UNDERSTANDING THE PLANNING PARAMETERS THAT SHAPED EKAMRAKSHETRA: BHUBANESWAR

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Abstract
Sacred Indian cultural landscape sites are intricate areas that have developed over time with different layers of time, history, memory, and knowledge about the biotic and abiotic environments. They also include beliefs, changing cultural ecosystems, shifting landscapes, and more. These intricate cultural landscape locations consist of a variety of tangible and intangible elements that may be natural or cultural. These resources are all interconnected in various ways and function as a single system of one resource.
In eastern India, Ekamrakshetra: Bhubaneswar is one such intricately holy and historic area. The many cultural heritage remnants found in the Ekamrakshetra region make it a highly significant place. This area has a history that dates back more than two millennia. Various religions, including Buddhism and Jainism, have produced different outcomes related to the cultural dynamics of this region. As various Hindu sects proliferated, the environment underwent numerous intricate processes of transformation and adjustment. The distinctive sacred landscape is still present today and features excellent resources across multiple typologies. The paper attempts to understand the planning parameters that shaped Ekamrakshetra: Bhubaneswar. It also attempts to decode the complexities of a sacred cultural landscape sites.

Keywords: Cultural landscape, Traditional knowledge system, metaphysical planning principles, sacred landscapes.

Introduction & Methodology
This paper refers to primary text to understand the design and planning of the landscape and rituals. Through historiography, one understands the chronology and systems of development of different planning parameters. Site observation as a survey gives clues to the various consequences of the tangiables and intangibles that lead to understanding. One also revisits the knowledge of architecture and its chronological development as mentioned in texts like Puranas, etc. While mapping the evolution of the region and intersecting with various other identified parameters, one identifies certain clues as to how this region evolved. Also, early 20th-century transcriptions of the landscape give validation to the landscapes as described centuries ago in many primary texts like Ekamra Chandrika, Swarnadri Mahodaya, etc. That also adds to the understanding of both physical and metaphysical planning principles pertaining to the Ekamrakshetra, or Bhubaneswar.

Planning Parameters
A chronology of temples, its location and orientation give clues to certain planning parameters of that time. Sometimes, as per the ancient building knowledge, the kings' s birth details parameters also decide certain features of site selection etc. one may find out that in Bhubaneswar mostly temples do not face towards east. They face in different directions. Directionality was dictated by time of construction, for example if a significant water tank has been already constructed then if a temple is constructed next to it, then one would face the water, irrespective of direction. Sometimes it is chronology of temples. For example, if one temple of significant and of lord Siva is constructed, the after a century if another temple of his relative will be constructed then that new temple would face

the earlier temple. The planning of such sacred region has to be understood in the context of that time. How flora, other natural features were defining the landscape is something important to understand. In that how the built were intervened, is worth investigating and that would give clues to the planning principles of that time. The parameter of planning and the parameters of perceiving and the parameters of describing is something worth investigating and important to keep in mind, when such complex landscapes are assessed. [1, 2, 7 & 8]
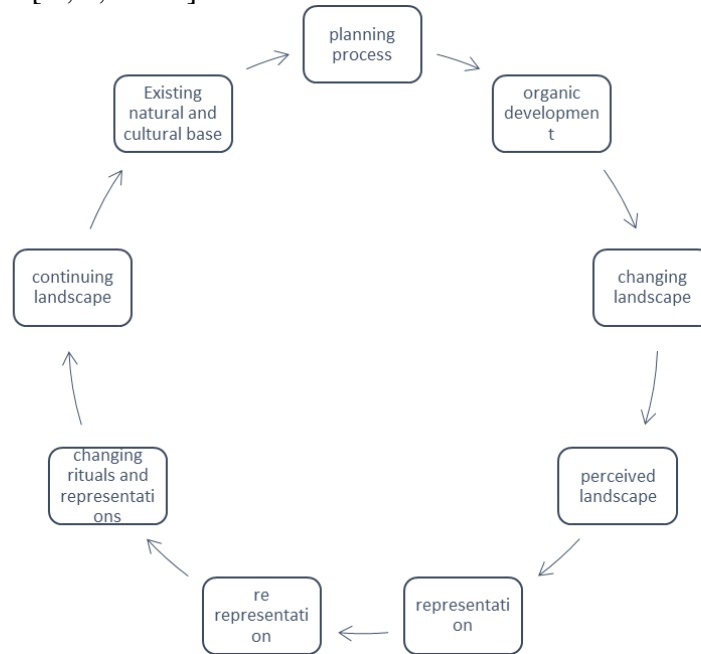

Figure 1: The various parameters of defining a landscape and perceiving the same

Sometimes, the perception of the natural features does have some say in the planning processes. For example, a water stream named Gandhabati in Bhubaneswar had immense mythological significance. Hence the course of it became a significant and sacred entity and many further cultural evolutions while alteration to the natural systems happened for centuries. whether a hill, of a grove or a water system, often times, the attached sacred systems, do led to interfere in the planning systems of such complex cultural landscape sites. Another aspect to understand and realize is the idea of precincts. For temple is connected to a tank. Ritually it is connected to some other temples. Like that what makes a smaller cultural ecosystem? And how does it fit and connects to other systems of the larger sacred landscape region? One such example is the asta ayatana systems of the Ekamrakshetra or Bhubaneswar. Idea of precinct and traditional regional management like asta ayatanas. [17,18 &19]

There are eight sacred enclosures consisting of groups of temples and tanks, which represent the four cardinal points and four intermediate points of the cosmos. The sacred geography of Ekamra kshetra is described by these eight *ayatanas*. In *Ekamra Chandrika,* in the fifth chapter description of these eight *ayatanas* have been given. Though in the description only the temples and tanks find its mention, but it has to be understood that in the historic context there would have been other associative features. There would have been different visual connection. For example if we are talking about a tank, we need to know the stream (Surface or underground) which is feeding it. Thus the terrain feature becomes an important part of the *ayatanas*. The sacred groves find its place in the narratives. [17,18 &19]

If we read carefully the description given for each *ayatanas*, regarding how one should do *parikrama*, whom to worship and when etc, we need to understand that the whole narrative can be explained in the dynamics of the *Sthana* or geography (ground and various tangible entities both natural and cultural), the *Samaya* (time) and the most importantly the *homo sapiens* who carries the intangible attributes of the sacred geography in terms of various traditional knowledge systems.

Even today in daily worship this sacred landscape is perceived. Hence it's a continuing landscape. It is a significant Indian Cultural Landscape. If one tries to map, these *ayatanas*, we find the association

of Gandhabati in each of them. That's the memory of believe system of Gandhabati. Among all the *ayatanas*, Bindusagara from the first *ayatana* and is considered the holiest. With Bindusagara, Ananta Basudeva, Devi Padahara, Tirtheswara and astamurtijukta lord Lingaraj forms the first *ayatana*. The date of Bindusagara can be assigned to 300 B.C. to 324 B.C. later on there is a possibility that this Sagara was developed by Asoka and named as Bindusara after his father's name. In later period we see the layer of Saivisim on it. Hence the dynamics of believe system is indeed a subject of more research. [11,14, 17,18 &19]

Figure 2: Map showing the resources of the first *ayatana*, (Red and Dark Blue). Gandhabati stream can be located at the northern side of Bindusagara (The light Blue line shows the older path of Gandhabati). Grid: 100m x100m. North up [18]

The description of second *ayatana* starts with Papanasini Kunda. After a bath in this water tank one needs to visit the temples of Maitreswara and Baruneswara. In this *ayatana* if one takes a bath in Papanasini Kunda, he goes to *Saivalok*. There is a mention of a bamboo forest at the sixty *Dhenu Bayaba* corner of Lingaraj temple. There is a deep lake inside the bamboo forest. It is mentioned that it is advisable to take a bath in this deep lake and offer prayers to Lingaraj. At the southern side of the lake there is Sivalinga of Esaneswara. And there is a Lingam named Jameswara at the *Bayu Kono* of Debadhideba.
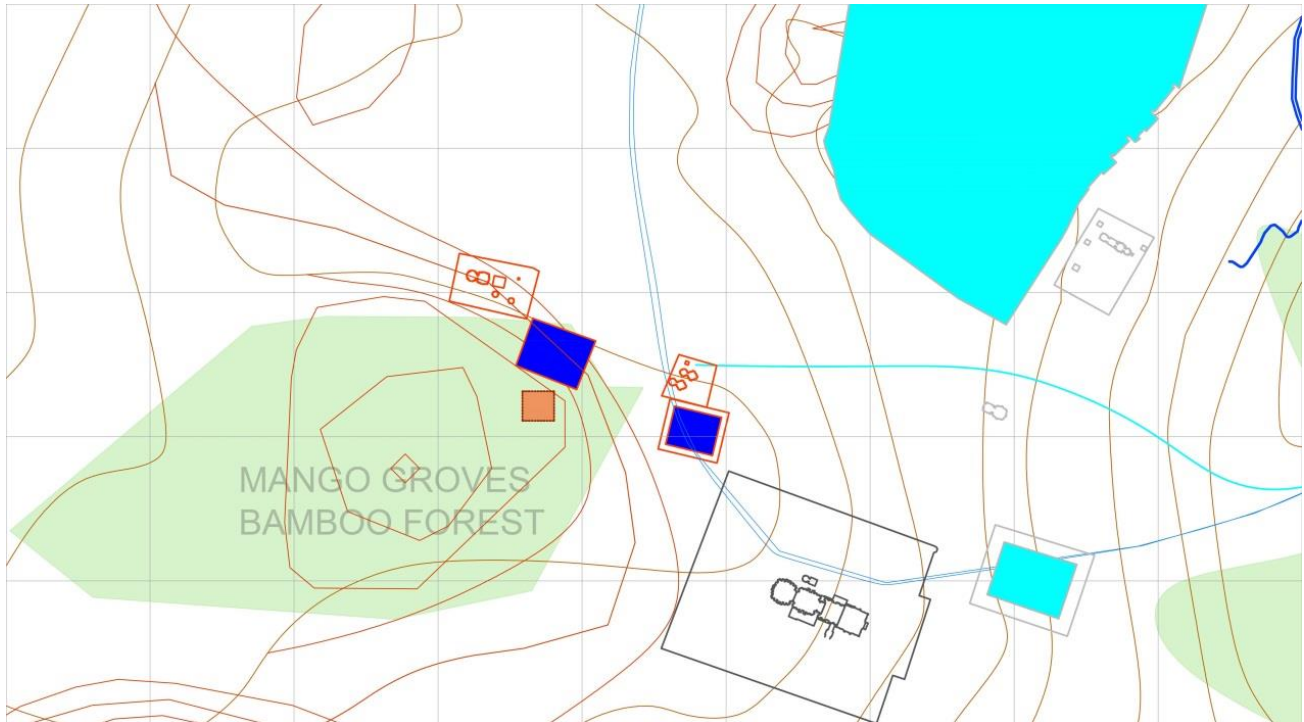

Figure 3: Map showing the resources of the second *ayatana*, (Red and Dark Blue). Lingaraja Temple is shown in Black. Brown hatch area shows the conjectured location of Esaneswara Temple. (The light Blue line shows the older path of Gandhabati near the Lingaraj Temple). Grid: 100m x100m. North up [18]

In 1900s many temples were abandoned as the place was full of dense forest. And daily Puja was not possible. All over Bhubaneswar there were grooves of *Kochila*, *Bara*, *Aswastha*, *Amba*, *Panasa*, *bakula*, *Ashoka*, *nageswara*, *Muchukunda*, *Kadamba*, *Bilwa*.

The more inormations can be gathered regarding the early twentyth century Bhubaneswar from texts describing the same. As described by Gunanidhi Mahapatra in the book *Mo Katha Mo Byatha* we can have a inside scenario of area around Gandhabati stream in the 1930s. As he explained, more or less who ever were living in Bhubaneswar in this time, had to do something or other with the Lingaraj Temple traditions. He has mentioned various *sahis* such as Hata *Sahi* or Samartha *Sahi*, Pathuria Badu *Sahi*, Badu *Sahi*, Dash *Sahi*, Bada Danda *Sahi*, Patana *Shai*, Parakarana *Sahi*, Bania *Sahi*, Darji *Sahi*, Puja Panda *Sahi*, Mangala *Sahi*, Barika *Sahi*, Hara Chandi *Sahi*, Behera *Shai*, Mishra *Sahi*, Grabadu *Shai*, Narada *Shai*, Godipokhori *Sahi*, Kunja Patana *Sahi*, matha Bhoi *Sahi*, Bhoi *Sahi*, Mati Bhoi *Sahi*, Kanch *Sahi* etc. [14, 17,18, 19, 20 &24]

It was full of Mango trees from the East of Lingaraja temple i.e Santarapur till the kapileswara which in the South. The mango groves were so dense that even at two o clock in the afternoon , there was no sun rays coming through the trees. From the Northern side of Bindu Sagar till Badagada it was full with Kochila plants. *Kochila* trees has a property that purify underground water. In a place like Bhubaneswar where there are such a huge numbers of water structures such traditional method was used to mange and clean them. Further Gunanidhi Mahapatra explains about a forest which were at the western side of the old town. There was forest in the western side of the railway line. There was a

bamboo forest near Rameswara temple. While talking about agriculture he mentions about the fertile land in and around the old town but also mentions about how with the new town coming after independence , when all the dirt water enters these land (As this area is in a valley) and now the land has become infertile.

Figure 4: Old Town area along with Gandhabati Stream in 1930s. (various groves have been marked as per the oral sources) [18]

As described in *Ekamra Chandrika* from Khandagiri to Kundaleswara Mahadeba temple and from Balaha Debi to Bahirangeswara temple in the form of a *Chakra* there is a region named Ekamra kshetra (core area). The mango tree which is at the center has its branches spread over one *koso*. There are many natural Shiv *Lingas* in this region. The total area of this sacred zone that is spread over one *Jojona* (Four *Koso* which means twelve kilometres) [14, 17,18, 19, 20 &24]
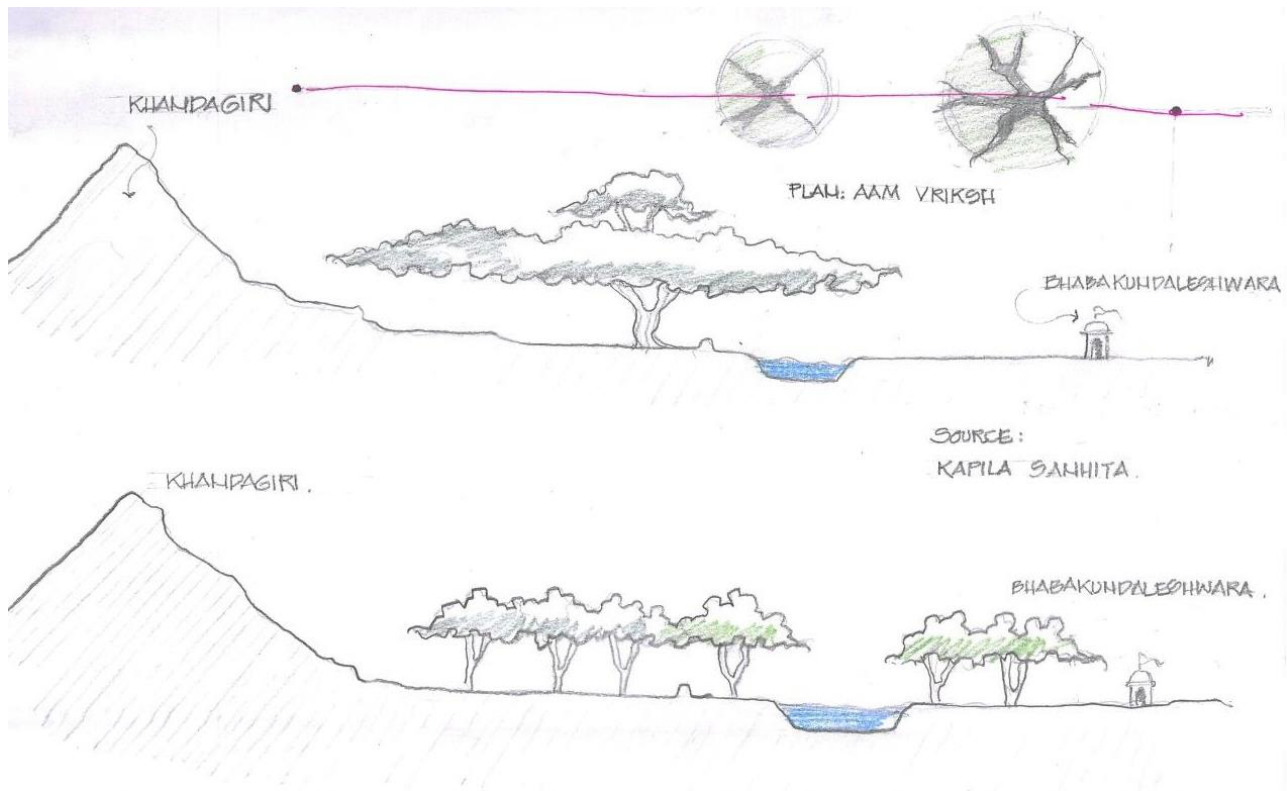
Figure 5: The concept of one mango tree can be perceived as a dense mango grooves which was in Ekamra Kshetra, [18].

Another aspect of planning is the systems of other topologies, be they sacred or secular. For example, the Mathas, or religious institutions, that are present in the region. Their chronology with the knowledge systems of the sacred is investigated and gives clues to the planning aspects at a later stage of development. A significant aspect of the planning was to understand the gods and goddes as residents of the region. They also move out. They also have a daily, weekly, and yearly calendar. The intangibles associated with such notions contribute to many aspects of the planning in the regions. For example, for a particular festival, the god takes certain roads to visit a certain temple. Hence, that intangible aspect of the road becomes significant, and that dictates other tangible changes along the road. The temple precints have a certain group of service providers that are of various typologies. For example, someone is worshiping, someone is cooking for the god, etc. For example, in the Lingaraja Temple complex itself, there are thirty-six groups of tasks assigned to thirty-six people and they all deliver the service. Where do they live? Since when were such systems in place? Investigation in such scenarios often sheds some light on the planning principles of the region of EkamraKshetra Bhubaneswar.

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Conclusion

In summary, research on Ekamrakshetra: Bhubaneswar, a revered Indian cultural environment, has shed light on the complex planning constraints that have influenced the city's development over a period of time. The layers of time, history, memory, and knowledge entwined with the biotic and abiotic habitats, together with the natural and cultural components that characterize this holy area, have all been examined in this research. Through a multidisciplinary approach that combines historiography, site observation, and the analysis of ancient literature like the Puranas, the research has delved into the planning parameters. Important considerations have surfaced, including the temple chronology, orientations, and the impact of monarchs' birth details on site choices. Temple directionality illustrates the dynamic interaction between the natural and built surroundings, regardless of the presence of water tanks or the order of construction. The report also emphasized how perception plays a part in design, pointing out how natural systems and cultural evolution have been impacted over ages by features like sacred woods and the Gandhabati stream. The asta ayatanas serve as an example of the precinct concept, which offers a framework for comprehending the connections between temples, tanks, and natural features. The impact of shifting beliefs is also taken into account in the study, as seen by the layers of Saivism that were gradually added to Bindusagara. The results show a continuing landscape in which regular worship activities continue to be influenced by conventional knowledge systems. A comprehensive understanding of the holy geography of Ekamrakshetra is provided by the examination of the eight ayatanas in detail, their connection to Gandhabati, and the significance of Bindusagara. The report also highlights the complex planning that was done in the area during the 20th century, as evidenced by the dense groves, bamboo forests, and the effects of urban growth on arable land. Examining topological systems, such the existence of Mathas and their timeline, provides insight into the later phases of planning and development in the area. EkamraKshetra Bhubaneswar's planning concepts are also better understood holistically when the intangible elements related to the movement of gods and goddesses, daily, weekly, and yearly calendars, and temple precincts are taken into account. Ekamrakshetra becomes, all in all, a live example of how cultural, natural, and spiritual aspects can coexist together. This work provides a rich tapestry for future inquiry and knowledge, and it promotes additional research into the dynamic planning principles that have preserved this precious site.

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