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**Research Paper** 



# Rock Arts of Buddhist Caves in Vidarbha (Maharashtra) India

Dr Akash Daulatrao Gedam

Asst. Prof. Dept. Applied Sciences & Humanities, Yeshwantrao Chavan College of Engineering, Wanadongari, Hingna Road, Nagpur-441110

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## I. INTRODUCTION:

Vidarbha (19° 21"N and long 76° 80"E) is an eastern part of Maharashtra state and is outside the Deccan trap area and falls geologically in the Gondwana formation. It is border the state of Madhya Pradesh to the north, Chhattisgarh in the east, Telangana in the south and Marathwada and Khandesh regions of Maharashtra in the west. Situated in central India, Vidarbha has its own rich, cultural and historical background distinct from rest of Maharashtra, Besides in archaeological remains. Nagpur having Archaeological evidence at every part, the Prehistory Branch of the Archaeological Survey of India, Nagpur has reported Middle Palaeolithic and Upper Palaeolithic sites from the district (IAR 2002-03: 145-148). A notable discovery was of a Neolithic celt made on schist (*Adam* Excavation 1987-1996) a very less countable prehistoric site in situated Vidarbha region. After that early Mauryan and Mauryan activities in this area and majority of sites are belongs to Satavahanas period. We found archaeological evidences ranging from prehistoric period to modern era at every part of Vidarbha and particularly in Nagpur, Chandrapur, Bhandara and Gondia districts which are known to archaeologist for burial of Megalithic people. However, early historical evidences are scattered in the periphery of Nagpur District. But, we found largest concentration in the *Satpuda* range and the valley of *Tapi*, *Nag and Waingangā* Rivers.

Ancient Buddhist sites belonging to Hinayana and Mahayana sects scattered all over the part of Vidarbha. As far as presence of Buddhism in Vidarbha is concerned, which are the main excavations sites at Pauni (Bhandara district), Adam (Nagpur district), and Mansar (Nagpur district) and recently at the site of Bhon (Buldana district) have unearthed the evidence of stupa structures. New discoveries in the form of Buddhist sculptures or rock-cut caves had been reported. But, few researches are worth mentioning, such as an article S.B. Deo focusing on Hinayana Buddhism in Vidarbha. Dr. Priyadarshi M. Khobragade has been worked on Early Buddhist Archaeology of Waingangā Valley; Prof. Dr. Pradeep Shaligram Meshram also looked into various aspects such as the architecture of Buddhist cave, sculpture, and reading of inscriptions. The oldest inscription of Vidarbha was belonging to Ashokan period. This inscription found in Deotek village Dist. Chandrapur and engraved by Mahamatrya of Asoka. There are many number of inscriptions was found from Adam, Pauni and its periphery sites. Mahakshtrapa Rupiamma Pillar Inscription reported from Pauni. These inscriptions related Sunga-Satvahana period as well as Nasik cave inscription also related to Buddhism of Vidarbha.

#### PETROGLYHS TECHNIQUES

Art work created on the richly textured background of rock the wall and the surface are designed of rock art it can also be extended to cover the art both paintings and sculpture made on rocks and caves by people during prehistoric to early historic period, then it becomes cave art. Rock arts include painting, engraving, carvings sculpture and cupules over the rock surface of rock shelter. Rock art describe chiefly into **Petrographs** (rock paintings) and **Petroglyphs** (rock boushings/rock engravings). In short, Petrographs are identified as pictorial decoration while Petroglyphs are the plastic decoration of the rock art depictions. The Petroglyphs are mostly in the nature of bruising rubbed with stone on granite in southern Deccan. In the Himalayas these includes dots, holes, conical, U-shaped cup marks, large pits, foot prints, ostensibly done by hammering and drilling probably with metal tools, except for the Himalayan Petroglyphs, the Indian tradition of Petroglyphs is largely figural.

#### SURVEY OF INDIAN ROCK ART

Rocks painting in India were first recorded by the pioneering discoveries mode in 1867 by *Archibald* in Mirzapur District, Uttar Pradesh. The first rocks engraving of south India were brought to light by *F. Fawcett* & *Kupgallu* in 1892. Then, onwards various scholar tried to study on the engravings rock shelter and caves in systematic approach.

Since then many rocks art have been reported from different parts of the Indians subcontinent, but majority of them are in north and south region. Cupules (1993) found in its very important sites Dari Ka Chattan, Mandasour as well as Siroli Dongari in Madhya Pradesh, Likewise, recently discovered 'cupules' in north-west side of India viz, Kota, Ajmer, Jaipur & Sikar dist. in Rajstan, state. Similarly, some cupules engraving site in (Pullar, Irave-Jhari) Vidarbha & Western Maharashtra.

The **Bhimbetka** complex of painted rock shelters were declared as **UNESCO** World Heritage rock art site in 2003. **Bhimbetka** is wonderful rock art heritage site in central India, discovered by **Dr. Wakankar** in 1957. The Petroglyphs at Bhimbetka in Vindhyas (Bednarik 1996) and "*Dari Ka Chattan*" in the Chambal basin in central India belong to lower pallaeolithic Age, the earliest so far in the world(Kumar 1995, Bednarik et al.2005).

This paper extensively throws light on the subject matter to the extent of rock-art in Vidarbha. During the course of exploration total number hundred (main eighteen group complex) rock-shelters / rock-cut caves and few archaeological mounds have been noticed in Vidarbha.

Out of these twelve numbers of rock-shelters / rock-cut caves were found to be depicted with paintings and engravings namely rock shelters at Nagargota and Pandubarra, Waghai Hill, Dongargaon and Navatala, Sasti caves, Tah. Rajura, Devudwada Bhadravati, Ramdeghi, Tah. Chimur, Bhatala caves Tah. Warora, Kunghada caves, Tah. Nagbhir district Chandrapur, Zarapapda, District Gadchiroli, and Ukhalgota Pullar Tah. Bhivapur, Bhivkund caves Tah. Kuhi, District Nagpur. Bodalkasa, Tiroda, Gondia District. New discoveries in the form of rock-shelter or rock-cut caves had been reported.

The rock art research conducted till 2015 in Vidarbha. Aims to summaries rock art research over the past five years in the region, and identifies some common themes in rock art studies. Vidarbha has never been a main object of any detailed study. But few researches are worth mentioning, such as an article G.K. Mane, "Newly Discovered Rock Paintings from Nagargota in Maharashtra" PURATATTVA, (2002-03), Kantikumar A. Pawar has conducted a survey of rock art sites at Waghai Hill, focused upon rock shelters at Nagargota and Pandubarra. He did some part of study but it is not enough to understand the comprehensive history of petroglyphs and Petrographs in this area. He wrote a research papers as "A note on painted Rock-Shelters at Navtala, Chandrapur District Maharashtra", (2012) and "An Archaeological Perspective on Rock-art from Vidarbha of Maharashtra" (2015) Bulletin of the Deccan College, Pune. Also looked into various aspects such as the Dr. Prbash Sahu (Associate professor in Dept. of A.I.H.C & Archaeology, RTM Nagpur University) has worked on rock art in Satpuras and Gawilgarh Hill. A systematic documentation of rock shelters in the Waghai Pahari in the Chimur Tehsil of Chandrapur district was carried out. In continuation of an orientation Workshop on the Rock Art and its allied subjects in the region conducted a field documentation of rock art sites of Maharashtra (Phase-I) was initiated by IGNCA in collaboration with Rashtrasant Tukadoji Maharaj Nagpur University, Nagpur from 12<sup>th</sup>-19<sup>th</sup> November,2016. Dr. Prbash Sahu has done some work on the rock art in Satpuras and Gawilgarh Hills of Dist. Betul, Madhya Pradesh but his work does not find any place of Vidarbha region. Besides them no one has done independent study on History of Buddhism and Rock Art in this region. They did some part of study but it is not enough to understand the comprehensive history of Buddhism and rock art in this area. Many evidences reaveled about Maharashtra Buddhism and rock arts but they ignored rock engravings of Buddhist Cave in Vidarbha region.

In this paper, we concentrated our focus on the rock-art sites under discussion includes Bhivkund Caves, Tah. Kuhi, Dist. Nagpur and Kunghada Caves, Tah. Dist. Chandrapur. In the beginning, the monks had no fixed habitat, they used to stay here and there sometimes in the forest on a hill side, in a glen, natural cave for in the seasonal rainfall for three month.

Caves/Shelters of these sites encompass the engraved horse, square grid, cupules, geometrical engraving like square, rhombus, human figures and designs etc.



Vidarbha region of Maharashtra

Bhivkund Caves(21° 03" 32.30'N 79° 27" 53.34'E) : When we visited Bhivkund Caves, we found that there is a monastic complex near the *kuhi-taluka*, 11km from Kuhi village and 3 km from it is place of Bhivkund village to the north.



General View of Bhivkund Caves (fig.1)

Cave No. 2 (fig.2)

Bhivkund Caves, caves no. 2 facing west is 2.70m away from cave no. 1 and excavated single stone and on the top which the specified inscription (Dhammalipi) has been engraved without making the surface smooth. There were eight letters engraved on it. But now there are only 5 letters are vividly clear and 6<sup>th</sup> letter is in the form line and the rest all illegible. Five engraved letters convey significant meaning and had length of 56cm and breadth 7-14cm. Epigraphically, the above engraved inscription are belong to asoken script of third century BC which keep from above discussion it can be concluded that period of these inscription dated to end of 3<sup>rd</sup> century BC and evident to 2<sup>nd</sup> century AD. This has been similarity of these inscriptions or further strengthening of having inscription found at Deotek (Tah. Nagbhir, Dist. Chandrapur), Chandala (Tah. Bhivapur, Dist. Nagpur) and Pullar (Tah. Umred, Dist. Nagpur).

 $<sup>\</sup>bigcirc$  Bhivkund Caves ,  $\bigcirc$ **Kunghada Caves** 



 Inscription on the top of the Cave no.2.(fig.3)

 Reading of Script: The top of the Cave no.2.(fig.3)

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 Reading of Script: The top of the Cave no.2.(fig.3)

It means that the cave could have been donated by 'Adam Vasi' habitants 3km away from this place. Adam (Excavated 1987-1996) situated on the left bank of the Waghor of the Waingangā drainage system. After deciphering the above inscription it is clear that these have been gifted to Buddhist monks by the resident of Adam has been mispronounced as Atam. 'Adam' city was a most important centre for trade of ancient time. NBP and Roman Coins have been found in excavation. It means, clear that foreign trader Yavana's (Graeco-Roman) mostly could have been concentrated here. As above inscription is in the Periphery of Adam because today, Bhivkund is merely 3km away from it.

ASI excavated in 1988 that Adam could have been a ancient *Assik Nagar* which is evident from getting seal engraved '*Assak Janpadasya*' The similarities in the quality and property of soil from Buddhist stupa at Adam and from Bhivkund reveled Buddhist Culture prevalent in Adam. Along with this inscription there are cupules engraved (fig.4) 14th numbers.



Engraved Cupules on the top of the Cave no.2 (fig.4) and a fish shaped pallanguzhi board (fig.5)

Cupules follow 2x6 forms. The board of engraved cupules on the rough surface is the 65x35cm. There are two rows and 6 cupules in each row. Upper and down sides of the rows they have one cupules for holding some object. Cupules are distinguished by rows consisting of scooped out holes or depressions, of which the type with two rows is most common one.

Although, excavations in the Asian nation uncovered Phoenician Mancala items dated from the sixth century B.C. As a consequences, these cupules are engraved like a '*Mancala*' game which is the number of holes per row may be seven,(fig.5) but other varieties can sometimes be found, such as six holes (e.g.Gupta 1923) like **fig.4**. The *Mancala* games which are usually played by two players some many versions, and are

grouped and referred to by different names. Such as *Pallanguli* in Tamil (e.g. Durai 1928; Bell 1979) and *canne mane* in Tulu (e.g. Claus 1986) as well as *Pallanguzhi* is also played in Sri-Lanka. *Mancala* games are mainly played in Africa, the Middle East, South and South-East Asia, the Caribbean, and parts of South America (e.g. de voogt 1999). It may be ancient period during trading and expedition with another area took this game there in. In India, the version with two rows is used, and the boards may sometimes have larger holes or trays added at either end of the rows for holding pieces not at play. (e. g. Murray 1952). Seeds and shell objects are used in this game, to fill the holes. Since, the game is popular among kids, young and old people.



Bhivkund Caves 3 (fig.6)



Square-grids (fig.7)

Few meter distance towards west of the inscribed cave there is a cave no.3, where paved floors are found which are enclosed with excavated sand stones. Design, horse and square grids were engraved on the floor at the passage of the cave.

In the engraved square grid there are two rows (fig.7) including 24 squares having equal length are in 2x12 forms. The engraved line design is passing through the middle of the grid. The length of this line is 32cm and at the upper part of design containing three oval shapes showing triangular pots coming out from this grid and at downward there are two circular curve on both side of the line and a circle at the end. Further, it contains another design like shank-lipi along with Square-grid on the floor of the cave demanding decoding.



Engraved Horse (fig.8)

Engraved (design) Shankh-lipi (fig.9)

On the floor at the right side of the square-grid there is an engraved horse with slightly conical depth, (fig.8)-down head, raised tail show that the horse is ready to run. Although, it is difficult to establish an exact age of that horse engraving art, because without the horse rider, bows and arrows, we can say that it might be from the earliest engravings in the cave and also from the early period.

The next engraving design i.e. shankh-lipi (fig.9) inscription engraved below the left side of squaregrid. The heart like design with some small number of characters incised in slant position within it.

Shankhalipi or shell-script is a term used by scholars to describe presently undeclared elaborate spiral characters assumed to be Brahmi derivative that resemble conch shell or shankhas which can tentatively be assigned a new script family. They are found in inscriptions across various parts of India except the far south. Both Shankhalipi and ornate Brahmi were stylized script used primarily for names and signature. Shell inscriptions are found across much of India as well as in Maharashtra especially in Vidarbha, sites are Mansar in Ramtek dist. Nagpur and Deulwada in Bhadravati, Dist. Chandrapur.

In the design shank-lipi therein engraved 9 characters and these characters minutely observed that their style of letter similar to **Phoenicians** character '**B**' or '**P**' and like '**O**' and below the characters surface showed of the ocean or a lake or river waves. One again interesting things along with the design there is horse engraving, and the horse is Phoenicians sea god **Yamma** and were used on the ships to placate the god who, like the Greek god **Poseidon**, was associated with horses, and who has to be constantly appeased to prevent his wanton destruction of the ships at sea.

Phoenicia manufacturing centre from 1500-332 BCE, The Phoenicians were great maritime traders, people known for their mighty ships adorned with horses 'heads' in honor of their God of the sea Yamma, the brother of Mot, the god of death. Phoenicia was an ancient civilization created of independent city-states located along the coast of the Mediterranean Sea extends through what are now Syria, Lebanon and northern Israel.

Kunghada Caves (19° 57' 38.412'' N 79° 18' 32.508'' E): Kunghada village is situated 2km away (west) from the Mohadi Tah. Nagbhir in Chandrapur District. There are 5 caves in the west of Kunghada hardly ½ km away from it. These caves are known as "Pandav Gumpha" by resident locals. There is small lake in south of Kunghada village.

Those caves consists of two rooms, the first one has been engraved and supported with one pillar. The height of pillar is 1.75m and the method of engraving is very low quality on the west side of the wall, the caves are engravings with Bramhi (Dhammalipi) script the details of cell (*Kakshasana*) having common height of 1.5m all as under: Cave no.1, East-West 1.74m and north-west 2.70m Cave no.2, East-West 2m and North-West 3.10m.

Out of five caves, cave no. 2 and 4 are with two cells while rest i.e.1, 3 and 5 all with one cell each. The dimension of above caves is more or less same in all caves. These caves are excavated on sandstones. The sequence of caves is considered from north to south that means north caves is numbered as 1 and other number has been fixed accordingly.





Kunghada caves (fig.10)

Inscription (fig.11)

### Inscription in Bramhi Script (Dhammalipi):

On the west of wall of first cell in Pandav Gumpha, we found inscription in Bramhi (Dhammalipi) Script the space of the wall has been made smooth by rubbing in order to inscribe the inscriptions and then the probe of inscription could have been completed. The length of the inscription is 1.14m and 0.25m in breadth. The inscription is in two lines but only one line having 13 letters is readable but the other line having 3 letters is illegible (fig.11).

Script: The inscription is in Bramhi script which is evident from asserted of letters prevalent in 2<sup>nd</sup> century.

Script Language: The language of script is Sanskrit having prevalence of Prakrit. The letters are little bit circular and are in prose.

Reading of Script: सिवस्वामीस पुतस ग्राम प्रमई

Translation: The son of Sivswami of village Pramai.

**Importance of script:** The present study on Kunghada caves has great significance to Chandrapur district because of finding of *Deotek* inscription is in also Bramhi script and this place is 13 km away from Kunghada. The inscription has been engraved on the stone containing orders of king by Asoka followed by *Vakataka's king Rudrasen*. Today, this stone inscription is placed in Nagpur Museum. Moreover, the stupa at pavani also strengthen the feel that the Kunghada of Buddhist culture. The above inscription is Bramhi (Dhammalipi) script does not dishonor the name of son of *Sivswami* but it brought the name of *Pramai* village in time-light.

One is rock shelter (fig.12) adjoining the rock cut cave where engravings on the floor and some engravings are front of the entrance, of the cave and some top of the cave. The squares engraved are in three numbers while designs are three; other engravings are rhomboid as one and cupule one





Engraved Rock Shelter, Kunghada (fig.12)

Squares and Design Engraved, Kunghada (fig.13)

### Identification of the figure dimensions and Archaematry:

The rock engravings can be again categorized into two, geometrical engravings and others are designs. The first category of engravings related to the mathematical proportions, length of each side of square are 8cm, 8.5cm, 9cm and 10cm in mathematically ascending order. And difference between their lengths is 0.5cm, 1cm and so on. Similarly, length of the extensions of each squares are 1cm, 1.5cm and 2.5cm but the fourth square is fade. Hence, we can try to find out the measurement of the fourth square by Arithmetic Progression through sequence and series or by a matrix. The design is centrally engraved (fig.13) like an X-axis and Y-axis where whole area divided into four quadrants with included squares. The dimension of a design is 17x17cm with three extensions in each direction, total 12 extensions with circular head and equal measurement.

In the second engraving (fig.15), depictions of 40x40cm design at the top of the above mentioned cave. Depictions have been executed on rough surface with number of circles (8). And beside this design we can see modern letters to damage the engravings.



General View Rock Shelter adjoining the caves (fig.14),

Design at the top of the cave (fig.15)

## Why are these caves called Buddhist caves?

In the beginning, the monks had no fixed habitat, they used to stay here and there, sometimes in the forest, on a hill side, in a glen, and in the natural caves in the rainy seasons, and they used to observe varsha by selecting a fixed abode (avasa) and depending on alms from neighbouring villages.

These caves turned into Buddhist caves as there was evidence from the inscribed stone inscriptions of Satavahanas period. At Pavani (Famous Stupa-site) 20 km away from Kunghada and 13km from Deotek we get the evidence of Asoken Inscription from 2<sup>nd</sup> century BC. The third, Adam stupa site 3km away from Bhivkund caves. The fourth evidence is from the various caves and stupa from different places of Chandrapur, Nagpur, and Bhandara District.

Considering, above evidences and peripheral geographical situation, one can conclude that these caves had been made to reside the Buddhist monks. The conclusion could have been strong, if one could have found the cells for monks in caves, stupa or Symbolic Stupa or other evidences of Buddhist concern.

# II. CONCLUSION:

From the above discussion we can see, Cupules engravings in Bhivkund caves like a mancala game are popular from prehistorical period to ancient and to modern era. *Neolithic game boards from Jordan. In some places like <u>Petra</u> Similar pits have been found in <i>Beidha* in Jordan, dated to 5900 BCE. On the Indian subcontinent, such engravings are relatively common and found in various places. We can find the notes on incised boards were included in the works of scholars who are undertaking historical and ethnographical studies on Indian board game. The games emerged roughly 3000 and 1000 B.C., Phoenicians traders play that type of game in 6<sup>th</sup> C.BC-3<sup>rd</sup> C.BC with examples of mancala-like rows of holes found in archaeological sites across Africa, South America, the Middle East and Southern Asia and existed in ancient Egypt.

Mancala game like engraving (cupules)–As per my opinion this game is a new discovery in Vidarbha region of Maharashtra.

Square-grid games are just one more cultural element to Indian history. Ancient remains of board games have been relatively live researched in archaeology. Geometrical engravings which include squares and design with some symbols may be associated with layout of caves or ground plan. This can be megalithic or early historical period. An Archaemetrical and geometrical engravings study in Kunghada cave shows the similarity with Himalayans Petroglyphs. Focusing light on the above findings with reference to the caves, we can conclude that the caves are the geometrical engravings, grooves, design, Shankhalipi, square-grid, horse and cupules, could have been dated back to a period roughly 3000 to 1000 B.C. or even less than that. The men of the Neolithic and the Metal Ages may have continued to engrave these symbols, with different motivation, and without knowing their original significance and needs the further detailed study on the above subject matter which may discloses historical significance.

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#### **REFERENCES/BIBLIOGRAPHY:**

- [1]. BELL R C, 'BOARD AND TABLE GAMES', OXPFORD UNIVERSITY PRESS (1969), NEW YORK, pp 113-114.
- M. DOTHAN, University of Haifa' A Phoenician Inscription from 'Akko', (1985) Israel Exploration Journal, Vol.35, NUMBERS 2-3.pp 81-94
- [3]. Shri Borkar R R,"Kunghada Yethil Pandav Gumpa va tethil Shivswamicha Shilalekha" Vidarbha Sanshodhan Mandal Varshik (1986) Nagpur pp194-198.
- [4]. Nigel Pennick, 'GAMES OF THE GODS', The origin of board games in magic and divination(1989), by Samuel Weiser, Inc. York, Beach, Maine.
- [5]. Erwin Neomayer, Lines on stones, the Pre-historic Rock-Art of India. Manohar, New Delhi-1993. Page No. 13.
- [6]. Loblanchet Michel "Rock Art in the Old World" Indira Gandhi National Centre for Art-92. Dr Meshram Pradeep Shaligram, "Vidarbhatil Buddhadhammacha Itihas", Shilpa Prakashan, Nagpur (1993) pp 61-64.
- [7]. Dr Meshram Pradeep Shaligram,"Bivkund Yethil Ashok Kalin Bauddh Guha-Lekha"The Journal of INTERDISCIPLINARY POLICY RESEARCH AND ACTION (2008), Vol.2/Issue 2/Apr-June, pp101-104.
- [8]. Gedam A. D., "Rock Art (Petroglyphs) in Vidarbha, Maharashtra" Unpublished Paper Presented in RASI, Conference-2011, Old Goa.
- [9]. Tiwary Sachin Kumar," Rock Art Discoveries in Rohtas Plateau Region, Rohtas District, Bihar "Journal of Man and Environment, ISPQS, (2013) Vol. XXXVIII, No.2, pp 86-91.
- [10]. Gedam Akash D, "Architecture of Megalithic Burials, District Nagpur", The Megalithic Culture of South India-2014, Special Report No. 6, The Indian Archaeological Society, New Delhi, pp 287-290.
- [11]. A report on the field documentation of Rock Art sites in Maharashtra (Phase-I) on 12<sup>th</sup>-19<sup>th</sup> November, 2016 by Indira Gandhi National Centre for the Arts, New Delhi.
- [12]. Gedam Akash Daulatrao, "Yavana's(Graeco-Roman) Inscriptions in Buddhist Rock-Cut Caves", Studies in Indian Epigraphy, Journal of the Epigraphical Society of India, Jan. 2016, Vol.XLI, pp 56-61.
- [13]. Gedam Akash D. 1916, 'Yavanas (Graeco-Roman) Contribution to Buddhism in India' (B.C. to 7<sup>th</sup> C.A.D.) Unpublished PhD Thesis. Nagpur University, Nagpur.
- [14]. Gupta S.S., "Select Monastic establishments in the rock art sites of Central India" The Journal of Rock Art society of India RASI, (2018) volume 27-28, pp74-78
- [15]. Dr. Akash Daulatrao Gedam 'A Pioneer to the Art of Nasik Cave, Dist. Nasik Maharashtra', IJSR (2019) Vol.8, Issue 9. pp 44-49.
  [16]. Dr. Akash Daulatrao Gedam, Mohini P. Gajbhiye (Architect), "ROCK ART IN NAGPUR DISTRICT" Paper presented in AIOC,
- 10<sup>th</sup>12th Jan.2020, Nagpur. [17]. Dr. Akash D. Gedam, etal. "ARCHAEMATRY STUDY Vis-à-vis GEOMENTRICAL ENGRAVING IN KUNGHADA CAVES"
- Unpublished Paper Presented in RASI, Conference-27th-29th Feb. 2020, Bhopal.
- [18]. 30 Stades, com/2020/07/20/meet-Indians-Ancient board game hunters.
- [19]. Pallanguzhi Game Sepetember.12.2020. https://en.wikipedia.org.pllanguzhi
- [20]. Shankhalipi Design September. 18. 2020. http://en.wikipedia.org/wiki/Shankhalipi