

Evaluating urban infrastructure and place attachment among residents of outskirts gated societies of Delhi, NCR, India

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Abstract

With increased income levels of people and flexible financial assistance schemes offered by the banks, gated societies are gaining priorities among the urban dwellers. The feeling of progress and a feeling of up-gradation in living standards are major determinants motivating urban dwellers to prefer gated societies for their residence. Factors like prestige, security and sense of belongingness play a major role while opting for gated societies. The present research makes an assessment of prevailing urban infrastructure and the 'satisfaction level' of residents in the gated societies located at the outskirts of the urban agglomerations in Delhi-NCR. The study also assesses the role of infrastructure within the societies, urban infrastructure outside the societies and social life in influencing 'place attachment'. The study is based on first-hand information collected through a field work carried out in the year 2021. Chi Square technique is used to carry out the statistical analysis of the collected primary data to determine the significance of association between 'place attachment' and variables related to satisfaction with amenities, infrastructure and social life – neighbourhood and friends and family network. The findings from the selected gated societies show that people were generally satisfied with the prevailing urban infrastructure and have developed a strong 'place attachment' in the place of their residence..

Keywords: *Gated societies, city outskirts, place attachment, satisfaction level, urban infrastructure.*

Introduction

Urban landscape in most major cities in India is experiencing major changes through real estate development. The national capital region of Delhi (NCR) is no exception to this development and in fact extends to cover areas like Noida, Faridabad, Gurgaon, Ghaziabad etc. The real estate development projects have indeed accelerated during the period 2005-2020 to provide instant housing solution, despite serious shortcomings at the ground level as evident from reports of residents experience with regard to quality of

housing and services provided. It is a common experience that the developers deliver the houses with compromised quality and that too not on time. With passage of time the residents feel highly dissatisfied with the infrastructure provided to them when compared with what they were promised and what they finally got. Availability or otherwise of the promised urban infrastructure in the gated societies determine the 'satisfaction level' and the feeling of 'place attachment' of residents.

The residents are generally influenced

by the luring advertisements in leading newspapers by private property developers which rarely match with the final product or time taken to get the possession of the apartments. A cursory look at the newspapers or social media post or legal conflicts is sufficient to gauge the extent of discontent expressed by the residents of many of these gated society residents as every such society lacks one or the other amenities. Moreover many unscrupulous builders dodge governmental guidelines of construction and disaster related measures.

It is imperative to define what constitutes infrastructure as far as the gated societies are concerned. Infrastructure within the gated society includes provision of lift, comfortable staircase, emergency exits, pathways, green spaces like parks, sports ground, water supply etc. which are basic minimum for a decent living and determine the satisfaction level and consequently, developing place attachment in residents. The second aspect relates to neighbourhood which can be understood as intra society and inter-society neighbourhood relationship. The intra-society neighbourhood means people living side by side or on same floor of building while inter-society neighbourhood relationship relates to other gated societies/malls in close proximity or rural/underdeveloped areas in the surrounding. People living within gated societies tend to form a community extending support to their immediate neighbours in times of need while outer neighbourhood determines the level of safety and access to facilities, markets and other concerns like safety etc. The third aspect is access to roads which is another basic need beyond the gated society as it facilitates daily life and also meets out emergency situations. The access to

roads can be described in terms of first-mile-last-mile connectivity in daily life while in emergency situations like medical or disaster related emergencies, facilitate mobility for relief and rescue related assistance. The fourth aspect is security system within society which helps in making residents feel safer within the gated societies. This security system ranges from installation of closed circuit television cameras (CCTVs), sensors to provision of identity cards to the security guards, proper record of visitors, proper communication between security staff and the residents. The fifth aspect is urban infrastructure in close vicinity of the gated societies which help residents in purchasing their daily supplies. The sixth aspect is sewage disposal which is part of overall hygiene in gated societies. Even in current scenario, sewage disposal is done by municipal corporations and other local bodies in the gated societies. No modern means or techniques are being used till date. The last aspect is power back-up which assist in case of temporary power failure/cut in electricity supply for a period ranging between a few minutes to a few days.

The present research revolves around the two major aspects viz. the level of satisfaction and the degree of place attachment. In broad terms, satisfaction level refers to feeling contented arising out of a correspondence between aspirations/expectations and the reality. Satisfaction level of the residents in initial stage is majorly governed by what was promised and what was actually delivered. At a later stage, satisfaction level incorporates many other issues including the availability of facilities, performance of the systems (power backup, sewage disposal etc.), transport connectivity, location with respect to nearby urban centres all of which tend to

shape the satisfaction/dissatisfaction level of the residents. However, this satisfaction/dissatisfaction level, over a period of time gets modified by the place attachment factor which the residents develop due to emotional attachment with neighbours/friends/relatives living in the same locality or with nearby localities. In addition, sometimes a single major factor like safety or scenic location may dominate in developing place attachment. Financial limitation often acts as major constraint on residents to shift to other gated societies.

Place attachment is a cognitive emotional bond between human beings and their surroundings (Scannel and Gifford, 2017). It is determined by various socio-economic factors of human well-being. Place attachment is closely associated with access to road, neighbourhood formation and friends/family network. The most important factor is good neighbours developing mutual bond of caring and sharing. Daily conversations, morning walks, casual meetings and gatherings on social festivals are some salient features of healthy neighbourhood bond.

One's personal experiences too add meaning to one's own assets whether house or some other thing (Relph, 1976). Place attachment is determined by a number of factors like perception, psychological, physical and socio-cultural dimensions of an individual (Najafi and Kamal, 2012). Moreover, place attachment is also governed by similarity at the place of origin and the place of destination (Basu, Hashimoto and Dasgupta, 2019).

Significance and objectives

The significance of the present study lies in the fact that it provides empirical

evidence to the two aspects related to urban infrastructure, i.e satisfaction level and place attachment by conducting a survey of a select gated communities living in housing colonies located in the outskirts of Delhi national capital (NCR) region. Needless to emphasise, the notion of place attachment depends on social life and local interpersonal bonds, especially within gated societies and is less affected by urban basic infrastructure inaccessibility, although this may reduce the feeling of satisfaction.

The objectives of the present study include an assessment of the levels of satisfaction of residents with respect to available infrastructure within the gated societies and urban infrastructure in the emerging residential areas of the NCR. It also explores the inter-relation between place attachments of the residents with respect to friends/neighbourhood in gated societies.

Material and methods

The present research is a descriptive study based on both primary and secondary data sources. The secondary sources include intensive literature survey of the studies related to cognitive biases, gated communities and place attachment. The secondary data was reviewed to determine the state of amenities and infrastructure available to residents of the gated societies in the NCR. A few gated societies (see fig. 1) in the upcoming region of Delhi and periphery of major cities surrounding Delhi - Gurugram, Faridabad, Noida and Ghaziabad were selected for primary survey. The housing societies chosen for the survey are those where residents have moved in, but infrastructure development has not been completed and urban amenities are lacking. Primary data was collected from residents of gated societies through a series

of field visits as well as using online method such as Google form during May and August 2021. Face to face interview and telephonic interviews were also conducted with members of the Resident Welfare Associations (RWA).

Methodology

The questionnaire method was used to collect first-hand information through primary survey. The data was collected on the following aspects: the level of satisfaction measured on five point Likert scale about i) infrastructure, ii) security system, iii) accessibility to road,

iv) sewer disposal management v) power back-up, vi) accessibility to public transport, and vii) traffic management.

Data were also collected with respect to a) Liking about i) neighbourhood, ii) place of residence (figure 1). Aspect of 'place attachment' included i) length of stay, ii) friends, iii) family, iv) urban infrastructure.

Tools of analysis

A Likert scale is a question which is a five-point or seven-point scale. The choices

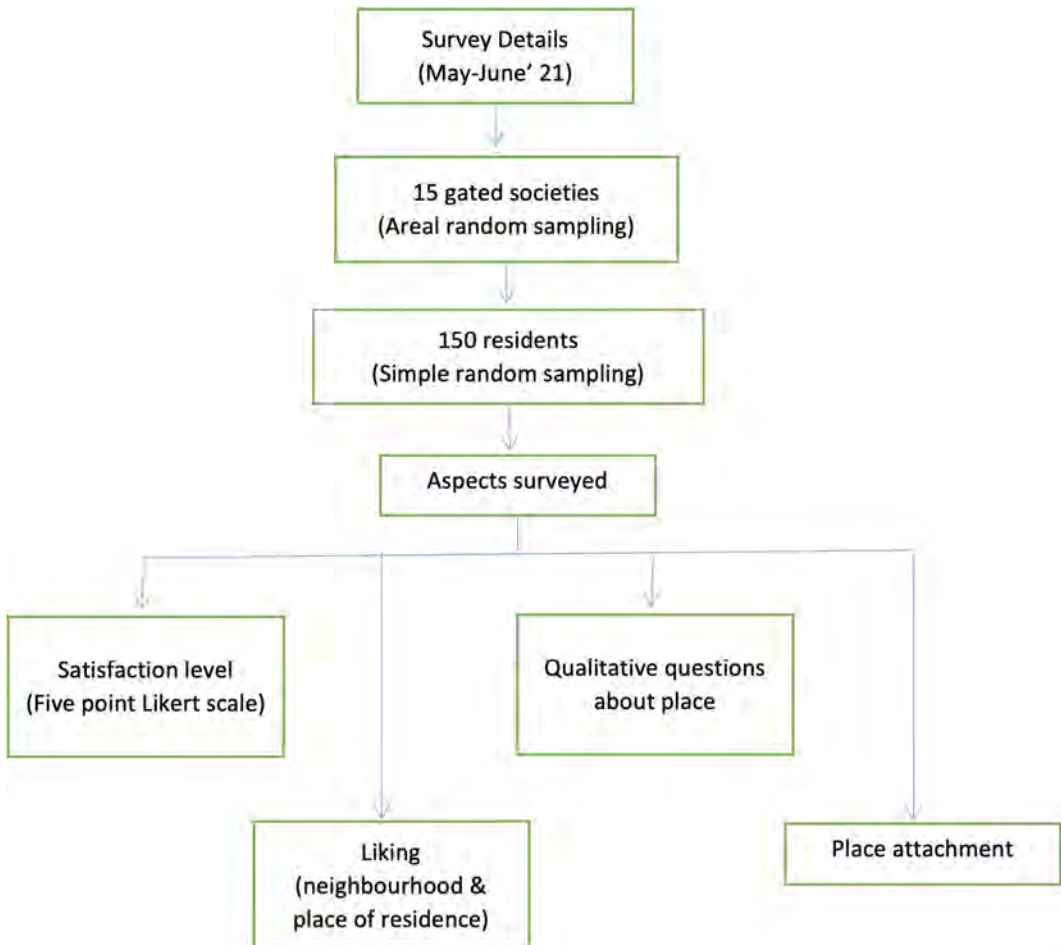


Fig. 1: Details of Primary Survey, Delhi, NCR, India

range from ‘strongly agree’ to ‘strongly disagree’ so the surveyor can get a holistic view of the range of people’s opinions. All Likert scales also include a mid-point e.g neither agree nor disagree, for those who are neutral on the subject. The primary data was analysed to ascertain the proportion of respondents who reported satisfaction with the amenities and infrastructure provided to them. The association between having access to amenities, infrastructure, friends and relatives in the neighbourhood on one hand and developing place attachment among the residents on the other was tested using simple logistic regressions. Chi square statistic was used to test the significance of the regression model.

Study Area

The National Capital Region (NCR) of Delhi is densely populated supporting about 800 persons per km², and spanning over four states namely the NCT of Delhi, Haryana, Rajasthan and Uttar Pradesh and encompassing a total 23 districts (NCRPB, 2020). The NCR covered a total area of 58,332 km² including Haryana (28,545 km²), Uttar Pradesh (14,826 km²), Rajasthan (13,447 km²) and Delhi (1483 km²) (figure 2). The NCR of Delhi is well known for its development, urbanisation, and industrialization. In addition, NCR of Delhi is known for its high-tech urban infrastructure characterized by rapid mobility networks (metro, expressways etc.), easily accessible facilities (schools,

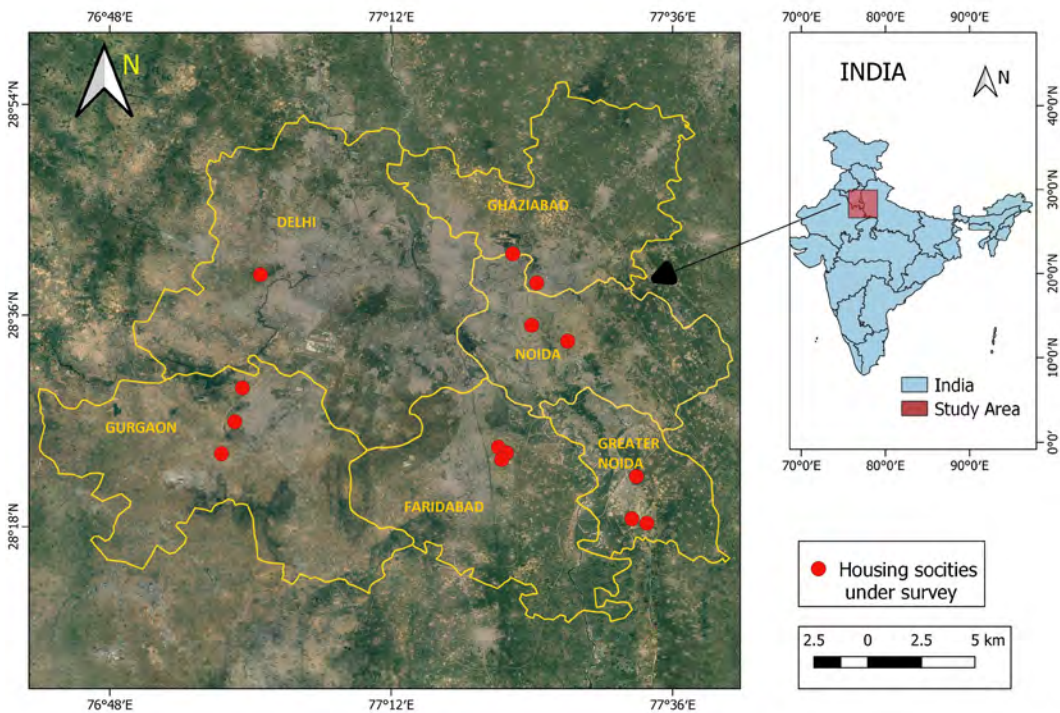


Fig. 2: Location of the selected gated societies

medical aid etc.) and various other urban amenities attracting people of diverse ethnic and socio-economic background. This has led to the growth of gated societies in line with most developed urban centres of the world to provide quality living with safe and secure environment. Though there were several pre-existing gated societies in the core of NCR of Delhi for many decades but in the last 20 years or so, growth of gated societies is seen mushrooming more in the peripheral region like Ghaziabad, Faridabad, Gurgaon, Meerut, Bulandshahr and many more. The present research was undertaken in the gated societies existing in the peripheral areas of the NCR of Delhi. The study was conducted among some of the societies located in Greater Faridabad, Greater Noida, Ghaziabad, Gurgaon and a few upcoming new societies of Delhi.

Results

Satisfaction level of the residents living in gated societies was assessed based on primary data related to infrastructure within the society, neighbourhood, access to roads, security system within the society, urban infrastructure quality, sewer disposal and cost of power back-up. As much as 69 percent of the residents (figure 3) interviewed were satisfied with the infrastructure available/provided to them within the society. The proportion of residents satisfied with the neighbourhood was only a little less at 66 percent. As much as 62 percent were reportedly happy with access to roads. But the level of satisfaction fell to only 57 percent of the residents with regard to the security system within the society. Only a little over half (54%) of the residents expressed satisfaction with the urban infrastructure quality and sewer disposal (53%). Satisfaction level with the cost of power back up was the lowest with less than

half (49%) of the residents confirming that they had little to complain about it.

A great majority of the residents (91%) had liking for the place but the proportion fell sharply to 67 percent who had developed place attachment. It may be pertinent to mention that the feeling of place attachment is different from 'liking' and residents feel attached to particular place if and only if their 'satisfaction level' is quite high while 'liking' can result from either partial satisfaction or full satisfaction related to one or two aspects and not necessarily to all aspects.

With the exception of the cost of power backup, a majority of the respondents have expressed satisfaction with rest of the amenities, infrastructure and the quality of the neighbourhood. The satisfaction level appears highest for infrastructure within the society, followed by the neighbourhood and access to road. A relatively greater proportion of the respondents however expressed dissatisfaction with factors like cost of power backup, sewer disposal, and urban infrastructure quality. In general, better delivery in respect of infrastructure like access to road, sewer disposal, power backup, security system within residential society etc. continues to pose a challenge to these residential societies.

A higher proportion of the residents reported that they liked their place but much lower proportion expressed place attachment (figure 4).

Simple logistic regression model was used as a statistical tool to test the results. The place attachment was taken as the dependent variable while independent variables included urban infrastructures and amenities, infrastructure within gated societies, family/

friend network etc. Table 1 shows that access to road neighbourhood and family/friend network showed an association which was statistically significant in determining place attachment while factors like urban infrastructure, sewage disposal, cost of power back-up, infrastructure within the society were found non-significant in determining place attachment.

A significant value indicates that one or more of the independent variables have a significant effect but does not clearly indicate which independent variable. Since, each of the simple logistic regression models presented above has only one independent variable, it can be inferred that the significance of the model is on account of that independent variable.

Inference from the model

From the available data, we can infer that there is a significant association between 1) “place attachment” and “access to road”, 2) “place attachment” and “satisfaction with neighbourhood” as well as 3) “place attachment” and “friends/family network” in the sample. The association with other aspects of urban infrastructure and amenities does not appear to be significant.

Satisfaction with access to the roads appears to be associated with “place attachment”. Roads are a basic necessity that makes it possible for people to live in the emerging areas and still be able to work in places which may be distant– a point that also emerged from discussions with the residents. Satisfaction with neighbourhood appears to have become a more important determinant over the previous year (2020-21). The year 2020-21 has been marked by COVID 19 pandemic which resulted in

restrictions being placed on activities that people undertake for recreation. Having a congenial neighbourhood appears to have filled in this gap, as enjoying a leisurely walk in a neighbourhood is a privilege that residents of many of these gated societies had. The statistical testing suggests that having nearby family and friends serves to enrich the social life of residents and may contribute to feeling of place attachment. These findings are consistent with that of Leila Scannel and Robert Gifford (2017), who found place attachment to be the cognitive-emotional bond that forms between individuals and their important settings which is a common human experience with implications for their well-being.

Discussion

It is a common to most house buyers that they develop disaffection with the builders as soon as they take occupation of their apartment in a gated society to find that many of the promised/ advertised infrastructure and amenities are found missing or provided with little consideration to the expected quality. The indifferent attitudes of the concerned authorities too add to their discomfort (Miller, 2018). At the same time, home buying is considered to be an important milestone in one’s life. One invests considerable time, energy and emotions in addition to substantial financial resources when one buys a house. Such an emotional, in addition to material, investment can pre-dispose one to like the object that is being purchased. In such a scenario, the mind of the home-buyer can be pre-disposed to liking the home and developing a place-attachment. This study provides the evidence that the residents of gated societies come to accept the amenities

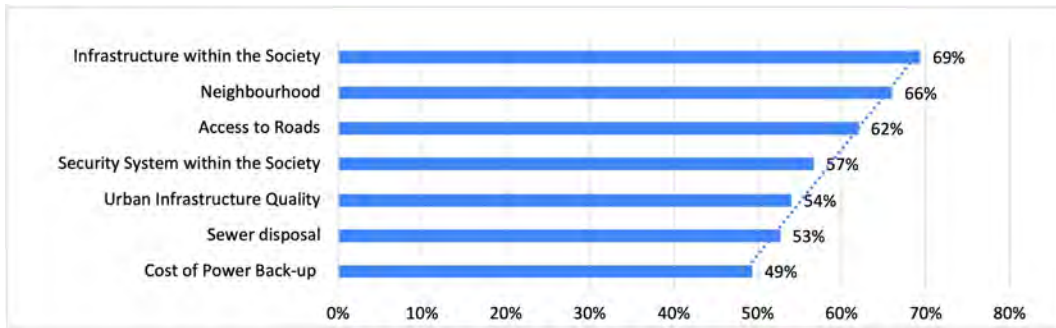


Fig. 3: Analysis of satisfaction level of residents in gated societies

Source: Field survey, 2021

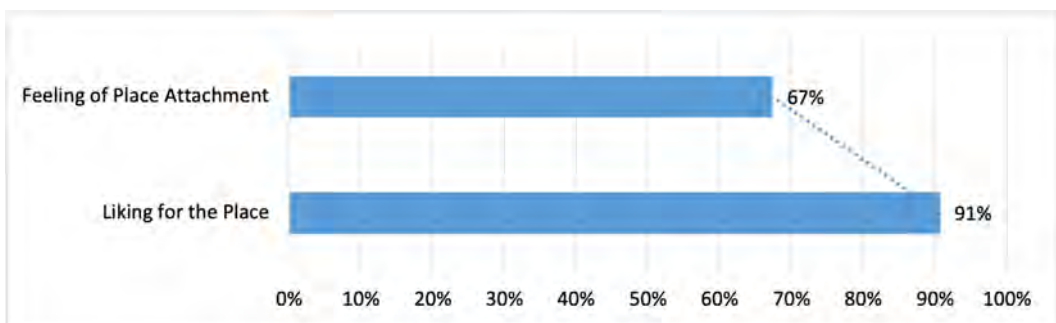


Fig. 4: Levels of 'Place attachment' and 'liking' for place in residents of gated societies

Source: Field survey, 2021

that are provided to them. Still, in the sample, the level of satisfaction with issues such as infrastructure within society, sewer disposal etc, is not significantly associated with 'place attachment'. On the other hand, access to road, neighbourhood and friends/family network are significantly associated with 'place attachment'. It is intuitive that access to roads is significant because most residents in these societies need to commute to their work places. Also, better access to roads in one way or the other helps the residents to develop confidence not only for their daily routine but also mobility under special circumstances. The experience of the pandemic has meant that the residents of gated societies appreciate

their neighbourhood, particularly when there are restrictions imposed on movement and means of recreations are limited. Therefore, it is also unsurprising that satisfaction with neighbourhood and friends/family network are significantly associated with 'place attachment'.

The study reveals that most residents are satisfied with the available infrastructure within gated residential society and have developed a place attachment in terms of neighbourhood, family-friends and social life. However, many residents expressed dissatisfaction regarding the adequacy of the available urban infrastructure outside the gated society. Respondents have also

Table 1: significance of association between dependent and independent variables

Model	Independent variable	Nature of variable	LR Chi2	P value Chi2	Significance
1	Satisfaction level with urban infrastructure quality	5 Point Scale - Very Unsatisfied to Very Satisfied	0.13	0.72	Not Significant
2	Satisfaction level regarding access to road near your society	5 Point Scale - Very Unsatisfied to Very Satisfied	5.4	0.02*	Significant
3	Satisfaction level with sewer disposal in your society	5 Point Scale - Very Unsatisfied to Very Satisfied	0.17	0.68	Not Significant
4	Satisfaction level with cost of Power backup (DG)	5 Point Scale - Very Unsatisfied to Very Satisfied	0.01	0.93	Not Significant
5	Your satisfaction level about infrastructure within your society?	5 Point Scale - Very Unsatisfied to Very Satisfied	0.001	0.99	Not Significant
6	Are you satisfied with the security system you get in the society?	5 Point Scale - Very Unsatisfied to Very Satisfied	0.37	0.54	Not Significant
7	How satisfied you are with your neighbourhood?	5 Point Scale - Very Unsatisfied to Very Satisfied	9.09	0.002*	Significant
8	Friends/Family Network	Significant - Yes/No	20.02	0*	Significant

Source: Field work. Compiled, calculated and computed by the author

pointed out the problem of inadequate access to roads, urban crimes and security issues in nearby areas. Thus, it can be inferred that infrastructure within gated society and friends/ neighbourhood/ social life have association with the perception of place attachment among residents.

Limitation of the Study

The variables for the analysis in this study are nominal and ordinal, and the sampling method is non-probability. As a result, no parametric testing is possible. The nonparametric method relies on a few assumptions; hence it is less efficient as compared to parametric test.

Conclusion

The fast and stressful life of urban dwellers does not allow them to take extra burden of stress coming from various issues related to place of living. To get rid of this stress, urban dwellers prefer to move towards gated societies to benefit from a sense of security, road connectivity, and safe and secure neighbourhood, optimum density of inhabitants etc. Life in gated societies is facilitated by urban infrastructure within gated society and in its surroundings. Though the ground reality may not be as good and in many cases people feel dissatisfied, but gated societies which have good access to

roads, are becoming the order of modern living associated with place attachment due to neighbourhood, network of friends, family and relatives and overall social life. Having a nice neighbourhood appears to reduce the harshness of living in a big city which can be otherwise stressful.

References

- Akash Vashistha (2007). Flourishing Faridabad. *The Economic Times*, (Online Web) Accessed on 18 December, 2020. <https://economictimes.indiatimes.com/et-realty/flourishing-faridabad/articleshow/2345921.cms?from=mdr>.
- Altman and Low (1992). "Place Attachment: A Conceptual Inquiry", *Human Behaviour and Environment*, Vol. 12, Springer, pp. 1–12.
- Ashwini M Sripad, (2017). Satellite Towns Can Unclog Big Cities, Express News Service. (Online Web) Accessed on 22 November 2020. <https://www.newindianexpress.com/States/Karnataka/2017/Dec/27/Satellite-Towns-Can-Unclog-Big-Cities-1737668.html>.
- Basu, Mrityika, Hashimoto, Shizuka & Dasgupta, Rajshri (2019). The mediating role of place attachment between nature connectedness and human well-being: perspectives from Japan. *Sustainability Science*, 15, pp.849–862.
- Bijendra Ahlawat, (2019). Faridabad Residents Start 'No Road, No Vote' Drive. Tribune News Services. (Online Web). Accessed on 15th Dec 2020. <https://www.tribuneindia.com/news/Archive/Haryana/Faridabad-Residents-Start-No-Road-No-Vote-Drive-832212>.
- Bhatnagar, Isha (2017). Do We Need Smart Or Wise Cities? Infrastructure Today. (Online Web) Accessed on 1st December 2020, <https://infrastructuretoday.co.in/special-feature/do-we-need-smart-or-wise-cities-/106413>.
- Chaitanya Mallapur. (2016). 70% Of Urban India's Sewage Is Untreated. India Spend. (Online Web) Accessed on 23 December 2020. <https://www.indiaspend.com/70-of-urban-indias-sewage-is-untreated-54844/>.
- Dan Plunkett, Rhonda Phillips & Belgin Ucar Kocaoglu (2018). Place Attachment and Community Development. *Journal of Community Practice*, 26(4), 2018 <https://doi.org/10.1080/10705422.2018.1521352>.
- Department of Town and Country Planning, Haryana Government (2014). *Faridabad Master Plan, 2031*. (Online Web) Accessed 15th May 2018, URL: <https://tcp.haryana.gov.in/>.
- Humboldt County General Plan. (2007). Community Infrastructure and Services Element. (pp. 7-1 - 7-64), Retrieved from <http://www.humboldt.gov/DocumentCenter/View/2096>, Last Accessed July 7, 2017.
- Kenny Chow, Mick Healey. (2008). Place Attachment and Place Identity: First-Year Undergraduates Making the Transition from Home to University. *Journal of Environment Psychology*. 28(4):362-372. DOI: 10.1016/j.jenvp.2008.02.011
- Mesch, G. S., & Manor, O. (1998). Social ties, environmental perception, and local attachment. *Environment and Behavior*, 30, pp.504-519.
- Najafi, Mina and Kamal, M. S (2012). The concept of place attachment in environmental psychology. *Sustainable Architecture*. / Elixir Sustain. Arc. 45, pp.7637-7641.
- Noga Collins-Kreiner (2020). Special Issue "Place Attachment in the Age of Globalization, Digitalization and Virtual Reality. *Sustainability Science* 12(11), 4548; <https://doi.org/10.3390/su12114548>.
- Ogunbajo, R.A., Bello, M.O. and Adebayo, M.A. (June, 2016). Assessment of Urban Infrastructure Quality and User Satisfaction

- in Low Income Residential Neighbourhoods in Minna, Nigeria. *ATBU Journal of Environmental Technology* 9, 1, print ISSN: 1596-6035.
- Prayag Arora-Desai (Oct 09, 2019). Use of diesel generators to be banned around NCR from Oct 15. *Hindustan Times*. (Online Web) Accessed on 23 December 2020. <https://www.hindustantimes.com/cities/diesel-generators-to-be-banned-from-october-15-in-gurugram/story-FiTLE1M7Chh85gk3ogolwO.html>.
- Relph (1976), *Place and Placelessness*. London: Pion.
- Roitman.(March 2010). *Design And Planning* 163 Issue Dp1, Issue Dp1, Proceedings Of The Institution Ofcivil Engineersurbans. Pages 31–38 doi: 10.1680/Udap.2010.163 .1.31.
- Singh, Jaspal (2016). City public transportation developments in India. *Intelligent Transport*. (Online Web) Accessed on 23rd December 2020. <https://www.intelligenttransport.com/transport-articles/21458/city-public-transportation-india/>
- Scannell, Leila and Gifford, Robert (2017). The experienced psychological benefits of place attachment. *Journal of Environmental Psychology*, 51, pp.256-269
- Samer Bagaeen, Ola Uduku. 2010. *Gated Communities: Social Sustainability In Contemporary And Historical Gated Developments*. Published December 7, 2012 By Routledge. ISBN: 9780415830416.
- Soroush Karami1, Mojgan Ghafary, Abbas Fakhrayee. (2014). Analyzing the correlation between urban spaces and place attachment Evidence from: Narmak neighbourhood in Tehran. *European Online Journal of Natural and Social Sciences*. 3(4), Special Issue on Architecture, Urbanism, and Civil Engineering. ISSN 1805-3602.
- Thangavel Palanivel (06 September 2017). Rapid urbanisation: opportunities and challenges to improve the well-being of societies. Human Development Report Office, UNDP. (Online Web) Accessed on 23 Dec 2020. <http://hdr.undp.org/en/content/rapid-urbanisation-opportunities-and-challenges-improve-well-being-societies>.

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