across French colonies created visual coherence across the global territory (Carey, 2016; Vaughan, 2005). The enslaved translated the plans into creolised architectural adaptations with features which responded to climatic and embodied need of adapting. Créole architecture was dated back to the French colonial period of Mauritius and it is often associated to being colonial (Carey, 2018 & Nicholls, 2018).

This architectural style was advantageous to the young colony for multiple reasons. Such as:

a) its use of natural materials included thatch, corals, wood and stones which were available in the island.
b) The typology of the templates created many building options for the settlers. The houses could accommodated the growing need of settler families.
c) The layout maximised space and did not use corridors. Natural airflow and light circulated with eas in the compact "rectangular core" (Edwards, 1994:157).
d) The strict geometry of the Créole house layout were ideal for the dense urban space.
e) The construction methods of assembly created a structure which could be dismantled and rebuilt on a new base. Settlers would move town according to seasons.

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The aforementioned architectural features of the Créole houses depicts an urban space with multiple influences. The Créole houses in Port Louis remain an architectural site of cultural and social creolisation. Non-European craftsmanship, building technique and climate responsive design were essential to the making of this architecture. The enslaved practiced their Indigenous wisdom outside of the knowledge of the Europeans, as a way of resistance and self preservation. Within the constrained urban policies, the builders created a synthesis of visual, material, and formal language. Construction sites became spaces of creolisation through "internal restructuring, inventiveness and creativity" (Cohen and Toninato, 2009). Créole architecture reflects a marginalized contact zone of cross-cultural evolution within colonial global systems (Carey, 2016).



Figure 2. Map of French and British main infrastructure highlight in Port Louis. Source Jeewa (2024)

When the British took over in 1810, almost a century of French colonisation period had passed. The urban centre of Port Louis was already established, as administrative, commercial and residential margins. Créole architecture as mode of making became the primary architectural styles of administrative buildings and personal homes. The residential neighbours were lined with Créole houses and stone paved roads. Other traces of Créole cultures included a Kréol language which was created in the island through forceful contact with French, Malagasy, and precolonial African languages. This language allowed the enslaved to communicate and collaborate unbeknownst to the French and British authority; and was used mostly on construction sites and plantations. During the British colonial period and beyond, the French remained the economic majority because of the prominent plantation economy.

In 1835, the enslavement trade and enslaved labour was abolished. On the island, the enslaved needed to fulfil upto 5 years of apprenticeship under their previous enslavers. This created anxieties around the productivity of the colony. And the British needed to provide an alternative labour force to the island as the plantation economy was still running. Mauritius once again became a key territory in the movement of labour, as indentured labourers were brought from India. This impacted the population demographics of the island, and consequently the Indo-Mauritian became the racial majority in Mauritius. Créole architecture began reflecting the impact of the Indian stonecutters and woodworkers through ornate design which were derived from Asian influence.

Middle class Indian merchants saw Mauritius as an economic opportunity, as the growing population of Indentured labour required certain amenities from India. The Indian merchants class and settled in Port Louis, and lived

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differently to the Indentured labour as they had different incomes, privileges and mobility. The British administrative colony oversaw the wealthy Indian merchants as part of the bourgeois community, who often lived within the same neighbourhood as the Europeans. Until today many of these merchant families own the Créole houses which they bought from the French. These Créole houses were maintained and preserved by the Indian families whom soon became part of the Mauritian diaspora. The British ruled until 1968 when Mauritius was declared an independent republic.

Following the independence, much efforts were focused in building the post colonial nation of Mauritius. While some of the Créole architecture vestiges were converted into heritage sites, they were mostly plantation estates. These estates represented the French elites way of life. Some Créole houses were inscribed into heritage list, but soon after were removed from the list. Nowadays, the Indian merchant families do not possess the same influence as they did before. The maintenance of the Créole houses of Port Louis falls onto the owners who feel the financial burden. Upon interviews with the residents, they expressed their anxieties regarding preservation of their Créole houses. Often the owners speak of the houses as “Colonial houses” which gives it a historical appeal. However, the authors denote the whitewashing of those historical sites and the increased proximity it once held to the French elites as a valuation aspect- both socially and real estate-wise. These observations remain out of the scope of this paper, and it is noted that perhaps a factor contributing to the vernacular appropriation of the Créole house was when the Indian merchant demographic became owners and resided within the premises. This began blurring the racial and gendered segregation that often existed within European households and neighbourhoods. The act of dwelling within a house changes the configuration and architectural layout. The following section of the paper elaborates on factors which contributed to the vernacular appropriation of the French colonial architecture through material context, climate, constructing vernacular and creolising identities.

3. Factors contributing to the vernacular appropriation of French colonial architecture

3.1. Appropriating the materiality of the New World

The material context of Mauritius required expertise of sourcing and processing which the French did not have. Therefore, the French required the expertise and labour of Indigenous people from climatically similar context. The enslaved held wisdom regarding constructing and co-existing with nature. Given the material and climatic setting differences, it was impossible to construct strictly colonial building from the French architectural templates. The enslaved employed appropriation and creolisation processes involving functional plan modifications and the integration of Indigenous materials.

The vernacular evolution of the French colonial architecture was affected by factors within a global and local system of material availability. Even though, materials were imported and exported, it came at different cost and seasonality. Therefore, economic, social, and political considerations are the three main aspects that affect the choice and application of building materials in Créole houses. The availability and affordability of basic materials, easily obtained in the coastal zone for no cost other than labor, were of utmost importance. Construction strategies favoured efficiency, rapidity and replicability. In this case, Créole houses became part of the material culture of the enslaved through: i) material application and ii) material expression. Both were mechanism of vernacular appropriation, as they employed innovative application based on material logic as can be seen in the table after.

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Local Material	**Material application**	**Material logic and properties**
Volcanic basalt stone Regular cuboid cut	Building foundations and elevated pedestal External staircases	High compressive strength High density rock Good moisture barrier to elevate the wooden floors
Volcanic basalt stone irregular cut	Pavement and roads	High compressive strength Good moisture barrier High density rock Polished by pressure Rot resistant
Armagasse mortar	Economical mortar	Self healing mortar Good adhesion to rough basalt stone Use coastal aggregates such as sand, oyster shells and corals Can be hardened to a stone finish when using fire
Mohagony, ebony, takamaka	Structural columns	Load bearing High density Uniform and tall tree growth, with thick diameter Aged wood (has been weathered) Termite resistant
Mohagony, ebony, takamaka	Wall panels, floor planks	Strength Breathable material Medium density and flexible Uniform tree growth, can be offcuts from columns
Tamarin wood	Roof shingles and wall shingles	Easy to work with, The cut edges will naturally become blunt with time Natural polish effect Rot resistant Termite resistant Weather resistant



Figure 3. 1700s Basalt rock road with drainage and pavement on each side. Créole house with basalt rock facade.
Source: Jeewa (2023)

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Figure 4. A Créole house in St. George Street with shingles in both fish scale and rectangle. Source: Jeewa (2023)

The Créole houses developed a material expression to conform to the French visual language. The houses were elevated on volcanic stones foundations to create a natural ventilation underneath the house and avoid moisture within the wooden structure. This also created a barrier against termites and other pest. These knowledge of living according to the environment were part of the embodied wisdom of the enslaved and managed through responsive designs.

For instance, while the European building template was designed with high pitch roof, the enslaved understood that the cyclones would severely damage the structure. The main roof needed to be lowered, and the pitch should manage water run off, while the roof that accentuated the front façade could retain its intended height as seen in figure 5.



Figure 6. A natural and local sense of materiality which favours cross ventilation and passive ways of cooling. Source: Jeewa (2023)

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3.2. Climate: embodied wisdom and climatically responsive designs

The enslaved read the climate of the island differently to the European settlers, who exploited and denatured their surroundings. The enslaved understood the climate and landscape holistically, as it provided cultural information which defined their identity in relation to their surroundings. In many non-western and non-European culture, there exist a connection between man and climate which serves as an imagery for human consciousness and collective identity (Tetsuro, 1981). Climate not only becomes an experience of a place, but also a culture that one is immersed within as a natural phenomenon. Climate bonds people together to a place, and their responsive designs becomes a way to validate those experiences. This Indigenous wisdom was embodied by the enslaved in their methods of building shelter and agriculture. In construction, the enslaved utilised Indigenous ways of dwellings within the landscape which involved sustainable and ecological practices. The enslaved acknowledged their custodianship on the material and natural world, and built structures according to this ethos.



Figure 7. Rain water collected from roof is used by the inhabitant of this Créole house in St. George Street.
Source: Jeewa (2023)

In the case of Créole houses, they developed a visual language of patterns and colours informed by nature. Fresh water was a scarce resource on the island during summer droughts but rainwater was abundant during winter months. The columns that held the roof on the verandah were at times made of wrought iron which concealed rain water pipes. The climate responsive designs began appearing such as wrap-around verandahs which surrounds the living and sleeping quarters (Edwards, 2011). The verandah was a living area to experience the passing of the rain, sun and wind without discomfort. It acted as a shading device, and an outdoor living area for group activities. It created an extension of the lounge onto the forecourt and the street, which created a lively social space. Incidentally, the house living area was kept cool through the use of thick external walls with wooden doors at intervals. The verandah acted as a barrier and cooler as hot air would pass through it. The houses typically did not have hallways which was considered a waste of space, and this increased natural light and ventilation. Inside the Créole house, the rooms were connected to each other by doors and jalousie windows.

Additionally, wet rooms such as the bathroom became a later addition. During the colonial period, it was important to maintain good hygiene to decrease the chance of illness-related deaths. The bathroom was either attached as an

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extension to the house or was a standalone room in the courtyard. The courtyards had a water channel feeding from the main canals which provided fresh water. From conversation with old residents, they remember the kitchens to be communal zones for women to get together and perform chores and rituals such as cooking, seasonal pickling and prayers. The courtyards were not viewed as left over spaces, it was lively with trees for shade and became social spaces for the women. The courtyard were spaces to process *commissions* (groceries from the local market), fresh produce and the laundry. As these spaces served as back gardens, they were often shared between Créole houses and acted as a sheltered communal ground to dry clothes, make pickles and at times cook for family gatherings.

The kitchens were built in the courtyard due to the proximity to the water well and to reduce the risk of fire. Active knowledge was shared among the women through their collaborative labour and cohabitation. The communal activities of sharing chores and cooking remained part of the residents daily lives after the abolishing of the enslavement. Créole architecture was part of the cultural fabric of the non-European people, from architectural translation to methods of dwelling which rewrote narratives. It gave them a sense of belonging to a place through the act of space making.

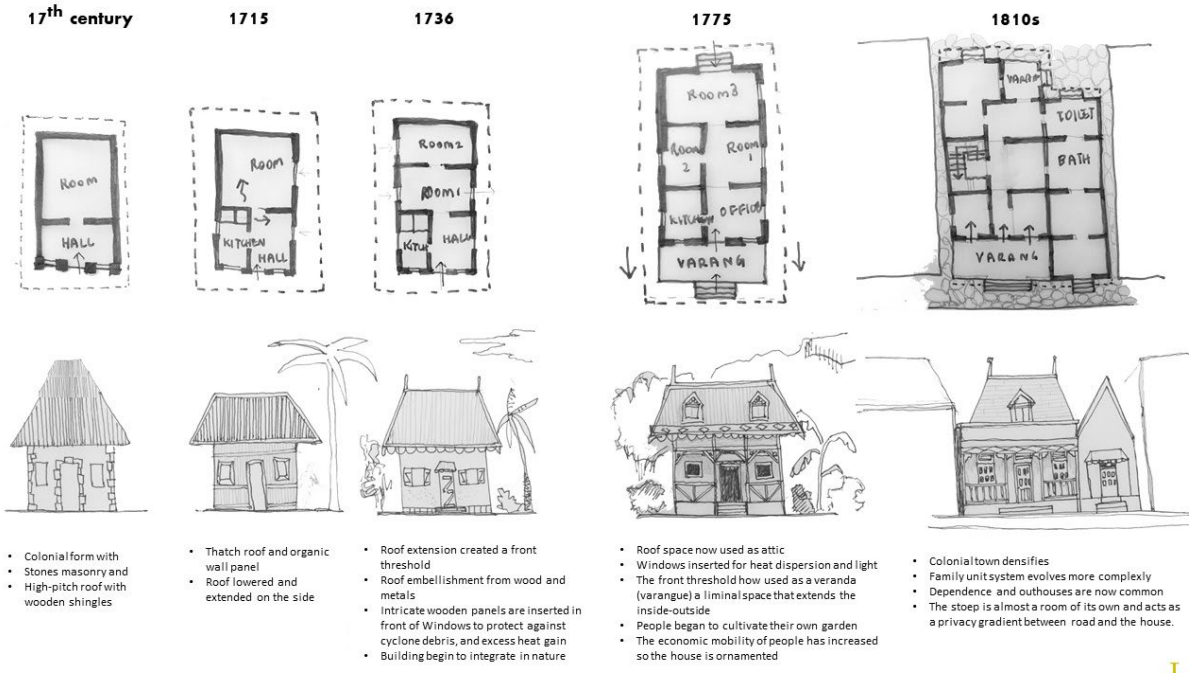


Figure 8. The vernacular evolution of colonial architecture into Créole architecture due to climatic, economic, and social factors. Source: Jeewa (2023)

3.3. Ways of being and constructing vernacular

The process of 'becoming vernacular' in this context refers to applied principles of designs which incorporate contextual or regional elements (Keath, 2003). This connects people and resources to a specific setting (Oliver, 2006). Traditional techniques of harnessing local resources and recreating ancestral tools become an important medium and contextualise vernacular architecture (Teixeira, 2017). For example, readily available soil became building elements such as the mud floor ("Sali" in Kréol) which was a polished surface for humble Créole houses. The mudfloor acted as a moisture barrier and was made using a free resource. It was polished with melted and filtered beeswax. Through years of trial and error, the beeswax was mixed to petrol for additional moisture resistance. These materials were available to all who had the knowledge of sourcing and processing. This allowed marginalised populations such as the enslaved and the freedmen to construct and to preserve practices which were part of their ancestral identity. These practices adapted to the growing culture of the island and reflected the internal restructuring of identity as dislocated to an identity as vernacular. In fact, when we view architecture as a metaphysical expression, creolisation is as much a socio-cultural process as it is architectural.

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Correspondingly, when it came to building, IKS guided the identity of the enslaved builders- as individuals and a collective. It informed their embodied sense of place within the climate and context, as it was both a new experience and something familiar. Essentially, creating vernacular architectural responses became an act of "philosophising about the world and human existence through the embodied material act of constructing" (Pallasmaa, 2017). For the enslaved, architecture was a mode of thinking and rewriting the world around them, and certainly their space within it. Créole architecture became a material representation of the existence of the enslaved and their culture. They retained embodied memory and existential wisdom from their ancestral land, which opposed many historical approaches of slavery as a social and cultural death (Brown, 2009; Patterson, 1982). The enslaved had great will to live and were resistant to the ongoing oppression of colonialism. They were not passive and many cultures created from their politics of resistance, still inform the post-colonial Mauritian Créole culture. The body of the enslaved was more than just a unit of energy for the exploitation of the colony (Lokko, 2023). Their body, mind, and soul held key information about kinship, measurements, and the sensorial memory which they passed down. The body and the embodiment of IKS was essential to the preservation of memory, and the material representation of a sense of self during a time of dehumanisation.

3.4. Self authorship through making and building: Créole architecture and creolising identity

Créole architecture was a symbol of custodianship for the French settlers, as it became a representation of their success within a tropical landscape. The visual appearance of Créole architecture prioritises its position within the natural landscape, it uses natural materiality and prefers open spaces for natural ventilation and sunlight. For many, it evokes a sense of peace in a tropical setting. For the enslaved, Créole architecture represented self-authorship as it embodied their identity and knowledge which bonded them to Africa and Asia. Through the variety of typologies, Créole architecture adapted to the growing knowledge of the enslaved to their context.

The process of the French colonial architecture becoming vernacular Créole architecture is metaphorical to the island population who began as enslaved and settlers. Both Créole architecture and the Mauritian population shared contested influences, and locals draw similarities of becoming "rooted" between architecture and people. Similarly, the ability to speak Kréol was seen as becoming vernacular, as it was born within Mauritius (Boswell, 2013). Like how a creole language develops a personality of its own, building forms can acquire traits that are distinct from their place of origin (Chapman, 1995). Similarly, Créole architecture went through several process of reappropriation. This sentiment extends to Créole architecture, as created a sense of belonging to the land after centuries of dispossession and dislocation (Ghisleni, 2020). The enslaved were master builders of Créole architecture as a coherent architectural fabric which represented their knowledge of climate and material processes. When Créole architecture was practiced as adhoc building for the use of the freedmen, it allowed for a sense of self-expression and representation which operated outside of the European policing gaze. Humble Créole houses and lavish ones used to line the St. George Street neighbourhood. Créole houses are not without history and without politics, as their methods of making represents both order and resistance. It involves the politics of identity through the act of "becoming" and territoriality through the act of "belonging to."

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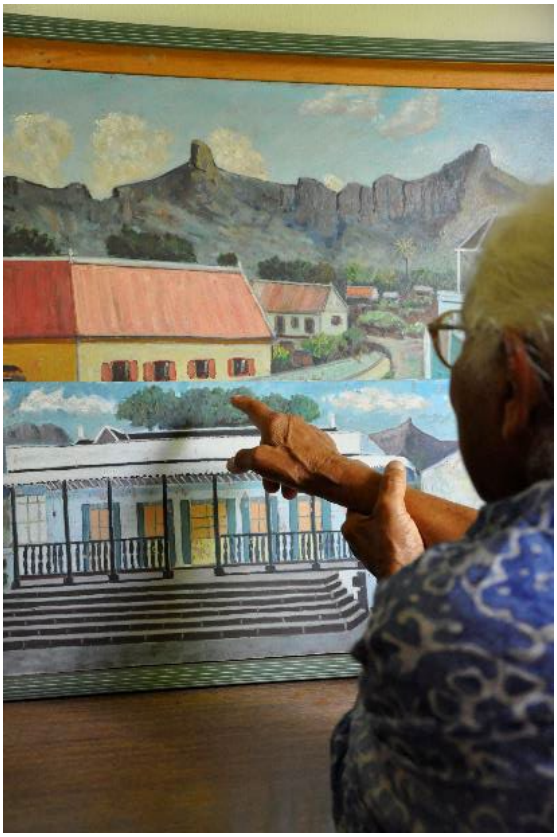


Figure 9. Author's grandmother explaining the house layout and neighbourhood from paintings. Source: Jeewa (2023)

4. Conclusion

In conclusion, the paper has firstly discussed the bias contained within colonial records which makes invisible the contribution of the enslaved to the complex history of Mauritius. The influences upon the Créole architecture has been whitewashed through colonial records and post-colonial nostalgia. However, the legacies of the enslaved can be found in the Créole houses of Port Louis since these buildings provide important insights into vernacular adaptation using materiality and climate reading. Essentially, the Créole architecture of Mauritius originated from the tentative recreation of European urbanism in Port Louis, using "generalized architectural templates" (Carey, 2018). Through the amalgamation of Indigenous methods, precolonial designs, and colonial influences, the enslaved people created an architectural style that is creolised from their African and Asian identity and heritage. This demonstrates an understanding of the process of creating a sense of place and belonging, in a new context. The enslaved's reading of the landscape and climate reflected in the architectural evolution of Créole architecture. Their indigenous ways of existing and dwelling in nature informed their on-site decisions when building. The vernacular expressions were not restricted to climate determinism theory and this paper has shown that the men-nature relationship as lived by the enslaved, materialised through the climate-responsive designs of the Créole houses and also through a self-authorship of existence in a climate which is both new and known. The paper examined through language and social metaphors, the emergence of a vernacular Créole architectural features such as the inside outside space known as varangue.

Créole architecture is a metaphor to the people of the island who rooted themselves into this new space through collaboration and innovation. The paper has argued that Créole houses reveals how Créole architecture became a tool to negotiate social realities, within colonial oppression. The freed population used their knowledge and marginal positions to construct Créole houses outside of the European policing gaze. It was a space which fostered resistance and reappropriation through architectural making and then dwelling by creolising historical legacies from precolonial times into new cultures. Créole culture within Mauritius represents resistance and resilience and somehow, this paper argues for a redefinition of the Créole architecture of Mauritius as being both part of the

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colonial and decolonial legacies. As Créole spaces globally prove, the social and historical binaries are limiting. And to impose those binaries onto Créole architecture, is to miss the social and cultural metaphors of creolisation that this architecture represents. This appropriation illustrates how vernacular forms could emerge from colonial origins to express Indigenous values and non-European lived experiences. In a way, Créole architecture is contested because it is hard to discern the colonial from the resistance, yet it depicts the nature of Créole identity and culture: transcending subjugation through material culture.

The enslaved people demonstrated the process of creolisation in three factors: they incorporated locally available materials into colonial building designs, they used their embodied wisdom of reading the climate of the island to created material expressions of self-authorship and creolised narratives. These factors framed the emergence of Créole architecture in Mauritius. Effectively, their building skills was based on sourcing raw materials and manufacturing construction resources on-site. They adapted ancestral IKS onto the context of the island. These wisdoms and ingenuity have been passed down from generations and created vernacular building practices.

The history of the island which acknowledges the architectural contribution of the enslaved has been encapsulated in the distinct identity of Créole architecture. Subsequent studies may expand on this topic, by examining the current difficulties encountered by Créole houses, such as modernisation pressures and heritage protection initiatives. Additionally, these investigations would advance our knowledge of post-colonial Créole architecture that is locally rooted, culturally sensitive, and perhaps still creolising and adapting to climatic changing conditions of Mauritius island.

Acknowledgements

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Conflict of interest

The authors declare no conflict of interest.

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The Impact of Islam on the Built Vernacular Heritage in Muslim Majority Communities

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Abstract

The categorization of certain buildings as vernacular architecture is a modern concept. In Muslim majority communities, modernization, including the classification of vernacular architecture as fundamentally different from other types of architecture, was introduced by colonization. Colonizers, travellers, and researchers appreciated the tangible qualities of vernacular buildings in colonized countries but often failed to understand their intangible attributes due to racism, snobbery, and a lack of understanding of local context. As a result, the impact of Islamic worldview on architecture has been undermined by Orientalism, colonialism, and Western-influenced modernization. This led local communities to reject their vernacular heritage in favor of modern, imported styles.

Many of the characteristics of vernacular architecture could be found in traditional Islamic buildings and cities in Africa, such as the use of local materials, environmental responsiveness, expression of local communities' culture, and organic growth and changes of buildings according to social changes. The proposed paper highlights the importance of understanding vernacular architecture within its Islamic context which is formed by the Qur'an, the Prophet's traditions (sunnah) and the Islamic jurisdiction (fiqh). It aims to investigate selected concepts and values within the Islamic worldview, which were expressed and manifested in vernacular architecture.

Recognizing the role of the Islamic worldview in shaping vernacular architecture is essential for decolonizing the subject in Muslim-majority communities, enabling them to reclaim their heritage when it is presented and evaluated in a language and value system they connect with.

Keywords: *vernacular heritage, Islamic architecture, decolonization, Muslim communities, worldview, value system.*

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1. Introduction

While it is accepted that vernacular architecture is an honest expression of the culture and values of the community that produced it, its study and valorisation often is focused on its tangible attributes, such as building materials, construction techniques, decorations, spatial arrangements and environmental performance. The decolonization of the field, therefore, requires highlighting the intangible attributes, which are based primarily on the impact of Islam in Muslim majority communities.

The impact of Islam on traditional Muslim individuals and communities is not limited to religious rituals. It influences social, economic and cultural spheres. This paper identifies its impact on the built environment, which is crucial for the vernacular qualities of architecture in Muslim majority communities. The Qur'an instructed Muslims to respect and follow different local traditions *('urf*) as far as they don't contradict with Islamic values. *Sunnah* gave examples of active local participation, priority of human needs and care for the natural environment over aesthetic and material aspects. *Fiqh* established rules for social cohesion and quality of the built environment. Thanks to Islamic worldview, vernacular architecture flourished in these communities during premodern times.

Due to Islamic values, the line between formal and informal architecture is often absent as there are no equivalents to "perfect proportions" or "the golden section" as is the case in other worldviews that produced formal architecture that conforms to the rules of perfection and informal architecture that does not conform to them. The following description could be used for the architecture and urbanism of Muslim majority communities while it is a quote from the introduction to the ICOMOS Charter on the built vernacular architecture (1999):

It is utilitarian and at the same time possesses interest and beauty. It is a focus of contemporary life and at the same time a record of the history of society.

The approach to decolonization adopted by the current paper is to highlight selected Islamic values that are most relevant to the built environment on different level. And to review the way colonization challenged and continue to challenge a holistic understanding that includes the Islamic impact. Opportunities for decolonizing vernacular architecture are increasing with the recent initiatives to move towards holistic and sustainable approaches.

2. Aims and objectives

The present paper is part of a long-term research effort to decolonize the built vernacular heritage in Muslim majority countries. Three main objectives are pursued. The first is the impact on the built environment. The second is the challenges facing a holistic understanding of the built vernacular heritage due to the impact of colonization and its legacies up to the present. The third and final objective is to highlight the opportunities that recent developments have offered to the decolonization of the built vernacular heritage in Muslim majority countries.

3. Methodology

The research is based on the premise that the material and visual characteristics of the built vernacular heritage in Muslim majority countries are manifestations of the impact of Islam on the different aspects of Muslims' lives including the built environment. Analytical investigations address four main questions:

1. What are the fundamental Islamic values that impact the built environment?
2. How do Islamic values impact the built environment on different levels?
3. How did colonization challenge a holistic understanding of the role of Islam in forming the built environment, particularly the built vernacular heritage?
4. How could the recent developments in the fields of conservation and development offer new opportunities for decolonization by reinstating a holistic understanding of the built vernacular heritage in Muslim majority countries?

The above questions are addressed by desk research and whenever possible by observations of examples.

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4. Results and Discussion

4.1. Islamic worldview and value system

The Islamic worldview defined Muslims' understanding of the world as well as the meaning and purpose of human lives on earth. Accordingly, Islamic values are observed on the levels of the individual, the family the community and the nation (Djeghim). For the limited scope of this paper, three values could highlight the impact of Islam on the built vernacular heritage in Muslim majority communities:

- **Sustainability:** Many centuries before the modern interest in sustainability, Muslims have been concerned with sustainability. Islamic approach to life is a holistic one. It does not separate the social, economic and environmental issues. Moreover, the long-term impact of all actions is embedded in Islamic activities. Accordingly, the concept of continuous charity (*sadaqah jariyah*) initiated projects that aimed to last well after the death of their patrons (Akbar, 1988). The system for implementing such sustainability is the endowments (*awqaf*) (Hakim 1988 & Mahdy 2022b).
- ***Ihsan*:** The root of the Arabic word "*ihsan*" is "*hsn*", which means good, beautiful and useful. The root of this value is a fundamental intangible notion as it is considered the highest level of commitment to Islam and following its instructions (Mahdy 2017). Consequently, tangible aspects of Muslims' lives seek to fulfill these criteria (i.e. to be good, beautiful and useful). As a holistic worldview and value system, the Islamic notion *ihsan* means that an act, a building or an object should fulfil the criteria of being good, beautiful and useful.
- **The middle way:** Muslims are instructed to follow the middle way and not to go to any extreme (The Qur'an 2: 143). Consequently many aspects of Muslims' lives observe a balance and the middle way between various factors and interests. This value is manifested in the built environment by the *fiqh* notion "do not be harmed and do not cause harm" (Hadith, quoted by Hakim ,1988).

Understanding and adopting these values is crucial to the decolonization of vernacular architecture, as it paves the way for the recovery and revival of the architectural heritage that has been shaped by these immutable principles.

4.2. The impact of Islam on the built environment

The impact of Islam on architecture and the built environment is a manifestation of its influence on the way of life for Muslims. The underlying Islamic values and rules which guide buildings and settlements are defined by the Qur'an, the *sunna*, *fiqh* instructions and legal rulings (*shari'ah*). Identified characteristics of vernacular architecture in Muslim majority communities such as the use of local materials, appropriate technology, community participation and environmental awareness are due to the impact of Islam. Observing sustainability and *ihsan* and pursuing the middle way are observed on four different levels:

4.2.1. The universal versus the local

Islam influences the underlying values that are key to the construction of Muslims' houses and other buildings as well as the planning, constructing and managing their built environments. However, this does not mean that Islam has produced rigid templates for the lives of individuals and communities.

Take the abundance, and bid to what is honourable [according to local traditions], and turn away from the ignorant (The Qur'an, 7: 199)

On the one hand, Islam dictates values and notions that are central to the Islamic worldview. On the other hand, Muslims are instructed to respect and follow local traditions that do not conflict with Islamic values. This explains the great diversity of Muslim-majority settlements and buildings across the world while having common characteristics that render them unmistakably Islamic (Michell, 1978).

Mosques in different regions are the most obvious example for fulfilling both diversity and unity. Differences could be great in architectural styles, construction methods, building materials and techniques among mosques in Indonesia, Uzbekistan, India, Iran, Turkey, Egypt, Yemen, Senegal, Kenya, Somalia and beyond. However, they all have common characteristics and are unmistakably Islamic in spirit, sharing many features and characteristics. All mosques are directed towards Makkah, have similar functional elements that also fulfill aesthetic taste. They all have communal vitality and spiritual atmosphere (fig. 1).

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Figure 1. Mosques from different Muslim regions: distinct yet similar. Source: Authors.
1-Mosque of djenné, Mali (2019) 2-Mosque El-Quaraouiyine, Fez, Morocco (2018) 3- Mosque Al-Zaytuna, Tunis, Tunisia (2016) 4-Mosque Sidi Abi Al-Hassan Altansi, Tlemcen, Algeria (2020) 5-Mosque and Madrasah of Sultan Qayetbay, Cairo, Egypt

Also, Muslims' houses, public buildings, and spaces as well as the urban fabric exhibit a wide range of architectural styles and designs that reflect the local culture, climate, and materials available in different regions. Despite this diversity, they share basic elements rooted in Islamic principles, such as an emphasis on privacy, modesty, and shared spaces for social interaction (fig. 2). The mosque emerges as the decision-making center, anchoring the spiritual and social life of the community. This blending of local traditions and the Islamic spirit creates a rich and diverse urban fabric throughout the Muslim world.

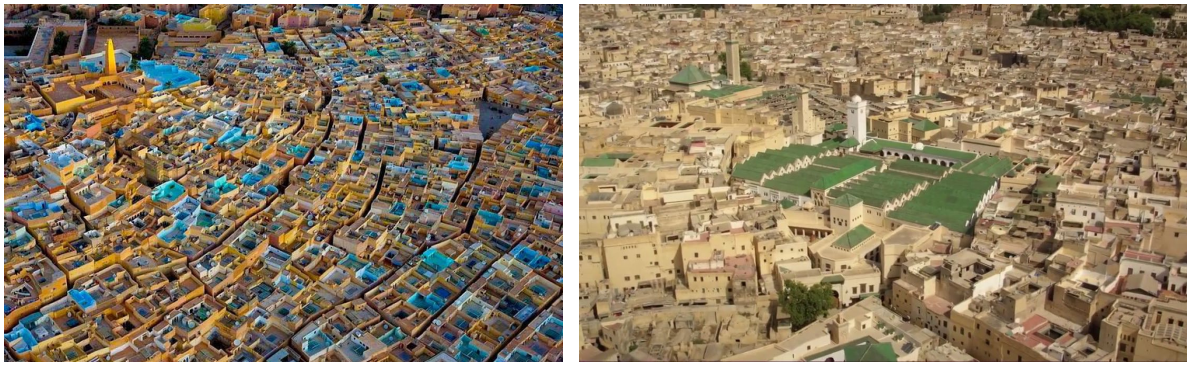


Figure 2. Spatial organization in Muslim cities.
Source: 1-Yann, Arthus-Bertrand (2015) ;2- Fez-Meknes Regional Investment Center (2022)

4.2.2. The natural versus the cultural

Human beings are entrusted by God to manage, protect and nurture the environment. This is done for the collective interest of humans and all living beings. It is also done as a duty towards God even if no immediate benefit is foreseen (Mahdy 2019b). Accordingly, a culture of preservation of natural resources and recycling (Mahdy 2019a) have been a prevailing characteristic of Muslim majority communities.[1]

The use of light and water is as important, often carrying symbolic meanings that link physical structures, nature and spiritual and religious values.

[1] The Prophet instructed Muslims to economize in using water for ablution, even if they are doing so from a running river (Hadith, according to Imam Ahmed).

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Connection with nature versus protection from it: A courtyard house permits the inhabitants of the house to be in connection with the nature when the climate is pleasant. They can be in the open under the sky if the weather permits. On the other hand, they can be protected from the nature when the climate gets too harsh by getting into the closed rooms in a courtyard house (fig. 3).



Figure 3. Courtyard houses from different Muslim regions. Source: Authors
1- Medina of Tunis, Tunisia (2016) 2- Ksar Amezrou (2017) 3- Mostaganem, Algeria (2019)

4.2.3. The national versus the communal

As an aspect of respecting local traditions that don't conflict with Islamic *shari'ah*, local governance has been the accepted practice in states that are governed according to Islamic *shari'ah*. Each tribe, ethnic group, religious group and guild of a trade or a craft is expected to be managed locally, including resolving legal disputes.

Accordingly, traditional neighbourhoods are often built, lived in and managed by a closely related community, such as extended family, a tribe or migrants from the same origin. In many cases, neighbourhoods have gates, guards and a chiefs (*sheikhs*). Accordingly, markets within Muslim majority communities had different specialized sections each devoted to a craft or a trade.

The role of the government on the level of the state was limited to national security, international relationships and collecting and managing taxes. When Napoleon Bonaparte invaded Egypt at the turn of the nineteenth century, he demolished the gates of the neighbourhoods in order to impose a centralized system of governance. A similar example is Constantine, where the city walls and gates were demolished, followed by the imposition of a "Haussmannian layout".

The built environment reflected these notions in different urban characteristics, such as the organic pattern of alleyways that are often gated. This also is reflected in the urban forms of markets, bazaars and *suqs*. The location of the markets near to mosques and religious institutions reflect the *awqaf* system. As most commercial structures were part of an endowment arrangement. The revenue they generate was directed to manage and maintain the relevant mosque or religious institution (fig. 4).



Figure 4. Details from the Muslims built environment. Source: Authors
1-The gate to an alleyway "*Haret Al-Hammam*", Cairo, Egypt 2-The Historic City of Shali, Siwa Oasis, Egypt, 3-Derb, Medina of Tunis, Tunisia 4- leather tanning district " *Haret Dbagh"*, Fez, Morocco

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4.2.4. The communal versus the individual

Muslims are instructed to live in communities and to have community ties. This includes respect for the family as the building block of community, the importance of good relationships between neighbours.[2] Moreover, strangers and wayfarers are received and welcomed warmly. On the other hand, privacy and modesty are highly respected.

The balance between openness to the community and preserving privacy are manifested architecturally in bent entrances, which permit the door of the house to be open and inviting but does not reveal the interior (fig5).

The courtyard is another manifestation of this balance. A courtyard offers a maximum privacy even if houses are built very close to each other as the windows of private rooms and spaces open to the inner courtyard and not to the outside. On the other hand, the courtyard typology permits dense built-up areas which encourage close community bonds. The achievement of privacy when and where required leads to a willingness to interact with the community without transgressing on private territories or aspects of life.

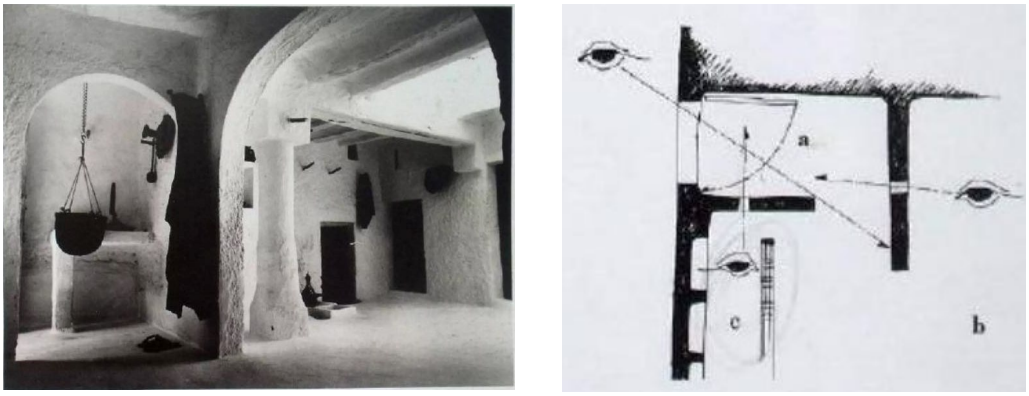


Figure 5. Bent entrance , M'Zab valley, Algeria . Source: Ravéreau (2003)

4.3. The colonial challenge

Biased colonial approaches and ill-informed Orientalists misconceptions of Islam and its impact on Muslims' lives and their built environment were adopted pertaining to vernacular architecture. Decolonization should, therefore, address the impact of colonialism on the widespread views on vernacular architecture in Muslim majority communities with the aim of re-owning the narrative and in order to reinstate the worldview, values and ways of life that produced and impacted the built vernacular heritage.

4.3.1. Modernization and Orientalism:

The field of vernacular architecture, its study, conservation and inspiration for new buildings is a modern phenomenon. Identification and appreciation of vernacular architecture in Europe and the West were a reaction to the drastic changes that the industrial revolution brought to the fields of architecture and urbanism. Vernacular architecture was appreciated as the manifestation of the purity and honesty of living in harmony with nature and in agricultural rather than industrial and commercial communities (Asquith & Vellinga, 2005).

The story is different in non-Western countries. Modernity and colonialism were two faces of the same coin (Michell, 1988). The vernacular architecture in North Africa, Egypt and other Muslim majority countries was appreciated by the colonial Europeans in the 19th and 20th centuries as an extension of European trends and not as a reaction to major changes by industrialization and urbanism. In addition, Orientalism, as a Western field of biased study of the "Orient", with high interest in Islam and Muslims, contributed to ignoring or distorting the impact of Islam on vernacular architecture (Said, 1978). Accordingly, vernacular buildings were identified by visual and materialistic characteristics with little or no regard to their intangible attributes. They were painted by Western artists and their architectural styles were studied by Western architects and researchers. After independence, native artists, architects and researchers in Muslim majority countries continued the same approach to vernacular architecture without questioning its validity.

[2] "He whose neighbour is not safe from his harm and dishonesty, will not enter Paradise" Muslim via Anas (Hadith) quoted and translated by Hakim 1988).

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4.3.2. The modern notions of architecture and archaeology

The design and construction of architecture in modern times has articulated the notion of vernacular architecture as the architecture that is designed, built and maintained by local communities in the absence of professionals, building codes and municipal plans and rules. The more the modernization process is implemented, the more vernacular buildings are marginalized. For some, they are romantic representations of pure and honest ways of life. For others, they are slums[3] that are unfit for modern living as is not "architecture", but mere "buildings" similar to what animals build in their habitats (Michell, 1988).

In many Muslim majority countries legal protection is limited to archaeological sites and historic buildings that are of archaeological values. As a result, the built vernacular heritage is not appropriately conserved and managed. In some cases, vernacular buildings are bulldozed to better present archaeological sites, as was done to the Old Gourna Village in Luxor, Egypt. In other cases, vernacular architecture is preserved as archaeological sites by prohibiting any changes to be introduced as was the case in Shali, Siwa Oasis in Egypt, where no water, electricity, sewage or any other modern infrastructure were permitted. This resulted in the population deserting Shali to live in modern buildings in its vicinity. Such preservation may have succeeded in conserving the fabric of the vernacular but have permitted all its intangible attributes to be lost.

4.3.3. Post-colonial or Neo-colonial?

The independence of Muslim majority countries did not result in decolonization. The social, cultural and ruling elites who took the place of the colonizers in planning, government and education were themselves educated in Western institutions. They stepped into the colonizers' shoes and continued their approaches, policies and practices without questioning their rationale, approach and aims.

More than half a century has passed since most Muslim majority counties gained their independence. Yet, decolonization remains a pressing need in many aspects of the culture and way of life, including the understanding of built vernacular heritage and the approach to its protection, conservation and management.

The status quo remains due to the lack of confidence in local values and worldview. The demonizing of Islam and stigmatizing it in the mainstream media as a potential motivator for terrorism have delayed addressing the impact of Islam on the cultural heritage in Muslim majority countries, including the built vernacular heritage.

Mass tourism with the economic benefits and job opportunities it offers adds to the continuation of limiting the interpretation and presentation of Muslims' built vernacular heritage as mere romantic aesthetic forms and interesting architectural styles with no or shallow addressing to their intangible attributes and the impact of Islam on their qualities and values.

4.4. New opportunities

Recent developments in the field of cultural heritage offer new opportunities for decolonization. The ICOMOS doctrinal texts extended the subject of monuments and sites as identified in Venice Charter to places of cultural significance in Burra Charter. Authenticity was extended from the fabric of heritage to many other attributes and became assessed as a culture-specific concept as stated by the Nara Document on Authenticity and reiterated by the Nara+20 Document. The responsibility of heritage professionals was extended from documentation, protection and conservation to include management and the engagement of stakeholders, rights holders and local communities. These developments influenced and continue to influence the implementation of UNESCO's World Heritage Convention by the updates of its Operational Guidelines (Mahdy, 2022a).

Thanks to these developments, the appreciation of vernacular architecture was recognized as a heritage typology to be studied, protected, conserved and managed. Consequently, the ICOMOS International Committee on Vernacular Architecture (CIAV) was established, and the 1999 Charter on the Built Vernacular Heritage was ratified.

Furthermore, other developments include concerns about the sustainability of development as well as the need to address climate change. Such developments have influenced the heritage conservation discourse. New opportunities arise to decolonize the built vernacular heritage around the world. And in the case of Muslim majority communities, these are opportunities to reinstate the impact of Islam with regards to the understanding, conservation and management of vernacular architecture.

[3] For example, the Egyptian government bulldozed in 2022 vernacular buildings in Cairo with the claim that they were slums. Some of these buildings were fine examples of 19th century urban vernacular buildings in Cairo.

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The United Nations Sustainable Development Goals (SDGs) highlighted poverty eradication, health, education, equality and other factors that should be taken into consideration for development aspirations to be sustainable. This holistic approach has influenced the conservation discourse and resulted in UNESCO issuing the Recommendation on Historic Urban Landscape (HUL), offering an approach to development and conservation as complimenting rather than contradicting directions within the historic urban context.

Other recent developments such as Black Lives Matter (BLM) and Rhodes Must Fall (RMF) among others have added to the shift in the attitudes of the international conservation movement towards people-cantered approach and the relevance of human rights to the understanding, conservation, management, interpretation and presentation of cultural heritage as reflected in the forming working groups by ICOMOS and training courses by ICCROM.

These developments are new opportunities to revisit the Islamic impact on cultural heritage in general and on the built vernacular heritage in particular. The Islamic values of sustainability, *ihsan* and the middle way have become highly relevant to the new approaches in the heritage conservation.

5. Conclusion

The Islamic worldview influenced the way of life in Muslim majority communities with many values that have impacted their built environment. Sustainability, *ishan* and following the middle way are three values that are most relevant. Their impact on the built environment could be observed on four levels from the universal to the individual, which was manifested in many features of the built vernacular heritage.

The colonial impact has formed in modern times the understanding, conservation, management and interpretation of the built vernacular heritage in Muslim majority countries. It impacted the field directly by applying Western approaches and trends without consideration of the specificity of the context. Colonialism and Orientalism also impacted the field indirectly by the introduction of Western modern notions of architecture and archaeology with no place for the vernacular in the legislation or institutional structures. The colonial impact remained unchallenged after independence due to its endorsement by Western-educated native elites.

The developments in the fields of cultural heritage and sustainable development, such as the SDGs, HUL and people-centered approach have offered new opportunities to reinstate a holistic understanding, management, conservation and presentation of the built vernacular heritage in Muslim majority countries. These developments made the international conservation discourse relevant to the Islamic worldview and value system, including sustainability, *ihsan* and following the middle way.

These new opportunities should be captured to decolonize the field of the built vernacular heritage in Muslim majority countries. The decolonization should address the conservation of the built vernacular heritage, new constructions in traditional contexts and the participation of the local communities and stakeholders in shaping their built environment.

Further and more detailed research should follow three lines of investigations that are identified by this paper, namely the Islamic impact, the colonial impact and the new opportunities. The aim should be to reach a culture-specific approach to the understanding, conservation, management, presentation and interpretation of vernacular architecture in Muslim majority countries.

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Post Colonial Approach: Involving the community in Archaeological Heritage Management at the Domboshamba Hills, Northeastern Botswana

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Abstract

The management of African heritage has historically been dominated by colonial narratives, leaving communities voiceless. However, literature shows that communities have an interest and desire to be involved in their heritage management. Local people have contributed to the survival of archaeological sites through their knowledge and custodianship systems. This research investigated community involvement in the management of the Zimbabwe Culture archaeological heritage site of Domboshaba Hills in Botswana. The study used post-colonial theory to examine the historical and cultural impact of colonialism on heritage, which often neglected local communities. The results showed that the communities surrounding Domboshaba Hills have strong cultural and historical ties with the site and a strong desire to be involved in its management. However, many communities feel excluded by official heritage authorities in the management of the site. The study recommends that the Botswana official heritage management system should incorporate local communities in archaeological heritage management.

Keywords: *Community involvement, Archaeological heritage management, Colonialism, Post-Colonialism, Preservation*

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1. Introduction

Communities associate themselves with their material cultural heritage as it is a legacy from the past and heritage in its most obvious visible form. Their vast body of knowledge, skills, interpretations, and traditions enables them to manage their heritage. Given that Africa has a distinct, vibrant, and rich heritage, managing this heritage has garnered significant interest (Matswiri, 2017). In the midst of managing Africa's heritage there has been a problem in that heritage resources are managed using a western approach that frequently overlooks involving the community in managing their archaeological heritage. However, community requests for involvement in the management of archaeological heritage in African nations have increased (Chami, 2019).Ndoro & Pwiti (2013) assert that the use of the western approach which consists of modern laws and legislations which often excludes community involvement in managing their cultural heritage has made it seem as if communities are not able to manage their heritage. In this regard, Ndoro (2001) and Corsane (2005), for instance argued that the fact that archaeological sites were discovered by Europeans intact even before the introduction of these modern laws indicates that these sites were managed in some way to survive, which can only be through the communities having been involved in managing their heritage through their indigenous knowledge and practices. The statements by Ndoro (2001) and Corsane (2005) provide evidence that communities in the past were involved in managing their heritage through indigenous knowledge based systems and they seem to have worked successfully.In the case of Domboshaba Hills, communities sorrounding the site have shown interest in the management of the site as such, this paper aims to investigate community involvement in archaeological heritage management at Domboshaba Hills in north eastern Botswana. The paper will be guided by the following objectives including, finding out the level of community participation on the part of the villages surrounding the site. Investigating how the communities of Domboshaba Hills are involved in managing the archaeological heritage site. Investigating the importance of involving the community of Domboshaba Hills in managing the archaeological heritage site. Moreover the paper will look into the legislative frameworks to see the extent that these legislations incorporate communities in archaeological heritage management.

2. Site description: Domboshaba Hills

Domboshaba hills is located in the North-eastern part of Botswana. It is situated on Latitude: 20°36'58.86"S Longitude: 27°21'41.94"E (Huffman, 1996). According to Walker (2010) Domboshaba hills translated to "the red hill," takes its name from a large granite hill 2 kilometers to the west. Van Waarden (1998) describes Domboshaba site as consisting of a top and bottom section. In the description of the site using a Zimbabwe spatial-symbolic model, Huffman (1996) refers to the lower half as the royal wives' quarters where there is also a house in the southwest used for initiation ceremonies. On the eastern part of the lower enclosure there are no structures but there are scatters of artefacts dating to the Middle Stone Age (MSA). The area may have been used for something which community consultation might reveal to help interpret this space. The upper section has a kgotla (court or meeting place) on the northern slopes and according to van Waarden (1998) this is said to have been the ruler's dwelling place. In the upper section, there are small enclosures made of walls, houses and rock outcrops. This area may have been the primary entrance because Wieschhopf (1941) cites some check design on the eastern wall next to the old southern entrance, which is now gone. Apart from the enclosures, there is also a small rock shelter east of this entrance area. The rocky area that is partially surrounded by stone walls may have served as a ritual place (Walker, 2010). This is because in the past caves/rock shelters were frequently utilized for religious rituals. Apart from the backed burnt clay (daga) that represented the remains of a house as well as stone enclosures, some of the excavated materials from this section included potsherds, lithics, ostrich shells, charcoal and animal bones, which indicated an earlier Stone Age occupation of the site (Walker, 2010). Domboshaba hills is also said to have been a trading center. The local communities have the same view as that of Walker (2010), Huffman (1996) and van Waarden (1998) that the Domboshaba hill is a Khami type site and was occupied by their forefathers who came from Zimbabwe and settled in those hills. Even though Huffman (1996) and other scholars describe the location of Domboshaba hills as where the ruins are, the community on the other hand mentions that Domboshaba hills is not only where the ruins are but encompasses the area where the Domboshaba lodge is located as well as where

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Mmantenge well in Kalakamati village are today. The community also believes that those who settled on those hills had different totems. That is why even today communities surrounding the site have different totems.

3. Post Colonial Theory

Post-colonial theory has been widely adopted in a wide range of studies, including the discipline of -heritage management. The origins of post-colonial theory in heritage management was centered on examining the historical and cultural impact of colonialism on heritage (Waterton and Watson 2015). In addition, the theory was introduced to explore the colonial nature of the Authorized Heritage Discourse (AHD) theoretical framework (Smith 2006). The AHD includes all systems, practices and theoretical frameworks of managing archaeological heritage such as in Southern Africa derived from Western World (Smith 2006, Logan et al. 2015). The Post-colonial approach critiques the ADH framework for excluding community based systems of managing heritage. Smith (2006) states that it is due to AHD that the heritage 'selectors' who are the experts or professionals such as archaeologists, curators, anthropologists, architects or historians working for state heritage agencies have become the sole and legitimate spokespersons for the archaeological pasts (Smith2006). AHD denies communities control over heritage and, by definition, denies them the potential power that it embodies. It is from this perspective that post-colonial theory questions who has control power to heritage. Part of the thinking and applications of post-colonial theory has been the calls for revisiting and promoting indigenous/pre-colonial ways of doing things as these are now thought to be more effective/useful and as a counter to Western ways of thinking. This also very closely resonates with calls for revival and use of Indigenous Knowledge Systems in various areas, including archaeological heritage management systems. According to Atalay (2007), the incorporation of indigenized practices into mainstream archaeology is an important point of consideration especially that it examines traditions of nationalist, colonialist, and imperialist forms of archaeological heritage management. Moreover, indigenous experiences call for the need to develop collaborative methods for archaeological research and find ways to put multivocality into practice – not only in interpretation, but through community developed research projects that include culturally sensitive methods of education (Atalay 2007).

Why postcolonial theory for this study

The study used post-colonial theory to explore how the western approach of managing heritage has been used in management of heritage at Domboshaba hills in Botswana. These western approaches include legislations and laws that the BNMMAG uses on heritage sites in Botswana. Moreover, the theory is used to explore the thinking that traditional management systems of managing heritage used by the local communities surrounding the site have been in use during pre-colonial, colonial and post-colonial times but these management systems are neglected and sometimes seen as outdated concepts and thought to be old fashioned in preference for the western approaches of managing archaeological heritage brought by the former colonial masters.

4. Methodology

This paper presents the research methodology used for investigating community involvement in archaeological heritage management at Domboshaba hills. The qualitative research design was adopted to understand the community's involvement in managing the site and gather views on their participation, site values, and their desire to participate.The study population included three villages sorrounding the site, heritage managers from the Botswana National Museum and Monuments Art Gallery, and those from the University of Botswana. The target population for the study included men and women aged 22-35, middle aged 36-50, and elderly aged 51-70. A total of 46 participants were selected, including community members from the three villages and heritage managers from BNMMAG and the University of Botswana. Multriangular sampling was used which includes random,purposive and snowballing technique to selexct the participants. From the 3 villages surrounding Domboshaba Hills, 24 participants were randomly sampled through stratified sampling. This formed the basis for the three focus groups with 6-12 people in each group. The three groups consisted of the middle age group of 36-50 as well as the elderly between the ages of 51-77. Each group had both males and females. After conducting interviews with the groups, the study went on to use purposive sampling. In this, a total of 19 individual participants

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from the three villages and Heritage managers were sampled. The reason for this was that random sampling on its own may have been problematic as people are randomly picked and the sampling might exclude the crucial information the researcher may need hence the researcher used purposive sampling. Padgett (2012) mentions that purposive sampling is the deliberate choice of particular people, places, or things because of the important information they can supply that cannot be as effectively collected through other means. Thus, in addition to the people who will have been randomly selected, the researcher interviewed individuals who provided deeper/greater insights into the research topic under investigation. Some of the individuals included the Chiefs, village development committee members, guide, youth, elders and heritage specialist of Domboshaba. The researcher also employed snow balling technique which is basically based on referrals from the participants chosen through stratified random sampling and purposive sampling. Thus, a total number of 3 people were snowballed (1 from Masunga village and 2 from Vukwi village). From Masunga it was a female Christian priest in her middle age (36-50) and in Vukwi it was 2 elders (51-77) male and female. The findings of this study aim to generalize the findings to units with similar differentiating qualities, such as youths aged 22-35, middle aged 36-50, and elderly aged 51-70.Interviews,Focus group discussions observation data recording were used to collect the data.To analyse the data thematic content analysis was used were objectives were used as themes in this paper. Thematic content analysis was used to analyze the data collected through interviews, document analysis, interviews, FGDs, and observation. To ensure validity, the study utilized the triangulation of method, where the different instruments of data collection were used to ensure accuracy. There were some limitations to the study and data collection. The major setback encountered was not being able to interview some of heritage managers at BNMMAG due to limited time and availability during data collection. Language was a factor that affected data collection in the field, and some villagers did not want to be audio- recorded, which could have enhanced the quality of the data. Additionally, the researcher did not manage to attend the Domboshaba Annual Cultural Festival, which could have further impacted the research.

5. Results and discussion

LEVEL OF COMMUNITY INVOLVEMENT AT THE DOMBOSHABA SITE

After analyzing data for this theme which mainly explored the level of community involvement within the 3 villages surrounding Domboshaba hills as well as how the participants want to be involved in the management of the site, results revealed that from the 3 villages, participants from Masunga and Vukwi felt entirely excluded and unsatisfied regarding involvement of the management of the site. They felt that the museum works with one community (Kalakamati) while excluding them. Moreover, the community are at rage that the only time they get involved is when they are invited to go and clean up the site. The fact that archaeologists and heritage managers see local communities, a source of cheap labor for fieldwork rather than as producers and consumers of knowledge makes this one of the most crucial things to be noted. In this regard, several scholars have noted that this is one factor that can drive communities to lose interest in the management of their heritage (Ndoro 2001; Shepherd 2003; Marshall 2006, Shenjere-Nyabezi & Pwiti 2023). Mumma (2002) is of the view that when involving communities in the management of heritage they must not be taken as passive but must be active participants. Ndlovu (2016) adds to this narrative by arguing that community involvement in heritage should not be a tick box exercise, but a genuine process where in all aspects of the management of the site communities are involved. As a result, the museum must involve communities in every aspect of management, not only for cleaning or other manual work. Rather, the community should be part of those who make decisions about the site. What is of particular interest from the results of this research is that participants are of a view that only one village is involved most of the time, especially in the decision making process. This is of some concern because the site is for all Kalanga communities surrounding it and if other local communities are excluded, this raises many questions. One of the major questions relates to ownership of heritage, as has been discussed in some of the literature (Pwiti 1996; Pwiti & Mvenge 1996; Chirikure et al. 2010; Pikirayi & Schmidt 2016). The heritage authorities need to find ways of developing an inclusive approach to avoid unnecessary local community conflict over their common heritage. Results on how these alienated communities would want to be involved by the museum shows that the most contested issue from Vukwi and Masunga was their voice to be part of decisions made regarding the site. Meetings

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are a good way to involve the community as it is through meetings that museum people get to know the concerns that communities have. This avoids conflicts and facilitates communication and understanding. However, the issue of meetings raises a concern because the heritage manager from Francistown mentioned that they do call meetings but most of the time, it is the members of the Kalakamati community who respond and attend. This may explain why the museum seems to be involving them more than the other villages because of the interest they show. This is the village that is then seen by other communities to be more involved. Hence from the results and the data analyzed, it emerged that communities are concerned about benefitting economically from their site. This is understandable, as it is their heritage from which they must benefit. This is an aspect which has also been discussed by Ndoro (2001) and Ndlovu (2011) who have maintained that community archaeology is essential in ensuring that local communities participate and benefit from their heritage resources. However, if each community has to economically benefit (through job and business opportunities, as participants stated from one site then it is going to be difficult. Notably, it can be seen that communities have a range of diverse interests especially when it comes to benefiting, but scholars have stated that heritage managers find it difficult to satisfy some of their"out-of-earth" interests (Chirikure & Pwiti 2008). From the results, there was a valid reason for the heritage manager to say that the site itself is not generating much income and most of the time they require financial assistance from the government for managing the site. Thus, it becomes difficult to meet community expectations such as the hiring of 3 tour guides, one from each village as a way to involve all the villages. One way is to encourage communities to think of benefits in non-material terms (see Shenjere-Nyabezi et al. 2023).

IMPORTANCE OF MANAGING DOMBOSHABE SITE FOR THE COMMUNITY

This theme explored the importance of community involvement in managing the site. The literature review shows that in Africa, scholars are of a view that in most instances communities want to be involved, primarily for the spiritual value of the heritage sites which has often been ignored (Ndoro and Pwiti 2013). The results revealed that the Domboshaba Hill site has spiritual and religious significance to the Kalanga community surrounding the site. In this regard, it is of interest to note that most of the time when tourists visit sites, what is emphasized more is physical tangible heritage. The spiritual is ignored or not always emphasized, based on the observations made at Domboshaba site during this research. This brings in questions of the ongoing debates surrounding decolonization of heritage management and site presentation in the context of the current emphasis on the monumentalist approach that seems to be prevalent in Africa. It is the belief of this research that if the intangible can be given room in the heritage management world in Africa, this will provide a more holistic management approach which can generate more income from sites because nowadays people have become inquisitive about the other people's intangible cultural heritage. Tourists want to know and learn about traditions of others, in the context of the upsurge of intangible cultural heritage tourism across the continent as seen from the interest in the Massai cultures of Kenya and Tanzania. The site is also considered by locals as a tourist attraction site which creates job and business opportunities for them. Chirikure & Pwiti (2008: 468) mentioned that managing heritage by communities is important as it is about providing opportunities to communities thereby uplifting their living conditions.The results show that the community regard the site to be spiritual /sacred as they believe that the stone enclosures are areas where they connect with their ancestors. Again, the hills are used by the community for communing with their God whom they refer to as "Mwali". A surprising thing at the Domboshaba hills is that certain Christian church denominations and leaders use the well to get water which they use for healing. This is exemplified by the Christian priestess who mentioned that she communes with a snake at the well for permission to use the water from the well. This is interesting because we see two traditions being practiced using the same heritage place based on its spiritual significance i.e. the traditional indigenous religion and Christianity. Apart from communing with God and the ancestors, the results show that the hill is used for rainmaking ceremonies which are often performed annually during the Domboshaba Cultural festival.

BOTSWANA AND LEGISLATIONS REGARDING COMMUNITY INVOLVEMENT

Results from this theme shows us that even though the newly re-enacted legislation includes the community, the 2001 Relics and Monuments Act still continues with the colonial legacy of taking care of the tangible heritage by

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focusing more on defining and protecting monuments for scientific research, leaving out the intangible aspect of these sites. It can be argued that Section 4 makes provision for inclusion of communities. In practice however, the inclusion is on the identification and appointment of honorary officers for monuments. Intangible or spiritual values remain excluded and there is no specific reference to this aspect in the legislation. In terms of effectiveness and community involvement therefore, this Act is not really effective because as previously noted in chapter 4 theme 3, communities are dissatisfied that even when declaring these monuments and appointing honorary officers from villages they are not consulted hence the effectiveness on management of both the tangible and intangible with regards to involving the community still raises a concern.

CHALLENGES EXPERIENCED IN THE MANAGEMENT OF DOMBOSHABA

The theme explored the concerns that communities have regarding management of this site. Results have shown that communities are frustrated with how the museum manages the site. Communities complain of the poor conservation state of the site as also observed during the fieldwork. There is also a major concern on how the museum preserves and safeguards the different ICH at the site including their language. Results show that the communities are not content as the only time their intangible heritage is preserved is during the festival, held once a year. They mentioned that as a way to preserve their language the museum must include it on site signboards. Although this can be a good initiative I believe that it can also affect the community in that, Setswana is an official language in the country and using Kalanga and English instead of Setswana can result in alienation and loss of local Batswana tourists who are not familiar with the Kalanga language as well as English. Results also show that the locals feel that the sacredness of the site is taken lightly as they believe that due to the site serving spiritual significance there are taboos that are not adhered to that must be adhered to. This is a familiar occurrence as heritage authours mention that most of the time heritage managers tend to ignore spiritual values as they are more focused in getting more tourists for economic benefit. The number of visitors makes it difficult for these rules to be followed. Against the background of the concerns raised by the community, the research sought to determine the source of the challenges and explanations from the heritage managers when involving the community. What emerged is that BNMMAG are facing many challenges, among them, the lack of financial and human resources to enable them to successfully work with communities. In relation to the disrepair of signage boards for example, the heritage manager indicated that financially speaking, the site does not generate much income such that even such basic tasks are not always achievable. However, such problems are not unique to Botswana, as discussed in Chirikure et al. (2008) and Abungu (2016). The responsible heritage manager at Domboshaba however drew attention to issues and problems that can in some ways be seen as unique to thi ssite when she mentioned that working with the community is very difficult as some of their ritual and other activities present unique management problems and engagementwith the community. Examples included how they use the site for rituals such as lighting candles and leaving candle wax and other materials on the stone walls. Other problems included how they want the site to be managed in traditional ways that they believe can work. Results show that the museum heritage officers have involved the community but this does not seem to have been at sufficiently high levels. For example, they do call community meetings but they let people know at the last minute. Further, meetings are not held regularly like every month but rather sporadically. This is not always for the best because the communities indicated that they wish to be updated more regularly on what is happening at the site. This lack of regular information flow is one of the reasons why communities even think the site is generating more money which should be meeting their needs as they do not have a good grasp of what is going on at the site. At the same time however, the problem is not entirely with the BMAG because the communities themselves do not always attend the meetings.

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6. Conclusion

For a long time, Africa's heritage management has been defined by colonialism. In the post-colonial African world however, there have been calls in recent years for transformation of heritage management to place local communities at the center of heritage management to make it more inclusive. Scholars such as (Pwiti 1996, Jopela 2011, Ndlovu 2011) have demonstrated that some African countries are moving away from the colonial narrative of heritage management which has once excluded the community. However, the findings of this research make it safe to say the practice of heritage management in Botswana still remains untransformed or has been making slow progress towards transformation. As has been seen from the study, there are still problems when it comes to involving the community. One glaring problem is that one group (Kalakamati) has been more involved and the other two groups (Vukwi and Masunga) have been marginalized or excluded in the management of their heritage. Schidmt (2014) notes that this practice is undesirable because in heritage management. all people share equal power and in this case, there must be equality of involvement between the all the three villages. Moreover to show the untransformed heritage management in Botswana, the museum heritage authorities are still not consulting adequately, as shown by the fact that community meetings are not held regularly but only once in a while and when they are held, they are not inclusive because some of the communities at Domboshaba complained about not getting invited hence they do not have a say in decisions taken regarding the site. This runs contrary to the spirit of inclusivity and multivocality which has been advocated for in recent years (Chirikure & Pwiti 2008; Ndlovu 2016). This can result in community conflicts when other groups become excluded. The museum authorities also have a limited number of programs designed to involve the community. There is a clear need to work with communities and community outreach programs can help towards achievement of this goal. The poor state of conservation of site makes it safe to conclude that the museum cannot do it on its own or with one group. It is clear that if all communities are involved, the site's conservation state may improve. Thus, despite some of the challenges the museum faces (financial lack, lack of human resources) the museum and the community can marry for achievement of a successful management system and practice.

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Sauvegarde du patrimoine des jardins en Algérie: une histoire de 1962 à nos jours

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Abstract

The precious heritage of historical gardens in Algeria, whose roots extend into the Ottoman period and French colonization, was long neglected until the emergence of a heritage awareness that highlighted the importance of these sites. Focusing on the post-colonial period, this article examines the various approaches and policies adopted for the preservation of these green spaces, analyzing the inherent challenges, particularly the tensions between past neglect and current preservation efforts. Covering the period from 1962 to the present day, the article highlights key moments in the evolution of Algerian policy on garden heritage preservation, emphasizing the initiatives undertaken while identifying the obstacles encountered in this crucial endeavor to safeguard cultural heritage and preserve the country's cultural identity.

Keywords: *Garden, Heritage, Postcolonial Policy, Preservation.*

Résumé

Le précieux héritage des jardins historiques en Algérie, dont les racines plongent dans la période ottomane et la colonisation française, a longtemps été négligé jusqu'à l'émergence d'une prise de conscience patrimoniale, mettant en lumière l'importance de ces sites. En se penchant sur la période postcoloniale, cet article scrute les diverses approches et politiques adoptées pour la préservation de ces espaces verts, analysant les défis inhérents, notamment les tensions entre la négligence passée et les efforts actuels de préservation. En couvrant la période allant de 1962 à nos jours, l'article met en relief les moments clés dans l'évolution de la politique algérienne en matière de préservation du patrimoine des jardins, soulignant les initiatives déployées tout en identifiant les obstacles rencontrés dans cette entreprise cruciale visant à sauvegarder le patrimoine culturel et à préserver l'identité culturelle du pays.

Mots-clés: *Jardin, Patrimoine, Politique Postcoloniale, Préservation.*

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1. Introduction

L'art des jardins constitue l'un des marqueurs culturels les plus révélateurs d'une société à une époque donnée. En Algérie, cet art plurimillénaire reflète une diversité d'influences, allant des traditions antiques aux créations contemporaines. Les jardins ne sont pas de simples aménagements paysagers: ils traduisent des visions du monde, des savoir-faire techniques et des pratiques sociales. À travers eux se dessine le miroir socioculturel des populations qui les ont conçus, habités et transmis.

Ces espaces témoignent d'une civilisation raffinée, où la maîtrise de l'eau et des végétaux répondait autant à des besoins esthétiques qu'à des impératifs de subsistance et de sociabilité. De la même manière, l'intérêt porté à la préservation des jardins anciens et à la création de nouveaux espaces végétalisés illustre la volonté d'une société d'offrir un cadre de vie harmonieux, respectueux de son passé tout en projetant son avenir.

Or, de nombreux jardins qualifiés aujourd'hui d'« historiques » ont disparu ou subsistent sous forme de ruines archéologiques. D'autres, plus récents, oscillent entre un bon état de conservation et des situations de dégradation avancée. Depuis l'indépendance de l'Algérie en 1962, la préservation du patrimoine des jardins n'a pas toujours constitué une priorité nationale. Pourtant, ces espaces verts, loin d'être de simples lieux de détente, incarnent des strates successives d'influences culturelles et historiques, faisant d'eux des témoins vivants de l'histoire et de l'identité algérienne.

2. Objectifs

Cet article se propose d'explorer les efforts déployés pour la sauvegarde du patrimoine des jardins en Algérie depuis 1962, en insistant sur trois axes majeurs:

- Documenter l'évolution des pratiques de conservation et les politiques mises en place pour préserver ces espaces, souvent menacés par l'urbanisation accélérée, la pression démographique et le manque de ressources humaines et financières.
- Mettre en lumière des exemples emblématiques, tel le Jardin d'Essai du Hamma à Alger, qui a bénéficié d'un important projet de restauration et de coopération internationale, ou encore d'autres jardins coloniaux et ottomans progressivement réappropriés par les habitants.
- Analyser les enjeux contemporains, en soulignant l'importance des jardins comme lieux de mémoire, de recherche scientifique, de promenade et de sociabilité, tout en interrogeant les perspectives d'une gestion patrimoniale intégrant à la fois l'héritage colonial et les dynamiques sociales locales.

L'objectif est donc de montrer comment les jardins historiques, autrefois associés à des logiques d'exclusion coloniale, peuvent devenir aujourd'hui des espaces de transmission culturelle et de réconciliation historique.

3. Méthodologie

La méthodologie adoptée s'articule autour de plusieurs étapes complémentaires :

- **Analyse documentaire et historique**: collecte d'archives, de plans anciens, de récits de voyageurs, d'iconographies et de photographies pour retracer l'évolution des jardins à travers les époques et leurs transformations sous les différentes dominations.
- **Inventaire et cartographie: un travail, réalisé dans le cadre de la thèse de doctorat de l'auteur, a consisté en un recensement systématique des jardins historiques, permettant d'en analyser les typologies, les configurations spatiales ainsi que les logiques hydrauliques qui les structurent.**
- **Observations de terrain**: visites et inspections des jardins pour évaluer leur état de conservation, repérer les structures végétales et architecturales, et analyser les facteurs de dégradation (naturels ou anthropiques).
- **Étude législative et critique**: examen des principaux textes de loi ayant influencé la conservation des jardins, notamment l'ordonnance 67-281 (1967), la loi 98-04 sur la protection du patrimoine culturel (1998) et la loi 07-06 sur la gestion des espaces verts (2007). Cette analyse met en évidence leurs apports

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mais aussi leurs limites, notamment en ce qui concerne la reconnaissance des jardins comme œuvres culturelles et non comme de simples « espaces verts ».

Cette méthodologie a donc permis d'articuler une lecture à la fois historique, juridique et critique, tout en intégrant une dimension décoloniale attentive aux usages sociaux et aux réappropriations locales des jardins.

4. Résultats

4.1. Héritages anciens et islamiques

L'histoire des jardins en Algérie remonte à l'Antiquité avec les villas romaines de Tipasa ou de Timgad, dont l'archéologie tente encore de restituer l'organisation. Au Moyen Âge, les dynasties arabo-berbères et, plus tard, la Régence d'Alger sous domination ottomane, ont poursuivi et enrichi cet art de vivre. Les cités-jardins, ceinturées de vergers et de haies vives, formaient une véritable « ceinture verte » autour des villes. Elles combinaient espaces privés et collectifs: des parcelles familiales fermées par de hauts murs (*tâbiya*) s'ouvraient parfois sur de larges paysages partagés, donnant l'image d'un immense jardin collectif. Dans les campagnes de l'Algérois, de l'Oranais ou du Constantinois, les *djneïn* et résidences de campagne (*munen*) reflétaient une organisation concentrique, où l'eau jouait un rôle central grâce à des systèmes ingénieux administrés par des structures sociales comme la *wakâlat el-Mâ* (agence de gestion de l'eau).

Dans le Sahara, les oasis constituent une création culturelle majeure, fondée sur des valeurs de justice et de partage. Les techniques hydrauliques (foggaras, norias, bassins, barrages, *ghoût*, *sâqiya*, etc.) ont permis de domestiquer l'aridité et de créer des microclimats fertiles, notamment dans le Touat où l'eau souterraine alimentait ksour, mosquées et palmeraies.



Figure 1. Jardin du Palais du Dey. Source: Charles-Théodore Frère (1840)

4.2. Rupture coloniale

La colonisation française marqua une césure brutale. Les cités-jardins furent déstructurées, les codes paysagers traditionnels brisés, et les médinas frappées par des plans d'expropriation et d'alignement. Les colons implantèrent un modèle étranger, souvent au prix d'effacements symboliques. Le Jardin Marengo à Alger (actuel Jardin de Prague), aménagé dès 1833 sur un ancien cimetière musulman, illustre cette violence spatiale. De même, le *Sahridj el-Kabir* de Tlemcen, bassin hydraulique zianide (XIIIe siècle), fut détourné de sa fonction initiale pour devenir jardin public au début du XXe siècle.

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La période coloniale vit également la création de jardins d'acclimatation destinés à introduire de nouvelles espèces végétales au service de la colonisation. Le plus emblématique est le Jardin d'Essai du Hamma (1832), devenu l'un des plus beaux jardins botaniques du monde. D'autres espaces suivirent: la ferme expérimentale de la Mitidja (ex-Haouch de Hassan Pacha) ou la pépinière de la Qal'a de la Noria à Tlemcen. Entre 1848 et 1962, l'Algérie, intégrée au territoire français sous forme de départements, fut soumise à l'ensemble de la législation métropolitaine, y compris celle relative à la protection du patrimoine. La loi du 30 mars 1887 sur la conservation des monuments historiques et objets d'art marqua une étape majeure, instaurant un cadre réglementaire centré sur les édifices d'intérêt national et sur le rôle des architectes en chef des monuments historiques. En métropole, la fin du XIX^{e} siècle vit également naître une prise de conscience nouvelle autour des jardins historiques, illustrée par la tentative de classement du jardin de l'ancien évêché de Castres (1892) puis par le premier classement officiel d'un jardin, le parc de Dijon (1914).

En Algérie coloniale, les premiers classements concernèrent surtout les monuments ottomans d'Alger, dont les jardins furent parfois protégés de manière indirecte comme dépendances architecturales. Ce n'est qu'avec la loi du 2 mai 1930 sur la protection des monuments naturels et des sites que les premiers jardins furent classés en Algérie: le Jardin d'Essai du Hamma (1832, classé en 1947), le jardin de Prague/Marengo (1833, classé en 1950), le parc de la Liberté/Galland (1915, classé en 1951) et la promenade Ibn Badis/Létang (1836, classée en 1952). Ce corpus met en évidence une politique de protection patrimoniale calquée sur le modèle français, focalisée sur des monuments prestigieux et sur une vision coloniale du territoire. Les jardins, lorsqu'ils furent reconnus, l'ont été principalement pour leur fonction symbolique et politique, traduisant moins une valorisation de l'héritage paysager algérien qu'une appropriation par les logiques de domination coloniale.



Figure 2. Vue sur le jardin à la française, Jardin d'Essai du Hamma, Alger. Source: Metallaoui, MA (2024)

4.3. Réappropriations et créations postcoloniales

Dans les premières décennies qui suivirent l'indépendance, l'État algérien concentra ses efforts sur la mise en place de ses institutions politiques, économiques et sociales. Dans ce contexte, les jardins historiques, bien que porteurs d'une mémoire urbaine et paysagère importante, ne figurèrent pas parmi les priorités. Leur entretien resta souvent secondaire et marqué par un manque de moyens, ce qui entraîna leur dégradation progressive. La situation s'aggrava durant la guerre civile des années 1990, période au cours de laquelle plusieurs jardins furent fermés pour des raisons de sécurité, privant les villes de lieux de sociabilité et renforçant le sentiment de repli dans l'espace urbain. Ce n'est qu'à partir des années 2000 que l'État entreprit de véritables actions de conservation et de création d'espaces verts. Parmi ces réalisations figurent le parc Tifariti, la promenade des Sablettes et le parc d'Oued Smar à Alger, le parc du Bardo à Constantine, ainsi que le jardin méditerranéen à Oran. Ces initiatives témoignent de la

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volonté d'inscrire les espaces verts dans le nouvel imaginaire national, en réintroduisant la dimension paysagère dans le cadre urbain. Parallèlement, des initiatives privées et associatives émergèrent, révélant une dynamique citoyenne dans la gestion et la plantation d'espaces verts, et traduisant un regain d'intérêt pour ces lieux de mémoire et de convivialité.



Figure 3. Parc Bardo, Constantine. Source: Metallaoui, MA (2024)

4.4. Limites juridiques et institutionnelles

Sur le plan législatif, plusieurs textes ont encadré la gestion des espaces verts:

- L'ordonnance n° 67-281 du 20 décembre 1967, relative aux fouilles ainsi qu'à la protection des sites et monuments historiques et naturels en Algérie, constitue un texte fondateur de la politique patrimoniale nationale durant les premières décennies de l'indépendance. Composée de 138 articles regroupés en six titres (principes généraux, fouilles, monuments et sites historiques, monuments et sites naturels, sanctions, commissions de classement), elle reprend largement les dispositifs juridiques hérités de la période coloniale, notamment l'inscription à l'inventaire et le classement comme principaux instruments de sauvegarde. Publiée au Journal officiel (n° 7, 23 janvier 1968), l'ordonnance intègre en annexe une liste de sites et monuments naturels classés, où figure la reconduction du classement des quatre jardins déjà protégés à l'époque coloniale. Ce texte, bien qu'inscrit dans la volonté de doter l'Algérie indépendante d'un cadre normatif, illustre la continuité d'une vision patrimoniale fortement marquée par l'héritage juridique colonial.
- La loi 98-04 du 15 juin 1998: Au cours des années 1990, dans un contexte politique marqué par de profondes mutations, l'État algérien a ressenti la nécessité d'adopter un cadre juridique plus adapté pour assurer une meilleure protection du patrimoine culturel. C'est dans ce cadre qu'a été promulguée la loi relative à la protection du patrimoine culturel, composée de 49 articles répartis en neuf titres principaux : dispositions générales, protection des biens culturels immobiliers et mobiliers, sauvegarde du patrimoine culturel immatériel, recherches archéologiques, organisation des organes compétents, financement des interventions et de la mise en valeur, mécanismes de contrôle et sanctions, ainsi que dispositions finales.

  En l'absence d'une liste actualisée des monuments et sites classés, un travail de recherche a été entrepris par consultation des arrêtés de classement publiés dans les journaux officiels de la République algérienne depuis 1962. Ce dépouillement a permis de mettre à jour la liste des biens classés et a révélé un constat

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frappant: aucun jardin de l'époque coloniale n'a été inscrit comme monument historique. Concernant les jardins hérités de l'époque ottomane, la loi a certes permis le classement de certaines demeures, mais les espaces végétaux attenants n'y figurent que marginalement, souvent réduits à de simples fragments, comme dans le cas du *Djenen Rias Hamidou*, dont la majeure partie du jardin a été détruite par les constructions.

Bien qu'elle constitue la première véritable loi-cadre du patrimoine culturel en Algérie indépendante, la loi 98-04 souffre de plusieurs limites. Si elle marque une volonté de dépasser l'héritage juridique colonial, elle ne consacre aucune disposition spécifique aux jardins historiques ni aux paysages culturels, laissant ces derniers dans une zone grise de la législation. Cette omission reflète la difficulté persistante à reconnaître la dimension patrimoniale, esthétique et sociale des jardins, pourtant essentiels dans la construction de la mémoire collective et dans la durabilité des territoires.

- La loi 07-06 (2007) sur la gestion et le développement des espaces verts: Si cette dernière a permis de formaliser une politique nationale, elle privilégie la notion générique d'« espaces verts » au détriment des « jardins historiques », réduisant leur dimension culturelle et esthétique. Le classement reste rare et souvent symbolique, malgré la mise en place d'un périmètre de protection de 100 m autour des sites. Le décret exécutif 09-147 (2009) a renforcé les procédures, mais sans résoudre la faiblesse des moyens techniques, financiers et humains. La restauration du Jardin d'Essai du Hamma en 2005, fruit d'une coopération avec la mairie de Paris, demeure une exception plus qu'une règle. Dans la plupart des cas, les projets de réhabilitation manquent de spécialistes: les architectes du patrimoine et paysagistes sont absents du dispositif, ce qui compromet la qualité des interventions.

  Les conditions et modalités de classement des espaces verts sont alors précisées grâce à cette loi. Le classement des espaces verts est défini comme l'acte administratif par lequel l'espace vert concerné, quels que soient sa nature juridique ou son régime de propriété, est déclaré constitué; en vertu des dispositions de la même loi, un espace vert est rangé dans l'une des catégories fixées : parcs urbains et périurbains, jardins publics, jardins spécialisés qui comprennent les jardins botaniques et les jardins ornementaux, jardins collectifs ou résidentiels, jardins particuliers, forêts urbaines, alignements boisés. La loi stipule que l'étude de classement doit comporter la caractérisation physique de l'espace vert, la caractérisation écologique de l'espace vert et le plan général d'aménagement de l'espace vert. Le tableau suivant offre une lecture comparative de la législation appliquée aux différents types d'espaces verts.

Le dossier de classement doit mettre en évidence l'importance de l'espace vert dans le cadre de vie urbain, son rôle en cas de risque majeur, son niveau de fréquentation, ainsi que les mesures prévues pour sa sécurisation. Il doit également souligner la valeur particulière de ses composantes (volières, fontaines, statues, etc.).Par ailleurs, le dossier doit comporter un inventaire exhaustif des végétaux présents dans le jardin, en précisant les différentes variétés existantes. Il doit aussi inclure une cartographie détaillée des lieux, mentionnant les allées, les réseaux d'irrigation et d'arrosage, ainsi que les autres éléments structurants de l'espace vert concerné par la procédure de classement.

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Étymologie	Détails	Classement par	Plan de gestion des espaces verts fixé par
Parcs urbains et périurbains.	Constituant un espace de détente, de loisirs, pouvant comporter des équipements de repos, jeux, distraction, sports, restauration, plans d'eau, circuits de promenade, pistes cyclables	Arrêté du wali ou arrêté conjoint des ministres chargés respectivement de l'intérieur, de l'environnement et de l'agriculture	Arrêtée conjoints des ministres chargés respectivement de l'intérieur et de l'environnement
Jardins publics	Lieux de repos ou de halte dans des zones urbaines comportant des massifs fleuris ou des arbres. Squares plantés/places et placettes publiques arborées	Arrêté du P/APC ou du wali	Arrêté conjoint des ministres chargés respectivement de l'intérieur, de l'environnement et de l'urbanisme.
Jardins spécialisés	Jardins botaniques/jardins ornementaux	Autorité ayant créé ou gérant le Jardin	L'autorité ayant créé les jardins spécialisés concernés ou par celle à laquelle est confiée leur gestion.
Jardins collectifs et/ ou résidentiels		Arrêté P/APC selon plans architecture	Arrêté conjoint des ministres chargés respectivement de l'intérieur et de l'urbanisme.
Jardins particuliers		Les mentions et délimitations des espaces verts, tels que fixées expressément par le permis de construire, constituent l'acte de classement des jardins particuliers	Les propriétaires sont chargés de leur gestion.
Forêts urbaines	Bosquets/groupes d'arbres/ zone urbaine boisée/ ceintures vertes	Arrêté du ministre chargé des forêts	Arrêté du ministre chargé des forêts.
Alignements boisés	Formations arborées situées le long des routes, autoroutes, autres voies situées dans des zones urbaines et périurbaines	Arrêté du P/APC pour les alignements situés dans des zones urbanisées. Arrêté du ministre chargé des forêts pour les alignements boisés et les alignements situés dans des zones non encore urbanisées	Arrêtées du ministre chargé des forêts. Arrêté conjoint des ministres chargés respectivement de l'intérieur, de l'environnement, de l'agriculture et de l'urbanisme.

Tableau 1. Tableau résumant la procédure de classement et de fixation de plan de gestion de l'espace vert par typologie

4.5. Constats généraux

L'étude menée révèle que la majorité des jardins historiques souffrent d'un déficit d'inventaire, d'une invisibilité dans les politiques publiques et d'une prise en charge fragmentaire. Malgré des initiatives notables, la sauvegarde reste tributaire de projets ponctuels ou de coopérations bilatérales. Une vision globale et décoloniale, intégrant les savoirs locaux, fait encore défaut.

4.6. Évaluation critique de la loi 07-06 (13 mai 2007)

Points positifs

La loi 07-06 a eu le mérite de placer la question des espaces verts dans une perspective nationale, avec une volonté affichée d'améliorer le cadre de vie urbain. Elle a permis l'aménagement ou la relance de plusieurs parcs (parc du Bardo à Constantine, jardin méditerranéen d'Oran, jardin botanique de Laghouat, jardin médicinal de Tlemcen, etc.). En ce sens, elle a contribué à développer une culture institutionnelle de la verdurisation urbaine.

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Limites structurelles

Cependant, les plans de gestion sont restés à la discrétion d'autorités locales dispersées, entraînant des disparités notables. L'entretien souffre d'un manque de stratégie globale et d'une absence de formation adaptée pour les gestionnaires et jardiniers. Plus encore, la loi raisonne en termes génériques d'« espaces verts » plutôt que de « jardins historiques », ce qui conduit à invisibiliser leur valeur culturelle, esthétique et mémorielle.

Du point de vue du classement, bien que certains jardins aient été protégés, l'accès à l'information reste difficile : les chercheurs peinent à obtenir la liste complète des sites classés. La création d'une base de données nationale, publique et typologique serait un outil indispensable pour les chercheurs et la société civile.

Lacunes majeures

La loi 07-06 ne mentionne jamais les architectes-paysagistes, pourtant spécialistes de la restauration des jardins historiques. Cet oubli structurel explique en partie la médiocrité de nombreuses interventions. L'absence de formation universitaire dédiée au paysage en Algérie accentue cette carence : ni architectes-paysagistes, ni jardiniers formés aux dimensions botaniques, historiques et techniques ne sont disponibles en nombre suffisant.

De plus, aucun plan de gestion effectif n'a été approuvé à ce jour pour les jardins historiques, en raison de procédures contraignantes et d'un déficit d'expertise. Dans la pratique, la gestion et la réalisation sont confiées à des EPIC (comme EDEVAL à Alger) ou à des entreprises privées sans compétences patrimoniales, souvent par des procédures gré à gré, en contradiction avec les règles de mise en concurrence.

Défis contemporains

Les villes algériennes connaissent une extension rapide accentuée par les politiques de logement de masse. Cet urbanisme de « grands ensembles » produit des paysages déstructurés, marqués par une tabula rasa qui efface l'histoire et la géographie des sites. L'absence du paysagiste dans la planification a conduit à privilégier des approches techniques au détriment de considérations esthétiques, sociales et environnementales.

Par ailleurs, la marginalisation des compétences locales s'accompagne d'une dépendance à l'expertise étrangère dans de grands projets (revitalisation des oueds El-Harrach et Rhumel, aménagements paysagers de la Grande Mosquée d'Alger, jardin méditerranéen d'Oran). Ces interventions, souvent « hors sol », risquent de reproduire une forme de néocolonialisme spatial.

Vers une réforme nécessaire

L'évaluation de la loi 07-06 montre donc qu'elle reste insuffisante pour protéger et valoriser les jardins historiques. Sa logique d'« espaces verts » génériques ne prend pas en compte la dimension patrimoniale, artistique et mémorielle des jardins. À l'inverse, la loi 98-04 sur le patrimoine culturel apparaît plus adaptée pour intégrer les jardins dans une perspective patrimoniale.

Une réforme devrait :

- Reconnaître le rôle des architectes-paysagistes et créer une formation nationale dédiée.
- Établir un inventaire exhaustif et une base de données publique sur les jardins classés.
- Associer davantage les communautés locales dans la gestion et la valorisation.
- Dépasser la logique de l'aménagement technique pour inclure la dimension culturelle, sociale et décoloniale des paysages.

5. Conclusion

Les jardins historiques d'Algérie souffrent globalement d'un déficit de visibilité et d'une absence d'inventaire exhaustif, ce qui fragilise leur intégration dans les dispositifs législatifs existants. Pourtant, à différentes échelles, nationale, locale, et citoyenne on constate une volonté croissante de reconnaître et de valoriser ces espaces. Leur statut de créations artistiques et de paysages culturels devrait être pleinement reconnu dans les textes de loi, au-delà de la notion générique « d'espaces verts ». À ce titre, la loi 98-04 sur le patrimoine culturel semble plus adaptée que la loi 07-06 pour assurer leur protection et leur mise en valeur.

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L'absence de formation d'architectes-paysagistes et de jardiniers spécialisés constitue toutefois un obstacle majeur. Sans filières universitaires dédiées, les compétences nécessaires à la restauration et à la gestion durable des jardins historiques manquent cruellement, laissant ce champ aux architectes et ingénieurs, dont l'approche demeure trop technique. Cette carence se traduit par une qualité paysagère médiocre dans de nombreuses villes et cités nouvelles, ainsi que par l'inefficacité des services municipaux d'espaces verts.

De plus, le secteur privé, notamment les entreprises d'aménagement et les pépiniéristes, ne dispose ni d'une formation artistique suffisante, ni d'une organisation capable de diversifier et de valoriser la flore locale. L'urgence des projets les conduit souvent à importer des espèces exotiques au détriment des essences adaptées au climat et aux sols algériens. À l'inverse, un recours accru aux services des forêts et aux agences régionales de la nature pourrait favoriser une meilleure intégration des plantes locales et enrichir l'offre végétale nationale.

Enfin, la principale limite réside dans un manque de conscience politique quant à l'importance des jardins et espaces verts pour la qualité du cadre de vie. Tant que ces lieux seront considérés comme accessoires et non comme des biens culturels et sociaux fondamentaux, leur gestion restera fragmentaire et inefficace. Une prise de conscience rapide est indispensable pour envisager la mise en place d'espaces publics durables, porteurs de mémoire et de résilience, capables de répondre aux enjeux contemporains de justice patrimoniale, d'adaptation climatique et de cohésion sociale.

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Whose 'Contact Zone'? The Potential for Ethnographic Museums as Living Cultural Spaces

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Abstract

This paper aims to explore the potential of radically reinventing Western ethnographic museum spaces as contact zones designed specifically for the benefit of resident ethnic diaspora communities. Rather than attempting to reinvent the wheel, this author believes that we in the West can learn from how non-Global North communities museologically represent their own cultures locally as a means to reconceive the educational purpose of the Western ethnographic museum of the future in our increasingly transnationally entangled societies.

This ethnographic case study research draws on the concept of the 'contact zone' to conduct a comparative analysis of two recent non-Western ethnographic exhibitions of African and Pasifika heritage respectively, both designed by and targeting communities of origin: the John K Randle Centre for Yoruba Culture & History in Lagos, Nigeria, and the Fiji Museum in Suva, Fiji. It proposes a new form of contact zone for consideration in the ethnographic museum: that of community of origin to community of origin.

Keywords: *decolonization, diaspora, ethnographic museums, contact zone, heritage*

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1. Introduction

In 2018, my colleague and museum professional of Tongan descent Sione Napi Francis headed up Melbourne Museum's efforts to redevelop the *Te Pasifika* Gallery—an ethnographic collection of Pasifika objects housed by the Museum. As Sione showed me around the space one day, speaking of the *mana* (or 'life force') he said he could feel whenever he visited the collection—I could feel it too. Objects that had previously been displayed in the context of an antiquated, even 'backwards' monoculture were now firmly grounded in the present, with an eye towards future cultural transmission to the city's diverse Pacific Islander communities (collectively known as 'Pasifika'), including me, a Melbournian of Fiji-Indian descent.

The renewed exhibition did not feel like a collection of cultural oddities for consumption by a presumed white Western audience, as so many of these exhibitions do. Rather, it presented itself as a communal space targeting and privileging diaspora, where cultural outsiders could still benefit from the knowledge imparted by the displays while understanding that they are not the target audience. This collection was curated for *me*, in all my cultural complexity. I had never felt so empowered or seen by an ethnographic collection before - let alone in my own homeland.

A year after Sione showed me the power that a community-centred ethnographic display could have for cultural diaspora like me, I moved to Germany for my museology research. As part of my fieldwork, I found myself in the so-called 'Five Continents Museum' in Munich; a name which turned out to be rather ironic: despite the implication in the name that the five continents of Africa, the Americas, Asia, Europe and Oceania would be represented, it does not actually have a 'Europe' section anywhere in the building.

The English summary of the Museum states that the collection is "continually expanded" and serves to "build bridges from the past to the present day" (Museum Fünf Kontinente 2018). However, the showcased objects were often backdropped with large-scale black and white photographs of local people from the same era the objects were acquired—namely the German colonial era—positioning both the objects and the people firmly in antiquity. The myriad Pasifika articles on display were trapped in both time and space—lifeless entertainers in a "dead circus" (Bennett 2004, 12). I could still sense their *mana*, somewhere, but I couldn't connect to it. If the *Te Pasifika* Gallery had awoken in me a previously unknown sense of belonging, my reaction to seeing this display, after having experienced the enormous potential for such exhibitions, could only be described as grief.

In this moment, I did not feel a "bridge" being built from the past to the present day as the Museum claimed. Rather, I felt a wall being built between me and every other visitor to this collection—a wall plastered in stereotypes and colonial ideology. It made me wonder: *Was I the target audience of this space? Or was I an inconvenient intruder to my own ethnographic display?*

2. Aims and Objectives

Ethnographic institutions—generally understood today to have been originally conceived as part of the modern European colonial project—have been increasingly struggling to maintain their relevance in the wake of shifting cultural paradigms. So poor are the optics of the ethnographic museum that even 21st century establishments such as the Humboldt Forum in Berlin have also found themselves plagued by intense scrutiny at every stage of their development (No Humboldt 21 2013). From rebranding as 'world museums'[1] to investing in all manner of artist interventions, ethnographic museums around the West have begun the work of improving their reputations in the short-term. Adopting the language of decolonisation in their manifestos, these museums often nevertheless have lukewarm results when it comes to satisfying the communities they purport to represent. Adrienne Lalli Hills and Margaret Middleton, for instance, have explored how Western exhibition designers continue to be influenced by the "colonial imagination", which can alienate both BIPOC[2] staff and visitors in spite of the museums' intentions (Lalli Hills and Middleton 2023).

[1] The *Wereldmuseum* ("World Museum") in the Netherlands, *Museum der Weltkulturen* ("Museum of World Cultures") in Germany and *Världskulturmuseet* ("Museum of World Culture") in Sweden are just a few examples of this.
[2] Used to denote 'Black, Indigenous, and/or People of Colour'.

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Rather than simply attempting to reinvent the wheel, this author believes that we in the West can also look to recent museological endeavours of Indigenous communities in representing their own cultures locally as a means to reconceive the educational purpose of the Western ethnographic museum of the future in increasingly transnationally entangled societies. Taking the form of a comparative analysis of two recent non-Western projects to create community-centred ethnographic exhibitions, it is hoped that this research will serve to illustrate how the representational strategies of non-Western ethnographic institutions might inform those existing in the West, and make a case for looking outside of Western exhibitionary paradigms.

3. Methodology

When discussing the concept of the 'contact zone' with regards to ethnographic museums, a great deal of the discourse to date has tended to focus narrowly on the contact zone between presumed white curators in the Western world and non-white/minority group communities of origin abroad (Clifford 1997; Boast 2011). I wish to move away from these analyses and instead explore how non-Western ethnographic institutions have endeavoured to create exhibitions for their own local populations in a (post)colonial age.

From a methodological perspective, this analysis takes the form of a museological close reading of the exhibitions under study, with a focus on which contact zones are being utilised by the institution and whose voice is heard in the museum narrative. The two cases under analysis are the Fiji Museum in Suva, Fiji, and the John K Randle Centre for Yoruba Culture & History in Lagos, Nigeria. The former was established as a colonial-era institution in service of an elite audience, but has more recently been completely reconceptualised as a museum with the local community at its core. The latter is an entirely new facility responsible for an exhibition that "centres, celebrates and dignifies [Yoruba] history, resilience and artistic excellence" (Oduwole 2024). The data collected from the sites comprises ethnographic observations in the case of the Fiji Museum and documentation of each exhibition, including web sites and background papers. The Fiji Museum was visited on June 25, 2023, while an onsite visit to the John K Randle Centre was not possible during the study period as the ambitious exhibition project has yet to open to the public.

This article will begin with a brief discussion of the 'contact zone' as it pertains to the museum, followed by an analysis of the two case studies. It will conclude with some reflections on how examples such as these might inform Western ethnographic museum praxis through the introduction of a new 'contact zone' model in service of cultural diaspora.

4. Results

4.1. The Museum as Contact Zone

Literary scholar Mary Louise Pratt coined the term "contact zone" to denote "social spaces where cultures meet, clash and grapple with each other, often in contexts of highly asymmetrical relations of power, such as colonialism, slavery, or their aftermaths as they lived out in many parts of the world today" (Pratt 1991, 34). Urban environments are full of such social spaces, and local museums, visited by tourists and locals alike, often constitute a popular hub of such activity (Clifford 1997). The power of the museum as a contact zone, harnessed with skill and purpose, can thus be a powerful means of fostering social cohesion and inclusion within a given society.

Given their emphasis on showcasing diverse cultures, we see enhanced opportunity for contact between museum visitors and the cultural heritage of communities of origin—including cultural diaspora communities—in the context of the ethnographic museum. However, much like the 'Five Continents Museum' described above, the contact zones established by ethnographic museums have until recently overwhelmingly focused on privileging white hegemony, offering a presumed white museum visitor a glimpse into the worlds of 'exotic' people with foreign customs (Bennett 2004), and presenting narratives which ultimately reinforce what Aníbal Quijano would refer to as the "linkages between rationality/modernity and coloniality" (Quijano 2007, 177).

In *The Metabolic Museum,* Clémentine Deliss asks us: "Can one ever succeed in revalidating an institution that has colluded with the violence of colonialism?" (Deliss 2020, 21). Although at a glance it would appear that an

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institution such as an ethnographic museum cannot possibly hope to overcome these power imbalances, I would argue that these museums may even be uniquely equipped for reconfiguration into a living cultural space where the knowledge of communities of origin is genuinely privileged and transmissible to relevant stakeholders through what may constitute a new form of contact zone.

4.2. Learning from the Source

While the example of the *Te Pasifika* Gallery shows a shift in focus from a presumed outsider audience to one which includes cultural knowledge holders and diaspora, further development of this concept may do well to be informed by the recent independent efforts of ethnographic institutions located in formerly colonised regions outside of the West in order to reconceptualise what a 'living' ethnographic museum might look like.

4.2.1. Fiji Museum, Suva

When Fiji officially gained independence from the British in 1970, its capital of Suva inherited a number of buildings and institutions established by the colonial regime from the early twentieth century. This included the Fiji Museum, formed by a colonial 'Fijian Society' in 1908 and formally inaugurated as a Statutory Body of the colonial government in 1929. With a focus on collecting Fijian cultural and archaeological objects, the museum has been located since 1955 in a botanical garden space named after British colonial official John Bates Thurston. Governed and managed by a long line of white colonial officials, even the official web site of the Fiji Museum is not shy about discussing its past visitor demographics, stating "[f]or a long time the museum served as a storehouse for cultural items and as a centre for an erudite minority. The majority of local people did not show much interest" (Fiji Museum 2022). This admission in itself is indicative of a desire to more broadly serve the Fijian public.

The most recent incarnation of the Fiji Museum opened to the public in December 2022, after 2.5 years spent completely reconceptualising the museum behind closed doors. The renewed museum aims to "create an overwhelming sense of pride among our diverse communities in Fiji" while remaining "mindful of the impact of climate change and the continued disasters which threaten our shores" (Fiji Museum 2019, 7). Also clear in its stated values is a desire to facilitate peaceful and respectful dialogue between Fiji's historically diverse cultural groups in service of social cohesion (Fiji Museum 2019, 9). This is certainly reflected in the fact that its maiden exhibition *Voyages: Stories of an Ocean People* was soon accompanied by an additional exhibition entitled *Girmit: The Agreement, A Story of the Fiji-Indian Experience*, which uses collection objects to trace the migration journey and past to present experiences of the country's significant Fiji-Indian minority.

The scope of the exhibition is far-reaching, from the earliest arrivals to the archipelago, to the climate crisis of today and tomorrow. Although in parts the museum's reliance on objects collected by white colonial subjects is still apparent—in particular, the use of colonial photography and illustrations to complement its displays—the new exhibition otherwise exudes a distinctly 'Pasifika' voice. Care has been taken to produce video materials containing the contemporary stories and insights of locals from various ethnic backgrounds (for instance, a 10-minute video of a Samoan-Fijian woman talking about her life in the Samoan settlement of Wailekutu in Fiji). Information about cultural objects uses inclusive language—"How do we use the *vuvu*?"—and often includes simple instructions on how the object is made. The section about climate change is decorated with quotes from today's generation of Fijian sailors and fisherpeople about the importance of protecting the ocean, as well as evocative art pieces by contemporary Fijian artists. A clear dialogue is being fostered by Fijian locals within the exhibition space, with museum visitors invited to add their own voices to the chorus.

Indeed, in stark contrast to typical Fijian ethnographic displays in the West, the Fiji on display in this exhibition is anything but a monoculture, with homages to the rich diversity of Indigenous and migrant populations who have come to call Fiji home woven throughout the space. This appears to be as much a deliberate museological strategy as it is a tentative step towards reconciliation after the extreme ethnic tensions suffered by the nation in the early 2000s. The 'nature-culture' divide typical of Western philosophies is also ruptured in the form of a large 3D map of the archipelago incorporating natural heritage features and ancestral territories alike.

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Similarly, while it has been common in the past for Western representations of Fijian culture to emphasise violence and cannibalism over other aspects of culture[3], this exhibition instead uses the ocean—often viewed by Pasifika communities as a central pillar of their diverse cultures (McCann and Hadfield 2022)—as the main theme from which to link other aspects of both past and present everyday Fijian life, including inter-communal diplomacy, language and customs. Objects belonging to British colonial officials are also historicised into the exhibition, but their incorporation is marginal, and colonisation is not presented as a milestone in a linear progression towards 'modernity', as it might be in a classical Western institution (Quijano 2007). In fact, the number of colonial objects on display are similar in quantity to the contents of a display dedicated to early Chinese settlers in Fiji.

Also notable is the lack of human remains on display, which is not to say that human specimens are not represented in the museum. In fact, in 2002, the discovery of Fiji's oldest Lapita skeleton led to a painstaking process of recreating what the person it belonged to might have looked like. Rather than preserving the skeleton for posterity after this groundbreaking research, the Fiji Museum chose instead to rebury the skeleton in the same place it had been found, only now in a dignified coffin. In its stead in the museum is the world's only recreation of a Lapita person—a woman named "Mana" who smiles benevolently back at her curious descendents.

Overall, although many of the Fijian objects on display in the Fiji Museum are still caged behind glass as might be expected in a typical Western ethnographic establishment, through connecting them in a number of ways with living culture—be it through audiovisual storytelling, contemporary art or the great centring force of the ocean—their voices can still clearly be heard.

4.2.2. John K Randle Centre for Yoruba Culture & History, Lagos

In 1928, during British colonial rule in Nigeria, West African medical doctor and later co-founder of the first Political Party in Lagos, John K Randle, established a public pool in Lagos to allow locals to learn how to swim. A significant gesture, considering that the British administration had previously refused to build such facilities for locals when requested. Decades later, the once-popular site of this swimming pool fell into disuse, and it lay dilapidated for years until 2017, when the government of Lagos tasked a local architectural team with redeveloping the site as part of local urban regeneration initiatives to transform the greater region into a cultural hub (JKR Centre 2021a).

Reconfigured from the ground up, the very design of the new complex shows deep reverence for Yoruba craftsmanship and philosophy, from the shapes employed in the structures to the aesthetics and textures conveyed by the forms therein, such as the Yoruba weaving tradition (Adams 2024). Rather than just restoring the public pool of the original site, the new, "unapologetically Yoruba" cultural centre (Olaniran et. al. 2024) also includes a library, performing arts space, and state-of-the-art new permanent exhibition on Yoruba culture. Interestingly, and almost like an unspoken challenge, the modern complex happens to be located just across the road from a more classically Western ethnographic institution: the National Museum Lagos, established in the 1950s by British archaeologist Kenneth Murray during his time as director of the colonial administration's Department of Antiquities.

The central concept behind the upcoming permanent exhibition in the John K Randle Centre is to "make a showcase for Yoruba culture but in a way that [is] unique to the culture" (Hughes 2021, 63). In practice, this has involved incorporating intangible Yoruba practices such as 'praise poetry', storytelling and music as a central part of the exhibition experience as a means of both celebrating and countering the erosion of Yoruba customs and culture. Nigerian writer Rowland Abiodun was brought on to the project to lead a mostly African curatorial team in developing the exhibition and its narrative (Hughes 2021, 22). Speaking on the museological approach for the permanent exhibition, chief architect Seun Oduwole has said: "One of the things that we wanted to do here was to interrogate museology as a construct and ask the question about why the western model doesn't work within the African context, and how we can create a space that isn't a museum in the traditional sense, but is more like a

[3] The large number of Fijian so-called "cannibal forks" on display in both private and public collections all around the Western world would appear to attest to this.

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theatre of living memory" (Olaniran et. al. 2024). This closely mirrors a need identified by Kokunre Agbontaen-Eghafona of the University of Benin in her audience survey of the National Museum in Benin City, which concluded that museums in Nigeria are typically perceived by locals as "foreign institutions", resulting in low and lowering local visitor numbers (Agbontaen-Eghafona 2024).

In service of creating such a "theatre of living memory", the permanent exhibition aims to be necessarily open-ended, refraining from presenting a linear view of history, and providing opportunities for visitors to imagine the future. A feast for the senses, bright colours and patterns frame cultural objects both old and new, and visitors are bathed in soundscapes at various parts of their exhibition journey, covering topics from Yoruba spirituality to modern fashion. Not only are visitors to the exhibition exposed to the rich tradition of Yoruba storytelling, but they are encouraged to tell their own stories in a dedicated space at the end of the exhibition path. In this way, visitors become part of the exhibition themselves and are encouraged to feel a sense of belonging in the space, regardless of their background.

Although the centre's web site states its hope that it will serve to provide "a vital injection of tourism to Lagos", it appears to also predict that cultural diaspora will form a significant part of this tourist demographic, viewing the site as a "place of remembrance and reconnection for Yoruba and African people from Cuba, Brazil, Haiti, America and the Caribbean, as well as the rest of Nigeria" (JKR Centre 2021b). Similar to the Fiji Museum detailed above, of high importance to the John K Randle Centre is that Yoruba culture is presented not as a singular entity, but a multifaceted identity that "has been shaped by centuries of history, and dispersed far from Nigeria into all corners of the globe" (JKR Centre 2021b). The zone of contact in this space, then, is not limited to local stakeholders, but extends as well to Black African descendants of all backgrounds who often come with their own family histories of displacement and cultural genocide. Thus the feelings of belonging and connection invoked in certain areas of the exhibition space may ultimately take on greater weight, as the descendants of those robbed of their identity and sent into slavery may feel like they have finally found their way back home.

4.3. Why Create Living Cultural Spaces?

It is quite easy to see how despite offering universal appeal, including to international tourists, the target audience of each of the museums described above is predominantly a local one, and curated with a local gaze. It is also apparent how the purpose of the ethnographic museum has been interpreted anew in these reconceptualised institutions, with an eye towards future cultural revitalisation and stability.

Meanwhile, in the Western world, although it has been over two decades since the publication of Stuart Hall's seminal paper on the "post-nation" which brought diaspora heritage into the spotlight (Hall 1999), Western ethnographic collections still appear to be largely presented as static cultural relics from far-flung regions across the ocean, rather than objects with their own migratory stories to tell (Basu 2011), or which might have continued utility for diaspora communities residing in the nations where the objects are held. When Sione Napi Francis of the Melbourne Museum redeveloped the *Te Pasifika* Gallery, he worked together with the representatives of the city's Pasifika diaspora in order to make it a 'living cultural space', whereby diverse communities are able to connect with their heritage, their homelands, the ocean and each other within the museum space. In reconceptualising this gallery, Sione and his Pasifika colleagues navigated the contact zone of the museum hierarchy and communities of origin in order to transform an exhibition of formerly decontextualised Pasifika objects into a new contact zone: that of community of origin to community of origin. While this project must be recognised within its context as just one exhibition within a larger, still white-dominated organisation, its foundational methodology which necessarily "plac[es] community, collaboration and orality at its centre" (McCann and Hadfield 2022, 170) approaches the organisational principles which can be also be seen in the two case studies explored above.

The Humboldt Forum held the *Te Ara Vaka Moana* symposium in 2023, flying in a number of Indigenous Pasifika experts to discuss their work on the revival of voyaging traditions in their respective communities. The overarching narrative during the symposium was that much of the traditional boat-making and wayfaring skills of each region were under threat and at risk of dying out within the next few generations. That the Humboldt Forum itself

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currently owns the last remaining outrigger boat from the Hermit Islands in Papua New Guinea is a sobering reminder of this fact, and yet perhaps this may situate the museum well as being part of a wider solution to revitalise at-risk cultural knowledge. This did not appear to be lost on the Pasifika delegates either, as they explicitly expressed their hopes for Western museums to become allies in preserving this knowledge for future generations (Fig. 1). Berlin's museums alone host thousands of objects acquired during Germany's various colonial activities abroad, including its Pacific colonial acquisitions, and research into the provenance and possible restitution of these objects is ongoing. In the meantime, if the many hundreds of Pasifika objects currently held in the Humboldt Forum were placed under the care of cultural diaspora curators with connections to the Pasifika community, for example, there may even be application for the intangible cultural practices connected to these objects—such as weaving and astral navigation—to become available for diaspora to learn and communities of origin to relearn. This in turn could further enrich the respective regions in which these communities live and encourage cultural and knowledge exchange between the regions.



Figure 1. Taumoko wayfarer Luke Vaikawi expressing his hope for the Humboldt Forum to be an ally in the revitalisation of Pasifika heritage. Te Ara Vaka Moana Symposium, 2023. Source: Peterson, K (2023)

5. Conclusions

In *Arts of the Contact Zone*, Mary Louise Pratt makes a salient point about the potential danger of the contact zone for marginalised communities: "Where there are legacies of subordination, groups need places for healing and mutual recognition, safe houses in which to construct shared understandings, knowledges, claims on the world that they can then bring into the contact zone" (Pratt 1991, 40). In the context of diaspora visitors to the ethnographic museum as it is currently operated, there would appear to be a distinction made between the contact zone of the museum exhibit and a place for diaspora to engage in healing and mutual recognition. However, does this need to be the case? Is there no room for the Western ethnographic museum, with its long history as a vehicle for harm and oppression, to become such a place for healing?

Of course, while it may be tempting to frame the redevelopment of the *Te Pasifika* Gallery in Melbourne Museum as an unequivocal success, the longevity of the project remains subject to the funding decisions of the broader organisation. Similarly, for ethnographic museums to be successfully implemented as 'living cultural spaces' on a systemic scale, there needs to be radical and lasting change to the way these museums are structured and funded within these spaces. Communities of origin must be afforded unmitigated agency in working with their cultural displays as a matter of policy, including employing members of said communities in ongoing paid curatorship and leadership roles within the museum, and privileging autonomy and trust for communities or origin to maintain their own communities' collections and exhibitions, as well as giving support and training where required in order to facilitate these diverse roles. It goes without saying that we cannot hope to achieve any of our 'decolonising' goals in any institution where there is the continued dominance of white hegemony within its bones. In this sense,

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a case needs to be made on an institutional level for why this transformative, 'living' approach to museology is a valuable investment for the ethnographic museum. What better way to do this than by learning from the successes of communities of origin in curating their own collections locally?

The radical transformation of the Western ethnographic museum idea may appear on the surface to be a rather unobtainable goal. After all, decades after the publication of James Clifford's seminal paper on the museum contact zone (Clifford 1997) we still seem to be struggling with many of the same structural problems. However, are these radical, systemic changes really so impossible? We have only several years ago seen a climate of necessity transform many of the world's cultural institutions. The onset of the Covid-19 pandemic forced many otherwise 'traditional' museum spaces, structured predominantly around the viewing of objects by a present audience, to drastically and creatively reconsider how to convey information to a now distant visitor—be it through social media, Youtube or even virtual museum tours. If the French Revolution provided the "conditions of emergence" for the new, public-oriented museum (Hooper-Greenhill 1992, 171), can the disruption brought on by the global pandemic not now provide the conditions of emergence for a new Western museum paradigm?

As we can see from the examples of the *Te Pasifika* Gallery in Melbourne, the John K. Randle Centre in Lagos, the Fiji Museum in Suva, and the Pasifika delegates of the *Te Ara Vaka Moana* Symposium in Berlin, communities of origin are not afraid of the ethnographic museum. Instead, we are innovatively seeking to transform them into spaces that speak to us, rather than about us. The time has come to heal from the painful colonial legacies of the Western ethnographic institution by tapping into their unique potential as a means for asserting and celebrating the vernacular identities of cultural diaspora. The work is already starting to flourish across the ocean, and now it is time to listen and learn.

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Post-colonial industrial heritage in North Africa. How to Enhance Heritage Assessment by Involving the Local Population. Using Qualitative Research Methods from the Human and Social Sciences (HSS) and Analysis Methods from the Communication and Information sciences (CIS). Casablanca – Morocco

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Abstract

Casablanca's industrial heritage (CIH), a product of the French Protectorate and an object of recognition and identity, is deeply entangled in political interests and ideological debates. As such, it demands critical and comprehensive investigation prior to any decisions regarding its demolition, preservation or transmission.

Research conducted beyond the Casablanca area has led to the development of a multi-dimensional assessment tool designed to evaluate CIH across four heritage dimensions: cultural, economic, environmental and social. While the tool provides provisional insights into the first three dimensions, a meaningful understanding of the social dimension requires on-the-ground exploration through direct engagement with local communities.

To address this gap, qualitative research methods were adopted, aligned with a paradigm that values contextual depth and the stakeholder perspectives. Employing grounded theory methodology enabled a systematic analysis of field data and unveiled a previously overlooked human and social dimension rooted in the wastelands and working-class neighbourhoods of Casablanca-Est.

These findings highlight the critical need to integrate local narratives and user perspectives into heritage assessment processes, ensuring that future decisions around CIH are informed not only by architectural and economic considerations, but also by the lived realities of those who inhabit and shape these spaces.

Keywords: *Postcolonial, industrial, heritage, assessment methods, local, community, Casablanca Est, Morocco*

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1. Introduction

Heritage is increasingly perceived as a territorial resource; however, its promotion often sparks conflict among stakeholders with divergent development strategies (BONERANDI, 2005).

Consequently, sustainable heritage management requires transparent assessment that remains accessible to the community (SEDDIKI, 2023, p. 33).

Initiated in 2015 within a doctoral framework, this research focuses on Casablanca's industrial heritage (CIH), a subject largely absent from public and political discourse. Field investigations conducted between 2016 and 2018 revealed a striking lack of political engagement or conciliatory measures, despite the 2013 reinforcement of Law 22-80 and King Mohammed VI's endorsement of industrial heritage within the Greater Casablanca Development Plan (2015-2020). Only a few initiatives safeguard CIH, an essential bearer of identity and collective memory, largely because it is entangled in political interests and ideological controversy.

Although some associations, architects, and scholars now recognize former industrial sites and workers' housing estates as heritage (SEDDIKI, 2023), responses remain fragmented. Fieldwork identified two camps: active proponents of CIH and those largely indifferent. Notably, district residents' voices were absent (SEDDIKI, CENCI, & DE SMET, 2021).

Casablanca still lacks a tool to identifying and assessing its industrial heritage, and colonial connotations add further complexity to its recognition and valuation. Decision on whether to demolish, preserve, or transmit CIH thus require first decoding and critically understanding this contested legacy, followed by the development of a robust assessment methodology that reconciles divergent perspectives and facilitates dialogue among stakeholders.

Research question: How can CIH be identified, assessed, and enhanced from a sustainable perspective?

2. Aims and Objectives

To enrich heritage assessment and reconcile divergent views, or at least to open discussion among CIH stakeholders, heritage action must become more accessible to local communities. The limitations of current tools justify engaging residents of Casablanca-Est, offering them the opportunity to voice their concerns about their environment and the industrial heritage from the French Protectorate.

This article presents the bottom-up process undertaken during the doctoral research (SEDDIKI, 2023) to:

- explore the relationship between local communities and heritage, particularly CIH from the French Protectorate,
- integrate residents' insights into expert heritage assessment.

3. Methodology

This doctoral research, situated in the social and human sciences, initially weighed two methodological paths: quantitative and qualitative. A detailed review of both epistemologies led to the selection of qualitative techniques, which aligned with a comprehensive approach (MORILLON, 2000, p. Chapitre 1). For data analysis, the Grounded Theory method (GTM) was adopted (GUILLEMETTE & LUCKERHOFF, 2012).

The qualitative protocol, specifically semi-structured interviews, enabled close engagement with Casablanca-Est residents and encouraged free expression. GTM analysis dissected each interview to identify feelings, perceptions and needs. This required a process of 'decontextualization' (DESCHENEAUX, 2007, pp. 8-10) of the corpus, comprising interviews, field notes, photographs, and other sources, before coding and recontextualizing the data in the research report (Fig. 1) (SEDDIKI, 2023).

Figure 1 outlines the conceptual map of the applied GTM, which provides an overview of the three main stages of the qualitative methodology adopted. These are:

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- Stage 1: Formation of the 'corpus or initial structure'. This stage involves qualitative surveys (QS1, QS2), field notes and other resources.
- Stage 2: Application GTM using a spiral approach with codes[1], categories[2] and memos[3]. This is a method known as 'decontextualization' of the corpus.
- Stage 3: Theorizing by linking codes, categories, and memos to develop theoretical statements.

The results of these two analyses enrich and complement the 'expert' assessment top-down process with residents' social perception via a bottom-up process, thus reducing political bias or ideological bias (SEDDIKI, 2023).

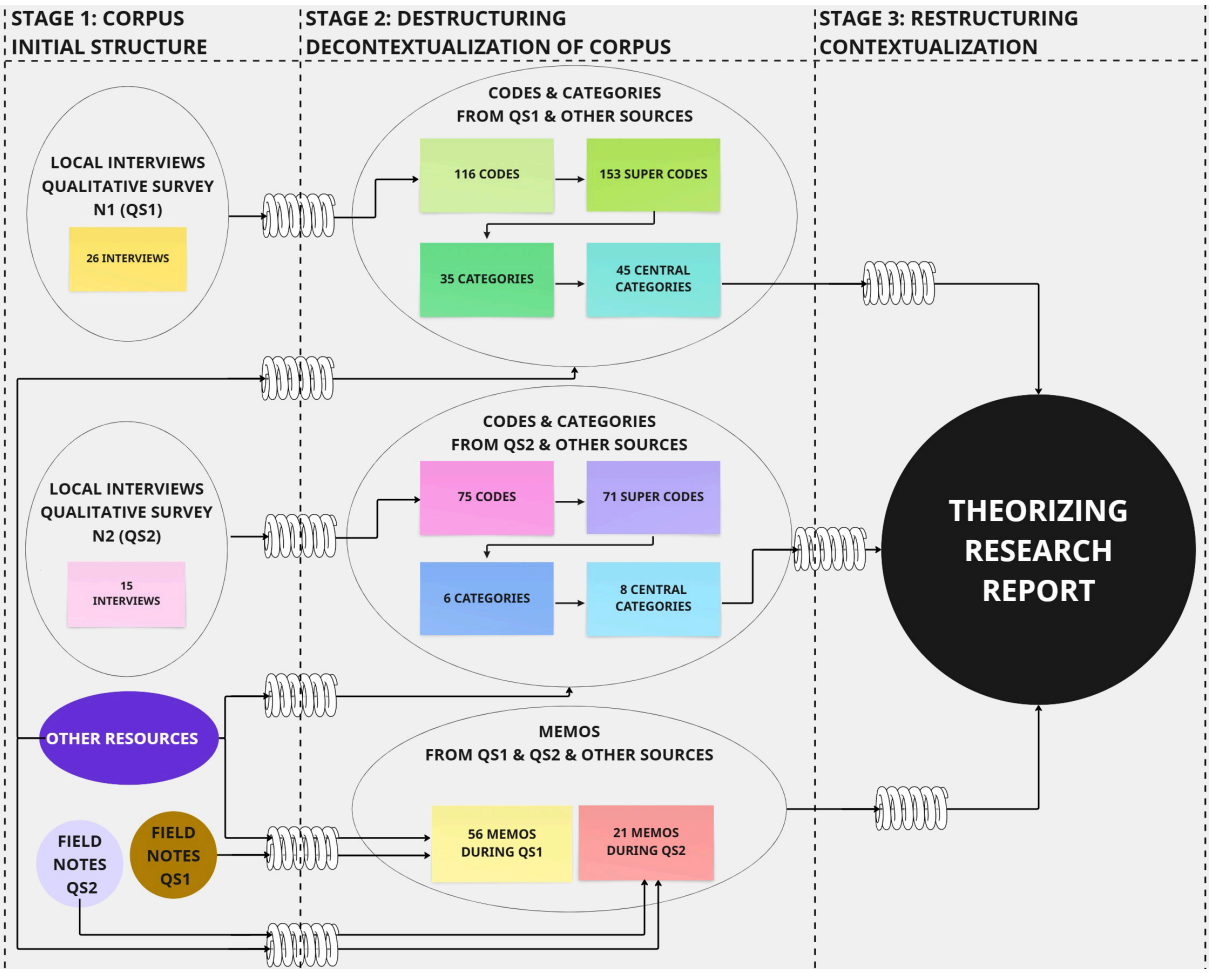


Figure 1. Conceptual map illustrating the evolution of the applied GTM, from its initial structure to the theorisation of the CIH. Source SEDDIKI, C (2023, p328)

[1] 'The researcher determines codes by answering the questions: What's here? What is this? What is it about?' (PAILLE, 1994, p. 154)' (SEDDIKI, 2023, p. 262)

[2] 'The researcher determines categories by answering the questions: What's going on here? What is it about? What phenomenon am I looking at?' (PAILLE, 1994, p. 159). The researcher then links the codes and categories by answering the following questions, Is what I have here related to what I have there? What and how is this connected?' (PAILLE, 1994, p. 167)' (SEDDIKI, 2023, p. 262)

[3] 'The memos also serve to document the evolution of theoretical development, explaining, for example, how the scientific literature was used or how the researcher's preconceived ideas were put aside ((Charmaz, 2004 ; Schreiber, 2001), (PLOUFFE & GUILLEMETTE, 2012, p. 108))' (SEDDIKI, 2023, p. 266)

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4. Results

For the first time, a small group of residents was invited to share their perspectives on their territory and its future, the responses revealed several key findings:

- QS1 showed that the CIH is integral to identity of older residents.
- QS2 revealed that the residents under 30 interviewed were more articulate than those in QS1. However, they prioritized immediate concerns, such as infrastructure deficits, education quality, unemployment, and a general sense of malaise, over industrial heritage.

Discussions of heritage were often secondary or emerged late in interviews. While older residents view CIH as an identity refuge, young residents see brownfields redevelopment as a concrete ambition tied to improving their living conditions.

This theory[4] arises from central categories and memos derived from the surveys.

4.1. From Empirical Data to Theorisation

The population of Casablanca-Est, like that of Greater Casablanca for that matter, was presumed to be indifferent to the decay of this heritage. Demolition after demolition seems, at first glance, to have taken no account of the local population, who are nonetheless concerned about the many structural problems affecting their area.

The analysis of the surveys indicates that the marginalization of Casablanca-Est is strongly deplored by the local working-class population, who perceive themselves to be increasingly isolated. The notion of industrial heritage is almost entirely novel to all the inhabitants interviewed in the two surveys (SEDDIKI, 2023, p. 421).

4.1.1. What meanings are ascribed to the term 'heritage' by the population surveyed?

The discourse varies and clearly separates two generations: those over 30 and those under 30. The inhabitants, lacking any knowledge of the terminology, will dissociate the word 'heritage' from 'industry' to get closer to what is common and familiar to them, heritage. While the word 'heritage' evokes memories, traditions, memory, and an archetype steeped in Arab-Muslim tradition, the word 'industrial' is unsettling (SEDDIKI, 2023, p. 422).

4.1.2. What is the relationship between the local community and the industrial heritage that has been inhabited?

The residents of the workers' housing estates defend their roots and their sense of belonging to their communities. They identify with the place and express its history, organizational culture, players, values, trades, and struggles. The workers' housing estate is more than just a place containing housing units. It is a social and historical entity that contains collective and social memory (SEDDIKI, 2023, p. 422).

4.1.3. What aspects of the industrial heritage do the target population recognise?

The inhabitants interviewed initially expressed opposition to the idea of extending heritage to colonial and post-colonial industry. However, they acknowledged the historical value of the tangible and intangible traces of the industrial past, despite the perceived dichotomy between heritage and industry.

The knowledge, know-how and techniques handed down by the ancestors are recognized and preserved, and the current generation still seems attached to them.

[4] 'As a reminder, in a GTM approach, everything is considered 'data' and diversity in sources and formats is encouraged. Data collection extends beyond qualitative surveys to include archives, photos, videos, bibliographies, allowing for a broader and more comprehensive analysis. By drawing on these varied sources, the initial corpus or structure is deconstructed and decontextualized (Figure 1). At the same time, the process involves coding and refining interview data while also developing research memos. These memos play a key role in shaping the theory, which in turn enriches the overall assessment' (SEDDIKI, 2023, p. 420).

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The mechanization of industries at the time of the French Protectorate has given factories a more modern and contemporary dimension. This has led some people to dismiss the colonial industrial legacy as part of their definition of heritage.

The 30+ generation surveyed in the QS1 recognizes the tangible and intangible values of the industrial legacy.

They are sensitive to the historical value and cling to the testimonial value of the wastelands and working-class estates with which they identify (SEDDIKI, 2023, p. 423).

4.1.4. Is the population of Casablanca genuinely knowledgeable of the city's industrial heritage?

Among Casablanca-Est residents, attitudes toward industrial heritage fall into three camps:

- Rejection: One group assigns no value to former factories. These sites evoke pollution, hardship, and colonial domination rather than cultural worth.
- Concerned nostalgia: A second group, mostly adults over 30, considers the former industrial era as a meaningful part of local identity. They recall with emotion and nostalgia about skilled craftsmen who migrated from the imperial cities and about seasonal farmers who swapped fields for factory floors.
- Vanished logos, dismantled smokestacks, and the few surviving housing estates hold both tangible and intangible significance, repositories of collective memory and genuine cognitive value.
- Resigned awareness: A third group acknowledges industrial traces only because they remain visible in the landscape. They neither defend nor deny them, they simply endure (SEDDIKI, 2023, p. 424).

4.1.5. Are those interviewed in favour of rehabilitating disused industrial sites?

The inhabitants under 30, who advocate for relocating industries and cleaning up their area, are reluctant to defend the industrial wasteland. For them, the very idea of preserving these spaces seems unthinkable. In contrast, most residents over 30, who have expanded the definition of heritage to include industrial sites, support the rehabilitation of brownfield areas. Their motivation stems from a desire to honour the memory of those who once worked in the now-defunct factories, and this sentiment has led to the creation of memorials in areas beyond traditional working-class estates.

These older residents are expanding the concept of industrial heritage, recognizing the social and human significance of derelict land. They argue for including sites beyond workers' housing estates, acknowledging the social memory embedded in these spaces.

These initial statements theorizing the abandonment of post-industrial territories lead me to this first conclusion: older residents identify with the post-industrial territory and its fragments (working-class estates, abandoned wastelands, and others.) and this identification can be a foundation for constructing CIH.

Furthermore, older participants in their initial survey expressed interest in regenerating brownfield sites, suggesting that they could be vibrant social spaces or even heritage sites. In contrast, the younger participants viewed these projects pragmatically, without aspirations to assign them heritage value.

This leads to a second conclusion: the local community supports the regeneration of brownfield sites, driven by both identification with the area's practical considerations. They advocate for regeneration programs that align with their immediate needs (SEDDIKI, 2023, p. 427).

4.1.6. Do any of the people approached during the surveys regret the disappearance of certain industrial sites?

There are numerous individuals who lament the loss of sites that have been demolished or are on the brink of destruction (SEDDIKI, 2023, p. 428).

As the interviews progressed, the significance of these buildings and the narratives associated with them became increasingly evident. The values of 'identity, history and knowledge' emerge from the recollections of those

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interviewed, particularly in relation to emblematic[5] buildings that have been demolished, such as Lafarge, the former Cosumar, Hamelle and Bata, or those that are currently under threat of demolition, such as 'Légal et frères'; or those on probation, such as 'The former slaughterhouses, Carnaud et Forges, ONEE, etc.'.

These observations lead to a third deduction: The attachment of older people to working-class identity and its components helps them individually to maintain their identification and to reject the destruction of the industries of yesteryear. They support the regeneration of brownfield sites and are banking on its reconciling effects on the younger generation and new residents.

If a heritage community is formed in Casablanca, the enhancement of industrial heritage and the creation of a shared symbolic value will rely on mobilizing local actors, sharing knowledge and actively reusing industrial sites.

4.1.7. Can the CIH become an opportunity for development? What do the young people surveyed in QS2 think?

Assuming that brownfield sites are rehabilitated and used to make up for the lack of infrastructure (a major concern for the younger generation), the young people involved in the survey set out several conditions for safeguarding and redeveloping brownfield sites (SEDDIKI, 2023, p. 429):

- Safeguarding only the most attractive buildings.
- Making facilities accessible to local people as a priority and ensuring free access.

Although the young inhabitants do not espouse working-class culture, are indifferent to the destruction of many brownfield sites and do not identify with their area's industrial past, they are enthusiastic about the idea of developing their area through its industrial heritage.

These new statements lead me to a fourth deduction: faced with brownfield sites and the development opportunities that could arise from them, the inhabitants questioned in the two surveys are divided between indifference, pessimism, and optimism. Nevertheless, a prevailing sense of optimism among most inhabitants encourages them to consider the potential of brownfield sites and to propose conversion programmes that align with their urgent needs.

4.1.8. Does the population surveyed consider industrial heritage to be an integral part of their identity?

Towards the conclusion of the interviews (QS1), an attempt was made to ascertain whether the social bond expressed by inhabitants indicated a certain identification with industrial heritage. Two principal categories emerged. One comprised those who identified with the CIH, while the other comprised those who opposed this identification (SEDDIKI, 2023, p. 433):

- Those who identify with the industrial past are mainly over 30, and their motivations are social, cultural, and sometimes economic. Most inhabitants emphasize the natural link or the one that imposed itself on them with the industries of the past.
- Those who do not identify with the CIH are predominantly under 30. This lack of identification with the CIH is further evidenced in QS2 on a smaller territory, Hay Mohammadi. The younger generation of Hay Mohammadi experiences marginalization, which is sometimes even within their own community. The documentary film L7SLA[6] by Sonia Terrab (2020) exposes the daily lives and shattered aspirations of a vibrant youth left behind.

The two surveys revealed that the under 30 wish to identify with Casablanca, the modern city, as do young people from non-industrial neighbourhoods. This desire is expressed as a demand to abolish the geographical borders imposed on them and the industrial marking that sticks to their skin.

[5] 'These structures were considered emblematic because, prior to their demolition, they embodied a unique industrial heritage, a rich social memory, and a distinctive presence within the urban landscape of Casablanca.'

[6] 'The dead-end in English.'

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Furthermore, the younger generation is questioning the value of preserving the different phases of an industry in perpetual evolution.

These newly emergent statements lead to a fifth deduction, namely the observation that, confronted with the industrial heritage and the question of identification with it or not, the inhabitants interviewed reveal that:

- Most inhabitants under 30 are concerned with stigma, marginalization, and isolation. This is because they do not identify with the CIH, and there are good reasons for this. The post-industrial environment maintains the stigmatization of Hay Mohammadi, which is a source of concern for these individuals. They wish to identify with Casablanca, the modern city, which offers a more positive image.
- Most inhabitants over 30 are motivated to identify with the CIH due to social, cultural and, on occasion, economic ties.

4.1.9. What are the concerns and priorities of the population approached?

Towards the conclusion of the interviews, I invited the interviewees to share the subjects that concern them (SEDDIKI, 2023, p. 435):

- The generation under 30 appears to have lost its enthusiasm for political rhetoric and promises. This generation is not particularly attuned to the environmental impact of industry and does not identify with the historical narrative about industry that has been constructed and perpetuated by older generations. The concept of 'transmission', as developed by the historian Michel Melot, is broken in this case in Casablanca.
  They are now turning towards today's modern Casablanca and identifying with it.
- The population aged 30 and above demonstrates a keen interest in the history of their region and its constituent elements. They exhibit a strong affinity for industrial history and working-class culture and advocate for their promotion. They aspire to the recognition and advancement of these through investment and the redevelopment of previously underutilized buildings.
  Aware of the growing divide between the industrial heritage and the younger generation, the older members of the group are attempting to bridge this gap through their proposals for vibrant, productive, non-museum conversions. Their aim is to reconnect the younger generation with the CIH and their region.

A lack of consultation with the local population has created a rift between elected representatives and the local population. Some members of the public have expressed their desperation and have sought advice from us about the dysfunction in their area. Others are interested to see the consequences of this research for the area in question.

The empirical-inductive approach leads to the conclusion that the planning and management policy for industrial and post-industrial areas is a failure.

These observations are supported by local sources (HACHIM, 2021). Additionally, local media, such as Mouna Hachim's interview on 2M official television (2021), the documentary L7SLA by Sonia Terrab (2020), an article by Imane Brougi for MAP (2021), as well as contributions from local associations like Initiative Urbaine and the L'UZINE Foundation, along with the 2017-2018 data collections, and the grievances expressed by under-30 residents of Hay Mohammadi, all indicate that the community has become a marginalized neighbourhood. Moreover, the population faces growing vulnerability in multiple aspects: stemming from increasing economic fragility, a deteriorating urban environment, the erosion of collective memory, and limited local governance. The lack of a participatory approach further deepens the neighbourhood's marginalisation.

These final statements prompt the following conclusion: the reinvestment of underused industrial sites represents a solution for the Casablanca-Est area and Hay Mohammadi, in particular. The reinvestment of disused land can both sustain a sense of identity among older residents and address the sense of an identity gap among younger individuals, thereby helping to alleviate marginalization. These hypotheses can only be substantiated through a comprehensive and inclusive community consultation process.

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Furthermore, the individuals interviewed demonstrated an understanding of the value of citizen participation and expressed a desire for such participation in a variety of ways. They expressed a desire to establish a relationship of trust and dialogue with decision-makers and to express their aspirations, concerns, and values.

5. Conclusions

This article highlights two key contributions drawn from the doctoral research (SEDDIKI, 2023):

- The application of GTM analysis in the heritage sector (methodological contribution).
- The emergence of a discourse on the CIH, accompanied by the revelation of its human and social dimensions (empirical contribution).

The iterative process of empirical work and theory-building shapes the research, gradually leading to theorization. This process revealed a human and social dimension at the heart of the wastelands and working-class housing estates of East Casablanca. A local community is emerging, defending its attachment to and identification with the area's industrial past and appears to understand the potential of the wastelands and their role in developing a collective identity that unites the youngest and the most sceptical.

This community, along with associations, architects, scholars and researchers, emphasizes values of solidarity and mutual aid. It implicitly communicates both tangible and intangible values tied to derelict land and workers' housing estates. Concepts such as remembrance, memory, testimony, identity, and history emerge from the memory of each emblematic structure and the evocation of each working-class housing estate. Scholarship also underpins these values, marking the enduring 'emic' cognitive value shared within the community.

The empirical-inductive approach revealed a local community that recognizes 'identity, historical and cognitive' values in this decaying industrial legacy, and more specifically, in its human and social dimension. The community implicitly contributes to shaping its territory through the selection and socio-economic reallocation choices it proposes.

The sensitivity explored in the Casablanca-Est area contrasts with the political approach of 'decided heritage', which involves heritage being manufactured and imposed on local communities in similar contexts. Only a partnership with the local community will allow institutions and planners to align regional development projects with the real aspirations of the community, ensuring these projects are both coherent and sustainable.

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Exploring Indigenous Knowledge systems (IKS) in building techniques: Lessons from the Building Practices of the First Indigenous Peoples of South Africa, Eastern Cape

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Abstract

Since 2021 a working group composed of Nelson Mandela University, School of Architecture staff and students, along with a group of First Nations of South Africa Chiefs, have collaborated to document and interpret the ancient indigenous knowledge in building practices applied by First Nations communities in the Eastern Cape Province geographically positioned in a remote area in the Baviaanskloof valley. A transdisciplinary approach was employed, applying a multi-layered indigenous research methodology. The contextual setting of the geographical location promotes the preservation of the Indigenous Knowledge Systems (IKS) as reflected in the houses under research, a unique occurrence in a post-colonial era. The First Nations' communities possess rich and diverse knowledge systems that have been developed and refined over generations, in harmony with their environments, reflecting a deep connection with the land. The inhabitants of the land prioritise locally sourced materials, minimizing waste through repurposing, and adapting tools for multifunctional use. In this article, the researchers will further elaborate on the documentary, titled: "Indigenous Architecture of Zaaimanshoek in Baviaanskloof" by Magda Minguzzi and assisted by Lucy Vosloo in coordination with Chief Coetzee of the Inqua Tribe. The documentary captures the process of construction applied in documented houses, reflecting on the IK techniques still practised today from the First Nations of South Africa artisans who contribute to a more sustainable future. It is now a crucial time to review IKS building techniques to inform modern research on how to approach the depleting global resources.

Keywords: *Indigenous Knowledge Systems (IKS); Khoikhoi building techniques; participatory research, regenerative building practices; heritage preservation.*

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1. Introduction

Indigenous Knowledge Systems (IKS) offer invaluable insights into sustainable architecture and environmental stewardship. This paper presents findings of a research project on Indigenous villages and houses located in a remote area in the Eastern Cape Province of South Africa, led by Magda Minguzzi with a group of First Nations leaders[1], staff and students at Nelson Mandela University. The research started with a pilot project in 2021 thanks to the National Research Foundation[2], continued in 2022 thanks to the Vernacular Architecture Group-UK, and currently is one of the projects under the Endangered Wooden Architecture Programme, Oxford Brookes University[3].



Figure 1. Map of South Africa, *study area, Eastern Cape Province.*



Figure 2. Eastern Cape Province, *Study area, Baviaanskloof, Zaaimanshoek.* Source: Minguzzi, M. (2023)

The dwellings and building techniques applied by the indigenous communities in the villages under study, are passed down orally from generations and embody principles of sustainability, resilience, and harmony with the natural environment that are increasingly relevant in today's context of depleting global resources.

Research published by the United Nations Environment Programme[4] describes the 2022 Global status report for buildings and construction and notes in particular progress in sustainable buildings and construction policies. Twenty-three countries were reportedly revising and updating their nationally determined contribution to sustainable buildings and construction policies, with a greater level of commitment to building efficiency and adaption (UNEP, 2022). The report estimated a global consumption of raw materials that will double by the year 2060. It is therefore crucial to integrate the lessons learned from the IKS of the built environment in collaboration with the knowledge holders: the First Nations. A lesson characterized by a "light touch to earth," which has not only stood the test of time but also harmoniously coexists with modern advancements.

The research conducted in Baviaanskloof valley[5], on the indigenous houses located in a remote area and realized with similar building techniques - wattle and daub - are highly significant and represent a unique case in the country where the IKS has been passed down from generation to generation, from pre-colonial time till present time (Minguzzi M., Navarro Y., Vosloo L. 2021.). Starting with the arrival of settler colonialists, the First Peoples experienced an exclamation of oppression and dispossession of territory and resources - A process that culminated

[1] The KhoiSan leaders part of Minguzzi's research group are: Gaos Margaret Coetzee, Inqua People; Gaob Thomas Augustus, Gamtobaqua People; Gaob Brato Malgas, Inqua People (Jansenville); Chief Xam ≠ Gaob Maleiba, Damasonqua People; Paramount Chief Gert Cornelius Steenkamp, Oeswana People; Gaob Daantjie Japhta, Inqua People (Camdeboo); Chief Wallace Williams, Oeswana Camdeboo; Gaob Anne William, Gamtouers/Gamktwa tribe (Thornhill/Loerie area).

[2] The pilot project was part of the National Research Foundation South Africa- "Community Engagement Programme 2018" 2019-2021. Grant Numbers: 116254. PI M.Minguzzi with Co-Reserchers the KhoiSan Chiefs of Eastern Cape.

[3] Oxford Brookes University, School of Architecture- Endangered Wooden Architecture Programme-Funds. Grant number: EWAP2008SG. Prof. M.Minguzzi PI; Chief M. Coetzee Co-Researcher; Dr Y. Navarro, Arch. L. Vosloo, Arch K. Harmse Collaborators.
https://www.brookes.ac.uk/research/units/tde/projects/endangered-wooden-architecture-programme/funded-projects

[4] UNEP, United Nations Environment Programme, 2022 Global Status Report for Buildings and construction, Towards a zero-emissions, efficient and resilient buildings and construction sector.

[5] The Baviaanskloof Valley is part of the part of the Cape Floral Region World Heritage Site and stretches over 100 kilometres between the Baviaanskloof Mountains to the North and the Kouga Mountains to the South. Named after the baboons that roam the area, a mix of the Dutch word 'baviaan' for baboon and the Afrikaans word 'kloof' for ravine.

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during the Apartheid regime and led to forced removal and relocation. The majority of the Indigenous Peoples living in Baviaanskloof did not experience a severe forced removal, and could continue living in the valley, but what the First Peoples experienced was a land dispossession with the consequence of being forced to work as labourers for colonial farmers. Their unique bond with the environment and its resources, the culture, and traditions - including the one of building- could continue despite the oppressive system in place. Over the years some of the families managed to buy part of their original land from farmers and currently, own the land where the houses under study are located[6]. Some houses in the community date back 100 years and, although they are built with local materials, some material used reflect the introduction of colonial influence in present-day construction.

By focusing on this study site, the researchers seek to fill a significant gap in documenting the heritage and additionally to more thoroughly understand the indigenous building practices that contribute to broader discourse on sustainable development.

2. Aim and objectives

The research project aims to document, study and raise awareness of First Indigenous Peoples of South Africa's tangible and intangible heritage related to settlements and dwellings (self-built with local materials) located in a remote area of the Eastern Cape, and never studied before, namely Baviaanskloof. This contributes to rewriting the historical narrative imposed by colonial perspectives on the IKS in the built environment of the First Nations of South Africa[7] is a crucial and transformative goal of this research group, as well as reclaiming Indigenous voices and highlighting the richness and diversity of Indigenous building practices. The researchers approach prioritizes engagement with communities, recognizing their expertise and insights into the cultural, social, and historical contexts of Indigenous houses. By documenting these practices through participatory observation, the research seeks to contribute to their documentation, highlight their values and lessons, and facilitate the preservation of cultural identity and the transfer of knowledge from one generation to the next. Recognizing and influencing policy in favour of Indigenous building practices, supporting cultural revitalization and empowerment of Indigenous communities. In this regard the group regards as vital the inclusion of elaboration of data collected during survey of the tangible and intangible heritage as part of the Endangered Wooden Architecture Programme long-term open-access digital repository. Accessible data will enable scholars to have an opportunity to study the dwelling, most important, to help the community to have a record of their heritage which is at risk to disappear because of the use of perishable materials but also because of the interference of western techniques and materials. Furthermore, the inclusion of the project in this international programme is an important acknowledgement of the importance of this Indigenous community, and the knowledge they hold. It is in fact important to mention that the First Indigenous People are not officially acknowledged by the South African legislation yet.

3. Methodology

The research methodology employed for this study has been named "Indigenous methodology" and was developed by the researcher through collaboration with the community that began in 2015 by Minguzzi. Since then, a working group has been formed, this group consisting of community members and staff at the Nelson Mandela University have carried out community-led projects that involve teaching/learning and researching as well. This project is one of those.

Working with indigenous methodology meant establishing a framework and data collection that were grounded by First Nations People Indigenous worldview and protocols. This ethically sound process is rooted in principles of mutual trust, respect for each other's views and cooperation in the research decision process; reciprocal

[6] For further details consult: Minguzzi M., Navarro Y., Vosloo L. 2021. "Traditional houses and techniques of the First Indigenous Peoples of South Africa in the Eastern Cape". HERITAGE2022. International conference on Vernacular Heritage: Culture, People and sustainability. Spain: Universitat Politecnica de Valencia. http://ocs.editorial.upv.es/index.php/HERITAGE/HERITAGE2022/paper/viewFile/15942/7148 (consulted 11 May 2024).

[7] The First Indigenous Peoples of South Africa main ethnic group are: Cape Khoi, San, Korana, Griqua, Nama. In this project we are working with the Khoikhoi who are part of the Cape Khoi.

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knowledge product appropriation; and use of indigenous protocols toward the right of Indigenous Peoples to retain full control of their knowledge.

Community participation applied to each phase of the research: starting from the development of the research project to the application for funding; data collection; discussion and evaluation of the work; preparation of the outputs; and knowledge sharing. These steps allowed the research group to own the project, in full. Each voice counted, and the outputs produced from this research process were the results of a communal effort. In line with this, the research did not depend on written text, but largely on the knowledge held by the Indigenous Peoples involved in the research study.

The modus operandi for the data collection, established by Minguzzi in working with Indigenous Heritage is divided into three major phases:

1) Desk and archival research.
2) Site survey in collaboration with the Indigenous knowledge holders and the Chief of the area.
3) Audio and video interviews of community members- Indigenous knowledge holders, in collaboration with the Chief of the area.
4) Elaboration of the data and interpretation of it in collaboration with the Indigenous knowledge holders and the Chiefs part of the research group.

According to ethical approval that had been obtained from Nelson Mandela University, a respectful and sensitive approach was applied by the researchers, being mindful of the community's time and willingness to participate to record both tangible and intangible heritage. "It is based on this premise that heritage surveying needs to be foregrounded and that our traditions and sites and environments are recognized as valuable and integral parts of our heritage/memory/history, which will help us to understand and value ourselves" (Townsend L. F.,2004).

4. Results

A crucial phase to gain first hand knowledge and obtain substantial results was the recording of the documentary entitled "Indigenous Architecture of Zaaimanshoek in Baviaanskloof"[8] captures the process of Indigenous construction techniques by the Master builder[9] that the community identified, in 2022. After surveying the houses that he built and the techniques he applied, narrated verbally we were invited to document an extension to a house in January 2023. Usually, December and January are the warm and dry months of the year with temperatures reaching over 40 degrees Celsius. With little rain during this time of year it is ideal for carrying out restoration work on the houses, with an added incentive of preparing the house to receive family over the holiday season.

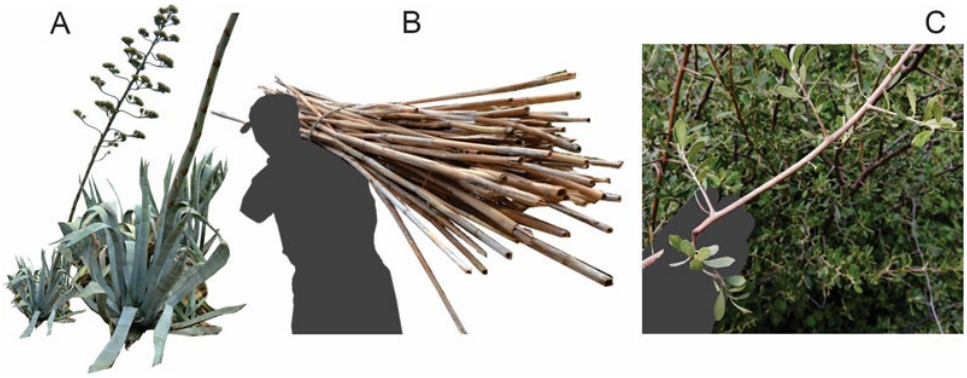


Figure 3. Plants used in the construction of the Houses. *A-Gareboom (Afr.) Agave plant (Eng.); B-Spaansriet (Afr.) Spanish Reed (Eng.); C-Bloubos (Afr.) Bluebush (Eng.).* Source: Minguzzi, M. (2023)

[8] Documentary "Indigenous Architecture of Zaaimanshoek in Baviaanskloof' by Magda Minguzzi and assisted by Lucy Vosloo in coordination with Chief Cetzee of the Inqua Tribe. The documentary captures the process of construction in the remote area of the Baviaanskloof, reflecting Indigenous Knowledge techniques still practiced today from the First Nations of South Africa artisans who contribute to a more sustainable future. Trailer: https://vimeo.com/812088198?activityReferer=1

[9] Master builder, A person notably proficient in the art of building.

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Collection of natural materials initiated the building process. Figure 3 shows plants used in construction of houses, Gareboom, Spaansriet, Bloubos[10] are harvested for the main structure by using a Sickle tool as depicted in Figure 4 *Building Tools and materials used in the construction of the Houses*, this tool pulls and cuts at the roots of the reed. The reed is then transported by use of a donkey cart (Fig. 4;M). The use of Blue gum poles for construction are considered part of the natural resource pool; however, Blue gum trees are not typically found in the area. The Blue gum poles are brought into the area and used for fencing on farmlands. Discarded poles are then repurposed in the construction of the Indigenous homes. In the documentary both Gareboom and Blue gum were used for



Figure 4. Building Tools and materials used in the construction of the Houses. *A-Metal Hammer; B-Metal Hammer; C-Pickaxe Head; D-Small metal bucket; E-Wire Cutters; F-Garden trimmers; G-Sickle; H-Hacksaw; I-Bowsaw; J-Wire; K-Koevoet; L-Machete; M-Donkey cart; N-Ecaluptus poles; O-Timber stamper; P-Reed; Q-Metal sheeting; R-Earth; S-Sieve; T-Spade.*[1]
Source: Minguzzi, M (2023)

[10] A-Gareboom (Afr.) Agave plant (Eng.); B-Spaansriet (Afr.) Spanish Reed (Eng.); C-Bloubos (Afr.) Bluebush (Eng.); Rhenosterbos (Afr.) Renosterbos (Eng.).(PlantZAfrica, 2005)

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structural members while Spaansriet was used in the wall infill as represented in Figure 5. *Construction sequence of house; H, Infill of wall with vertical reeds in bunches*. This construction technique can be attributed to post and beam construction.[11]

The sequence of building begins with measuring out the structure. Low-tech tools such as twine thread[12] are used to set out the building and the human body is used as a measuring. Large footsteps determine the measurement of the rooms, with one step being equivalent to one metre in distance, each room being approximately three metres by four metres. Once the initial measuring on the ground has been concluded, a hole is then dug for the main pole to be planted. The hole is dug with the use of a pickaxe head and Koevoet.[13] A repurposed tin is then used to remove the soil from the hole, which is dug to elbow depth (approximately 300 millimetres). The pole is then planted in the hole while been held steady. The depth of the holes is then measured with a single reed, while the height above ground is measured with twine. This height is then transferred to the remaining vertical poles to be planted. The soil that was removed is then returned into the hole and compacted - this is represented in Figure 5. *Construction sequence of house; A-N.*

Sequence of Main structure:

Vertical poles are selected for their continuous height, longer poles are placed vertically at the roof apex. Shorter vertical poles, approximately two meters high are used to the front and back of the structure, the measurement was taken with the use of the human body, measuring out two arm lengths with twine. If a pole is found to be shorter than required, a technique of connecting two poles is used - the pole is split in the centre from the head or base of the pole and a short section is removed from the one side of the pole, with the joined pole having the same cut in an opposite side. The technique is carried out using a Machete tool as illustrated in Figure 4, *L, Machete*. Poles are then joined by use of steel wire and steel nails. Height of the initial poles is checked with twine thread to ensure constant height at the front facade. The method of planting additional poles is repeated with the introduction of a horizontal pole as represented in the sketches in Figure 5. *E, Placement of horizontal beam and rafter from ridge*, the two main structural members are then fixed using two strands of wire which are looped and threaded

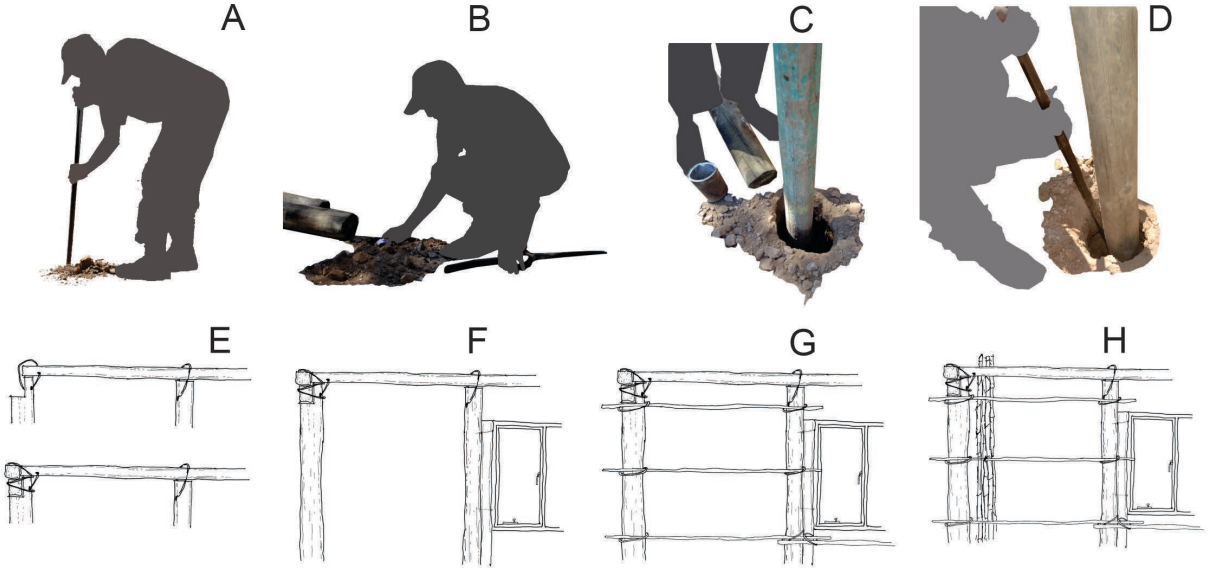


Figure 5. Construction sequence of House. *A-Preparing ground; B-Digging of holes for main poles; C-Placing main poles; D-Compacting earth fill in main pole holes; E- Placement of horizontal beam and rafter from ridge; F-Joining of window frames to vertical support; G-Framing of wall with horizontally placed reed; H-Infill of wall with vertical reeds in bunches.*
Source: Minguzzi, M (2023), Vosloo, L (2024)

[11] Post and beam construction is a method of construction that utilizes large, widely-spaced wood to provide structural support to the building. The wood is used to create a frame that walls are then placed into. (Ching, 2014) Post and beam construction is mainly used in open-plan homes because the beams carry the roof's load and reduce the need for interior walls.

[12] Twine thread: A strong thread that is composed of two or more strands twisted together.

[13] Koevoet, Afrikaans term for Crowbar; Machete, a broad blade used as an agricultural tool similar to an axe; Sickle, a harvesting tool consisting of a metal blade, curved and attached to a short wooden handle.

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through around and back through and twisted to form a tight bond using a wire cutting tool. The next step involved installing the window frame, further strengthening the structure with additional timber wedges to ensure the window fits securely into the main structure. This is fixed by use of long steel nails hammered through the frame. Both steel and timber windows are used in the study area.

Sequence of wall infill panels

Once the window is secure and the main structural elements are in place the process begins with the infill panels that form the wall. The Spaansriet[14] is supported by a singular horizontal reed placed at a parallel distance of approximately 400 millimetres on the internal face of the wall. The horizontal reeds overlap at which point they are tied back to the vertical pole as represented in Figure 5. *H, Infill of wall with vertical reeds in bunches*. A groove is made between the vertical poles using a spade, bunches of reeds are then positioned in the groove and stabilized with a horizontal reed on the exterior wall face. The reed is then cut to the height of the top beam. Additional fixing of horizontal reeds on the exterior wall face are then bound to the internal horizontal reed, stabilizing the wall panel.

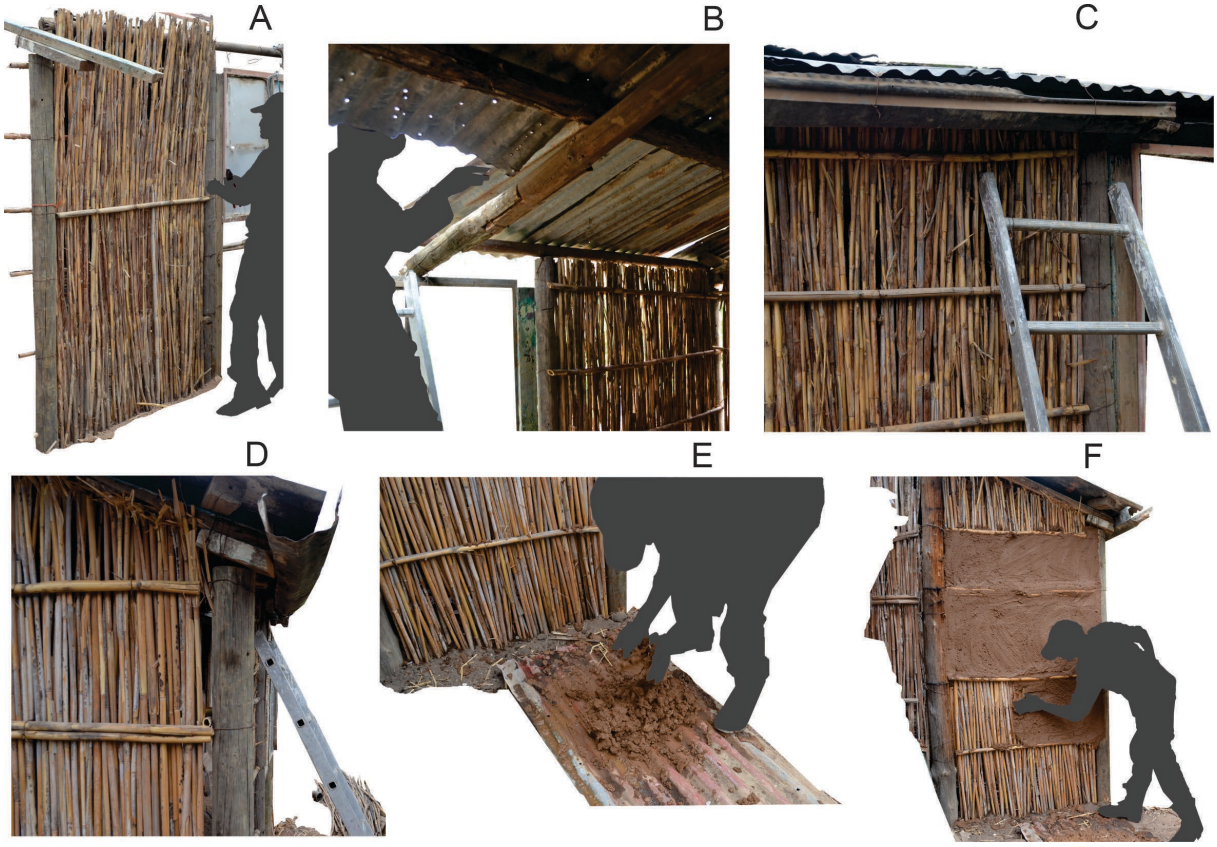


Figure 6. Construction sequence of House. *A-securing reed infill wall with framing reeds placed horizontally; B-Roof sheeting placed on purlins resting on front beam; C-Placing of metal gutter fixed to roof sheet; D-corner detail of House presenting edge of gutter; E-Preparation of plaster; F-Working in of plaster to reed wall on exterior facade. Source: Minguzzi, M (2023), Vosloo, L (2024)*

Sequence of Roof structure:

Additional ridge beams are placed resting on the front beam offset between the main vertical support poles as represented in Figure 6. *J, Roof sheeting placed on purlins resting on front beam*. Depending on the distance between the roof sheets, poles are positioned as purlins. The roof sheet is then punctured with a nail, allowing metal wire to be threaded through and fixed to the purlins. This process is repeated for the remainder of the roof sheets.

[14] Spaansriet (Afr.) Spanish Reed (Eng.) (PlantZAfrica, 2005)

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It can be deducted that introduction of metal roofs is through colonial influence and not indigenous to the resource in the area. Figure 7. *Roof with reed and roof sheeting.* The house, dating back over 100 years, depicts one of the oldest structures in the village and still retains the original reed roofing material tucked under the roof sheets.



Figure 7. Roof with reed and roof sheeting. *Source: Minguzzi, M (2023)*

Sequence of the plaster mix and floor mix

The floor inside the house is prepared by wetting loose soil, raising the floor height, and compacting this layer with a timber stamper, Fig.4 *O-Timber stamper*. The compacted layer then receives a layer of liquid mix, made from a mixture of manure[15] and water.

The sequence of mixing plaster involved collection of specific earth, transported to the site in flour bags by donkey cart (Fig.4). Earth used is a clay-rich consistency which ensures good binding. Sandy earth requires ash or Donkey manure to be added to help bind the mixture, this mixture should stand overnight to have the same consistency of the clay-rich mix. To mix plaster, the first step was to hollow out sieved earth (Fig.4) and pour water into the hollowed-out area. A spade was used to thoroughly mix the earth and water. Plaster was then applied to the internal wall panel by hand with a technique of throwing balls of mixture onto the reed and smoothing this out. The external wall is plastered after the internal wall, typically on the front of the house, while the side and rear facades are often left without plaster. Different materials applied to construct the wall panels can be observed in Figure 8 and Figure 9.



Figure 8. Bloubos wall*. Source: Minguzzi, M (2023)*

[15] Manure (Eng.), Mis (Afr.) Manure from Donkey is used to create a seal to the compacted earth layer of the floor.

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***Figure 9. Spaansriet Wall**. Source: Minguzzi, M (2023)*

The study area is particularly unique in its biodiversity- Baviaanskloof is part of a Conservation area and was declared a World Heritage Site in 2004. It is noted to be one of the most important reserves in South Africa due to the potential to conserve biological pattens and ecological and evolutionary processes that sustain them. (Boshoff, Cowling, Kerly; 2001)

The abundance of plant life supports the natural construction of the building technique. Innovative substitutions of plants for building walls can be seen in Figure 7, Bloubos wall and Figure 8, Spaansriet wall. When specific resources are not available near the site, plants with similar functional properties are used as substitutes. An example of this can be seen in the use of Spaansriet[16] in favour of Bloubos[17] when constructing indigenous houses in the village of Zaaimanshoek. Spaansriet (common name Spanish Reed) is naturally more abundant in Zaaimanshoek area and can be reused when extending a building, thus making it a sustainable and reusable resource. Differences in building materials used represents a deep understanding of local ecosystems which offer researchers valuable insight into sustainable living and resource management.

5. Conclusions

Exploring Indigenous Knowledge Systems (IKS) in building techniques reveals a wealth of sustainable, resilient, and contextually adapted construction methods. These centuries old techniques not only showcase the ingenuity and resourcefulness of Indigenous communities, but also offer valuable solutions for contemporary architectural and environmental challenges. The importance of post-colonial and decolonial approaches in preserving and recording this indigenous knowledge is critical to South African heritage. Such perspectives challenge the dominance of western paradigms in construction, promoting a more inclusive and diverse understanding of architectural knowledge.

IKS face significant risks from climate change and global economic pressures. These factors threaten not only the physical environment where indigenous practices are rooted but also the socio-cultural fabric that sustains them. It is therefore critical that strategies be employed to enhance resilience of indigenous houses to withstand climate change and economic pressures, without altering their fundamental design and cultural significance.

Furthermore, in the socioeconomic-environmental crisis that we are facing globally, those presented in this paper are valid examples of sustainable approaches to the environment and its resources to use as examples to embrace a light touch to earth.

[16] Spaansriet (Afr.), Spanish Reed (Eng.) (PlantZAfrica, 2005) used in the construction of wall infill, an Indigenous construction technique.
[17]Bloubos (Afr.), Blue Bush (Eng.) A native plant to central and southern Africa, the common name Bloubos refers to the often-bluish colour of the leaves. used in the construction of wall infill, an Indigenous construction technique. Bloubos is also harvested for its medicinal properties. (Mountain Herb Estate.2024)

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We acknowledge the First Indigenous Peoples of Southern Africa, the Khoikhoi, and San People, as the Indigenous and cultural custodians of the land on which this study was conducted.

The KhoiSan leaders part of Minguzzi's research group are: Gaos Margaret Coetzee, Inqua People; Gaob Thomas Augustus, Gamtobaqua People; Gaob Brato Malgas, Inqua People (Jansenville); Chief Xam ≠ Gaob Maleiba, Damasonqua People; Paramount Chief Gert Cornelius Steenkamp, Oeswana People; Gaob Daantjie Japhta, Inqua People (Camdeboo); Chief Wallace Williams, Oeswana Camdeboo; Gaob Anne William, Gamtouers/Gamktwa tribe (Thornhill/Loerie area).

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The Architecture and Social Realm of the 'Duka' in Uganda

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Abstract

The duka typology forms the backbone of Uganda's retail trade and significantly contributes to the middle-class economy. The duka came into existence in the interior of East Africa's built environment during the late 19th to early 20th century, transplanted to the region from India. Over a century later, the duka has become an ever-present retail building typology that has pervaded the streetscapes of urban centres across Uganda. However, there is limited discourse on its architectural merit, and is less valued as part of the country's built heritage. This paper provides a historical overview of the duka, through drawings and documentation, of what makes this building typology meaningful and enduring. Old duka buildings have been demolished to pave the way for new commercial buildings, owing to the challenge of their significance. In addition, the duka design has evolved, modified to accommodate various retail functions, making it commonplace for public life. The paper thus traces the essence of social heritage surrounding this building typology to understand their relevance as multifunctional social spaces alongside trade. The paper seeks to understand the duka and its threshold environs that maintain a realm with a parochial quality that has persisted throughout the postcolonial period.

Keywords: *Duka, Social heritage, Architecture, Historical Aspects*

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1. Introduction

As the mode of administration and colonial rule was transferred from British India to East Africa, so was the dukawallah (shopkeeper) or simply put the duka (physical space) - a retail building typology that was transplanted during the late 19th century. This repositioning of the buildings simmered during the mid-19th century only to suddenly increase when the wave of indentured labourers migrated to construct the famed Uganda Railway and the migration continued until 1922 (Mamdani, 1976). The Uganda Railway project attracted migrant traders who supplied goods and services to the railway workers and sometimes set up dukas before construction began. This was in part made possible because of the willingness of Indian merchants to mix freely with the indigenes and carry out trade for many generations (Desai, 2011). This paper thus evaluates the events of the period during which the duka building became commonplace within urban centres of East Africa. Well as the emergence of the Duka can be credited to Indians, they poised one part of Ali Mazrui's narration of a tripartite society, the other two being the British and the Africans who were the largest number of customers for the dukawallah. The Indians immensely contributed to the economic growth of the British colonial landscape, situating themselves somewhere between the colonized and the colonizer, and occupying a middle position (Nair, 2008).

> By establishing shops in even the most remote areas of the colony, they stimulated the African population to become economically more productive and assisted its entry into the cash economy as labourers and producers. (Spencer 1981, p.341)

Dukas became meeting places where Africans and Asians primarily met, creating and reinforcing racially defined prejudices and multifaceted interactions (Held, 2022). While this paper highlights the socio-cultural and socio-political conditions, within the colonial landscape, that favoured the pervasion of the duka during 20th century Uganda, it acknowledges that this period set the scene for the prosperity of the Duka. Over 100 years since the introduction of the Duka into East Africa's built environment, it has become a building choice for many, evolving as a building typology while retaining the core function of a space for retail trade. In addition, the Duka's 'back of house' serves as residential space for many shopkeepers which adds another dimension to the spatial aspects of the Duka as a dwelling unit. This paper analyzes the primary zones of such spaces that make the duka practical for public and private engagement, showcasing various forms of the building's adaptation and how space came to be defined by commodities being sold, the customer, and the seller's family life. This paper seeks to test the following two questions: How have key historical highlights of the 20th century contributed to the evolution of the Duka and the socio-cultural aspects of urban centres? How has the architecture of the Duka sustained the retail trade while maintaining the socio-economic aspects of family life?

2. The Place of the Duka

Among the most representative elements of the built environment that were imported from India were: Bungalows, adopted by Europeans in India; and Dukas, which have trade leanings with the Indian Bazaars (Wako & Olweny, 2022). Bazaars became common commercial features of urban centres, characterized by rows of permanent standardized shops, mixed-use businesses, and dwellings often linked to the boma by a main avenue. During the early 20th century, the Indians' ability to venture into the East African hinterland encouraged the construction of Dukas in many urban centres and beyond thus expanding regional trade (Held 2022). In Uganda, three urban centres (figure 1) are of interest to this paper: Jinja, whereby the completion of the Uganda Railway made Jinja a key transit hub on Lake Victoria with its first permanent streets being complemented with Dukas. The second is Kampala, where the first attempt at massive housing for the growing Indian and African middle class was considered during the mid-20th century (Gutschow, 2012). For the Duka was integral to this social group and was a hastily perceivable form of building that required less capital than the bungalow. Kampala, in recent times, has witnessed a steady disappearance of the Dukas in preference to larger commercial establishments in the central business district. Lastly, Fort Portal, where the 20th-century colonial railway network did not reach, and like Jinja, was a colonial administrative centre with a variety of Duka buildings lining its streetscapes.

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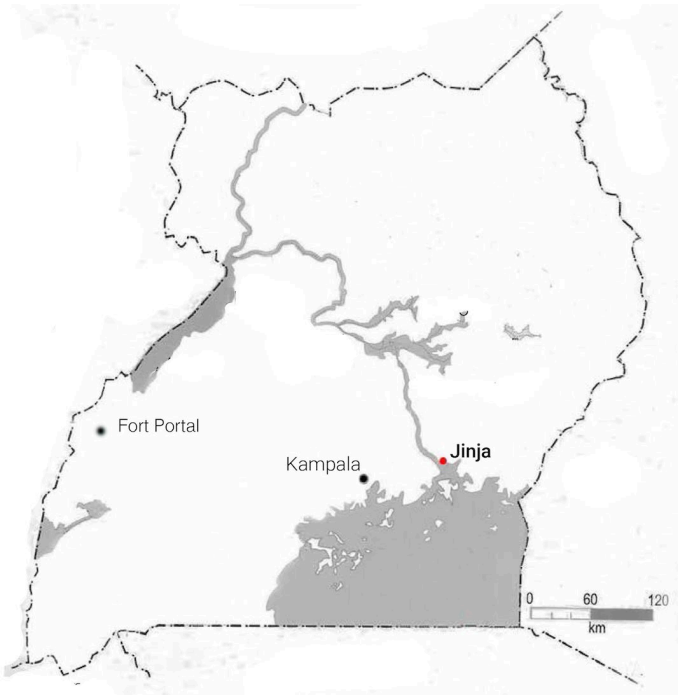


Figure 1. Uganda showing Jinja, Kampala, and Fort Portal. Source: Author (2024)

All three urban centres presented the need for labour, during the 1930s boom period of agricultural raw material extraction, to facilitate trade with the rural hinterland and position the grounds for the dukawallah's services. The dukawallah formed the link between the native purchaser and the wholesale importer (Kumar, 2008). While the dukawallah trader became visible in the three urban centres, it was Jinja that showcased a distinct representation of the Duka with Sofer and Sofer (1955) describing it as an overgrown duka town of the 1940s. Sofer and Sofer further added that:

> a considerable retail trade developed in the town, catering not only for nearby cotton growers and the town's own labour force but also for the African porter caravans which, until 1912 when the Jinja-Namasagali (Busoga) railway line was completed and motor transport came into more frequent use, terminated in Jinja (Sofer and Sofer 1955, p.13).

The Duka thus became a vital economic unit that made these urban centres dependent on and intertwined with their rural agricultural hinterland. In addition to the urban centres, Dukas became convenient shopping points, in places where it had previously been impossible to establish markets (Monteith 2017). Dukas thus duplicated the functions of markets, including those that had makeshift structures, and the nature of their construction and material choice gave permanence to places. Atieno-Odhiambo adds that "…many small traders took up market gardening to supply fresh vegetables to the railway gangs" (Atieno-Odhiambo, 1974, p.137). While pre-colonial markets relied on barter trade for their economic lifeblood, the setup of the duka supported the transition from a barter-based to a monetary economy (Held, 2020), and the dukawallah urgently established themselves as an important link with a reinforced geographical position of the import-export economy (Monteith 2017). Although the Duka has been, throughout the 20th century, a standalone retail petty shop, the simplicity of its layout has made it effortlessly possible to be incorporated into larger market structures and layouts. The Duka's functionality was a consequence of the Indian Bazaar typology and its business operation borrowed heavily from it. The place of the Duka therefore warrants merit for its contribution to the integration into the monetary economy that Uganda has today and the continuity of the Indian footprint in a region away from Asia. Further justification of its place, the Duka represented a form of social capital that asserted itself within the emerging middle class of Uganda and has become adapted as a separate or integrated physical entity within the built environment.

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3. Family and Social Aspects of the Duka

As the Indian dukawallah expanded his operations, he encouraged his less privileged relatives in India to join him as assistant managers for his dukas (Mamdani, 1976). The family members, after becoming successful, invited their caste fellows from India as shop assistants and thus continued the expansion of Duka businesses across East Africa throughout the greater part of the century. A well-established Indian along the East African coast whose businesses flourished from Bombay through Mombasa into the East African interior during the early 20th century was Allidina Visram. Visram, like other well-established Indians, used family or caste relations as cheap labour while his family members used this opportunity to establish their own Duka businesses (Mamdani, 1976). Within the boundaries of the emerging class, the Duka thus became a status symbol that socially tied families within a web of trade. Women, on the other hand, had fewer recorded memoirs that contributed to trade experience or the duka management in Uganda with a few notable mentions from diasporic narratives (Hand, 2011). A significant number of successful duka businesses had untold stories of Indian wives and daughters who immensely contributed to their prosperity. Their regulation can be assimilated into family traditions and cultures. As an appendage to the family's tireless endeavours, the name of the family household or descendants and the year were occasionally inscribed on the building façade. Figure 2 shows a Duka building along Main Street Jinja taken in 2014, with the engraving of 'PLOT, No.23 D.M. & Co. LTD BUILDING 1939'. According to the Departed Asians Properties Custodians Board, plot 23 belonged to V.D. Vadera and two others at the time of the Asian expulsion in 1971. The year probably indicated when the building was completed or when the business had a milestone or change in management.



Figure 2. Duka along Main Street Jinja. Source: Author (2014)

4. Architecture and Liminal Space of the Duka

The design of the Duka has often not necessitated the explicit services of an architect but a draftsperson due in part to its basic layout. The basic spaces of the Duka are a verandah (figure 3 - zone 1), a retail space (figure 3 - zone 2), and a storage/residential area (figure 3- zone 3). The different spatial zones (1-3) mediate transition and dialogue while distinguishing the outside from the inside, the private and public space, and sustain interaction between the seller and buyer. While the basic spaces of the Duka are consistent across various typologies, their spatial functions constitute a state of transition for the entire Duka to work efficiently.

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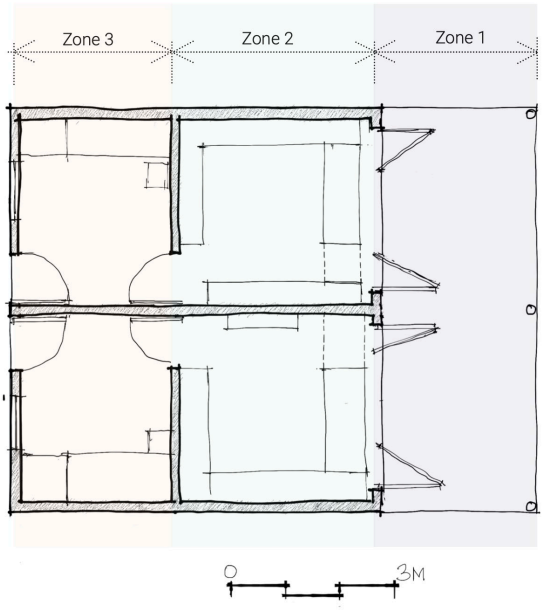


Figure 3. Typical layout of Two Dukas. Source: Author (2024)



Figure 4. Verandah of a Duka along Main Street Jinja. Source: Author (2021)

Zone 1 containing the verandah, for example, acts as an extension to the duka's trade activities (figure 4), complemented by the large door openings that blur the space in-between indoors and outdoors. This zone transposes the threshold into what Stevens (2006) defines as space 'loosening up'. As a 'loose space' transformed by the temporary placement of commodities and not dictated by the permanence of walls, the duka's extension to the outdoors becomes part of the street and social realm. This zone is integral to the (informal) economy and how the duka functions within the street life of urban areas. Zone 2 of the interior space has most of the merchandise and can be smaller than 10 square meters. When the business is at its peak, it becomes crowded as shown in Figure 5. The layout of this space is often determined by the commodities that are constantly being sold out as they may dominate the display shelves.

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Figure 4. Duka Interior. Source: Isaac Kasamani (2022)

Zone 3 is a private space that is either used for storage or as a residence for the shopkeeper and his family. With the expansion of the Indian families, the space became insufficient for the larger family and thus its further expansion through replication was imminent. As a residential space, this zone links one Duka unit to the next within a larger neighbourhood community (Figure 5). It contributes to the parochial quality of the community which figuratively lies between the private and public realms, creating a social bond among neighbours, and close physical proximity of structural positions of shared space (Kirabo & Olweny, 2022). The Duka within the work-home experience primarily straddles two socio-economic planes: one dominated by commerce, and the other residential.

The system of commercial activities that are defined by the spaces is to a larger extent characterized by consumerism and to a lesser by privacy and storage. Openings on the Duka building are limited to the back and the front and facing the street to create more display space and for security control. The predominant materials used for the Duka are soil bricks and corrugated iron sheets. While the bricks are locally sourced, the corrugated iron sheets became common within East Africa during the arrival of railways.

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Figure 5. Dukas within a Marginalised Neighbourhood of Kampala. Source: Brenda Kirabo (2021)

5. Summary - Reflections on the Duka

The ever-present Duka is so mundane that it is hardly a building of choice befitting a contemporary or modern description. This paper has highlighted how this building typology is tied to the history of Uganda and a marginalized Asian social group within the East African landscape. While many of the old Dukas have been demolished, the memory of how the buildings became rooted in Uganda and contributed to a money economy is worth preserving, and the narratives merit retelling. The fact that the building is both a commercial and dwelling unit has saved many families from extreme poverty, borrowing cues from the adventurous spirit of the earlier traders. The architecture of the Duka extends beyond the confines of its walls to accommodate social aspects of urban life. This architecture is a refined embodiment of the Indian enterprising spirit during the 20th century which was grounded within the socio-cultural and socio-economic setting that is evident today. While the paper has further delved into the transformations of the Duka context, the canons of public space where the duka has become commonplace have been highlighted.

The duka does not, however, go without criticism. From an economic perspective, the dukawallah never had fixed prices and continually negotiated with his customers which irritated the African customers (Held, 2022). This together with the customers' inability to compare prices in the different shops (dukas) developed in the African-Asia dukawallah rivalry of the 1950s culminated in the Asian expulsion from Uganda in 1972. President Idi Amin had earlier confined his expulsion to the dukwallah but later revoked his decision (Twaddle, 1975). Although Africans mimicked the Duka in various forms, they also carried the ingenuity to their businesses.

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African Identities
Identités africaines

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Surviving Cultural "Sanctuary": Mozambican Intangible Cultural Heritage in South African Mines

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Abstract

This paper examines how intangible cultural heritage practices like ethnic performing arts endured from colonial times to the present in Southern Africa, using archival materials, fieldwork and interviews from Mozambican and South African practitioners. It challenges the notion that colonial rulers effectively used ethnic cultures for "divide and rule" tactics.

Three key findings emerge from analyzing the Chopi timbila tradition. First, practitioners borrowed staging elements across ethnic boundaries while directing competitive consciousness toward orchestras within their own ethnic communities−demonstrating cultural agency (autonomous choices despite constraints) that differed from colonial intentions. Second, the mining compoundsunder apartheid regime in South Africa paradoxically sunctioned as cultural "sanctuaries" (protected spaces) where performing arts survived when restricted in Mozambique during colonial rule, civil war (1977-1992), and socialist policies. Third, these traditions persisted after apartheid's end, indicating continuity stemmed from practitioners' internal motivation rather than external domination, though inevitably shaped by complex power dynamics including ethnomusicologist Hugh Tracey's influential documentation.

By examining paradoxes of modernity/tradition and destruction/preservation, this study contributes to discussion on vanacular heritage concepts beyond Western frameworks. Future research should explore deeper significance and social structures within these preserved but changing cultural forms.

Keywords: *intangible heritage, identity, performing arts, colonial, modernity, agency*

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1. Introduction

> "The prosperity of our civilization is built over the destruction of such things." (Sasakubo, 2015)

Ethnic performing arts, important in protecting the identity of a people, have survived the extremely strong control of colonial modernity, and as a result, have been registered as intangible cultural heritage. How should we accept this contradictory fact? This question deserves consideration. Heritage is not only about the past but also about the present and future: how we face the past and what kind of future we are trying to envision (Harrison, 2013). A case study of vernacular heritage would be useful to examine the true universality of heritage.

2. Background: A Brief History of Ethnic Performing Arts in Mining Regions

The performance of the timbila, a traditional xylophone of the Chopi people of Mozambique, was inscribed as a UNESCO Intangible Cultural Heritage in 2005. This tradition gained high acclaim through the activities of African migrant workers laboring in South African mines under the apartheid regime. There are historical reasons why the Chopi, a relatively small ethnic group in Mozambique—a former Portuguese colony—made their presence felt in South African mines. The Chopi people were particularly targeted by the Gaza Nguni kingdom, which brought southern Mozambique under its control since Mfecane, the violent expansion of Nguni forces that caused political and social upheaval, especially from the 1880s to the 1890s (Vail and White, 1991). In exchange for protection from Portuguese forces, they established a tax-paying relationship with colonial authorities. This relationship became formalized following the Scramble for Africa by Western powers in 1885 and Portugal's suppression of the Gaza Nguni in 1895. Migrant labor in South African mines became the primary means of acquiring cash for these taxes, and by the 1890s, the Inhambane region, home to the Chopi, had the highest tax collection rate within Portuguese-administered southern Mozambique, illustrating this relationship (Aminaka, 2010). Southern Mozambique became southern Africa's largest labor supply source by 1913, when South Africa's Land Act was enacted to restrict African land ownership. The Chopi also crafted and performed the timbila in the mining areas (Harries, 1994). This historical trajectory ultimately led to the tradition's inscription as Intangible Cultural Heritage. Previous research suggests that ethnic culture served as a tool to manage African laborers under colonial administration (Badenhorst and Mather, 1997).

This performing art by the Chopi form Mozambique which was descrived as "East Coast boys" in the text below already considered a tourism attraction for South African society in the early 20th century, as noted by the Swiss missionary and ethnographer Henri-Alexandre Junod in 1912:

> "In the Johannesburg compounds the East Coast boys manufacture timbila themselves, of smaller and larger sizes, some with enormous keys made of common pitch-pine boards …So every citizen of Johannesburg can hear their concerts, and witness their dances, in the Compounds of the Ferreira Mine and elsewhere on Sundays ⋯" (Junod, 1912: 255)

By 1916, more than 60 mining company compounds had been established in the goldfields of South Africa, each housing an average of 4,000 single African male workers (Crush et al., 1991: 196). Managing these compounds was a key task for the mining companies, and "recreation" was an important means of labour management. The mining companies provided venues where folk entertainment was performed, as described by Junod (1912: 255).

The timbila ensemble, already attracting attention, drew even greater interest in this context. After the formation of the African Mine Workers Union in 1941, the establishment of the Landsdown Commission in 1943 to examine African worker solidarity and institutional responses, and the largest strike in 1946, the mining industry adopted policies that strengthened African workers' ethnic identity while simultaneously promoting their leisure activities. A part of these policies are shown in Figure 1 (top: Rose Deep Mining Company of Rand; bottom: Consolidated Main Reef Mines), the space for these performances was placed in the center of the compound. In some cases, the space was designed as an arena, with stairway seating surrounding it (Fig. 1). Figure 1 and 2, both images identified the performances by the ethnic groups involved with the banner at the back of the orchestra the word "BACHOPI".

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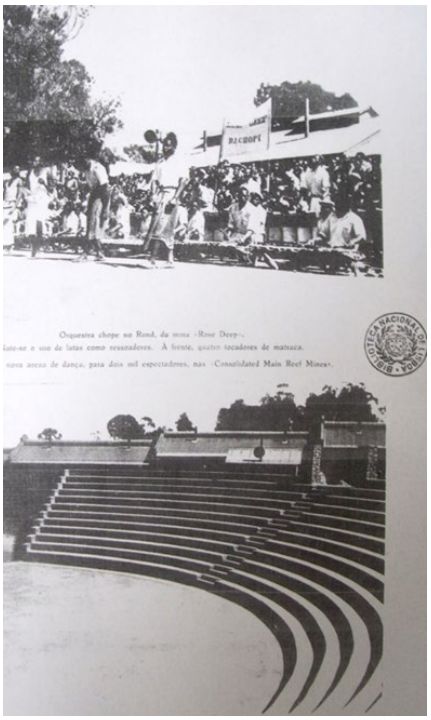


Figure 1. Timbila Performance in South African Mine and its Arena. Source: Tracey (1949)



Figure 2. "VLAKFONTEIN BaCHOPI" in 1968.
Source: Encyclopeia Cinematographica, No.1727.

3. Aim and objectives

This paper seeks to address the following question: In the context of Southern Africa, how did intangible culture, intrinsically tied to African identity, manage to endure from colonial modernity to the present day? Merely understanding that colonial rulers exploited traditional ethnic performing arts for "divide and rule" tactics is insufficient to answer this query.To provide a comprehensive response, this paper makes three key points. First, the effectiveness of cultural manipulation to prevent the formation of pan-ethnic African solidarity consciousness was more limited than previously suggested, as practitioners fostered competitive consciousness within same ethnic groups rather than promoting differentiation between different ethnic groups. Second, industrial architectures that embodied colonialism paradoxically served as cultural "sanctuaries," sustaining intangible cultural practices threatened by colonial regimes, post-independence civil war, and socialist policies. Third, ethnic performing arts persisted in spaces symbolizing colonialism even after colonial rule ended, indicating that continuity stemmed from internal forces within practitioners rather than external pressure. However, as Laffranchini (2007) notes, this internal force was significantly shaped by the esteem accorded to ethnomusicologist Hugh Tracey, whose work was published during apartheid consolidation after 1948 (Tracey, 1949). Thus, the intentions of the ruling regime and cultural practices became inextricably intertwined. Subsequent ethnomusicological research tends to cite the content of Tracey's seminal work without interrogating the temporal context of its publication—namely, the precise moment of apartheid's consolidation. Yet it is precisely this critical perspective on source materials that proves essential.

4. Methodological Framework

This paper employs historical and sociological methods for the analysis. The primary materials and archives consulted include those of the Transvaal Chamber of Mines in the Special Collections of the Library of the University of Johannesburg in South Africa, the Historical Archives of Mozambique (Arquivo Histórico de

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Moçambique), and the video archive known as the Encyclopaedia Cinematographica held by the National Museum of Ethnology in Japan (Kawase, 2019).

Furthermore, oral histories and narratives collected since 2005 from Zavala District in Inhambane Province, Mozambique—a population center of the Chopi people who have been a source of migrants to the South African mining industry—are incorporated. Recent data obtained through interviews conducted in Mozambique in 2022 and at mining company compounds in Rustenburg, North West Province, South Africa in 2023, as well as in the former Bantustan regions of Gazankulu and Venda in Limpopo Province, South Africa, which were migrant-sending areas, are also utilized. At the mining compounds and in the former Bantustans, interviews were conducted in the presence of a research collaborator who shared not only the language but also the cultural background as a practitioner of the culture being analyzed, in order to facilitate communication.

5. Results

The following provides three key findings from the analysis of this case study.

5.1. Borrowing across Racial and Ethnic Boundaries, and Rivalry within One's Own Group

One of the key findings of this paper challenges the argument that culture was used to "divide and rule" along ethnic lines. A previous study by Badenhorst and Mather (1997) revealed that this was for labor management purposes. However, we cannot conclude that each ethnic group was solely reaffirming and reinforcing its differences for two reasons.

First, the borrowing of staging techniques is evident in the dancers' appearances accompanying the ensembles. As shown in Figures 2, the Chopi dancers carry Zulu-style shields and spears which are the symbols of the enemy, and wear feathers on their foreheads and wool fringes around their feet to make their dances appear more dynamic, though most of the time their poem with social message contradict with Zulu-style war dance (Vail and Wihte, 1991; Laffranchini, 2007). These materials used for costume decoration were clearly supplied by the mining company (Badenhorst and Mather, 1997). Notably, the Chopi people, who hail from the lowlands along the Indian Ocean coast of southern Mozambique, do not traditionally raise sheep for ranching as part of their livelihood. The wool fringes worn by the Chopi dancers are borrowed from the costumes of other South African ethnic groups. Furthermore, according to the interview conducted in 2022 with a contemporary Mozambican group that carries on this art states, they obtain wool for their costumes from South Africa. Other ethnic groups in South Africa would have used different materials for their fringes, but they actively introduced new materials after the introduction of sheep by white settlers.

Second, the consciousness of practitioners of ethnic performing arts may have been less about asserting the differences and superiority of one ethnic group over another, and more about a sense of competition directed toward different performing groups within their own ethnic group. According to South African ethnomusicologist Tracey (1949), in 1944, there were at least 47 timbila orchestras at the Rand mines, with about 6,000 Chopi workers, of which 780 were timbila musicians. These orchestras ranged in size from 7 to 40 players (Tracey, 1949: 255-256). Venâncio Mbande (1928-2015), a leading timbila player who worked in South African mines since 1948 until 1995 and collabourated with Tracey's research, named his South African mining-based orchestra after the Chopi word for "Impala", the name of the company he worked for (Vail and White, 1991). The following quote is the opening spoken part from a song by Venâncio Mbande, and the lyrics have been written in 1988.

> Hingaeni zwee minapha Makala. (Be quiet and you will listen something amazing.)
>
> Timbila taMpala tangena! (The timbila of Impala is coming in!) (Mbande, 1994)

As mentioned above, practitioners of ethnic performing arts borrowed staging ideas from other groups, especially form Zulu which has same roots of their historic invador Gaza Nguni (Laffranchini, 2007). In contrast, rather than being negatively conscious of differences between ethnic groups, they were conscious of the superiority of performance among different orchestras within their own ethnic group. It should be noted that Figures 1 and 2

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correspond to the early 1940s and late 1960s, respectively—that is, the periods before and after the apartheid regime was consolidated. This reality contradicted corporate efforts to control and suppress the development of worker solidarity within an apartheid system that had been reinforced following the large-scale strikes of 1946. The reason why the awareness of practitioners was directed toward different orchestras within the same ethnic group may be due to the influence of the joint concert "msaho" historically held in the home community in Mozambique.

5.2. A Cultural "Sanctuary" existing in the Core of Colonial System

The second finding of this paper suggests that South African mining compounds under the apartheid regime may have functioned as "sanctuaries" for the traditional performing arts of African peoples. In the case study of the Chopi, the daily practice of their performing arts in rural areas faced significant disruption due to the Mozambican Civil War (1977-1992), which was primarily a guerrilla conflict that emerged in these regions shortly after the country gained independence in 1975. Meanwhile, in urban areas, Chopi timbila was incorporated into political propaganda by the Socialist Frelimo regime (Vail and White, 1991).

Figure 3 captures the situation in rural Mozambique during the civil war. The photo circled shows items seized by government forces from an anti-government guerrilla group's base. In the foreground are several timbillas, including a large, low-pitched one with a damaged "leg" part.

Venâncio Mbande, a key figure in getting the timbila inscribed on UNESCO's intangible cultural heritage list, spent many years from 1948 to 1995 working as an immigrant contract labour in South African mining areas. Upon returning to his hometown, he stated:

> "Civil war in Mozambique did very bad things. Because the way they were fighting, they were not fighting soldier against soldier. They were fighting against us. Nobody was playing music by that time. I was playing because I was in South Africa. But here, nobody was playing music. When the war was end, I thought by myself that nobody was playing music, and a lot of people they were killed, a lot of people were very old…could not play music anymore. I came here to start … to reorganize our culture." (Zango, 2016)



Figure 3. Items Seized from the Base of a Anti-Government Guerrilla Group. Source: SALVADOR and NAM (1985)

The possibility that South African mining labour compounds under apartheid functioned as protected space, "sanctuaries" for the traditional performing arts is also evidenced in testimonies from other ethnic groups, not just the Chopi. For example, Vendaland and Gazankulu Bantustans were famous for having extremely rich indigenous cultural practices carried out until the formation of Bantustans in 1951, as they were set as the major research sites

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in the seminal work on African ethnomusicology, Blacking's work (Blacking, 1974). However, according to the acutual leaders of performing arts groups, during apartheid Vendaland and Gazankulu Bantustans where ethnic cultural activities were prohibited in 1960s onward. Some of the leaders, Richard Mtumbateka Matsharaga and Mabunda noted in their interview at Thohoyandou and Malamulele, Limpopo Province in 2023, the white rulers feared group instrumental music could unite African people, uplift them and energize resistance. They added that while some group performances occurred, when these became competitive the inevitable disputes between dissatisfied groups led the rulers to ban folk arts in the Bantustans entirely. The mine compounds then became the only spaces for such practices. Both Mozambicans and South Africans faced significant restrictions on performing their ethnic arts due to conflict and the apartheid regime in their home areas respectively.

5.3. Implications of Continuation of Traditional Performing Arts Practices

Finally, this paper argues that the coercion of domination and the continuation of traditional performing arts practices cannot be explained by the logic of domination. Conversely, the fact that the practice persists may be judged as an initiative of the practitioners themselves. To provide context, during the apartheid era, African workers were deprived of their right to free movement. They were required to live in a hostel for the duration of their contract work at the mining compound. The compound inherited the structure of a panopticon (Fig. 4), with an administration building and an amphitheatre-like arena (Fig. 5) – a common outdoor space. To alleviate the frustration of thousands of restricted African workers, weekend recreation was abundant, including performing arts at this arena.



Figure 4. Satellite View of Hostel and related facilities at Impala Platinum. Source: Google Satellite



Figure 5. Arena at Impala Platinum
Source: Taken by the author in 2023

After the abolition of apartheid, the labour management regime was relaxed, and African migrant workers were allowed to live outside the hostel. Many now reside in the general living quarters that have expanded around the area. Weekend recreation at the mine compound is no more, and there is freedom of mobility. The timbila band, once a fixture, no longer exists at the mine. However, when the author visited the site in July 2023, Chopi miners still residing at the compound owned their own timbilas and played them during their leisure time. Figure 6 shows a representative Mozambican timbila player Matchume Zango who accompanied the interview as a research collabourator, playing the instrument of a fellow miner. This also suggests that the coercion of domination and the continuation of traditional performing arts cannot be explained solely by the logic of domination. In this regard, Laffranchini's argument concerning the reconstruction of identity appears valid. However, while traditional forms are transmitted across generations, the task of examining more deeply what these forms signified within their community contexts—including their ritual significance and reflection of social structures—remains a challenge for future research.

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Figure 6. An Unexpected Duet: Chopi Miner (right) with his instrument, accompanied by a Chopi research collabourator (left) at the Hostel of Impala Platinum. Source: Taken by the author in 2023

6. Conclusion

This study has examined the paradoxical survival of Mozambican intangible cultural heritage within South African mining compounds, revealing the complex dynamics between colonial control and cultural agency—the capacity of practitioners to exercise autonomous choices despite constraints. The analysis challenges conventional narratives that position ethnic performing arts merely as tools of colonial "divide and rule" strategies, instead demonstrating how these practices persisted through the active agency of cultural practitioners themselves. The research findings illuminate three critical dimensions of cultural heritage preservation under oppressive regimes. First, practitioners engaged in creative borrowing across ethnic boundaries while directing their competitive consciousness toward groups within their own communities rather than reinforcing ethnic divisions. Second, mining compounds paradoxically functioned as cultural "sanctuaries" that preserved performing arts traditions threatened by civil war and political restrictions in practitioners' home regions. Third, the persistence of these practices beyond the apartheid era demonstrates that cultural continuity stemmed from internal motivation rather than external domination.

These findings reveal how vernacular communities exercised agency within constrained circumstances, transforming spaces of oppression into sites of cultural preservation. However, this study also acknowledges the complex entanglement between colonial intentions and cultural practices, as practitioners' efforts were inevitably shaped by their sociopolitical contexts. The case of Mozambican performing arts in South African mines offers valuable insights into heritage concepts beyond Western frameworks, demonstrating that intangible cultural heritage preservation requires recognition of the sophisticated ways communities navigate oppressive systems while maintaining cultural continuity. Future research should continue to explore the deeper meanings and community contexts of these preserved cultural forms to fully appreciate the richness of this enduring cultural heritage.

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La Maison Fang, une nouvelle maison individuelle

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Abstract

This article highlights the significance of Africa showcasing its unique identities, specifically in the field of architecture, to the world. By preserving and enhancing architectural heritage, we, as Africans, can maintain our values, cultures, and identities, ultimately contributing to an inclusive future for all. To explore the concepts of "inclusive future" and "African identities," we approached the subject using a structural-systemic approach. Through this exploration, we discovered that 'African identity' is a multifaceted and diverse concept, encompassing the cultural, historical, social, and geographical aspects that are unique to the peoples and nations of the African continent. On the other hand, 'inclusive future' refers to a vision of the future that aims to integrate all aspects of society in an equitable and participatory manner. With these ideas in mind, we focused our attention on one specific group of people: the Fang, who represent just one of the many identities present on the African continent. The Fang house, beyond being a simple architectural structure, has become a means of introducing a new approach to individual home life, similar to other types of homes like villas and bungalows. These different types of habitats not only provide living spaces but also embody distinct ways of living and experiencing the world. By sharing our traditional homes, such as the Fang house, we are contributing to an inclusive future where diversity and differences are embraced and shared with the rest of the world. Showcasing our architectural identities allows us to engage in a global dialogue, fostering mutual understanding and cultural enrichment. Through expressing and preserving our identities via our architectural heritage, we are helping to create a future that reflects the incredible diversity of Africa while forging meaningful connections with the global community.

Keywords: *Heritage, African identity, inclusive future, Fang, culture, home, living.*

Résumé

Cet article met en lumière la volonté, si ce n'est la nécessité, pour le continent africain de faire connaître au reste du monde ses identités, notamment sur le plan architectural. À travers la préservation et la valorisation du patrimoine architectural, nous, peuples africains, avons l'obligation de perpétuer nos valeurs, nos cultures et nos identités, contribuant ainsi à façonner un avenir inclusif pour tous. Alors, par une approche structuro-systémique, nous avons exploré les concepts d'« avenir inclusif » et d'« identités africaines ». Nous avons compris que l'« identité africaine » représente un concept complexe et diversifié, englobant les traits culturels, historiques, sociaux et géographiques spécifiques aux peuples et aux nations du continent africain ; alors que l'« avenir inclusif » renvoie à une vision du futur qui cherche à intégrer de manière équitable et participative toutes les composantes d'une société. C'est dans cette perspective que notre attention s'est portée sur un peuple en particulier : les Fang, l'une des nombreuses identités que recèle le continent africain, pour exprimer ce devoir de renaissance de l'Afrique dans le contexte mondial. La maison Fang, au-delà d'être une simple structure architecturale, devient un moyen d'introduire

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une nouvelle approche de la vie dans une maison individuelle, au même titre que la villa, le bungalow, etc. Ces divers types d'habitat ne se limitent pas à des espaces de vie ; ils représentent également des modes de vie, des manières d'habiter le monde. En partageant nos maisons traditionnelles telles que la maison Fang, nous contribuons à un avenir inclusif, où la diversité et les différences sont célébrées et partagées entre nous et le reste du monde. En présentant nos identités architecturales, nous participons à un dialogue global, favorisant une compréhension mutuelle et un enrichissement culturel réciproque. Ainsi, en exprimant et en préservant nos identités à travers notre patrimoine architectural, nous collaborons à créer un avenir qui reflète la richesse de la diversité africaine, tout en tissant des liens significatifs avec la communauté mondiale.

Mots-clés : *Patrimoine, identité africaine, avenir inclusif, Fang, culture, maison, habiter.*

1. Introduction

Le patrimoine est défini comme étant un « Bien qu'on tient par héritage de ses ascendants. »[1]. En d'autres termes, c'est l'ensemble ce de tout ce qu'on l'on possède et qui nous a été transmis par les générations précédentes. D'après l'UNESCO, le patrimoine « est notre héritage du passé, ce avec quoi nous vivons aujourd'hui et ce que nous transmettons aux générations futures »[2]. Le patrimoine représente donc quelque chose qui, par sa valeur, mérite d'être transmis de génération en génération. Nous voyons donc l'importance de la préservation du patrimoine en tant que moyen de maintenir et de transmettre notre histoire, notre culture et notre identité aux générations futures.

La préservation est l'« *action de mettre quelqu'un ou quelque chose à l'abri d'un danger, action de sauvegarder quelqu'un ou quelque chose*. »[3]. Autrement dit, la préservation se réfère à l'action de conserver, protéger, maintenir ou sauvegarder quelque chose de manière à éviter sa détérioration, sa perte ou sa destruction ; c'est surtout garantir la perpétuité de quelque chose, d'une idée, d'un patrimoine, d'une identité, etc. L'objectif de la préservation est généralement de maintenir la valeur, l'intégrité ou la fonction originale d'un bien, d'une ressource ou d'un aspect particulier. Elle peut être appliquée à différents domaines, de l'architecture à la biodiversité, en passant par la culture et l'histoire.

Le patrimoine culturel incarne le récit, les coutumes, le savoir-faire et l'identité profonde d'une communauté. En le préservant, les habitants peuvent non seulement renforcer leur fierté culturelle, mais aussi consolider leur sentiment d'appartenance à un héritage partagé. Cette préservation devient ainsi le moyen de sauvegarder les enseignements précieux et les traditions ancestrales, assurant ainsi la transmission de connaissances et de valeurs cruciales aux générations futures. En préservant notre patrimoine culturel, nous forgeons un lien vivant entre le passé, le présent et l'avenir, contribuant à la richesse et à la diversité qui définissent notre héritage collectif.

Pendant l'élaboration de ce travail, notre attention s'est portée sur l'une des identités ethniques qui contribuent à la diversité du riche patrimoine culturel africain : les Fang. Ces derniers résident au Cameroun, au Gabon et en Guinée-Équatoriale. Au Gabon, ils constituent la première ethnie en termes de pourcentage, jouant un rôle significatif dans le tissu social du pays. Il convient de noter que la population gabonaise est composée d'environ 50 groupes ethniques, tous issus de différentes régions. Aucun de ces groupes n'occupe une position prédominante, bien que parmi les plus importants en termes de nombre, les Fang se distinguent en occupant la moitié septentrionale du pays. Cette présence ethnique représente non seulement une part importante de la mosaïque culturelle gabonaise, mais elle offre également un exemple captivant de la richesse et de la diversité des identités ethniques en Afrique.

[1] https://www.larousse.fr/dictionnaires/francais/patrimoine/58700

[2] https://www.unesco.org/fr/lists-designations

[3] https://www.linternaute.fr/dictionnaire/fr/definition/preservation/#:~:text=Pr%C3%A9servation%20est%20l%27%20action%20de%20mettre%20quelqu%27un%20ou,aux%20g%C3%A9n%C3%A9rations%20futures%20un%20avenir%20d%C3%A9cent%20et%20prosp%C3%A8re.

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Le but de cette réflexion est donc de prêter attention à la valeur architecturale qui existe dans le bagage historique fang : la maison fang. De ce fait, en utilisant une approche structuro-systémique, nous tenterons de comprendre la signification de l'expression « avenir inclusif » en examinant l'ensemble de caractères interdépendants qui composent ce concept. Ensuite, nous chercherons à comprendre le concept d'« identités africaines » en explorant son contexte, son fonctionnement et ses mécanismes. Par la suite, nous nous pencherons sur la maison fang afin d'évaluer comment elle peut constituer un type de maison individuelle.

2. Identités africaines et avenir inclusif

L'identité est un concept paradoxal. En effet, elle se définit comme le « *caractère de ce qui est un, de ce qui demeure identique à soi-même* »[4], tout en étant également « *ce qui permet de reconnaître une personne parmi toutes les autres* »[5]. En d'autres termes, l'identité est ce qui crée une unité parmi un groupe de personnes, tout en les distinguant simultanément d'un autre groupe. Michel Castra[6] nous explique que l'« *identité est constituée par l'ensemble des caractéristiques et des attributs qui font qu'un individu ou un groupe se perçoivent comme une entité spécifique et qu'ils sont perçus comme telle par les autres.* »[7]. On peut comprendre que l'identité est formée par un ensemble de caractéristiques, de particularités et d'attributs qui définissent comment un individu, ou un groupe d'individus, se voit lui-même en tant qu'entité et comment il est perçu par les autres. Cela prend en compte une variété d'éléments, allant des aspects culturels et sociaux, aux caractéristiques physiques et aux expériences personnelles et/ou communes. Les données qui contribuent à cette identité peuvent inclure la langue, la culture, la religion, les coutumes, les expériences partagées, les valeurs, les croyances, etc. Il s'agit ainsi d'une combinaison complexe de facteurs qui, ensemble, forment une compréhension de soi et déterminent comment un individu, ou un groupe d'individus, est perçu au sein de la société. L'identité est souvent influencée par la façon dont elle est perçue à la fois de l'intérieur, par l'individu ou le groupe lui-même, et de l'extérieur, par les autres membres de la société.

Étant donné que le concept d'« identité » est complexe et quelque peu insaisissable, le monde est ainsi fait d'une grande multitude d'identités, ou d'un grand nombre d'unités et de communes unités. Parmi ces innombrables communes identités, on entend souvent parler de l'« identité africaine ». Celle-ci est tout aussi un concept complexe et diversifié ; elle englobe les caractéristiques culturelles, historiques, sociales et géographiques propres aux peuples et aux nations du continent africain. C'est une notion qui émerge de la richesse des traditions, des langues, des coutumes, des arts, de la musique, de la spiritualité et des expériences historiques des nombreuses communautés qui composent la population africaine. Elle est profondément enracinée dans la diversité, reflétant la pluralité des cultures et des peuples. Parallèlement, l'identité africaine est en constante évolution, influencée par les dynamiques modernes, les migrations, les échanges culturels mondiaux et les défis contemporains. L'identité africaine joue un rôle crucial dans la construction des sociétés africaines ; elle favorise la résilience, la fierté culturelle et la compréhension mutuelle entre les divers groupes ethniques et nations du continent. Il est important de noter que l'identité africaine n'est pas homogène, mais plutôt une mosaïque dynamique, reflétant la pluralité et la complexité des réalités africaines. On parlerait alors d'« identités africaines », de plusieurs identités africaines. Celles-ci jouent un rôle essentiel dans la compréhension globale de l'histoire et du potentiel futur de l'Afrique en tant que continent diversifié et dynamique. Ainsi, la revalorisation de l'identité africaine et de son caractère communautaire constituera sans aucun doute une démarche entreprenante pour orienter les initiatives qui façonnent le futur des Africains. Elle ouvrira également la voie à l'établissement de partenariats novateurs avec les

[4] https://dictionnaire.lerobert.com/definition/identite, sens I

[5] https://dictionnaire.lerobert.com/definition/identite, sens II

[6] Professeur d'universités et maître de conférences à l'Institut de sociologie et d'anthropologie de l'université de Lille 1 et membre du laboratoire du Clersé-CNRS.

[7] Castra Michel, « Identité », in Paugam Serge (dir.), Les 100 mots de la sociologie, Paris, Presses universitaires de France, coll. « Que Sais-Je ? », pp. 72.

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« identités non africaines », caractérisés par des échanges culturels mutuellement enrichissants pour un avenir inclusif. Qu'entend-t-on par « avenir inclusif » ?

Si l'« avenir » représente ce qui est à venir et l' « inclusif » ce qui est mis dans un ensemble, alors l'expression « avenir inclusif » fait référence à une vision du futur qui intègre de manière équitable et participative toutes les composantes d'une société. Un avenir inclusif vise à créer des opportunités égales, à reconnaître la diversité et à promouvoir la participation active de tous les individus, indépendamment de leurs différences, leur race, leur genre, la classe sociale, la capacité physique, la religion ou d'autres caractéristiques personnelles, dans les processus décisionnels et dans la vie sociale, économique et politique. Ainsi, un avenir inclusif, dans notre contexte de préservation d'identité et de patrimoine, cherche à garantir qu'aucune communauté ne soit laissée de côté, et que les avantages du développement et de la prospérité soient accessibles à tous. Cela se réfère à une approche qui garantit que les efforts de préservation prennent en compte et intègrent de manière équitable les diverses identités culturelles, les histoires et les patrimoines des différentes communautés d'une société. Cela signifie veiller à ce que toutes les communautés, indépendamment de leurs origines, soient représentées, respectées et incluses dans les initiatives de préservation. Dans un avenir inclusif axé sur la préservation de l'identité et du patrimoine, les politiques et les pratiques visent à reconnaître la diversité culturelle et à protéger les éléments qui définissent les différentes communautés. Cela peut impliquer la documentation et la conservation de traditions orales, d'artefacts, de langues, d'expressions artistiques et de coutumes uniques à chaque groupe culturel. L'objectif est d'assurer que la préservation du patrimoine ne soit pas biaisée en faveur d'une seule perspective, mais qu'elle reflète la pluralité des expériences et des identités. De cette manière, un avenir inclusif dans le contexte de la préservation d'identité et de patrimoine contribue à renforcer la cohésion sociale, à favoriser la compréhension interculturelle et à préserver la richesse culturelle pour les générations futures.

Ainsi, ce contexte d'avenir inclusif pourrait aussi impliquer non seulement de donner à l'Afrique l'opportunité de révéler son potentiel architectural à l'échelle mondiale, mais aussi de reconnaître et de valoriser les diverses identités qui composent la riche mosaïque culturelle du continent, y compris à travers l'architecture. L'Afrique, en tant que continent diversifié, est le foyer de nombreuses identités uniques, chacune portant en elle des éléments distinctifs de traditions, de cultures et d'histoires. Dans cette perspective, une approche inclusive pourrait consister à mettre en avant ces identités variées sur tous les plans possibles, y compris à travers l'architecture. Il s'agit de célébrer la diversité et de reconnaître que chaque identité de l'Afrique contribue à la richesse collective du monde. L'identité fang, par exemple, offre une opportunité passionnante d'explorer comment elle peut être intégrée de manière tangible dans le domaine architectural. Cela peut se manifester à travers l'utilisation de motifs, de matériaux, de techniques de construction ou de concepts architecturaux spécifiques à la culture fang. En mettant en lumière l'identité fang de manière pratique dans l'architecture, on contribue à mettre en valeur et à préserver une partie importante du patrimoine africain. En adoptant cette approche, l'objectif est de créer des espaces qui reflètent authentiquement la diversité africaine, tout en favorisant une compréhension plus profonde et une appréciation mutuelle des différentes identités présentes sur le continent. C'est ainsi que, dans un avenir inclusif, l'architecture peut devenir un moyen puissant de représenter, célébrer et préserver les multiples facettes de l'identité africaine.

3. L'analyse de la maison fang

Avant de nous intéresser à la maison Fang et d'en faire un potentiel type de maison individuelle à l'échelle mondiale, nous devons comprendre qu'est-ce qu'une maison individuelle.

La notion de maison individuelle englobe un type d'habitation qui se distingue par son caractère non collectif. Souvent désignée sous le terme d'habitat individuel, cette forme de logement constitue généralement le lieu de résidence d'une unique famille. Cependant, il est essentiel de souligner que le qualificatif « individuel » ne sous-entend pas nécessairement l'existence d'un unique logement au sein de cette structure. En effet, une maison individuelle peut revêtir différentes configurations. Il peut s'agir d'une habitation comprenant plusieurs unités distinctes destinées à des membres d'une même famille élargie, ou bien elle peut être aménagée pour accueillir plusieurs foyers indépendants. Ainsi, bien que le terme « individuel » soit souvent associé à l'idée d'une seule unité

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résidentielle, il peut en réalité englober diverses possibilités d'organisation spatiale et fonctionnelle. L'importance de cette nuance réside dans la diversité des modes de vie et des arrangements familiaux. En comprenant que la maison individuelle peut se prêter à des configurations multiples, on prend en compte la variété des besoins et des préférences des habitants. Cette flexibilité dans la conception des maisons individuelles reflète la diversité croissante des structures familiales et des modes d'occupation de l'espace résidentiel. La maison individuelle, bien que liée à l'idée d'une habitation pour une seule famille, s'adapte de manière polyvalente aux réalités de la vie domestique moderne comme traditionnelle. Ainsi, la maison individuelle peut être constituée de plusieurs logements individuels, ou d'un logement individuel à plusieurs locaux. Aussi, la maison individuelle est un « *symbole de liberté et d'une indépendance recherchée* »[8] C'est-à-dire qu'elle est généralement une réponse au désir de préserver sa sphère privée puisqu'elle offre à ses occupants un espace personnel où ils peuvent façonner leur vie selon leurs propres termes.

Ici, on s'intéresse à la maison fang où les familles occupent justement des habitations à plusieurs locaux ou compartiments : le corps de garde [1] appelé « Abâ » en langue fang, le séjour-chambres [2] encore appelé « maison principale », la/les cuisine/s [3], les latrines [4] à l'arrière de la cuisine et la cour [5].

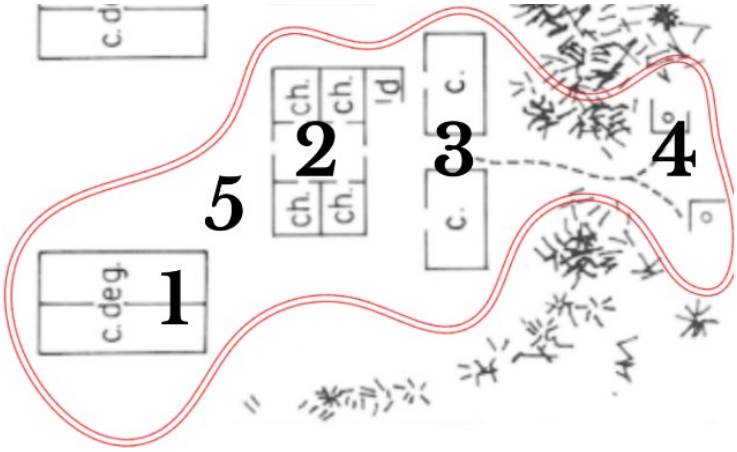


Figure 1. Illustration du plan d'une maison dans un village gabonais-type. Source: Pour une géographie de l'habitat rural du Gabon par Claude Bouet, page 126 puis modifié par Judes BILOGO

[1] Avant l'arrivée des colons, chez les fang, au centre ou à l'entrée du village, en fonction de la configuration, il y avait l'« abâ », le corps de garde. Il servait de « *lieu de rassemblement du village pour échanger et passer du temps avec les sages* »[9] mais aussi de lieu d'expression de l'hospitalité fang puisque d'après les dires des anciens[10], on y déposait des aliments, des régimes de bananes, des tubercules, etc... et de l'eau pour que les passants et les voyageurs puissent s'y reposer et reprendre des forces. Il était placé de manière stratégique, permettant aux usagers de surveiller simultanément les deux principales entrées et sorties du village. C'est le parfait mélange entre un mirador et un kiosque. Généralement, c'est dans ce corps de garde que bon nombre de sages et anciens prennent le repas, apportés par les différentes épouses du village. Le corps de garde, pour le repos et le loisir, est un espace masculin dont le rôle est éminemment politique, formateur et stratégique. Avec le temps, le corps de garde s'est d'abord individualisé, avec l'apparition d'un corps de garde par famille, avant de progressivement commencer à disparaître de nos jours. En effet, la construction de nouveaux corps de garde se fait de plus en plus rare, tandis que les anciens tombent peu à peu en ruine.

[8] https://www.fuveau.fr/quelles-sont-les-caracteristiques-dune-maison-individuelle/

[9] ASSOUMOU NDOUTOUME Daniel, Parlons Fang : culture et langues fang du Gabon et d'ailleurs, Paris, l'Harmattan, 2010, p.163.

[10] Données issues de la tradition orale.

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Figure 2. Illustration d'un corps de garde.
Source: https://watercharity.com/book/doumandzou-primary-school-bathroom-project-gabon-2/

[2] Le séjour-chambres avec un plan simple : « une pièce d'entrée utilisée comme entrepôt ou comme lieu de séjour, dont la porte unique donnait sur la rue ; deux ou trois compartiments ou chambres exigus séparés par des cloisons de ‘’bambou’’, aménagées de chaque côté de la pièce centrale et s'ouvrant sur celle-ci. »

Le salon est la « *Pièce aménagée avec un soin particulier où l'on reçoit les visiteurs et où l'on se réunit en famille et entre amis*. »[11] De ce fait, le salon a pour rôle principal de recevoir du public : c'est l'une des seules pièces semi-privées. Idéalement, les utilisateurs souhaiteraient disposer de deux salons distincts : l'un réservé aux invités, l'autre dédié aux enfants. En effet, la cohabitation dans un unique espace devient vite problématique, notamment avec de jeunes enfants, en raison du désordre qu'ils peuvent engendrer. En revanche, dans la maison fang, l'accueil des visiteurs classiques se fait au corps de garde, pour les hommes, et à la cuisine, pour les femmes. Au salon, on reçoit les invités assez importants (le nouveau gendre présenté à la famille par exemple). On remarque alors que le « salon » dans la maison fang est beaucoup plus complexe que la définition initiale d'un salon. La conception d'un salon occidentale répond difficilement, au quotidien, à toutes les habitudes ou toutes les utilisations de cet espace.

La chambre est familièrement la « *Pièce où l'on couche* »[12] dans un logement. Autrement dit, c'est la pièce où on dort, l'espace de l'intimité. Idéalement, en ville, la chambre en plus de servir à dormir, peut servir à travailler (avec un espace bureau), à stocker (avec un espace dressing ou armoire), et à se divertir (un espace de jeux pour les enfants). Mais dans la maison fang, la chambre ne sert généralement qu'à y passer la nuit.

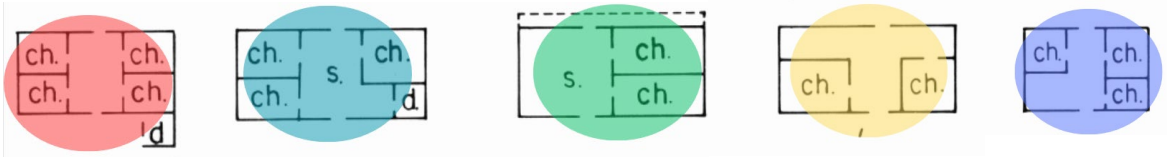


Figure 3. Illustrations de plusieurs maisons principales dans un village fang. Source : Pour une géographie de l'habitat rural du Gabon par Claude Bouet, page 126 puis modifié par Judes BILOGO

[3] La cuisine est la « *Pièce, lieu destiné à la préparation des aliments* »[13] En d'autres termes, c'est la pièce où on pratique l'art culinaire. C'est généralement un espace qu'on veut idéalement privé, accessible seulement à la famille. Communément, la cuisine sert bien évidemment à faire la cuisine mais aussi à prendre le repas et parfois à faire la lessive. Alors que dans la maison fang, la cuisine, en plus de pouvoir y faire à manger, peut aussi servir de salle à

[11] https://www.cnrtl.fr/definition/salon

[12] https://dictionnaire.lerobert.com/definition/chambre

[13] https://www.cnrtl.fr/definition/cuisine

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manger, de chambre, d'espace de stockage, et d'espace de rassemblement pour les femmes. C'est un espace féminin dont le rôle est économique. En effet, comme on peut le voir sur la figure, la configuration de la cuisine fang est semblable à celle d'un logement presqu'indépendant. On y trouve donc des lits, un espace de rangement, plusieurs feux de bois accompagnés au-dessus d'outils d'enfumage, un espace ou salle de stockage des aliments, et au moins deux portes d'entrées et sorties. À l'occasion d'événements, qu'ils soient joyeux ou tristes, les femmes du village ainsi que les sœurs de l'épouse ou des épouses du chef de famille se réunissent pour prêter main-forte en cuisine lors des cérémonies. C'est pourquoi la cuisine fang est pensée et aménagée de manière à accueillir un grand nombre de personnes. On peut y accéder sans passer par le séjour-chambres et le corps de garde.



Figure 4 : Illustration d'une cuisine traditionnelle
Source: https://mobile.facebook.com/groups/1514288068600518/directory/?_rdc=1&_rdr

[4] Les latrines à l'arrière de la cuisine. La salle d'eau est la « *Pièce d'une habitation, comportant une douche, et réservée pour se laver.* »[14] et le W.C. désigne « *les toilettes, le lieu où l'on se soulage des déjections corporelles.* »[15] Ainsi, ces deux espaces sont généralement réunis en une seule pièce. Généralement, la salle d'eau et le WC, jumelés, en plus de servir pour leurs besoins respectifs, peuvent servir aussi à faire la lessive à la main et/ou à la machine. Or dans la maison fang, les espaces d'hygiène sont pour la douche, à la rivière et/ou à la source ; et pour les selles, un peu plus loin derrière la cuisine. La notion de « salle de bain » ou de « salle d'eau » est pratiquement inexistante (parce qu'avec la modernisation, on y retrouve de plus en plus ces notions).



Figure 5. Illustration d'une douche traditionnelle
Source: https://pascaletbeaaugabon.blogspot.com/2015_01_01_archive.html

[14] https://www.lalanguefrancaise.com/dictionnaire/definition/salle-d-eau

[15] https://www.linternaute.fr/dictionnaire/fr/definition/wc/

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Figure 6. Illustration d'un W.C. traditionnel
Source: https://watercharity.com/book/doumandzou-primary-school-bathroom-project-gabon-2/

[5] La cour est un « *Espace découvert, entouré de murs et/ou de bâtiments, faisant partie d'une habitation, …* »[16], la terrasse est « *une Plate-forme de maçonnerie, en forme de large balcon, ménagée à l'un des étages d'une maison.*»[17] Ce sont alors des prolongements du logement avec plus de liberté. On peut y accueillir des visiteurs, prendre les repas et se divertir. En zones urbaines, on retrouve beaucoup plus de terrasses, en raison de la surface limitée. Et en zones rurales, dans les maisons fangs en particulier, on retrouve de grandes cours qui relient les différents bâtiments qui composent le logement.

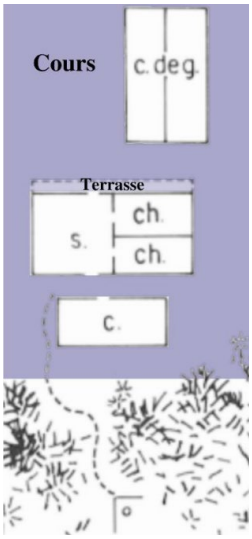


Figure 7. Mise en évidence de la cour dans la maison fang. Source: Pour une géographie de l'habitat rural du Gabon par Claude Bouet, page 126 puis modifié par Judes BILOGO

Spatialement, en général, les quatre compartiments du logement sont alignés les uns après les autres de sorte à ce que l'Abâ soit sur le bord de la route, ensuite la maison principale suivi de la cuisine, et enfin les sanitaires à l'arrière donnant directement sur la brousse. On remarque que le corps de garde a évolué d'un élément communal au niveau du village à un élément communal par famille ou maisonnée ; et la construction de la douche est quasi inexistante car la toilette continue de se faire à la rivière ; où l'on fait aussi la lessive. Ainsi, on peut noter « trois espaces fondamentaux » : un espace masculin dont le rôle est éminemment politique, formateur et stratégique ; un espace féminin dont le rôle est économique ; enfin un espace de liaison qui est l'intermédiaire des deux premiers espaces. A noter que c'est l'habitat qui est encore présents dans les villages.

Afin de contemporanéiser la maison fang, nous avons entrepris une réflexion approfondie centrée sur l'équilibre délicat entre tradition et modernité. Notre démarche visait à préserver les valeurs culturelles inhérentes à la maison

[16] https://www.larousse.fr/dictionnaires/francais/cour/19870

[17] https://www.dictionnaire-academie.fr/article/A8T0422

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fang tout en intégrant les ajustements nécessaires pour répondre aux exigences du monde contemporain. À travers une approche architecturale réfléchie, notre objectif était de revitaliser et de réinventer la maison fang, lui conférant ainsi une pertinence contemporaine tout en rendant hommage à son riche patrimoine culturel, en particulier l'héritage fang. L'une des principales interventions que nous avons entreprises était de réduire la distance entre la cuisine et le corps de garde, en plaçant la cuisine comme un espace tampon stratégique entre le corps de garde traditionnel et le salon-chambres. Cette reconfiguration spatiale visait à créer une meilleure harmonie fonctionnelle tout en respectant les caractéristiques culturelles de la maison fang. En rapprochant ces espaces clés, nous avons cherché à améliorer la fluidité des interactions quotidiennes, tout en conservant l'essence et la signification culturelle de chaque zone. Par ailleurs, pour optimiser l'utilisation du terrain, nous avons pris la décision de réduire l'emprise bâtie en regroupant la cuisine et le salon-chambre. Cette approche avait pour but non seulement de rationaliser l'espace, mais aussi de favoriser une utilisation plus efficace du foncier disponible. En repensant la disposition des différentes parties de la maison, nous avons cherché à créer des espaces surfaciques fonctionnels et esthétiquement cohérents, tout en respectant les principes culturels fondamentaux qui définissent la maison fang. En résumé, notre approche de « contemporanéisation » de la maison fang a été guidée par une volonté de concilier le respect de la tradition avec les nécessités contemporaines notamment sur les besoins du foncier, en apportant des ajustements architecturaux réfléchis et en préservant l'héritage culturel riche et significatif de la maison fang.

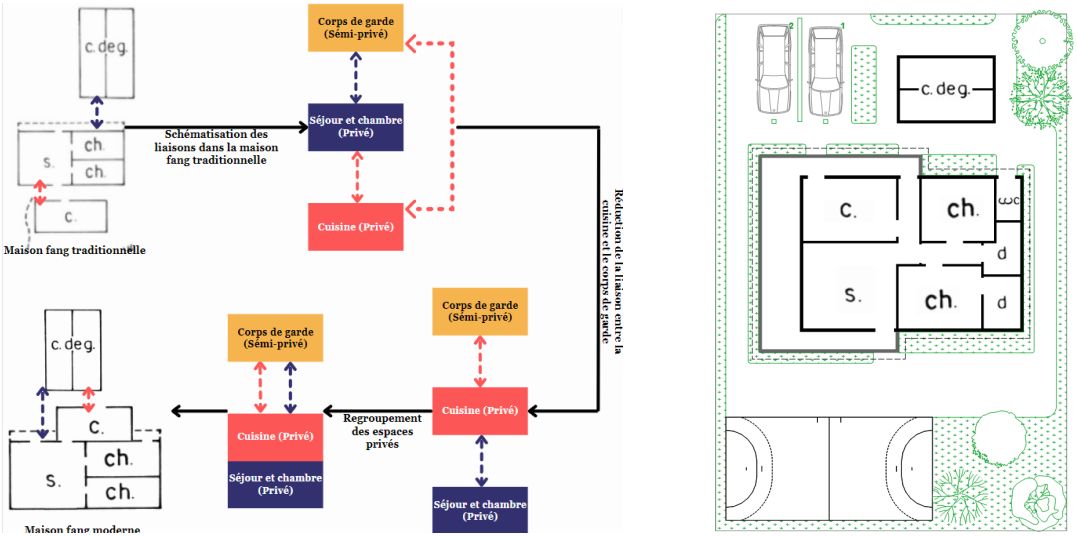


Figure 8. Schéma d'explication du processus de conception du plan et plan schématique. Source: production personnelle

En considérant l'explication d'une maison individuelle et l'analyse de la maison fang, dans notre démarche visant à préserver les identités africaines pour construire un avenir inclusif et ainsi façonner la renaissance africaine dans un contexte mondial, nous avons l'opportunité de populariser une nouvelle approche de l'habitat, de la vie... Tout comme résider dans une villa suscite des comportements et des habitudes différents de ceux engendrés par un manoir ou un bungalow, la maison fang pourrait représenter une manière novatrice de vivre la liberté et l'indépendance recherchées dans les maisons individuelles.

La configuration repensée de la maison fang n'est pas simplement un exercice de réaménagement spatial, mais plutôt une réflexion profonde sur la manière dont l'architecture peut influencer et enrichir le mode de vie. En adoptant cette approche, nous cherchons à préserver l'identité fang tout en la rendant accessible au monde. La maison fang revisité offre ainsi une perspective différente sur la vie domestique, intégrant harmonieusement les valeurs culturelles fang tout en répondant aux besoins contemporains. Vivre dans une maison fang repensée devient alors une expérience nouvelle ; cela va au-delà de la simple fonctionnalité, englobant les aspects culturels et sociaux qui définissent la vie dans une maison fang. Ainsi, dans la quête d'une renaissance africaine globale, cette réinterprétation de la maison fang ne se limite pas à une simple transformation architecturale, mais sert de

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moyen de communication culturelle, ouvrant la voie à une compréhension plus profonde et à une appréciation mondiale des modes de vie africains. Elle devient une expression tangible de la richesse culturelle et contribue à construire un avenir inclusif où les identités africaines jouent un rôle vital dans le dialogue mondial sur l'habitat et la vie contemporaine.

La maison fang, dans sa conception traditionnelle et dans sa relecture contemporaine, présente plusieurs caractéristiques qui peuvent séduire des modes de vie variés à l'échelle internationale. D'abord, la maison fang est pensée comme un lieu de rassemblement, favorisant les liens sociaux et intergénérationnels. Cet aspect collectif répond à un besoin de plus en plus présent dans les sociétés modernes en quête de reconnexion humaine, à l'heure de l'individualisme croissant. Ensuite, l'architecture fang n'est pas neutre : elle est porteuse de sens, d'histoire et de valeurs. Dans un monde où l'habitat est de plus en plus standardisé, cette dimension identitaire devient un véritable atout pour les personnes en quête de profondeur culturelle dans leur mode de vie. Enfin, la maison fang redonne à chacune des fonctions retrouvées dans un logis une valeur pas seulement fonctionnelle mais aussi sociale. On a une philosophie de vie intégrée à l'espace, où la maison est un reflet des valeurs quotidiennes : accueil, repos, harmonie sociale, etc.

4. Conclusion

En somme, la préservation du patrimoine, illustrée par l'exemple particulier de la valorisation de la maison fang, met en évidence la valeur et la pertinence de cette approche pour préserver une identité culturelle. Après avoir examiné les expressions « avenir inclusif » et « identités africaines », une analyse approfondie nous a permis de souligner l'importance de concilier le respect des éléments culturels, historiques et fonctionnels avec l'adaptation nécessaire pour répondre aux exigences de la vie contemporaine. La préservation du patrimoine devient un moyen vital de transmettre des connaissances et des valeurs cruciales aux générations futures, établissant un lien vivant entre le passé, le présent et l'avenir, notre avenir commun. Dans notre contribution à la construction de la renaissance africaine à l'échelle mondiale, notre réflexion s'est concentrée sur les Fang, une ethnie qui enrichit la diversité culturelle africaine. Au travers de leur maison traditionnelle, la maison fang, nous avons exploré la valeur architecturale de ce patrimoine historique. En évaluant la maison fang en tant que type de maison individuelle, nous avons mis en lumière l'importance de préserver ce patrimoine architectural dans la construction d'un avenir qui intègre les diverses identités africaines. Ainsi, la préservation de la maison fang devient un moyen de célébrer la richesse et la diversité des identités culturelles en Afrique, contribuant ainsi à la construction d'un patrimoine vivant et dynamique pour les générations à venir. La maison fang, par son essence communautaire et sa richesse symbolique, possède un potentiel d'adaptation et d'inspiration pour d'autres contextes culturels et architecturaux. En la réinterprétant intelligemment, on peut non seulement préserver une identité africaine forte, mais aussi proposer un modèle d'habitat alternatif qui répond aux aspirations contemporaines d'équilibre, de durabilité et de lien social.

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Asmara's cultural integration: bridging the past and the future

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Abstract

Since 2021 a working group composed of Nelson Mandela University, School of Architecture staff and students, along with a group of First Nations of South Africa Chiefs, have collaborated to document and interpret The Modern Asmara was founded in 1889 during the Italian fascist colonial campaign, situated on a plateau in Eritrea in the mountains, where four villages once stood. Like all colonial cities, there was initially a clear division between Italians and Eritreans, destined to reside around the local Aba Shawl district. In 1991, Eritrea gained independence, and Asmara was chosen as the capital, finally liberated and reclaimed by the local population. Through a process of reappropriation, where architecture succeeds in regenerating and enriching itself with new meanings and inclusive values, Asmara projects itself into the future with a renewed identity. The case of Asmara is emblematic of how an architectural and urban heritage of colonial origin, born from the integration of local vernacular techniques and the eclectic aspirations of the Italian modernist movement, can become a premise for the social, economic, and cultural development of the country. Following Asmara's recent inscription as a UNESCO city, this article aims to explore how to integrate the design of the existing modern city and its iconic monuments with the vernacular heritage characterised by peculiar construction techniques and the intangible values of the Eritrean population. Case studies such as the Orthodox Cathedral of St. Mary's will be presented to reflect on the most suitable strategies for preserving modernist heritage reinterpreted with a local sensitivity. Indeed, this building was constructed inspired by the local "monkey head" technique, incorporating textures and colours that evoke Eritrean culture and atmosphere, while adopting the geometries and essential style of Italian rationalism. In Eritrea, the above mentioned technique was the most characteristic structural method before and after the mediaeval period, involving masonry of small rough stones, consolidated with long squared wooden beams, held by short round olive wood elements. Our aim is to stress the need to create opportunities for intergenerational dialogue and sharing know-how on the comparison between the constructive cultures of Eritrean tradition and those of modern derivation. The earthen construction techniques can be included in discussions for better recognition and utilisation. As Asmara is a UNESCO city, it is vital to implement community engagement through workshop activities and participatory labs to propose strategies for the promotion and conservation of heritage and local culture, aiming to facilitate the integration of young people into the cultural sector.

Keywords: *Identity, inclusion, community, vernacular, modernism, cooperation*

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1. Introduction

The capital of Eritrea, Asmara, is undoubtedly outstanding; every component actively contributes to the aesthetic and cultural values of the city itself. The topography (Asmara stands on a rocky highland plateau surrounded by mountains), the weather (the clear blue sky and the warm, stable climate), the citizens (a mixture of ethnicities, religions, and languages), and the modern building heritage (an eclectic assemblage of buildings where vernacular and modern coexist) make Asmara a unique microcosm that has nothing to envy to the most beautiful Western capitals.

Eritrea, though relatively new, has a history marked by colonisation and fights for freedom. Its capital, Asmara, gets its name from the local Tigrigna language, meaning "they (feminine, the women) made them unite". According to an oral tradition, this name celebrates the women of four old villages who came together to defend against outsiders addressing the problem by unifying them under a common leadership. (Denison, 2017).

This story reflects the strength of women in making political decisions, like in Aristophanes' comedy "Lysistrata"[1]. From 1898 to 1941, Eritrea was under Italian rule. UNESCO celebrates the Italian colonial legacy for its urban planning, modernist urban fabric, and iconic buildings representing avant-garde movements like Futurism (Denison, 2017). However, the urban development initiatives undertaken by the Italians were influenced by a policy of racial segregation. Asmara was divided into a European zone and various indigenous quarters for Eritreans. This led to Aba Shawl becoming the most densely populated area in the city. Unfortunately, the Italian development plans consistently overlooked this zone, resulting in a lack of essential infrastructure, including adequate water supply, well-maintained roads, and reliable electricity access (Undeland, 2011). In 1941, the British defeated the Italians during World War II. Eritrea was then made a federal component of Ethiopia by the UN, despite the country's calls for independence. By 1962, Eritrea was considered a province of Ethiopia, sparking a thirty-year war of independence. Finally, in 1991, Eritrea gained independence and became a unitary one-party presidential Republic, led by Isaias Afwerki, with Asmara declared as its capital.

The Eritrean flag represents the country's history of revolts, featuring the colour of rebellion and a camel, symbolising the animal's crucial role in transporting soldiers and weapons during the liberation struggle. Women have historically played significant roles in Eritrea's political life, from the founding of Asmara to contemporary times. Despite gaining independence, Eritrea continues to face challenges, including the absence of democratic elections, ongoing border conflicts with Ethiopia, and poor rankings in press freedom indices. As a result, many Eritreans seek to escape the country illegally due to its dire economic and political conditions.

The article investigates the possibility of reappropriating Italian colonial heritage from local culture through emancipation and exchange to reinforce identity. The Modern Asmara, rather than being conceived in a rigid monotonous style, was a field of experiments for the Italian planners with attention to the local techniques and volumetry (Visscher, 2016). Interesting is the use in some buildings of the local "monkey head" technique, incorporating textures and colours that evoke Eritrean culture and atmosphere (Denison, 2017).

We see the architectural and urban heritage of colonial origin, born from the integration of local vernacular techniques and the eclectic aspirations of the Italian modernist movement, as the premise for the social, economic, and cultural development of the country. Through the inclusive and socially engaging methodology 'Learning by Doing' approach, formulated by Architecture sans Frontieres United Kingdom (ASF-UK), we would like to propose participative workshops for children and adults to approach the colonial heritage of Asmara as a resource to explore, to understand, and to take over.

Through these workshops, we aim to avoid the fate of many UNESCO sites that fall victim to preservation strategies, transforming them into bubbles where everything becomes untouchable (D'Eramo, 2014).

[1] The ancient Greek comedy 'Lysistrata by Aristophanes, performed in Athens in 411 BCE, tells the story of how women successfully managed to stop the Peloponnesian War between Greek city-states by abstaining from sexual intercourse.

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Preservation and conservation strategies can sometimes lead to a museum effect, where monuments are preserved as untouchable symbols, often through privatisation (Montanari, 2015).

Asmara does not stop at the Italian Modernist urban plan; it is a recent country full of energy and young people, the new protagonists of international history. The city is ready to receive new layers to the existing heritage. The hope is that this methodology helps in this process, without imposing a Western narrative of preservation, where everything must be kept in the same position.

2. Aims and objectives



Figure 1. Map of Asmara. Source: Ciufo,F and Jiao, L (2018)

The main aim of the article is to rediscover Asmara and select areas of study for workshops and events.

In the city plan (Fig.1), we highlight some of the most interesting sites where workshops could be organised and developed. However, the article focuses on three particular places that can be seen as emblematic and crucial to reinforce the Eritrean identity.

In order to prevent the freezing of Modern Heritage in Asmara, the main objective of this study is to propose a conservation strategy sensitive to vernacular techniques while respecting Eritrean culture. The Orthodox Cathedral of St. Mary in Asmara serves as an interesting case study of local construction techniques combined with modern volumetry. Preservation efforts should adopt a holistic approach, considering both tangible and intangible heritage, and providing space for the poorest and marginalised areas.

To preserve local techniques, our goal is to include and engage artisans from the local market area, Medeber Market, a reinterpretation of the old caravanserai built by Odoardo Cavagnari, where objects are reinvented and recycled. This market embodies the concept of African Futurism[2], emphasising the reuse and recycling of objects in a world where resources are finite and waste and pollution are significant challenges. Preserving and incorporating this idea into the conservation process is essential.

[2] "Afrofuturism: a style of literature, music, art, etc. that combines science-fiction elements with ideas from the culture and history of Africa and African people" Afrofuturism | English meaning - Cambridge dictionary. (n.d.). https://dictionary.cambridge.org/dictionary/english/afrofuturism.

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Lastly, the proposed workshops aim to foster a dialogue between colonial architecture and the indigenous urban fabric, serving as a foundation to strengthen Asmara's identity as Eritrea's remarkable capital. Neglecting the neighbourhood of Aba Shawl, an informal poor urban area not far from the city centre, in the process of regeneration could pose a risk and create a divide between the local community and the modern heritage. Finally, empowering the younger generation to view Asmara's Modern Heritage as a resource open to diverse interpretations and new uses is crucial.

2.1. The Cathedral of St Mary

In order to respond to the need of preserving local cultures it is essential to go back to the history of Eritrean building cultures. During 100 AD, the ancient Aksumite civilization had its capital in a geographically strategic location, with the capital in Axum, built on top of a plateau used for farming in proximity to the red sea. The presence of the sea resulted in flourishing trade relations as well as in abundance of construction materials such as clayey fertile soil and rocks. The traditional 'monkey head' technique dates back to the Axumite period and it has been incorporated in the later Tigray vernacular architecture. Popular examples of this technique can be clearly observed in historical monuments such as The monastery of Debre Damo, Tigray, being the home of Ethiopia's ancient illuminated manuscripts.

The traditional technique foresees the use of stones and clay to build the masonry with the insertion of timber beams as strengthening elements, placed horizontally on the masonry cut in squared sections. As additional reinforcing elements, round shaped timber 'joists' would be laid orthogonally on top of the primary structure with the protruding rounded ends becoming visible and so called 'monkey heads' (Fig.2). Windows and doors would be constructed by shaping the timber elements with recesses and projections, fitting them into the frame, without the use of extra hardware or nails.

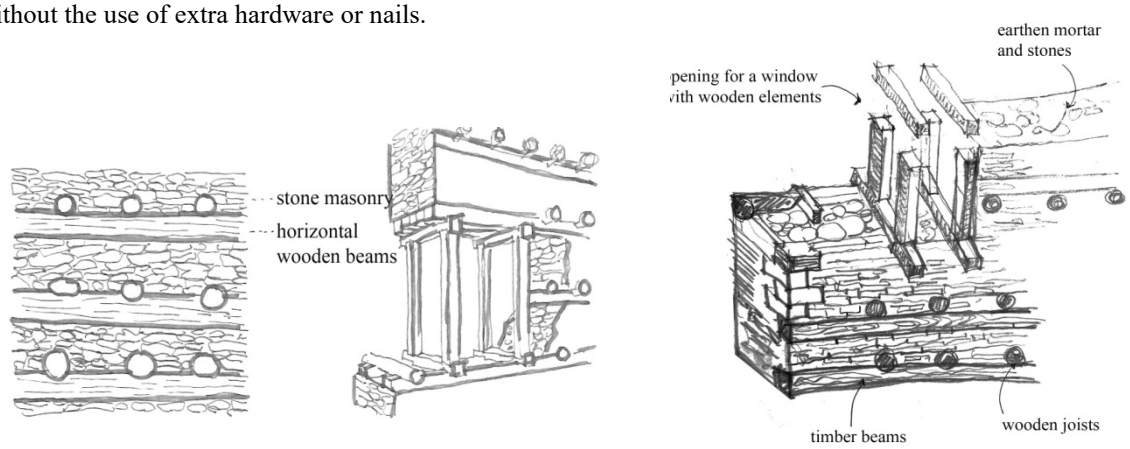


Figure 2. Sketch monkey head technique. Source: Ciufo, F and De Santis, E (2024)[3]

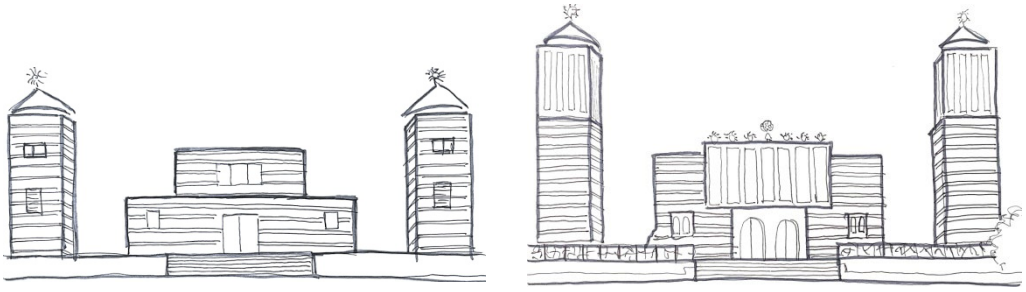
In Eritrea, which territory used to be part of the historical Axsum kingdom, stand a diverse range of 'monkey head' buildings such as the Orthodox cathedral of St Mary in Asmara, located on Arbate Asmara Street.

The church "Enda Mariam Cathedral" (Tigrinya: ቤተ-ክርስትያን እንዳ ማርያም) existed since the late 19th century, but some additions were made in 1938 (Fig.4) when the Italian governor of Asmara decided to modernise the building, drastically changed its vernacular appearance. Ernesto Gallo is thought to be responsible for the first new design of the cathedral in 1920 with the addition of two rationalistic towers with agdo-style roof (Fig.3). Other sources believe it could have been designed by Odoardo Cavagnari, who at the time was actively engaged in the construction of Asmara's Opera. (Alluring, 2021).

[3] Sketches inspired by © 'Some Traditional Types of Housing in Ethiopia', by Naigzy Gebremedhin, in Shelter in Africa, edited by Paul Oliver, Praeger Publishers, New York, NY, USA, 1971.

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The structure was rebuilt in layers of brick and stone, emulating the traditional Aksumite architecture, built according to the 'monkey technique' that has been in use for centuries throughout the Eritrean highlands (Fig.4). The new design of the church shows a colourful facade with two main doors with red frames and small mullioned windows, while the upper level is articulated with seven elongated painted windows.



Figures 3, 4. Sketch St Mary Cathedral in 1920 and in 1938. Source: Ciufo, F (2024)

2.2. Medeber Market

Medeber Market was designed by Odoardo Cavagnari, relocating the original Caravanserai[4] in the north-east corner of Asmara. The original caravanserai always served as the primary trading space before the arrival of the Italians, it was a stopping point for travellers on the caravan routes. Nowadays, the market is a special and unique environment, surrounded by walls; it is an open-air workshop where everything is recycled and transformed (Fig.5) (Denison, 2017). The artisans inside manage to give new meanings to everyday objects through a creative process that is authentic to the people of Asmara. Women dominate the spice market and work alongside each other to create the famous taste of Asmara cuisine (Fig.6). Once you enter Medeber, you step into an entirely new world of colours, dust, smells, and sounds. The objects within have their own life and meaning. This setting offers the possibility to reconnect with an authentic work experience, where artisans produce their own objects without alienation (Marx 1844). Organising a workshop in Medeber Market and involving artisans in the process of heritage conservation will be a great opportunity to reinforce the market and learn from locals how to implement reuse and recycling in the conservation process.



Figures 5, 6. Medeber Market. Source: Ciufo,F (2018)

[4] A caravanserai, was an inn situated along roadsides where travellers, or caravaners, could pause after a day's travel.

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2.3. Aba Shawl

Aba Shawl is the informal settlement where local people were segregated during colonisation.

The neighbourhood is considered the residential heart of Asmara, with houses popping up next to each other and small streets and courtyards defining the border between outside and inside spaces (Fig.7,8). The sense of community is strong due to the proximity of the dwellings. People are the owners, if not the builders, of their homes, which are made with mud and stones and covered by corrugated metal sheets. The houses form an incredible assemblage of volumes and colours. However, there are still some issues; resources like water and electricity are not easily available, and during the rainy months, the area is subjected to dramatic damages due to the lack of an efficient drainage system, posing risks to the residents' lives (Undeland, 2011).

Additionally, because the streets are very narrow, it is problematic to reach individual buildings during health emergencies. The goal of our workshops is to improve the situation without altering the authenticity of the place, to create infrastructures without changing the morphology and urban fabric.

The difference between Aba Shawl and the Italian part of the city exemplifies the drama of segregation and colonialism, highlighting how Modernism has radically changed our understanding of dwelling and city life. This is why we believe that through a deep analysis of formal/informal, planned/spontaneous, regular/organic systems, we can open different debates, aiming to retain the best aspects of each system without romanticising or glorifying any of them. It prompts a series of open questions about how we live today, what other options exist, and whether we can reconsider our ways of dwelling on Earth.





Figures 7, 8. Aba Shawl. Source: Ciufo, F. (2018)

3. Methodology

As we mentioned, it is vital to implement community engagement through workshop activities and participatory labs to propose strategies for the promotion and conservation of heritage and local culture, aiming to facilitate the integration of young people into the cultural sector. The objective is also to avoid aggressive restoration initiatives, or demolitions, which during the times, have affected the delicate Eritrean architectural heritage.

Earthen construction techniques can be included in discussions for better recognition and contemporary utilisation by conserving and reviving traditional constructive cultures, promoting local 'monkey head' technique, stressing the need to preserve the ancient know-how of Aksumite culture. The methodology we propose is based on the experienced 'Learning by Doing' approach, formulated by Architecture Sans Frontieres,

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United Kingdom (ASF[5]-UK). The course proposed by the English NGO is grounded in the principle of ethically engaged learning where reflective practice plays a vital role.

The community based initiatives which we propose to implement by creating networking with local NGOs could be inspired by ASF methodological approach which is structured in the following way:

-Framing: this stage is based on the Challenging Practice handbook which gives an overview on the approaches to work for vulnerable groups in an urban context. This initial theoretical independent study is followed by workshops that allows you to discuss with others case studies and engage in role-play exercises.

-Acting: This second phase requires the engagement of practitioners in an immersive learning by doing experience through workshops or work placement. In this practical stage the aim is to undertake interviews, survey, building mapping to better assess the environmental, social needs.

-Reflecting: This final stage, designed as a post action reflection, invites practitioners to strengthen the debate and research around urban environments.

The ASF-UK practical workshop Change by Design has been tested in several African countries which proved to have been effective: Sierra Leone, South Africa, Ghana, Cameroon, Kenya. Therefore, we could imagine creating partnerships and networking with Eritrean associations and engaging the community of the Artisanal Market of Medeber and the inhabitants of the informal settlement of Aba Shawl in open discussions to implement long term development for the valorisation and promotion of architectural and urban heritage.

4. Results

The outcome of these workshops aims to foster a deeper appreciation for Asmara's heritage. Through collaboration with local authorities and UNESCO technical offices, we seek to kickstart a positive process to expand these participatory sessions and workshops. Our goal is not only to establish a network of professionals, both local and international, but also to engage with youth associations dedicated to promoting Eritrean culture in Italy and abroad. This should strengthen Asmara's identity, facilitating the reappropriation of its heritage.

In fact, these workshops will serve as catalysts for initiatives to revitalise public spaces, formal and informal, across the city of Asmara. By studying the Aba Shawl neighbourhood, chosen as a pilot site, we aim to reinforce community identity (Frønes, 2011). The area, once emblematic of segregation, can become a symbol of community engagement thanks to the proposed workshop sessions and active participation labs. Additionally, we believe that reappropriation is not only a spiritual act but also involves materiality and the construction process. Rediscovering and reinterpreting vernacular techniques, such as the monkey heads technique, will help propose conservation methods sensitive to local materials and construction methodologies.

Furthermore, we believe that reinforcing identity entails the ability to narrate and express personal viewpoints. An authentic celebration of Asmara can only be achieved by its citizens sharing their stories beyond borders. This narrative shift, from the romanticised Italian colonialism to a deeper understanding of the local perspective, is crucial for revitalising and regenerating the city. This will also help create more information and historical awareness in Italy itself as the apology of Fascism becomes scarily stronger and more widespread.

Finally, we hope that this approach of openness and engagement will create further initiatives for reclaiming community spaces, such as the abandoned cinemas[6], as architectural heritage sites with significant potential for

[5] "Architecture Sans Frontières International (ASF) is an independent network of design not for profit organisations concerned with social justice, the cultural and environmental aspects of architecture and the conservation of the human and physical heritage aspects of the built environment." About ASF :| Architecture Sans Frontières International. (n.d.). https://www.asfint.org/en/about-us.

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the younger generation. These places can become hubs for cultural exchange and gathering. These workshops should serve as the foundation for a new, inclusive Asmara, transcending the legacy of segregation and aiming for a socially, culturally, and economically inclusive urban fabric.

5. Conclusions

In conclusion, we believe that there may be the premises to establish a fruitful exchange and with the implementation of the proposed initiatives, support the local community to regain identity spaces, rediscover vernacular building techniques and implement a long-term development process.

We hope this proposal could foster the dissemination of the work and current best practices of existing associations by opening up greater awareness of the city's cultural heritage. We also believe the cooperation between young generations of professionals and local citizens of Asmara could lead to the creation of new jobs aimed at popularising and preserving the city.

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[6] The cinemas of Asmara built by Italians in Asmara are striking examples of the city's colonial architecture, featuring elegant Art Deco and Futurist designs. Once for film and entertainment, these landmarks stand as enduring reminders of Asmara's cosmopolitan past and architectural heritage.

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Femmes bâtisseuses et patrimoine africain. Etudes de cas en afrique centrale et de l'ouest

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Abstract

Throughout history, human beings have sought to live in a harmonious environment. They aspire to create their dwelling in a healthy space, capable of providing the well-being and balance they need, and able to protect them from harsh weather conditions and aggressors. In sub-Saharan African societies, this habitat is characterized, among other things, by an architectural logic that can be "read." Indeed, architecture—defined as the art of conceiving, combining, and arranging forms—is a creation that informs us about each society, its history, culture, know-how, and techniques.

Women and men play specific roles within it depending on communities and regions. Regarding women, they are, in some cases, creators of the world, protectors, guardians of culture, educators, and at the same time mothers and/or clan leaders. In the field of architecture, women are consulted in the selection of building sites, participate in construction, embellish and restore buildings, while also transmitting their skills. They are "women builders." This concept highlights them by valuing their place in heritage-related professions.

Keywords: *Africa; women; youth; heritage; know-how; transmission; restoration; conservation; eco-materials; eco-construction; sustainable architecture; sustainable city.*

Résumé

De tout temps, l'être humain a cherché à vivre dans un environnement harmonieux. Il aspire à créer son habitat dans un espace sain, susceptible de lui procurer le bien-être et l'équilibre dont il a besoin, et capable de le protéger des intempéries et des agresseurs. Dans les sociétés africaines du sud du Sahara, cet habitat est caractérisé, entres autres, par une logique architecturale qui « se lit ». En effet, l'architecture, se définit comme un art de concevoir, de combiner et de disposer, est une création qui nous renseigne sur chaque société, son histoire, sa culture, ses savoir-faire et ses techniques. Femmes et hommes y jouent un rôle bien précis en fonction des communautés et des régions. Concernant les femmes, elles sont créatrices du monde dans certain cas, protectrices, conservatrices de la culture, formatrices et même temps, mères de famille et/ou chefs de clans. Dans le cadre de l'architecture, les femmes sont consultées pour le choix du terrain, participent à la construction du bâti, l'embellissent et la réhabilitent tout en transmettant leur savoir-faire. Ce sont « des femmes bâtisseuses ». Ce concept les met en lumière en valorisant leur place dans les métiers du patrimoine.

Mots-clés: *Afrique; femmes; jeunes; patrimoine; savoir-faire; transmission; restauration; conservation; éco-matériaux; éco-construction; architecture durable; ville durable.*

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1. Introduction

Le patrimoine architectural de l'Afrique est riche et varié. Suivant la situation géographique, les populations décrivent, à travers les typologies architecturales vernaculaires, leur savoir-faire et les techniques de construction, leur histoire, leur vie, leurs us et coutumes. A travers l'environnement immédiat, le climat, l'utilisation des matériaux locaux biosourcés et géosourcés disponibles, se crée une lecture architecturale appartenant à la communauté. Cette « architecture du peuple », conçue en adéquation avec son territoire, est un livre ouvert, comblé de diversités. Elle se trouve en milieu rural et en milieu urbain. Des hommes, des femmes et des jeunes participent à la création de ces œuvres architecturales. Chacun à sa place, son rôle, de la conception à la réalisation. Quelle est plus particulièrement celle des femmes, les bâtisseuses? Qui sont-elles? Comment sont-elles organisées? Comment contribuent-elles à la sauvegarde de ce patrimoine architectural vernaculaire?

2. Buts et objectifs

L'architecture vernaculaire s'inscrit dans une démarche de respect de l'environnement de par le fait que le climat est intégré à la réflexion architecturale. Cette « architecture du peuple » qui est profondément ancrée dans le patrimoine culturel naît des ressources locales dont sa conception prend en compte les aspects sociaux-culturels, notamment les modes de vie, d'usages et de croyances des habitants. Chacun a son rôle dans la réalisation des œuvres architecturales, notamment les femmes.

Cette contribution vise à promouvoir le patrimoine architectural vernaculaire africain, source d'une identité collective d'une part et de valoriser les savoir-faire des communautés et plus particulièrement celles des femmes bâtisseuses d'autre part. Il s'agit de présenter cette « architecture vernaculaire du peuple» à travers quelques exemples, son écriture, ses spécificités, ses symboles et le rôle de chaque intervenant dans la construction et/ou dans la réhabilitation. Elle s'appuie sur le transfert des compétences, des techniques adaptées, la recherche et l'innovation en mettant en place un programme de réhabilitation et de conservation de ce patrimoine emblématique.

Cette présentation se veut de contribuer à la création de ville et territoire écologique, durable, inclusif et résilient africain en se référant sur l'architecture vernaculaire.

3. Méthodologie

Deux perspectives d'étude sont employées. La première repose sur la recherche de documentation et des enquêtes sur l'histoire des communautés, l'étude architectural, les systèmes constructifs et les matériaux utilisés. La deuxième perspective est celle de la recherche-action à travers des chantiers - école de restauration et le transfert de compétence en collaboration avec des acteurs de la communauté: femmes et hommes. Ceci permet de susciter le potentiel créatif et entrepreneurial pour les communautés.

4. Résultats

Des femmes bâtisseuses

Le concept « femmes bâtisseuses » permet de valoriser leur intervention dans le domaine de l'architecture, du patrimoine culturel matériel et immatériel, de la construction et de la réhabilitation d'une part et dans celui de l'éducation à travers la transmission des savoir et des valeurs d'autre part. Le rôle de ces femmes varie en fonction des communautés et des régions d'Afrique subsaharienne. La présentation de ces exemples cités montrent quelques-uns de leurs domaines d'intervention.

L'habitat nomade: Une organisation spatiale et une construction au féminin

La mobilité, la cueillette, la chasse ou encore la transhumance déterminent l'organisation spatiale de la société nomade. L'habitat est un mot féminin chez les nomades. Il découle de la superposition de maisons maternelles. Il peut être rond, ovale ou hémisphérique, il n'en demeure pas moins que c'est une affaire de femmes car elles incarnent l'essentiel de l'identité et l'unité culturelle.

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L'habitat au féminin des peuples autochtones de la foret d'Afrique Centrale: Symbiose avec l'écosystème forestier

Les habitats des peuples autochtones des forêts d'Afrique Centrale, particulièrement constitués de *mongulu* ou de *lobembe* représentent un héritage de la symbiose avec l'écosystème forestier. En effet, cet habitat qui semble élémentaire et spontané se révèle être fruit de techniques efficaces qui permettent une parfaite adaptation au mode de vie dans ce milieu naturel. Ces deux types habitats sont construits par des femmes bâtisseuses. La structure en treillis est constituée de tiges d'*Oleaceae* qui a une forme conique. Pour la couverture, ce sont les feuilles de *Maranthaceae*, au limbe qui sont utilisées car elles sont à la fois souples et résistantes. Les femmes les préparent par un système ingénieux d'attache. La pose est réalisée par chevauchement les unes sur les autres en commençant par le bas du sol dont la première rangée est placée à l'oblique. Elles sont ensuite accrochées sur le treillis par un morceau de queue plié comme un hameçon. Ces feuilles sont de véritables « tuiles végétales ». Aussi, le système d'écoulement des eaux de pluie et de résistance au vent est également pris en compte. C'est une ingéniosité constructive végétale remarquable réalisée par ces femmes bâtisseuses.



Figure 1. Structure en treillis du Mongulu et pose des « tuiles végétales » Credits: Jean Nke Ndih



Figure 2. Mongoulu terminé. Credits: Jean Nke Ndih

L'habitat Touareg: la femme propriétaire de l'habitat du sahel cas d'Agadez-Niger

L'habitat touareg du sahel, appelé communément « tente », montre également une autre adaptation d'un mode de vie dans un contexte climatique chaud et sec dans lequel les communautés vivent avec leurs us et coutumes. L'habitat est aussi construit par des femmes bâtisseuses, celles de la famille maternelle. C'est en effet le premier élément indispensable du trousseau que donne une mère à sa fille pour ses noces de mariage. Il est aussi accompagné d'autres dons. Il est ainsi la propriété de la mariée.

Avant de réaliser l'habitat touareg, le lit et le porte-bagages, sont installés. Le lit démontable est constitué de deux supports sur quatre pieds et de six grandes perches dont trois pour la femme et trois pour l'homme. Traditionnellement, le lit est orienté est-ouest, l'homme se couchant au nord et la femme au sud. L'orientation correspondant à la place de l'épouse, représente la divinité. C'est la position du lit qui détermine la taille et l'orientation de l'habitation. Par lui, se constitue symboliquement la continuité de la lignée.
Après l'installation du lit, des femmes bâtisseuses plantent les piquets et les arceaux d'une part, et posent les lattes transversales d'autre part, le tout formant la structure de l'habitation. La forme de tout cet assemblage est quadrilatère curviligne dont les piquets marquent les angles, au sud-est, au sud-ouest, au nord-ouest et au nord-est. Ceci doit se rapprocher de la forme du cercle, forme universelle qui symbolise la terre. Son sommet, en forme de dôme, représente la voûte céleste.

Les femmes installent et fixent les nattes par cordages sur la structure. Elles les confectionnent à base de palmes issues du palmier doum (*hyphaene thebaïca).* Il en existe différents types: celles qui sont pour le pourtour de

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l'habitation et celles qui sont en hauteur, formant la toiture. Chants et danses accompagnent la réalisation de l'habitation.
Aussi, l'ingéniosité de l'aménagement intérieur, la beauté des objets quotients, montrent le savoir-faire des femmes Touareg dans l'aménagement intérieur, ainsi que la création artistique et esthétique des objets.



Figure 3. Structure de l'habitat Touareg. Credits: A. Esséssé



Figure 4. Habitat Touareg terminé. Credits: A. Esséssé.

L'habitat Peul Walo de Ngoumel à Podor au Sénégal

La femme, fondatrice des principaux groupes joue un rôle important dans cette société pastorale Peule. De par sa lignée maternelle, elle participe aux décisions de la famille et est la propriétaire de l'habitat, élément de son trousseau nuptiale ainsi que du bétail. La femme représente la chance et la prospérité.

Dans cette communauté nomade, ce sont également des femmes bâtisseuses Peules qui construisent l'habitat. Sa forme est un quadrilatère allongée. Tout d'abord, elles dessinent le plan au sol. Elles y creusent ensuite des trous, les mouillent et attendent le lendemain pour implanter les arceaux de bois souple d'acacia. Ceux-ci sont ensuite liés par une corde réalisée avec les feuilles de palmier doum tressées. Les fibres végétales qui servent de couverture pour toute la structure sont posées et attachées méticuleusement.

L'intérieur de l'habitation aménagé par la femme est constitué de mobiliers et objets indispensables.



Figure 5. Structure de l'habitat Peul



Figure 6. Habitat Peul avec sa forme de quadrilatère allongé

L'architecture en terre: savoir-faire et art mural au féminin

L'architecture de terre, à travers la diversité des typologies, reflète l'identité et l'esthétique des communautés. Différentes technique de construction sont utilisées: bauge (façonnage à la main), torchis (structure en bois, ou bambou, ou roseau remplie de terre), briques (adobes, briques de terre comprimées), pisé (terre coffrée). Ce sont en général les hommes qui réalisent le gros œuvre et les femmes interviennent dans le finissage des sols, l'application des enduits et des décorations. C'est une organisation bien structurée lors du chantier.

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L'architecture « Teulek » Musgum de l'Extrème Nord du Cameroun

Les Musgum sont connus à travers leur architecture spécifique en cône galbé de terre et strié de moulures qui servent d'échafaudages, d'évacuation d'eau et de contreforts. Cette architecture « *Teulek* » est également appelée « Case obus ». Elle est caractérisée par son plan en cercle parfait. Pas d'armature dans cette forme, pas de soutien, pas de fondation et sa coque est autoportante. Elle peut atteindre 15m de hauteur. Cette typologie architecturale est construite par les femmes qui par la suite, ont transmis leur savoir-faire aux hommes. Ce sont elles qui les ont appris à réaliser les moulures et les enduits. La technique de construction est la bauge (façonnage à la main) appelée aussi « boules de terre ». Dès la première assise, le travail de superposition et d'ajustement des boules de terre se fait avec régularité et pression. La construction se fait par phase de séchage et de réalisation des moulures. Aussi, au fur et à mesure que la coque se construit, le respect de son inclinaison est une technique que seul les bâtisseuses et bâtisseurs ont la capacité de déterminer.

Pour les décorations, les femmes bâtisseuses ont gardé cette tâche et utilisent des pigments naturels. Ce sont elles qui sont également responsables de la conservation de l'habitat et qui la réhabilitent lorsqu'il y a des dégradations.



Figure 7. Femme bâtisseuse Musgum. Credits: Patrimoine Sans Frontière (PSF)



Figure 8. Architecture Musgum. Credits: A. Esséssé

L'architecture des îles d'Ayorou au Niger

Après la construction du gros œuvre de l'habitation par les bâtisseurs, les tâches reviennent aux femmes bâtisseuses. Elles sont très organisées dans leurs différents rôles, notamment celle l'application des enduits, la création des couleurs et des décorations. La plus âgée organise le chantier. Chaque femme a son domaine d'expertise. Les connaisseuses guident et transmettent leur savoir aux jeunes et aux participantes.
Concernant l'application des enduits, certaines vont recueillir les éco-matériaux (terre recueillie dans le fleuve Niger, terre ferme, fibres végétales, etc.), les « préparent » pour les enduits afin de les appliquer sur les murs. Il peut avoir trois à quatre couches d'enduit rythmer par des temps de séchage pour afin avoir un mur parfait à travers un lissage à la main et au galet.

Après l'application des différents enduits, le rôle revient aux spécialistes de décorer la maison. La réalisation des décors et symboles est également bien structurée. Les femmes se concertent pour les créer. La préparation des couleurs est faite également par les connaisseuses. Les pigments de couleurs sont en base de roches et de végétaux. L'écriture artistique et symbolique revient aux femmes bâtisseuses artistes.

Toute cette action est animée par des chants et des danses d'encouragement.

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Figure 9. Femmes bâtisseuses: Application des enduits



Figure 10. Préparation des couleurs



Figure 11. Maison décorée. Credits: A. Esséssé

L'architecture Kassena au sud du Burkina Faso

Un autre exemple qui reflète l'architecture vernaculaire en terre décorée par les femmes est celle du peuple Kassena du sud du Burkina Faso, plus particulièrement la Cour Royale de Tiébélé.

En effet, l'habitat Kassena, est très spécifique à travers ces formes géographiques qui représentent soit l'occupant, soit la fonction au sein de la communauté. Il est caractérisé, entre autres, par l'orientation et l'implantation du bâti en rapport en lien avec les quatre points cardinaux et le sacré. La technique utilisée est à la bauge (boules de terre) qui de plus en plus, cède sa place à l'adobe (brique de terre). La forme bi-lobé dédiée à la femme symbolise une future naissance. Celle rectangulaire correspond à la demeure de homme et celle conique, représente l'habitat du célibataire. La première construction est celle de la femme. Elle évoque la création du monde et l'unité. Cet habitat est à contre bas, afin de se protéger. La petite porte permet de se courber, symbole de respect et de remerciement à la Terre pour cette œuvre architecturale construite.



Figure 12. Habitat bi-lobé de la femme. Porte d'entrée. Credits: A. Esséssé

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L'agencement du mobilier encastré et la richesse symbolique des espaces et des décorations faites par les femmes bâtisseuses (formes géométriques ou animales, gravures, bas-reliefs, symboles, peintures naturelles et autres) expriment des messages dont seuls le peuple Kassena a la capacité de décrypter le sens. Les espaces privés, semi-privés et publics caractérisent l'organisation socioculturelle et jouent également le rôle de protection. Tout cet ensemble est une œuvre d'art exceptionnelle, une architecture communicative. Ce jeu de formes architecturales à travers la cosmogonie Kassena est en adéquation avec son environnement.



Figure 13. Chantier-école intergénérationnel. Credits: A. Essésé



Figure 14. Transmission des savoir-faire auprès des jeunes. Credits: A. Essésé

5. Conclusion

Suivant le contexte géographique et climatique du territoire et l'accès des éco-matériaux pour la construction du bâti, différentes typologies architecturales vernaculaires sont conçues et s'intègrent dans l'environnement immédiat.

Les femmes bâtisseuses participent à la conservation du patrimoine culturel matériel et immatériel à travers l'éducation, la transmission des savoir-faire, la construction, la restauration, la création et l'innovation. Leur contribution aussi bien dans la construction que dans le réhabilitation de l'habitat présente, non seulement l'ingéniosité dans l'utilisation des éco-matériaux locaux mais également, une esthétique et un art mural spécifique à l'identité de la communauté. On y remarque une organisation des tâches très structurée et marquée par des valeurs humaines universelles lors des différents chantiers: fraternité, respect et dignité. La transmission se fait également pendant ces chantiers. C'est une éducation intergénérationnelle. Chants et danses accompagnent ces moments d'échanges. Des messages d'unité, de courage et de paix sont aussi diffusés. La forme circulaire qui est dédiée à la femme symbolise l'illumination, la naissance, le cycle de vie et la protection.

Le patrimoine architectural vernaculaire est extrêmement riche à travers la diversité socioculturelle des communautés. Mais il est menacé car il subit des influences de toutes sortes: sociétale, économique, environnementale et bien d'autres. La valorisation à travers la formation, la recherche et l'innovation technologique y compris celle des techniques de construction utilisant ces éco-matériaux biosourcés et géosourcés ne peut que contribuer à la préservation et à la protection de ce patrimoine emblématique. Ceci afin de promouvoir l'architecture dans sa dimension émotionnelle, dont l'être humain retrouve sa place. Aussi, cette architecture écologique et humaine contribuera à la création de nouvelles villes africaines inclusives, résilientes et durables.

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The significance of the discovery of the Igbo-Ukwu bronze: an intellectual property rights of Africans' metal artifacts

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Abstract

The discovery of the Igbo Ukwu Bronzes in 1938 in Awka, in southeastern Nigeria and 130 km west of Benin, Nigeria, provides the first evidence of the artistic use of copper alloys in the whole of Black Africa. Field and laboratory observations made by archaeologists revealed that the Igbo-Ukwu Bronzes are tangible evidence of well-developed institutions, distinctive artistic traditions, highly sophisticated metalwork, and a concentration of considerable social wealth in a period that is dated to the 9th century A.D. However, recently, a publication led by Tobias Skowronek of the Technische Hochschule Georg Agricola Germany suggested that the primary source of the brass used in the Benin bronzes was produced in Germany and was likely shipped to West Africa in the form of horseshoe-shaped brass rings, known as manillas. This paper is an evidence-based study on a myriad of archaeological findings and publications that point to the gaps in Tobias's conclusion. These gaps raise the question: did they investigate the existence of bronzes older than the Benin Bronzes located in West Africa? What do these older bronzes look like? Were any of the bronzes in the form of horseshoe-shaped brass rings? What alloys make up the older bronze? Are the elements of the alloy found in West Africa? Are there iron slags geographically located near these bronzes? What are their dates? Does the age of the older Bronze coincide with the coming of the Portuguese or any European nation to Benin? Field and laboratory observations, which include a block of overlapping dates for the Igbo Ukwu Bronzes, the finds and other archaeological evidence encountered on the site, and the integration of the Igbo Ukwu site with recently documented age-long iron smelting sites in southeastern Nigeria, are narrated in this paper. The paper recommends the interpretation of bronze artefacts in sub-Saharan Africa and a historical reconstruction based on them. This can prove the intellectual property rights of African metal artefacts and technology.

Keywords: *Bronze, Igbo Ukwu, Benin, Intellectual Property Rights*

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1. Introduction

The ingenuity of black Africans in the artistic use of copper has been under contention for decades since the discovery of Bronze artefacts on the continent. There have been a lot of assumptions to date that there was "No way" Africans could have independently developed such technological know-how without influence. For years, the Bronzes of Benin were attributed to foreign origin since the Europeans were known to maintain contact with the Old Benin empire. The recent suggestion by Skowronek, DeCorse, Denk, Birr, Kingsley and Cook (2023) that the primary source of the brass used in the Benin bronzes was produced in Germany and was likely shipped to West Africa in the form of horseshoe-shaped brass rings, known as manillas, raises a lot of questions. Discoveries of ancient bronze artefacts and iron slags older than the Benin bronzes and pre-European contact, as well as deposits of copper, lead and zinc in the southeastern part of Nigeria, brought a whole new dimension to the arguments on the authentication of the intellectual property rights of sub-Saharan African Bronze casting.

In 1938, the Igbo Ukwu bronzes were accidentally discovered by a man named Isaiah Anozie in the village of Igbo Ukwu (174km from Benin City, see Figure 1) while digging a cistern in his backyard. He came across a series of bronzes lying about two feet below the ground (Ekpo, 1980). The Finds were reported to the Department of Antiquities headed by Bernard Fagg who persuaded Thurstan Shaw to come from England to excavate the site. In the course of the work, three important archaeological sites called Igbo Isiah, Igbo Richard and Igbo Jonah were investigated by Professor Thurstan Shaw between December 1959, February 1960 and April 1964 (Anozie, 1985). Each site was named after the owner of the piece of land where it was situated. Among the bronzes found are a roped pot, an altar stand, a beaded chain and crotales, a bow stand, a shell surmounted by an animal, a crescent-shaped bowl, a pendant and 15 knotted wristlets with expanded terminals (Proto–manillas?) (Eyo and Willett, 1980).

A series of radiocarbon dates from their excavation covers the ninth and tenth century A.D., which placed the Igbo Ukwu bronzes well after Nok terracottas but considerably before the Benin Bronzes (Coal and Aniakor, 1984). According to Shaw (1972), the significance of the Igbo Ukwu lies in its dating; evidence of well-developed institutions, distinctive artistic traditions, highly sophisticated metalwork and a concentration of considerable social wealth in a period which is to be dated to the ninth or tenth century A.D. Shaw further opined that the bronze appears to have evidence of a centralised authority of some kind some hundreds of years before the earliest dynasty in Benin. This date made the artefact significant to the history and art of all of Sub-saharan Africa

In line with Shaw's (1972) dating of the Igbo Ukwu bronzes, McIntosh and Cartwright (2022) attest the dates in their study of two fabrics found with the Igbo Ukwu bronze artefacts using variable pressure scanning electron microscopy (VP SEM). Findings in the fibre analysis produced a date of 940±30 BP (1027–1180 cal CE at 2 sigma), suggesting that the textiles represent a well-developed weaving tradition in the Nigerian forest that has all but disappeared in Africa.

Notwithstanding these research findings of Igbo Ukwu artefacts, Skowronek *et al.* (2022) reported that the primary source of the brass used in the Benin bronzes was produced in Germany and was likely shipped to West Africa in the form of horseshoe-shaped brass rings, known as manillas. This postulation raises important questions especially when contextualised into the discovery of Igbo Ukwu bronzes. Did they investigate the existence of bronzes older than the Benin Bronzes located in West Africa? What do these older bronzes look like? Were any of the bronzes in the form of horseshoe-shaped brass rings? What alloys make up the older bronze? Are the elements of the alloy found in West Africa? Are there iron slags geographically located near these bronzes? What are their dates? Does the age of the older Bronze coincide with the arrival of the Portuguese or any European nation in Benin? It is against this background that this paper contends the assertions by Skowronek et al. (2022).

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Figure 1. Adapted Map of Nigeria showing the road network from Benin City to Igbo Ukwu, Okpoho, Nsukka and Abakaliki. Source, Newebcreation (2024)

2. Aim and Objective

This paper examines the authenticity and intellectual property rights of the Benin Bronzes in particular and African bronze artefacts in general. It reviews research findings on older bronze artefacts near Benin, including their description, the alloys of their casting, their dates, and the advent of Portuguese contact with Benin. It uses this result to argue against the assertions by Skowronek et al. (2022) that the sources of the materials used in the production of Benin Bronzes is not indigenous to West Africa.

3. Methodology

This study was based on a bibliographic search and on the report of the authors who researched the Igbo Ukwu bronzes. It summarizes past and present empirical and theoretical literature to provide a more comprehensive understanding of its dating, the cultural materials found, casting methods, and the availability of copper and its alloy. Secondary data include textbooks and research journals, online journals and research sites, archival materials and Google Data Explorer.

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4. Results

4.1. Radiocarbon dates for Igboukwu Bronzes

A close look at Table 1 below shows that four out of five dates cluster in the period A.D. 660 – 970, and a single date falls within the period A.D. 1360 – 1500 with four blocks of overlapping dates. Therefore, there is a considerable measure of reliability that strongly indicate that the Igbo Ukwu culture is about 1000 years old.

Table 1: Radiocarbon dates for Igbo Ukwu bronzes. Source: Anozie (1985)

s/n	Laboratory Number	Archaeological Site	5568 Half -Life	5730 Half - Life	Range in years A.D
1	1 – 2008	Igbo Richard	1100 + 120	1133 + 120	700 - 940
2	HV – 1514	Igbo Jonah	1075 + 130	1107 + 130	710 – 970
3	HV – 1515	Igbo Jonah	1143 + 110	1143 + 110	700 - 920
4	HV - 1516	Igbo Jonah	520 + 70	520 + 70	1360 - 1500
5	1 - 1784	Igbo Jonah	1110 + 145	1143 + 145	660 - 950

4.2. Elements and Source of the Igbo-Ukwu Bronze Alloy

From a compendium of accounts (Thurstans, 1970; Ekpo, 1977; Eyo and Willet, 1980; Cole et al, 1984; and Anozie, 1985), the elements of Igbo-Ukwu bronze is an alloy of copper, tin and lead made by the *cire-perdue* or lost -wax process of casting. The elements of the alloy are readily available in Nigeria. According to the United Nations COMTRADE database on international trade, Nigeria's Export of copper was US$191.75 Million in 2023 (Trading Economics, 2024). An estimated 10 million tonnes of lead/zinc veins are spread over eight states of Nigeria (Figure 2); 3 billion metric tonnes of iron ore in deposits found in Kogi, Enugu and Niger States as well as the Federal Capital Territory (Nigeria Ministry of Foreign Affairs, 2024). Proven reserves in three prospects in the east-central area are 5 million tonnes. Nigeria Geological Survey Agency ((2020) detected commercial quantity of mineral copper ore in *Azara* and *Akiri* areas of Nasarawa State, besides States such as Bauchi, Zamfara, Niger the Federal Capital Territory and Abakaliki in Ebonyi State, Nigeria. Akande *et al* (1989) and Akande and Mucke (1993) support this report in discovering co-existing copper sulphides and sulphosalts deposits in the lower Benue trough. They documented further that the deposit represents the largest of a series of controlled base metal deposits within the lower cretaceous (Albian) Asu River group shales. These are a lead/iron-bearing copper sulphide and a copper bismuth sulphate of wittichenite composition ($Cu_6BS_{12}O_6$). Confirming these findings, Onwe-Moses (2020) reported the existence of hydrothermal ore deposits, which are concentrated by hot aqueous (water-rich) fluids flowing through fractures and pore spaces in rocks including massive sulphide deposits such as sphalerite (zinc sulfide) and chalcopyrite (Copper, Iron sulfide). These strongly suggest that the ore used to make the bronze was local, confirming their indigenous design and technology.

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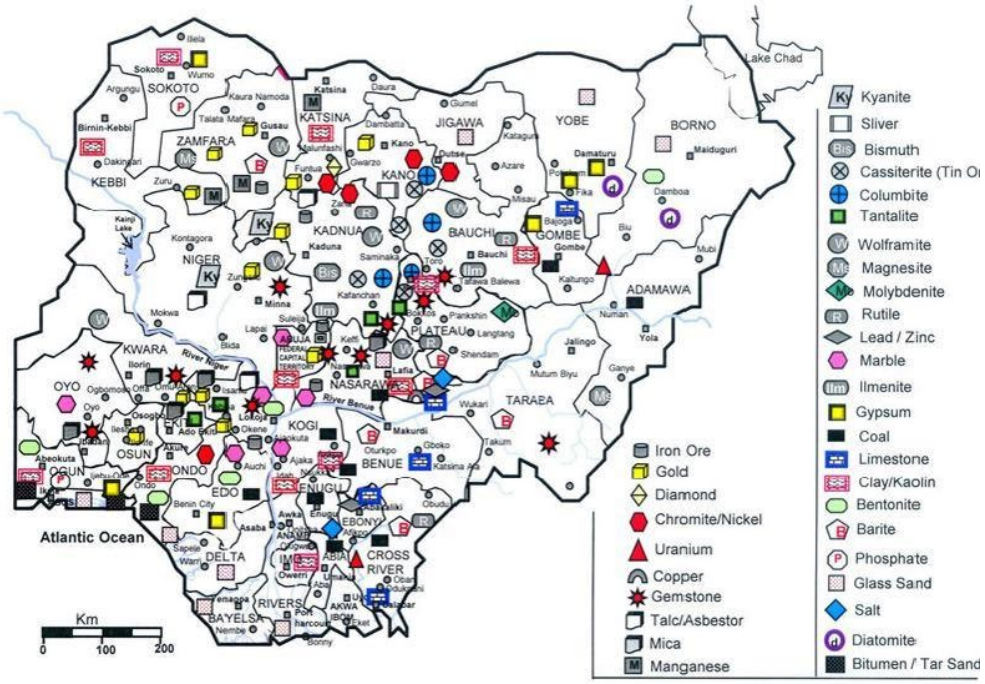


Figure 2. Map of Nigeria showing mineral resources in Nigeria. Source: Newebcreation (2024)

4.3. Description of the Igbo Ukwu Bronze finds similar to manillas

Amongst the Igbo Ukwu Bronze finds are 15 knotted wristlets with expanded terminals indigenously called *Ona Okpgoho*. The name is derived from the origin of the Okpogho community, in Ezeagu local government area of Enugu State. The community has vast deposis of iron ore and is reputable in the production of the local Okpogho local currency used extensively east of the Niger. The Okpogho was usually worn by women as bracelets and leg bands to display their husband's wealth. (Anikwe, Undated; Wikipedia, 2024).





Figure 3 and 4: Solid wristlet made of copper. In form of loose overhand knot with expanded terminals dated 9th -10th Century. Decorated with linear, herringbone and circular patterns. Source: The British Museum.

4.4. Prehistoric iron smelting communities east of the Niger

Amongst some interesting finds after the discovery of Igbo Ukwu bronzes are ancient iron smelting settlements; predominant in Enugu State (Daniel *et al* 2022). These settlements include *Okpogho, Otobo Ugwu in Dunoka Lejja, Opi* and *Umudum*. Dunoka Lejja 2005BC was investigated using resistivity imaging and induced polarisation technique, and it was attested that the site is between 4005 and 3445 years old. This implies that the site is 495 years older than that in Asia, 1405 years older than China's iron age and 695 years younger than the Egyptian pyramid (Ugwu and Ezeama, 2015). Opi is carbondated to be 2005 BC, while Owere and Orba carbon

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dated 810-90 BC (Okafor, 1984). Again, in Okpogho (see Figure 1). Oral history from elderly residents in Enugu accounts that *Okpogho* (a proto-manilla) gave Nigeria its first currency after trade by barter. Evidence of this is documented in the British expedition and exploitation of Coal in Enugu in the early 20th century, where coal mine labourers rejected the British coins, preferring to use Okpogho (proto-manilla) to trade (Dons, 2009). Tracing the origin of manilla, Talbot (1932) represented three narratives one of which was associated with fishermen of Niger Delta who hauled up in their drag-nets some bronze torques resembling manilla. And when the Portuguese came for trading, this torques was presented to them as preferred means of exchange by the people. Similarly, Grey and George (1951) recognised different types of manillas including *okpoho*, *okombo* and *abi* and argued that those involved in trade with the Portuguese preferred *okpoho* to other types. *Okpoho* was considered a proto-manilla and was recognised to have been present in Eastern Nigeria before commencing trade with the Portuguese. Highlighting the generational values of *okpoho*, Grey and George (1951:62) wrote, "it is an interesting coincidence that the withdrawal price for the *okpoho* in 1948 was the same as value recorded by Consul Hutchinson in 1859, namely, threepence". Not only was the *okpoho* manilla-like object found among the Igbo-Ukwu excavated bronzes dating to 9th and 10th AD, but Craddock et al. (1997) found that the materials used for their production were sources from the nearby community of Abakaliki in the present day Ebonyi state in Southeastern Nigeria.



Figure 5 and 6. Dunoka Lejja Iron smelting Site 2005BC. Source: i360Limited.com (2015).

5. Conclusion

The dating of the Benin bronzes in the 15th Century, which coincides with early European contact has demeaned the originality of the source of the materials, not just to the Benin bronzes but to bronzes of sub-Sahara Africa. Skowronek *et al* (2023) conclusions imply that the alloy used for West African bronze artworks was acquired from manilla bracelets made in Europe. Their position generalised the origin history of the materials used for Benin bronzes; even when they recognised Igbo-Ukwu bronzes as the earlier ones (Craddock et al., 1997), they failed to take into consideration the possibility of their source from a nearby bronze-producing community. This paper substantiates the Indigenous origin of the materials for Benin bronzes using the Igbo-Ukwu bronzes dated between 9th and 10th centuries and pre-dating the European contact. To begin with, there are ancient iron smelting sites dating between 4005 and 2005 BC discovered in sites at *Lejja, Opi* and *Umundu* (all in Enugu State), a driving distance of approximately 146km from *Igbo Ukwu*. Furthermore, the *Igbo Ukwu* Bronze site and the city of Benin are both in the southern part of Nigeria and a driving distance of 174km between the two sites. Amongst the Igbo Ukwu bronze finds are proto-manilla anklets and wristlets carbon-dated 9th century AD, and the indigenously manilla-like object found is called *Ona Okpogho*. The name *Okpogho* derived its name from Okpogho community in Ezeagu local government area of Enugu State where it was being crafted for centuries. *The Okpogho was* worn as a symbol of wealth in ancient Igbo society and was also used as a medium of exchange in the region until 1948.

Again, the alloy of both the Benin and *Igbo Ukwu* bronzes are readily available in Nigeria. Commercial quantities of mineral copper ore are detected in Nasarawa, Bauchi, Zamfara, Niger, the Federal Capital Territory and Ebonyi

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States all in Nigeria. Establishing this fact, in 2023, Nigeria exported copper worth $191.75 Million. Thus, these assertions demonstrate strong evidence that the Bronzes of sub-Sahara Africa were indeed Indigenous before the coming of the Europeans

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Préservation versus disparition. Culture patrimoniale et architectures de terre africaines

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Abstract

Our proposition is to approach the preservation of African earthen architecture from the perspective of disappearance. After laying some groundwork on the relationship between heritage and disappearance, we present two case studies in which the idea of disappearance associated with conservation is applied differently. The first example concerns Lyela dwellings (Burkina Faso), and in particular the emic principles of their "reproduction"; the second concerns the Musgum (Cameroon, Chad) and their etic renewal. One refers to the disappearance of buildings which, before becoming 'definitive', were dynamic and necessary for their perpetuation, and the other to a heritage-type recreation after the model had disappeared for several decades.

Keywords: *Earthen architecture, conservation / disappearance, heritage culture, cultural tourism, patrimonialization, Lyela (Burkina Faso), Musgum (Cameroon, Chad).*

Résumé

Nous proposons d'aborder la préservation patrimoniale des architectures de terre africaines sous l'angle de la disparition. Après avoir posé quelques jalons au sujet des relations entre patrimoine et disparition, nous convoquons deux études de cas dans lesquels l'idée de disparition associée à celle de conservation s'exerce différemment. Le premier exemple intéresse l'habitat lyela (Burkina Faso), et notamment les principes émiques de sa « reproduction » ; le second celui des Musgum (Cameroun, Tchad), et sa reconduction étique. L'un renvoie à une disparition du bâti qui, avant de devenir « définitive », était dynamique et nécessaire à sa perpétuation, et l'autre à une recréation de type patrimonial après disparition du modèle pendant plusieurs décennies.

Mots-clés: *Architecture de terre, conservation / disparition, culture patrimoniale, tourisme culturel, patrimonialisation, Lyela (Burkina Faso), Musgum (Cameroun, Tchad).*

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1. Introduction

Où conduirait le fait d'appréhender la conservation – la préservation, la patrimonialisation – sous l'angle de la disparition? Comment la disparition, sous-jacente à l'idée de conservation, interfère-t-elle avec celle-ci et, partant, avec le patrimoine, la patrimonialisation? Ces questions sont l'assise de notre propos, qui tient de l'essai. Elles reposent sur la proposition suivante qui, aussi évidente puisse-t-elle paraître, prit tout d'abord les atours d'une hypothèse ou d'une intuition potentiellement « bonne à penser » : conserver ou préserver, au sens au moins de garder en l'état, c'est craindre la disparition. Qu'elle soit supputée ou effective, la disparition nous servira donc de référence pour aborder la question de la préservation des architectures de terre africaines, en convoquant deux études de cas : l'habitat lyela (Burkina Faso), depuis les changements observés dans les années 1960 jusqu'à sa disparition récente, et avec pour assise nos recherches ethnographiques ; et l'exemple, à travers la littérature, des « cases obus » musgum (Cameroun, Tchad), autour de leur « renaissance » à la fin des années 1990 après des décennies d'abandon. Ces cas d'études nous intéressent ici en ce qu'ils mettent en jeu deux associations bien différentes des rapports entre patrimoine et disparition appliquées à l'architecture de terre africaine : le premier montre que s'attacher à préserver le bâti au lieu de le détruire peut conduire à l'anéantissement du groupe social qui l'a produit ; le second met en miroir le délaissement d'un modèle architectural par ceux qui l'ont créé et sa réinvention patrimoniale et politique à visée touristique par des élites. En amont de ces deux cas, et plus largement, on s'intéresse aux liens entre patrimoine et disparition. Précisons un peu plus avant, au préalable, notre parti pris.

En filigrane au moins, il y a bel et bien l'idée de perpétuation, donc de transmission, dans celle de conservation : un programme, une prospective, une visée. D'où, sans doute, l'association récurrente de la conservation ou la préservation avec la notion de patrimoine qui, dans sa dynamique, n'est pas un legs pour un legs mais plutôt, du fait de la passation et de la donation qu'induit le legs[1], une perpétuation accompagnée de perspectives et, partant, d'adaptations. Mais l'idée de conservation contient aussi, pareillement, celle de disparition, au sens où conserver revient pour l'essentiel à éviter – et craindre – que cette dernière ne se réalise. On pourrait objecter qu'on ne conserve pas nécessairement pour éviter la disparition – garder en mémoire, est-ce l'éviter ? –, mais aussi pour perpétuer. Conservation et disparition n'en restent pas moins liées : en restituant, et c'est son rôle, la mémoire contrecarre l'oubli (la disparition : la perte), et puisque perpétuer c'est « faire durer indéfiniment ou très longtemps » (CNRTL[2]) c'est également empêcher l'effacement, non sans un soupçon d'éternité.

« Maintenir hors de toute atteinte destructive », propose en ouverture le CNRTL pour le verbe « conserver », donnant ainsi comme une connotation malicieuse au pouvoir destructeur qui pourrait s'exercer[3], avant de poursuivre aussitôt par : « s'efforcer de faire durer, de garder en bon état ou dans le même état (…) ; garder, sauvegarder ». La vitalité qui émane de ce dernier terme est affirmée ensuite, avec cette succession : « protéger, sauver, guérir, faire vivre ». Elle fait le pendant à l'idée de finitude que contient la disparition, et elle est importante dans les deux cas d'étude présentés ci-après. Préservation et conservation, patrimoniales ou non, sont proches. Soulignons simplement que la première – « Mettre à l'abri d'une (cause d') altération ; soustraire quelque chose à la destruction, à l'oubli » (CNRTL) – introduit l'idée d'oubli, bien distincte de celle de disparition, et qui intéresse également nos études de cas : il y a dans l'initiative de reconstruction des « cases obus » musgum, par exemple, l'idée de tirer de l'oubli un savoir-faire en passe de disparaître pour reproduire une forme architecturale tout en omettant de documenter, ce faisant, et comme par surcroît !, la sociologie de la construction correspondante[4]. Quant au terme « disparition », enfin, du même dictionnaire nous extrayons ces deux propositions qui le définissent et engagent deux façons de disparaître qui, comme les notions qui précèdent, participent de celles de patrimoine et de patrimonialisation : « Action de disparaître, fait de cesser *momentanément* d'être visible » (nous soulignons),

[1] Transmettre, c'est faire passer, tout comme permettre le passage de, mais c'est aussi donner (passer d'une main à une autre, passer la main), au sens où la logique du don mise en avant par Mauss (1968) y participe : dans le don il n'y a pas que la chose donnée mais de l'intention, de l'obligation, et le pouvoir en action de la chose elle-même (le *hau*).

[2] Centre national de ressources textuelles et lexicales, https://www.cnrtl.fr/definition/

[3] Destructive (« qui a le pouvoir de détruire », CNRTL) plutôt que destructrice (« qui détruit », *id*.), l'atteinte semble dotée d'une autonomie d'action.

[4] Le chantier est un espace-temps de premier ordre pour appréhender les conceptions en vigueur dans une société, ses organisations, mais cette dimension a semble-t-il échappée au(x) porteur(s) du projet (voir Jamin, 2003) et d'ailleurs, globalement, à l'anthropologie.

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et « Action ou fait de disparaître en cessant d'exister ». Tenant pour acquis que la disparition est inhérente aux notions de conservation et de préservation, liées à la perte et à l'effacement, nous la prenons comme « ressort » pour appréhender les questions patrimoniales[5]. Plus avant, conservation/préservation et patrimoine semblant souvent être, dans les propos qui précèdent, des termes interchangeables, notons qu'à l'image de celle de conservation la notion de patrimoine a pour assise la disparition (supputée ou effective). Elle lui est, en d'autres termes, consubstantielle.

2. Disparition et patrimoine

La disparition est, historiquement, arrimée au patrimoine, notion qui dès son apparition à la fin du XVIII[e] siècle conjugue préservation de l'existant et réaction face à la menace ou au danger de destruction – elles-mêmes « à l'origine du code de l'urbanisme » (Ambroise-Rendu & Olivesi, 2017, p. 268; Chastel, 1986; Fabre 2013, p. 22-31). En ouverture de son article paru dans un dossier de revue consacré à « la catastrophe patrimoniale » faisant suite aux travaux de Fabre, Dassié (2024) rappelle ce lien entre patrimoine et vandalisme de la révolution puis, au cours de son analyse, enjoint à ne pas oublier que « si l'éventualité d'une destruction n'existait pas, la conservation n'aurait pas lieu d'être » – conservation dont la démarche est « une lutte permanente contre la disparition », et « risque de destruction » qui serait, lui, le déclencheur de « l'engagement patrimonial » (*ib*., p. 12). Patrimoine et conservation apparaissent bien, ici, chevillés à la disparition. Mais cette dernière reste en arrière-plan, le prisme de son analyse est celui de la catastrophe, au cœur du propos. Volontiers soudaine, à la différence de la disparition la catastrophe n'est pas seulement factuelle: elle est aussi de l'ordre du jugement de valeur, de l'expression d'une émotion (désastre, malheur et/ou calamité l'habillent). Dans l'introduction à ce dossier thématique, les auteurs proposent de voir en « la catastrophe patrimoniale (…) *le comble du monument* », puisque « autour du monument blessé [se déploient] un ensemble d'acteurs, d'initiatives et de dynamiques qui, au rebours d'un travail de deuil signant le vide laissé par la disparition, provoquent des engagements nouveaux pour l'objet patrimonial (…), réactivés par le drame » (Isnart & Hottin, 2024, p. 3). À leur suite, et sur le même mode, nous pouvons dire de la disparition qu'elle est ou serait le comble du patrimoine. Et adjoindre qu'au sein des logiques patrimoniales, où elles renvoient à des destructions, catastrophes et disparitions mobilisent toutes deux: qu'elle soit brutale ou totale (*i.e*. opérée sur un temps plus long), et au même titre que le péril, la disparition est aussi l'un des moteurs de la patrimonialisation. « Ce n'est généralement que lorsque ces lieux [espaces coloniaux africains] sont menacés, ou (…) disparaissent brutalement que se manifeste une sensibilité patrimoniale » et que des actions sont entreprises, souligne par exemple Sinou (2005, p. 16). Inversement, la patrimonialisation peut être source de destructions d'envergure. Ce fut le cas, par exemple, à Harar (Éthiopie), où la reconfiguration du centre-ville en « vitrine urbaine » touristique a engagé, avec la démolition de 500 maisons, l'« exclusion sociale et spatiale » de leurs habitants (Bosderon, 2011) ; ou, autre exemple, pour l'île de Karey Kopto au Niger, haut lieu de pratiques rituelles et thérapeutiques où naquit l'ancêtre des pêcheurs sorkho, Faran Maka[6], d'où la population fut « déguerpie » à cause de la proximité du parc du W, site classé (Amadou, 2011). Entre ces deux extrêmes, patrimoine (bâti ou non) – et/ou conservation – et disparition (perte, destruction) se conjuguent de multiples façons, volontiers contradictoires. Plus avant, au plus près de notre « hypothèse » initiale, d'une nostalgie qui se manifeste « par une angoisse (…) de perdre la diversité culturelle et les traces du passé » Berliner (2013, p. 393-394, 396) en fait « un trope de la disparition dont l'Unesco (…) a contribué à la dissémination à travers le monde » puis, avant de présenter les nostalgies à l'œuvre dans le champ patrimonial, précise que « le discours des experts véhicule la nostalgie institutionnalisée qui fait partie de la philosophie même de l'Unesco, dans une rhétorique portant sur l'irréversibilité de la perte et sur les moyens d'y remédier » (voir aussi Ciarcia, 2006). Conserver, ici, ce ne serait pas tant craindre la disparition que prendre en charge une nostalgie centrée sur la disparition patrimoniale. La coexistence paradoxale de l'irréversibilité et du remède, elle, invite à poser ou rappelle que ce qui devient patrimoine est autre, est excepté, n'est pas ou plus du même ordre que ce qu'il s'agissait initialement de préserver « en l'état ». Préserver, alors, c'est réinventer, aussi la disparition peut-elle être envisagée dans ses deux

[5] Ce positionnement est proche, à divers titres, de celui adopté par Ceriana Mayneri (2022) appréhendant le musée Boganda de Bangui à partir de son état de dégradation, observer et analyser la ruine *per se* offrant, souligne-t-il, nombre d'« avantages théoriques ».

[6] Voir Rouch, 1960 (et nombre de ses films).

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acceptions. Mais excepter, en patrimonialisant, c'est aussi déprécier, oublier, effacer, ignorer, symboliquement au moins, ce qui n'est pas mis en valeur (Ambroise-Rendu *et al*., 2017).

Entre un « avant/après » patrimonialisation d'un « bien », même au seul prisme de la disparition, les distinctions et articulations proposées par les auteurs s'y intéressant sont très diverses et propres à chaque cas. Les catégoriser relève d'une gageure. La nécessité de préserver pour ne pas perdre ou pour (tenter de) pérenniser un passé ou un présent précède la patrimonialisation, l'accompagne, et la suit. En attestent par exemple les points suivants, extraits de l'article d'ouverture d'une publication issue d'un travail collectif dont le constat initial était, justement, que les monuments classés sortent du commun, changent de statut (juridique, administratif) et d'usages, et que « cette métamorphose touche (… [tout]) l'espace social » (habitants, voisins, visiteurs ; Fabre, 2009) : a) l'effacement dont les monuments élevés « à la mémoire de » sont la proie – érosion puis perte de sens qui concerne aussi les monuments préservés comme témoins du passé –, « l'onction historique » dont ils sont parés ne suffisant pas à maintenir dans les mémoires les justifications initiales du classement comme si ce dernier, précise l'auteur, « se retournant contre ses propres raisons, était devenu le grand *rituel d'amnésie* du monde contemporain »[7] ; b) pour éviter qu'ils ne tombent dans l'oubli, « qui affecterait l'ambition monumentale en soi », il faut attirer des visiteurs, quitte à plutôt gérer des foules que « le monument et ses publics », avec en perspective un « risque d'érosion touristique qui aurait pour effet d'entraîner la disparition de l'objet qui en est la raison et le prétexte », et en parallèle la disparition de l'Histoire dont cet objet devenu une image serait le témoin au profit d'une histoire de sa patrimonialisation. Ces multiples retournements de situations mettant en jeu les liens entre disparition et patrimoine rappellent l'importance et l'ambivalence des rapports au temps dans ce domaine, et bien sûr dans ces notions. Elles ont été maintes fois relevées à propos du patrimoine, où les tentatives, forcément vouées à l'échec, de figer conjointement les sociétés et l'écoulement du temps dans une éternité sans doute convoitée et, surtout, montrable – touristique – contribuent à nier l'existence de ce que l'on se proposait de préserver, pour n'en laisser subsister que sa seule image.

À différentes échelles, sous couvert d'une continuité patrimonialiser marque et parfois consacre des ruptures, des exclusions, des « dépossessions » (Fabre, 2013), et engage à répétition des reconfigurations, négociations, recréations des sociétés ou des cultures dans lesquelles les populations concernées sont diversement parties prenantes. À Ouidah (Bénin), par exemple, pour pouvoir valoriser le patrimoine bâti il faudrait que les habitants aient tourné le dos à leur passé et à leurs pratiques en s'inscrivant dans la modernité (Sinou, 1995). À Tombouctou (Mali), comme inversement c'est la captation de l'entretien du patrimoine par l'Unesco qui en a détourné les habitants, faisant ainsi disparaître la dynamique sociale qui l'assurait (Traoré, 2023). En pays lobi (Burkina Faso), les habitants sont en revanche « de plus en plus sollicités pour une gestion participative des patrimoines » et recomposent des lieux, des territoires et des mémoires – des récits – pour le tourisme, dans le moment même où l'État, récupérant le classement patrimonial pour assoir l'unité nationale et sa visibilité sur la scène internationale, « décontextualise le site de son environnement propre » (Royer, 2011, 2013). En milieu peul au Mali, pareillement, initiatives et politiques locales et nationales se juxtaposent dans le maintien de fêtes pastorales patrimonialisées et liées à une transhumance disparue (Leblon, 2016). Mais globalement, en Afrique au moins, la promotion ces deux dernières décennies des logiques participatives et du « développement durable » dans la mise en patrimoine n'a pas vraiment contribuée à assoir l'implication des communautés locales dans les projets (Gravari-Barba & Jacquot, 2014). Peut-être les contradictions et paradoxes auxquels confronte ou que met en scène la logique patrimoniale, relevés par maints auteurs, dont les liens entre conservation et disparition esquissés ici seraient l'assise, empêchent-ils fondamentalement que les appropriations escomptées ne se réalisent. La patrimonialisation reste pour l'essentiel une affaire occidentale et éminemment politique, dont s'emparent les États bien plus que les communautés – mais elles le font (Bondaz *et al*., 2012) –, dans une logique de développement et de gestion territoriale centrée sur le tourisme (Calas *et al*., 2011; Corolli & Houénoudé, 2013; Seri-Hersh, 2009), et plus précisément le « bon » tourisme. Étroitement lié à la préservation, ce tourisme dit « culturel », « solidaire », puis « durable », où s'échangeraient des biens économiques et culturels dans une réciprocité favorisant la fameuse amitié entre les peuples, et qui « revitalise les cultures » en même temps qu'il est « bon pour le commerce international », ou qui est un « trésor du développement économique » et un « humanisme en soi », est dès les années 1960 ainsi paré par

[7] Italique de l'auteur (*idem* pour les termes de cette énumération mis entre guillemets, à l'exception de la première occurrence).

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l'Unesco de nombre de vertus (Cousin, 2008). Mais il est ambivalent. « Définir le patrimoine comme un dispositif producteur de richesses, alors même que la logique de sa construction exige qu'il soit rigoureusement abstrait du marché » (Fabre, 2013, p. 69) est paradoxal, et risqué. Les liens entre tourisme, patrimoine et développement économique ont communément des effets dévastateurs sur « les lieux et les pratiques qui sont l'objet de la conservation »: « faire d'un lieu un sanctuaire Unesco, c'est (…) [l'ouvrir] aux capitaux étrangers et à la circulation d'acteurs multiples aux imaginaires patrimoniaux et touristiques contrastés » (Berliner & Istasse, 2013, p. 133). Tourisme culturel et de masse, développement économique et commercial, politique nationale et valorisation d'identités locales se côtoient et se mélangent. Et lorsqu'ils le font c'est, peut-on dire, au profit d'une « disneylandisation du monde », qui « vide [le patrimoine] de sa force en le transformant en signe » – « pour cet exotisme et ce dépaysement, point n'est besoin de cultures (…), les signes extérieurs suffisent » ! –, « la mise en scène des cultures détruites (…) a[yant] aussi pour effet de gommer les souvenirs des ethnocides » (Godin, 2011).

Pour clore cette esquisse, tournons-nous plus spécifiquement vers l'architecture de terre africaine. S'interroger sur sa disparition tout au long du XX^{e} siècle, d'abord lente puis de plus en plus rapide et radicale au tournant du XXI^{e} siècle, comme au moment même où elle émerge en tant que patrimoine puis que sa patrimonialisation s'intensifie, impose d'en référer, notamment, à la question coloniale. En termes de formes architecturales, nous passons d'une diversité foisonnante à l'adoption d'un modèle standard, l'habitation rectangulaire à toit en tôle, où le parpaing de ciment remplace la terre crue. Dans ce laps de temps, avant comme après les indépendances, seuls quelques architectures « traditionnelles » sont valorisées, érigées en patrimoine ou, pour faire suite à l'image précédente, mises en exergue ou en spectacle. En termes de capital ou de valeur symbolique, nous passons de l'affirmation d'identités ou de cultures multiples à l'affirmation d'une appartenance mondialisée (le concert des nations), le patrimoine participant des deux à la fois. Du côté des colonisateurs, bien peu d'exaltation quant à la variété architecturale, à ses qualités et intérêts: dépréciation, condescendance et point de vue évolutionniste sont de mise, tant pour le matériau de construction, que sa mise en œuvre et le bâti (Prussin, 1981; Pecquet, 2011). La terre crue est rangée du côté du primitif. C'est au nom du progrès, par exemple, que tout au long des premières décennies de la colonisation les militaires français tentent d'imposer l'usage de la brique cuite: méprise sur les qualités de ces matériaux et, *a minima*, méconnaissance des dynamiques locales de l'habiter. L'architecture, elle, est infantilisée, parfois salie, sauf quand ses dimensions, son style (le « style soudanais ») et parfois les systèmes défensifs impressionnent – mais on a alors plutôt affaire à des « châteaux forts en miniature » qu'à des monuments! Lorsqu'elle est exhibée, qu'elle paraît et pourrait être valorisée ou honorée en tant que patrimoine, ce ne sont pas tant ses qualités qui sont mises en avant et en scène que celles de la société colonisatrice: la sauvegarde, à la fin du XIX^{e} siècle au Dahomey (Bénin), du palais du souverain d'Abomey démis (Sinou, 2005, p. 22), et l'exposition coloniale de 1931 à Paris (avec, pour l'Afrique, le palais de l'A.O.F. en pièce maîtresse), en sont des exemples édifiants. Avec les indépendances, le dénigrement continu des architectures de terre africaines pratiqué par les colons achève de porter ses fruits: pour les États africains et leurs populations, l'architecture de terre est rétrograde. En Occident, inversement, petit à petit les architectures traditionnelles deviennent une richesse, un patrimoine, et cette valorisation symbolique s'accentue au fur et à mesure de leur disparition[8]. Ces dernières décennies, l'abandon des modèles architecturaux par les sociétés qui les ont créés se généralise, la patrimonialisation et la « touristification » qui l'accompagne s'amplifient. Pour les États en mal de reconnaissance, patrimonialiser est tel « un rite de passage à l'échelle des nations » (Royer, 2011), propulse sur la scène internationale. En Occident, l'architecture vernaculaire – et plus encore la terre crue, matériau exemplaire en termes de non-émission de gaz à effet de serre – mue en référence bonne à penser face à la « crise climatique ». Mais dans un cas comme dans l'autre ces architectures tiennent du produit d'appel (voir par exemple Grätz, 1999), et parfois du pastiche. Pour les appréhender, le formel, le superficiel et le consommable dominent, comme au mépris de ce qu'elles ont pu représenter, au sens où toutes sont d'abord des productions singulières des sociétés, ou comme si de culturel il ne restait à leur propos que le tourisme. Nombre de ces dernières considérations nous renvoient à l'exemple des « cases obus » musgum. Mais venons-en aux deux études de cas annoncées. La première, qui intéresse l'habitat lyela, est issue d'un terrain ethnographique que j'ai débuté en 1988. Elle tient en ce que là, globalement, détruire

[8] En France au moins, ce constat s'applique à pratiquement tous les aspects des cultures régionales, réprimées et sapées puis « documentées » (campagnes de recherche du CNRS des années 1960 et 1970) avant disparition, puis magnifiées. L'exemple des langues vernaculaires est net: du début du XX^{e} siècle à sa fin, on passe de leur interdiction à l'école à leur promotion à l'université.

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du bâti participe de la régénération de l'habitat, dans une configuration où ce sont les qualités prêtées au lieu bien plus que les structures qui y sont édifiées qu'il s'agit préserver dans le long terme. Dans la seconde, relative aux « cases obus », et évoquée ensuite, comme inversement la notion de lieu, de site, ou d'habitat s'efface au profit d'une réinterprétation et d'une appropriation des structures, réinventées, que l'on construit sans projeter aucunement d'y habiter. De l'une à l'autre, aussi multiples soient-elles les relations entre la préservation des « identités » associées au bâti, à l'architecture, et leurs projections ou attendus sociétaux sont, on le pressent, bien différentes.

3. Détruire pour préserver, faire disparaître pour perpétuer: l'habitat lyela

La sauvegarde patrimoniale, on l'a évoqué, peut détruire ce qu'elle se propose de protéger: du fait du tourisme, parce qu'en exceptant elle exclut, ou bien encore par une forte propension à figer liée aux difficultés à intégrer la prise en charge du temps, ou en d'autres termes la vitalité des sites. Ces derniers aspects, intéressant la vie des sites et ses dynamiques, l'exemple de l'habitat lyela les met bien en valeur. Cet habitat, dispersé, est composé de maisonnées qui comptent de 15 à plus de 200 résidents, où les habitations accolées les unes aux autres – domaines des épouses – ouvrent sur la grande cour à entrée unique, qu'elles délimitent (Fig. 1). Dans les publications antérieures à nos travaux de terrain, ses évolutions au cours du XX^{e} siècle sont de trois ordres: sortie des greniers hors de l'enceinte formée par les habitations, réduction de la taille des « maisons » [9], apparition et multiplication d'habitations rectangulaires. Ces tendances, liées à la colonisation, se sont confirmées tout au long des années 1990; aujourd'hui l'habitat lyela évoqué ci-après n'est plus. Sa disparition relève d'un processus de transformations successives qui, dans les années 2010, semblait irréversible. Eu égard aux liens unissant société (ou culture) et production puis usages de l'habitat, cette disparition dit quelque chose des bouleversements fondamentaux en cours au sein de la société considérée, mais aussi de la façon dont elle « se fond » dans le courant dominant, qui tient notamment en la monétisation des rapports sociaux et de production, dont celles du bâti (voir Pecquet 2024). Mais ce n'est pas cette dimension des rapports entre identité culturelle, architecture et disparition que nous voulons ici mettre en avant. Dans une étude préalable à nos recherches de terrain, qui portait sur diverses architectures de terre du bassin des Volta (dont celle des Lyela), leurs dynamiques se sont imposées comme devant faire l'objet de toutes les attentions, tant remodeler continûment les espaces et le bâti semblait inhérent à leur conception (Pecquet, 1985) : ce sont ces dynamiques – *i.e*. comment, au fil du temps, ces structures sont-elles bâties, vécues, gérées, entretenues, détruites ? – qui nous intéressent, en ce qu'elles posent la destruction non seulement comme nécessaire mais aussi comme engageant, dans le long terme, la viabilité des lieux habités[10]. En centrant nos propos sur l'habitat lyela, nous laissons l'idée de patrimoine en arrière-plan pour revenir, plutôt, à celles de conservation et de préservation de l'architecture de terre, et cela du point de vue émique.

La maison lyela (voir note 8) croît et décroît au gré des variations du nombre de ses résidents. C'est un espace en reconfigurations constantes, dont la limite est constituée pour l'essentiel du dos des habitations. Son expansion est toujours souhaitée. L'arrivée de nouvelles épouses la matérialise: pour chacune d'elle il faut bâtir une habitation, donc agrandir la cour. Mais son repliement, lié aux décès et aux départs de ménages désireux d'aller s'établir ailleurs, est également incontournable. L'ajout d'une nouvelle habitation invite, par exemple, à détruire celles entre lesquelles on souhaite la placer, et toutes trois sont alors bâties en retrait (Fig. 2). Parfois, c'est aussi l'occasion de redessiner le tracé du pourtour de la cour, de restructurer l'ensemble, quitte à détruire la moitié des habitations. Lorsque plusieurs ménages, polygames, quittent la maison de leur « père » (classificatoire) pour en fonder une nouvelle, ils laissent nombre d'habitations vides, qui en s'écroulant ne constitueront plus une limite viable.

[9] Nous utiliserons ci-après le terme de maison, au sens anthropologique (ici, ensemble d'habitations entourant une cour).

[10] Sous l'angle des relations entre développement et conservation en pays lyela, on trouvera une première approche de ces questions et nombre de données qui ne sont pas reportées ici dans Pecquet, 1993. Voir aussi, pour un autre cas, Djanguenane, 2008.

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Figure 1. Kyon-Esapu. Credits: Luc Pecquet (1989)
Dos d'une habitation. À droite, entrée menant à la cour centrale de la maison, où se trouvent les grands greniers

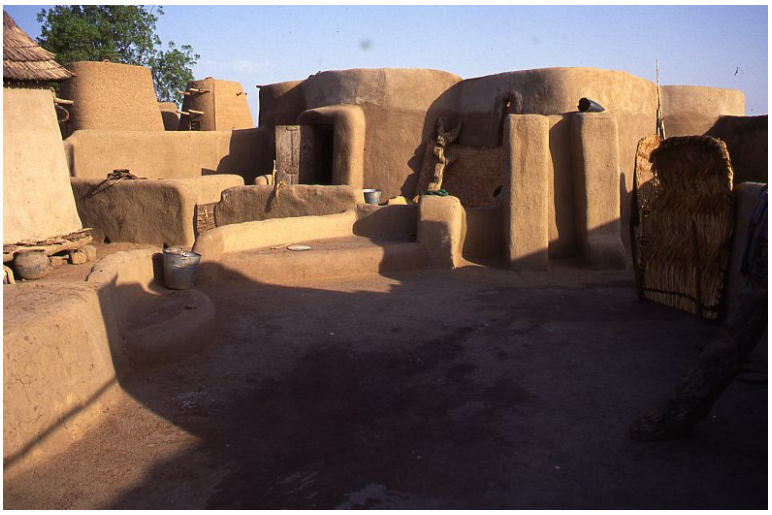


Figure 2. Kyon-Esapu. Credits*: Luc Pecquet (1992)*
Intérieur d'une habitation détruite pour être reconstruite en retrait, gardé intact dans l'espace de la cour centrale (plateforme, sol damé)

Les restructurations de l'espace, mêlant démolitions et constructions, sont d'ampleur variable. Et elles sont indispensables car elles engagent l'efficacité de la limite du site : ses capacités à réguler les échanges et la nature des relations entre l'intérieur et l'extérieur, entre ce qui tient de l'espace domestique et de la brousse, en faisant barrage à l'intrusion de ce qui est néfaste et en favorisant la venue et la libre circulation de ce qui est bénéfique. C'est la qualité du site en tant que lieu de vie tourné vers la reproduction des Hommes, des végétaux et des animaux domestiques, et inséré dans un tissu de relations avec le monde environnant, qu'elles mettent en jeu ; c'est elle, toujours en tension, que l'on s'attache à sauvegarder, à perpétuer, à laquelle on prête mille et une attentions dès la construction d'une nouvelle maison, et que l'on réactualise continûment par cette « vitalité » du bâti[11]. Conserver les structures pour elles-mêmes, figer le bâti, l'extraire des aléas de la vie, ce serait en revanche encourir la mort ou, à terme, devoir abandonner le site. Dans ce contexte et, beaucoup plus largement, c'est-à-dire suppose-t-on pour nombre d'architectures de terre africaines – mais les études relatives à leurs dynamiques manquent –, en considérant la fragilité du bâti en terre dès lors qu'il n'est plus entretenu ou est inhabité, associer architecture de terre et conservation (du bâti) relève d'une antinomie voire d'un antagonisme. D'un autre point de vue, préserver,

[11] Cet ensemble correspond d'assez près aux définitions du terme « conserver » reportées en ouverture de nos propos.

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ici, c'est reconfigurer, réinventer, renouveler, et si cela rejoint ce que nous évoquions à propos de la patrimonialisation reste que l'enjeu de la conservation, bien évidemment, n'est ici pas du même ordre.

Que l'on considère la vision du monde ou les rapports sociaux, ajoutons à cela qu'il y a dans ces activités de chantier répétées, dans ce faire-là, une réaffirmation constante des préceptes socio-culturels en vigueur, qu'ils concernent les croyances (religieuses ou non), les institutions et organisations (de travail, de pouvoir, etc.), les connaissances et savoir-faire[12]. Cette dynamique a décliné tout au long des années 1990, marquées par une réduction de la taille des maisons, leur ouverture sur l'extérieur, l'augmentation du nombre d'habitations rectangulaires en terre crue. Progressivement, ces nouvelles formes d'habiter ont mis à mal l'entraide au principe de la construction et de l'entretien du bâti (Pecquet, SP), et l'échafaudage socio-religieux correspondant, centré sur l'entité Terre. L'apparition de « maçons d'argent » (*i.e.* rémunérés pour bâtir) en lieu et place des « maîtres du banco » (*i.e*. de la terre à bâtir) traduit bien, par ce changement de référent, la nature des bouleversements des rapports à la terre au fondement de la société qui alors s'annonçaient, et que consacre l'arrivée progressive du cadastre et de la propriété privée du sol (Pecquet, 2024 et SP). Lors des deux décennies suivantes, l'habitat lyela a disparu, la monétisation de la société est accomplie. D'une certaine façon, toutes les conditions sont donc remplies pour sa patrimonialisation. Sans pouvoir ici développer les arrière-plans de cette dernière assertion, qui font écho à maints aspects de l'analyse proposée en ouverture, notons brièvement le fait suivant, qui participe du même ensemble : en 2005, lorsque nous avons fait appel pour un projet sur l'habitat lyela à « Patrimoine sans frontières » (PSF), association tournée vers le sauvetage de biens culturels à l'agonie et alors partenaire de l'Unesco[13], la disparition de cet habitat n'était pas perçue comme assez imminente pour qu'ils s'engagent. Mais venons-en à l'exemple des « cases obus » musgum, où nous retrouverons PSF, et où le bien n'étant pas à l'agonie mais, peut-on dire, bel et bien mort, la relation entre patrimoine bâti et disparition est poussée dans ses retranchements.

4. Disparaître, renaître en patrimoine: l'exemple de la «case obus»

Les cases obus (Cameroun, Tchad), fameuses, décrites par Gide et Allégret en 1927-28 (et d'autres avant eux), célébrées à l'exposition coloniale de 1931, dont le nom rappelle l'importance des militaires dans l'appréciation des architectures africaines, avaient au moins un double avantage pour devenir patrimoniales: leur monumentalité, pour certaines, et leur originalité formelle hors pair, comme à l'appui de la dimension culturelle ou identitaire du « bien ». La conservation de type patrimonial interroge toujours sur ses tenants et aboutissants. Dans le cas présent, précise de Durfort (2003; présidente de PSF)) dans la préface de l'ouvrage dont nous extrayons l'essentiel des informations ci-après (Seignobos & Jamin, 2003), l'initiative qui aboutira à la réalisation d'un chantier-école par PSF en 1996-97 revient à l'« association des élites Musgum de Maroua », et est labélisée « demande venant du terrain ». Plus étroitement, si ce n'est plus exactement, cette demande est celle d'un député. Aussi le « terrain » convoqué semble-t-il être essentiellement politique. Il ne s'agit pas tant de réinvestir cet habitat abandonné depuis des décennies – disparition témoignant d'une « apparente désaffection populaire » !, est-il précisé – que « d'édifier le témoignage d'un savoir-faire culturel » par la construction de « cinq cases », dont la destination est incertaine mais néanmoins, au premier chef, touristique. Ces cases ont « participé à l'affirmation identitaire et culturelle du peuple musgum ». De « vieux bâtisseurs élevés et formés dans la tradition » transmettront les savoir-faire « à une génération (…) ignorante de ses richesses culturelles », par la pratique – importée – du chantier-école. Voici posé le cadre de l'intervention de PSF. Cet exemple concentre nombre d'enjeux, travers et ambigüités des pratiques patrimoniales – ou effectuées sous l'égide de cette notion – et de leurs représentations. Nous n'en donnons qu'un très bref aperçu, par l'exposé de quelques faits issus des deux analyses proposées dans l'ouvrage.

[12] Ou une réactualisation (et transmission). Cela rappelle ces propos d'Ogino (1995, p. 57) sur le patrimoine japonais: « la tradition ne réside pas toujours dans les œuvres réalisées, mais dans celles qui sont en train de se réaliser. L'art traditionnel consiste donc non pas à conserver fidèlement l'héritage du passé mais à actualiser *ce qui aura été fait* ».

[13] Créée en 1992, l'association a été dissoute le 30 avril 2023.

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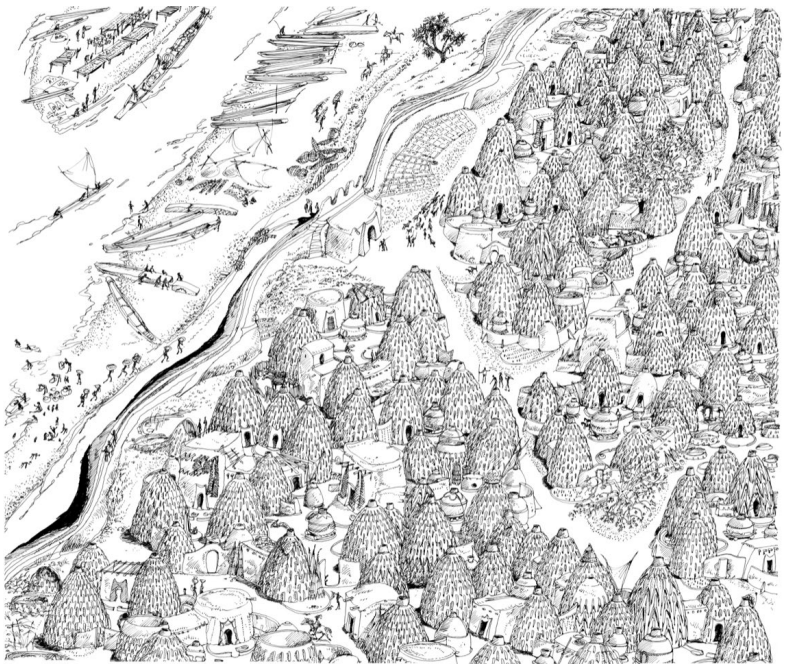


Figure 3. Reconstitution d'une imposante localité musgum, Malla, proposée par Christian Seignobos. Credits: C. Seignobos Extrait de Des mondes oubliés. Carnet d'Afrique (2017, p.69), Marseille, IRD Éditions et Parenthèses.

L'étude de Seignobos permet de suivre au plus près la disparition de ce modèle d'habitation et ses reconstitutions, tant coloniales que post-coloniales, jusque celle de PSF. Les « derniers ensembles cohérents » de cette architecture, précise l'auteur, remontent aux années 1970, où les ultimes grandes cases sont habitées par des personnes âgées, et où finissent de s'imposer l'islam et le protestantisme (Fig. 3). Mais elle est « en recul » dès les années 1920, en déclin très fort la décennie suivante malgré des tentatives de l'administration pour la sauvegarder, puis « s'abâtardit » dans les années 1940 et 1950 par divers emprunts, avant de disparaître. Cette disparition relève donc d'un processus de longue haleine, et elle est effective depuis pratiquement deux générations lorsqu'intervient PSF. Autre point d'importance, les cases obus ont toujours été localisées sur les rives du Logone (Fig. 4): elles ne représentent pas l'habitat musgum mais l'une de ses variantes; les Musgum avaient traditionnellement plusieurs modèles architecturaux. Que celui par lequel on identifie les Musgum, la case obus, ne soit qu'un parmi d'autres n'est pas sans rappeler que l'identité, associée ou non à l'architecture et/ou au patrimoine, est toujours multiple, malléable, et n'est pas stable dans le temps. Dans le cas présent, souligne l'auteur, ce sont les greniers et les motifs décoratifs qui auraient assumé « le rôle de marqueur ethnique ». Mais ils ont disparu très tôt. Par surcroît, la reconstitution par PSF de quelques cases obus réputées être emblématiques consacre l'emploi d'une nouvelle appellation pour ces édifices: les cases teleuk. « Désormais, la case teleuk est brandie comme référent identitaire par les Musgum », ce qu'elle n'avait jamais été, en usant de logiques politiques, religieuses et mercantiles. Le passé, la société correspondant aux usages de ces édifices, sont globalement rejetés, n'intéressent personne, le tourisme même culturel s'accommodant fort bien des « références historiques très lacunaires, mais qui magnifient le Sao, le Yémen, et l'Égypte », et les locaux impliqués dans cette initiative misant plutôt sur les retombées économiques. Les cases édifiées sont d'assez petites tailles et curieusement colorées, reprenant sans doute une mode singulière apparue à la fin des années 1980: « la mise en couleur des cases ». « Réhabilitation ou folklorisation? », interroge l'auteur, et l'on est tenté de souligner comment l'une et l'autre forment ici un couple solide. Les décalages entre le projet initial, exposé en ouverture, et les réalités socio-historiques émanant de cette étude sont patents. Le chantier école, c'est-à-dire la confrontation aux réalités de la construction, conduit à des constats similaires, au sens où ce qui est à l'œuvre en termes de « culture » et de « tradition » émarge certainement beaucoup plus aux imaginaires des intervenants extérieurs qu'aux dynamiques propres à la production de cet habitat lorsqu'il était encore en usage.

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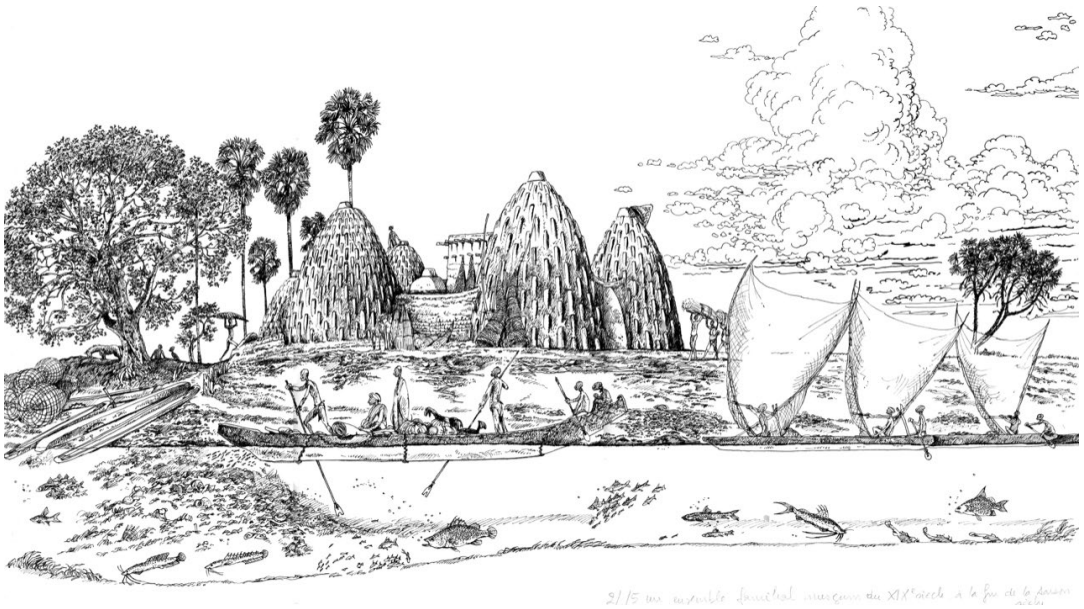


Figure 4. « Pays musgum, fin de saison sèche ». Credits; Seignobos C., 2003 : p. 58-59)

Pour Jamin, architecte en charge du chantier école, il s'agit bien d'un « projet de sauvegarde d'un patrimoine », de celle des « savoir-faire et du "génie constructif" », dans un contexte d'« anéantissement d'une culture constructive exceptionnelle » qui serait imminent. PSF, qui le diligente, est précise-t-il « particulièrement sensible à la question des patrimoines vernaculaires menacés d'abandon, peu ou mal documentés ». Aussi célèbres soient-elles, les cases obus n'avaient effectivement pas fait l'objet d'études scientifiques. L'inauguration, après six mois de chantier (en présence d'officiels d'importance), est celle d'une « concession traditionnelle musgum » édifiée « dans le plus fidèle respect de la tradition ». Mais laquelle? Suit le descriptif de l'organisation du chantier, répondant à des critères occidentaux (sélection des maçons et des apprentis, mixité, horaires et ponctualité, rémunération, etc.), et son déroulement. Le début des travaux, par le tracé du plan au sol, qui est une étape communément ritualisée et capitale du bâtir, montre bien qu'il n'est pas vraiment question de « tradition musgum ». D'ailleurs l'ensemble du chantier se déroulera sans rite aucun. Le chantier fait école ici en introduisant ou consacrant des modalités et des relations sociales d'un nouvel ordre, étranger aux modalités locales coutumières. On perçoit aisément, dans ce cas, comment la disparition des dynamiques de reconduction du modèle d'habitat, laissé à l'abandon, facilite l'intervention patrimoniale et ses différentes étapes qui, selon Nelson (2007), vont de la maison traditionnelle au monument indigène et à l'attraction touristique.

Dans l'exemple lyela, hors du champ patrimonial (étranger aux intéressés), détruire le bâti participe très étroitement de la reconduction du modèle d'habitat par ses usagers et, partant, de la société, du modèle social et symbolique en vigueur, de l'affirmation par le faire d'une « identité culturelle » commune: du devenir. Et le chantier fait véritablement école: c'est un acte social de première importance, pratiquement et symboliquement. Dans celui des « cases obus », où le caractère patrimonial est affirmé, il est symptomatique que le projet, à son point de départ, peine à formuler des objectifs nets quant à la destination des bâtiments qu'il s'agit d'édifier, ou ait pour unique projection des visites touristiques. Il ne s'agit pas tant de préserver ou de conserver une identité culturelle que d'en réinventer une en s'appropriant ou se réappropriant un modèle tombé en désuétude, pour créer un produit culturel consommable mais inhabitable et déshabité, sauf en termes touristiques. Et le chantier, effectué selon des préceptes plus occidentaux que locaux, y participe activement.

5. Conclusion

Appliqué à l'architecture de terre, le patrimoine achèverait un processus d'effacement continu, que la patrimonialisation parachèverait en le transformant en produit de consommation culturelle, dans un système capitaliste mondialisé. Dans cette perspective, suite à ce que nous évoquions, on peut se demander si la disneylandisation du monde ne serait pas le comble du patrimoine.

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L'architecture de terre africaine traditionnelle se renouvelle et se maintien par les modifications continues du bâti, selon les préceptes en vigueur dans les sociétés. Ce patrimoine vit par ces reconfigurations des espaces et du bâti, vit d'être habité. Aussi figer ces habitats contrevient-il à leurs dynamiques, lisse leurs spécificités, consacre leur disparition. Patrimoine et tourisme forment un couple dans lequel la transformation des productions culturelles en marchandises concourt à la négation et à la disparition des sociétés. Mais faire des dynamiques de renouvellements constants un atout, c'est-à-dire admettre pleinement l'éphémère de la terre crue, les reconstructions et entretiens réguliers qu'elle nécessite, pourrait conduire à revaloriser localement cet héritage trop vite transformé en produit de marketing. Pour les populations locales et les visiteurs, créer de la participation conjointe aux travaux d'entretien, de destruction et de construction de ces habitations, par exemple, pourrait favoriser des échanges et des relations sociales. Pour les États africains, défendre, promouvoir et revendiquer ce matériau, dans une sorte de retournement historique, participerait d'une sauvegarde active du patrimoine et, dans le contexte actuel de dérèglement climatique, favoriserait la construction contemporaine en architecture de terre.

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The Swahili Coast: Architectural Heritage of a Cosmopolitan East African Enclave

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Abstract

The Swahili coast, encompassing the coastal regions of Kenya, Tanzania, northern Mozambique, and islands such as the Comoros, is renowned for its unique demographic and cultural heritage. Its architecture serves as a testament to the cultural, economic, and political exchanges that occurred across the Indian Ocean during the pre-modern era. From the 8th century onward, the Swahili people engaged in extensive trade with Arabs, Persians, Indians, Chinese, and Malays. This Indian Ocean trade profoundly influenced Swahili culture, transforming it into a cosmopolitan nexus for diverse civilizations. Despite the archaeological interest in ruins like Gedi and Kilwa, Swahili architecture a significant aspect of Swahili culture has only recently garnered attention from architectural scholars. The surge in tourism and the desire to diversify tourist attractions have led to the touristic presentation of old Swahili settlements, with Zanzibar serving as a prominent example. This paper examines Swahili architecture within the broader context of Indian Ocean architecture, a regional architectural idiom shaped by maritime trade. Employing an observatory comparative analytical approach, the study utilizes a diverse set of qualitative research tools and techniques. Understanding, analysing, and learning from the architectural output of this cosmopolitan society in the pre-modern era is essential. This approach avoids reducing it to a mere collection of decorative elements for romanticized tourist settings. The study underscores the significance of recognizing the first wave of globalization sea trade that influenced Swahili architecture before it is overshadowed by the contemporary wave of mass tourism. This paper aims to contribute to the scholarly discourse by elucidating the impact of early globalization on Swahili vernacular architecture.

Keywords: *Swahili architecture, vernacular identity, the sea trade, mass tourism.*

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1. Introduction

The Swahili civilization as one of several mercantile societies located around the rim of the Indian Ocean, mastered long-distance seafaring with the use of the monsoon wind system to conduct trade across the ocean. For over 1,000 years the Swahili communities constructed and maintained a literate society, based on Islam, and a commercial empire founded on intercontinental trade and plantation agriculture. The Swahilis have been urban-based merchants and this shaped their society and civilization in pre-colonial, colonial and even post-colonial times [1].

The Swahili civilization stands at the periphery of the Muslim and African worlds, resulting in the development of a unique coastal culture based on trade. In fact, its marginal position is linked to the perception of the Indian Ocean, as a separator between Africa, Arabia and Asia. However, the ocean is also a connector between these very different cultures: the Swahilis are thus dynamic players, equal to Arab, Persian and Indian traders.

This area is significant not just because it covers an extensive strip of the continent's coastline, but because it represents an important aspect of Africa's relationship with the world, and links between Africa and Asia, the Swahili Coast is an interesting example of a thriving African civilization, with sophisticated commercial systems, and forming part of the international economy, long before the arrival of the Europeans by the end of the 15th century. In terms of the wealth of Africa, the Swahili Coast is connected with trade, and with the exploitation of gold resources from the interior. In this way, the Swahili Coast played an important role in making Africa a part of the international economy.

A sense of cosmopolitanism became part of Swahili cultural expression as the Swahili sought to solidify their many modes of engagement with the Indian Ocean world, and to distance themselves from hinterland societies, whose own engagement with the Indian Ocean was brokered, for the most part, through the Swahili themselves [2]. This does not mean that hinterland societies were not modern, or as modern as the Swahili, but rather that the Swahili differed explicitly from hinterland peoples in a number of ways that tended to highlight cosmopolitan and Islamic values. The result was a distinct coastal lifestyle, firmly embedded in a local and regional political economy, but which kept an eye to the Indian Ocean world.

In the early centuries of this phenomenon, much was shared with neighboring mainland peoples, but this became increasingly less the case, as urbanism and Islam in particular became fundamental to coastal life, and as neither did in adjacent mainland regions until the nineteenth century [3]. When a distinct coastal culture started to emerge, ca. A.D. 700, numerous permanent villages were established along the coast, and this resulted in a commitment to engaging to a wider world of new contacts on the Indian Ocean rim. Some would call this the beginning of Swahili culture, and some would apply the term when the larger towns emerge around A.D. 1000 [4].

The efficacy of sailing using annual southeast/northwest monsoonal winds made regular trade, travel, and communication possible between these villagers and others around the Indian Ocean. The main route, a circuit of about fifteen months' duration, was roughly counterclockwise from the western shore of India, across southern Persia, the Gulf region, and southern Arabia, to the eastern African coast, and from what is now Mozambique back to India; a second southern route extended from Java east to Eastern Africa and back to Sumatra [1]. This traffic allowed mutual exposure, interaction, and trade.

The Swahili confined the vast majority of settlements to the coast itself but participated in an enormous African hinterland/ Indian Ocean interaction sphere. This sphere was fundamental to the growing wealth and scale of life on the coast. The pattern of village settlement that dominated the first few centuries eventually changed, as numerous urban centers developed from the ninth and tenth centuries onward. However, this African origins model freely acknowledges that Indian Ocean immigrants arrived throughout Swahili history, and that an openness to select foreign influences was part of early Swahili life, and ultimately fundamental to Swahili identity.

Despite the rich historical and cultural significance of Swahili architecture, it has often been overlooked in academic studies, particularly within the field of architecture. While the ruins of ancient Swahili settlements such as Gedi and Kilwa have attracted archaeological attention, comprehensive architectural analyses of these structures and their broader implications within the Indian Ocean trade network remain sparse. The architectural heritage of the Swahili coast represents not only a regional adaptation to environmental and socio-economic conditions but

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also an amalgamation of diverse cultural influences facilitated by centuries of maritime trade. There is a pressing need to thoroughly investigate and document these architectural forms to understand better the complexities of Swahili urbanism and its evolution. Moreover, the recent surge in mass tourism poses a risk of commodifying and distorting these historical sites, reducing them to mere attractions devoid of their rich historical context.

This study hopefully provides a novel contribution to the field of architectural history and cultural studies by adopting a descriptive analytical methodology to examine Swahili vernacular architecture from a holistic perspective. Unlike previous research that often romanticizes or nostalgically reconstructs Swahili settlements, this study strives to maintain a balanced view that considers both historical authenticity and contemporary challenges. By situating Swahili architecture within the broader context of Indian Ocean trade networks, this research highlights the intricate interplay between local traditions and foreign influences. Additionally, this study offers practical recommendations for the conservation and sustainable management of Swahili architectural heritage in the face of growing tourism pressures. This approach not only enriches the understanding of Swahili architecture but also provides a framework for preserving its integrity in the modern era.

2. Methodology

This study employs a descriptive analytical methodology to explore the current state of Swahili architecture and culture. A multi-faceted observatory comparative analytical approach was utilized, leveraging a diverse set of qualitative research tools to comprehensively analyse the subject matter. The research process included several key steps:

1. **Literature Review**: A review of existing literature was conducted to identify and understand the significant cultural and demographic changes within Swahili societies over several centuries. This foundational step was critical in contextualizing the architectural developments and their correlation with broader socio-cultural dynamics.
2. **Comparative Analysis**: The study adopted an observatory comparative analytical approach, examining various sources that document architectural transformations and the influential economic dynamics, particularly those stemming from trade. This comparison facilitated a nuanced understanding of how diverse cultural influences have shaped Swahili architectural styles over time.
3. **Qualitative Research Tools**: To supplement the literature review, a set of qualitative research tools was employed. These included archival research, visual analysis of architectural features, and the examination of historical records to trace the evolution of Swahili architecture.
4. **Expert Interviews**: Recognizing the limitations posed by scarce resources, the study incorporated three in-depth onsite interviews with local experts in Swahili architecture. These interviews provided valuable firsthand insights into the contemporary challenges facing Swahili architecture and enriched the study with practical perspectives from those directly engaged with the subject matter. The first interviewee is, a tour guide from Kilwa, the second is a conservation and restoration expert from Lamu. While the thirds is a business man who is deeply interested in Swahili cultural issues, in Mombasa.
5. **Filed trips**: In July 2018 several Swahili settlements were visited such as Lamu, Zanzibar, Kilwa and Mombasa in order to examine the extant vernacular structures. Interestingly these settlements differed in their scale, population, proximity to major urban centres and economic status, which enabled the author to visit various building typologies reflecting the context of each settlement. The field trips included field notes, photographing in addition to random walking interviews with locals to understand how these structures are currently perceived by the communities. The ruins of Kilwa and Gede were also visited which gave insights on the continuity of some architectural elements throughout the centuries.

By integrating these methodological components, the study aimed to achieve a balanced and comprehensive analysis of Swahili architecture, addressing both historical influences and current issues. This approach ensures a robust understanding of the architectural heritage and its ongoing evolution in response to various internal and external factors.

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3. Results

3.1 The Swahili Coast

Based on the literature review, the Swahili coast refers to an area in Southeast Africa; historically their greatest geographic range was, north to south, from Somalia in the Horn of Africa to southern Mozambique, and including the Lamu archipelago, the major offshore islands of Pemba, Zanzibar, and Mafia, the northern tip of Madagascar and the Comoros Islands [1]. The first Swahili settlements were constructed more than a millennium ago, when Bantu and Cushitic speaking Africans settled along the coast. These Africans are believed to have attained a common cultural tradition and linguistic base, and were collectively known by the neighboring tribes as Swahili. They began as a village-based society, with a few larger settlements appearing mid-millennium e.g., [5], and a string of independently governed urban centers appearing throughout the coastal region as early as the late first millennium A.D. The main characteristic of the coastal identity known as Swahili that emerged in the mid to late first millennium was a sense of cosmopolitanism asserted eventually in every aspect of society [3].



Figure 1. A map sketch showing the Swahili architecture location, Developed after [6]

The region developed largely as a result of trans-oceanic trade with Arabs, Persians and Indians that was facilitated by alternating monsoon winds. This led to the establishment of a number of coastal towns whose inhabitants share history, language and cultural traditions of which some scholars claim to date to at least 100A.D [7]. The lifestyle of the immigrants combined with the impact of their religion, Islam, and much else of their tradition, had a strong influence on the local inhabitants. This interaction eventually resulted in a distinctive cultural mix referred to as 'Swahili' [8]. As a result, a civilization having a distinctive character, of its own, not least in respect of its architecture, evolved in these coastal cities.

The Swahili city-states flourished between the 12th and 18th centuries, when ships from Arabia, India, and even China called at their ports to carry away the goods that made the Swahili rich—gold, ivory, slaves brought from the African interior, and agricultural products grown on slave-labor plantations owned by the towns' wealthy merchants. Many of the Arabian sailors stayed to marry local women, and the interplay of African and Arabian languages and customs, the mingling of blood and ideas that permeated every aspect of life, created an urban and mercantile culture, that is unique to this coast. Even its name, Swahili, is an adaptation of the Arabic word for coasts, *sawahil* [7].

Portuguese intervention in the late 15th and early 16th centuries interrupted the trade of these city states, and the mass migration and attacks of some tribes from the north and the south in the late 16th and early 17th centuries led to the downfall of many of them. However, the Omanis played a major role in the history of the East African coast,

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as they ended Portugal's brutal 200-year occupation of the coast in 1698, and established new trading links that revived some of the settlements again. By the early 19th century, by conquest and treaty, most of the independent city states were united into a single, if fairly loose, political and economic entity for the only time in their history, under the direct rule of the Omanis of Zanzibar. The East African trade was so lucrative that the Sultan of Oman moved his capital from Muscat to Zanzibar in 1832, establishing a dynasty that lasted there until 1964. Omani influence in East Africa declined as the European influence increased, finally resulting in the Treaty of Berlin (1885) that regulated European colonization and trade in Africa [9].

3.2 Indian Ocean Trade and Swahili Culture

From the literature search supported by the field visits, we came to retrieve that the Arab and Persian merchants have been visiting the region since the first centuries C.E. However, it was the international trade in medieval times that led to the growth of the Swahili city states. There was a huge demand in India and China for gold, in addition to tortoiseshell and ivory, accordingly the ports along the coast quickly responded to the increased demand and a network of trade routes grew up from the gold mines and hunting areas of Southeast Africa to the ports. At the ports goods were loaded onto the dhows of Arab sailors and ships of Indian and Chinese merchants who sailed south down the East African coast from port to port with the monsoon winds between December and March, and back again (as the winds changed) from April to October [10].

These trading cities became thriving city states, by the 13th century, with a distinctive Muslim Swahili culture of their own. Mogadishu, Mombasa, Zanzibar, Lamu and Kilwa were probably the most prominent and well known. Each of these states was ruled by a king who levied heavy tariffs from visiting merchants and much of his wealth seems to have been spent on palaces, mosques and houses. All contemporary descriptions of these states refer to the fineness, grandness and wealth of the cities and their buildings. These city states never sustained control over the hinterland, they remained isolated by the coast. Their inhabitants were neither sailors nor manufacturers but mostly middlemen [9]. Till now the ruins of Kilwa and Gede show traces of grand palaces and mosques that manifest the wealth of these cities in previous centuries.



Figure 2. Part of the ruins of Gede, where pointed arches, niches and thick layers of plasters can still be seen

3.3 Swahili Towns and Architecture

Based on mainly the field visits together with supported literature, we came to deduce that at the height of Swahili civilization more than 30 independent city states flourished along the East African coast and were determined by the trading range the sailing vessels were allowed by the monsoon winds. These ancient settlements were rarely found more than a few kilometers from the Indian ocean since they heavily relied upon marine resources. It is noteworthy that Swahilis have the only East African culture that has traditionally been urban-oriented [11].

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The Swahili urban centers were well-known in the Indian Ocean world and beyond. The settlements are known today as stonetowns, due to the presence of elaborate stone-built houses, mosques, and tombs, standing among earth-and-thatch buildings. In the stonetowns, merchant activity with the African interior and with Indian Ocean traders took place; Islamic scholarship and arts flourished, craft production was carried out, domestic spaces were tailored to changing notions of gender and privacy, and a variety of foreign goods was made available [12]. Whatever their individual size or degree of wealth, stonetowns were extravagant relative to coastal villages, with their large central districts of stone houses. Some were surrounded by town walls and were perceived as stages for the acting out of urban tastes and practices, many of which were informed by Islamic ideology and cosmopolitanism. The stonetowns were home to the large congregational mosques and smaller neighborhood ones, flanking stone tombs, and sometimes other stone public buildings. Swahili cities had cultural capital, through the relative concentration of wealth, access to imported goods, and concentrations of specialized knowledge. This came in many forms at various settlements, from literate religious elites, to traders, and craftspeople [3]. From the site observations, and in spite of the drastic changes that happened to the majority of the buildings within the current Swahili settlements, the original dense urban fabric is retained of many of them, and can still be experienced while walking along the labyrinthine alleys. Moreover, several architectural and decorative elements that recall the Swahili cultural identity, are still seen such as the intricately carved wooden doors, arches with various profiles and the gypsum carving around the gateways.

3.3.1 Building Materials & Technology

The interviews with experts together with filed visits and supported by the literature showed that traditional Swahili architecture was mainly affected by the climate and the available building materials. The cities were characterized by dense urban fabric, where the narrow lanes and small open spaces, were shaded by the adjacent buildings. The major characteristic of the Swahili settlements was using stone, in contrast to the mud and thatch buildings that were built in the hinterland and the small villages. Such a building technology was imported from the Red Sea shore [13].

This style comprised building with rough blocks of limestone, called coral rag, quarried from surface and near-surface deposits along the coastal plain, carved under water and finished on the surface. It remains easily workable for a few hours, during which it can be sawn to give a smooth surface or chiseled into elaborate designs. These carved fine-grained coral elements were used in the corners, doorways, lintels and prayer niches. The walls were built of coral rag (fist-sized coral rubble), bonded with burnt and slaked lime mortar and sometimes mud [11]. Lime plaster, typically stark white but sometimes dyed to shades of pink and red, coated the interior rooms and certain external surfaces. Talib claims that building with coral stones with mud or gypsum as a bonding material, is a traditional technique in parts of Arabia, not the Red Sea coast, but specifically the Persian Gulf, because of the contributions of the Persian settlers as well as those of artisans from the Indian sub-continent [14]. It is noteworthy that this is precisely the region with which the Swahilis had most and enduring contact [11].

The multi-storied stone houses which became characteristic of many of the larger Swahili stone towns after about A.D. 900. Stone became the characteristic of the most elite dwellings and public and religious buildings. These multistoried elaborate buildings did not only express the wealth of the settlements but were critical to emphasize relationships of certain Swahili lineages with foreign traders. The elite Swahili used their buildings which were unique in eastern Africa and the Muslim world, as an expression of taste and accomplishment that marked them as cosmopolitan. Even Swahili villages which contained no stone houses usually boasted a small stone mosque, or a few above-ground stone tombs [15]. Stone buildings created an atmosphere in the coastal towns different from that of hinterland non-Swahili settlements where less permanent materials were used for architecture.

3.3.2 Housing Typology

From the observations during the field visits supported by the random walking interviews with locals, we came to understand that the Swahili house has been evolving throughout the centuries, due to the continuous foreign cultural influences. The change from an earth and thatch hut into a stone building was not the only development, as a number of typologies started to emerge. Gerald Steyn divided the East African coast houses, which he

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considered them to be Arab and Afro-Arab building types into three groups: a) the Lamu type, b) the Swahili house c) the Omani house.

The plan of the "Lamu type house", which prevailed along the Swahili coast, was extremely compact, consisting of a series of interconnecting rooms without corridors, and a forecourt. It is interesting that Steyn stated that the Lamu type house had Arab roots, while Horton believed that it reflects Indian influence [1&11]. Although the origins of the "Swahili house", remains mysterious, it is considered a derivative of the "Lamu type house", as a central corridor was cut through the oblong rooms while the courtyard was moved to the rear [16]. The "Omani house", which appeared by the eighteenth century, could be described as a roughly square courtyard house of two or three story, in a cuboid, solid form with a flat roof, and sometimes with a crenellated parapet.

It is noteworthy that the term "Omani house", (which is sometimes referred to as the "Arabic house") is generic and inaccurate, as it describes the Swahili house of the 18th and 19th centuries, in which a number of architectural and decorative elements from across the Indian ocean were combined creating an architectural language peculiar to the Swahili coast. The developments that happened within the "Omani House" could be summarized in two main aspects:

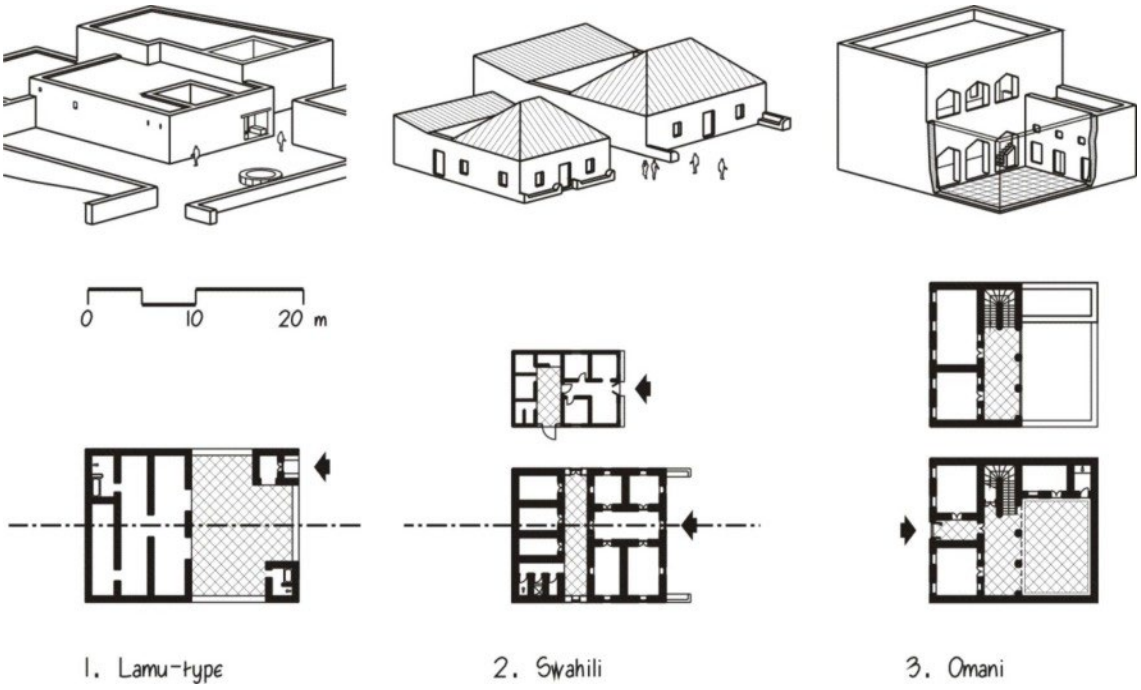


Figure 3. Samples of different Swahili house typologies [6]

The "Omani house" with its numerous openings, and loggia overlooking the courtyard allowed cross ventilation, as the courtyard acted as a funnel, with the rising warm air actually causing the airflow, without the need for a natural breeze. This effect was missing in the Swahili house, whose rooms were parallel to the courtyard, had no external windows and therefore no cross ventilation, and such an arrangement is uncomfortable in a hot. Accordingly, the relation of the rooms to the courtyard of the Omani house could be considered an evolution to that of the Lamu-type house [11]. Moreover, external screened balconies were introduced, and shuttered windows were used to promote thermal regulation by channeling breezes and sun shading while meeting requirements for acoustic and visual privacy [17].

Another housing building type appeared in the busy ports of the Swahili coast during the 19th century, which was the "shop-front house". It was a mixed-use building typology derived from India, which was a two to three story building with flat roofs, where the shop occupies the ground floor, and the living spaces in the upper floors. The façade of these shop-front houses overlooking the street, was composed of four-leaf, bifold doors, also known as Gujarati doors, which open the shopfront completely for contact with customers [18].

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Figure 4. An example of a shop-front house in Mombasa, gypsum decoration adorns the walls between the shop fronts in the ground floor, while the wooden balustrade is the main decorative feature in the upper floor.

The prosperity of the Swahili cities during the 18th and 19th centuries attracted many merchants, financiers and professionals, including building craftsmen, from far away regions along the Indian Ocean shores, and there was a large community from Gujarat on the Indian subcontinent [18]. The Indian artisans had a great effect on the detailing of the Swahili architecture, with ornate facades and verandas. This is apparent in the use of intricately carved doors defining the main entrances, highly decorated balconies, covered with intricately carved wooden filigree screens, shielding the occupants from public view and decorative frieze motifs. Also the use of ornate architectural elements for aesthetic purposes and to enrich the interior spaces was evident as the ceiling beams were usually cut properly and painted in red, black and white, and the decoration was complimented with delicate decorative friezes on the plasterwork, and intricately carved wall niches for display of items. These niches were organized in a symmetrical fashion.



Figure 5. Doors from Kilwa, Lamu and Zanzibar, where the frames, lintel and middle post are carved in intricate floral patterns

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Towards the end of the 19th century the houses with flat roofs were generally roofed over with angled ones, first made of thatch and palm leaf fronds and then by corrugated iron sheeting as protection against the tropical rain and to reduce direct exposure to the sun. Such replacements affected many of the roof adornments [18].

4. Discussion

The Swahili houses have been evolving through the centuries from traditional earth-built dwellings to large houses in stone. In this regard Swahili architecture is a good example of how climatic conditions, cultural and technological influences form a specific type of architecture. Although, the lightweight, elevated structure is the most appropriate building typology in the warm-humid climate, as it enhances cross ventilation and cools down rapidly after sunset and benefits of breezes to offer relief to occupants [19]. However, the predominant building type in the Swahili cities was characterized by heavyweight structures made of thick coral stone walls, timber framed doors and windows, timber balconies and flat coral stone or pitched palm leaf frond roofs.

Accordingly, Swahili house presents how a complex interaction of various factors could be responsible for this deviation from the expected lightweight typology, as the socio- cultural interaction of the Arabs, Persians and Indians through trade and intermarriage helped in shaping Swahili architecture in such a way. Ghaidan believed that Swahili architecture borrowed heavily from that of the hot-dry architecture of the Arab world as a direct result of cultural integration, and that the effect of Islam could be seen in the Swahili concept of space, aspects of privacy are significant and evident in use of screens and the ‘inward’ organization of space. Owing to the strict requirements for visual and acoustic privacy it seems highly unlikely that the prescribed lightweight solution would have been deemed socially acceptable [7]. Also, this might explain the prominence of architectural elements such as screened balconies/windows and courtyards which not only enhance privacy through provision of semi-private outdoor spaces but also promote shading and cross ventilation.

The fact that a person was held in higher esteem if they owned a ‘stone’ coral house [7], proves how socio -cultural aspects influenced the Swahili architecture even more than the climatic aspects. However, the Swahili house throughout its evolution was able to respond to the warm-humid climate through a number of design strategies such as the use of heavyweight building fabric and the mutual shading of adjacent buildings to reduce the impact of solar gain. In addition to the use of screened balconies and shuttered windows to channel air breezes [17].

Today, almost 300,000 to half a million people inhabit the settlements along the East African coast, and the region continues to thrive as a trade and transport hub. In addition to a flourishing tourism industry. As in many parts of the world, the old towns of the Swahili coast face numerous threats, such as the population growth, pollution, dilapidation of the infra-structure, the change of the traditional urban fabric and the decay and even demolishing of significant buildings. Mombasa, for example, which was once one of the most powerful Swahili city-states, is now Kenya's main seaport, and its old town has been swallowed up by urban sprawl, and very little of its original Swahili character can be found [20].

On one hand, mass tourism is affecting the Swahili coast at a very fast pace, as the creation of numerous resorts along much of the coast, pushing out the original functions of community-based trade and commerce. Also the introduction of new architectural forms, construction techniques and building materials from outside its cultural sphere, seriously distorting age-old references to place and people [21].The impact of mass tourism in addition to the urban and economic challenges that face the East African countries, might change the functional, organizational and traditional patterns that characterized the Swahili coast and turn it into an “unrecognizable” place, as seen in many parts of the world. Not only this, but mass tourism also has drastic socio- cultural implications on any traditional settlement. On the other hand, tourists visit such communities to see how they live, which is usually in a very conservative way; however, the tourists’ intervention changes the lifestyle of these communities, and especially among the younger generations. Also, the tourism industry attracts many outsiders to live and work along the coast, thus changing its culture and demography and is an indirect threat because of gradual and slow gentrification. [22]. One example is Malindi, which has been a very popular tourist destination since the 1970s in Kenya, has been dramatically changed into a stretch of tourist resorts, and lost its authenticity both socially and on

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an architectural level [20]. In Lamu it was observed how the original dwellings are deteriorating, and the intricately carved wooden doors and lintels are being exported to be sold outside the island. Within a few kilometers from Lamu, clusters of resorts and holiday villas are flourishing, and ironically their architecture and decorative details are based on the original settlement that is being left to deteriorate. Another problem is also seen in other remote villages (Siyu for example) where other activities such as agriculture are invading the premises of some of the ancient ruins. Throughout my interviews with tour guides and a restoration specialist in Lamu, it was clear that there is a lack of awareness of the importance of the cultural and architectural heritage of the Swahili communities, and that more efforts are needed to preserve the ruins in faraway places. Nowadays Zanzibar old town has received considerable attention from architects, urbanists and archeologists. The restoration works of the Aga Khan Trust for Culture in the stone town of Zanzibar helped in saving a number of its prominent buildings, raised the awareness of Swahili architecture, and consequently presented the stone town of Zanzibar as a touristic attraction, which is now attracting great numbers of tourists.



Figure 6. A façade of one of Lamu's hotels, where elements of traditional vernacular architecture can be seen such as the arcades gallery and the pointed arches

It is important not to present the aspects of the Swahili culture, both tangible and intangible, in a commercial way for the tourists, as this will gradually result in degrading the Swahili culture, including arts and architecture into mere pastiche forms and shape. Encourage appropriate economic uses of buildings; rehabilitation and adaptive re-use of buildings with sensitive solution for essential amenities and facilities should be regarded as prime concern to preserve the Swahili building tradition [23&24].

It was evident from this study that there is still a lack of detailed and precise documentation for all Swahili distinctive valuable buildings together with detailed documentation and recording of intangible social habits. It is both important for preserving the identity and for future rehabilitation and retrofitting projects. It is also not only documentation related to vernacular building traditions that is lacking, documentation of lifestyle, daily activities and local crafts still needs more in-depth and through investigation and recording.

5. Conclusion

From this analytical study it can be deduced that Swahili is a dynamic culture, from its beginning it has incorporated foreign elements, and was able to evolve and develop. Their location and the engagement in the Indian Ocean trade forced the Swahilis to adapt and respond to social, cultural and aesthetic variations. However,

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this study set out to determine the threat from the continued sheer forces of globalization and that the fast rate of socio-economic and cultural change might change the Swahili coast and its culture in an unprecedented way. The study pointed out that countering human needs in the face of modernization and globalized is basically a consumption-based demands for a new lifestyle. The study also highlighted the effect of uncontrolled demolition of Swahili vernacular dwellings by some locals and the replacement of traditional houses with new houses using modern industrial materials. This tendency will gradually lead to the deterioration of an important part of Swahili rooted vernacular history. Moreover, this study indirectly tried to uncover some symptoms on why inhabitants found it easier to adopt ready-made modern solutions rather than improve their vernacular and traditional dwellings. It is evident that craftsmen, builders with lifetime knowledge on how to build a traditional Swahili house can still be found today but may not be around tomorrow. It is difficult to force people to return to their old towns and villages if they no longer satisfy their needs. One should not underestimate the awareness of people thinking that they live in traditional and vernacular societies. They know what is happening around them in the rest of the world as media plays a vital role in raising the ceiling of ambitions. There is a fine thread between vernacular heritage to be preserved because of its numerous values and the rights of people to develop their lives within their old vernacular dwellings. Increasing sense of belonging and if locals feel more attached to their place can be one way that gentrification, demolition and abandonment be solved. Further research is still needed to lay hands on further wicked problems facing Swahili vernacular architecture and proposing tangible solutions are still needed. One can conclude by saying it is important to study all the changes that have been recently occurring to Swahili architecture, assess them to determine if we are facing a new phase of the ever-evolving Swahili culture or we can consider these building activities as Neo-Swahili.

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Traditional Knowledge

Les connaissances traditionnelles

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Reviving AL-Nazlah | From Africa to the Globe

Relancer AL-Nazlah | De l'Afrique au monde

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Abstract

Africa is a treasure trove!! In Africa, we exert efforts in offering help to local communities, particularly those with a unique cultural history. However, we often forget that Africa can sustain the entire world since it has the solutions to the complex problems created by mankind throughout centuries. The purpose of this study is to analyze the experience of implementing a project in the Egyptian village of Al-Nazlah in Fayoum. This project included developing and teaching locals how to create their own structures using a heritage construction method dating back to the ancient Egyptian civilization. After its completion it turned into a popular attraction area for tourist, scholars, and architecture students. Furthermore, it is the youngest project to be registered in the architecturally distinguished heritage list. The research examines the phases of project implementation. This paper aims to extend the methodology of intertwining the tangible and intangible beyond the limits of the physical built project. The surrounding public space and landscape of the pottery district need to be handled with attention, since this natural heritage also carries layers of resources. The study concludes with a set of recommendations for revitalizing and upgrading the surrounding public space based on sustainable growth.

Keywords: *Al-Nazlah,Revival, Tangible & Intangible Heritage,African Architecture, Natural Heritage.*

Résumé

L'Afrique est un trésor !! En Afrique, nous déployons des efforts pour offrir de l'aide aux communautés locales, en particulier celles qui ont une histoire culturelle unique. Cependant, nous oublions souvent que l'Afrique peut subvenir aux besoins du monde entier puisqu'elle possède les solutions aux problèmes complexes créés par l'humanité au fil des siècles. Le but de cette étude est d'analyser l'expérience de mise en œuvre d'un projet dans le village égyptien d'Al-Nazlah au Fayoum. Ce projet consistait à développer et à enseigner aux habitants comment créer leurs propres structures en utilisant une méthode de construction patrimoniale remontant à l'ancienne civilisation égyptienne. Après son achèvement, il est devenu une zone d'attraction populaire pour les touristes, les universitaires et les étudiants en architecture. Il s'agit en outre du projet le plus récent inscrit sur la liste du patrimoine architectural remarquable. La recherche examine les phases de mise en œuvre du projet. Cet article vise à étendre la méthodologie d'entrelacement du tangible et de l'intangible au-delà des limites du projet physique construit. L'espace public environnant et le paysage du quartier de la poterie doivent être traités avec attention, car ce patrimoine naturel contient également des couches de ressources. L'étude se termine par un ensemble de recommandations pour revitaliser et améliorer l'espace public environnant sur la base d'une croissance durable.

Mots-clés: *Al-Nazlah, Renaissance, Patrimoine matériel et immatériel, Architecture africaine, Patrimoine naturel.*

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1. Introduction: Africa as the roots of the Global Community Vs The Global Disruptions

Africa is a treasure trove !! In Africa, we frequently exert efforts in offering help to local communities, particularly those with a unique cultural history. This is initiated out of the urge to support communities who behold a legacy, need consideration and revitalization. However, we often forget that Africa can sustain the entire world since it has the solutions to many of the complex problems created by mankind throughout centuries, (Fig. 1)



Figure 1. Africa has many treasures, resources, human potential and cultural heritage.

The purpose of this study is to analyze the experience of implementing a project in the Egyptian village of Al-Nazlah in Fayoum. This project included developing and teaching locals how to create their own architecture using a heritage construction method dating back to the ancient Egyptian civilization. The project is based in the pottery-making area known for its various qualities which attract tourists and artists. The project includes a visitor center and product exhibition. After its completion it turned into a popular attraction area for tourist, scholars, and architecture students. Furthermore, it is the youngest project to be registered in the architecturally distinguished buildings list (Heritage), which is unprecedented in Egypt being accomplished for four years only, (Fig. 2)



Figure 2. Reviving AL-Nazlah project (Visitor Center – Galleries – Services). Source: EL-setouhy, H. (2019)

The research examines the phases of project implementation and shows how bringing back this type of construction offers a solution to many of the environmental and climate-related issues the world is currently facing. The initiative offers a strategy for handling both tangible and intangible heritage in a way which integrates rather than divides. Highlighting the fact that intangible heritage is similar to the soul; cannot depart from the body unless one passes away. This paper aims to extend the methodology of intertwining the tangible and intangible beyond the limits of the physical built project. The surrounding public space and landscape of the pottery district need to be handled with attention, since this natural heritage also carries layers of resources whose benefit can extend further beyond locality.

The study concludes with a set of recommendations for revitalizing and upgrading the surrounding public space based on sustainable growth, aiming to encourage the growth of local African communities and transform Africa to a practical and methodical role model for the rest of the world.

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Although Africa suffers severely from all kinds of natural and manmade disasters in the current era with shocking realties about the African status in education, health, child well-being, poverty rates, wars, yet, Africa has always had the roots of human civilization in its core entity. This is manifested in the layered presence of traditional architecture, beholding the roots of many civilizations. Africa is characterized by the presence of closed societies which still preserve their distinctive cultural heritage. The resources also play a tremendous role in what Africa can offer to the whole globe as a pool for development and growth. From traditions and values to mines, climate, water availability and land fertility, the tangible and intangible resources can be a transformative power to the whole world. Thus, Africa is a trove treasure!!

This is further evident in the call for the general theme of Venice Biennale Architettura 2023, by the curator Lesley Lokko adopted the theme "The Laboratory of the Future". Explaining the title, Lokko (2023) further elaborated that "Africa is the laboratory of the future", highlighting how Africa adopts and reflects the resources for the world's development, and how the future of Africa and the rest of the world are strongly intertwined. Several questions can stem from this movement; is Africa a "Lab" for the Future? Are African resources only the potential for the World's advancements and futuristic survival amid conflicts? This draws attention to the approach of many Western countries that were interested in colonising Africa or plundering its resources, without paying attention to the real treasure that Africa possesses. So, can we offer a deeper vision of the state of our continent from the Egyptian perspective being a leading country via architectural and public space projects? Can we offer a deeper vision of the state of our continent from the Egyptian perspective being a leading country via architectural and public space projects? On the other hand the world is going through its worst phases. Facing many challenges, to list but few; lack of resources and mal-operations that led to destructive climate changes for our world. Is it possible for Africa to provide the world with solutions to the problems it faces?

2. Reviving Al-Nazlah as a Case Study for Resourceful Opportunities spreading light from Africa to the Globe

Al-Nazlah is a small Egyptian village located in the Province of Yousef Al-Sediq at Fayoum. The location is 115 Km southwest (2 h), 25 Km northeast of Fayoum City. It is located only 18 Km away from Qaroun Lake, Fayoum's most famous attraction. The village beholds a strategic location amid the four provinces of Al-Fayoum city: Fayoum, Ebshway, Etsa, and Yousef Al-Sidiq. This connects the location to several internal roads. Accordingly, this helps the location to be acknowledged and creates a focal point amid Fayoum's natural and cultural heritage sites, such as: Qaroun Lake, Wadi El Hittan, Wadi El- Rayan, Ain El-Silien, and the Sawaqi (water wheels) of Fayoum City, to list but a few. In addition, it is located between two famous pottery-based villages: Kom-Oshim and Tunis, (El-Setouhy, 2021).

Although the local community did not realize the hidden values of the site, the site with its picturesque conditions, where a watercourse passes through it and is surrounded by beautiful plants, was attractive to creative people and artists. Many films were filmed there, and many visual artists and writers were attracted. While, the local community faced some problems related to the durability of the material used in the conventional (Reinforced Concrete) construction process, consulted the architect to find a solutions, (Fig. 3).

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Figure 3. Location of the pottery area in Al-Nazla and the surrounding agricultural areas. Source: EL-setouhy, H. (2019)

The architect shifted the attention of the community to the cultural heritage of the location and the construction technique inherited from our Egyptian ancestors using the pottery units. The old pottery kilns are still existing and are considered valuable heritage assets, in addition to some buildings utilized as workshops. This method of construction was widespread in Upper Egypt, not only limited to Fayoum. A new approach to the construction of clay pots was applied in the revival project of Al-Nazlah. The pottery unit was used in the construction of domes and vaults, and the buildings were produced with coherent ceilings and walls and accordingly linked to the cultural heritage of the region, (El-Husseiny and El-Setouhy, 2022). Raising awareness of the local community to re-adopt the traditional low-tech construction technique needed to be encouraged and facilitated, since the majority referred to the most common R.C. and red bricks construction in a spontaneous, unplanned, chaotic way, which was devoid of any aesthetics. The initiation of the visitor orientation center beside the renovation project of the pottery workshops aimed at completing the sustainable cultural heritage preservation cycle. The goals were to create a pilot project which would provide a model for improving performance and maximizing the benefits for the area and revive the traditional crafts which characterize the region, seeking to restore the place to its former value that brought satisfaction to the local community while restoring confidence in their cultural heritage, (El-Husseiny and El-Setouhy, 2022).

The visitor orientation center played an important role in attracting outsiders' attention to Al-Nazlah in Fayoum. This was evidenced through several media coverages and academic field trips after the project had been awarded the second prize of the Baku International Architecture Award) in 2019, Category A, with the support of the UIA (Union of International Architects). The process of the conservation, re-iterations, and upgrades inspired the locals to work more on expanding the experience after it proved successful, (El-Husseiny and El-Setouhy, 2022). It was also nominated in the Aga Khan cycle of 2022 and shorlisted for the final cycle in the Arab Architects Awards.

3. Community Sustainability and the Nucleus Effect in Public Space

Based on a previous study implemented by the architect of Al-Nazlah Revival Project, expert interviews were conducted by heritage professionals. The drawbacks listed by the experts were that the area around the building needs to be designed or re-designed, on one hand, to improve the pottery's work performance and, on the other hand, to attract more visitors and tourists. The operation of the building in the wider context needs more attention. The lack of a management plan that secures the sustainability of the project and the need to add more lighting at night, in addition to a more ordered landscape, were additional limitations, (El-Husseiny and El-Setouhy, 2022). Stemming from this, more highlight was provided by the architect to integrate the community and different stakeholders to pay more attention to

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the public space which acts as the connector between the different parts of the project. A methodology of bonding the physical setting to the extended boundaries of public space and communal landscape surrounding the project included incorporating tangible and intangible assets of pottery making, agriculture, and community development projects and the impacts on the community. This methodology needs to be implemented by the different user groups included in the building process and the maintenance of the complex. For the project became a community attraction point, and community cohesion benefits were evident in the collaboration of various user groups in the preservation and production of pottery crafts. This led to the creation of a very distinct character of the valley, which resulted in an inherited sense of belonging to the place, (El-Husseiny and El-Setouhy, 2022), (Fig. 4).



Figure 4. Project became a community attraction point. Source: EL-setouhy, H. (2021)

Believing in the above, EL-Setouhy began implementing steps towards a more comprehensive project aimed at improving public spaces in the area. Based on developing a general vision that is a mesh and a pattern, on which small projects are superimposed in a sequential and parallel manner, which are integrated and ultimately form a complete project. Such as implementing projects for students of educational institutions under the name (one-day project), producing a product that meets the needs of society and interacts with it.

Referring back to the term “community participation” is itself a rich concept that differs according to its application and definition. The way participation is defined also depends on the context in which it is implemented, (Shafik and El-Husseiny, 2019). The definitions selected here focus on the main spectrum of interest of the study. Oakley and Marsden (1991) defined community participation as the process by which individuals, families, or communities assume responsibility for their own welfare and develop a capacity to contribute to their own and the community’s development. In the context of urban development, community participation refers to a dynamic process in which the beneficiaries influence the direction and execution of development projects rather than merely receive a share of project benefits. As to Arnstein (2007), citizen participation is the same as citizen power. Participation enhances the "ownership" of the facilities by the involved community and thus ensures maintenance and sustainable use of facilities and more reliable operation. From another dimension, the term community participation, the issue of participation in development is intertwined with the sustainability of the implemented planning or project, (Nour, 2011). The level in which the community gets involved varies. In order to understand the possibility of community participatory approach, the Arnstein ladder will be used as a reference model.

Abdel-Halim Ibrahim, a renowned late architect whose contributions in community participatory projects were unprecedented manifested that the life and environment of communities are regulated by an imposed, top-down process of planning and production which draws its principles from sources dislocated to the community and its cultures. The result is underdevelopment, and waste and destruction

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of the environment and its resources. The architect regards any environmental plan in context of these developing communities should be taken as an opportunity to re-establish the relation between the culture and the production of its environment, (Ibrahim, 1996).

This takes the debate to the effective role of public space. It has been always regarded as a reflection of the social status of the community, (El-Husseiny, 2018). Based on this fact, the challenge for achieving a 'socially sustainable' community is strategically in need to be re-questioned in relation to the role of public space in Al-Nazlah. It is first important to explain the inter-relation between public space and social sustainability. As Harvey (1996) presents, places are constructed as material ecological artefacts and intricate networks of social relations. They are the focus of the imaginary, of beliefs, longings and desires. In addition to this, Knox (2011) argues that the sense of place is always socially constructed. People generate meanings about buildings and spaces through routinized behaviours. Often this carries over into a collective and self-conscious 'structure of feeling', including the 'affective' dimension of feeling evoked as a result of the experiences that people associate with a particular place. The first interpretation equates social sustainability to environmental sustainability. The second interpretation, which she labels 'environment-oriented', refers to the social preconditions required to achieve environmental sustainability. Lastly, the third 'people-oriented', interpretation refers to improving the well-being of people and the equitable distribution of resources whilst reducing social exclusions.

Tsenkova (2009) argues that a sustainable community is one of shared interests such as cultural heritage, and one of locality, which is the residential area where people live. First, 'community' is a social term. It means a network of people with common interests. Moreover, it is an aggregate of characteristics including economic security and growth, environmental quality and integrity, social cohesion and quality of life, empowerment and governance. As to Dempsey (2008), 'sustainable communities' are described as providing a 'safe and healthy environment with well-designed public and green space' with a 'sense of place'. In a more comprehensive approach, Ageyman (2005) presents that a 'Sustainable Community' is one which combines the three dimensions of the environment, the social needs and the economy.

Al-Nazlah surrounding public space beholds a dual value based on the above debate. It acts as the connector and the shield. The connector between different stakeholders, users, economic and social activities, and the recreational zone of the complex. Moreover, it encapsulates the treasure of Africa related to generous landscapes, soil fertility and abundance of rare seasonal flowers-beds (Moon Flower), (Fig. 5).



Figure 5. Region has distinct components (nature - tangible & intangible heritage). Source: EL-setouhy, H. (2020-2021)

While additionally, the public space lying between the water canal and the orientation centre from one side, and the informal housing from another side, protects the fertile agricultural lands from destruction by over-urbanization. Basically, the revival, maintenance, and upgrade process which is currently seeing

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light via sequential implementation is an unbreakable part of the whole process of the African Spring which cannot be underestimated.

4. Results: Democratic Urban Regeneration:

It is a methodology for how to revive cultural heritage areas that have comparative advantages. It is based primarily on increasing community participation, and for them to have a major role in renewal and development in a way that suits their needs and cultures. It is completely different from the idea of giant projects that have a dictatorial top-down approach, and sides with the community to deal with its urbanization and environment in a democratic manner.

Increasing community participation in the planning process. This is not merely a goal, but rather a responsibility. Cultural activity can play a role in 'Urban Regeneration'. It can create an opportunity for real integration and participation among all stakeholders. Cultural and creative activities improves the places where we live and work. Regeneration, even when driven by culture, can be disruptive; it can change the character of an area, and crowds of visitors can also mean noise, litter, petty crime and higher prices. Through maintaining a conversation with local communities, we can look for solutions, and avoid major conflict. One of the great benefits of cultural activities is encouraging creative thinking of communities. For example, by bringing artists to many different contexts, and establishing cultural activities where society participate, (Fig. 6).



Figure 6. Methodological Framework for Democratic Urban Regeneration, El-Setouhy, 2024.

We will achieve a number of objectives by those endeavours, such as:

- Determining the needs of community
- Raising awareness
- Cultural exchange
- Evoking the roots of identity in the memory of community

It's about continuing conservation with the local community, often through small projects or activities which integrate their own, and when viewed as a whole, we detect that it forms a mesh & pattern out of which communities and districts can develop. I believe that being considered, natural and inclusive approach to change in historic districts will be the model for the future, replacing old-fashioned and outdated master planning of cities and communities.

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5. Discussion



Figure 7. project become a Nucleus.
Source: EL-setouhy, H. (2019)

From all the previous analytical review, it can be highlighted the urge to obtain a methodology of creating a model to integrate natural cultural heritage with tangible cultural heritage and built environment. The methodology depends primarily on finding a dynamic relationship between the three main pillars ; cultural heritage, nature and society, through a comprehensive vision of how the project can be transformed into a Natural Culture Development Nucleus that grows based on the interaction of the local community with it. "Culture" is a very critical word, and it could be the key. Therefore, the proposal adopted the idea of establishing a number of small projects (cultural products) and a set of cultural activities. The activities involve the local community with experts in the field, which achieves a number of goals ; active participation of the local community - identifying the roots of the cultural heritage of the region - knowing the needs of the community to build projects on. Then, the activities and projects will be integrated according to the vision which represents the mesh and network, so that we achieve development stemming from the roots, (Fig. 7,8).



Figure 8. Additions at the surrounding public space of Al-Nazlah Revival Project. El-Setouhy, 2023.

Several years ago, specifically after the implementation of the previous project in 2019, the methodology was applied through some projects and activities. Which were followed up and their impact on the community was evaluated, where we can easily monitor several results, the most important of which is the transformation of the area with its open spaces into an attractive recreational area for the people of the area. On the other hand, the local community (potters) began to complete the implementation of some architectural elements and site coordination that meet its needs. We also monitor the positive interaction of the community with the small projects that were carried out, and the scientific research that took the area as a study sample. The small projects that were implemented achieved positive results, as other projects were requested in places close to the area, such as the gate of the Fayoum Arts Center. This confirms the methodology that aims to create a movement to revive the cultural heritage and the community's participation in it.

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6. Conclusion

Africa possesses deep roots of knowledge and culture, and many treasures, but those who own these treasures have not yet fully utilized them. On the other hand, Africa holds solutions to many of the world's problems, and there are ongoing efforts to implement them. So, where does our responsibility lie as heritage specialists? Between community participation and dictatorial decision-making, it becomes necessary to use methodologies that allow the community to participate interactively, ensuring growing sustainability that positively impacts Africa, and on the other hand, provides solutions for the whole world that solve the complex problems that have formed over time.

Addressing Africa as a treasure of resources is crucial amid the global decline paradigm we are currently suffering from. Egypt as an African Nation plays a role in this manifestation as apparent in the studied model above. Blending communal power, with heritage values and crowning the outcomes with

the abundant resources play a great role in providing hope for better future. Accordingly, he proposed several recommendations:

-ICOMOS international scientific committees (ISC) should implement a number of workshops in partnership with civil society in Africa, in order to develop strategies for reviving cultural heritage in it, through a number of areas that are suitable to be the Natural Culture Development Nucleus.

-The scientific committees participating in organizing this conference should hold a number of round tables in order to exchange experiences on how to develop heritage areas in Africa in a way that does not cause negative consequences for society.

-The ICOMOS African Group should hold a session at the next ICOMOS General Assembly in which the results of scientific scholars will be presented, and seek to establish standards and foundations for how to deal with African cultural heritage.

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The future of Traditional Combined Building Techniques in Northern Ethiopia, Morocco and other African Countries. Two regional house types between tradition and modernity

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Abstract

Among the many vernacular house types in African regions are those that combine earthen structures (mudbrick or rammed earth) with stones and wooden anchors. This includes stone houses with earth mortar and earth roofs. Conventionally, such stone houses are considered as massive stone buildings, and new buildings in these regions are stone or cement brick structures using cement mortar, so these type of building is not seen as a part of earthen architecture. But there are no clear boundaries between these building types, as there is a variety of constructions where earth is used in a certain grade. Just recently, the massive damages in many areas of the High Atlas in Morocco in August 2023 and the questions of rebuilding and preservation there highlight the relevance of the particular case of mixed constructions with earth components. It is high time of analysing this type of construction concerning its logic, its advantages and disadvantages and its perspective in future.

Keywords*: Earthen heritage; Hybrid construction systems; Vernacular architecture; Rammed earth ; Conservation and reconstruction.*

1. Two regional house types between tradition and modernity

Among the many vernacular house types in African regions are those that combine earthen structures (mudbrick or rammed earth) with stones and wooden anchors. This includes stone houses with earth mortar and earth roofs. Conventionally, such stone houses are considered as massive stone buildings, and new buildings in these regions are stone or cement brick structures using cement mortar, so these type of building is not seen as a part of earthen architecture. But there are no clear boundaries between these building types, as there is a variety of constructions where earth is used in a certain grade. Just recently, the massive damages in many areas of the High Atlas in Morocco in August 2023 and the questions of rebuilding and preservation there highlight the relevance of the particular case of mixed constructions with earth components. It is high time of analysing this type of construction concerning its logic, its advantages and disadvantages and its perspective in future.

Mixed constructions are not at all a marginal phenomenon. In Morocco, this construction is the common traditional building type in most areas with the exception of the oasis valleys in the South and East where pure earth constructions are traditional. The villages of the High Atlas with their impressive adaption to topography are generally built in this way. Today these villages are confronted with modernization transformations that replace the traditional buildings one by one by modern houses and it looks as if the traditional construction is without future and kept only in marginal conditions but still covers a large percentage of substance.

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In northern Ethiopia, stone houses with earth mortar are the traditional construction in wide areas of northern Amhara, Tigre and Eritrea including some areas in the East (Harar, Dire Dawa). In comparison with the widespread construction of wooden pole framework filled by wattle and earth in most parts of the country stone-earth constructions are limited to some regions in the East and the North, including the ancient capitals Gondar and Axum. In these areas this traditional building type still dominates the scene on the countryside but is considered as marginal and backward, so the question of ist future is pending as well.

2. The case of Morocco

In the central High Atlas region of Morocco the traditional building method in the villages and country towns is a combination of masonry, earth-binded with occasional earth-rammed structures and wooden ceilings with an earth roof construction. Houses consist of lengthy rooms defined by the maximum length of roof beams, Often living quarters are situated above animal stables. Windows are small as traditionally, glass was unknown and shutters closed openings in cold and windy weather. Grids protect openings; iron grids with simple decor types are usual. Historically, wooden grids with double arches called Yemeni openings were used that still can be found in the oasis valleys but most of them were already replaced or sold in the antiquity market. This ancient type is connected to the high number of Yemenis in the first wave of Arab conquest, and indeed the traditional architecture in some areas of Yemen use similar window types. Another special element is the traditional hamam or steam bath, a kind of steep dome with a small opening for entering and a fireplace below to heat the water jar the user has brought into before.

The vernacular architecture with earth-bound massive walls is simple and probably very conservative, but complex in two ways: the small house cells form dense village structure highly adapted to mountain topography, sometimes using the roofs of lower adjacent houses as roof terrace insetad of a courtyard, forming stepped mountain villages or fortress-like structures of high beauty and integrity. As everywhere in the world, modernization changes most of those villages, as old structures are given up and left to ruins and new houses may be more seperate to neighbours or better connected to roads and awareness for the quality of traditional structures is low. In some ways, the situation is in contrast to the famous earth-built kasbahs and qasr settlements of the trans-Atlas valleys, which are more famous and object of various renovation projects but more vulnerable for erosion, decay and lack of knowledge of rebuilding, while the combined massive construction is more sustainable and still in more use by locals but widely neglected in its preservation value.

A specific characteristic of Moroccan village architecture is the unusual mixture of material and construction within one wall or house. Stones bound by earth mortar and rammed earth are often combined, in most cases resulting from extensions. Wooden anchors and either earth or stone walls are an usual technique to stabilize the structure, namely towards seismic movements. This ability of combination is continued today with modern materials. Old stone or earthen walls are extended by cement brick structures and concrete beams or pillars, a remarcable example for modern continuity of vernaular practice with recent materials. The informal use of such combinations is not necessarily risky, even the recent earthquake destructed some of the rather casual construction combinations.

While some combinations rather weaken the stability of the building, other combinations increase the interaction of materials. Earth-bound stone or rammed earth walls combined with wooden anchors have a better resistance to tensile forces and mitigate cracks. Earth mortar in new houses or annexes can be replaced by cement mortar but decicive for stability are the connections between walls and between walls and roofs. Ring beams are a possible solution if well connected to the walls but concrete elements are also a risk as they connect inflexible elements with softer ones. The advantage of earth bound structures is the cheap availability, the easy possibility of maintenance and the good congruence by the construction if well built and well maintained. Recent demands rather emphasize the lacking need of maintenance by modern materials, but this expectation is not always correct and priorities can shift again, e.g. in face of expected higher cement production costs.

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Figure 1. Douar Azro, High Atlas, Morocco (Tom Leiermann)



Figure 2. Azro Houses with masonry, rammed earth (right) and mudbrick parts (left above) (Tom Leiermann)

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3. The case of Ethiopia

The traditional building type of Ethiopia is in wide areas the round house or *tukul*, in Amharic *gojo bet* (with various names in the other national languages), while the most widspread type of informal housing or shop type is a construction in which the eucalyptus tree (*bahari zafi* in Amharic) provides the poles of the structural framework filled by wattle and earth and covered by tin shed roofs. Both types are considered widely as insufficient and backward and are replaced by more recent constructions. Yet in some areas earth-bound massive houses are the traditional construction method that in rural areas is still the dominant construction. In many cases, such houses are very simple but there are types of particular architectural and historic interest.

To name only two of them, the traditional house of North Tigre is a special type that goes back to late antiquity. This historical connection is obvious in the old city of Axum, still the spiritual seat of Ethiopian Orthodoxy, but the unquestioned capital of the Axumite empire at the arrival of Christianity. Among the archaeological traces are the foundations of some grand palaces of that era, which show the basic role of square rooms with four columns, exactly the ground plan scheme traditional houses in Axum still show. In contrast to the palaces, these houses have a round shape like the *gojo bet*, but the circular walls encloses a central four pillar space with an upper gallery, external store spaces and arched windows of the antique shape. While the antique architecture in Northern Ethiopia was constructed with a high percentage of wooden anchors in a very specific architecture called „ape headconstruction“, of which some examples still exist in a number of remote early churches, the decrease of wood in this arid highland did not allow the continuation of this architecture but still includes more or less the regular use of wooden anchors in the walls. Apart from the city of Axum, similar traditional houses round or rectangular can be found in Northern Ethiopia, round houses rather in Amhara and around the city of Gondar and rectangular houses rather in eastern tigre and Eritrea.



Figure 3. Jugol, the walled city of Harar (Tom Leiermann)

The other one is the traditional house of the Jugol, the walled city of Harar. This house type is connected with the rural house type of the surrounding dominated by Oromo farmers but developed to a special complexity unique to

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the Jugol. Basically, it is a one-room-house in a courtyard surrounded by a high wall. This house type (ge gar) is divided in sitting platforms of different heights called madaba, centre of family life and reception space, and supplied by room extensions like a small corridor, a kitchen and a store room with a solar or upper floor room above the extension. The main room is equipped by a number of elements like wall niches (taqet, from Arab tarqa), rich wall decor (by plates and wicker mats), a wooden cupboard integrated in the wall between main room and store room and wooden fixings for spears. The house looks simple from outside, traditional roofs had been replaced by tin sheds. A special modernized type called „Indian type“, initialized by Indian traders and inspired by tropical building around the Indian Ocean had two floors, a steep roof and a wooden gallery with stairs that allows access to every room. There are various nice historic houses of this type including the one housing the Rimbaud Museum (though the famous former poet lived in a house that does not exist anymore) and the house where Haile Selassie spent his youth as prince Ras Tafari.

Even preservation of the historic substance of the World Heritage Site of the Jugol is not in immediate danger, preservation of wooden constructions is a challenge in the tropical climate, which affects most of the Indian house type. New suburbs are built in houses in recent cement brick construction, but while administration and business houses follow recent models, private houses are inspired by the traditional space models. Yet from the perspective of documentation and preservation, it is important to preserve as much as possible the original traditional houses of Jugol in their authentic form – their complex interior differs from modern appartments but in principle does not contradict modern ways of family life; the increased expectations of privacy can be met by extension rooms.

This two examples – they could be extended by other regional variations – show that traditional buildings of the mentioned type are much more than a kind of construction, they represent a complex traditional architecture that looks simple from outside but contains a considerable complexity of space solutions with many details that have their equivalent in local terminology and use patterns. Obviously these patterns are part of a traditional rural lifestyle that undergoes changes and will continue to do so in future. It can not and should not be predicted to which grade local vernacular architecture can survive these changes but given increasing social, economical and ecological challenges, namely in regard to resources and climate, makes the potential of sustainable and long-experienced local solutions adapted to environmental conditions even more interesting and relevant.

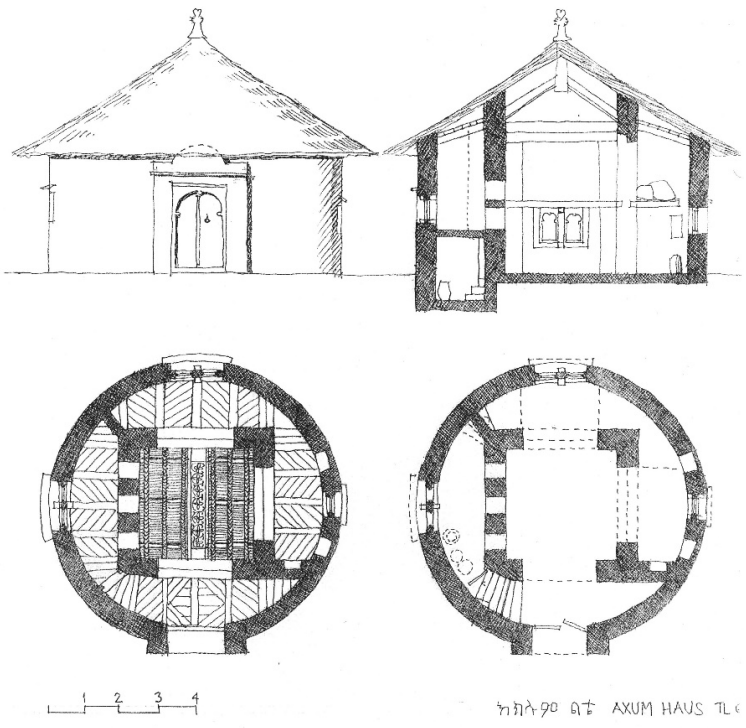


Figure 4. Traditional house in Axum (Tom Leiermann)

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4. Earthquake mitigation

The media coverage of the earthquake of August 2023 showed the general impression that traditional constructions were too weak to sustain and modern construction would be the only solution for building in the region. Within the preservation expert community, this was contradicted and it was communicated that traditional and modern construction types were affected roughly in the same way and both construction types have to be differentiated in weak and sustainable constructions. Detailed analysis of the village Azro near Tahannoute (roughly 40 km south of Marrakech) confirms this suggestion. Both traditional houses and modern constructions were affected by cracks and some houses collapsed and in both cases some houses survived relatively unharmed.

In the High Atlas region, the desastrous earthquakes of September 2023 showed both the fragility of both the traditional combined building construction and informal concrete structures. Depending of the seismic intensity, analyzes have to be carried out in more detail, but in many settlements the grade of destruction hit both construction types to comparable grade. Traditional houses were damaged or collapsed because the earth mortar did not resist seismic tension and wooden ceilings did not provide structural anchors as necessary. Concrete structures were damaged or collapsed because joints between columns and beams and filling walls were not closely connected and houses with several floors and cantilevers were not appropriate to seismic challenges – traditional houses are in most cases limited to two floors.



Figure 5. Earthquake damage of mixed stone-mudbrick wall; background: rammed earth (Omar Machkoud)

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Figure 6. Earthquake damages of concrete pillars filled by stone and mudbrick wall (Omar Machkoud)

5. Environmental considerations

When I visited first Morocco in the year 1984, I stayed for some time in the Atlas village of Azro, where I participated in the building of a new annex for the use of a growing family. The fragments of a former walled room has to be completed and a roof had to be built with the help of the only village master builder, the main work was executed by the male family members. With the family donkey, poles, stones, brushes and mud where brought from the valley ground just below the village. With in two or three days the new annex was ready, it just needed some days to dry and some plasterworks inside. The availability of materials was a big advantage in conditions of very limited financial resources, but – as everywhere in the world – financial conditions changed since, handwork became more expensive, cement bricks and reinforcement irons became cheaper and more prestigious.

And while some materials such as mud, brushwood and reed for mats is still widely available without heavy ecological consequences, the availablity of wood is questioned in semi-arid regions and increased use would oppose the growing demand of preserving vegetation in the face of increasing pressure to natural environments, diversity of species and climate change. As anchors and roof beams are a decisive element in seismic mitigation of constructions, it would be advisable to replace wood by other materials such as concrete beams, steel pipes and others. Yet their import and production also causes ecological impact and is everything else than free of co2-emmission.

The best solution would be a careful resource management of environment and building in the communities – which however would require ownership by communities, persons or institutions. Wood is regenerating naturally and would be totally environmentally friendly provided it is not used more than it regenerates and its use considers variety and other use pressures such as goat-keeping and firewood. It is hardly imaginable how the world population should be able to overcome the coming climate and resource challenges if not local communities should be an active and concious part of it.

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Figure 7-8. Roof building in Azro, 1984 (Tom Leiermann)

But here we are obviously just at a point of beginning. Reforestation may be successful in some regions including the High Atlas, in most cases initialized by international players or national authorities, yet in close cooperation with locals. But wood use management goes beyond that because it affects daily activities and the direct

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environment of settlements. Local initiative is normally linked to the initiative of single personalities or intiatialized by external players. We have seen before built structures with a high earth component are only a sustainable option of maintained regularly, i.e. construction is linked to a certain way of use. Technological solutions have to be seen as combined with community life and ownership in order to be effective and sustainable.

6. Summary and Conclusions

Traditional building methods of combined methods like stoone walls with earth mortar are widely not seen a spart of earth architecture or as a main subject of vernacular architecture. Given their widespread distribution and dominating presence in many regions but in the face of challenges from insustainable modernization to seismic dangers these combined constructions should be set more into the focus of experts and stakeholders within both international related organizations and local, regional and national authorities and institutions.

Analysis and documentation is only the first step for improvement on the ground. Deficits and problems need to be understood and local solutions developed. Positive model cases have to be supported in order to inspire acceptance and initiative. They should promote an advanced traditional method at least as an alternative to modern building according seismic demands, using the well-adapted space solution of traditional architecture. The historic method to provide seismic resistance are wooden beams that became rar due to ecological deserfication and costs of wood. But sustainable forestation and wood management is possible and necessary anyway in combination with engagement against drought. Contemporary habitation expectations are vital for acceptance, and the architecture should include neighbor rights and an improvement of public space that allow and support community interaction and engagement. Local engagement and professional expertise should be connected whenever possible, with the priority to local initiative.

With these requirements, combined constructions with earth mortar have still a potential as a basic building technology for housing in many regions, where cultural identity, social need and economically friendly could come together. Traditional building methods, executed by the users with only help of professionals can be a catalyst of community building.

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Traditional Knowledge in Built Heritage Conservation: Comparing Practices in Rwanda and Serbia in Embracing Adobe Brick Heritage

Utilisation des connaissances traditionnelles dans la conservation du patrimoine bâti: comparaison des pratiques au Rwanda et en Serbie

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Abstract

Rwanda's and Serbia's cities are under the pressure of a growing urban population, with social, political, environmental, and economic changes, technological innovations, and cultural transformations playing a primordial social development role and global ecological challenges that question existing built heritage preservation and protection. During Rwanda's early urban development phase (1980s to 2000), and during Serbia's process of recovery and reconstruction after the Second World War, the local clay bricks were not anymore seen as the predominantly used building material. In Rwanda, although the Government, and its development partners are supporting traditional brick manufacturers to upgrade their production facilities into semi-industrial facilities to improve the quality and supply of local bricks, along with their embodied carbon coefficient reduction, the art of self-made adobe bricks for housing is increasingly practised, making them the most used construction material in Rwanda, especially in rural areas. In comparison, in the Serbian northern, autonomous province of Vojvodina, given industrialisation and rapid construction systems developed after the Second World War, adobe bricks are no longer used. That created a gap – protecting adobe brick buildings built in the last centuries requires knowledge of traditional building processes that no longer exist within communities in Serbia. The paper is based on the hypothesis that Rwanda could face the similar problem in preserving adobe-built heritage if an adequate system of preservation and transfer of traditional skills and knowledge is not established – as it is the case in Serbia. Therefore, the main goal of the research is to define guidelines for improving knowledge and skills documenting and sharing in the field of earthen architecture learning from Rwanda that could be applied in other environments. This research also forms a methodological framework for the standardisation and development of models for the preservation and transmission of traditional knowledge and skills in adobe brick heritage.

Keywords: *adobe bricks, Rwanda, Vojvodina, heritage, traditional knowledge, knowledge exchange, skills, training*

Résumé

Les villes du Rwanda et de la Serbie sont sous la pression d'une population urbaine croissante, avec des changements sociaux, politiques, environnementaux et économiques, des innovations technologiques et des transformations culturelles jouant un rôle primordial en matière de développement social et des défis écologiques mondiaux qui remettent en question la préservation

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et la protection du patrimoine bâti existant. Au début de la phase de développement urbain du Rwanda (des années 1980 à 2000) et pendant le processus de redressement et de reconstruction de la Serbie après la Seconde Guerre mondiale, les briques d'argile locales n'étaient plus considérées comme le matériau de construction prédominant. Au Rwanda, bien que le gouvernement et ses partenaires de développement aident les fabricants de briques traditionnelles à transformer leurs installations de production en installations semi-industrielles afin d'améliorer la qualité et l'approvisionnement en briques locales, ainsi que la réduction de leur coefficient de carbone incorporé, l'art de la fabrication artisanale des briques en pisé pour le logement est de plus en plus utilisé, ce qui en fait le matériau de construction le plus utilisé au Rwanda, en particulier dans les zones rurales. En comparaison, dans la province autonome de Vojvodina, au nord de la Serbie, compte tenu de l'industrialisation et des systèmes de construction rapides développés après la Seconde Guerre mondiale, les briques en pisé ne sont plus utilisées. Cela a créé une lacune : la protection des bâtiments en briques d'adobe construits au cours des siècles derniers nécessite une connaissance des processus de construction traditionnels qui n'existent plus au sein des communautés serbes. Le document repose sur l'hypothèse que le Rwanda pourrait être confronté à un problème similaire en matière de préservation du patrimoine bâti en pisé si un système adéquat de préservation et de transfert des compétences et connaissances traditionnelles n'est pas mis en place – comme c'est le cas en Serbie. Par conséquent, l'objectif principal de la recherche est de définir des lignes directrices pour améliorer les connaissances et les compétences documentées et partagées dans le domaine de l'apprentissage de l'architecture en terre au Rwanda qui pourraient être appliquées dans d'autres environnements. Cette recherche constitue également un cadre méthodologique pour la standardisation et le développement de modèles de préservation et de transmission des connaissances et compétences traditionnelles dans le patrimoine en briques d'adobe.

Mots-clés: *briques d'adobe, Rwanda, Vojvodina, patrimoine, savoir traditionnel, échange de connaissances, compétences, formation*

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1. Introduction: Importance of brick as a material for sustainability of Rwanda and Serbia

With the increase in labour costs, in the 20th century, Europe have started relying more on materials other than bricks in the construction of multistorey buildings. In addition, the emergence and expansion of modernism gradually reduced the usage of bricks in construction and increased the usage of concrete, steel, and glass instead. In the period after World War II, Serbia followed the trends. Through the 20th century, Rwanda witnessed a continuous use of brick in architecture, as it was the only locally available construction material. There are no preserved built structures in Rwanda from the period prior to 1900, which is the period prior to the colonization period, as Rwandans traditionally used perishable construction materials. After being appointed by Germany as an administrator in Rwanda, Richard Kandt started building the new capital, and his own house in 1909, which is the oldest built structure in Kigali, Rwanda's capital. After World War I, for decades during the Belgian colonization period, Kigali spatially grew from 40 ha in 1916 to 200 ha in 1958. There are numerous brick buildings from the colonization period that are still remaining today, including Maternity Clinic CHUK, Kigali Central Prison, Cloister of the Bernardine Sisters in Kigali (Group Scolaire and Our Lady of Wisdom Cathedral), to name a few. After its independence from Belgium in 1962, Rwanda continued to work on the infrastructure in Kigali and other secondary cities using bricks, while adobe bricks could be seen used for residential units in cities and villages. During the genocide against the Tutsi in 1994, many of the heritage buildings were places in which crimes took place. Also, many of the buildings were destroyed. Only after the reconciliation process started with the new government, a significant urban growth occurred that significantly influenced replacement of adobe brick buildings with new structures.

Whereas there is abundance of local construction materials available in Rwanda, it is still inevitable that many others be imported. According to 2013 data, roofing materials, especially metal sheets formed the highest percentage of imported materials whereas wall and floor materials, specifically stones constituted the lowest percentage.

In practice, construction contractors tend to source raw materials for clay bricks, stones, sand, cement, and wood locally from Rwanda, and when need arises, they import them from the adjacent countries especially Uganda and Kenya by road. Iron sheets, wood, and some bricks are usually sourced from Kenya, while stones, clay bricks, and cement are sourced from Uganda. Contractors will also import some materials such as metal (aluminium), iron sheets and tiles from China and Dubai (Government of Rwanda, 2014).

In 2019, the Rwanda Housing Authority in collaboration with development partners developed the Green Building Minimum Compliance System (Republic of Rwanda, 2020) with the green building indicators addressing the basic green features any building should have, such as appropriate orientations for daylighting, natural ventilation, rainwater harvesting, efficient plumbing fixtures, low-impact refrigerants, greenery protection, paints not harmful to occupants, etc. These features can be applied to newly built health facilities, commercial buildings, educational buildings, cultural buildings, etc. (Republic of Rwanda, 2020). The Green Building Minimum Compliance System also promotes the use of bricks as energy-efficient building materials that reduces heat ingress into space by using advanced bonding techniques, such as the rowlock/rat-trap bond, thereby reducing the need for air conditioning systems and providing thermal comfort for occupants. The Third National Communication Report on Climate Change of the Rwanda Ministry of Environment estimates that the carbon dioxide (CO_2) emissions from buildings will approximately increase by 574% by 2050 in a business-as-usual scenario, thus, the Government of Rwanda through policies is recommending the use of energy-efficient practices and sustainably produced local construction materials, such as brick. They also recommend the use of energy-efficient kilns and alternative raw materials for firing instead of firewood, thereby reducing CO_2 emissions and protecting the environment (Republic of Rwanda, 2020). The Updated Nationally Determined Contribution of Republic of Rwanda 2020 identifies efficient brick production as one of the key mitigation pathways in the energy sector (Republic of Rwanda 2020). The use of locally sourced raw materials for building material production in this case bricks, by reducing dependence on conventional materials such as concrete and steel, potentially relieves pressure on the material supply chain, avoid increased construction costs while reducing transport-related GHG emissions and provides opportunities for local economic development (Cheong & Storey, 2019). Yet, related to the adobe bricks, the Rwanda Housing Authority,

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came up with the policy where the use of such bricks is prohibited, that put additional housing pressure on urban and rural poor. Such policy was later revised allowing adobe bricks to be continuously used if new set of recommendations is followed that mostly discussed process of making adobe bricks.

Earthen architecture is a distinctive feature of the Vojvodina region in northern Serbia, which was formerly situated in the southernmost region of the Habsburg Empire and subsequently, the Austro-Hungarian Monarchy. The region is renowned for its high-quality loam, which is exceptionally well-suited for brick production. Houses made of rammed earth and bricks have been a dominant feature of rural Vojvodina since the colonization in the second half of the 18th Century. Populated Germans created settlements according to the rules written in the Main Instructions for Population (Impopulations-Haupt-Instruction für das Banat), and these settlements have retained their basic features for almost two centuries. The new inhabitants belonged to different peoples and had distinct customs, leading Maria Theresa to provide instructions on typical colonial house design, location, dimensions, and functional diagrams, and thus prevent diversity (Siladji & Tufegdzic, 2012). The Monarchy aimed for efficiency when planning new villages. Houses were constructed from rammed earth or adobe with wooden structures, and the roofs were covered with straw or reeds. The established rules remained almost unchanged until the mid-19th century, as the buildings were suitable for the lifestyle and economic situation of the population. The latter half of the 19th century witnessed the advent of innovative design and spatial structure for rural earth buildings. The emulation of German buildings became more conspicuous in the mid-19th century, as people were accorded a certain degree of freedom in house design. The Germans were responsible for introducing innovative designs owing to their craftsmanship and cultural level, while the Serbs, Slovaks, Romanians, and Hungarians incorporated novel elements and distinctive decorations. During the 18th and 19th centuries, it was customary to employ the use of rammed earth in the construction of public and sacred buildings alongside residential and agricultural edifices. Presently, the most notable manifestations of this architectural technique are the preserved and listed Orthodox churches in the villages of Ečka and Botoš. However, industrialization and the emergence of modern building materials influenced the gradual suppression of the use of rammed earth and adobe in construction during the 20th century.

Based on statistical data, the proportion of buildings constructed in Vojvodina before 1919 is a mere 7% of the total construction stock in the province. In contrast, those built between 1919 and 1945 constitute a substantial 26% of the total building fund (Jovanović-Popović et al., 2012). The prevalence of rammed earth and adobe as primary building materials until the Second World War has led to earthen houses accounting for over a quarter of Vojvodina's construction stock. Unfortunately, despite their residential use, these houses are often neglected and inadequately maintained, with many in disrepair. As a result, many property owners, lacking knowledge of the technology for rehabilitating these structures, opt for demolition and construction of new ones instead.

Serbia is one of the most energy-inefficient countries in Europe. In this sense, the promotion and improvement of the energy efficiency of the existing building stock is of great importance. A big problem is also the fact that valid legal acts, regulations, and rules do not treat traditional buildings in an adequate way, and do not respect the specificities of traditional houses and their materialization. Unfortunately, adobe brick has not been recognized as a sustainable material by Serbian authorities (Rulebook on energy efficiency of buildings, 2011).

However, recent years have seen a slight increase in the adoption of green building practices. Despite this progress, the current state of green construction in the country is still deemed inadequate. Only 120 buildings have received sustainable building certificates within the last ten years, which is a remarkably small number compared to the vast number of buildings in the country. The Law on Planning and Construction, as amended in 2023, introduces the first definition of green construction in Serbia. The amendment includes incentive measures aimed at promoting green building practices. One such measure involves a 10% reduction in the contribution required for the development of construction land. Serbia Green Building Council has been advocating for such measures for over a decade. They posit that it is essential for the law to approach green building practices in a supportive, rather than a prescriptive, manner. Green construction is an all-encompassing holistic approach that seeks to optimize natural resources, mitigate climate change, and reduce the impact of extreme weather conditions. The introduction of incentive measures for the rehabilitation of Serbia's vast construction fund is of utmost importance. The

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implementation of energy-efficient improvements is essential to bring the country's construction practices in line with global standards for sustainable building.

The promotion of local architecture and the utilization of traditional materials and construction techniques are two critical components of the National Architectural Strategy for the period spanning from 2023 to 2035 (Serbia, 2023). The Strategy establishes that this approach, if followed in characteristic areas such as Vojvodina, not only encourages sustainable practices in architecture and construction but also contributes to the improvement of spatial and cultural identity. According to the Spatial Plan of the Republic of Serbia for the period between 2021 and 2035, the identity of rural settlements should be based on the preservation and revitalization of traditional architecture in existing structures, as well as the construction of new buildings that are in line with the unique rural character of the area and reflect the processes of genesis and development of settlements (Serbia, 2021).

Regrettably, despite the existence of certain mechanisms, rural renewal is not being carried out systematically in Serbia, and guidelines for the use of traditional materials are still lacking. This situation necessitates urgent attention to ensure that the critical objectives of the National Architectural Strategy and the Spatial Plan of the Republic of Serbia are achieved.

2. Aims and Objectives

The research is based on the hypothesis that Rwanda, still using adobe brick for the construction, would face an issue of losing knowledge and skills on making and constructing with adobe bricks if the current knowledge and practice is not well recorded, disseminated and kept. If knowledge is lost, this would in future unable Rwanda to reconstruct its built heritage. This research shows how in other countries that used adobe bricks such as in Vojvodina region of Serbia, built heritage made of adobe bricks is hard to be reconstructed as traditional knowledge and skills no longer live within the communities. Therefore, the main goal of the research is to define guidelines for improving knowledge and skills in the field of earthen architecture, learning from Rwanda where active practice exists, so that it could be applied in the different contexts, and globally as well. The final objective of this research is to form a methodological framework for the standardisation and development of models for the preservation and transmission of traditional knowledge and skills in adobe brick heritage.

3. Methodology

In researching for this paper, a combination of materials and methods was utilized. The authors traced built heritage sites in Rwanda and Serbia to better understand the cultural and traditional aspects of using adobe bricks. A document review was utilized to understand the recent developments in the use of adobe bricks, especially regarding the context of rapid urbanization, and the urban and rural linkages. In doing so, the focus was on understanding how Rwanda and Serbia followed the policy formulations and implementations related to green construction materials, especially adobe bricks. The surveyed literature included (i) academic papers and articles published on the subject matter in addition to (ii) documents and reports prepared by the Governments of Rwanda and Serbia and its development partners. In addition, this paper includes the results of the workshops and studios organized by the University of Rwanda and University of Novi Sad as well as the results of civil society initiatives. The collected data for this research includes photographs of the buildings in Kigali and other cities in Rwanda, as well as from Serbia’s cities on the north that authors made.

4. Results

In Rwanda, a wider glance Architecture in Rwanda, depicts a certain spectrum, spanning from the evolution from the historical German/Belgian colonial architecture of 1900-1960’s, to the unique expressions of local architecture that have emerged in the post-independence Rwanda (after 1962). However, there seems to be a rush to modernize as evident in the current aspiration for modern architecture “modernity” that are increasingly placing more value in modern aesthetics and urban fantasies.

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In terms of tangible heritage, Giblin et al have discussed natural heritage and Genocide memorialization, as the only two aspects that are better-studied academically than others in Rwanda (Giblin et al., 2011). Not many research studies were done and published on built heritage in Rwanda.

In Rwanda, although the Government, and its development partners are supporting traditional brick manufacturers to upgrade their production facilities into semi-industrial facilities to improve the quality and supply of local bricks, along with their embodied carbon coefficient reduction, the art of self-made adobe bricks for housing is increasingly practised, making them the most used construction material in Rwanda, especially in rural areas.

To frame Architecture and Heritage in Rwanda, it is important to highlight that Heritage as a general topic, has in itself, remained less highlighted in both scholarship and in management, until recently when the International Centre for the Study of the Preservation and Restoration of Cultural Property(ICCROM) in 2014, and later the Rwanda Cultural Heritage Academy (RCHA) in partnership with ICCROM held a pre-launch event of the Rwanda Heritage Hub (RHH), a project that aims to engage youth in cultural heritage promotion and use of digital technologies for job creation and socio-economic development.

With respect to built heritage, there has been recent injection of attention to Rwanda's built heritage, after The United Nations Educational, Scientific and Cultural Organization (UNESCO) recognizes 4 Rwandan genocide memorials as World Heritage Sites, during its World Heritage Committee in Riyadh, Saudi Arabia. This has inspired the rethinking of not only these heritage sites but also built heritage in general.

The city of Kigali, and all secondary cities and tertiary towns in Rwanda, have been experiencing a construction boom in the last two decades. The urban vision towards achieving smart cities, has seen the explosion of ideas into what developers/contractors embrace as potential initiatives towards the revitalization of urban areas in Rwanda. In the rush to use more durable building materials, the use of traditional materials seems to be fading away, in what this paper has framed as a worrying trend.

The 2013 Kigali city Masterplan and 2015 building regulations code set clear guidelines that underline the use of durable construction materials recommending cements blocks and fired bricks for the walls. It did not allow use of adobe bricks, albeit being the most common wall material in Rwanda/Kigali, yet the policy was later revised.

While exemplifying emphasis on roofing material, in 2010, the government of Rwanda successfully implemented an intensive ambitious programme named 'Bye Bye Nyakatsi' to eradicate all grass-thatched houses the government supplied all affected households with free galvanized iron roofing sheets, and households were encouraged to locally produce cement blocks for the walls, replacing the traditional adobe blocks/mud blocks.



Figure 1. House of Dr. Kandt, Rwanda.
Source: Unknown (1909)



Figure 2. Rural house, Vojvodina.
Source: Szilágyi, M. (2020)

The state of traditional earthen architecture in the region of Vojvodina is a matter of concern, as it has not been preserved due to a lack of awareness of its cultural value and sustainable potential. This situation is manifest in

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the small number of registered protected monuments and the poor condition of those that are listed. In recent years, the lack of a systematic approach and a clear strategy has resulted in a dearth of effective solutions to the current situation. While individual initiatives have been undertaken, they have failed to address the root cause of the problem. A comprehensive and structured approach must be developed to tackle this issue effectively.

One of the key players in the protection of earthen architecture in Vojvodina is the Institute for the Protection of Cultural Monuments of the City of Zrenjanin. In the last three years, the Institute has dedicated efforts to the restoration of the earthen church, one of only two remaining in the area. The church in Ečka is a structure fashioned in the style of log cabins, with a gable roof made of shingles, while the adobe walls are plastered with mud. In 2020, the Institute undertook the task of restoring the walls of the church from moisture (Zavod za zaštitu spomenika kulture Zrenjanin, 2024).

Architect Dragana Kojičić is a pioneer in the restoration of earthen architecture in Vojvodina. Since 2010, she has been actively working towards increasing awareness and promoting the use of earthen architecture. Her efforts have been directed towards both theoretical and practical aspects of this field. Specifically, she has organized presentations, lectures, and courses, as well as conducted workshops and training sessions throughout Serbia. Collaborative efforts have been made with various institutions, including but not limited to, the Institutes for the Protection of Cultural Monuments, the University of Novi Sad, Novi Sad European Capital of Culture 2022, non-governmental organizations, and individuals. Of particular significance is her focus on educating young individuals, ranging from children to students, as well as the implementation of programs for women. She organized a series of lectures within the University of Novi Sad. Additionally, she was part of the EU Leonardo Pirate project from 2012 to 2015. During this time, she worked towards creating and certifying training and diplomas for masters and other personnel for earth construction. Kojičić established the Centre for earthen architecture in the village of Mošorin, and to date, she has renovated over 100 rammed earth and adobe houses.

The University of Novi Sad has only a limited number of initiatives in the realm of responsive construction and traditional materials. It is noteworthy, however, that the Department of Architecture and Urbanism has recently established a Master's program in Energy Efficiency in Architecture, which began in 2020 (Faculty of Technical Sciences, 2024). Moving forward, the Department is poised to undertake research and projects related to earthen architecture within its elective modules.

In Serbia, the lack of modern earthen architecture is a notable concern. One of the explanations for the scarcity of earthen structures in metropolitan areas is the ban on the use of earth as a construction material in cities that was imposed in 1952 (Kojičić & Kojičić, 2015). Some experts argue that this law, being the only one passed on this matter, is still valid. Despite the prevalence of traditional construction techniques, there has been little adaptation to meet the demands of contemporary needs. A significant challenge in this regard has been the discontinuity in the construction of rammed earth. As an outcome, the requisite skills and knowledge of building with earth using traditional techniques have become lost due to a lack of usage over the years. The absence of experts in the field has further contributed to the absence of knowledge transfer from one generation to the next.

Recent individual research studies (Kojičić & Kojičić, 2015; Ловец, 2018) have revealed that the individual components of a residential earthen building's construction envelope, as well as the building itself, fail to meet contemporary energy efficiency standards as defined by the extant Rulebook on Energy Efficiency of Buildings. As such, it is imperative to enhance the energy performance of the residential structure to adhere to current benchmarks of energy efficiency. Fortunately, a traditional Vojvodina house may be effectively upgraded using relatively simple methods in a phased manner, with varying degrees of intervention, depending on the occupants' requirements and financial means.

Upon thorough examination, it has become apparent that various consequential issues exist within the sphere of earthen architecture's preservation and restoration. These issues primarily stem from deficient legal frameworks, inadequate educational programs, disrupted knowledge and skill transfer, and an overall absence of awareness regarding the significance of earthen architecture.

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5. Conclusions

If Rwanda's ambitions were to be left to the rush to "modernise" alone, her historic buildings, sites and monuments would be under immense threat. However, not all is lost. Fortunately, the country's leadership, has declared its commitment towards localizing the global sustainable development. This is evident in the focus towards green and smart cities. Indeed, Rwanda is known for promoting environmentally friendly practices, such as green building, energy efficiency designs, sustainable building materials, etc. The new urban projects such as the Ggreen City Kigali, Vision City, and Bugesera Airport, to name just a few, have demonstrated this ambition and focus.

Rwanda is growing and transforming, while at the same time embracing urbanization as a driver of transformation, as depicted in the country's National Strategy for Transformation (NST) - The Rwanda We Want. This means there is more need to pay attention to the preservation and promotion of Rwanda's architectural/built environment heritage. There is need to balance the need for modernization with the preservation of architectural heritage, which is a delicate balance.

Adobe brick was very often used in the 20th century, and even now in Rwanda as a building material or in combination with other materials, especially for the housing of the urban and rural poor. Nowadays, the brick production process is advanced with the use of industrial and semi-industrial kilns, yet not all the households would be able to secure such bricks and rely mostly on low-cost adobe brick production by themselves at the construction site. The Government of Rwanda and its partners are supporting traditional brick manufacturers to upgrade their production facilities into semi-industrial facilities to improve the quality and supply of bricks along with reduction of their embodied carbon coefficient. While it remains used in the urban and rural areas for the urban poor, the Government is encouraging developers and investors to use Made in Rwanda construction materials such as brick in the construction of many types of buildings, and with the support of the development sector are working closely with the brick producers to upgrade their facilities, employ sustainable clay extraction methods, improve the working conditions of brick producers, produce low-carbon modern bricks, train masons on the modern brick construction systems such as row-lock bond, and max span slab systems to meet the growing demand for affordable construction in a sustainable manner.

The loam in the Vojvodina region is considered to be of exceptional quality, making it ideal for the creation of adobe structures. The use of earthen architecture in this region is a unique feature that sets it apart from other regions of Serbia and wider, highlighting its cultural and historical significance. Overall, the Vojvodina region's earthen architecture is a testament to the area's rich cultural heritage and the technical abilities of its inhabitants. It serves as an important reminder of the region's unique history and should be preserved and celebrated for future generations to appreciate. Can Vojvodina learn from Rwanda's active practice? Yes, especially related to the policy where adobe bricks, in some modalities, allowed to be used for construction. Vojvodina can also learn from skilled masons of Rwanda.

Collaboration between Rwanda and Serbia that started with the Non-Aligned Movement more than half a century ago, can be continued in direction of research, especially in built environment. This collaborative research can also motivate other scholars, wider academia from both Serbia and Rwanda, non-governmental organizations, and others, to continue knowledge sharing, documenting and disseminating adobe bricks practices for mutual benefits.

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Applying traditional knowledge to heritage conservation: a reflection on the preservation of the Macuti houses at Mozambique island

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Abstract

The application of traditional knowledge and practices in heritage conservation of macuti houses on Mozambique island face a complexity of challenges.These include the scarcity of raw material, fast pace of globalization, climate change, urban development,technological advances, financial constraints, and management and legislative flaws.Macuti houses, constructed using palm leaves (macuti), mecrussi (wood), and coral stone are not only vital symbols of local identity but also repositories of vernacular architectural knowledge.This paper explores the role of traditional knowledge in sustaining these heritage structures, particularly in how traditional construction techniques can inform modern conservation strategies. Based on on-site assessments of three out of ten restored macuti houses, semi-structured interviews with house owners, and a focus group discussion with the staff of Mozambique Island Conservation Office (GACIM), the paper examines the role of traditional knowledge in preserving macuti houses,knowledge transmission,and legislative flaws.The findings support a holistic, participatory conservation model that integrates traditional craftsmanship with innovative technologies and adaptive policy frameworks.The paper further advocates for a long-term, community-driven conservation approach to address climate-related vulnerabilities, educational programs, and innovative initiatives that support the use of traditional, climate-resilient techniques for sustainable heritage conservation.

Keywords: *traditional knowledge, heritage conservation, climate change and cultural policy.*

Résumé

L'application des connaissances et des pratiques traditionnelles dans la conservation du patrimoine des maisons macuti sur l'île de Mozambique fait face à une complexité de défis. Ceux-ci incluent la rareté des matières premières, le rythme rapide de la mondialisation, le changement climatique, le développement urbain, les avancées technologiques, les contraintes financières, ainsi que les faiblesses de la gestion et de la législation. Les maisons macuti, construites avec des feuilles de palmier (macuti), du mecrussi (bois) et de la pierre corallienne, sont non seulement des symboles vitaux de l'identité locale, mais aussi des réservoirs de connaissances architecturales vernaculaires. Cet article explore le rôle des connaissances traditionnelles dans le maintien de ces structures patrimoniales, notamment la manière dont les techniques de construction traditionnelles peuvent éclairer les stratégies modernes de conservation. Basé sur des évaluations sur site de trois des dix maisons macuti restaurées, des entretiens semi-structurés avec des propriétaires de maisons et une discussion en groupe avec le personnel du Bureau de Conservation de l'île de Mozambique (GACIM), l'article examine le rôle des connaissances traditionnelles dans la préservation des maisons macuti, la transmission des connaissances et les lacunes législatives. Les résultats soutiennent un modèle de conservation holistique et participatif qui intègre le savoir-faire

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traditionnel avec des technologies innovantes et des cadres politiques adaptatifs. L'article plaide également en faveur d'une approche de conservation à long terme, dirigée par la communauté, pour répondre aux vulnérabilités liées au climat, aux programmes éducatifs et aux initiatives innovantes soutenant l'utilisation de techniques traditionnelles et climatiquement résilientes pour une conservation durable du patrimoine.

Mots-clés: *connaissances traditionnelles, conservation du patrimoine, changement climatique et politique culturelle.*

1. Introduction

The Island of Mozambique, a UNESCO World Heritage Site since 1991, stands as a unique confluence of African, Swahili, Arab, and Portuguese cultural influences. Like many other World Heritage Sites in Africa, it faces challenges related to protection, management, and conservation, which threaten the safeguarding of its cultural authenticity and sustainable development. The island's distinctive urban landscape, particularly the iconic macuti houses, reflects centuries of architectural adaptation, cultural synthesis, and environmental resilience. The houses, constructed primarily from locally sourced materials such as palm leaves (macuti), mecrussi (wood), and coral stone, are not only emblematic of architectural significance but also hold cultural, aesthetic, religious, and economic value for the local community.

Historically, the island served as a strategic port on the Portuguese maritime route to India in the 16th century, which influenced its architectural and urban development. The macuti houses, primarily located in the island's southern zone, demonstrate a tangible heritage system where material techniques are inseparable from cultural identity. However, this heritage is now under threat due to the combined impacts of climate change (manifested as increased flooding and cyclones), urban development, economic pressures, depletion of traditional building materials, and inconsistent heritage governance (UNESCO, 2018 & Blake, 2000).

The preservation of macuti houses entails more than physical restoration; it requires safeguarding the traditional knowledge systems embedded in construction practices. These traditional techniques offer environmental adaptability and encode communal values and intergenerational skills transfer. Nevertheless,challenges such as the aging artisans, limited documentation of knowledge, and the lack of formal training programs impede effective conservation. The institutional fragmentation between local authorities and the Mozambique Island Conservation Office (GACIM) further exacerbates policy implementation failures.

According to the March 2018 Reactive Monitoring Mission (RMM) report, for this Islands reads in part "despite the clarity of GACIM's role as stated in Decree n° 28/2006 de 13 de Julho de 2006, its management capacity remains limited, as constructions licenses are issued by the Municipality of Mozambique Island", which compromises a whole set of efforts to maintain its Exceptional Universal Value and urban scenic environment.

Therefore, the application of traditional knowledge and practices in heritage conservation relies heavily on the local community, who should not only be seen as custodians of knowledge but also as active participants in ongoing conservation efforts, as well as to assist managers and authorities of this site in matters of management as well as the maintenance and preservation of built assets.

This paper examines the application of traditional knowledge and practices in preserving macuti houses, drawing on recent restoration efforts, material used, challenges related to globalization, financial constraints, and management and legislative flaws. It further advocates for the integration of traditional techniques into modern conservation strategies, supported by participatory governance that addresses both environmental and socio-economic challenges.

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1.1. Aims and objectives

The primary aim of this study is to explore the application of traditional knowledge and construction techniques in the conservation of macuti houses on Mozambique Island. It seeks to assess how these practices contribute to the resilience, sustainability, and authenticity of heritage conservation efforts, particularly in the context of climate change and socio-economic transformation.

The objectives paper are:

- Analyze the application of traditional construction techniques in the conservation of macuti houses, with an emphasis on community participation;
- Examine the potential of traditional knowledge in mitigating environmental hazards, such as flooding and cyclones.
- Advocate for policy interventions and innovative strategies that support the integration of traditional knowledge, and participatory heritage management.

1.2. Methodology

This study employed a triangulation approach, utilizing three qualitative methods: field assessments, semi-structured interviews, focus group discussions and documentation review, (Crouch & Housley, 2007). Field assessments were conducted on-site in macuti town, focusing on three out of ten macuti houses restored in 2021 under the "Projecto de Educação Patrimonial e Construção participativa". The assessments focused on roofs, walls, and foundations of the houses, specifically the use of traditional techniques and materials.

Semi-structured interviews were conducted with house owners to gain insights into the socio-cultural role of macuti houses, perceptions of restoration, and transmission of traditional knowledge, while focus group discussion with GACIM staff explored institutional challenges, policy implementation, and community involvement in conservation. Additionally, a comprehensive review of existing policy documents, heritage management plans, UNESCO reports, and restoration records to contextualize the field findings and assesse institutional performance in addressing conservation challenges.

Table 1. Data Triangulation

Data Source	**Categories: Level of Education & Profession**	**Frequency (n)**
Field assessment	N/A	3 macuti houses
Semi-structured interviews	Owner houses **Level of Education**: N/A **Profession:** Artisan	5 participants (3 houses owners and 2 artisans)
Focus Group	Diploma,Bachelor, Master Doctorate **Profession** History Heritage Environmental Education	6 participants
Documentation Review	N/A	N/A

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2. Results and Discussion

2.1. Placing traditional knowledge in the preservation of macuti houses

Traditional knowledge is central to the preservation of macuti houses, both as a building methodology and a cultural expression. The restored macuti houses demonstrate significant but uneven application of traditional techniques. Material such as palm leaves (macuti), coral stone, and mecrussi (wood) continue to play a crucial role, offering ecological suitability as well as cultural embeddedness in the construction of macuti houses.

Insights from semi-structured interviews with house owners affirmed that macuti houses are not just physical structures but also social and symbolic spaces, often tied to ancestral practices and communal identity. However, a clear generational gap was observed. The declining number of skilled artisans, as well as the lack of training programs to pass down these skills to younger generations, poses a significant threat to these practices. These findings are consistent with (Norton, 2020) and (Nash, 2019), who emphasize that the oral transmission of knowledge is as important as the technical practices themselves. This fact confirms the urgency of revitalizing local knowledge and skills through targeted educational training initiatives.

2.2. Environmental Challenges and Climate Change

The vulnerability of Mozambique Island to climate change has placed the integrity of traditional architecture under severe threat. Field assessment revealed that macuti roofs, while thermally efficient, are increasingly unable to withstand prolonged rainfall, and foundations are eroding more rapidly due to saltwater intrusion. These findings aligns with broader studies (UNEP, 2020; Anderson & McCarty, 2017) indicate that climate change has intensified the frequency of extreme weather events, especially cyclones, across the Western Indian Ocean region.

In interviews, house owners reported difficulty in sourcing quality palm and coral stone, confirming material scarcity due to deforestation, land-use change, overharvesting and environmental degradation. This scarcity has led to the use of modern materials, such as zinc roofing and cement for walls, which compromise the aesthetic, functional, and cultural integrity of the structures (Hernandez, 2018). These substitutions also increase the risk of poor thermal performance and higher maintenance costs, further distancing the architecture from its traditional resilience.



Figure 2. Current degradation state and transformation of macuti houses. Credits: Christophe Graz, 2023.

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2.3. Applying traditional knowledge to the restoration of macuti houses

The 2021 restoration initiative, while beneficial, focused primarily on the roofs and did not extend to complete structural rehabilitation. Although some artisans successfully revived weaving and masonry techniques, the field assessments showed that the restorations process was limited to roofs, neglecting the entire structural and cultural dimensions of the houses.

As noted in the focus group discussion with GACIM, this partial restoration often results from limited funding and administrative constraints prevent large-scale, holistic conservation planning. This calls for restoration to go beyond visible repairs and include walls, drainage systems, and foundations to ensure long-term structural resilience and authenticity (Veraveke & Williams, 2020).

Furthermore, the reliance on older craftsmen, without engaging or training the youth, risks losing knowledge that has never been formally documented. The knowledge required for constructing and maintaining macuti houses has historically been passed down orally, but with the aging of skilled artisans and the lack of formal training programs, much of this knowledge is disappearing (Norton & Sanderson, 2022).



Figure 3. Macuti house benefited from roof restoration. Credits: Christophe Graz, 2023

3. Heritage management and policy framework

Despite the active role of GACIM, the heritage management framework remains fragmented. The non-adoption yet of the newly prepared Management Plan framed for the period 2022 – 2027, a tool of prime importance for the guiding interventions for safeguarding the site, is a major deficiency, as revealed in the focus group discussion. Another critical gap lies in the absence of Heritage Impact Assessment (HIA),resulting in urban development projects that comprise the cultural landscape of the macuti neighborhood. This institutional fragmentation, reported by the March 2018 Reactive Monitoring Mission report, has also led to inconsistent conservation efforts and the alteration or demolition of macuti houses under the guise of urban development.

Most critically, current policy approaches often marginalized the local community. Traditional knowledge holders are seldom consulted in decision-making processes, and conservation policies often fail to consider traditional knowledge systems that local community hold in heritage conservation. Without a clear policy mandating the integration of traditional knowledge, conservation efforts risks will remain top-down rather tan collaborative (Minguzzi, 2020 & Ravindra, 2012).

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Figure 4. Group photo after focus group discussion & new building in Macuti town.

Credits: unkonown & M. Manjate, 2023

3.1. Integrating traditional knowledge with innovation

Findings from both the field assessments and stakeholder interviews suggest that the integration of traditional knowledge with modern conservation technology could create more adaptive and sustainable approaches. Tools such as Building Information Modeling (BIM), 3D Scanning, and GIS monitoring offer valuable precision in documenting and restoring macuti houses without compromising traditional forms (Anderson & McCarty, 2017).

The focus group with GACIM's staff mentioned ongoing collaborations with local universit exploring lime-based mortars that respect traditional compositions while improving structural resilience. As shown in other UNESCO World Heritage sites, hybrid conservation strategies that engage local knowledge and scientific innovation such as participatory 3D documentation or mobile training labs, can support both the technical and cultural aspects of preservation (Wijesuriya & Court, 2015).

Finally, educational programs that combine traditional apprenticeship with conservation science could foster a new generation of heritage stewards. These programs must be accompanied by financing mechanisms that support long-term sustainability beyond restoration campaigns by aligning public investment with community needs and cultural continuity, while also fostering a sense of ownership and responsibility among local community

4. Conclusions

The preservation of macuti houses at Mozambique Island is a complex and multifaceted challenge that requires urgent and sustained action. Climate change, material scarcity, and generational loss of knowledge pose significant threats to the viability of these historic structures. However, traditional building techniques remain invaluable assets for sustainable, resilient architecture. Their integration into modern conservation strategies is not only feasible but necessary.

Conservation efforts must move beyond mere physical restoration, focusing not only on restoring roofs but also on safeguarding cultural practices, skills, and local identities. A robust policy framework that promotes participatory governance, inter-institutional cooperation, and community-led initiatives is essential for addressing the challenges posed by environmental degradation, climate change, and socio-economic pressures. Additionally, strengthening the capacity of heritage professionals and institutions in areas such as fundraising, mediation, promotion of traditional knowledge, and educational outreach will support long-term sustainability.

To maintain the authenticity and resilience of Mozambique Island's heritage, innovative strategies that combine traditional knowledge with modern technologies must be adopted. By bridging traditional knowledge with innovative conservation practices and policy reform, macuti houses remain enduring symbols of Mozambique's rich cultural heritage. Additionally, financing plans must extend beyond daily maintenance and incorporate public funds reinforced by innovative initiatives, addressing the needs of the local community.

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Applying the Historic Urban Landscape approach to changing African contexts. The Tombs of Buganda Kings at Kasubi at the heart of an integrated strategy for Kampala

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Abstract

The World Heritage (WH) site "Tombs of Buganda Kings at Kasubi" (2001), located in Kampala, Uganda, is a major spiritual centre for the Baganda people. The site is faced with consequent urban development. In 2010, a devastating fire resulted in the destruction of the Muzibu-Azaala-Mpanga building, the Royal burial ground and major component of the property, consequently getting inscribed on the World Heritage List in Danger (WHLD). Since 2013, efforts have focused on the reconstruction of the destroyed component and the establishment of an efficient firefighting system within the site. The works, coupled with extensive documentation, awareness-raising and capacity-building efforts, were finalized in 2023 thus the removal of the site from the WHLD during the extended 45th session of the WH Committee (Riyadh, 2023). Besides, several WH Committee Decisions requested the State party to develop guidelines for its buffer zone in line with the 2011 Recommendation on the Historic Urban Landscape (HUL), which defends the intrinsic relation of heritage with its urban and territorial context. In this framework, in 2022-23, UNESCO, with the support of the Government of Norway, developed a pilot project based on the HUL approach. This paper explains the inception and key lessons from the project.

Keywords: *Historic Urban Landscape, Kasubi, co-creation, integrated heritage management, sustainable urban development, World Heritage, urban heritage, UNESCO, Africa, spiritual, Muzibu-Azaala-Mpanga*

Résumé

Le site du patrimoine mondial (PM) " Tombes des rois du Buganda à Kasubi " (2001), situé à Kampala, en Ouganda, est un centre spirituel majeur pour le peuple Baganda. Le site est confronté aux pressions du développement urbain. En 2010, un incendie dévastateur a entraîné la destruction du bâtiment Muzibu-Azaala-Mpanga, le tombeau royal et l'élément principal du bien, ce qui a entraîné son inscription sur la Liste du patrimoine mondial en péril (LPMP). Depuis 2013, les efforts se sont concentrés sur la reconstruction de l'élément détruit et la mise en place d'un système efficace de lutte contre les incendies à l'intérieur du site. Les travaux, associés à une documentation étendue, à des efforts de sensibilisation et de renforcement des capacités, ont été finalisés en 2023, ce qui a permis de retirer le site de la LPMP lors de la 45e session élargie du Comité du PM (Riyad, 2023). En outre, plusieurs décisions du Comité du PM ont demandé à l'État partie d'élaborer des lignes directrices pour sa zone tampon conformément à la Recommandation de 2011 sur les paysages urbains historiques (HUL), qui défend la relation intrinsèque du patrimoine avec son contexte urbain et territorial. Dans ce cadre, en 2022-23, l'UNESCO, avec le soutien du gouvernement

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norvégien, a développé un projet pilote basé sur l'approche HUL. Cet article explique la création et les leçons tirées de ce projet.

Mots-clés: *Paysage urbain historique, Kasubi, co-création, gestion intégrée du patrimoine, développement urbain durable, patrimoine mondial, patrimoine urbain, UNESCO, Afrique, spirituel, Muzibu-Azaala-Mpanga*

1. Introduction

The World Heritage (WH) site "Tombs of Buganda Kings at Kasubi" (2001), located in the city of Kampala, Uganda, is a major spiritual centre for the Baganda people where indigenous cultural practices have been preserved. Its Outstanding Universal Value is defined by its unique spiritual character, the typical Baganda architecture and palace design. The property is composed of vegetal material structures, a great craftsmanship value still existing at the site. The site is faced with urban development pressures including illegal structures hazardous to the site's integrity. In 2010, a devastating fire resulted in the destruction of the Muzibu-Azaala-Mpanga building consisting of the Royal burial ground and major component of the property, consequently getting inscribed on the World Heritage List in Danger (WHLD) the same year. Since 2013, efforts have focused on the reconstruction of the destroyed component and the establishment of an efficient firefighting system within the site premises. The works, coupled with extensive documentation, awareness-raising and capacity-building efforts, were finalized in 2023 thus the removal of the site from the WHLD during the extended 45th session of the WH Committee (Riyadh, 2023). Besides, several WH Committee Decisions requested the State party to develop guidelines for its buffer zone in line with the 2011 Recommendation on the Historic Urban Landscape (HUL)[1], which defends the intrinsic relation of heritage with its urban and territorial context. The adoption of the HUL approach implies:

- A shift in conservation values and dimensions, considering the city as a layering of values which include the built, tangible, universal, natural, intangible and local heritages in their variety in both the core zone and the bigger context;
- A change of focus in heritage management, through the integration of heritage conservation with urban development plans and processes in order to manage change to protect the heritage values;
- The use of interdisciplinary tools, including civic engagement, knowledge and planning, regulatory systems, and financing mechanisms;
- The adoption of 8 steps[2] ;
- The identification of attributes of urban heritage within 4 categories[3].

In this context, in 2022-23, in an attempt to define a contextualized methodology and co-create integrated heritage management strategies for the site, UNESCO, with the support of the Government of Norway, developed a pilot project based on the HUL approach. This paper explains the inception, methodology and lessons learned from this experience.

2. Aims and objectives

The Kasubi project aimed at promoting the application of the 2011 Recommendation on the Historic Urban Landscape within the context of Kasubi, and conversely, to use the HUL approach to strengthen the connection between the World Heritage site and its urban context. More specifically, the idea was to improve the integration and continuity of the World Heritage site within the buffer zone and its outer urban context through the development of guidelines using the HUL approach. Indeed, covering an area of 26.8 hectares, the Tombs of

[1] adopted on 10 November 2011 during the 36th session of the UNESCO General Conference
[2] Governance structure; Sustainable development status, needs and priorities; Mapping/Survey; Assess Vulnerabilities; Integration and coherence; Priority actions and projects; Partnerships for local management; Capacity reinforcement (UNESCO, 2020)
[3] Wider urban context; Urban elements; Monuments and buildings; Elements of intangible cultural heritage

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Buganda Kings at Kasubi are located on the Kasubi hillside, in the heart of the rapidly growing and bustling Ugandan capital Kampala. It is exposed to external threats and pressures linked to its position within a dense urban context. At the same time, it now forms an island within the city, where the fence as well as its World Heritage status separate it from the rest of the district while it should be integrated in the city's physical and sociocultural dynamics. The 2010 disaster highlighted the need for local institutions to work together, to look at values beyond World Heritage management boundaries and to integrate them in planning tools and city-scale strategies. Since 2018 in its Decision 42 COM 7A.16 (Manama), the World Heritage Committee has encouraged the State Party of Uganda to develop guidelines for the site and in particular its buffer zone, in line with the HUL Recommendation. This request has been reiterated in 2019 (Decision 43 COM 7A.56, Baku) and 2021 (Decision 44 COM 7A.4, Fuzhou). It is in this framework that the project was launched, initiated by UNESCO and implemented by a team of consultants together with the team of the Museums and Monuments at the Department of Museums and Monuments of Uganda. The project included a series of on-line and on-site participatory activities that aimed at:

1. Gather diverse stakeholders, disseminate values and facilitate dialogue;
2. Collectively identify the physical, cultural and social links of the Kasubi tombs with their close, city and territorial contexts;
3. Collectively identify contests that might hinder heritage protection and life in and around it;
4. Identify priority actions and co-create guidelines to improve the protection and integration of the property within its buffer zone and beyond, in an integrated city and territorial context;

The initiative served as a pilot project, with a view to extending the subsequent methodology in other contexts in Africa, and even beyond.

3. Methodology

3.1. Working with HUL theory and previous experiences to approach the project

Since 2011, a number of HUL-related activities have addressed African contexts[4]. The examples presented by African experts and site managers during these activities, and the reflections made taking the HUL approach into consideration, show how urban heritage challenges in Africa are strongly linked to a particular idea of urban development linked to local economies and sociocultural links (UNESCO, 2013). Experts also highlighted how understanding these cities requires addressing territorial and socioeconomic contexts beyond WH property boundaries or official heritage management systems. During the different sessions of the World Heritage City Labs (2020-22), attention was brought to fast population growth in the past two decades, development of informal settlements, encroachments on public open spaces that put excessive pressure on the existing infrastructure causing its failure, modern infrastructure being poorly integrated, among others. Similarly, during the 2021 session of the World Heritage Dialogues dedicated to the Africa region[5]participants indicated changing rainfall patterns affecting cities located inland, such as Asmara (Eritrea) and Timbuktu (Mali) where the lack of rain threatens them with desertification of the surrounding landscape, and limited access to critical resources and water. Coastal cities, such as Lamu (Kenya) or the Island of Saint-Louis (Senegal), also reported challenges related to flooding and rising sea levels. Participants also offered insights into the diverse initiatives undertaken at the local level to counteract these issues. For instance, some sites have developed community-based projects to prevent coastal erosion such as the Island of Gorée or the Saloum Delta (Senegal) which include replanting mangrove forests along its littoral. All these highlighted the need for multidisciplinary approaches to manage change in urban properties, in line with the HUL approach.

[4] "Swahili Historic Urban Landscapes" project 2011-12, World Heritage City Dialogues series 2019-2021
[5] "Adapting Cities for Climate Resilience", the theme of the World Cities Day for 2021 (31 October 2021)

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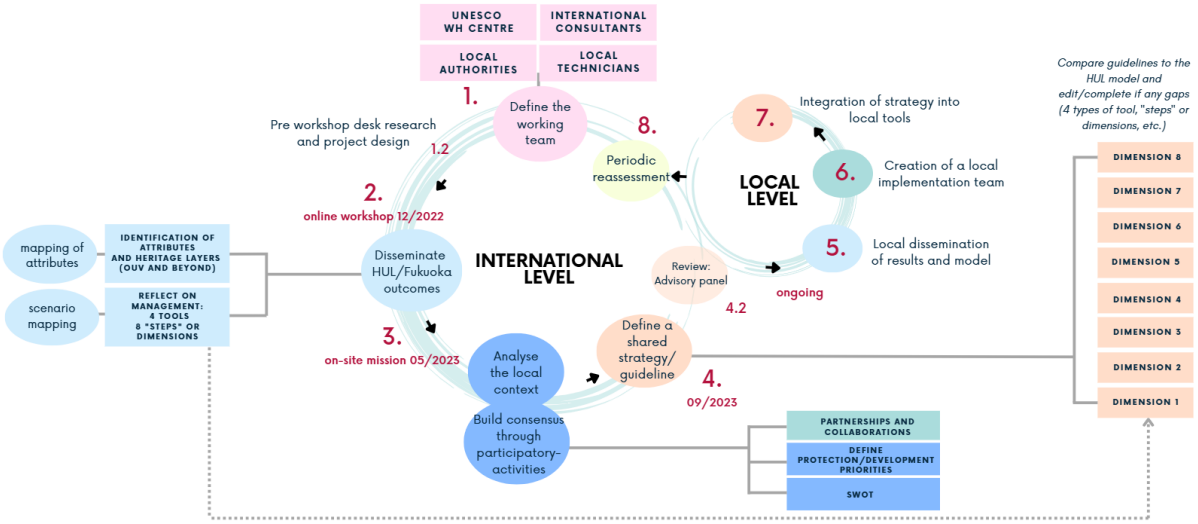


Figure 1. Project structure. Source: Zamarbide, A. (2023)

3.2. Project evolution

The project was designed in two stages: a first stage conducted by international experts, and a second stage led by the local team (Figure 1). The project has finalized its first stage, which results are presented in this paper.
So far, the project has evolved as follows (Table 1):

Table 1. Project evolution Source: Authors (2024)

	Who	*What*	*How*
Design phase	Team of consultants	Design of tools to allow disseminating values and facilitating dialogue based on the HUL approach.	n.a.
Online workshop 12/2022	Team of consultants Department of Museums and Monuments, the Uganda National Commission for UNESCO Buganda Kingdom Kampala Capital City Authority Police local universities Cross Cultural Foundation of Uganda and other NGO	Identification of "Attributes of Urban Heritage" within the 4 main categories defined by the "Fukuoka outcomes" (all participants) (Figure 2); it helped bring up ideas without being constrained by the idea of official boundaries (comments where them brought back to physical maps);	Analysis chart: 4 categories of attributes of urban heritage. The tools aimed at bringing people's vision and discussion "beyond" the WH property, identifying elements "inside" the site, but also the many aspects that surround it which do not officially make part of the World Heritage site. 
		SWOT (all participants); Identification of city/World Heritage management tools (all participants). This was an important block of the workshop, as each of the participant stakeholders was used to working with particular tools and particular limits. By this time, it was clear that all the elements and challenges identified freely in the blocks above couldn't be tackled through a single tool managed by a single body. It was essential to allow participants know about each other's work and projects, which in some cases overlapped [6]. This raised awareness of the need for cooperation.	
		Connections between categories were also drawn and discussed.	
		Discussion on the way forward.	

[6] For example, a project to improve the physical access to the tomb and include facilities was not connected to the Kampala Metropolitan Plan that affected the road crossing in front of the tomb access and thus, directly modified it.

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<table>
<tr><th></th><th>Who</th><th>What</th><th>How</th></tr>
<tr><td rowspan="6">On-site mission 05/2023</td><td rowspan="5">Team of consultants
Buganda Kingdom
Ministry of Tourism
Kampala City
Planning Institute
Japanese International Cooperation Agency (JICA)
Uganda Museum staff
Buganda Youth Council Buffer zone area leaders Kasubi tombs
Police
Professors
Students
Professionals
Associations</td><td>Collective identification of the physical, cultural and social links of the Kasubi tombs with their close, city and territorial contexts.</td><td rowspan="3">Walks
Debates
Mapping
Action gaming</td></tr>
<tr><td>Collective identification of contests that might hinder heritage protection and life in and around it;</td></tr>
<tr><td>Co-creation of next steps to take and stakeholders to engage: action scenario</td></tr>
<tr><td colspan="2">Detail:
8 May 2023
Visit to Uganda Museum
Meeting with high-level national authorities (informing about the activity taking place) - Ministry of Tourism, Wildlife & Antiquities and Buganda Kingdom.
Introductory meeting with local authorities and communities (informing about the activity taking place) - Kasubi</td></tr>
<tr><td colspan="2">9 May 2023
Workshop Introduction - Kasubi A. Brief introduction to World Heritage and HUL B. Preliminary results of 2022 online workshop
Guided visit to the WH property and mapping of issues
Guided visit to the buffer zone and mapping of issues (urban areas surrounding the site)</td></tr>
<tr><td colspan="2">10 May 2023
2 Workshops - Uganda Museum
Local scale and City scale A. Preliminary results of guided visits B. Participatory identification of actions</td></tr>
<tr><td colspan="2">11 May 2023
Workshop - Uganda Museum: Sharing results and discussing an action scenario
Mission feedbacks to National Authorities and next steps - KCCA, Buganda Kingdom</td></tr>
<tr><td>(King) Wives 21</td><td colspan="2">12 May 2023
Meeting with wives - Kasubi tombs</td></tr>
</table>

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Figure 2. Mosaic-image of the different on-site activities. Source: Aluvihare et al (2023)

4. Results

4.1. Results of the activities

The findings of the different activities are resumed below (Table 2):

Table 2. Project results. Source: Aluvihare et al (2023)

The World Heritage property   	*By the time of the team's site visit, the site was under restoration, and had been closed to the public for 13 years after the Muzibu-Azaala-Mpanga main building was gutted by fire in 2010. The Luggya had not been landscaped of which it is now. It was observed that the installation of the modern fire prevention infrastructure, both above and under the ground, and the erection of security fences around the site have all left marks. Means should be adapted to reflect the visual quality of a World Heritage property. The construction pattern should reflect the original style of circular and grass thatch to provide an authentic image of the Ganda style, which was also an observation and long term recommendation at the time of inscribing the site. It is important to note that structural construction of the 7.5-meter-high main tomb is completed with its organic thatch, supported by metal for durability interest. Equally important is that, the decorative works "okutimba" of these support metals as well as the poles with weaving and bark cloth was done to date. The entrance building, "Bujjabukula house", very much a smaller and the most authentic representation of the traditional architecture, was completely satisfactory in all aspects. The guard, "Mulamba" a formal and ritual function, already uses the building as should.* *The other zones within the site are the parking yard at the entrance to the site, the living quarters for widows, burial grounds and the backyard gardens. The parking yard was observed in a good state, but could do with more allure and functions that enhance one's experience such as ticket and information center, restaurant and a modern toilet. The living quarters, organized beyond and around the main courtyard, is a pleasant area with the feel of a traditional compound. Two very old and important buildings mate of mud and wattle, one with a grass thatched roof, the other with a corrugated iron roof. These should be renovated and maintained. This part of the site is characterized with new varying structures and utility installations such as water tanks in terms of colour, material and form. Rainwater*

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	*erosion is also a problem in certain areas. Better landscaping and aesthetic guidelines which can be phased in would improve the quality tremendously.* *The question of ownership, who does and should be allowed to live here is also a question that was raised during the discussions and has obviously a relationship with the evident lack of living space for some of the residents. The formalizing of living rights is thus an important aspect that needs to be addressed. Although the farmland is predominantly used for food production, the greenery of this area is an interesting addition to the site. In fact, creation of a comfortable and accessible trail in the Masterplan is a good idea, especially if the exquisite views to neighboring hills are capitalized with seating areas. Addition to that, two culturally important mounds associated with the Kings as a viewpoint to observe the houses of the many wives spread out over the surroundings. The mounds, although overgrown, are still in use for rituals, according to oral tradition and should therefore be kept private.* *Finally, the site is fully enclosed by a high, solid, fence. This is a security based reaction to the disastrous fire which may have been caused by sabotage. There were many discussions about the pro's and con's of the wall. The general consensus was that the wall isolated the site visually and functionally to a disproportionate degree and also had a negative effect on the spatial quality of the buffer zone. Any new visible and functional permeability has to be balanced with the possibility to secure the site partly during daytime and wholly after it's closed to the public.*
The buffer zone and beyond   	*The buffer zone as it is now, is the area defined by a 250-meter line parallel to the fence of the site. It is an abstract line, going through properties and buildings. The local authorities have indicated that the line as it is now makes it difficult to govern the area and request a geographical definition based for example on roads and whole properties. Governance of this area is important for the heritage area because there are already recent buildings which are higher than the generally accepted two stories. As a result, the relationship between Kasubi and the surrounding hills is no exception. It is essential that the views to and from the Kasubi tombs and farmland (gardens) are preserved. Descriptively, on two sides, the periphery of the heritage site is formed by main roads; the Hoima road, a very busy dual carriageway to the west, and Masiro road to the north. The latter passes by the main entrance to the heritage site, between the external parking annex vendor area and the entrance and has a detrimental influence on the functioning of the site. The road needs to be modified to alleviate the problems. The same applies to the Hoima road, which at this moment does not affect the site directly, but is a formidable barrier between the site and the buffer zone. Long term stability in the quality of the whole area requires a reduction of traffic and an increase in pedestrian comfort, which can only be achieved by restructuring the traffic in the surroundings of the tomb.* *The urban area inside the buffer zone, with housing, small commercial units and some larger ones, is a rundown area which seems to lack any sort of public maintenance. The roads are extremely polluted with sewage and plastic, the rainwater erosion is heavy and the combined sewer and rainwater drain is overloaded. The rainwater from the highly elevated areas of the site ends up in this area to exaggerate the problems. However, it is an interesting area with a lot of small-scale economic activity and interesting, some people and locations directly related to the heritage site which diversifies and extends the site attributes. It is evident however that the zone does not profit from the vicinity of the heritage site as it should. Furthermore, there is no reason for tourists to visit the buffer zone and many more reasons to avoid it. If the attractiveness and living standards in the buffer zone would improve in relation to the heritage site, which can happen with government investment in infrastructure and stimulation of related economic activity, the support base for the heritage will grow. This in turn will result in a more secure heritage site and an added incentive for visitors to the heritage site to venture into the area.*
Intangible elements	*The Kasubi Tombs is the most active and living religious site in the Buganda kingdom and is considered to be the center of communication links with the spiritual ecosphere. It is widely acknowledged that the significance of the Kasubi Tombs lies in its strong elements of intangible heritage related to belief, spirituality, continuity and identity. The contributions of Royal burial ceremonies, consultation mediums and spiritual life at Kasubi Tombs have*

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spanned the history of the Buganda Kingdom. The site has both conventional and traditional practices of management. It is managed in the traditional manner by the wives (Nalinya), Katikkiro and Lubuga of the Kings through various rituals and customary roles, stemming from the belief that the Kings are alive, unseen and active in the daily life of the Kasubi Tombs and the people. Communication with the Kings is managed through a hierarchical system of rituals and practices by their wives related to the site and the Kings.

Thus, the significance of the Kasubi Tombs lies within the authenticity and continuity of cultural and traditional practices in maintaining and promoting communication links with the spiritual systems and enabling living cultural traditions. The site is rich in showcasing traditions through clothing, ceremonies, religious practice, spiritual beliefs and rituals related to birth, passage, age, marriage, death and purification. These cultural needs are inextricably linked to space, however, the diverse range of ritual and ceremonial duties of the custodians of the site are being hampered by space restrictions and lack of adequate facilities, such as housing. Taking into consideration encroachment due to urban sprawl, changes to the site over time and changes in the use of materials on site, the authenticity of the site lies within its strong traditional historical, customary and ritual significance and the continuity thereof. Thatching by the Ngeye clan, decoration of bark cloth by the Ngo clan and execution of the responsibilities between the 52 clans in maintaining the physical aspects of the Kasubi Tombs displays a high degree of authenticity.

Every aspect of Kasubi is imbued with spiritual value and meaning relating to the interaction between nature, culture, spirits and the living with space occupied by the seen and unseen. The contribution of traditional caretakers and craftsmen also plays an important role in the continuity of tradition. Any threat to such cultural practices is a threat that must be managed and mitigated. To be kept alive, intangible cultural heritage must be relevant to its community, continuous and transmitted from one generation to another. Challenges at the Kasubi site are placing elements of intangible cultural heritage at risk – these include but are not limited to challenges in documenting and sharing traditions, economic constraints and social and living conditions on site that are affecting the health, well-being and ability of the wives to fulfill their individual and collective duties to the Kings.

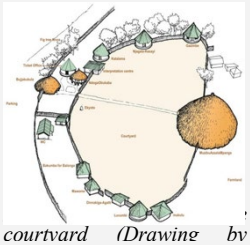
4.2. The Guidelines

Following the analysis of the collected data, ideas were structured into a series of guidelines to improve the protection and integration of the property within its buffer zone and beyond, in an integrated city and territorial context were developed at several levels. The Guidelines (Aluvihare et al, 2023[7]) are a reflection of ideas collectively generated during workshops and have as a goal to give more structure to discussions, organizing them inside a long-term strategy for the site, including technical details developed by the team of experts. The document classified the advisory aspects that will bring improvements in every dimension into 3 priority categories and different work dimensions. Table 2 presents a summary of these Guidelines.

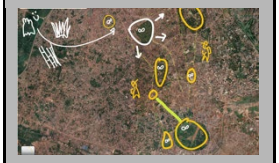
[7] See full document Aluvihare, R., Barry, A., Samie, Q., and Zamarbide, A., "PROPOSALS FOR THE 'TOMBS OF BUGANDA KINGS AT KASUBI' WORLD HERITAGE PROPERTY BASED ON THE APPROACH OF THE 2011 RECOMMENDATION ON THE HISTORIC URBAN LANDSCAPE", October 2023

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Table 2. Guideline summary. Source: Authors (2024) based on Aluvihare et al (2023)

	Ambitions (A)	**Guidelines (G)**	**Recommendations (R)**
1 The World Heritage site			
a. The access and entrance area  *area of the tomb*	**A1** *A long term, future-proof public space strategy for the tomb access area should be part of the city's master plan.*	**G1** An *integral design for the entrance courtyard, the adjacent part of the Masiro road, the junction, the open space opposite the gate and the space around the two tomb-related buildings must be made.* **G2** *The entrance space should be used only for supporting facilities (tourist information, restaurant, stalls, souvenirs, handicraft run by local people with a permit) and a ticket office at the gate.*	**R1** *Prognosis of the numbers of tourists and vehicles that will visit the site once it's fully opened.*
b. The main tomb and courtyard, with its architecture and materials  *courtyard (Drawing by Sébastien Moriset) Source: Management plan 2017-2023*	**A2** *The restoration of the original situation should be the long term ambition for all future plans.* **A3** *The courtyard must be landscaped and maintained in a way worthy of the World Heritage property.* **A4** *The continuation of the craftsmanship and the availability of the materials related to making these traditional buildings must be safeguarded for the future.* **A5** *The materials used in the World Heritage site, the entrance courtyard, and in the vicinity of the entrance should be harmonious to enhance the visitor experience.*	**G3** *The spatial relationship between the main tomb, the courtyard, the guard-house and the entrance area should be restored to a condition as close as possible to the original state.* **G4** *The central courtyard must be landscaped based on an integrated design.* **G5** *The visual impact of the firefighting installation should be reduced.* **G6** *The buildings should strive for architectural uniformity.* **G7** *The areas where the essential raw materials grow must be indexed, registered and protected, and, if shortages are evident, new areas should be planted.* **G8** *The materialization of the core-area courtyard (floor), and preferably the entrance-area courtyard, has to reflect the World Heritage status.* **G9** *A long term maintenance plan should be produced and adhered to.*	**R2** *Guide the residents and visitors on keeping the courtyard neat and tidy.* **R3** *The organization of the craftsmen in such a way that assigning them to more projects in Uganda becomes quicker and easier.*
c. The habitation zone 	**A6** *The cultural importance and attractive character of this area should be improved and maintained.* **A7** *The widows should have comfortable living conditions.*	**G10** G6 "*The buildings should strive for architectural uniformity"* applies to this area too. **G11** *The rainwater drainage should be designed to continue into this zone through to the gardens, in a way that it transports the water from the higher zones and collects water from the zone itself.* **G12** *This zone needs (if not already done) to be mapped accurately to help control further development.*	**R4** The relevant stakeholders should, in relation to G12, develop a transparent policy for the living rights on the site and from thereon estimate the necessary residential space for a comfortable lifestyle.
d. The backyard and gardens	**A8** *The gardens should be part of the Kasubi experience, hence improved in terms of public access, visual and cultural experience and maintenance.*	**G13** *An integral landscape design should be made for the gardens and the overlapping areas on zone 3.*	
2 The buffer zone			
	**A9** *The buffer zone should be an integral and attractive part of the cultural experience of Kasubi and be governed as such*	**G14** *The civil infrastructure in the buffer zone needs to be improved.* **G15** *An analysis of the landform in the surrounding area based on accurate sections, from vantage points inside the site to 250m from the site, should form the basis for governance of building permits and rights.* **G16** *The outside boundary of the World Heritage site should be beautiful.*	**R5** *The interaction between the people living and working in the buffer zone and the activities related to the Kasubi tombs should be stimulated.* **R6** *The definition of the buffer zone must be governable.* **R7** In addition to the 'usual' and administrative buffer zone, *the 'zones of influence' need to be addressed at different scales.* **R8** *The negative spatial effect of the periphery wall on the*

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	Ambitions (A)	**Guidelines (G)**	**Recommendations (R)**
			neighborhood should be mitigated where possible.
3 The city and region			
	**A10** *The Royal hills should be the main attractions of a walkable route (the 'chain') with the hilltops and lake as attraction (the 'pearls')*		**R9** *The Tombs, the Mengo Palace, the Kaba's lake, the Uganda National Mosque, the Namirembe cathedral and the Lubya hill should be part of a touristic concept and route that can be easily followed.*
4 The intangible heritage			
	**A11** *Ensuring a safe and enabling living environment for the wives of the Kings with an emphasis on improving social and living conditions* **A12** *Promoting and ensuring effective understanding of intangible cultural heritage and the promotion of the Kasubi Tombs. Emphasis on community interpretation, education and awareness*	**G18** *Audit of current structures on site to determine key maintenance and corrective actions to ensure safe and healthy living conditions – and the effective maintenance thereof.* **G19** *Audit of structures and needs analysis to determine housing requirements to accommodate wives on site. G20 Determine an appropriate response to addressing safety and security concerns as raised by the wives living on site – the tension between design aspects and direct safety concerns requires resolution.* **G21** *Drafting of a code of behavior for visitors/tourists that conforms to cultural rules highlighting restricted access spaces, and spiritual spaces. Such guidelines are to be spearheaded by the wives.* **G22** *Inventory of intangible heritage resources with mapping.* **G23** *Inventory to be used as a basis to formulate a guideline and management plan specifically related to intangible cultural heritage for the site.* **G24** *Establish a series of workshops that consider spiritual significance focusing on various scales and gradually work towards recording rituals (where so possible).* **G25** *Establishing a literacy programme that includes the wives of the Kabaka emphasizing oral history, storytelling and documenting*	**R10** *Consideration of a literacy and / or education programme for children living on site.* **R11** *Strategize a communication strategy and awareness between leadership, and committee structures with the inclusion of the wives and the (site) Katikiro in discussing matters affecting the site including management and oversight and would encourage 'ownership' of initiatives by the wives.* **R12** *Oral history programme to celebrate and respect intangible knowledge systems closely guarded by the wives – while some information will remain private, sharing so as to create interest and heighten awareness would be of benefit.* **R13** *Set up a working group that includes clans, conservation networks, museums, key government departments, youth groups, volunteer organizations, universities and young professionals to consider the interpretation of the site work towards appropriate interventions for the promotion of the Kasubi Tombs.* **R14** *Promotion of intangible cultural heritage through events, forums, exhibitions, and awareness campaigns.* **R15** *Encourage private research, particularly by locals.*
5 Community and communication			
	**A13** *The importance of the Kasubi tombs needs to be embedded in a communication strategy encompassing different scales.*	**G26** *The progress made in the ongoing improvements on the site and the buffer zone should be periodically communicated to all stakeholders.* **G27** *Sensitizing the residents, workers in the neighborhood and the visitors about the value of the tombs and the cultural heritage.*	**R16** *A constructive effort should be made to involve the residents in the buffer zone to participate in the beautification of the area.*

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	Ambitions (A)	Guidelines (G)	Recommendations (R)
6 Organization and funding			
	**A14** *The World Heritage property and the buffer zone should be an ongoing interdepartmental project with financial resources.*	**G28** *Funding of new plans and maintenance should be integral and structural.* **G29** *A steering committee or working platform should be put in place as soon as possible to disseminate and defend the goals and ideas agreed upon during the project, to discuss follow-up initiatives, to allow shared decision making. While some stakeholders must be permanent (Ministry of tourism, KCCA, local community, tomb guardians), others could join depending on specific projects or participate as technical advisors (e.g. universities, UNESCO, Ministry of economy, associations).* **G30** *Based on the results of the workshops, a comprehensive list of attributes and layers that make the character of the area, beyond current WH limits, and should be protected must be made.* **G31** *Similarly, the group should target a few initiatives to develop and attempt in a first stage.*	**R17** *An integral, interdepartmental, compact and stable project group should be formed with civil and royal agents that has the mandate to achieve the proposals above.* **R83** *The quality of (all) the implementation -plans should be assessed by a non-governmental team of experts.*

4.3. The international online workshop: criticism and replicability

On 24 July 2023, the online workshop[8] "Re-discovering African urban heritage through the lenses of the 2011 Recommendation on the Historic Urban Landscape" was held as a follow-up to the pilot project. The first results of the pilot project were discussed with international experts and site managers from African cities[9] to understand their interest and replicability. Participants agreed on the effectiveness of the method fostering dialogue between different stakeholders and defining common goals. At the same time, experts highlighted the need to continue working to define actions that could help improve the life quality and socioeconomic context inside the current buffer zone. Expert voices also insisted on the importance of participation and identification of local know-how and developing programmes to support skills and crafts. Participants to the activities also mentioned opportunities such as utilizing digital technology and platforms to record and promote heritage, the power of local know-how in the design of climate mitigation strategies or promoting traditional building techniques, and with them, the capacity of heritage generating revenue for local communities.

In this context, a number of cities were invited to reflect on the Kasubi project and identify ways for HUL implementation in their own contexts. Discussant cities showed their interest in the pilot project. Expanding on challenges integrating heritage conservation in urban development strategies and steps to be taken through a co-creation activity, similar challenges such as sewage, invasive constructions, height limits and new constructions, and fire protection, arose. Participants also insisted on the use of reference examples and projects from other cities. Experts added that:

- more efforts need to be put on participation, especially of young people and teaching institutions;
- different interpretations of what heritage is need to be included, and legislated;
- very different technical skills need to be engaged;
- two types of planned and unplanned urban processes need to be accepted and integrated, creating ways for collaborative work, and informal tools;
- a number of African cities are facing economic and development pressures that need to be regulated while at the same time allowing infrastructure development;
- potential of digital tools, which could encourage the engagement of universities and heritage education.

All these comments were mapped and will be used as a reference for future pilots.

[8] Organised by the Africa Unit at the UNESCO World Heritage Centre, with the support of the Government of Norway, and in partnership with the African World Heritage Fund and ICCROM

[9] Over 150 registered people

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4.4. Follow ups

The following actions were implemented as a follow-up to the project.
On site:

- The Kasubi tombs were removed from the danger list on 12th September, 2023
- The exchanges created a momentum that incited participants to collaborate and join forces. National authorities will now have to work together to further develop and implement the proposed actions. One of the main challenges will be to integrate heritage protection within urban and socioeconomic tools.
- Continued rights and stakeholders' engagement is going on and new developments have happened. Architectural designs of the Site information center that includes a visitor reception, restaurant, crafts/souvenir shop, washrooms have been produced and handed to and approved by Buganda Kingdom through *Katikkiro*'s office. Furthermore, site residents have been engaged in maintaining the courtyard neat and tidy in ensuring the site's OUV.
- Discussion with the Kampala City Council Authority's physical planning and tourism units in regards to integral civil infrastructure in the buffer zone is improved as well as enhancing the interlinking tourism attractions is ongoing. Continuously, restoration of the courtyard houses to their original form of structures and consultations with the Minister of Culture, Palaces, Tombs, Tourism and Security Buganda Kingdom have happened. Also important to note is the ongoing inside the main house decoration of poles with backcloth, the removal of the holding, landscaping of the Luggya, an ongoing metal/read fence scaffolds, Firefighting training of the site residents and community members, Completion of decorative ceiling/Circular rings, completion of artifact fabrication, continued technical committee meetings including Central Government, Buganda Kingdom, Committee Members, as well as consultants. Additionally, the site has been visited by the King of Buganda and *Katikkiro* to check on progress of work, the UNESCO delegation led by the Director of the UNESCO World Heritage Centre as well as the Japanese Ambassador.

Project evolution:

- A feedback and reassessment phase was added to the original project flow (figure 1).
- The project will require the evaluation of the proposed guidelines and project results so far by the Advisory Bodies of the 1972 Convention. Besides, the follow-up process and on-site implementation will be monitored by the UNESCO WHC and support will be provided to the State Party on-demand.
- In a next stage, the project should target the actions within the "Guidelines" document that seem quicker or easier to achieve according to local interests and resources. These actions should be further defined and detailed to prepare their implementation on-site. This will be a good opportunity to connect the actions to the 4 types of tool mentioned by HUL theory as suggested by some experts.

5. Conclusions

5.1. On the application of the HUL methodology

1. The Kasubi project did not stick to the 8 "steps" of the HUL implementation process as proposed in the outcomes of the "Fukuoka outcomes" (2020). Priority actions did not necessarily tick all the boxes. Even though it was useful to keep them in mind when defining the project, in this case, the global vision and holistic approach were prioritized The project team also found that the steps were hard to attempt in order if looking to allow a dynamic evolution of the project and rather saw these steps as "dimensions" of a management strategy. In the future, the project might need to reconnect with HUL theory and assess sections that need to be further completed.
2. Results prove that an analysis within the 4 categories of "attributes of urban heritage" helped bring up ideas without being constrained by the idea of official boundaries. The exercise of thinking without maps and then bringing comments back to the physical context allowed us to think beyond property boundaries. It was also relevant to understand how the current buffer zone might not be representative of the context surrounding the property neither providing additional protection.

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3. This exercise also allowed participants to understand that a number of elements that contribute to supporting the OUV of the site in its bigger context, which had not been linked to the site's narrative and are outside the buffer zone and mostly not protected.
4. Whenever defining activities and work tools, the project team tried different types of activity (walk, discussion, mapping) at different times of the day. This was done to allow as many people as possible to express thoughts and concerns through their own channels.
5. Working with the HUL approach allowed the project to:

- Swift work scale from monument to metropolitan and territorial contexts
- Co-define priority actions
- Re-think the limits and use of the buffer zone according to
- sensitize local stakeholders and communities and encourage them to work together
- Reach consensus on a city "brand"

5.2. On the shift in approach

The pilot project aimed not only at solving local problems, but also at drafting a methodology that could be applied to different contexts in Africa and encourage project spin-offs. The tools presented in this paper could be applied to many other urban challenges. If we take a look at State of Conservation (SOC) indicators for African WH cultural sites, it is clear that main challenges revolve around the management of the properties such as management plans, insufficient financial resources, or weak legal frameworks. Other threats relate to the increasingly important phenomenon of urbanization and related housing problems, land conversion, or infrastructure. Besides, the increasing impact of climate-related disasters in Africa and their growing complexity is a great concern for both heritage professionals and decision makers. It is expected that in the next decade, climate change will lead to more frequent extreme weather events, reaching out to broader areas. Cultural heritage in all of its forms is also increasingly at risk due to disasters caused by natural human-made hazards and in most cases, the lack of risk management and protection systems was pointed out as having exacerbated these disasters. The change of approach used to build this project could be a base to take action addressing such problems. In the case of Kasubi, the choice of using the HUL approach aimed, of course, at facilitating the development of integrated and transdisciplinary guidelines for the buffer zone, and ultimately help the property be removed from the danger list. Nevertheless, it also allowed to present integrated ideas that go beyond the World Heritage property and address its links to the whole metropolis and territory.

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ECVET, the world-travelling certification system for earth building trades and its African impact

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Abstract

Since the ECVET Earth Building system for the certification of skills in the earth building trades was extended, approved and published in 2015, its consolidation and global spread have not stopped. Either in its Europe of origin, where each country adopts it to a different extent, or in America and Africa, where it is being adapted to a wide variety of contexts. Its outcome approach: "if you know how to do it, it doesn't matter how you learned it", is an inspiration beyond Europe for. the improvement of technical competence concerning the new build and heritage interventions, encouraging the development of new training and certification systems, for the completion of more inclusive entry levels of training and certification, for the translation into indigenous languages, expanding its scope.

In short, in very different socio-economic and cultural scenarios, this tool is being used according to different needs, understanding the indisputable link between high quality earth buildings, and the recognition of those who materialise them. This article will refresh the essence of this system by updating its journey promoted by ESTEPA, nine years after having planted its seed. Thus encouraging, hopefully, new applications in new latitudes.

Keywords: *Africa, Latin America, building trades certification, social inclusion*

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1. Introduction. What is ECVET Earth Building?

1.1. ECVET Earth Building highlights

Earth still is the most universal building material: more than half of mankind actually lives, works, studies and prays sheltered by structures very differently conceived, shaped and finished, using the soil under our feet. Traditional or modern, vernacular or monumental, earth's ecological, environmental, cultural, social, economic behaviour and potential is clear for everyone familiar with this material.

The ECVET Earth Building system[1], hereinafter ECVET EB, is a European certification tool which aims to disseminate and strengthen these advantages among those not yet aware, at all levels: actual and probable users, young or experienced masons, architects and engineers, formal and non-formal training institutions, NGOs, humanitarian agencies, stakeholders, governments.

Although a product is manufactured following standards, the excellence of its implementation cannot be guaranteed without competent workers: who will design and build with these products, standardised or not? The need to develop these codes of practice is one of the reasons that prompted the creation of ECVET EB: a tool for evaluating and certifying skills in the earth building trades -each one, an independent unit- at different levels.

A very important feature of ECVET EB is *the learning outcome* approach: this approach shifts the focus from the traditional system emphasising "learning inputs" such as programmes with a fixed duration delivered by certain type of institutions. Instead, in the "learning outcomes" approach the assessed person shows what he/she is able to do: the validation of non-formal and informal learning, thus encouraging lifelong learning, is its main highlight.

The aim of ECVET EB is to promote professional development by allowing individual outcomes in earth building to be recorded, presented transparently and in a comparable way, tested and validated independently of the learning environment. Whether they come from previous training or from experience, the candidates pass a triple written, practical and oral exam, which can be specifically organised or take place in real work conditions, by accredited ECVET EB evaluators. Regardless of the educational level of the candidates, or the formal or non-formal nature of the institution preparing them, without excluding those coming from experience and needing no previous training. Without forcing a "complete trade" scheme of many mandatory units -excluding those with little time or money- but addressing all the "secrets" of a specific task or technique, which is certified, broadening the professional horizons of the many. A process that can be repeated separately, with new units or higher levels. Available in eight languages, the units also list the assessment criteria and indicators for each trade and level, ensuring the qualification granted between countries as a prestige value.

1.2. ECVET Units of learning outcomes

ECVET EB is, thus, a system of independent units. Each unit relates to a set of tasks which form an activity specific to earth construction sites. It is defined as the smallest set of knowledge (theoretical), skills (practical) and competence (responsibilities) concerning one of the different fields of earth building activity. These units are assessable, capitalizable and transposable. The 9 units available today cover the main activities of the professional earth building sector. If we target craftspeople on site, levels 1 (beginner), 2 (labourer), 3 (qualified mason), and 4 (team leader mason) address all potential audiences -men and women- with or without previous experience.

The units cover the full spectrum of earth building activities: sourcing and processing materials, mix production, building, formwork, repair and conservation, decoration, business management, site supervision. Not all of the earth building techniques and levels have been covered yet, but the system is designed to be upgraded and like all standards, reviewed. The actual Matrix is composed of nine units:

[1] For full details please consult https://ecvetearth.hypotheses.org/

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M - From raw material to earth mix
P - Production of prefabricated elements
B - Building with earth
C - Application of clay plaster
F - Formwork for earth building
R - Repair & conservation in earth building
D - Interior design
O - Decorative techniques
E - Earth building market

Unit	Subunit	EQF Level					Description
		L1	L2	L3	L4	L5	
M							*From raw material to earth mix*
P							*Production of prefabricated elements*
B	B1 earth Masonry						*Building with earth*
	B2 Cob						
	B3 rammed earth						
C							*Application of clay plaster*
F							*Formwork for earth building*
R	R1 building						*Repair and conservation in earth building*
	R2 clay Plaster						
D							*Interior design*
O							*Decorative techniques*
E							*Earth building market*

These Units, as vehicles of new standards of competence, are helping to:

- empower professionals and offer modular qualification;
- further skills training to help job search;
- encourage employment opportunities and mobility;
- guide trainers when defining new content and assessment procedures;
- become an inspiration for certifying bodies when reviewing or creating qualifications

2. Evolution of ECVET EB: Europe and beyond

The value and prestige of ECVET EB certificates is constantly rising after their widespread use in Europe and beyond. Many experiences have been shared since ECVET EB began its diaspora in 2015, showing it is being adapted and adopted also in America and Africa, confirming the certitude some of their European authors had: its application outside the limits of the continent for which it was conceived, as many published articles explain.[2]

This has increased the possibilities for organisations of very different kinds to offer ECVET EB training leading to certification: a growing global community is interested in offering outcome orientated training, and in creating new qualifications inspired in ECVET EB. With the units available online and free for download in many languages, dissemination began in Europe but has become global. It's true that ECVET EB was conceived in and for Europe, thus responding to the European context and needs: the project aims originally to disseminate the cultural, ecological, technical and aesthetic benefits of modern earth construction by creating professional opportunities - thus also addressing social needs. So how is ECVET EB adapting to the rest of the world involved in earth building –the greatest part of it, beyond Europe indeed?

In this century, wherever a dissemination process begins -Europe in this case- it inevitably becomes global. Anyone interested in learning about ECVET EB can do so: the material is freely available online and understandable throughout the world, since it exists in English, French, Spanish and Portuguese; languages that are spoken or understood globally. The challenge is not, therefore, to have access to ECVET EB, but to know how to use it, getting the most out of it. For ESTEPA association, original author of the ECVET EB and the only Spanish-speaking certifier in the system, this challenge of showing how to use it beyond Europe was gradual: firstly, avoiding misgivings for the mere fact of "being a European system" in other continents; secondly, having the approval of the rest of European partners to extend the certifications globally, reaching the countries where earth building is a current practice.

Thanks to this internationalisation achieved in 2021, today different kinds of institutions join ECVET EB or create new certifications inspired in it. Their goals differ: expanding or improving its training offer, guaranteeing the certification of their apprentices, training their teams: technicians, social and humanitarian workers, managers.

The following sections show this ECVET EB expansion from Spain to America and, particularly, to Africa.

[2] Brown, Mas 2015; Keable, Brown 2018; Brown, Ndiaye 2018; Brown 2023

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3. ECVET in Spain: ESTEPA and the original system

3.1. ECVET EB among professionals: the spontaneous applicants

Since 2015 until today ESTEPA is training trainers in the operation of ECVET EB in order to disseminate the system among institutions and people involved in training, product manufacturing and bioconstruction. In 2018, after complying with all the European requirements, ESTEPA begins delivering ECVET certificates, either training first and then assessing with ECVET, or calling experts for direct certification.

The spontaneous applicants in Spain are usually builders owing a small company, trainers, teachers, masons, manufacturers, "muddy" architects. That is to say, people who see in ECVET EB an added value to offer in their professional performance. Some people have come back repeatedly as new certificates are announced.

After COVID-19 a new modality emerges: the alliance or partnership with other friend training institutions. In this case, ESTEPA teaches the basics of ECVET EB; the friend institution delivers the training; finally, the attendants requiring it are certified by ESTEPA. For this growing universe, a triple alternative has been consolidated:

- Apprentices who are trained and obtain one or more ECVET EB certificates after the course
- Apprentices who are trained only, without certification (amateurs)
- Applicants with experience, just coming to be assessed and certified in ECVET EB



Figure 1. ECVET assessments in Gordoncillo, ESTEPA headquarters; Units P, C and O Level 3. Source Brown, M (2021-22)

Greater alternatives thus convene a broader public, enriching and further enhancing the exchange between people with different life and professional trajectories. Some of these partner institutions give their testimony:

Homo Faber[3], a reference training centre for traditional trades in León was a pioneer in venturing into ECVET EB. Convinced of the need to disseminate the traditional earth building *savoir faire*, they have been training professionals and amateurs in different techniques for years: rammed earth, adobe, plastering. In their words:

> *We intend to send this message: earth architecture is appreciated and respected throughout Europe, and considered an intangible asset to be transmitted to young people.*

Habitaterre[4], a French company dedicated to earth building and training, adds:

> *ECVET EB and the workshops including it are a vector for professionalisation in earth building, which in turn is a guarantee of the conservation of earth heritage.*

Agotzenea - Bioconstrucción en Navarra[5], explain:

> *We are committed to quality training in the use of natural materials; it is important to us to offer a certification such as ECVET EB. In this way, qualified personnel will carry out quality works.*

[3] https://homofabercursos.com
[4] https://www.habitaterre.com
[5] https://agotzenea.com

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Taph Taph[6], a Sevillian association, is familiar with ECVET EB after several years participating in European projects:

> *We run informal workshops but still lack short specialisation courses for professionals, a solution to the demand for specialists, but also as a contribution to build links between manufacturer, distributor and craftsman, and incorporating the traditional culture. That is why we are interested in ECVET: its structure of independent units at different levels fits very well our vision.*

3.2. Social ECVET EB: SOS Children's Villages

While the partnerships unfold between ESTEPA and these groups in the training context, in 2021 a new agent interested in ECVET EB appears: the international NGO SOS Children's Villages[7] in Tenerife, Canary Islands.

The global mission of SOS Children's Villages is to promote quality of life and sociocultural development in childhood, youth and families, creating conditions for equal opportunities and autonomy. In Tenerife they have created the Eco-farm "La Aldea"[8], involved in innovative training related to graphic design, digital manufacturing and sustainable architecture, with the aim that young people in vulnerable situations can develop personal and social skills linked to professionalism, facilitating their personal growth and their social and labour insertion. Since 2004 they have been providing training leading to professional certificates, in the trades linked to the ecological work of "La Aldea". Regarding earth building training, the director explains when firstly addressing ESTEPA:

> *Evolving since 2011, we added in 2015 the manufacture of CEB-compressed earth blocks. Our dream is to consolidate a bio-construction training centre, enabling professional opportunities in this area. We find essential that these trades are certified as the rest: we are well prepared and equipped for training, practice and production, and consider applying ECVET EB for the development and certification of our training, in partnership with ESTEPA. The objective is the creation of a social economy company, able to attend vulnerable young people and families declared at risk of social exclusion, offering them a new opportunity.*

Four ESTEPA visits to "La Aldea" in Tenerife are organised in 2021 and 2022. First, a presentation of the facilities and the staff, where the relevance of the partnership is agreed. Secondly, an ECVET Training for Trainers including simulated exams, where not only those responsible for future training, but also the managers participate. Afterwards, their technical staff and some alumni are trained using Unit M -the material- as a guide, at level 2, with remote monitoring from ESTEPA. The third visit includes a joint review of the agenda and the provisions made for the practical exam, then all the applicants pass the assessment and receive their ECVET EB certificate successfully -including the trainer herself. More confident after the first experience of a real ECVET, both for applicants and for local trainers, a month later Unit C -plastering- level 2, arrives. Again, a 100% successful.



Figure 2. ECVET EB assessments at SOS Children's Villages; Units M and C Level 2
Source: Brown, M (2022)

[6] https://taphtaph.org
[7] https://www.aldeasinfantiles.es

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The next challenge: certifying Unit P-production- level 3, which requires prior professional practice time in block production, currently in progress. And the list could be as long as SOS Children's Villages envisions in the future.

4. Argentina, a new system: from ECVET EB to their own official certificate

After picturing ECVET EB *adopted* as conceived, the system *adapted* to a different context is briefly presented.

Since the first presentation of ECVET in Argentina in 2014, its echo in Santa Fe province is immediate. UTN National Technological University, with 29 faculties throughout the country, is interested. Ariel González, recognised earth building expert at the Faculty of Engineering, considers testing the system: with a very uneven informal training offer with no guarantees, ECVET EB is considered a model from which many ideas can be taken.

In 2015 and 2017 (González; Brown, 2015), the first ECVET Training for Trainers outside Spain is provided at the UTN. In 2018 and 2021 the UTN sends a professor to Spain to get certified in the P –Production Unit. The strategy is to have an ECVET diploma "within the structure" of the UTN to involve the university more easily.

In 2022 a final workshop is held at UTN-Santa Fe, (Brown, 2023). It is agreed that the regional priority is *quincha*, wattle and daub[9], a technique absent in ECVET EB yet widespread in the region. The summoned group, diverse in professions and experience, drafts the LITORAL-ECT system of three units. Its output-oriented format (no matter how you learnt it if you can do it), cannot deny its "ecvetian" origin although its name and content covers the regional needs... Two units are adapted from ECVET EB: Unit M (earth mixes) and Unit R (clay plasters). The innovation comes with Q-QUINCHA Unit, at mason and mason's assistant levels (ECVET 3 and 2 levels).

These LITORAL-ECT units are submitted to the UTN, who endorses the content, requiring, however, "to certify a complete trade" comprising all the proposed units, and adding a compulsory module on health and security. Thus, in April 2023, the new official Trade CT-Q "Earth building - Quincha" is born, recognised by the UTN. The first assessment in July 2023 certifies nine experts without preliminary training. They all obtain the higher level.

5. ECVET in Africa: new contents, languages and opportunities

5.1. Senegal, 2016

ECVET EB landed in Africa in 2016, while a CEB building was under construction in the Senegalese island of Mar Lodj. An introductory pilot earth building workshop was proposed, guided by units M (material) and P (block production), at basic levels, including an exam with no certificates, to help identifying the difference in dynamics and challenges in such a different context. Its success led to the subsequent implementation of a gender-oriented long, wide programme in Senegal, including for the first time CEB and women at the building site. (Brown; Ndiaye, 2018). It also led to the spontaneous adoption of CEB in Mar Lodj and far beyond, to the present day.



Figure 3. ECVET EB beginnings in Senegal. Source Brown, M (2014-16)

The inability to certify outside Europe acted as a brake on the expansion of ECVET EB for several years, until the evidence of international interest and capacity to implement the system, coupled with a growing evaluating

[9] Wattle and daub: traditional widespread wall technique consisting of a network of interwoven sticks and twigs covered with mud or clay

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experience, put an end to the restriction in 2021. The European partners' agreement maintains their originally accredited ECVET EB evaluators as on-site guarantors of the delivery of certificates.

5.2. Widest Africa: SRU - AICRL, 2022 - 2025 (…)

In 2022, a new collaboration is established in Burundi between the AICRL, International department of the Luxembourg Red Cross, and the BRC, the Burundi Red Cross. Both have been working for years for a more sustainable habitat in the context of the return and repatriation of refugees. They gained experience by building more than 3.000 houses and developing research and practice projects, such as "From urgent to sustainable" in 2019. This highlighted the environmental advantage of unfired earth compared to other available systems (brick, concrete block), and focused attention on a system still absent in the region: CEB - compressed earth block. Therefore, in 2022 presses were purchased with a first objective: training to ensure a transfer of skills to local staff, acquiring the necessary experience to generalise their use in the future.

And here, ECVET EB enters the scene. Its experimental introduction is proposed, offering not only the training that the group needs: also completing it with an ECVET EB assessment delivered by ESTEPA; allowing the candidates to obtain the same prestigious certificates that their peers obtain in Germany or Argentina.

A very varied level and profile of apprentices is sought, including women: the experience confirms that this is how teams are consolidated, from the engineer to the mason and the brickmaker, who will work better in coordination in the future, by sharing the same "language" after several together. Considering that experienced semi-literate masons who do not speak French will train with engineers who have little experience with manual work, the decision is to train and certify in Unit M - earth and its mixtures - at level 2, medium technical level, as it is linked to all the other units, starting in each country where AICRL works as the most recent stage of ECVET EB journey.

5.2.1. Burundi, 2022 and 2024

Thus, in November 2022, the 17-day training in materials, BTC and presses, notions of masonry, promotion and self-promotion strategies, safety and logistics, is conducted bilingually in French and Kirundi. Mathematics, physics, geography, everything is integrated. Of course, many of the items and tools required for Unit M Level 2 do not exist in Africa: they are replaced by finding inspiration in hardware stores, markets and carpentry shops.



Figure 4. ECVET EB training and certification in Burundi, Unit M Level 2, in French and Kirundi. Source: Brown, M (2022)

The exam, bilingual, takes two days. The written one, all together. The practical requires splitting into successive groups - many people doing practical work cannot be assessed simultaneously by a single assessor. The oral, short but one-to-one, sometimes with a translator. There are 16 applicants - two engineers, 10 masons and brickmakers, four Red Cross volunteers. One is a woman. They range in age from their twenties to their forties. The testimony of one of the new ECVET technicians reaffirms that the results are as expected:

> *"Before, I did not know why bad bricks existed, nor how to guarantee the durability and stability of a built shelter. The ECVET certification that I obtained allows me to place myself among the earth building connoisseurs at an international level. I will be able to earn a living, while assisting communities in need*

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in the field of habitat. Thanks to learning about earth analysis and about the use of CEB presses, I will manufacture resistant blocks preserving the environment, using accessible natural resources."

These technicians are hired almost immediately: a warehouse with offices needs to be built at the Red Cross headquarters in Muyinga and they decide to debut the team: it will be built in CEB. Two months later, the quality of the finished warehouse and the performance of the brand-new technicians prompted the next step: to extend this experience to all the African countries where AICRL is currently working.

In February 2024, after touring in many countries, ECVET is repeated in Burundi. People come from all over the country, as new AICRL projects in CEB and adobe have just started, and the 16 previously certified technicians don't cover the needs. 14 people: 1 engineer, 4 CRBurundi staff and volunteers and 9 masons are certified this time. Their ages are widely spread, from 25 to more than 50 years old. The participation of women increases to 3!

5.2.2. DRC Democratic Republic of Congo

April 2023 sees a similar experience in Uvira, where 14 candidates are trained and successfully certified in ECVET Unit M level 2; languages here are French and Swahili. Most of them, in their thirties or forties -five engineers, five masons, one female blockmaker, three masonry teachers.

As in Burundi, the new ECVET technicians have put their new competence at work immediately. Firstly, improving and extending a local new settlers' neighbourhood, built in adobe for vulnerable families displaced by internal conflicts and climatic catastrophes. *"We are very proud of the theoretical and practical impetus that this training has brought to our professional life"*, says one of the engineers. Already in 2024, the team is undertaking the final stages of a new housing project for the same vulnerable public, where CEB will be used for the first time.

5.2.4. Niger

In December 2023 it is Niger's turn. Of the 17 applicants, 6 are engineers and AICRL staff, 8 masons and brickmakers, one Red Cross volunteer (woman), and two trainers from ANCSB, an organisation promoting wood-free construction. Many have travelled 1.000 km, others a few hundred. The working languages are French, Hausa and Djerma – three languages, new challenge! For the first time, 6 candidates are illiterate - most over 50. The rest are in their thirties. ECVET adapts and 8 candidates are certified at Level 2, and 9 at Level 1.



Figure 5. ECVET EB Training and certification in Niger, in French, Haoussa and Djerma; Unit M. Source: Brown, M (2023)

5.2.5. Madagascar

Madagascar's 2024 mission in May 2024 includes earthen vernacular architecture identification, apart from the ECVET scheme. As the group of 15 is competent in French understanding, Malgache language is reserved to the oral examination of a few candidates. With a large range of ages (20 to more than 50), as usual, engineers, masons, a supervisor, Red Cross staff and qualified volunteers -two women- succeeded in the M Level 2 certification.

6. An African Network: after Madagascar and beyond

After the closure of these lines, Burkina Faso, Chad and Mali are next. Once the "common language" has been shared, in 2025 an ECVET Training of Trainers with members from each country will be set up, to properly disseminate in local languages and in the depths of their territory, what unfired earth has to offer. A technical consultation network and a database will also be created to facilitate the mobility of technicians and trainers.

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7. Conclusions

After proposing the flexibility, social inclusiveness and "globality" of ECVET EB, the examples presented here have sought to highlight these dimensions, beyond the details of its structure and operation, already published.

What is ECVET EB bringing to America and Africa? Which aspects of its potential impacts does each prioritise and why: the validation of technical training for higher quality works, the gradual professionalisation of those already involved in these trades, their social and official recognition, the flexibility of possible training itineraries responding to the interests of each person, the expansion of job prospects for vulnerable groups?

Although the results are still very local and incipient, disaggregated data already show trends and patterns for Africa, with Argentina soon to add their own results; comparing with ECVET in Spain - Europe, similarities and differences are providing valuable feedback into future tailored action strategies:

PAYS	CANDIDATS	AGE < 30 ANS		AGE 30-50 ANS		AGE > 50 ANS		FEMMES		LANGUE LOCALE		UNITÉ ECVET								NIVEAU 3		NIVEAU 2		NIVEAU 1	
	Nº	Nº	%	Nº	%	Nº	%	Nº	%	Nº	%	M	%	P	%	C	%	O	%	Nº	%	Nº	%	Nº	%
BURUNDI 1	16	4	25%	12	75%	0	0%	1	6%	6	38%	16	100%	0	0%	0	0%	0	0%	0	0%	16	100%	0	0%
BURUNDI 2	14	5	36%	6	43%	3	21%	3	21%	6	43%	14	100%	0	0%	0	0%	0	0%	0	0%	14	100%	0	0%
RDC	15	0	0%	12	80%	3	20%	1	7%	5	33%	15	100%	0	0%	0	0%	0	0%	0	0%	15	100%	0	0%
NIGER	17	0	0%	10	59%	7	41%	1	6%	10	59%	17	100%	0	0%	0	0%	0	0%	0	0%	8	47%	9	53%
MADAGASCAR	15	6	40%	7	47%	2	13%	2	13%	4	27%	15	100%	0	0%	0	0%	0	0%	0	0%	15	100%	0	0%
AFRIQUE	**77**	15	**19%**	47	**61%**	15	**19%**	8	**10%**	31	**40%**	77	**100%**	0	**0%**	0	**0%**	0	**0%**	0	**0%**	68	**88%**	9	**12%**
ESPAGNE	**37**	4	**11%**	34	**92%**	2	**5%**	14	**38%**	0	**0%**	5	**14%**	10	**27%**	13	**35%**	9	**24%**	28	**76%**	8	**22%**	1	**3%**
GLOBALE	**114**	19	**17%**	81	**71%**	17	**15%**	22	**19%**	31	**27%**	82	**72%**	10	**9%**	13	**11%**	9	**8%**	28	**25%**	76	**67%**	10	**9%**

The intention is to continue along the path of new alliances and partnerships, some already glimpsed, others unsuspected, for the sake of a growing recognition of excellence in the earth building trades and their practitioners.

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Les cultures constructives face aux defis du developpement et du changement climatiques au Sahel. Le rôle des jeunes et des nouvelles technologies dans la conservation du patrimoine : opportunités et actions potentielles

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Abstract

Technological advances such as augmented reality, 3D modelling, and artificial intelligence can enhance understanding and foster innovative and entrepreneurial experiences around architectural heritage, thereby contributing to its preservation, intergenerational transmission, and sustainable development processes.

The richness and diversity of vernacular architecture in Africa are expressed through building traditions that have long resisted the effects of time and climate change. The aim is to understand how viable initiatives can be implemented while respecting the cultural and social values of local communities within the framework of urban and rural development, which is increasingly affected by multidimensional crises, including climate change.

This also involves highlighting entrepreneurial opportunities linked to both tangible and intangible cultural heritage in Africa, a continent facing the pressing challenge of youth employment. Architectural heritage, through local building cultures, has played a significant role in the sociocultural and environmental balance in Africa. Habited spaces have always taken into account sociocultural and environmental parameters that have supported both harmonious local development and the resilience of communities to recurring and often cyclical disasters and crises such as droughts, floods, and even earthquakes.

Keywords: *Heritage; Architecture; Technologies; Development; Conservation; Innovation; materials; local knowledge.*

Résumé

Les avancées technologiques telles que la réalité augmentée, la modélisation 3D et l'intelligence artificielle peuvent enrichir la compréhension et l'expérience innovante et entrepreneuriale autour du patrimoine architectural et contribuer ainsi à sa préservation et sa transmission générationnelle et au processus du développement durable.

La richesse et la diversité de l'architecture vernaculaire en Afrique s'expriment dans les cultures constructives qui ont résisté au temps et aux effets du changement climatique depuis longtemps.

Il s'agit de comprendre comment des initiatives viables peuvent être mises en place tout en respectant les valeurs culturelles et sociales des communautés locales dans le cadre du développement urbain et rural soumis à des crises multidimensionnelles dont celle du climat.

Il s'agit surtout de présenter les opportunités d'entrepreneuriat liées au patrimoine culturel matériel et immatériel en Afrique confrontée à l'épineuse question de l'emploi des jeunes.

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Le patrimoine architectural, à travers les cultures constructives locales, a joué un grand rôle dans l'équilibre socioculturel et environnemental en Afrique. L'espace habité a toujours tenu compte de certains paramètres socioculturels et environnementaux qui ont sous-tendu à la fois le développement local harmonieux et la résilience des communautés locales aux catastrophes et crises récurrentes, souvent cycliques telle la sécheresse, les inondations et même les séismes.

Mots-clé: *Patrimoine, Architecture, Technologies, Développement, Conservation, Innovations, matériaux, savoirs locaux*

1. Introduction

La Conférence internationale sur l'étude et la conservation du patrimoine bâti en terre (Terra 2008), tenue au Mali du 1er au 5 février 2008, est venue réconforter et encourager une tradition d'utilisation du matériau « TERRE » qui a toujours caractérisé le mode de vie, de construire et d'habiter au Mali, en Afrique et dans d'autres régions du monde.

La terre a toujours été utilisée sous tous les cieux comme matériau originel de construction ; toutes les grandes civilisations l'ont exploitée pour bâtir des cités et des empires, comme l'atteste d'ailleurs le nombre important de monuments inscrits sur la prestigieuse Liste du patrimoine mondial de l'UNESCO (deux tiers au moins des édifices classés sont en terre).

Les effets pervers des changements climatiques doivent motiver encore plus au développement de l'architecture de terre, surtout dans les régions tropicales arides et/ou semi-arides où la chaleur occasionnée par des grandes insolations et des sécheresses à répétition, joue négativement sur le mode de vie rurale et sur l'économie des centres urbains (à cause de la grande consommation énergétique).



Figure 1. Chantier école (construction expérimentale) pour la réalisation de la maison de la Mission Culturelle de Bandiagara. Photo L.Cissé, 2008.

2. But et objectifs

Le but visé par la présentation est de mo une face cachée des structures architecturales endogènes rarement prises en compte dans les politiques de recherche et de documentation du patrimoine bâti en Afrique subsaharienne.

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Des techniques de construction ancestrales sont fortement menacées à cause de la non transmission des cultures constructives locales qui les sous-tendent. Dans certaines villes historiques et dans des villages éloignés des centres urbains modernes, l'architecture et le mode d'habité sont mal protégés et insuffisamment mis en valeur.

Les technologies nouvelles offrent actuellement une grande opportunité aux jeunes professionnels africains d'entreprendre des travaux d'inventaire et de documentation des architectures et techniques constructives locales avec des outils modernes moins compliqués et facilement maitrisables par toutes les couches juvéniles.

Il est de plus en plus démontré que les outils de la technologie moderne sont des instruments efficaces pouvant faciliter la conservation numérique et la promotion virtuelle des architectures régénératives et décoloniser les savoirs et savoir-faire endogènes ; toute chose qui facilite leur accession et leur large diffusion au sein des communautés locales (lettrées ou illettrées).

Objectif général

Contribuer à la conservation durable des architectures en terre et des cultures constructives locales, la sauvegarde et la valorisation des éléments du patrimoine culturel immatériel, à l'aide des technologies innovantes, dans un contexte de crise multidimensionnelle (sécuritaire, économique, climatique…)

Objectifs spécifiques

- Comprendre l'importance du patrimoine culturel matériel et immatériel dans le contexte du Sahel et en Afrique subsaharienne menacé des conflits armés, des catastrophes naturelles et les effets du changement climatique ;
- Identifier les éléments du patrimoine culturel menacés, tant sur le plan matériel (bâtiments historiques, architectures vernaculaires, matériaux et techniques de construction) qu'immatériel (traditions, savoirs et savoir-faire, pratiques rituelles) ;
- Procéder à l'inventaire numérique et la documentation des sites et monuments architecturaux significatifs menacés et à l'enregistrement des éléments du patrimoine culturel immatériel auprès des communautés locales par l'utilisation d'outils modernes ;
- Explorer comment les nouvelles technologies peuvent être utilisées pour la préservation, la documentation et la valorisation du patrimoine culturel matériel et immatériel en Afrique subsaharienne et plus précisément dans la région du Sahel.
- Comprendre comment les avancées technologiques telles que la réalité augmentée, la modélisation 3D et l'intelligence artificielle peuvent enrichir la compréhension, les méthodes de conservation et l'expérience innovante et entrepreneuriale autour du patrimoine.
- Procéder à une large diffusion des connaissances et savoirs sur les architectures régénératives en Afrique subsaharienne.

3. Methodologie

La méthodologie prendra en compte les aspects ci-après :

- Echanges sur les approches de formation et de transmission des savoirs : partager les pratiques et les connaissances en matière de formation et d'enseignement informel des savoirs et savoir-faire endogènes et leur gestion à l'aide des technologies nouvelles ;
- Identification des opportunités d'innovation technologique en ce qui concerne la gestion, la conservation et la mise en valeur des savoirs locaux dans le domaine de l'architecture en terre : explorer les nouvelles technologies d'innovation dans les métiers de l'architecture, de la construction et de l'artisanat d'art, telles que l'utilisation des techniques de production régénératives et de modèles économiques innovants ;
- Exploration des tendances futures des métiers du patrimoine, de l'architecture, de la construction et de l'artisanat d'art : examiner les évolutions prévues pour les métiers de l'architecture, de la construction et de l'artisanat d'art dans un contexte technologique moderne globalisé, tout en cherchant en mettant en avant les savoir-faire ancestraux à l'aide des technologies émergentes mieux maîtrisées par les jeunes.

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Figure 2. Conglomérat de greniers en terre dans une localité située sur l'axe Niamey – Agadez au Niger.
Photo L.Cissé, 2018

4. Resultats escomptes

Les principaux résultats visés par la présentation sont d'abord d'attirer l'attention des jeunes professionnels du patrimoine culturel africain sur l'intérêt et les avantages d'utilisation des technologies nouvelles pour l'inventaire, la documentation, la conservation et la promotion des architectures locales.

Il s'agit également de mieux faire percevoir par les membres des Comités nationaux ICOMOS africains la nécessité de changer d'approche en s'adaptant aux nouvelles approches et méthodes de conservation et de valorisation du riche patrimoine architectural du continent, qui sont des outils modernes efficaces. Les savoirs et savoir-faire locaux qui se transmettent de génération en génération seront mieux conserver par la création de bases de données dans des sociétés basées sur l'oralité.

5. Conclusions

Il y a une évolution constante des technologies nouvelles qui sont en train d'impulser une dynamique au développement d'un monde globalisé. Ces technologies nouvelles ont permis de franchir les barrières par la création de réseaux de communication utilisés dans les villages les plus reculés et éloignés des centres urbains.

L'Afrique est fondamentalement marquée par la culture de l'oralité. L'avancée des nouvelles technologies est une opportunité inouïe pour procéder de manière efficace à la gestion et la conservation d'éléments essentiels de l'architecture par l'utilisation à bon escient d'outils modernes.

Il s'agira de s'inspirer de nouvelles approches et solutions innovantes pour répondre aux besoins spatiaux de protection et de conservation du patrimoine des communautés locales tout en favorisant l'emploi des savoir-faire endogènes et des technologies émergentes que les jeunes maîtrisent actuellement à la faveur de l'avancée des systèmes et méthodes autour de l'intelligence artificielle.

Pour les actions présentes et futures de conservation et de mise en valeur du patrimoine, les jeunes ont un rôle cardinal à jouer avec la création d'opportunités non seulement de préservation mais d'entrepreneuriat dans le cadre du développement global. L'utilisation d'outils modernes tels les 3D ou la modélisation est un atout de promotion

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du tourisme virtuel dans un monde où les catastrophes naturelles et les multiples conflits armés constituent un frein à des visites en présentiel sur des sites patrimoniaux divers, riches et attractifs.

Un des problèmes auxquels sont confrontés les politiques de gestion et de conservation durable du patrimoine africain est la constitution et la sauvegarde des bases des données. Les archives des inventaires sont mal conservées ou souvent détruites ; ce qui peut être un handicap pour la mémoire du patrimoine culturel matériel et immatériel (ce fut le cas des mausolées détruits et des manuscrits brûlés à Tombouctou où l'insuffisance de documents archivés n'a pas facilité les interventions post destruction).

La documentation numérique et la création de bases de données bien conservées sont des moyens sûrs pour aider à la gestion du patrimoine en Afrique.

Il s'agit par des actions concrètes et pratiques, de susciter l'intérêt des jeunes professionnels du patrimoine architectural africain dans les programmes et projets de conservation et de valorisation des architectures locales encore peu connues et non documentées en Afrique. Ces jeune maîtrisent mieux les nouvelles technologies et pourraient créer des opportunités entrepreneuriales autour des architectures et des métiers du patrimoine culturel.



Figure 3. Ruelle et maisons d'habitation dans le Centre historique d'Agadez au Niger. Photo L. Cissé 2018

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Preservation and transmission of handycraft traditional know-how in Cameroon: the commitment of "Save the Ndop" association to the young generation

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Abstract

In Cameroon, many traditional skills are disappearing, particularly those related to the production of Ndop, a sacred textile of the Grassfields in the Western region. Faced with this critical situation, the association "Save the Ndop" has mobilized to preserve and transmit this ancestral craft.

The association has implemented various strategies, including training programs, awareness-raising within the local community, and partnerships with local institutions. Field surveys on traditional practices have also been conducted to document and safeguard this knowledge. Thanks to these efforts, younger generations have benefited from practical workshops and training sessions to learn Ndop textile-making techniques. Collections of traditional fabrics have also been preserved and exhibited, helping to promote this unique cultural heritage.

The association's commitment has helped revitalize these traditional skills and pass them on to younger generations, ensuring the continuity of this cultural practice. Furthermore, these actions have contributed to sustainable development in the region by supporting the local economy and preserving the community's cultural identity.

The originality of this initiative lies in its holistic approach, combining youth training, community awareness, and collaboration with local stakeholders to safeguard this tradition. The work of "Save the Ndop" in preserving and transmitting traditional know-how in Cameroon stands as an inspiring example of cultural heritage protection. These initiatives create economic opportunities and promote cultural identity, thereby contributing to the sustainable development of the region.

Keywords: know-how; preservation; transmission; Ndop textile; engagement.

Résumé

Au Cameroun, de nombreux savoir-faire traditionnels disparaissent, notamment ceux liés à la fabrication du Ndop, un tissu sacré des Grassfields dans la région de l'Ouest. Face à cette situation critique, l'association « Save the Ndop » s'est mobilisée pour préserver et transmettre ce savoir-faire ancestral. L'association a mis en œuvre diverses stratégies : formation, sensibilisation de la communauté locale et partenariats avec des institutions locales. Des enquêtes sur les pratiques traditionnelles ont également été menées pour documenter et préserver les connaissances. Grâce aux efforts de l'association, la jeune génération a pu bénéficier de formations et d'ateliers pratiques pour apprendre les techniques de fabrication du tissu Ndop. Des collections de tissus traditionnels ont également été conservées et exposées, promouvant ce patrimoine culturel unique. L'engagement de l'association a permis de revitaliser ces savoir-faire traditionnels et de les transmettre aux jeunes, garantissant la pérennité de cette pratique culturelle. De plus, ces actions ont contribué à la promotion du développement durable dans la région en soutenant l'économie locale et en préservant l'identité culturelle de la communauté. L'originalité de cette démarche réside dans l'approche

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holistique adoptée par l'association, qui combine la formation des jeunes, la sensibilisation de la communauté et la collaboration avec les acteurs locaux pour préserver cette tradition. L'engagement de Sauvegarder le Ndop pour la préservation et la transmission des savoir-faire traditionnels au Cameroun est un exemple inspirant de sauvegarde du patrimoine culturel. Ces initiatives créent des opportunités économiques et promeuvent l'identité culturelle, contribuant ainsi au développement durable de la région.

Mots-clés: *savoir-faire, preservation, transmission, étoffe Ndop , engagement.*

1. Introduction

Cameroon, nicknamed "Africa in miniature" for its remarkable diversity, is a country located at the confluence of West and Central Africa. Its 475,442 km² encompass a multitude of aspects, whether climatic, geographical, human, linguistic or cultural, offering a representative panorama of the African continent. This uniqueness, although fragile, gives Cameroon a remarkable geopolitical position among African nations, as underlined by J.C. Bruneau (Bruneau, 2003). The Cameroonian population is a mosaic of nearly 200 ethnic groups, each with its own customs and traditions, some of which are preserved thanks in particular to the conservation of traditional chiefdoms, particularly in the North and West. The capital, Yaoundé, is located in the south-central part of the country. The name "Cameroon" derives from "Rio dos Camarões" (the "shrimp river"), a name given to the Wouri estuary by Portuguese explorers of the 15th and 16th centuries. The history of this name reflects the influence of European explorers on the region.

On the tourist level, Cameroon draws its wealth from its cultural diversity, visible through its way of life, its folklore, its religion, its habitat and even its cuisine. Cameroon is a true melting pot of craftsmanship, where traditions are cherished through the creation of art and craft objects. From exquisite wood carvings to pottery and ceramics fashioned from the fertile clay of the highlands, each region displays its unique treasures (Flanagan, 1985). Far more than mere decorative elements, these creations are deeply rooted in the daily lives of Cameroonians, holding commercial, cultural and religious significance. Wood carving is particularly renowned, with talented artisans bringing to life statues, masks and everyday objects from precious woods such as ebony, mahogany and oil palm. These works, often of great finesse and expressiveness, represent human figures, animals and symbolic motifs, reflecting the richness of Cameroonian mythology and beliefs. The high-quality clay found in the western highlands of Cameroon is ideal for pottery and ceramics. Artisans use it to make jars, bowls, cooking utensils, and decorative objects, often adorned with geometric patterns and traditional symbols. These creations, combining aesthetics and functionality, attest to the high level of technical mastery of Cameroonian artisans. Beyond wood carving and pottery, local crafts encompass a multitude of techniques and know-how, such as basketry, beadwork, brass and bronze work, sculpture and painting on calabashes, embroidery, and leatherwork. Each region has its own specialties and techniques, contributing to the diversity and beauty of Cameroonian handicrafts.

Cameroon is a land where art and craft are deeply intertwined with daily life and cultural identity. From intricate wood carvings to traditional dwellings, vibrant pottery to exquisite leatherwork, each creation tells a story, conveys values, and reflects the richness and diversity of Cameroonian culture. At the heart of this rich cultural heritage lies the Ndop, an emblematic fabric of the Grassfields in Cameroon. The Ndop, an emblematic fabric of the cultural heritage of the Grassfields in Cameroon, embodies this cultural and symbolic richness. Originally composed of cotton and raffia fibers, the Ndop is distinguished by its visual identity dominated by white and indigo blue, as well as its elaborate geometric motifs, bearing profound symbolic meanings.

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Figure 1. Visuals steps of Ndop production

The royal ndop cloth, 8 meters long, was used to delineate the decor of royal events and ceremonies. Numerous patches and repairs testify to its intensive use over time. The variety of styles and the quality of the resist-dyed patterns reflect the collaboration of several specialists. The geometric patterns (circles, diamonds, and sinuous lines) and the stylized figurative forms (crocodiles) have royal symbolism. Similarly, the blue color of the cloth refers to the Bamileke elite. Like tsesah emblems, ndop cloths are an integral part of the practice of power in the Bamileke region and are linked to ancient regional exchange networks. Luxury indigo resist-dyed cloths were first imported into the Grassfields of Cameroon from the Upper Benue region of eastern Nigeria. Local production of these cloths began around 1910. Todays, its manufacture, following a meticulous process on the "Ndop route" (Ly, 2019), involves weaving cotton in the North and tracing the motifs and dyeing in the West of the country. Initially reserved for a social elite (Francine, 2021), the Ndop has evolved to become accessible to all, while retaining its central role in Grassfields societies, symbolizing traditional power and embellishing important ceremonies. As a national heritage, the Ndop is the subject of particular attention for its preservation, despite the challenges related to the quality of materials and manufacturing techniques. Its importance transcends borders, making it a source of pride for Cameroon and the Grassfields region in particular. The Ndop stands as a testament to the resilience of Cameroonian culture, a symbol of the enduring power of tradition in the face of modernity. Its preservation and transmission are not merely about preserving artifacts; they are about safeguarding a vital part of Cameroonian identity. The Ndop's story is a reminder of the profound interconnectedness of art, craft, culture, and identity in Cameroon, a land where creativity and tradition continue to thrive.

2. Aims and objectives

The Ndop, an emblematic sacred fabric of the Cameroonian Grassfields, is under threat from mass production that disregards ancestral traditions and the abandonment of traditional practices associated with its craftsmanship. This situation leads to a loss of the essence and symbolic value of the Ndop, as well as a risk of the disappearance of the ancestral know-how associated with its manufacture. This research work aims to analyze the actions of the Save the Ndop association for the preservation and transmission of the artisanal know-how linked to the Ndop. These include:

- Identifying the threats to the Ndop and its artisanal know-how
- Understanding the actions undertaken by Save the Ndop association
- Evaluating the impact of these actions on the preservation and transmission of artisanal know-how
- Formulating recommendations to strengthen the effectiveness of the association's actions

The goals and objectives of the research are to:

- Contribute to the preservation of Cameroonian cultural heritage
- Promote the transmission of ancestral know-how to future generations
- Support Save the Ndop association in its efforts to preserve and promote the Ndop

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In addition to these general objectives, this research work also aims to:

- Enrich knowledge about traditional artisanal practices in Cameroon
- Raise public awareness about the importance of preserving cultural heritage
- Promote the sustainable development of local communities

3. Methodology

This research is based on a combination of methodological approaches, including a qualitative approach, data collection, data analysis, and result validation.

3.1. Qualitative Approach

- Literature Review: Consultation of written sources (books, scientific articles, archives, etc.) to deepen knowledge about Ndop, its history, its manufacturing techniques, and its cultural importance.
- Semi-structured Interviews: Meetings with local artisans, members of the Save Ndop Association, cultural heritage experts, and other actors involved in the preservation of Ndop to gather their perceptions, experiences, and knowledge on the subject.
- Participant Observation: Direct involvement of the researcher in the activities of the Save Ndop Association, training workshops, cultural events, etc., to observe practices and interactions between the different actors.

3.2. Data collection

- Interview transcriptions: Recording and transcription of semi-structured interviews to analyze the participants' discourses and points of view.
- Field Notes: Taking notes during participant observations to document the practices, interactions, and contexts observed.
- Photographic Documents: Taking photographs to illustrate Ndop manufacturing techniques, cultural events, and association activities.

3.3. Data analysis

- Thematic analysis: Identification of recurring themes and emerging categories from interview transcripts, field notes, and photographic documents.
- Interpretation of Results: Synthesis of thematic analyses and interpretation of results in relation to research objectives.

3.4. Result validation

- Data Triangulation: Comparison of data collected by different methods (interviews, observation, documents) to ensure the reliability of the results.
- Member Checking: Presentation of results to local artisans, members of the Save Ndop Association, and other experts to gather their comments and validate the relevance of the conclusions.

4. Results

The results of the data analysis led to:

4.1. Identification of threats to Ndop and its artisanal know-how

Ndop fabric, once revered for its beauty and sacred significance, is now undergoing a profound transformation. Its growing popularity, while flattering, has paradoxically contributed to its desacralization and the introduction of harmful practices. The fascination with Ndop has opened the door to commercial excesses (Mwenye, 2008), leading to mass production in disregard of ancestral traditions. The use of inferior

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quality materials, non-compliant techniques, and abusive use of the fabric have altered its essence and symbolic value. The loss of the essence of Ndop stems from the abandonment of traditional practices related to its craftsmanship. In the past, young people were actively involved in the creation of Ndop, perpetuating a know-how passed down from generation to generation. Today, this transmission has faded, leaving the old guardians of a know-how often unknown to the youth. Rapid modernization, growing urbanization and the emergence of alternative employment opportunities have diverted younger generations from ancestral artisanal practices. In-depth knowledge of Ndop creation techniques is now concentrated in the hands of the elderly, who are struggling to find successors to perpetuate this heritage. This gradual desacralization has given birth to the association "Save the Ndop", an initiative aimed at preserving the authenticity and cultural value of this unique heritage.

4.2. Save the Ndop: A bulwark against the disappearance of Ndop

Born out of a shared passion for Cameroonian culture, the “Save the Ndop” association has established itself as a tireless defender of the country's cultural heritage. Since its creation in March 2019, the association has stood as a vigilant guardian of the rich heritage of the Cameroonian Grassfields, working tirelessly to safeguard and promote the unique treasures, Ndop and Toghu fabrics. Guided by two passionate individuals, Hermann Yongueu and Franck Kemayou, co-founders of the association, Save the Ndop tackles two major fronts:

- Valorizing the exceptional cultural heritage of Grassfield fabrics, highlighting their beauty, diversity, and deep meanings.
- Passing on ancestral know-how to future generations, ensuring the sustainability of these unique artisanal practices.

The association is committed to preserving the weaving and dyeing techniques specific to Grassfield fabrics, which are threatened with extinction. It organizes workshops, exhibitions, and cultural events to raise public awareness of the richness of these unique motifs and the importance of their preservation. In the face of the threat to this ancestral know-how, Save the Ndop is actively engaged in their preservation. Close collaboration with local artisans allows them to document their techniques and encourage the transmission of their knowledge to younger generations.

4.2.1. Concrete achievements that make a difference

Since its creation, the association has successfully carried out several remarkable initiatives:

- **Raising awareness about the diversity of motifs:** The association has clarified the differences between Ndop and Nigerian ukara motifs, thus combating confusion and misappropriation.
- **Creation of the Ndop Awards:** These prestigious awards recognize artisans who work to perpetuate and transmit Ndop and Toghu know-how.
- **Implementation of the "Ndop and Toghu Orphanage" initiative:** In partnership with the Notre Dame de la Paix orphanage in Bafoussam, the association has provided Ndop weaving and embroidery training to young residents, offering them new perspectives for the future.
- **Immersion internships:** The association offers immersion internships to young people interested in learning Ndop fabric production techniques. These internships allow them to familiarize themselves with the different stages of the process and develop a deep understanding of this craft.
- **Mentorship:** Save the Ndop sets up mentoring programs that allow talented young artisans to be accompanied by experienced artisans, thus promoting the transmission of knowledge and the perpetuation of traditional techniques.

4.2.2. A positive and sustainable impact

Save the Ndop 's unwavering commitment has an undeniable impact on the preservation of Ndop fabric and its **associated** cultural heritage. The association inspires and mobilizes local communities, contributing to safeguarding Cameroon's cultural identity for generations to come. “Save the Ndop” embodies the very essence of safeguarding intangible cultural heritage. By aligning with the principles of the 2003 UNESCO Convention (UNESCO, 2003), the association demonstrates the power of community engagement and

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concrete action to preserve ancestral traditions and enrich Africa's cultural diversity. By pursuing its committed and passionate actions, it contributes to preserving this precious heritage and ensuring its prosperity for years to come. "Save the Ndop" 's action extends far beyond its local initiatives, forming part of a network of strategic collaborations and partnerships. The association builds strong links with various actors, guaranteeing an inclusive approach and a multiplied impact. Skills Transmission and Knowledge Sharing: "Save the Ndop" regularly organizes workshops and training courses for artisans and younger generations. These practical sessions allow them to acquire the skills necessary to master the traditional weaving and dyeing techniques of Ndop fabric. The direct transmission of ancestral knowledge from one generation to the next guarantees the sustainability of this unique craft and contributes to the preservation of the Grassfields culture. Documentation and archiving: "Save the Ndop" documents and archives the traditional techniques of making Ndop fabric. The association collects testimonies from experienced artisans and films the manufacturing processes. This precious documentation constitutes a collective memory of this intangible cultural heritage. It allows us to trace the history of Ndop, to understand its evolution, and to transmit its values to future generations. Raising Awareness and Promoting Cultural Appreciation: Save the Ndop organizes exhibitions and conferences to raise public awareness of the beauty and richness of Ndop fabric. These events relayed on the association's various social networks allow this unique craft to be known to a wide audience and to arouse its interest.

4.2.3. Collaboration with local communities and institutional actors: at the heart of action

"Save the Ndop" works in close collaboration with the communities producing Ndop fabric, involving artisans, traditional chiefs and young people in its initiatives. This participatory approach guarantees an in-depth understanding of the needs and realities on the ground, promoting more effective action adapted to local specificities. The association is committed to respecting ancestral knowledge and traditional practices linked to the manufacture of Ndop fabric. It encourages intergenerational dialogue and the transmission of knowledge within communities, thus ensuring the sustainability of this precious cultural heritage. Save the Ndop partners with governmental and non-governmental institutions, such as the Ministry of Culture and the Cameroon Museum of Arts. These partnerships allow the association to benefit from technical and financial support essential to carrying out its projects to preserve and promote Ndop fabric. Collaboration with recognized institutions offers "Save the Ndop" increased visibility and official recognition of its action. This helps to legitimize its initiatives and strengthen its impact on local communities and international actors.



Figure 2. Case of Know-how transmission to the young generation. Source: Kendji, 2022

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Figure 3. Award ceremony for best handicraft practice by the representative of the Minister of Culture.
Source: Kendji, 2022

5. Conclusion

The preservation of Ndop fabric, a priceless jewel of the intangible cultural heritage of the Grassfields in Cameroon, is an absolute necessity. The increasing depreciation of this craft, revealed by alarming figures, can no longer be ignored. Its preservation is a noble and urgent cause. Saving the Ndop is not only a tribute to the artisans of the past, it is a commitment to future generations and a recognition of the cultural identity of the people of the Grassfields. This precious heritage, woven with know-how and symbols, is a reflection of their history, their values and their creativity. Since its creation in March 2019, the "Save the Ndop" association has worked tirelessly to identify concrete and tangible strategies to ensure the protection, perpetuation and promotion of this precious heritage. The remarkable work of this association has borne fruit. Indeed, Order No. 20/006 of February 21, 2020 included the know-how linked to the manufacture of Ndop in the national heritage, a first historic victory which augurs promising prospects. "Save the Ndop" association, through its exemplary commitment and concrete actions, embodies the hope of a bright future for this precious heritage. Its effective and inspiring action model must serve as a catalyst to mobilize all the stakeholders concerned and guarantee the sustainability of the Ndop fabric, Cameroon's inestimable treasure.

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MOWAA Unearth: Cultivating a New Generation of West African Heritage Practitioners

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Abstract

The Unearth Program by the Museum of West African Art (MOWAA) represents an innovative approach to archaeological education in West Africa, combining digital education tools with hands-on field experience and student-led community engagement initiatives. Conceived under the MOWAA Archaeology project, a four-year partnership with the British Museum that began in 2021, Unearth is hosted by MOWAA in Benin City and delivered in collaboration with the British Museum, Cambridge Archaeological Unit, Wessex Archaeology and the National Commission of Museums and Monuments and its partners. The pre-construction archaeology project linked to the construction of the new MOWAA Campus aims to improve understanding of the history of the Kingdom of Benin, using the latest archaeological and scientific technology and approaches. It encompasses collaborative excavations, laboratory analysis, public engagement activities with local communities and knowledge exchange program. This paper explores the integration of digital and field-based educational methodologies within the MOWAA Unearth Program, Leveraging the ONLAAH MOOC - Archaeology and Heritage of Africa on the Coursera platform developed by the German Archaeological Institute (DAI). This initiative highlights a community-centric approach, where digital technology plays a pivotal role in enhancing accessibility and engagement in archaeological education across West Africa. Results from the 2023 cohort illustrate significant advances in community involvement and the democratization of knowledge in archaeology, reflecting the successful fusion of online and on-ground educational strategies. The subsequent sections detail the program's structure, educational outcomes, and broader impacts on the archaeological community and local stakeholders. Unearth is more than just a program; it serves as a catalyst for change, bridging disciplines and communities while celebrating West Africa's diverse cultural landscape. As we embark on this journey of discovery together, we invite you to join us in uncovering history, connecting with living traditions, and shaping a future where heritage is not only preserved by West Africans but celebrated globally.

Keywords: *MOWAA, ONLAAH, Career Development, archaeology training, community engagement, inter-disciplinary, skills, training, Unearth.*

1. Introduction

Archaeology in West Africa continues to face persistent challenges, including threats to heritage preservation, limited funding, and a shortage of specialized equipment for research. Recognizing these gaps, the Unearth program was developed by the Museum of West African Art (MOWAA) to engage a new generation of heritage practitioners. Grounded in post-colonial and decolonial frameworks, Unearth seeks to safeguard West Africa's cultural resources, empower young people, and incorporate modern technologies into conservation practice.

Unearth distinguishes itself from conventional archaeology training by engaging young and diverse participants, integrating local knowledge into research, and prioritizing community participation. Through a combination of hands-on fieldwork, digital learning, and community engagement projects, the program introduces students from multiple disciplines to archaeology while strengthening public involvement in heritage preservation. Its design responds directly to West Africa's archaeological realities, ensuring that training is both relevant and impactful.

This paper explores how Unearth, through consultative needs assessments, identifies and addresses gaps in archaeology education and practice. It situates the program within the wider outreach strategy of MOWAA's Archaeology Project, developed in collaboration with the British Museum and their partners the Cambridge Archaeological Unit and Wessex Archaeology, and the National Commission for Museums and Monuments (NCMM). Unearth extends beyond excavation to redefine heritage conservation as a community-centered practice. By embracing cross-disciplinary learning and adapting continuously through feedback, it inspires a new generation of practitioners equipped to preserve West Africa's history and cultural identity. More than a training program, Unearth functions as a catalyst for change—bridging disciplines, communities, and living traditions while celebrating the region's diverse cultural landscape.

The program is anchored within MOWAA's wider mission in Benin City, where archaeology and contemporary art converge. Its pre-construction archaeology project, the most significant in the city in over 50 years, is linked to the development of the new MOWAA Campus on the former palace grounds destroyed in 1897. The pre-construction archaeology project aims to improve understanding of the history of the Kingdom of Benin, using the latest archaeological and scientific technology and approaches. It encompasses collaborative excavations, laboratory analysis, public engagement activities with local communities and knowledge exchange programs.

2. Aims and objectives

The Unearth programme aims to bridge the gap between archaeology and other related fields, emphasizing the vital role of public engagement in archaeological research. By reaching out to disciplines beyond archaeology, we aim to inspire cross-disciplinary collaboration and foster exploration of careers in archaeology and heritage management, vital for preserving our shared heritage. Our goal is to create opportunities for individuals outside these fields to discover the significance of archaeology and its impact – uncovering history, fostering connections with living traditions, shaping future inquiries, and uniting people in a celebration of culture and identity.

2.1. Objectives

2.1.1. Provide hands-on upskilling and field experience in archaeology.

The program offers final-year university and postgraduate students the chance to gain practical field experience in archaeology in a real-life research project. The Unearth Fellows take part in educational programs and workshops where they learn about past studies in Africa and are exposed to new methods and technologies in archaeology field research.

2.1.2. Introduce students and young professionals to the interdisciplinary aspects of archaeology.

Unearth facilitates learning exchanges between archaeologists and professionals from other disciplines to encourage a rounded approach to research and conservation. Through learning visits and workshops, Unearth seeks to demonstrate the impact of archaeology on fields like geology, environmental science, history, anthropology, fine arts – and vice versa.

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2.1.3. Highlight archaeology as a community-centric endeavor.

Unearth supports fellow-led groups to design and deliver a project that interrogates and expands how communities learn and engage with archaeology in West Africa. Each group is provided with a small grant and assigned a mentor. Our goal is to enhance fellows' understanding of archaeology as a social – as well as scientific - practice. These explorations will be highlighted in a public activation to share the outcomes and connect communities to the program.

2.2. Target Audience

In the past two editions, the Unearth program was tailored for final-year undergraduate and post-graduate students from several Nigerian universities, focusing on archaeology and related fields such as history, anthropology, geology, fine art, and mass communications. In 2022, the program involved six participants from the University of Ibadan, while in 2023, thirteen fellows were selected from a wider pool of applicants, including the University of Benin, University of Ibadan, University of Nigeria Nsukka, and Ahmadu Bello University (Zaria).



Figure 1: Group picture of Unearth Fellows during the fellowship closeout event.
Source: MOWAA Unearth Program (2023)

2.3. Duration and Location

The Unearth fellowship program is a 6-month program with the core activities centered around the MOWAA Archaeology Project research in Benin City, where fellows convene for a 3~6 week Learning placement. The other aspects of the fellowship include online learning, career development webinars, mentorship and group community engagement projects lead by fellows.

3. Methodology

The Unearth program stands as a flagship educational program and a vital component of the MOWAA Archaeology Project. This larger archaeological endeavor embraces a pioneering approach to heritage management termed Developmental Archaeology. Its primary aim is to document and preserve remnants of our past that face imminent risk of destruction due to urban expansion and construction projects. Over the span of several years, this groundbreaking initiative will delve into the archaeology of the Kingdom of Benin, encompassing the excavation of historical artifacts and structures buried beneath the planned location of MOWAA's Campus.

At the outset of the Unearth Program, participants hail from five leading Nigerian universities: the University of Benin, University of Ibadan, Ahmadu Bello University, and University of Nigeria Nsukka. These universities, each offering archaeology within their academic programs, serve as fertile grounds for cultivating the next generation of heritage stewards.

The selection process begins with an open call for applications, inviting interested individuals to apply. Submissions undergo thorough review by the MOWAA team, in consultation with university liaisons, ensuring a

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rigorous selection based on predefined criteria. This includes assessing responses to specific questions and evaluating academic performance, as endorsed by the school liaisons.

Once selected, successful applicants are welcomed into the program and provided with orientation sessions. These sessions familiarize participants with the overarching goals of the Unearth program for the year ahead, along with detailed timelines for each phase. These timelines are meticulously crafted to accommodate participants' academic schedules and MOWAA's excavation calendar, minimizing disruptions to their studies.

The Unearth program offers a structured learning journey, comprising four distinct phases, each with clearly defined learning outcomes and outputs

3.1. Phase 1: Online Learning Module

In 2023, the Unearth program launched its second edition with an emphasis on democratizing archaeological education. Fellows were enrolled in the ONLAAH (Online Learning on African Archaeology and Heritage) course, hosted on Coursera, with certification funded by MOWAA. Designed by the German Archaeological Institute (DAI) and the Autonomous University of Barcelona (UAB), ONLAAH introduces both non-archaeologists and archaeology students to African archaeology through four modules: Archaeology and Heritage of Africa, Archaeological Methods, Heritage Management, and Case Studies. https://www.onlaah.com/

The course equips participants with knowledge of current archaeological methods, the role of communities in heritage preservation, and Africa's diverse cultural history. Delivered by over 30 experts from across Africa and beyond, it provides global perspectives rooted in active field practice. Completion grants fellows an internationally recognized Coursera–UAB certificate. Unearth thus pioneered ONLAAH's integration into a structured fellowship, making digital learning a foundation for field training and community engagement.

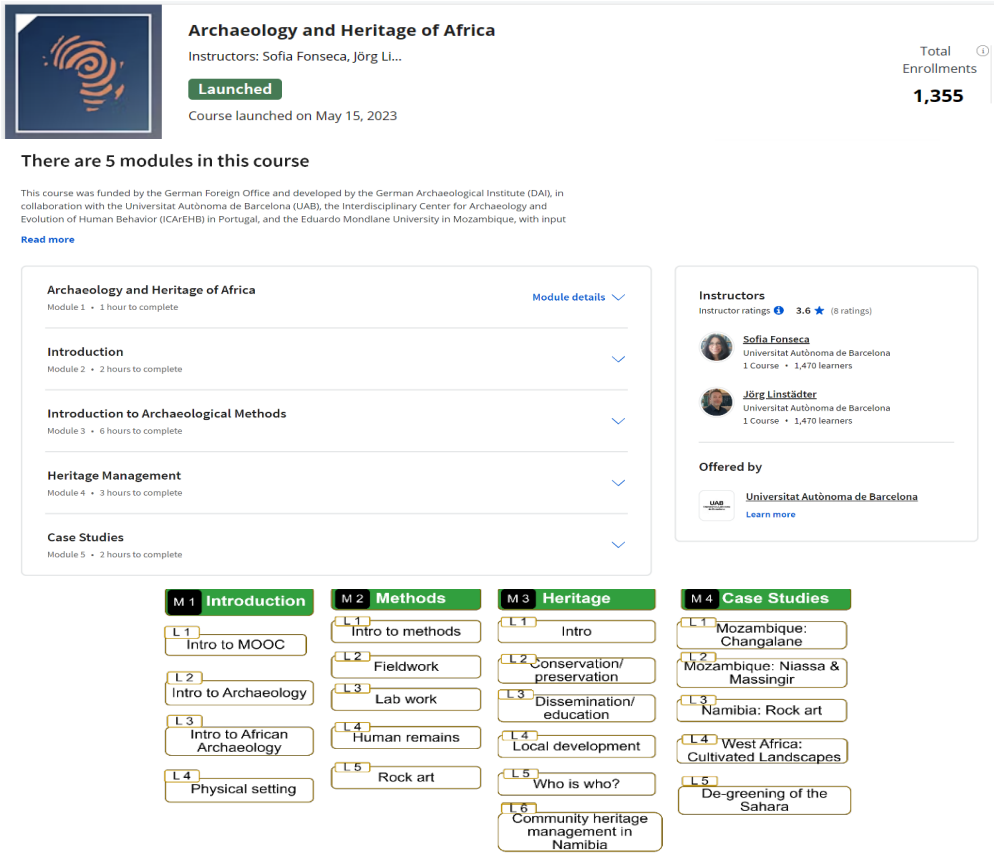


Figure 2: ONLAAH course overview highlighting the number of modules. Source: https://www.onlaah.com/ (2023)

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3.2. Phase 2: Hybrid Learning Module (Preparation For Field Work at MOWAA Campus)

In this stage, fellows combined ONLAAH modules with weekly hybrid sessions led by heritage management and museum experts. Training covered excavation methods, survey and recording protocols, digitization, finds preparation, equipment handling, and community engagement ethics. The sessions ensured participants were well-prepared to integrate with field archaeologists and understand professional research standards. By the end, fellows gained practical skills, familiarity with modern archaeological tools and procedures, and a deeper appreciation for collaborative approaches to heritage research at MOWAA.

3.3. Phase 3: Learning Placement (Field Work with MOWAA Archaeologists)

Learning placement (fieldwork) immerses fellows in practical archaeology, offering specialists a chance to refine skills and non-archaeologists an entry point to discover its relevance. Participants rotate across project sub-units, gaining broad exposure to excavation, recording, and site preparation. Guided by MOWAA archaeologists with support from the British Museum and Cambridge Archaeological Unit, fellows benefit from dynamic exchanges and mentorship, experiencing global best practices while developing a deeper understanding of archaeology's interdisciplinary and community-focused nature (*see figures 3*).



Figure 3: Unearth Fellows (Umar Musa, Uranta Opuada, Benedict Kakulu and Favour Odeh) interacting with expert Archaeologist during their fieldwork's activities. Source: MOWAA Unearth Program (2023)

During Phase 3, the learning placement is complemented by cultural immersion, enabling fellows to contextualize their archaeological practice within the living traditions of Benin. They engage directly with historic guilds such as bronze casters, wood carvers, and potters, while also visiting key heritage sites including the First Story building in Benin City, the Ogiamien's house, the Benin Moat, and the Institute of Benin Studies (*See figures 4 – 6*). This integrated approach deepens their appreciation of both tangible and intangible heritage. By experiencing Benin's culture firsthand, fellows develop a richer understanding of its history, strengthening their interpretations and building more meaningful connections with the community.



Figure 4: Unearth Fellows on a community engagement learning visit to the head of the Igun Eronmwon (traditional bronze casting guild) in Benin, Ine N'Igun. Source: MOWAA Unearth Program (2023)



Figure 4: The Unearth Fellows captivated by the history of the Igbesanmwan guild, the traditional wood carvers of Benin Kingdom. The Ine N'Igbesanmwan shares how this ancient technique has been passed down through his family for generations. Source: MOWAA Unearth Program (2023)



Figure 6: During a visit to the Imakhe Pottery Makers Guild, a women-only guild renowned as the primary makers of traditional pottery in the Benin Kingdom, the fellows observed the intricate process of crafting earthen pots. Source: MOWAA Unearth Program (2023)

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3.4. Phase 4: Fellow-Led Community Engagement

Phase 4 of the Unearth program is where fellows consolidate their learning by applying the knowledge and skills gained to real-world contexts. At this stage, students from participating universities—the University of Benin, University of Ibadan, University of Nigeria Nsukka, and Ahmadu Bello University, Zaria—collaborate in teams to design and deliver community engagement projects within their immediate school community. These projects enable fellows to connect archaeology with local communities, translating academic training into socially relevant action.

Each student group is supported by a mentor who guides them through the process of concept development, stakeholder mapping, community consultation, and project delivery. Mentors are selected for their expertise in art, culture, and heritage, as well as their familiarity with the socio-cultural dynamics of the host community. In 2023, mentors included:

- **Prof. Abubakar Sani Sule** (ABU, Zaria), an archaeologist and heritage specialist, also Vice-President of ICOMOS Nigeria.
- **Mr. Tony Abolo** (University of Benin), a veteran media professional and educator with a background in mass communication and public affairs.
- **Modupe Oyedele** (University of Ibadan), a museum curator and archaeologist with growing expertise in museology and heritage preservation.
- **Mr. Iheanyi Igboko** (University of Nigeria Nsukka), a cultural promoter and Director of the Centre for Memories, with a strong background in heritage advocacy.

In addition, **Sofia Fonseca**, Program Coordinator for ONLAAH, served as an overarching mentor and coordinator, ensuring projects aligned with best practices in archaeological public engagement.

Projects were developed according to the Unearth student-led project guide, which required fellows to align their initiatives with one or more goals:

a. raising awareness about archaeology and its relevance to community identity,
b. connecting practitioners with local communities,
c. inspiring heritage preservation and celebrating shared histories.

Before implementation, fellows undertook community assessments to identify relevant groups, understand local concerns, and engage stakeholders such as traditional leaders, educators, or cultural practitioners. Based on these insights, project objectives were refined to ensure local resonance and sustainability.

Engagement formats varied, with options including interactive events (e.g., workshops, radio dialogues), community-driven interventions (such as moat clean-ups or heritage signage), informational events (public talks or exhibitions), and educational programs in collaboration with schools or cultural institutions.

Through this phase, fellows demonstrated not only their understanding of archaeology but also their capacity to translate heritage knowledge into tangible social impact. By foregrounding community voices, building trust, and experimenting with creative approaches, the projects helped demystify archaeology, fostered local ownership of heritage, and highlighted the role of young practitioners as cultural mediators.

Ultimately, Phase 4 underscores Unearth's commitment to redefining archaeology as a community-centered practice, equipping fellows to become heritage stewards who link academic research with lived traditions and collective memory.

4. Fellowship Results and Impact

Since its inception, the Unearth program has achieved notable success through its evolving design and innovative learning strategies. The inaugural 2022 edition, then called the Archaeology Volunteer Programme, engaged six university students in excavations and post-fieldwork at the MOWAA Institute in Benin City. Two participants were later employed full-time at MOWAA, marking an early milestone in talent development and institutional alignment.

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Building on this foundation, the 2023 edition was significantly expanded following participant feedback and stakeholder consultations. Then rebranded as "**Unearth**" with the theme "**Discovering Archaeology Together**", the program broadened its scope beyond archaeology students to include non-specialists, creating a more inclusive and interdisciplinary model.

This expansion fostered cross-disciplinary connections and encouraged career exploration in archaeology and heritage management. By involving students from diverse fields—history, fine art, biochemistry, building construction, and archaeology—Unearth created one of the most diverse cohorts ever engaged in a live archaeology project in West Africa. Thirteen fellows from four Nigerian universities gained first-hand insight into MOWAA's archaeology practices, reinforcing the program's mission to uncover history, connect with living traditions, and cultivate a new generation of heritage stewards (See table 2 for diverse fellows' course of study).

S/N	Institution	Fellow	Course of Study
1	Ahmadu Bello University, Zaria, Kaduna State	Umar Musa	M.A. Archaeology and Heritage Studies
2		Khalid Muhammad Sani	M.A. Archaeology and Heritage Studies
3		Uranta Opuada	MSc. Building Construction Management
4		Adeniji Adejoke Tawakalitu	B.A. Archaeology and Heritage Studies
5	University of Benin, Benin-City, Edo State	Qudus Bamigbade	BSc. Biochemistry
6		Odeh Favour Osayamo	BSc. Sociology and Anthropology
7		Benedict Kakulu	B.A. Fine Art
8	University of Nigeria Nsukka, Enugu State	Andrian Chibuike Emmanuel	B.A. History
9		Peter Ndidigwe Obochi	M.A. Archaeology and Tourism Studies
10		Favour Chisom Okolo	B.A. Archaeology and Tourism Studies
11	University of Ibadan, Ibadan, Oyo State	Jennifer Igbene	MSc. Archaeology
12		Mary-Jane Ogar	M.A. History
13		Oluwatoye Ojo	MSc. Archaeology

Table 1: Unearth Fellows listed by institution and field of study, highlighting their diversity and interdisciplinary backgrounds. Source: MOWAA Unearth Program (2023)

Thanks to its innovative approach, the Unearth program has extended its reach to a wider stakeholder group across four Nigerian states—Edo, Oyo, Kaduna, and Enugu—while deepening connections with host communities around the MOWAA campus and traditional guilds in Benin. Notably, six of the thirteen fellows from the 2023 cohort are now engaged with the MOWAA Archaeology team as well as other departments within the institution, underscoring the program's effectiveness in upskilling early career professionals and identifying future talent.

Significant strides have also been recorded in the following areas:

4.1. Community Engagement Projects

Unearth fellows designed and implemented projects that strengthened local appreciation of archaeology. At the University of Ibadan, fellows introduced 35 secondary school students to archaeology through organized visits to the Museum of Natural History and the department of Archaeology Museum – University of Ibadan, where they learned about conservation practices from faculty members. In Benin City, fellows created an unprecedented opportunity for 15 secondary school students to learn wood carving techniques directly from one of the last surviving members of the Benin Kingdom's traditional wood carving guild, opening a centuries-old practice to broader society and highlighting the importance of preserving wooden heritage.

At the University of Nigeria Nsukka, fellows enhanced the tourism potential of the Lejja iron smelting site by transforming the community square into an exhibition space and showcasing cultural practices, including a

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masquerade dance that reflects the iron smelting process. In Zaria, fellows led clean-up campaigns at the historic Zazzau Wall and organized educational sessions at the Emir's Palace Museum, prompting renewed awareness about the need to safeguard the city wall. Collectively, these projects demonstrate Unearths role in promoting archaeology as both a scientific and community-centered practice.

4.2. Globally relevant archaeology certification

All fellows successfully completed the ONLAAH course, *Introduction to African Archaeology*, receiving internationally recognized certification. This marks the first time the course has been embedded in a structured program to directly upskill early-career professionals, and it will remain a permanent feature of Unearth.

4.3. Redefining Public outreach

The Discovery Day initiative opened the MOWAA excavation site to schools, artisans, cultural experts, and community members. By granting public access to typically closed research spaces, it created opportunities for dialogue, knowledge sharing, and a sense of ownership over archaeological work, strengthening public engagement in heritage preservation.

4.4. Heritage management and conservation

The Unearth program adopts an innovative approach to teaching and learning, helping young practitioners from diverse fields recognize their role in safeguarding heritage. Participants learn how their actions can either protect or endanger cultural sites. For instance, a fellow from Ahmadu Bello University with a background in construction has begun advocating for development archaeology before new building projects among his colleagues.

4.5. Collaboration

Collaboration has been central to Unearth's success. From consultations with university archaeology departments to partnerships with institutions such as the Institute of Benin Studies, NCMM, the Centre for Memories, and the Zazzau Emirate, the program has built a strong network of support. Its partnership with the ONLAAH program also ensured fellows had close mentorship and priority access to digital learning. These alliances, alongside the financial and institutional support of the British Museum and MOWAA, have been vital in sustaining and scaling the program. Through these combined efforts, Unearth has demonstrated a transformative model of archaeological education—one that builds capacity, empowers communities, and redefines heritage stewardship in West Africa.

5. Conclusions

The Unearth program has demonstrated the value of integrating multidisciplinary approaches into archaeology, merging traditional practices with digital tools and community engagement. This hybrid model has expanded access to archaeological education, offering participants both theoretical knowledge and hands-on experience while fostering wider appreciation of heritage.

A central achievement has been Unearth's ability to connect archaeology with local communities. By involving students, schools, traditional guilds, and cultural leaders, the program has increased visibility for archaeology and encouraged local stewardship of heritage resources. Such initiatives have not only promoted public understanding but also begun to influence policy, as seen in renewed awareness around heritage-sensitive development.

Equally significant is the program's role in talent development. By upskilling early-career professionals and integrating global learning platforms like ONLAAH, Unearth has created opportunities for young practitioners to contribute meaningfully to heritage preservation. The program's adaptability, shaped by feedback and collaboration—ensures it remains relevant to the region's evolving challenges.

Looking forward, Unearth provides a foundation for scaling innovative heritage education across Africa. Its emphasis on interdisciplinarity, digital learning, and community engagement offers a replicable model capable of strengthening heritage management at local, regional, and global levels.

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Documenting the Architectural Heritage of Armenian Sefer, Addis Ababa

Documenter le patrimoine architectural du Sefer arménien, Addis-Abeba

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Abstract

This study explores the architectural heritage of Addis Ababa's Armenian Quarter, known as the Armenian Sefer. This district is notable for its historical houses, once owned by high-ranking officials and advisors to Emperor Haile Selassie, reflecting its proximity to the former palace, now Addis Ababa University's main campus. During the 1970s, under the Derg regime, these heritage buildings were nationalized and rented out at low rates, leading to the development of a dense residential area. Many current residents are descendants of the original families, maintaining a strong connection to the heritage despite financial challenges in renovating the buildings. While the area appears modest, it remains one of the safest and quietest in the city. However, large-scale redevelopment projects threaten to demolish such historic neighborhoods. In response, students and researchers have undertaken a project to document the Armenian Sefer's heritage buildings using 3D documentation techniques. This study examines the methods, outcomes, and challenges of this documentation process, shedding light on the importance of conserving the Armenian Sefer as a vital part of Addis Ababa's architectural history.

Keywords: *Ethiopia, Addis Ababa, Armenian Sefer, architectural heritage, documentation, heritage conservation, digital heritage*

Résumé

Cette étude explore le patrimoine architectural du quartier arménien d'Addis-Abeba, connu sous le nom de Sefer arménien. Ce quartier est remarquable pour ses maisons historiques, autrefois propriété de hauts fonctionnaires et de conseillers de l'empereur Hailé Sélassié, ce qui reflète sa proximité avec l'ancien palais, aujourd'hui campus principal de l'université d'Addis-Abeba. Dans les années 1970, sous le régime du Derg, ces bâtiments historiques ont été nationalisés et loués à bas prix, ce qui a conduit au développement d'une zone résidentielle dense. De nombreux résidents actuels sont des descendants des familles d'origine, qui conservent un lien fort avec le patrimoine malgré les difficultés financières liées à la rénovation des bâtiments. Bien que le quartier semble modeste, il reste l'un des plus sûrs et des plus calmes de la ville. Cependant, des projets de réaménagement à grande échelle menacent de démolir ces quartiers historiques. En réponse à cette situation, des étudiants et des chercheurs ont entrepris un projet visant à documenter les bâtiments patrimoniaux du Sefer arménien à l'aide de techniques de documentation 3D. Cette étude examine les méthodes, les résultats et les défis de ce processus de documentation, mettant en lumière l'importance de la conservation de l'Armenian Sefer en tant que partie vitale de l'histoire architecturale d'Addis-Abeba.

Mots-clés: *Éthiopie, Addis-Abeba, Armenian Sefer, patrimoine architectural, documentation, conservation du patrimoine, patrimoine numérique*

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1. Introduction

1.1. State of Architectural Heritage of Addis Ababa

Addis Ababa faces a significant challenge in rehabilitating and conserving its early urban neighborhoods and historic monuments due to rapid urban redevelopment activities that have been underway since 2004 (Teferra, 2016). The Corridor Development Project (CDP) has recently accelerated this redevelopment through road widening and various public and private projects, resulting in the demolition of historic areas. Public concern peaked when Piazza, a central and historic part of Addis Ababa, was demolished, displacing residents within just a few weeks. Reports indicate that 36 out of 42 registered heritage buildings were demolished (The Guardian, April 4, 2024), including some of the city's most notable structures such as the former residences of Minas Kerbekian and Avedis Sevadjan. With the entire city undergoing development, many heritage buildings are at risk of demolition. This underscores the urgent need to document these heritage buildings before they disappear and to raise awareness about the importance of preserving the city's memories and history.

1.2. Armenian *Sefer*

Several historic districts in Addis Ababa were evaluated during the site selection process for the project. The Armenian *Sefer* was chosen due to its high concentration of heritage buildings and the availability of an existing architectural heritage database created by Shiraishi in 2006 that includes information on 52 buildings. Additionally, the area's peaceful environment and the welcoming nature of its residents facilitated the research team's fieldwork and interviews.

The Armenian *Sefer* is notable for its historical houses, once owned by high-ranking officials and advisors to Emperor Haile Selassie, reflecting its proximity to the former palace, now Addis Ababa University's main campus. During the 1970s, under the *Derg* regime, these heritage buildings were nationalized and rented out at low rates, leading to the development of a dense residential area. Many current residents are descendants of the original families, maintaining a strong connection to the heritage despite financial challenges in renovating the buildings. While the area appears modest, it remains one of the safest and quietest in the city.

2. Aims and objectives

The objective of this project is to comprehensively document the architectural heritage of the Armenian *Sefer*, a historic district in Addis Ababa, with the goal of preserving its cultural significance. In the process, the project aims to train students in architectural documentation using both manual and digital techniques, nurturing the next generation of conservation professionals. Additionally, it will contribute to the creation of a digital archive and platform for storing, sharing, and analyzing the documented data. Ultimately, the project seeks to raise awareness among professionals, the local community, and the international audience about the importance of conserving Addis Ababa's architectural heritage, using the Armenian *Sefer* as a key example.

3. Methodology

This project documented the architectural heritage of the Armenian Sefer using a comprehensive methodology that combined research, technology, and community engagement. It began with extensive desktop research, drawing on past archives, historical records, and literature to establish a solid understanding of the district's history and cultural significance. A digital map of the Armenian Sefer was created, serving as a dynamic visual representation of the area, continuously updated with data collected during fieldwork. To capture the living history of the district, interviews were conducted with local residents, providing valuable insights and personal narratives. As part of the project's educational goals, students were trained through workshops in various documentation techniques, including photogrammetry, laser scanning, 3D cameras, and 360-degree panoramic photos. Students then applied these skills in fieldwork, capturing detailed images and measurements of the architectural features. The resulting data were processed and compiled to create a digital archive for long-term preservation and accessibility for researchers, professionals, and the public.

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Figure 1. Exterior view, former residence of Agop Bagdasarian. Source: Okazaki, R. (2022)



Figure 2. Exterior view, former residence of Heruy Wolde Selassie. Source: Okazaki, R. (2022)

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Figure 3. Exterior view, former residence of Hampo Bogasian. Source: Okazaki, R. (2024)

4. Results

4.1. Digital map

Previous database created by Shiraishi (2006) was used as a basis for the research. Other sources such as Addis Woubet/GIZ (2006), Batistoni and Chiari (2004), and Giorghis and Gérard (2019) were used as references. This information was then supplemented with data gathered from fieldwork and interviews with local residents. In total 73 buildings were identified and were plotted onto the google map to share information among the research team.

4.2. Student training workshops

Several training workshops were held between 2022 and 2024 in Addis Ababa and Tokyo to train students from Addis Ababa University, EiABC, and Shibaura Institute of Technology's School of Architecture. These workshops focused on equipping students with skills in using digital devices and editing data for architectural documentation. During the sessions, students also engaged in discussions on the importance of documenting heritage buildings, the advantages and challenges of documentation, and methods for sharing information. In Tokyo, students practiced documenting buildings at the Edo-Tokyo Open Air Museum, while in Addis Ababa, they worked on documenting actual heritage buildings in the Armenian *Sefer*. Throughout the workshops, students gained hands-on documentation experience and participated in cultural exchanges.

4.3. Architectural documentation

Examples of architectural documentation are presented below, showcasing several methods using the former residence of *Kegnazmatch* Wolde Yohannes Woldehab as a case study. This residence is one of the most notable buildings in the Armenian *Sefer*. The ground floor of the main building is occupied by the descendants of *Kegnazmatch* Wolde Yohannes Woldehab and six other families, while one family resides on the first floor. In total, 18 families live in the main building and its surrounding extensions. Many heritage buildings, including this one, are now occupied by multiple families due to the nationalization of properties in the 1970s under the *Derg* regime, which transformed these buildings into residential complexes. Additionally, the history of the building and family was collected through interviews conducted alongside the architectural documentation work.

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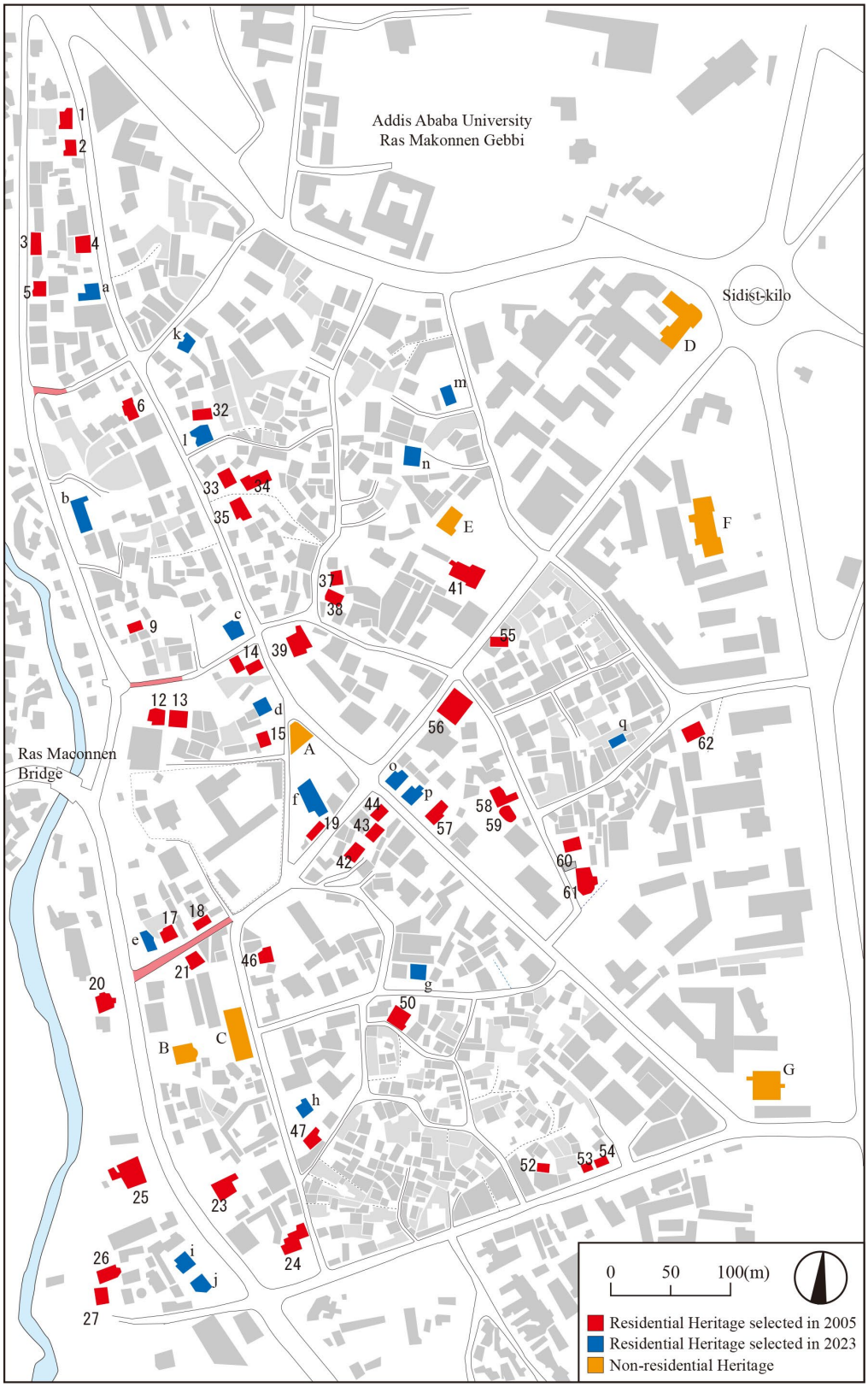


Figure 4. Architectural heritage map of Armenian Sefer. Based on the map created by Shiraishi in 2006
Source: Architectural history lab, Shibaura Institute of Technology. (2024)

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Figure 5. Exterior view, former residence of Kegnazmatch Wolde Yohannes Woldehab. Source: Okazaki, R. (2022)



Figure 6. Upper floor, interior view of entrance room, former residence of Kegnazmatch Wolde Yohannes Woldehab.
Source: Okazaki, R. (2022)



Figure 7. Upper floor, interior view of bedroom, former residence of Kegnazmatch Wolde Yohannes Woldehab.
Source: Okazaki, R. (2022)

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4.3.1. Photogrammetry

To create a photogrammetric 3D model, both DSLR (Sony alpha7R) and action cameras (Gopro) were used to capture images. Since public drone usage is forbidden in Ethiopia, action cameras mounted on 11.5m monopods were employed to photograph the building's upper elevations and roof.



Figure 8. 3D model created by photogrammetry: former residence of Kegnazmatch Wolde Yohannes Woldehab.
Source: Architectural history lab, Shibaura Institute of Technology. (2024)



Figure 9. Elevation generated from a 3D model using photogrammetry: former residence of Kegnazmatch Wolde Yohannes Woldehab. Source: Architectural history lab, Shibaura Institute of Technology. (2024)

4.3.2. Laser scanning

Laser scanner (Leica BLK G2) was used to document the building's exterior and the surrounding compound, effectively capturing the shape of the roof. However, on sunny days, the device would overheat and stop working. Given the high cost of the equipment and the fact that the team only had one unit, it proved unsuitable for workshops with a large number of students, though it provided precise data. Additionally, the LiDAR functionality on an iPhone was utilized to create point cloud notes of the space.

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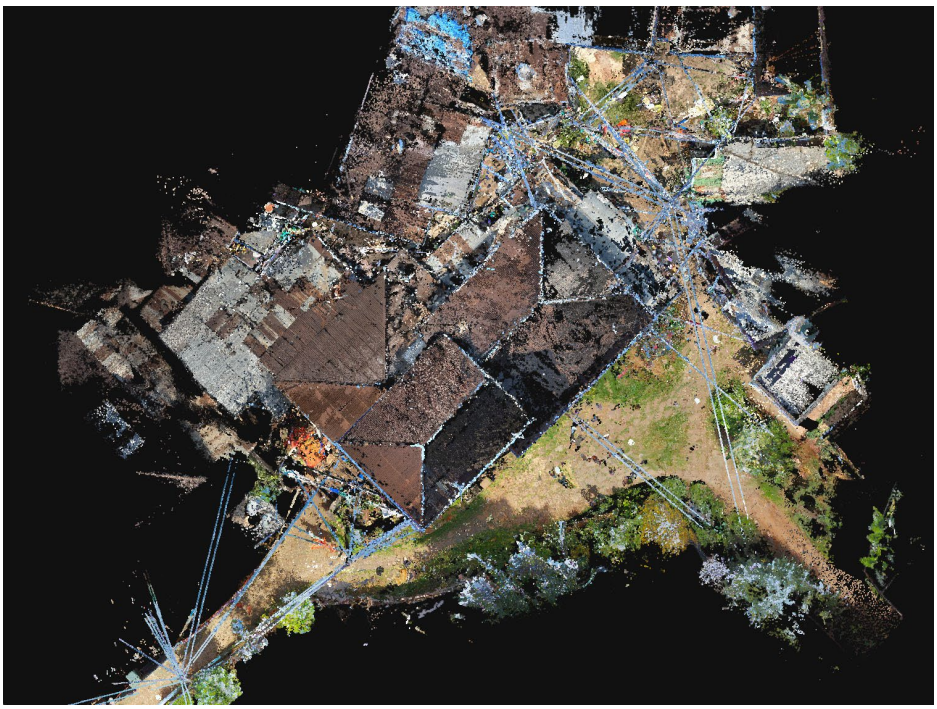


Figure 10. Point cloud data: former residence of Kegnazmatch Wolde Yohannes Woldehab.
Source: Architectural history lab, Shibaura Institute of Technology. (2024)

4.3.3. 3D Camera

3D Camera (Matterport Pro2) was used to create a 3D walk-through tour, and auto-generated plans were produced from the captured 3D model. While the camera excels in producing detailed interior scans, it is not suitable for outdoor use due to its infrared capabilities, which are limited to indoor environments. It is user-friendly and efficient for producing quick drawings when time is constrained. However, the subscription plan can complicate ongoing use and may limit continuous access.

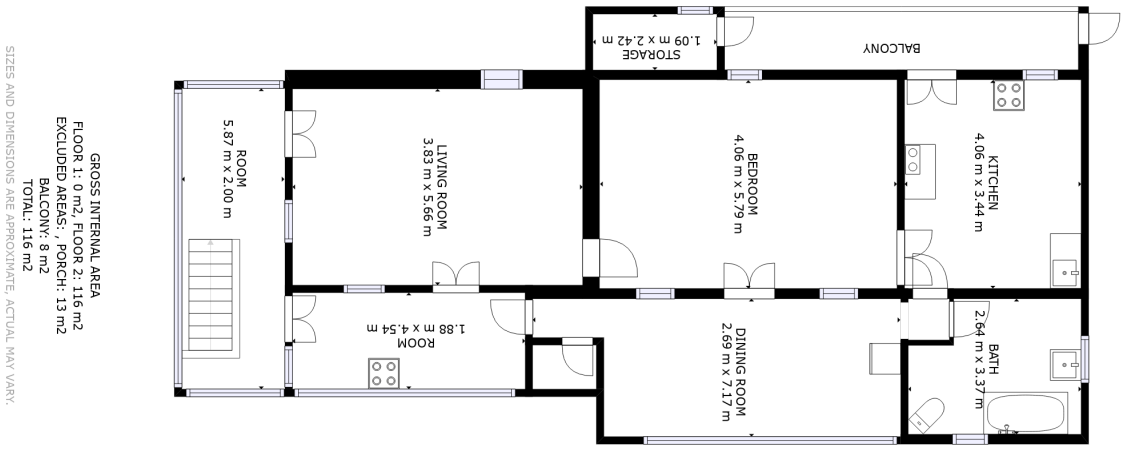


Figure 11. Auto-generated plan 1F, former residence of Kegnazmatch Wolde Yohannes Woldehab.
Source: Architectural history lab, Shibaura Institute of Technology. (2024)

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Figure 12. Dollhouse view of upper floor, generated from 3D camera, former residence of Kegnazmatch Wolde Yohannes Woldehab. Source: Architectural history lab, Shibaura Institute of Technology. (2024)

4.3.4. 360-degree panoramic photos

360-degree panoramic photos were captured using fisheye lens cameras (GoPro MAX, Insta360). When permission was granted by the owners, these photos were publicly shared on platforms such as Kuula (https://kuula.co/profile/softheritage/collections). However, because 360-degree panoramic photos reveal detailed views of the space, there are privacy concerns, making it difficult to share data from residential buildings.



Figure 13. 360-dgree panoramic photo: former residence of Kegnazmatch Wolde Yohannes.
Source: Architectural history lab, Shibaura Institute of Technology. (2022)

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5. Conclusions

The project has demonstrated various methods for documenting heritage buildings in Addis Ababa, particularly in the Armenian *Sefer*, highlighting both the potential and challenges of such an endeavor. The Armenian *Sefer* is a historic gem characterized by diverse building typologies, sustainable traditional materials, and unique construction methods. Its urban composition, combined with a strong sense of community and deep-rooted family histories, reflects the cultural richness of the area. Unfortunately, some of the documented buildings have already been demolished due to the Corridor Development Project in 2024, underscoring the urgency of these efforts. Many of the remaining residential buildings are largely inaccessible and unnoticed by the broader public, hidden behind high walls within private compounds. The project's collected data, including 3D models, offers visually compelling ways to communicate the materiality and details of these structures, providing a clearer understanding of the space and fostering awareness. Yet, challenges such as managing large data volumes, the need for a sustainable data-sharing platform, securing funding, obtaining equipment, and privacy concerns must be addressed. By bringing these hidden gems to light, the project not only raises awareness about the Armenian *Sefer*'s architectural and cultural heritage but also encourages efforts to preserve its unique urban layers for future generations.

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