CULTURAL HERITAGE AND DIGITAL ERA IN KENYA

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ABSTRACT

Background: The use of new technology has risen tremendously in recent years, affecting every area of our life. As a result, it has influenced how various groups around the world experience heritage, whether their own or that of other cultures. People are increasingly discovering and learning about historical locations and monuments through digital media, such as virtual reconstructions, digital representations of artifacts, online recordings, and so on. This is especially true for younger generations, whose initial exposure to cultural heritage is often via a digital surrogate that molds their perspective and perception. *Problem:* This paper explores how cultural heritage in Kenya is preserved through use of digital media and technologies by addressing methods used to make cultural heritage digitally accessible. *Objective:* Cultural heritage is also considered from the standpoint of encompassing more than just tangible artefacts that we may see and touch but the traditions, oral history, performing arts, social practices, traditional craftsmanship, representations, rituals, knowledge, and skills passed down from generation to generation. *Research Design:* this paper employs multiple case study design with the nature of assessing cultural heritage preservation using digital technologies in Kenya by comparing how the National Museum of Kenya and Zamani project from south Africa preserve heritage. Data was primarily collected from secondary source such as websites, article and journals.

   Keywords: Cultural heritage, digital mapping

1.0 INTRODUCTION

Our planet has reduced due to the digital revolution, making different cultures and sites more accessible than ever before. High-resolution photographs, 3D models, and video recordings enable different perspectives on heritage places from throughout the world, while immersive applications give users the sensation of being there. As technology advances, the quality of digitized images, visualization techniques, 3D scanning (and, more recently, 3D printing and laser cutting) enable the accurate capture and representation of information at various scales, ranging from minute details of a fragment's decoration to large-scale models that show the location of various finds over a large area, or the replication (in the case of 3D printing) of objects, buildings, or sites (Economou, 2015).

1.1 Cultural Heritage

"Heritage" refers to a property that is inherited and carried down through generations. In the case of "cultural heritage," the heritage is made up of culture, values, and traditions rather than money or property. Cultural heritage denotes a shared link, a sense of belonging to a group. It symbolizes our history and identity, as well as our ties to the past, present, and future. Artifacts (paintings, drawings, prints, mosaics, sculptures), historical monuments and buildings, and archaeological sites are all examples of cultural heritage. However, the concept of cultural legacy is far broader, and it has steadily expanded to embrace all evidence of human creativity and expression, such as images, documents, books and manuscripts, instruments, and so on.

Because communities identify with the natural landscape, towns, undersea heritage, and the natural environment are now considered part of cultural heritage.

Furthermore, cultural heritage encompasses more than just tangible artefacts that we may see and touch. Traditions, oral history, performing arts, social practices, traditional craftsmanship, representations, rituals, knowledge, and skills passed down from generation to generation within a community are all examples of intangible aspects.

1.2 Potential of Digital Technologies

Heritage is our connection to previous cultures and societies, and it entails complicated interrelationships and phenomena by definition. Digital tools can not only help specialists and professionals arrange the massive amounts of data involved in historical research and recording, but they can also make these data more accessible to a wider audience.

Virtual exhibitions and interactive games can assist a wide range of users, many of whom have little or no prior understanding of the subject, in comprehending expert interpretations.

Digital technologies are also becoming more prevalent during heritage tours, whether they are made with family and friends or as part of a larger group, such as a school excursion. There are an increasing number of cultural tourism mobile apps and services that provide suggestions and routes based on the user's location, preferences, and past decisions. The usage of social media is increasingly assisting various audiences in personalizing this digital historical content, sharing it with various communities, and making it their own, blurring the lines between the public and private realms.

Digital apps are hoped to develop an awareness of heritage as well as encourage people to value

and appreciate heritage by providing various sorts of interaction with heritage material (Economou, 2015).

1.3 Applied Digital Technologies

1.3.1 Geographic Information Systems and 3D Modelling

In the cultural heritage sector, geographic information systems (GISs) are used to store information on places and finds over time and space, as well as to capture complicated socioeconomic data and correlate it to location. GIS technology have become a fundamental component of archaeological practice, as foreseen in the 1990s, in understanding and interpreting the socioeconomic structure of the past (Harris and Lock 1995).

To aid in the documentation and analysis of historic buildings, GIS is being coupled with 3D models. The use of 3D modeling in cultural heritage has gained in popularity as a result of the increasing availability of adequate capturing technology that is specifically built for heritage objects that often vary in size, materials, and surface and shape intricacy. There is also a growth in the capacities of technology and software for processing, storing, and visualizing models, as well as an increase in demand from various heritage users who employ 3D visualizations for conservation, restoration, interpretation, and teaching (Manferdini and Remondino 2012).

The Zamani Project, based at the University of Cape Town in South Africa, is working to preserve African historical sites through three-dimensional, virtual reality-ready models. The initiative is led by Professor Heinz Ruther. He travels across Africa, visiting Ghana, Tanzania, Mali, Ethiopia, Kenya, and other countries, meticulously studying the structure and condition of tombs, churches, and other structures (Giles, 2018).

The project has been going on for ten years, and the crew has digitally archived locations all throughout Africa. Its goal is exemplary: to protect historic sites for future generations. It can take the crew months to document each site. They use high-tech laser scanners and drones to travel to dangerous and hostile areas. They position the scanner at various angles around the building to record the archaeological structures, delivering a laser that records roughly 10,000 points every second. They compile all of the spatial data back at the university to generate the final result, which can be viewed in virtual reality (Giles, 2018).

The Zamani project has managed to archive The Great Mosque of Gede is a Swahili building on the coast of Kenya.

The spatial documentation of the Great Mosque of Gede took place in 2013, using terrestrial laser-scanning. The ruins of Gede (also Gedi), a traditional Arab-African Swahili settlement, lie 90 kilometers north of Mombasa on Kenya's coast. Gede was a small village made completely of stones and rocks, with the majority of the old foundations still visible (Zamani Project, 2013).

The Zamani project also mapped the Lamu fort and the Swahili house museum in Lamu.

1.3.2 African Digital Heritage latest project in collaboration with Museum of British Colonialism have done 3D Mapping and Reconstructing Detention Camps from The Emergency Period.

The Mau Mau insurrection and following state of emergency in Kenya in the 1950s was one of the darkest chapters in Kenyan history. The emergency was declared in October 1952 to crush the Mau Mau

Fig.1. 3D model of the Palace of Gede (source;
https://zamaniproject.org/site-kenya-gede-ruins.
html#header5-h4)28/12/2021

revolt, which arose in opposition to repressive colonial rule and practices (African digital heritage, 2021). One of the main tactics used by the British colonial government to 'stop' the movement was to set up detention camps and several forced villages where many people were held, tortured, and abused.

Detention camps were classified as labor camps, exile camps, holding camps, women's camps, and juvenile camps, among others. Historians estimate that at than 100 such centers were established during this time period. What is striking, however, is that despite their presence, virtually little is known about these camps in the public realm (African digital heritage, 2021).

Fig. 2. Reconstruction of detention centers in the emergency period in colonial Kenya. Source: https://africandigitalheritage.org/reconstructing-mau-mau-detention-camps-towards-a-more-truthful-account-of-british-colonialism/

1.4 Mobile Gaming Applications

The massive increase in cell phone ownership and usage over the last few years has had an impact on cultural heritage initiatives. Several heritage organizations, companies, and scholars throughout the world are experimenting with the potential of mobile apps with cultural content, notably their sophisticated processing abilities, location awareness, and connectivity (Economou, 2015).

The ability of cell/mobile phones to be used in conditions and environments of the users' choosing

opens up new possibilities for cultural content communication to support engagement with heritage and learning at various levels, as well as establishing a link between the heritage organization and its users. Serious games, as educational games are sometimes referred as, have been utilized in a variety of contexts in cultural heritage, and have been built for a variety of platforms using a variety of ideologies and design techniques. They were created for learners of all ages and levels in the formal learning context of the classroom, as well as for informal learning situations such as at home (Economou, 2015).

Safari Tales is an educational and entertainment app that enables kids to access African stories in digital format and enables them to learn African languages. Released by Kuato Studios, this interactive game app is created just for young kids to engage and learn while having fun at the same time. Safari Tales was begun by Njeri Wangari in 2014 because when her daughter turned three, she saw she was losing interest in all the toys she had purchased for her. She also realized that while most children enjoyed listening to nursery school rhymes, there were very few available in audio-visual form in Kenya (appsafrica, 2015).

The application has: Folk Tales, Poems & Tongue twisters, Songs- Nursery Rhymes & Lullabies and Learn Kiswahili. The following are the application's features:

i. All of African folklore in one app

ii. "Read to Me" — listen to the narration while reading the story.

iii. "Read it Myself" — read the book in its traditional form; "Auto Play" — plays like a movie, reading and changing pages automatically.

iv. Tap a word to read its definition from the built-in dictionary (appsafrica, 2015).

The Safari Tales game immerses the youngster in the world of five cute baby animals. They learn to read and recognize and follow directions while exploring and learning about these animals' African habitats. One of the best things about Safari Tales is that the child may turn their trip into a fascinating interactive storybook at the end of each play session. This implies they'll be able to store their story and read it later (Virginia, 2018).

Fig. 3. The five animals in the safari tales mobile game app
(source; http://www.safaritalesgame.com/)

1.4 Digitizing of Cultural Heritage

Digitization, which may be described as the conversion of information from analogue to digital form in its most basic form, has had a significant impact on cultural heritage preservation. The most sensible technique of preserving cultural assets appears to be digital preservation. Despite a number of concerns concerning cultural heritage preservation, it appears that many cultural heritage agencies in poor nations are still wrestling with the digital century's demands (Zhou et al., 2012).

A material is photographed or scanned and then transferred to a computer as part of the digitization process. Because it generates a digital reproduction to distribute, this method is capable of reducing wear and tear on the original material. It's worth noting that digitally preserved material can reach even more people if it's made available on the internet, rather than requiring users to visit a library, archive, or museum to examine it (Celi & Moore, 2015).

1.4.1 National Museums of Kenya

Google, the world's largest search engine, has initiated a project to digitize and display collections from Kenya's National Museums (NMK). Amina Mohamed, the Cabinet Secretary for Sports, Culture and Heritage, said the effort is part of the government's ambition to digitize Kenya's major museums. "This will allow viewers to learn about the country's cultural legacy, which will then connect us to neglected social values, beliefs, and practices," Ms. Mohamed said at the project's debut in Nairobi. The project, according to Amina, will inspire people to visit Kenya's museums, monuments, and heritage places in person (Kimuyu, 2019).

The Google Arts & Culture digital platform provides viewers with high-resolution photographs of works located in the museums of its project partners (Kimuyu, 2019).

The online exhibition is Google Arts and Culture's most ambitious effort in Africa to date, and it is the product of a one-year large-scale digitization exercise, according to Google. The Google Arts & Culture web platform provides viewers with high-resolution photographs of works located in the museums of its project partners. Kenyans can access the platform's treasured exhibits by downloading the Google Arts & Culture app (National Museums Kenya, 2019).

Fig. 4. National Museums of Kenya technicians digitizing portrait. Source: https://artsandculture.google.com/story/digitizing-the-collections-of-the-national-museums-of-kenya/owIiGQ3avLbbLg

Google Arts & Culture and the National Museums of Kenya have collaborated to launch Superhero stories to commemorate Mashujaa Day in 2020 and raise awareness about Kenya's heritage. Superheroes is an online exhibition that honors Kenya's heroes and heroines from each of the 44 Kenyan communities. The exhibition debuted on October 20, 2019, and highlighted the Shujaa stories of 28 superheroes from 14 different communities. Google Arts & Culture and the National Museums of Kenya have been collecting Shujaa stories from all Kenyan communities over the last year. The 61 Superheroes collection now includes 61 "mashujaa" from the 44 ethnicities who demonstrate Kenya's variety and inspire harmony in diversity (Mohamed, 2020).

Fig. 5. Kenya's folk and cultural heroes on google arts and culture documented by National Museums of Kenya. Source: https://blog.google/around-the-globe/google-africa/mashujaa-celebrate-communities-kenya-google-arts-culture/

Everybody can now view over 10,600 high-resolution pictures, 170 expert-curated displays, and 80 Street Views of 16 sites to learn more about the country's 44 officially recognized towns' intangible heritage and narratives. The exhibitions shed light on Kenya's communities' geography, history, traditions, morals, worldview, and wisdom, with some of their stories—typically passed down through oral history—being written down and shared online for the first time (Mohamed, 2020).

1.4.2 Digitization of Musical Heritage (Tabu Osusa)

Music is an integral aspect of a country's immaterial cultural history. Much of historic Kenyan music is preserved on tapes, cassettes, and other perishable media, which may be destroyed due to natural degradation in the near future. The digitization of music is essential for Kenya's cultural history to be preserved, and the preservation of music is important in and of itself. However, it is equally critical to make digitized music available to Kenyans as well as the rest of the world. It would, for example, provide new insights into local, regional, national, and worldwide cultural heritage for tourists, as well as useful material for journalists, musicologists, researchers, and others, and it would help promote Kenyan music and culture at home and internationally (Osusa & Odidi, 2015).

Tabu Osusa is a Kenyan music producer, author, and the founder of Ketebul Music, a non-profit devoted to exploring, documenting, developing, and promoting East Africa's diverse musical legacies. The

Singing initiative was established nine years ago by his organization and the Abubilla Music Foundation. This is a joint initiative that uses mobile recording studios to travel to isolated villages across East Africa to record and archive indigenous sounds and music in an audiovisual format. These musical performances are then posted on their website, SoundCloud, and YouTube channels (Osusa & Odidi, 2015).

Since 2010, Ketebul Music under Mr. Osusa has produced and released three documentaries titled;

1. Retracing the Benga Rhythm.

2. Retracing Kikuyu Popular Music.

3. Retracing Kenya's Funky Hits.

Currently, production is underway for the fourth installment in the Retracing Series titled: Songs of Protest, which aims at retracing and documenting music that addressed socio-political injustice in Kenya (Osusa & Odidi, 2015).

Fig. 6. Tabu Osusa; Ketebul Music founder. Source: http://www.ketebulmusic.org/staff/

2.0 CONCLUSION

Heritage has always been significant, but in an increasingly globalized world, our understanding and attitude toward cultural heritage is more vital than ever in establishing our sense of place and context. The use of new technology has increased tremendously in recent years, penetrating every part of our life especially in a culturally diverse country with 44 communities. Cultural heritage preservation encompasses both tangible and intangible artefacts to be documented using digital technologies so that they can be accessed online by a lot of people and in turn prevent the heritage to be lost over time. Kenya has taken measurable steps towards digitization of cultural heritage but there is still much left to cover as well. The government of Kenya has collaborated with Tech giants like google to strive for documentation of the multifaceted Kenyan cultural heritage.

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