

# Socio-cultural and physical aspects of place-making in three streets of Puri, India

Meeta TANDON<sup>1</sup>, Vandana SEHGAL<sup>2</sup>

<sup>1</sup> meeta2012@gmail.com • Department of Architecture, Faculty of Architecture and Planning, Integral University, Lucknow, India

<sup>2</sup> sehgal\_vandana@hotmail.com • Faculty of Architecture and Planning, Dr. A. P. J. Abdul Kalam Technical University, Lucknow, India

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## Abstract

The aim of this paper is to understand the impact of physical and socio-cultural aspects of streets on sense of place in the streets of Puri, a pilgrimage and a religious city. The three major streets of Puri leading to Jagannath temple, consist of the Bada Danda, Temple and Swargdwara streets. Each of these streets have their own unique spatial quality resulting from their cultural, historical and religious importance, serving as both spiritual and social places for the people. Because of their religious and functional significance, scale and diverse activities, these streets have a strong sense of place. The sense of place on streets of religious cities, which is visited by number of pilgrims on daily basis, thus needs to be assessed not only for physical but also for the fact that these streets be perceptible as a 'place'. The research adopts a mixed method approach: visual survey and a structured questionnaire survey of both pilgrims and residents to achieve at its objective. The result indicates the dominance of socio-cultural aspects more than the physical aspects on sense of place thereby indicating that the improvements in physical characteristics can further enhance their perception about street identity and sense of place in Indian religious cities.

## Keywords

Sense of place, Religious cities, Physical aspects, Socio-cultural aspects.

## 1. Introduction

Indian streets are open public spaces that are not only used for movement or commuting but also for various other activities like interaction with others, sleeping, eating, roaming around or simply watching people. Edensor in his study on Indian streets states that, "The multifunctional structure of the street provides an admixture of overlapping spaces that merge public and private, work and leisure, and holy and profane activities" (1998, p.202). In India, it has also been shown that all traditional built environments are basically related to have (as in that of most traditional cultures) a sacred connotation (Rapoport, 1990). Special events like processions and festivals give a strong sense of identity to the street and people associate the street with those specific uses and events. The streets of sacred cities leading to the main religious complex comprise of activities and uses that are related to the rituals associated with the deity like the processional rituals. Though these streets are a route to the religious complex, they seem to enhance the spiritual feelings of people due to distinct happenings and religious activities and provide a sense of place. These streets apart from being active during the entire day are busier and lively in the mornings and evenings with more people moving towards the temple complex. Rapoport (1990) points out that the very first experience we get of Indian streets is generally through the smells of food and incense, both non-visual characteristics. Sivam and Karuppanan (2013) suggest that, "It is the experience one has within the street that creates a strong connection rather than the aesthetic value of the street itself" (p.2). The physical, social and cultural aspects have a strong impact on attachment to the place. The research thus focusses on the impact these aspects have on sense of place in the streets of Puri, a religious and sacred city.

## 2. Literature study

According to Relph, "places are fusions of human and natural order and are the significant centres of our immediate experiences of the world" (1976, p.141). Space when characterized with

meanings and associations become a place. It is thus related to people's perceptions about the place and the way they feel about it. Montgomery (1998) stated three basic principles of place making- activity, image and form.

Sense of place can thus be easily understood as how people relate to a place. Various other concepts like place attachment and place identity also define this relationship. Steele (1981) defined sense of place as "an experience created by the setting combined with what a person brings to it. In other words, to some degree we create our own places; they do not exist independent of us. There are, however, certain settings that have such a strong 'spirit of place' that they will tend to have a similar impact on many different people" (p. 9). He also added that there are various factors that influence the relationship of people with places: history, memory, identity, safety, vitality, liveability, mystery, surprise, fantasy and pleasure. Apart from these, the physical attributes, size of the setting, scale, proportion, distance, texture, diversity, smell, sound, visual variety, colour and temperature also add to sense of place. Steele (1981) suggested physical and social settings in addition to a person's psychological factors that contribute to create a sense of place.

Lynch (1960) also stated that "a place affects us directly through our senses - by sight, hearing, touch, and smell" (p.9). He identified five features paths, edges, nodes, districts and landmarks, which make an environment legible.

Relph (1976) claimed settings, activities, meanings and 'genius loci' or spirit of place as components defining sense of place. According to him, symbols, traditions, rituals and myths too enforce sense of place. Rapoport (1990) suggested that places not only comprise of physical features but also include messages and meanings that people perceive and based on their experiences, expectation and inspirations, decode them. Similarly, Shamai (1991) recognized sense of place as a result of location, landscape and personal involvement. It is felt through all the human senses i.e. sight, hearing, smell, taste and touch. He also argued that sense of place comprised of three

levels: belonging to a place, place attachment and commitment to a place. He further classified it into seven levels: not having any sense of place (value of 0), knowledge of being located in a place, belonging to a place, attachment to a place, identifying with the place goals, involvement in a place and sacrifice for a place (value of 6).

Bott (2000) through her research identified four domains that describe sense of place: physical, cultural, affective and functional. She also developed psychometric scales to evaluate sense of place. Najafi and Shariff (2011) in their review of literature found various factors influencing place attachment, socio-demographic characteristics, environmental experience, culture, place satisfaction, preference and attachment, activity and the place itself. Ja'afar et.al. (2012) stated that in traditional context, combination between physical and social aspects that is inherited creates its own environment and that can be felt by all types of users.

Mazumdar and Mazumdar (1993) in their studies of place attachment to sacred space found that the presence of sacred settings evoke a sense of emotional attachment to the place. People feel connected both at individual and collective level since these places have symbolic meanings expressed through its physical location, architectural design, layout, aesthetics and also its history (Mazumdar & Mazumdar, 2004). They also stated that, "Place and place characteristics are significant in religious place attachment. People develop attachment to sacred cities and sacred structures, in addition to natural places" (p.394). Unlike Shamai (1991) who described sense of place as an individual perception and experience, Mazumdar and Mazumdar highlighted the collective involvements of people related to strong cultural influence of a place. The religious cities are places that evoke both individual (based on an individual's faith and belief) and collective experience and memories (due to rituals, festivals and processions) and hence have strong meanings attached to them. These meanings further enhance the sense of place which these cities have.

Low (1992) asserts six types of bonding that people have: genealogical linkage through family or history, linkage through loss of land or destruction, economic bonding through ownership, inheritance and politics, cosmological bonding, linkage through religious and secular pilgrimage and narrative connection through storytelling and place meaning. The causes of bonding with the sacred places are different for different individuals based on whether they are pilgrims, tourists or residents of these cities. Religious cities thus have strong associations with people due to symbolic ties with these places.

The review indicates that tangible and intangible attributes are significant for a space to qualify as a place.

Physical settings, as suggested by many scholars and theorists, are an important element of a place since they attach meaning to a place. It is the physical setting with its characteristics and attributes that defines whether or not people develop an attachment for the place since it is the first visual feature. Steadman (2003) identified the physical environment and its characteristics constituting sense of place. Hidalgo and Hernandez (2001) too suggested both physical and social dimensions to be important for place attachment. Mehta (2013) in his studies identified street characteristics like density, size, character that too support social behaviour. Bott (2000) recognized characteristics related to natural setting, built environment and character as components that have an impact on sense of place.

The tangible attributes of physical aspects identified for this study include presence of trees and landscape features, light, material, colour and aesthetics of buildings located on either side of the street and intangible factors include cleanliness and maintenance of street, and its liveliness.

Sense of place or place attachment is more than an emotional and cognitive experience, and includes cultural beliefs and practices that link people to places (Low, 1992). Social activities on streets add vitality and liveliness and are a "direct indicator of the satisfaction of people within their physical surroundings" (Mehta, 2007, p.167).

The street not only acts as a commercial realm with a variety of fixed and mobile shops, but is a social space for interaction; a site for entertainment, mundane social activities, domestic activities and a centre of cultural and religious events (Edensor, 1998). They contribute to a collective 'sense of place'. Sense of belonging and care for a place is associated with place attachment and high degree of familiarity (Relph, 1976).

Bott (2000) identified inherent and transactional aspects related to cultural domains contributing to sense of place. Hidalgo and Hernandez (2001) identified social activities, opportunities for social interaction, sense of belonging as major social factors for study of sense of place. The importance of a street or place is directly related to its history and is an important attribute that helps to create a sense of place. Mazumdar & Mazumdar (1993) in their study on sacred spaces identified that people attach to sacred places also because of their cultural and historical significance. Steele (1981), Raymond, Brown & Weber (2010), Najafi & Shariff (2011), Ja'afar, Sulaiman & Shamsuddin (2012), Lai, Said & Kubota (2013), Harun, Mansora, & Saidb (2015) and Conteh & Oktay (2016) proved that places of historical importance create sense of place. The myths, traditions, rituals and symbols (Relph, 1976) followed over the years give the place a historical context.

The intangible attributes of socio-cultural aspects recognized for this study include the historical importance of the place, activities on the street supporting rituals (since this is a study of religious and sacred places), opportunities present on street for interaction and sense of belonging.

### 3. Method

The research focusses on the physical and socio-cultural aspects of the three selected streets of Puri. The current physical condition of streets was examined by the researcher. According to Rana (2011), "The behavioural dimension acknowledges openly that human action is mediated through the cognitive process of information. This can be explained through the

closed-question questionnaires" (p.3). Questionnaire survey was conducted to understand perception and satisfaction level of the users for both the physical and socio-cultural aspects.

The research aims to answer the following questions and adopts a mixed method approach: visual survey and questionnaire survey to achieve its objective:

- What are the indicators for physical and socio-cultural aspects that effect sense of place?
- What are the current conditions and perception of residents and pilgrims about the selected physical and socio-cultural aspects on the streets of Puri?
- What is the impact of the physical and socio-cultural aspects on sense of place and the effective approaches to enhance sense of place in streets of Puri?

#### 3.1. Procedure

The authors conducted the visual survey in the month of October by being on the streets for a period of one week. Apart from this, field notes, photographs and videos were used to collect the data for the visual assessment of the street's physical features. Being a participant on the street, the physical condition of the streets were analysed and recorded for the study to further authenticate the results obtained from the questionnaire survey on physical aspects.

Questionnaire survey was also conducted face to face in the month of October to understand the user's perception about the various physical and socio-cultural aspects of the three selected streets. 318 respondents were selected randomly, approximately 100 respondents per street, based on their willingness to participate in the survey. Since the users on the streets in religious cities mainly consist of pilgrims and tourists apart from the residents and shopkeepers, the questionnaire had two groups: pilgrims and residents. Since it was to be conducted on streets, in an open environment, mornings and evenings were preferred. Respondents were asked to rate the questions as per their individual perception about the street and residents were also inter-

viewed to gather information about other parameters important for them.

For testing the questionnaire using a Likert scale and also evaluate how closely related a set of items are as a group, a reliability test was conducted to evaluate the questionnaire survey's internal consistency through Cronbach's Alpha ( ) Value examination and was considered reliable if the alpha value was 0.7 and above.

To evaluate the validity of the questionnaire survey, Kaiser-Meyer-Olkin evaluation of sampling adequacy (KMO test) was also used. The questionnaire survey was considered to be valid if the value was 0.6 and above. Analysis of variance (ANOVA), a statistical tool is used to test or compare the means of several groups for statistical significance and find whether the samples are from the same population or not, using level of significance 0.05. The groups comprise of the samples taken on the three studied streets for evaluating sense of place. Data collected was analysed using statistical evaluates of mean and standard deviation.

### 3.2. Questionnaire used

The questionnaire consisted of a few demographic questions related to age, sex, frequency of visiting the place by the participant, followed by a series of closed ended, structured questions related to attributes defining both the aspects. The questionnaire also had two open ended questions where the participants gave their opinions about the feelings for these streets in religious precincts and how they were different from other streets. The respondents were above 18 years of age and categorized into six groups: 18-24, 25-30, 31-40, 41-50, 51-60 and above 60. Since the questionnaire comprised of closed ended questions, it was designed using a 5-point Likert scale, ranging from "Completely" (+2) to "Not at all" (-2), with a mid-point rating (0) meaning that the perceptions were "Moderate".

### 4. Historical background of the city

Puri, also known as Shrikshetra Purosottam Shetra, is one of the Chardhams, (the four pilgrimage sites in India as established by Adi Shankaracharya include Puri, Badrinath,

Dwarka and Rameshwaram) and an important pilgrimage, religious and sacred city in the eastern coast of India. It is also a processional city known for Jagannath temple and the processional ritual of Rath Yatra. Due to the city being located on the coast of Bay of Bengal with beaches, it is also a destination for the tourists majorly coming from the nearby cities for short durations. But it is more recognized as a religious and historic city.

The planning of the city is based on Vastu Purush Mandala. The city with Jagannath temple on the mound of 'Nilagiri' as the focus, grew around it, the shape being like a conchshell (shankha), having eight concentric rings of neighbourhoods known as Sahis woven together in the urban fabric by the streets. There were seven streets in Puri in 1840-41, according to the map by Survey of India (Barik, 2005).

In Puri, there are various living traditions, festivals and rituals like the Rath Yatra (also known as the Car festival or Chariot festival or Gundicha yatra), Chandan yatra, Snana yatra, Jhulana yatra and Sahi yatra. As a result, the city is dominated by a number of processional routes like Bada Danda for Rath Yatra, the paths connecting Jagannath to Loknath temple, Swargdwara, Narendra Tank and the seven Sahis. Thus, a strict hierarchy of streets is maintained in terms of accessibility and scale. Because of their religious and functional significance, scale and diverse activities, these streets reinforce the identity and sense of place of the city (Nanda & Khare, 2015). The morphology of the entire city is developed on the basis of its religious beliefs, which makes this place distinct from all other sacred sites (Kar, 2015).

### 5. The studied streets

The streets selected for study are the three main streets leading to Jagannath temple; Bada Danda, Swargdwara Street and Temple Street, each having its own significance (Figure 1).

Bada Danda (Figure 2), one of the widest roads, the main spine and a sacred ceremonial path connects the Jagannath temple to the Gundicha temple and is famous for Rath Yatra. Rath Yatra, an annual grand processional



festival, lasting for nine days, is celebrated on the second day of bright fortnight of Asadha, in the month of June–July and is a culmination of a series of festivals celebrated over the summer and monsoon months. During this festival, the deities are taken out from the temple, are installed in their respective chariots and then they start their journey to Gundicha temple where they stay for a period of seven days. On the ninth day they return back to the main temple. The wood used for the construction of chariots every year is kept and stored on or along the street and the construction of chariots also takes place on Bada Danda. The Rath Yatra thus gives an identity to the city and the Bada Danda. Nava Kalevara (means New Body), another festival which occurs once in every 12 years (or 8, 16 or 19 years) when old figures of the deities are replaced by new ones, begins by Bana Jaga Jatra where a group of specific persons start the journey from the temple through Bada Danda for procurement of wood used for making the new idols (Figure 2). The spine is also known as the Grand road comprising of multiple activities like religious (dharamshalas, small temples, mathas), commercial (hotels, restaurants, shopping complexes), institutional (hospitals, banks) and other public and semi-public uses. A number of informal activities also take place all along the stretch thus adding vibrancy and chaos at the same time (Tandon, 2016). The intensity of informal activities near the temple is high. It comprises of vendors selling food items, temple souvenirs, fruits, gifts, toys, handicrafts by either standing or sitting on the floor. The intensity gradually reduces towards Market Chauraha. From here onwards these activities further diminish and we can see vendors selling mainly fruits only. Vehicles are haphazardly parked on either side of the street. The street is a typical example of the grandness of scale and proportions due to a specific ritual.

The Temple street (Figure 3), locally known as Dolasahi since it caters to one of the sahis, Dolamandapam Sahi, which is in axis with the Jagannath temple, is narrow and winding and comprises of majorly residential



**Figure 1.** The Study areas- Bada Danda, Temple and Swargdwara streets, Puri.



**Figure 2.** Bada Danda .

units having commercial activity on the ground floor. An open space with a square pavilion (known as Janhimundia Chhak or Chowk) after a certain interval gives a pause to the movement and greets one to another group of activities majorly the residences of the Mochis (cobblers) with shops in front, important government and public buildings and Akhadas (places for imparting physical education). The character of the street changes as we move towards the sea (Tandon, 2016). The land use on this street is majorly mixed and residential though towards the end it houses government offices with informal activities happening majorly at the beginning of the street with vendors selling eatables. Auto parking is provided at the Janhimundia Chowk.

Another sacred path of Puri, the Swargdwara road (Figure 4), comprises of a number of temples, important Mathas (monastic houses for imparting education to disciples) and shops. The temples on the street are visited by the images of Lord Jagannath to eat Prasad every fortnight. One of the important tanks the Swetaganga, the



**Figure 3.** Temple street.

sacred bathing pool, also lies on this street and is hidden from view on the street. As the name signifies, this street symbolizes the final journey of man from birth to death beginning from the temple and finally culminating to the cremation ghat and the ocean. The street is one of the most active ones since it connects the temple to the sea via shortest distance. The nature of activity too changes from the more religious ones towards the temple and becoming commercial at the end towards the sea. The intermediate stretch is comparatively less active with shops mainly opening in the mornings and evenings when the movement of people is maximum (Tandon, 2016). The land use on this street is mixed, commercial and residential with the shops selling khajas (Prasad) and other arti-



**Figure 4.** Swargdwara street.

cles related to the temple. The vendors usually line up here to sell these items.

The studied streets thus not only function as a channel of movement for everyday life and mundane activities but also incorporate varied significant uses for residents, tourists and pilgrims alike. Various festivals and processions take place on the street itself and people gather in large numbers to celebrate these occasions. The mundane activities take a backstage on these specific days and the street that is used for passage or going to religious places becomes a stage for performing rituals and religious activities. These rituals and related activities develop place meanings and a collective 'sense of place'.

## 6. Result and discussion

### 6.1. Visual and physical survey

The main streets in religious precincts are narrow except the Bada Danda which is wide and have evolved organically over a period of many years. The other two streets do not have sidewalks for pedestrians since these streets were made for the people on foot and not vehicles. Similarly other basic amenities like seating, street furniture, shelter and canopies are not present on these streets. Due to the presence of pilgrims and movement of traffic, they are mostly crowded and congested. Maintenance and cleanliness is another problem faced by the people though the streets are regularly cleaned.

Bada Danda which has a unique character owing to the processional ritual of Rath Yatra, does not have any feature that can cause obstructions during the festival. Therefore, the street is devoid of any trees or other street furniture (Figure 2). The informal activities that occupy most of the street cease to happen on the special occasions like Rath Yatra. In order to facilitate the pilgrims to have a view of the festivals and rituals, the buildings have balconies and openings on the upper floors. Millions of people on the street and in the balconies take part directly or indirectly in these events and become a part of it. Similarly, houses on the Temple street (Figure 3) had projecting upper floor with balconies, providing shade on the street. Most of the

historical buildings were architecturally significant and intricately carved but were in dilapidated condition and needed immediate attention. The qualitative data findings are demonstrated in Table 1.

## 6.2. Reliability and validity test

The reliability test results indicate Cronbach's Alpha value as 0.845 for Bada Danda, 0.893 for Temple street and 0.891 for Swargdwara which is higher than minimum value i.e. 0.7 of alpha and is hence significant for all the three streets.

Also, Kaiser-Meyer-Olkin evaluate of sampling adequacy for validity test has values 0.615, 0.654, 0.735 for Bada Danda, Temple street and Swargdwara respectively. The results are acceptable for the three streets since the values are higher than the minimum scale i.e. 0.6.

According to ANOVA test results,  $F=0.163$ . With a critical value of 0.05, the critical  $F=3.219$ . Since  $F < \text{critical value}$ , the differences we get are simply due to random sampling or by chance and the samples are from the same population. This implies that the results (means) obtained from the survey of the three streets are statistically significant.

## 6.3. Questionnaire survey

The respondents consisted of 76% pilgrims and 24% residents of Bada Danda, 77% pilgrims and 23% residents of Temple street and 72% pilgrims and 28% residents of Swargdwara street. The pilgrim respondents, as can be seen from Table 2, are almost equally distributed in various age groups of 18-24, 25-30, 31-40 and even 41-50. Fewer numbers are in old age groups since most of them nominated the younger ones in their group or family to fill the questionnaire.

Almost equal numbers of male and female respondents were a part of survey as demonstrated in Table 2.

Survey results of pilgrims on Bada Danda indicate that the street is perceived high in socio-cultural aspect with a mean of 0.893 as compared to physical aspects with a mean of -0.119 due to strong historical significance of street pertaining to the Rath Yatra also known as Chariot Festival annually

**Table 1.** Qualitative Data Findings.

Bada Danda	Temple street	Swargdwara
Inadequate public facilities: seating space, toilets, drinking water	Inadequate public facilities: seating space, toilets, drinking water	Inadequate public facilities: seating space, toilets, drinking water
Traffic congestion and haphazard parking	Traffic congestion and parking at Janhimundia Square	Traffic congestion and haphazard parking
Poor management but better in terms of street surface quality	Poor drainage	Potholes and poor drainage provisions
Inadequate shelter	Inadequate shelter	Inadequate shelter
Encroachments	Encroachments	Encroachments
Contrast between the old and new building architectural styles	Garbage thrown here and there on street	Dilapidated condition of old buildings
Nuisance created by roaming animals on street	Nuisance created by animals roaming on street	Nuisance created by animals roaming on street
Presence of historical buildings of architectural significance	Presence of historical buildings of architectural significance some of which are maintained	Presence of historical buildings of architectural significance

**Table 2.** Percentage of respondents in various age groups and based on gender.

Age (years)	Bada Danda,	Temple Street	Swargdwara
<b>18-24</b>	15%	11%	17%
<b>25-30</b>	23%	21%	25%
<b>31-40</b>	17%	29%	21%
<b>41-50</b>	23%	12%	19%
<b>51-60</b>	12%	14%	12%
<b>60+</b>	11%	14%	6%
Gender			
<b>MALE</b>	66%	50%	56%
<b>FEMALE</b>	34%	50%	44%

and other rituals and religious activities happening on the street. The road is considered to be sacred and has a very strong identity because it houses the Rath Yatra and the activities associated with the making of the three rathas annually. The shops directly open out on the streets with certain spill over activities happening on the sidewalks and there is a strong interaction between the people on both sides of the street interface. Not only at the street level, the upper floors also have balconies to communicate with the street activities (Tandon, 2016). The activities on the street support the rituals with vendors lining the pathway providing souvenir and colourful items on their carts to the pilgrims, or sitting on the floor with umbrella covers to protect them-



selves from the scorching heat. Street foods, and even the logs of wood used for making the Rathas find a place here. The physical aspects (the open spaces, the built environment and character of the street) were less identified by the respondents as can be observed in the statement made by many pilgrims, "It is only because of Lord Jagannath that we come to this street..." At the same time, the surface quality of street is maintained and it is smooth without any potholes as can be observed in its mean value ( $M = -0.119$ ) which is higher than the other two. In addition, the street is cleaned more than twice a day but due to numerous pilgrims visiting the street, it does not remain clean.

According to the residents of Bada Danda, socio-cultural aspects ( $M=1.620$ ) on this street are more significant than the physical characteristics due to sense of attachment and connection pertaining to their economic dependence and sustenance on the place as a source of income and its strong historical significance. One of the residents explained, "Activities keep happening on the street apart from Rath Yatra like Bhajan programmes 7-8 times a year in Kartik, collection and display of Durga idols made by each sahi near Singhdwara before their visarjan; is also route for murti visarjan after Durga puja ..." giving him a sense of pride. Physical features ( $M=0.060$ ) are again moderate and positive implying its importance on this street. The opinions regarding the changes on the street are conflicting. A strong positive correlation of 0.952 is observed between the perception of pilgrims and residents of Bada Danda.

The results of survey of pilgrims on Temple street indicate that the perception is negative and moderate in socio-cultural aspect with a mean of -0.106 because neither it is known for any specific ritual nor is a route followed by most of the pilgrims. The pilgrims do not feel much associated to this street. The street scored the lowest in physical aspects because of the unhealthy and unhygienic conditions on the street as pointed out by various pilgrims. The visual survey too indicates the same.

But the residents unlike the pilgrims on this street thought it to be comprising of prominent socio-cultural aspects with a mean of 1.460 signifying their length of engagement, stay and frequency of visiting the street which influenced their perception and they are completely satisfied with the characteristics related to this aspect as stated by one of the resident, "Some rituals are also associated with this street and it is also known for Akhadas..." , but have negative perceptions about its physical ( $M=-0.201$ ) characteristics. As compared to the other two streets, it is perceived to be the lowest in both aspects. There is a strong positive correlation of 0.818 between the perception of pilgrims and residents on Temple street.

Swargdwara like Bada Danda too has strong socio-cultural characteristics as perceived by pilgrims with a mean of 0.741 and is packed with people due to it being known as a 'route to heaven' and is the shortest distance from temple to beach. The presence of Swetganga tank also increases its historical importance. During the day, the people can be seen sitting outside, resting, communicating with each other and also with people walking on the street providing opportunities for interaction. Small shops and vendors on the street sell Prasad and souvenirs thus fulfilling the needs of the pilgrims. According to one of the pilgrims on this street, "Spiritual, religious feelings come in mind even if I am an atheist..." clearly signify the importance of the street. Another pilgrim responded, "Condition of road is very bad especially during rainy season and there is a need for beautification and decoration of the buildings on street..." showing dissatisfaction with the physical aspects ( $M= -0.473$ ).

From the survey of residents of Swargdwara, socio-cultural aspects with a mean of 1.550 are rated as high since they very much identified with the place and also expressed sense of ownership and pride but they too were not satisfied with the physical aspects ( $M= -0.270$ ). The perceptions of pilgrims and residents on Swargdwara have a strong positive correlation of 0.917.

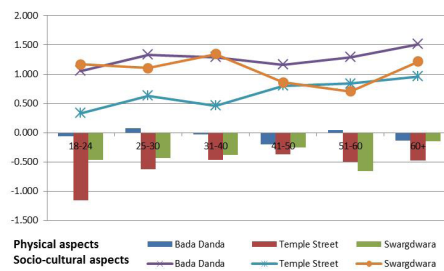
The strong positive correlation between the perception of pilgrims and residents on the three streets indicate consensus among both the groups regarding their opinion about the aspects of sense of place on these streets. The differences in means obtained from survey of pilgrims and residents can be attributed to factors like economic dependence and sustenance, familiarity with the place, length of engagement, stay and frequency of visiting the street, sense of ownership and pride, which are more important for residents than the pilgrims.

Perception of respondents also varies with age though there seems to be a general consensus regarding the negative perception for physical and positive for socio-cultural aspects as can be observed in Figure 5. Respondents in age group of 18-24 years are stronger in their opinions as one of them clearly stated “The street is dirty, stinking, no place to walk; no pedestrian walkways...” about the Temple street. Respondents above 60 years are more sensitive towards social and cultural characteristics clearly indicating the importance these streets psychologically have on the older people where they feel spiritually connected to the divine power as compared to the younger generation. The results also indicate that the young people too are sensitive and spiritual as otherwise thought of.

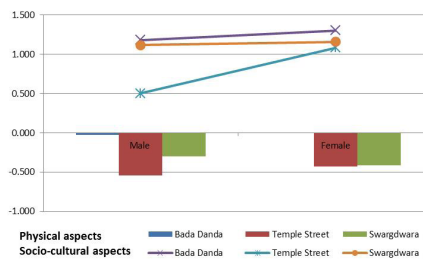
As per sex, both male and female pilgrims are in agreement regarding the physical characteristics with negative means and socio-cultural characteristics with positive means present on the streets with females having a better perception than males as demonstrated in Figure 6.

## 7. Conclusion

In this study we evaluated the two aspects (physical and socio-cultural), that contribute to sense of place in the three streets (Bada Danda, Temple Street and Swargdwara) of Puri, a religious city, through the parameters like physical values in terms of streetscape character, landscape features, cleanliness, maintenance and historical significance, activities supporting rituals, opportunities for interaction, sense of



**Figure 5.** Means of responses for physical and socio-cultural aspects according to various age groups.



**Figure 6.** Means of responses for physical and socio-cultural aspects according to gender.

belonging for socio-cultural values that these streets have.

The study demonstrates that both pilgrims and residents respondents perceive that the characteristics related to socio-cultural aspects are dominant and strongly associated with sense of place on streets in pilgrimage cities. Residents are stronger in their perceptions as compared to pilgrims. The historical importance, activities that support the needs for the rituals, opportunity for interaction with others on the street and also sense of belonging influence the perception of people and sense of place (Table 3). The sense of place rooted in the past is, therefore, what constitutes the essence of place (Ujang, 2014) and determines the identity of a place (Relph, 1976). The religious activities (rituals, activities catering to the needs of pilgrims for performing the rituals) are more prominent near the religious complex. They change their character as the distance from the complex increases and are an important factor in contributing to sense of place on streets in religious cities.

The socio-cultural (Relph, 1976; Steele, 1981; Low, 1992; Mazumdar & Mazumdar, 1993, 2004; Edensor, 1998; Hidalgo and Hernandez, 2001; Mehta, 2007) and physical aspects

**Table 3.** Means of response for Socio-cultural aspects on the three streets.

Socio-cultural aspects		Bada Danda	Temple Street	Swargdwara
<b>Historical importance</b>	Mean	<b>1.638</b>	<b>0.479</b>	<b>1.613</b>
	SD	0.557	1.040	0.738
Activities supporting rituals	Mean	0.763	-0.225	0.709
	SD	0.846	1.190	1.111
Opportunities for interaction	Mean	0.667	-0.038	0.654
	SD	1.040	1.216	1.074
Sense of belonging	Mean	0.380	-0.641	-0.013
	SD	1.029	0.953	1.217

**Notes.** Likert scale ratings : 2= Completely agree, 1= Very much agree, 0= Moderately agree, -1= Slightly agree, -2= Not at all agree

**Table 4.** Means of response for Physical aspects on the three streets.

Physical aspects		Bada Danda	Temple Street	Swargdwara
Lighting	Mean	0.500	-0.125	0.012
	SD	0.827	0.624	0.698
Landscape features & trees	Mean	-1.333	-1.413	-1.213
	SD	0.935	0.688	1.064
Building material and colour	Mean	-0.263	-0.963	-0.763
	SD	0.759	0.665	0.984
Attractive buildings	Mean	-0.463	-1.138	-0.778
	SD	1.018	0.670	0.975
Cleanliness and maintenance	Mean	-0.244	-1.375	-0.963
	SD	1.164	0.848	0.955
Alive	Mean	<b>1.090</b>	<b>0.063</b>	<b>0.864</b>
	SD	0.885	1.276	1.046

**Notes.** Likert scale ratings : 2= Completely agree, 1= Very much agree, 0= Moderately agree, -1= Slightly agree, -2= Not at all agree

(Lynch, 1962; Relph, 1976; Steele, 1981; Rapoport, 1990; Hidalgo and Hernandez, 2001; Steadman, 2003) are equally important and significant to have sense of place as discussed in the literature review. Though the three streets are valued socio-culturally due to them being associated with a religious and sacred place, the physical aspects are likewise vital for them. Walking bare-foot is a ritual which the pilgrims follow thereby experiencing the transition from mundane to sacred and hence the surface of the street should be comfortable to walk on implying the prominence of physical character of the street to perform an activity. Streets in religious precincts should be easily accessible and if possible should be

pedestrianized for the pilgrims to walk safely and comfortably to the religious complex.

Both visual and questionnaire survey reflect the unsatisfying conditions of physical parameters on these streets which deter the sense of place, thereby signifying the improvements required to further enhance the quality, identity and sense of place on these streets (Table 4). To improve the physical conditions of the streets, the people together with the government need to take initiatives. The built environment which at present comprises of some dilapidated buildings needs to be taken care of and strict bye-laws regarding new constructions should be followed. The dilapidated structures should either be removed or renovated based on their importance historically or architecturally. Improvements in streetscape and conservation of distinctive features such as old and historical building façades will make places more legible and attractive.

Basic amenities should be provided for the pilgrims including provisions for keeping footwear before going to the temple, dustbins, seating space, drinking water and toilet facilities. The streets should be cleaned frequently depending upon the footfall of the pilgrims on a regular basis. The character of the streets can also be achieved by cleanliness and maintenance so that the pilgrims who come here in large numbers with spiritual feeling carry a positive image pertaining to its character. Further by providing landscape features, semi-fixed street furniture that can be removed during the processions, public art and open spaces, the physical aspects can be enhanced without destroying the essence of the religious character of the street.

The streets of religious cities are thus rich in social and cultural values (intangible aspects) and also clearly indicate the importance of the tangible aspects that have a very strong influence on people's perception of the street and sense of place. The pilgrims visit these streets because of the presence of religious structures and their beliefs and faiths. At the same time, they wish for the improvement in the physical condition of the street and built form to

make their visit more experiential, interesting and fulfilling. The physical, social and cultural attributes further enhance the sacred character of the place. The streets in religious precincts though lacking in physical qualities have a strong sense of place due to the social, cultural and religious beliefs.

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