

# Role of Digital Technology in Museum Development: A Special Reference to Odisha State Tribal Museum

Sanghamitra Sethi<sup>1</sup>  
Paramananda Naik<sup>2</sup>

<sup>1</sup>Assistant Director (Research), SCSTRTI, Bhubaneswar, Odisha, India

<sup>2</sup>Ph.D Research Scholar (UGC-RGNF), Department of Anthropology (CAS), Utkal University, Bhubaneswar, Odisha, India

**Abstract:-** This paper discusses the role of digital technology in development of Odisha State Tribal Museum in the digital era. This article is an attempt to explain the importance of Tribal Museum and how digital innovation helps to show material culture in virtual mode of interaction. The main purpose of this paper is to highlight the culture of indigenous people of Odisha. The authors in this paper have attempted to highlight the digital technology adopted in the Odisha State Tribal Museum. The digital intervention has elevated the status of this Museum from the static situation to a movement one.

**Keywords:** Museum, Digital, Technology, Indigenous, Culture.

## I. INTRODUCTION

The word “Museum” comes from Ancient Greek word “Mouseion” represents a place or temple dedicated to the Muses (the patron divinities in Greek mythology of arts) and hence a building set apart for Study and Arts. Oxford dictionary defines Museum as “A building in which objects of historical, scientific, artistic or cultural interest are stored and exhibited”. Cambridge dictionary defines Museum as “A building where you can look at important objects connected with art, history or science”. According to International Council of Museum (ICOM) statues adopted by the 22<sup>nd</sup> General Assembly in Vienna, Austria, on 24<sup>th</sup> August, 2007, “A Museum is a non-profit, permanent institution in the service of society and its development, open to the public, which acquires, conserves, researches, communities and exhibits the tangible and intangible heritage of humanity and its environment for the purposes of education, study and enjoyment”. Museum is an institution with functional approach to provide service to the mankind. Museum is a place where cultural heritage of man is preserved and maintained for future generation and also helps to enlighten the society and preserve the glorious past of the ancient culture of mankind. The Museum exhibits the magnificent and splendid history of a nation, cultural heritage, growth and advancement of the techniques. It is a hub of lot of things in one roof viz. entertainment, amusement and education. The scope and area of Museum not only complies of preservation and exhibition of the rarest objects and antiquities, furnish information but also a medium of supply of education. Museum like any other institution also transform its perspective. The progress and evolvement of Museum can be from a reservoir to educational organization (Chandrasekaran,2017).Museum is

an institution not merely compulsion of teaching but it may be considered as an unit which gratify the quest of knowledge in a broader perspective for a layman as well as the academicians or a person with specific interest on it. Museum is caution about the collection and display of its exhibits of artistic, historical, scientific or any other and make accessible to the common mass through exhibition for temporary or permanent (Pushakar,2013).The museum is where one would go with his/her perceptions of reality and compare with what was already accepted and approved, and therefore objective view of reality, enshrined within the museum (Ames,1986).The evolutionary progress of man can be visualizing savvy by the help of museum. The progress can be sense better if one can get scientific knowledge placed in a particular institution in a systematic manner. As a part of intellectual perspective, the resurgence of culture is maintained through the assemblage of art and artefacts. Museum must be having three basic qualities. The first and foremost quality is it can demonstrate the antiquities an elastic manner and show charts, second, the antiquities must be value oriented and enable to provide knowledge through display, third, museum must possess its own content (Roy, 2006).

## II. MATERIALS & METHODS

The discussion in the paper is representative in nature. This paper has been prepared from the firsthand observation made in the Odisha State Tribal Museum (OSTM) and literature available in different sources.

## III. ANALYSIS & DISCUSSION

### ➤ *Origin of Museum:*

In the earliest part of 16<sup>th</sup> century A.D the term “Mouseion” was used. Earlier micro artistic objects/artefacts were placed in Museo and the macro objects were placed in Gallaria, is the ancestral form of 19<sup>th</sup> century art gallery. In Greek mythology, Muses were the daughters of Zeus, they were nine daughter who were officiated over learning, art, science, poetry, music and science. Hence Museum came from the “Muse” who officiated over arts or science. The inquisitiveness forced to gather different objects by different personnel in subsequent time. During 16<sup>th</sup> and 17<sup>th</sup> century A.D some of the King and Nobles were interested to collect antique objects out of personal interest and to maintain status. Radically the interest and habits might changed into the Museum where the objects were kept with intension of disperse intellectual knowledge and means of amusement. For time being these were accessible for commoners who

had keen interest in acquired knowledge. In the middle part of 18<sup>th</sup> century the Museum went through a drastic change, the collection objects were no more private property, it was accessible by public and its maintenance were met through funds collected from various source. Again in the beginning of 19<sup>th</sup> century significant change found in terms of Museum scope and perspective. In the middle part of 19<sup>th</sup> century emphasis was given to the management and aggregation of materials/objects. In the late 19<sup>th</sup> century a tremendous change was took place in which the Museum regarded as the intellectual hub where information available were of various kinds. Then the Museum was recognized as a treasure which preserves the culture and rich heritage of nation. Later the approaches of Museum are gradually changed where public interaction found its place. The involvement of Anthropologists, Psychologists, Museologists and Sociologists were necessary who conduct research on various dimension of Museum and also to understand the visitors perception. Later different approach like aesthetic, intellectual and romantic perspectives were introduce which deals with different field like, aesthetic for art and craft, intellectual for natural history and romantic for art and history Museum. But these three altogether found in Museum of Anthropology, History and Archaeology. At the beginning of 20<sup>th</sup> century the Museums were developed it's administration management system to deal in respect to collection, display and preservation (Roy, 2006). For the betterment of Museum, deliberation of service, management, planning and make connection between the centres, an organization was constituted in the year 1946 in Paris known as International Council of Museum (ICOM). The members of which are directors and curators of the eminent Museum of World.

#### ➤ *Origin of Indian Museum:*

The museum movement was not new in India, it can be examined by different institution that were served the people and fulfill the purpose like providing education and entertainment. These institutions were Alekhyagrihs, Devakulas, Viswakarma Mandiras, Chitrashalas and Monasteries (Roy, 2006). The development of Museum in India can be trace back to the period when the Asiatic Society of Bengal was established a museum in the year 1814, it was for the 1<sup>st</sup> time, the society realize and felt the need of museum to display in proper manner the antiquities and cultural material. The museum is consisting of two segments, one segment comprises of Archaeological and Ethnological and other segment comprises of Geological and Zoological. The first curator appointed was Dr. Nathaniel Wallich. Later the collections had been shifted to Indian Museum Calcutta in the year 1875. Slowly the other part of India number of museums were set up like Government Museum ,Madras, 1851,Natural History Museum, Trivandrum,1857, Central Museum, Nagpur, 1863, Lady Wilson Museum,1928 etc. In the 19<sup>th</sup> Century the Britisher was set up many institutions like Geological Survey and Botanical survey. The Archeological Survey of India and Asiatic Society were established in concerned with Art & Culture. It was that time when the Philosopher and Researcher came from west to India to explore the distant land and people; it was a treasure of antiquities for them.

After the establishment of Anthropological Survey of India the attention was bring to the matter that certain forces like modernization, migration have enormous impact on the life style of tribal and rural people. It was expedient to take step to collect, preserve and exhibit the heritage of these people. The Anthropological Survey of India was started a number of programmes like regional Anthropological museum with the genuine intention to rescue the art, craft and material culture of people. These museums were established in the tribal dominating area. Later a museum of tribal art was established by the Government of Madhya Pradesh in 1982 (Das,1989). When India became independent the valuable treasure, art and object of Raja & Maharaja were kept in their palace and later set up as a Public Museum. Slowly numbers of Museum were established in length and breadth of India. (Punja,1990). The state Government also took initiative to set up museum in their state.

#### ➤ *Technology and Museum:*

Technology has rooted itself as one of the essential parts of the society. At present the society cannot imagined without the Digital Technology. In the present era the technology also proof itself useful in enrich the Museum. The Museum of the world introduces many technology like AR (Augmented Reality) and Virtual Reality (VR) in respect to give real feeling of the present subject. There are lots of instances of the Museum where many Digital Gadgets are installed and accepted by the Visitors. For example- Prado Museum in Madrid, Science Museum in London, Metropolitan Museum of emerging science and innovation, Tokyo. Technology is like a bridge between the knowledge and knowledge gainer as the life revolve around the technology it engage the visitors of various age group as the children are more attract towards it and the intellectuals can enhance the knowledge through it. In subsequent period the Revolution of Museum also takes place under the umbrella of Digital Technology. The strategy of technological innovation has positive impact on the sustainability of museum. The implementation of such technologies requires a lump sum of money and it succeed to push up the income into higher level and able to maximize the number of visitors to a great extent (Pop, Borza, 2016). Museums are now implementing innovation technology that gives the visitors a new experience and ability to make it unforgettable. Technology has the capacity to store bulk of information and present it to various types of audience as per their requirements and desires. It is the technology that helps always in every where (Medic, Pavlovic, 2014).It enables the visitors to access at home or any corner of the world. Without divert the mind of the audience the technologies should be in a strategic way that fulfill the principal aim of the museum and give a memorable experience (Vaz, Fernandes, Veiga, 2018). Recently the people at global level are concerned about the cultural heritage and playing serious thought on conservation and preservation of material remains of their ancestors (Mahapatra, 2017).

➤ *Types of Museum:*

The collections of Museum are different from each other. There are different specializations like arts, historical objects, scientific objects etc (Pushakar, 2013). There are different types of museum in accordance to its types of collection. The museum may assemblage huge and varieties of collections in major cities and particular museum of small cities. The types such as arts, craft, archaeology, anthropology, ethnology, history, cultural history, military, science, technology, maps, natural history, encyclopedic museum, children museum, numismatics, botanical and zoological garden and philately. Tribal Museum in India gives a glimpse into the fascinating culture of different tribal. Some of the Tribal Museums viz.(1) Odisha State Tribal Museum, Bhubaneswar, Odisha (2) Tribal Museum, Bhopal, Madhya Pradesh (3) Tribal Museum, Araku Valley, Andhra Pradesh (4) Nehru Centenary Tribal Museum, Hyderabad, Telangana (5) Tribal Museum, Ooty, Tamilnadu (6) Tribal Museum, Ahmedabad, Gujarat (7) Tribal Museum, New Delhi (8) Tribal Museum, Pune, Maharashtra (9) Kerala Institute for Research Training and Development Studies (KIRTADS) Museum, Kozhikode, Kerala are take the responsibilities of preserving and showing the life and culture of Indigenous People.

Odisha is a homeland of 62 tribal groups, numerically the state occupied the 1<sup>st</sup> position having 62 numbers of tribal groups and after Madhya Pradesh and Maharashtra Odisha has occupied the third position in terms of populations which constitute 22.85% of its total population. These tribal communities have their own rich cultural value which in turns helps to enhance the cultural heritage of Odisha at large. These communities have their lifestyle, customs, traditions, dress pattern, ornaments, music, dance, food pattern, religious beliefs, art and craft which are distinct from others. These communities have their own expertise over their art and craft which need to be recognized and popularized. But in subsequent period adverse effect of modernization and industrialization also affect these Indigenous communities. In result the unique culture slowly changes and loses the valuable part. Being a tribal dominant state it is necessary to showcase the belongings of the tribal groups. The Museum of man is an institution contained the entity of human being holistically. Industrialization and Urbanization is the main reason behind the rapid change in primitive societies.

The material culture, art, traditional knowledge, technology and way of life of primitive people are more prone to affect. Today some aspects of culture of indigenous people are in the verge of extinction. Indigenous tools, household equipments, textiles, hunting weapons, agricultural implements, attire, ornament, musical instruments, basketry, pottery, art and crafts are losing its significance and slowly disappeared for new generation (Das,1989). In order to abate the negative effect of urbanization and industrialization, it is essential to preserve at least some of the artefacts of their wealthy heritage. So it is necessary to have proper documentation, collection and exhibition of this indigenous material culture before it completely disappeared and lost its significance and utility.

➤ *Odisha State Tribal Museum (OSTM)*

The Museum was established in 1953 as an ideal frame of “Museum of Man” where all the objects were exhibits in a single hall in the premises of Tribal Research Bureau (now known as SCSTRTI), Bhubaneswar. Odisha State Tribal Museum is known by different names such as ‘Museum of Man’ and ‘Museum of Tribal Arts and Artefacts’. Prior to 1984 very less number of unique objects belongs to Scheduled Tribe (ST) were placed in the premises of THRTI (current name SCSTRTI).

Later it was felt that the objects should be placed in a building, initially five replicas of huts of five well known tribes namely Santal, Juang, Saora, Gadaba and Kandha were constructed where the belongings were found its place. The huts were constructed in the name of Museum of Man with the financial assistance from Ministry of Welfare, Government of India and ST and SC Development Department, Government of Odisha. Later 1987 onwards, the construction of Museum building was taken up and again renamed as “Museum of Tribal and Artefacts”, which inaugurated by honorable Chief Minister of Odisha on 5<sup>th</sup> March 2001. Subsequently 2 more tribal huts of Chuktia Bhunjia and Gond were constructed adjacent to other huts. In the open space of Museum building shrine craft of different well known tribe viz. Bhattada, Bhumia, Dharua, Kandha, Dongria Kandha, Juang, Lanjia Saora, Santal and Saora were placed reflecting the spirituality and beliefs system of people (SCSTRTI,2017). Replicas of terrace cultivation are also developed in the museum complex highlighting the indigenous knowledge system of Lanjia Soara in respect to soil and water management and utilization of the hilly lands. To demonstrate, elevate and widespread the bequest of Odisha tribal culture, the Museum now renamed as Odisha State Tribal Museum (OSTM) with a genuine aim of portray and preserve the magnificence of tribal life style viz, spiritual believes, indigenous knowledge, worldviews, economic, social and cultural aspects etc. The Museum is shouldered with the responsibility to take visitors in a tour to the dream land of tribal world where they can feel the sacredness of indigenous communities. It is a point of attraction for the academicians, researchers, philanthropists and Nobel laureates of our country and abroad. The people who visit to the Museum are fascinated by the rich tribal culture. The Museum has already got International reputation and placed in the World Tourist Map by UNESCO in the year 2018 and it declared as Odisha State Tribal Museum (OSTM). The main building of Odisha State Tribal Museum (OSTM) has 5 display galleries categorizes under 5 broad division, namely hall-1 represents personal adornments of the scheduled tribes including Particularly Vulnerable Tribal Groups of Odisha. The hall represents the beautiful attire and varieties of ornaments adorn by the indigenous people in order to beautifying the body. The collections include bangle, armllet, anklet, necklace (bead, metal including silver, brass and aluminum), ear ring, toe ring, finger ring, waist chain and neck band etc. Hall-2 depicts textiles, personal belongings & paintings. The textiles of vibrant communities who are famous for their unique dress pattern like Dongria Kandha, Oraon, Kutia Kandha, Kandha, and Dharua etc. The personal belonging

comprises of comb, wine pipe etc. The painting of Santal, Juang, Kolha, Saora, Lanjia Soara and Gond. Hall-3 showcase hunting & fishing implements, weapons of offence and defense covering different tribal communities. The collections include Bow and Arrow, Fishing trap, Knife, Sword, Axe and Spear etc. Hall-4 represents household objects and agricultural implements of indigenous groups. The exhibits includes Straw collector, Ladle, Plough, Leveler, Sickle, Knife, Hoe, Spade, Carrying pole, Husking lever, Rope and Sling, Cow bell and Utensil etc. And Hall-5 represents dance, musical instruments and Dhokra items. The collections includes Changu, Blow instrument, String instrument, Clapper, Flute, Stick instrument, Dance costume of Koya, Holva and Dhokra item etc. There are 2770 number of art and artefacts are displayed in 5 galleries, PTG world and huts and rest are kept in the store rooms which are alternatively displayed in rotation basis. There are more than 5000 art and artefacts are kept in the Odisha State Tribal Museum.

All the galleries depicts the authenticate taste of tribal culture, for further extension to Museum; a new gallery has been constructed to reflect intently the PVTG of Odisha. The extension building named as PTG world where one can visualize and sense the present of these vulnerable sections. The new building was inaugurated by Honorable Chief Minister of Odisha, Shri Naveen Pattnaik in the year 2013. Short documentary film based on various aspects of tribal communities is screened everyday in two slots from 11.30 a.m to 1p.m and 3.30 p.m to 4.30 p.m in Mini theatre in order to give in-depth knowledge and entertainment to the visitor. The aim and objective of Odisha State Tribal Museum is to conserve and display the material culture of indigenous peoples of Odisha. Odisha State Tribal Museum has also three digital links for the people i.e. (1) <https://www.ostm.in> (Website) (2) Museum of Tribal Art and Artefacts (Mobile App) (3) Odisha State Tribal Museum (YouTube). Odisha State Tribal Museum has been taken digital initiatives such as (i) Interactive Touch Screen Kiosk (ii) Informative Map (iii) Audio-Visual Interactive Tablets (iv) Virtual Reality with Immersive Experience of socio-economic and cultural aspect of different vibrant tribal communities (v) 360<sup>o</sup> Virtual view of Tribal Museum.

#### ➤ *Interactive Touch Screen Kiosk:*

In addition to physical exhibition of material culture of tribal communities, Interactive Kiosks are also installed to impart more knowledge about 62 Scheduled Tribe including PVTGs of Odisha. By accessing the kiosk one can get the holistic picture of each tribe. Videos, photos and write up on communities are installed covering basic information about them including origin of the tribe, population of the tribe, religion, language, occupation, culture and craft etc.

The details of unique and rare artefacts including pictures are also placed in the Kiosks and the videos of various categories like dance form, song, art and craft, siali rope making of Mankirdia, mat making of Paudi Bhunyan, comb making by Juang and Kutia Kandha, rope making and bamboo craft of Lodha and weaving of Bonda, videos on wall painting of Lanjia Saora and video on indigenous

knowledge of different communities like shifting cultivation of Kutia Kandha, horticulture of Dongria Kandha, honey, resin and arrow root collection of Hill Kharia, video on playing musical instruments, short video on Kapda Ganda (embroidery shawl) of Dongria Kandha are incorporated for the visitors. In total sixteen Kiosks are installed, five Kiosks in five galleries of main building and eleven Kiosk in PVTG gallery.

#### ➤ *Audio Visual Interactive Tablet:*

To accelerate the visitors in a better way Audio Visual Interactive tablets is introduced where short documentary films, photographs of valuable rarest objects of 5 galleries, schematic drawings, animation graphics and audio are placed in 3 languages viz. Odia, English and Hindi. This is very useful for physically impaired, differently able and senior citizens who are not able to move freely to the galleries, PTG world, shrine craft and huts. The tablet is very helpful for physically impaired, aged people and also for the children.

#### ➤ *Informative Map:*

The OSTM has been introduced the informative map through this one can provided with mobile phone, by scanning the QR code the basic information like geographical area, language, population and photograph of the 62 tribe of Odisha are flashed in the screen.

#### ➤ *Virtual Reality with Immersive Experience:*

Another gadget namely 360<sup>o</sup> Virtual Reality with Immersive Experience has been installed in Odisha State Tribal Museum. Through this one can feel the presence of his/her within the community. The videos in ten different aspects of 18 vibrant tribal groups of Odisha such as Gadaba, Dharua, Gond, Kutia Kandha, Koya, Didayi, Chuktia Bhunjia, Hill Kharia, Mankirdia, Paroja, Omanatya, Bhattada, Paudi Bhuyan, Ho, Santal, Dongria Kandha, Bonda and Juang . The videos of Gadaba tribe such as weekly haat, cashew nut cultivation, toddy tapping, fishing and dhensa dance etc. The videos of Dharua tribe include husking of cultivated grains, collection of roots, tubers, resin and Dandari dance etc. The videos of Gond tribe include maize cultivation, vegetable farming, wood work, collection of oil seeds etc. The videos of Kutia Kandha include Maa Thakurani puja, cleaning of castor seeds, collection of roots and tuber etc. The videos of Koya tribe include Bison horn dance, marriage ceremony and collection of medicinal plants. The videos of Didayi tribe include house pattern, fishing, cattle rearing and grinding and husking etc. The videos of Chuktia Bhunjia include broom making, plastering, view of house, kitchen and deities etc. The videos of Hill Kharia include resin collection, journey to a Hill Kharia village and arrowroot collection and processing etc. The videos of Mankirdia include siali rope and basket making, song etc. The videos of Paroja include grazing of cattle and winnowing of paddy etc, The videos of Omanatya include shrine of Maa Thakurani and grinding of mandia etc. The videos of Bhattada include paddy craft, crab catching and ploughing etc. The videos of Paudi Bhuyan include mat, leaf cup and broom making and Bisri Thakurani puja etc. The videos of Ho include husking of rice, leaf plate making

and dance etc. and different aspects of Santal, Dongria Kandha, Bonda and Juang which gives very lively experience to the visitors.

➤ *Virtual Tour:*

In the digital era the development of internet and web introduce a new form of exhibitions of museum. This museum has facilities to take its visitors to a 360 degree tour to all the galleries where one can see specimens and short description of certain unique exhibits, shrine craft and huts. Like other museum of the world, the Odisha State Tribal Museum have both physical and virtual mode of exhibition. The museum has been uploaded 2 videos related to the tribal culture in Sunday morning which was started in August 2020 in order to bind and engage its visitors for hours together. Incorporate technology in museum has the potential to fascinating and increase audience. Introduce the application of various technology in museum is quite appreciate by the visitors. Through technology the visitors are getting detailed information, immersive experience and a sense of excitement.

Eminent visitors like Union Cabinet Minister, Ambassador of China, Jt. Secretary, Ministry of Tribal Affairs, Govt. of India, UNDP, India (Country Director), Hon'ble Minister, ST & SC Development and Hon'ble Chief Minister, Odisha, Governor of Rajasthan, Heads of U.N. in India, Hon'ble Member of Parliament, Representative in India World Food Programme, United Nations, Chairman WIPRO, TATA Group and Dignitaries from various countries like UK, U.S.A, China and Malaysia etc have visited the OSTM and gave their views regarding tribal artefacts and utilization of technology, which shows the value and popularity of Odisha State Tribal Museum (OSTM).

#### IV. CONCLUSION

Odisha State Tribal Museum showcases the different facets of life illustrating the rich heritage of Tribal culture. The Museum exhibits are delineating the human culture that built the Past and ascertain the present and provide guidance to the future. This Museum is a reservoir of knowledge delineating the custom, traditions, rituals, beliefs and practices of Tribal. Both Indian and foreign visitors are appreciated the objects placed and also the gadgets installed taking into consideration to the age group of audience. Every year many eminent and esteemed visitors came and mesmerized by the greenery of the campus, lost in the fragrance of the flower and unparallel art and artefacts of the Odisha Tribe. In the digital era it is demand of time that one should embrace the modern equipment in museum. Looking into the visitors, academicians and scholars, the Museum should design in such a way so that everybody can easily access it. But technology should not go opposite of culture as it has positive side as well as backlog. But in the pandemic (COVID-19), there was high demand of this digital application in the Museum. During this period where all the tourist places including the Museum were closed, the physical interaction was not possible, through virtual tour one can visit the museum, access the artefacts exhibits in the

galleries. It is like a value addition in delivering the knowledge. For broadening the quantity of visitors, digital technology is proof a powerful tool. Technology should be efficiently implemented so that one can feel the taste of ancient heritage and culture in a better way. The applied of technology is definitely welcoming step and widely accepted by the visitors.

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