

AN INVESTIGATION OF THE PROCESS OF COMMERCIAL GENTRIFICATION & OPTIMUM UTILIZATION OF LAND AT NEIGHBOURHOOD LEVELS

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Abstract: Commercial Gentrification has a significant impact on the spatial transformations of ordinary settlements to commercial users. This research focuses on the process of commercial gentrification taking place with the establishment of an educational institution in a prevailing residential neighborhood. It is intended to identify the spatial planning implications and the possible spatial planning response to optimize the benefits of induced land-use changes at neighborhood levels. The need for a planning intervention at the neighborhood level to prevent the negative consequences of such spatial transformations, as well as the planning intervention of such spatial transformations, is emphasized in many previous studies as prospective research areas. Kernel Density Estimation, Standard deviational ellipse, Word query, and Cloud analysis methods were used to comprehend the data gathered through qualitative methods. The process of commercial gentrification was identified in terms of the changes in building use, spatial implications, spatialities of the process, and the economies of commercial gentrification. The findings of the study demonstrate that the process of commercial gentrification taking place in the neighborhood has been driven by three major contextual factors and elaborates the need for a neighborhood-level planning intervention by suggesting strategies to promote equitable development to maximize the benefit of the neighborhood transformation.

Keywords: *Commercial Gentrification, Neighbourhood Change, Spatial Transformation, Optimum Change of Use*

1. Introduction

Gentrification can be identified as the fundamental concept of neighborhood change which is one of the most significant forces changing the contemporary urban environment. Planners and urban developers generally prefer to bring facilities and financial opportunities to residential areas through commercial activities. This resulted in emerging the process of commercial gentrification at neighborhood levels. With the rapid development coming to the area, the process of neighborhood change predominates the population growth, urban development & spatial transformations which attempt to major changes in land use.

Increasing demand for land and decreasing the land supply turn out major land-use changes on both macro and micro scales. Incompatibility between land-use changes and neighborhood characters resulted in many internal and external conflicts. Therefore, optimizing the benefits and minimizing the downsides of this change caused by commercial gentrification is important in planning.

Commercial gentrification can be studied in different situations. Scholars and many researchers have reported that commercial gentrification has occurred when residential uses are converted to commercial uses such as upscale cafes, restaurants, shops, and houses at various stages including in town & commercial center development, when a naturally attractive place is exposed as a tourist destination, etc. The transformation of ordinary settlements to commercial uses plays a major role in urban growth & it is directed to huge spatial transformations at neighborhood levels. Universities and education-related institutions are identified as major contributors to urban population growth in developing countries. The demand and supply changes in the surrounding of these institutions lead to the transformation of ordinary settlements into commercial-oriented developments. To take the advantage of this neighborhood revitalization, optimum utilization of the land is a considerable factor. If the land is optimized for its best use, the advantage can easily be captured. But we are not well looking into that. Most of the studies focused on the residence side, socio-cultural impacts, the housing market, growth of the business, land fragmentations, etc. (Batara 2018; Hubbard, 2008; James, 2019; Ordor, 2015), and further those are discussed in the implications & the process at a larger scale. The need for a planning intervention at the neighborhood level to prevent the negative consequences & the planning intervention of such spatial transformations is highlighted in those studies as future

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research areas. (Alves, 2003; Ordor, 2015; Retno, 2020) And there are very limited studies in the Sri Lankan context which elaborate on the process of commercial gentrification. Most gentrification studies are limited to focusing on the local level, the study of neighborhood-level implications is also considered to be important as it is the scale at which many root causes of the complex planning issues can be identified in depth. Currently, government-led expansion of higher education fosters innovation in knowledge-based economies in many developing countries, therefore universities & education-related institutions are significantly influencing the function & development of urban landscapes. Therefore, this study focuses on neighborhood-level land-use changes associated with the commercial gentrification process with a specific focus on the establishment of education-related institutions. Specifically, this study examines the process of commercial gentrification at neighborhood levels, its impact on different user groups & its planning implications which are taking place with the establishment of education-related institutes in its neighborhood. After that, the paper illustrates the process of commercial gentrification pertained to spatial considerations & its planning implications. Finally, the findings & their planning relevance will be discussed.

2. Literature Review

2.1 GENTRIFICATION & SPATIAL TRANSFORMATION

Gentrification is a fundamental concept of neighborhood transformation (Yeom, 2019) which is introduced by Ruth Glass in 1964. It is a major concern in neighborhood change which has a significant impact on landscape transformation, necessitating legislative reforms. Simply neighborhood change refers to the inflow & outflow of residents which impacted the displacement of poor residents and replaced them in another location. This behavior changes the shape of an area to a new figure. The University/Higher Education Institutes (HEI) is identified as a place where a large number of students are concentrated, which then dives economic power and ultimately causes the surrounding region to undergo various forms of transformation. (Retno, 2020) These changing dynamics create competition among landowners & developers with the new urban development. Because land is a limited resource, they all have an incentive to use the existing lands for the most profitable function using available construction technology, existing regulations, and the design and shape of nearby competitors' buildings in the local urban setting. That is the economically optimal use or highest & best use which is discussed by planners. Furthermore, it is a place that has become increasingly valuable over time as a result of population increase, job expansion, and technological innovation, and where people are willing to put the property to its best use. (Drinovz, 2012) This transformation will be positive if it shows better quality in the built fabric, better social attitudes & favor in an environmental setting. But mostly this spatial transformation caused negative consequences such as shifting of original residents, unplanned high building density, slum vulnerability, etc. As urban planners were unaware of the rapid development coming to the area after the establishment of HEI & shortcomings in the existing planning procedure, most countries use a policy-level planning intervention to anticipate future spatial transformation in the surrounding area. (Ex: Australia) But in Sri Lanka, such policies & considerations are not considered as significant in spatial planning. These developments with a large number of students migrating everywhere in the country or a region affected the transformation of land ownership, economy, land use, building changes, social conditions, and environment of the suburbs where it is located (Retno, 2020) finally caused to emerging the process of commercial gentrification.

2.2 COMMERCIAL GENTRIFICATION

Commercial gentrification is defined as, the upward transformation of local business in terms of social class that refers to mutual changes in local entrepreneurship. (Ingmar, 2019) Many scholars defined commercial gentrification as upscaling commercialization & proliferation of stores (Chapple, 2017; Wonjun, 2020), the upward transformation of local businesses (Ingmar, 2019; Marcus 2021), as a process of economic progress (Alberto, 2018; Ferm, 2016), as a natural change in land use (Hwayeon, 2020), as physical socio-economic & cultural changes of the area due to displacements of houses & increasing cafes, stores, etc. (Yoonchae, 2018). And it can be defined as a byproduct of residential gentrification. (Ingmar, 2019) Ex: - "Atkinson argues that commercial change has been supporting neighborhood's identity change and rising prices that contribute to direct and indirect residential displacement pressures". (Ingmar, 2019) The phenomenon of commercial gentrification caused to most challenging land-use changes in urban areas. It is differentiated in supply and demand-side factors. On-demand side it is the changes in consumer preferences that trigger the local demand. On the supply side, it is most similar to the rent gap theory. According to the literature review, consumer preference, demand, and increasing cost of doing businesses are identified as the two major mechanisms which lead to commercial gentrification. (Chapple, 2017) And there are four main types of commercial gentrification. Changes in retail composition (retail upscaling), the business changes due to consumer interest (Spaces of commodification), using art & culture as business interest (art districts) & change in retails and transit investments (transit orient districts). The features of commercial gentrification identified as upscaling commercialization, changes in neighborhood consumption propensity, gradual decline in traditional marketplaces, displacement of small businesses, upscale residential development, the arrival of new or unconventional business, the attraction of more affluent entrepreneurs & increasing rents. The growth of the employee in real estate, higher education & business services led to demand for retail, office & housing spaces with the diversification of supply and demand factors combined with the growth of student-dominated neighborhoods. It is identified as a natural change in land use due to ground gaps according to the urban ecology theory, (Hwayeon, 2020) it led to issues in urban planning. Therefore, it is essential to identify the planning implications of commercial gentrification. Detrimental side effects of traffic flow, illegal conversion of residential properties to commercial use (Navid, 2022), displacement of local business (Ferm, 2016; Marcus 2021; Yoonchae, 2018), the impact of

homogenization (Hwayeon, 2020), residential displacement, deficiencies in planning framework (Jing, 2020), poor understanding in detail spatial process (Wonjun, 2020) identified as the main planning implications of commercial gentrification & ultimately it changes the sense of place while destructing the character of the neighborhood. From this standpoint, this phenomenon is demonstrated as an important study for eliminating such implications.

2.3 THEORETICAL BACKGROUND OF THE STUDY

2.3.1. Rent Gap Theory

This theory is discussed as a production/supply-side explanation for gentrification. (Pacione, 2005) When the gap between capitalizing ground rent and potential ground rent increases, such a neighborhood shows the process of gentrification in advance. Capitalized ground rent can never be higher than its potential, the maximum possible when a parcel is put to its highest & best use. Over time, however, it becomes harder to keep pace with the steady rise in potential ground rent. The rent gap widens as the amount of ground rent capitalized under an existing use falls farther below the full potential rent. Smith defined this cyclical movement as new construction, landlordism & homeownership, blockbusting & blowout, Redlining & abandonment. It impacted to create a rent gap for time being. (Smith, 2007)

2.3.2. Innovation Diffusion Theory (Rogers Model)

Everett Rogers introduced this model in 1962. It shows how, over time, some specific idea, movement, or state of affairs gains acceptance and diffuses through a specific population. This model is used by recent commercial gentrification studies to show how entrepreneurship diffuses in parallel with the gentrification process. (Ingmar, 2019) This model shows entrepreneur categorization in different times in which entrepreneurs started their businesses & the locational decisions that are taken in the process of commercial gentrification. Further scholars describe the process using both the demand and supply side motivations.

3. Methodology

3.1 STUDY AREA

To conduct this research NSBM Green University neighborhood located in the Colombo Suburb was selected as a case study. Based on the preliminary field observation & review of google earth imagery, 1km from the center of NSBM is selected as the most appropriate area to study. Because within 500m buffer mostly the university & other institutions spread as shown in below figure. The study area was selected based on three main reasons the future direction of the land use according to the current development plans, as it is a global-level university that is established as a university town & changes the surrounding landscape of the area.

3.2 METHOD OF DATA COLLECTION

The data collection was carried out using 50 questionnaire surveys amongst a wide range of commercial users in the neighborhood, 13 Key informant Interviews, 30 Semi-Structured interviews with residents, Focus Group discussions with students, and Document Reviews including Google images and field Observations. A mixed-method approach is used to analyze the data. The data triangulation technique is used to cross-check & validate the findings. As the data collection is undertaken physically, COVID 19 pandemic becomes a major concern in this study.

3.3 DATA ANALYSIS & INTERPRETATION

Data analysis was done using Arc GIS & NVIVO software. Kernel Density Estimation and Standard deviational ellipse were used to identify the pattern of commercial gentrification and the associated spatial transformation process with a specific focus on the temporal dimensions. Word query and Cloud analysis methods were used to comprehend the data gathered through qualitative methods. The process of commercial gentrification was identified in terms of the changes in building use, spatial implications, spatialities of the process, and the economies of commercial gentrification.

4. Research Findings

4.1 IDENTIFICATION OF THE PROCESS OF COMMERCIAL GENTRIFICATION

4.1.1. Identification of Change in Building Use

According to initial field observations, discussions, and secondary data, the most changed area is identified as within the 1km radius between the university premises, as shown in Figure 2. The impact of commercialization within the study area is detailed by considering the changes in building uses over the years as shown below in Figure 3,4,5

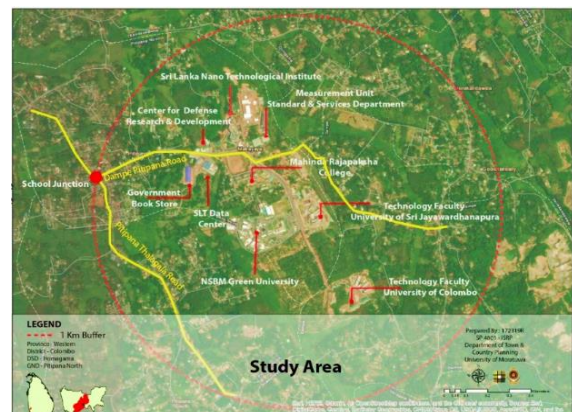


Figure 1: Study Area (Source: Google Earth 2021)



Figure 2: Impacted Area
(Source: Compiled by Author)

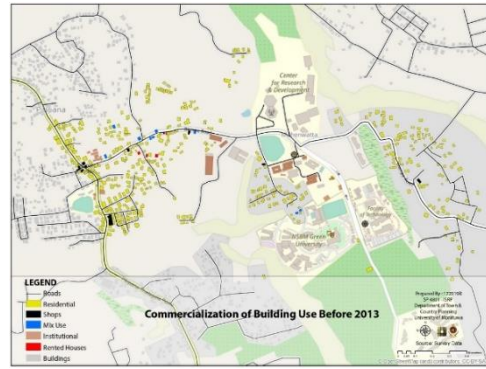


Figure 3: Change in building use before 2013
(Source: Compiled by Author)

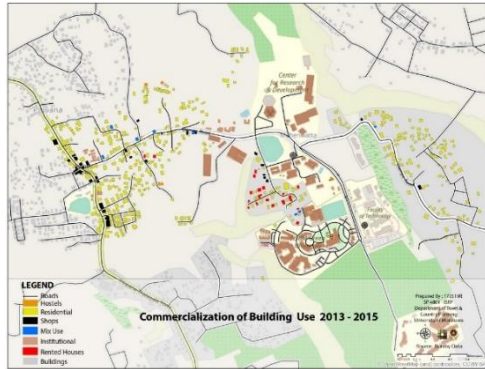


Figure 4: Change in building use 2013 - 2015
(Source: Compiled by Author)

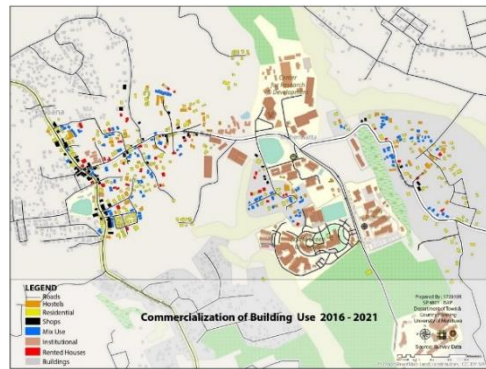


Figure 5: Change in building use 2016 -2021
(Source: Compiled by Author)

According to the above figures, commercial activities were primarily centered along the Dampe – Pitipana Road before 2013. Many residential uses change to commercial uses during the university’s construction stage (2013–2015), which is concentrated along the Pitipana Thalagala road and near the university premises. Residential uses convert to commercial uses in a 100m buffer between the two main roads in the current situation (2016-2021), as identified in the above analysis. As a result, it can be found that economic activity has moved towards the two main roads over time. It shows the gradual decrease in residential uses & increase in commercial uses identified between 2013 – 2015. From 2016 – to 2021 it shows the reversal of the prevailing order as shown in figure 6. It is concluded that the development impacted the changes in the building used for residential to commercialization.

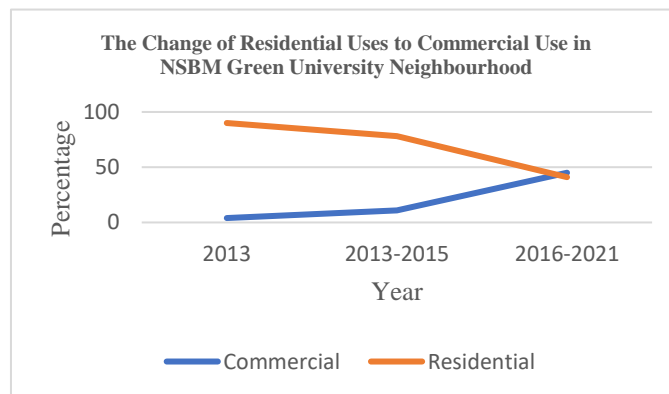


Figure 6: Rate of change in residential uses to commercial uses (Source: Compiled by Author)

4.2 SPATIAL IMPLICATIONS OF COMMERCIAL GENTRIFICATION

Induced land-use changes are analyzed in terms of changes in building use. Commercial gentrification features are used to demonstrate the implication. The analysis was carried out by separating the various themes and sub-themes based on many aspects identified as features of commercial gentrification in the literature review.

Impact on historical building type & use - Closing the traditional markets affect the decline of the historic identity of the neighborhood with the existing competitive environment. The host community is uninterested in the traditional marketplace's changing dynamics. However, the attractive populations like it because it allows them to

have a high-quality shopping experience. Planning should take into account the fact that growth must be equitable to maximize the benefits of neighborhood change.

Upscaling commercialization - Changes in neighborhood consumption patterns and efforts for local rehabilitation led to the construction of cafes and restaurants for higher-income immigrants, displacing residents from the store. This upscaling of building forms had an impact on the illegal constructions in the neighborhood which impact uneven development. As a consequence, the planning should consider these aspects in consideration.

Changes in neighborhood consumption propensity - The newly established Universities and Institutions alter the neighborhood's consumption patterns. The interviews and the questionnaire survey revealed an enhancement in the local economy. However, planning officials claim that this led to a large number of unauthorized structures in the study area.

Upscale Residential Development - Conversion of residential buildings to commercial use has had a positive impact on the local economy, job opportunities, improve existing facilities, etc. The discussions with the management service officer reveal most of those businesses are not registered. As this revitalization accomplishes tax initiatives of local authorities this kind of scenario caused unintentional leakage of revenue generation for local authorities.

The arrival of new or unconventional business - Unconventional business is lifestyle-oriented developments that are often started the fulfill the requirements of the recently arrived newcomers. Unconventional businesses attracted private hostels rented housing & high-standard shopping facilities. As a result of the disruption caused by these developments, property prices have gradually increased and residents have shifted to the outskirts.

4.3 SPATIALITIES OF THE COMMERCIAL GENTRIFICATION PROCESS

To trace the affection of commercial gentrification, Kernel Density Estimation & Standard deviation ellipse were conducted by using the point data as shown below.

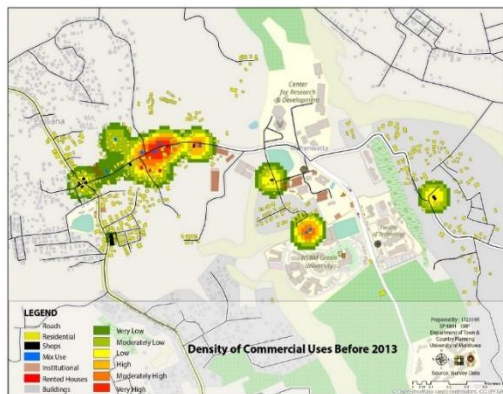


Figure 7: Density of commercial uses before 2013
(Source: Compiled by Author)

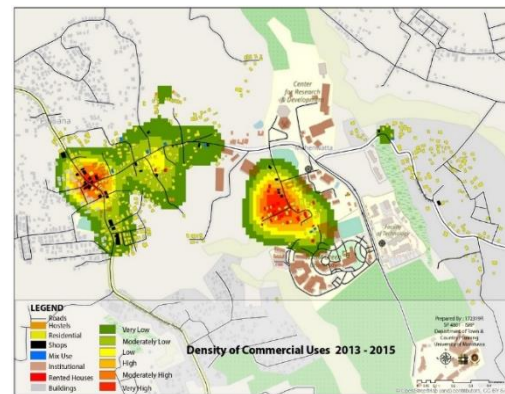


Figure 8: Density of commercial uses 2013 - 2015
(Source: Compiled by Author)

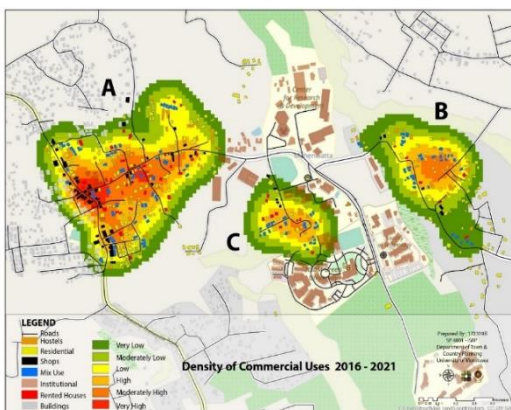


Figure 9: Density of commercial uses 2016 -2021
(Source: Compiled by Author)

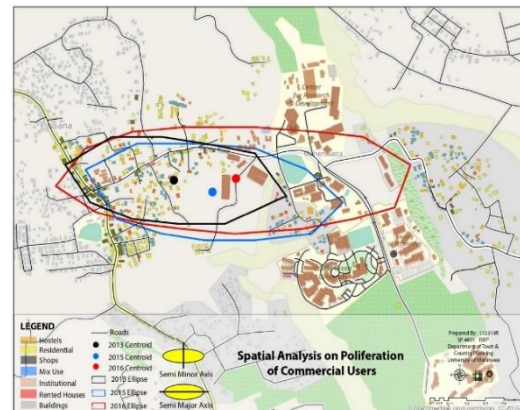


Figure 10: Spatial Analysis on Proliferation of Commercial Users
(Source: Compiled by Author)

The kernel density analysis shows that commercial users have mainly concentrated along the Dampe – Pitipana Road before 2013 & it expanded during 2013 – 2015 towards Pitipana - Thalagala Road. When comparing the 2013-2015 & 2016-2021 maps, the concentration identified around the NSBM University area decreased. Cluster "A" is

concentrated in many commercial uses specially in shops. Clusters "B & C" are mainly identified as accommodation clusters. In conclusion, 3 main clusters of commercial uses were observed in this area. According to the above figure 10, the semi-minor & semi-major axis increased over years. This means that it shows outward concentration of commercial activities. Parallely the centroids of the ellipse have significantly moved towards the university area. It demonstrated that the impact of commercialization moved towards the establishment & it shows the possibility to connect the identified clusters in near future.

4.4 ECONOMIES OF COMMERCIAL GENTRIFICATION - INVESTMENT AND RENT GAP

4.4.1. The attraction of more affluent entrepreneurs

Rogers Model classified entrepreneurs into distinct categories based on when they started their business. 68 business respondents were characterized in a questionnaire survey as pioneers, early adopters, or late adopters. Rogers Model interprets the entrepreneurial change in the process of commercial gentrification. It is the result of individual entrepreneurs' and government authorities' decisions that impact market forces.

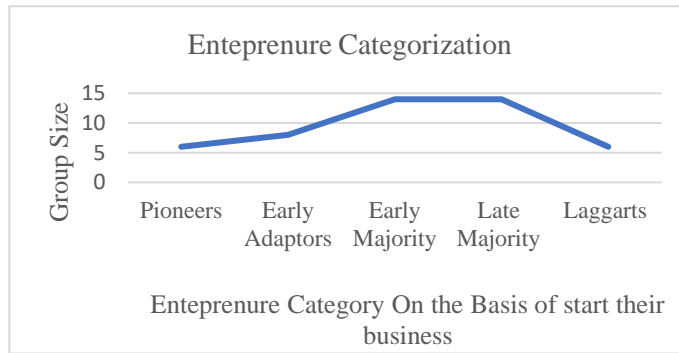


Figure 11: Entrepreneur Categorization (Source: Survey Data)

With these shifting dynamics of entrepreneurs, the village environment has been transformed into a city environment. The change in the character of the neighborhood was influenced by local population shifts, outsider attraction, increased commercial uses, and decreased residential usage.

4.4.2. Increasing Rents

Urbanization has led to a huge demand for accommodation which creates a niche market for commercial activities to meet the population's needs. As a result, 65% of the commercial users made structural changes & the rest 35% were also willing to improve in the future. These demands & changing dynamics increase the land values drastically. The demand for the land creates this huge difference in land values and it presents the fascinating product of risk, profit & loss which is prominent in entrepreneurship. Survey data shows structural alterations in buildings indicate the owners' continual depreciation forces. It creates the divergence between capitalized & potential ground rents.

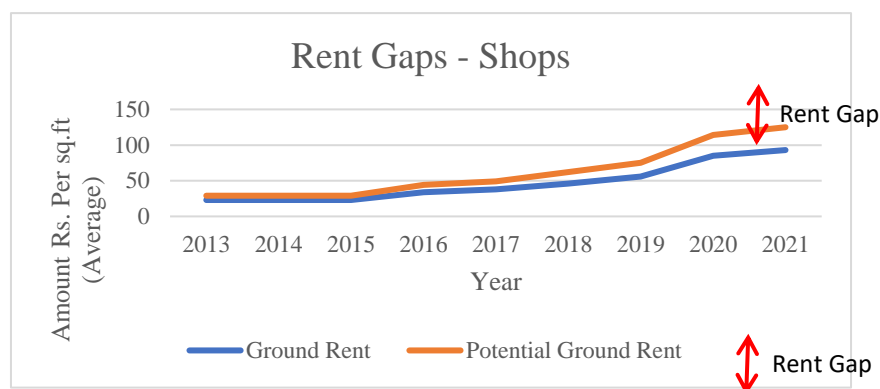


Figure 12: Rent Gaps Shops (Source: Survey Data)

The analysis is highly subjective because it is based on responses from a questionnaire survey. As this gap was created at least without the development of necessary infrastructure it may generate a huge gap in the future. 47% said they do not gain approval for structural alterations for commercial constructions, which significantly affected the character of the area. This exploited legal framework led to the establishment of informal settlements, which had a lot of negative consequences. The neighborhood change, demand & supply side causes of gentrification exhibit the features of commercial gentrification in this case study area. Education-related developments identified & have been driven by three major contextual factors in this neighborhood a large supply of accommodation facilities, higher increasing rates of land values & development potential in the area.

Accordingly; Neighbourhood Level Growth Pattern Identification, Plot by Plot Specified Neighbourhood Level Zoning Plan, Neighbourhood Level Land Use Plan, Neighbourhood Level Identification of Developable Area with Clear Demarcations of Reservations & Specific Planning & Building Regulations Focusing Neighbourhood Level identified as the main focusing areas when planning & it has been determined a planning intervention with the commercial gentrification process in the establishment of universities and education-related institutions is needed.

Based on the foregoing findings, the following spatial planning strategies are suggested:

Being aware of the growth dynamics emerging in the neighborhood, planners should identify the pressure of commercial gentrification early & plan to capture the benefits from the revitalization process, make prior reflections in Regional, City & Community level plans regarding the development scenarios, develop unified shared vision amongst potentially conflicting users, make corrections in existing regulations focusing on neighborhood-level development and increase awareness of the same amongst the local community, provide opportunities for negotiation among community groups, developers & public sector officials and prepare contextualized neighborhood-level plans that reflect on the socio-spatial dynamics associated with gentrification process as revealed in this study. The need for a neighborhood-level plan intervention is emphasized since it helps to define the impacted area and identify a pattern of impact. Many grounded planning implications have been recognized that are not crucial now but should be considered essential. In conclusion, it is emphasized the importance of planning intervention to optimize land utilization.

5. Conclusion

This study presents the process of commercial gentrification by examining neighborhood change, demand, and supply-side factors. The use of the rent gap theory revealed the area's potential for future development and proved that gentrification occurred in this case study area. The attraction of entrepreneurs and the shift of local people demonstrate the conversion of residential uses to commercial uses. Entrepreneurs are classified into different categories based on when they started their business, according to the application of the Rogers Model & the distribution of commercial uses through the kernel density estimation and standard deviation ellipse. Accordingly, clustering of commercialization & outward concentration of commercial activities were identified. Changes in retail composition (retail upscaling) and business changes due to consumer interest are two key types of commercial gentrification identified as an inevitable consequence of residential areas with commercial development. Especially this study identified the planning implications at neighborhood levels which resulted in the land-use changes & policy frameworks played a significant role in triggering the commercial gentrification process. Consequently, the conversion of residential uses to commercial uses defects the control in regulations & these changes reduced the character of the neighborhood. Therefore, to pursue & equitable development while optimizing the utilization of land is needed to minimize the downsides of neighborhood change. If the development is to be equitable, the revitalizations have to support the living neighborhood & targeted populations. Understanding the growth dynamics, and distinct development trend that is coming to the area identifies the pressures of commercial gentrification early & plans to harness the benefits of revival prioritizing planning and preparation at the regional, city, and community levels are deeply rooted in the area, as a result, the necessity for a specific neighborhood-level planning intervention is recognized, and several strategies are proposed to address those consequences as here is where gentrification manifests itself most visibly.

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