



Liveability Dimensions in New Town Developments: An Overview of Senri New Town and Purbachal New Town

*¹ M. Eng. **Tahmina Rahman**  , ² Dr. **Md. Nawrose Fatemi**  

¹ Division of Global Architecture, Osaka University, Osaka, Japan

² Department of Architecture, University of Asia Pacific, Dhaka, Bangladesh

E-mail 1: ar.tahminarahman@gmail.com, E-mail 2: nawrose@uap-bd.edu

ARTICLE INFO:

Article History:

Received 20 April 2021

Accepted 10 August 2021

Available online 15 August 2021

Keywords:

Dimensions of Liveability;
New Town Development;
Satellite Townships;
Osaka;
Dhaka.

This article is an open access article distributed under the terms and conditions of the Creative Commons

Attribution (CC BY) license



This article is published with open access at www.ijcua.com

ABSTRACT



Since the 1960s, new town developments within large metropolises have been widely adopted to decongest the city centres, especially in Asian cities. This paper provides a brief account of the liveability dimensions of two new townships developed in large metropolitan areas: Senri New Town in Osaka and Purbachal New Town in Dhaka. The study primarily draws on master plans of the two developments to identify how the components of the plans reflect the physical, social, functional and safety dimensions of a proposed liveability framework. The methodology combines a review of masters plans with scholarly and grey literature on the two new town developments. The findings show while the social and functional dimensions are integrated with Senri New Town; Purbachal New Town, though more recent, appears to have missed opportunities for diversifying density, social mix and mass transit. The paper concludes that the comparative case, Senri-New Town provides insights on how public-private people participation can leverage citizen-centred design for more liveable residential living environments in developing cities.

JOURNAL OF CONTEMPORARY URBAN AFFAIRS (2021), 5(2), 221-233.

<https://doi.org/10.25034/ijcua.2021.v5n2-6>

www.ijcua.com

Copyright © M. Eng. Tahmina Rahman, Dr. Md. Nawrose Fatemi.

1. Introduction

Cities continue to accommodate the majority of the growing global population (Cividino et al., 2020; Hoonweg and Pope, 2017). Since the last 200 years, the world's population has grown substantially, leading to significant shifts global population from rural areas to major towns and cities (Selhausen, 2013). Recent projections from the World Cities Report 2020 (UN-Habitat, 2020) indicates that less

developed regions such as South Asia, East Asia, and Africa will provide 96 per cent of urban growth, which will be equal to 35 per cent of the global population growth in urban

*Corresponding Author:

Division of Global Architecture, Osaka University,
Osaka, Japan

Email address: ar.tahminarahman@gmail.com

How to cite this article:

Rahman, T., & Fatemi, M. N. (2021). Liveability Dimensions in New Town Developments: An Overview of Senri New Town and Purbachal New Town. *Journal of Contemporary Urban Affairs*, 5(2), 221-233. <https://doi.org/10.25034/ijcua.2021.v5n2-6>



areas between 2018 and 2050. Especially in East and South Asia, the proportion of the population will continue to grow along with the scale and the number of the cities (Lerch, 2017). To address the challenges caused by rapid urbanization, UN-Habitat proposed five guided strategies of urban expansion, including planned city expansion; city-region planning; planned city infill, connectivity, and public spaces; poles development, and lastly, new town development (UN-Habitat, 2014b). Among these strategies, new town developments have been widely adopted at the fringes of several large megacities especially in Asia, Europe, Middle East and South America, to decentralize further development from the central city. For most planners and developers, these developments in form of satellite townships allow for the creation and experimentation of visionary urban design principles (Van Leynseele and Bontje, 2019). Though the idea of 'Satellite towns' was first coined by Graham R. Taylor in 1915, it was further advanced by the concept of the Garden City by Ebenezer Howard. After 1950, a few large metropolitan cities in some Western and Asian Countries developed satellite towns as part of their master planning and regional planning to ensure a balanced urban expansion (Deepthi and Shobha, 2019). In the early 1960s, urban policies in Asian cities focused on slowing down the urbanization rate by controlling the expansion of large metropolises (Yeung, 2011). Since then, such planning ideologies, with varying degrees of adaptation, have informed new town developments in large metropolises in the Asian Pacific region. Despite a wide spectrum of insightful literature on the idea and evolution of new town developments (Deepthi and Shobha, 2019; L. Wang et al., 2010), there is little engagement with liveability aspects. This study sheds light on two new towns in Osaka and Dhaka from planning initiatives to the settlement process via liveability dimensions. Specifically, Senri New town in Osaka Prefecture is the oldest of Japan, developed in 1962 while Purbachal New Town is a recently developed satellite township within the vicinity of Dhaka. The comparison between these two new town developments, on one hand, provides insights into the liveability dimension of new towns developed during the early stage of new town experimentation. On other hand, the case of

the recently developed new town in Dhaka allows us to understand whether new principles have emerged from the original experimentations over the years. The contrast of a developed and developing city context also helps to unravel possible contextual factors that influence both the development process and liveability considerations. Following the introduction, Section 2 presents a brief literature review of new town development in Asia. Section 3 introduces the research methodology. Section 4 and 5 assembles the review of masters plans regarding liveability dimensions of the two new town developments and Section 6 contains the comparison between those two new townships. Section 7 delivers the discussion and lastly, Section 8 concludes with the recommendations.

2. Review of Liveability within New Town Developments in Asia

According to Asian Development Bank-ADB (2019), more than 53% of the global population and 44% of the global urban population lives in this Asia Pacific region. The Asia Pacific region also hosts 19 of the world's 33 megacities (Razvadauskas, 2019). However, most Asian mega-cities have sought to monitor growth and to promote well-ordered trends through the application of urban planning principles originating in western countries (Yokohari et al., 2008). Among the pioneer countries in Asia, Japan and China attempted to control the growth by introducing new towns within the vicinity of large metropolises (Marcotullio, 2001; Shaw, 2004; Ye et al., 2021). Singapore and Hong Kong followed similar developments by decentralizing spatial population distribution from dense core to new satellite towns (Percival and Waley, 2012). Between 1960-1980, South Korea, for example, developed several satellite towns within the vicinity of Seoul (Shaw, 2004). In South Asia, India was the first to develop satellite towns (class I towns like Bokaro, Chandigarh, Rourkela, etc.) around major cities between 1961 and 1971 (Chatterjee and Chattopadhyay, 2020). Such satellite town developments continued with the introduction of 15 ring towns around large metropolitan cities such as Delhi, Hyderabad, Madras, and Calcutta (Shaw, 2004). On the contrary, new town or satellite town developments are a rather very recent



phenomenon in Bangladesh. The Purbachal New Town', for instance, is the first and the most recent attempt at developing satellite towns to control the rapid and unplanned urbanization of Dhaka city (Fatemi and Islam, 2014).

However, these new townships have received several criticisms, especially with respect to the socio-spatial quality of the living environment. For example, New Towns in Tehran have been found to be marked by a poor quality of life for residents (Ziari, 2006). In China, Deng and Huang (2004) report the gradual conversion of new towns into ghetto-like sprawl. More recently, evidence from Pakistan points to the incompatibility of new developments with contextual issues such as local culture, social and economic realities (Soomro and Soomro, 2018). In view of these shortcomings found in new developments, the present study sought to understand the liveability condition and future challenges of 'Purbachal New Town' in Dhaka, in comparison with 'Senri New Town' in Osaka. Moreover, according to The Global Liveability Index 2019, Osaka is the most liveable and Dhaka is the least liveable city in this Asia Pacific region (EIU, 2019).

Beattie and Haarhoff (2018) have critiqued existing urban planning methods for failing to produce high-quality citizen-centred urban design interventions that can promote

liveability. Liveability impacts residents' quality of living. Liveability also ensures sustainable development and place-making with a special emphasis on the community and its surrounding spaces (Leh et al., 2020). For Girardet (2004) a liveable city includes strong neighbourhoods with sufficient supporting facilities within a walking distance, a network of pleasant public spaces, affordable and organized buildings, vibrant streets with diverse cultural activities and regional connections. Similarly, Leby and Hashim (2010) assessed urban liveability through physical dimensions (environmental quality, public open spaces, built environment maintenance), social dimensions (sense of place, community life, and social contact, etc.), functional dimensions (availability and proximity of public services, accessibility, employment opportunities) and safety dimensions (crime and sense of safety). This points to what Southworth (2016) consider as the multifaceted and dynamic components of liveability, including the built environment, natural factors and socio-economic factors. Table 1 presents an overview of liveability indicators are used in the literature. Building on this, this paper adopts the physical dimensions, social dimensions, functional dimensions, and Safety Dimensions (sense of safety) to analyse liveability conditions in the selected new town developments.

Table 1. Liveability Dimensions for New Town Developments.

Dimensions of Liveability			
Physical Dimensions	Built Environment Quality (Girardet, 2004; Paul and Sen, 2020)	Natural Features (Leby and Hashim, 2010; Southworth, 2016)	Maintenance and Organization (Girardet, 2004; Leby and Hashim, 2010; Southworth, 2016)
Social Dimensions	Social Contact and Community Life (Leby and Hashim, 2010; Southworth, 2016)		Sense of Place (Aulia, 2016)
Functional Dimensions	Availability and Proximity of Amenities (Girardet, 2004; Leby and Hashim, 2010)		Accessibility (Girardet, 2004; Leh et al., 2020)
Safety Dimensions	Sense of Safety (Girardet, 2004; Leby and Hashim, 2010)	Crime (Leby and Hashim, 2010)	Employment Opportunities (Leby and Hashim, 2010)

Source: Compiled by the authors

3. Methodology

This paper draws on two new town developments in Osaka and Dhaka—both as first experimentations in their respective countries but reflecting different time periods. Data on Senri New Town in Osaka is based on a workshop organised by the Department of

Architectural Engineering at Osaka University in 2019. The workshop aimed to explore the residents' quality of life along with their community cohesion and social ties. The authors were active participants at the workshop, especially concerning the liveability dimensions of the Senri New Town.

Additional data such as the existing built environment condition, their relationship with natural features, availability and accessibility to public amenities etc. were also obtained from Senri New Town Information Centre (SNTIC). The important drawings including the masterplan of the township were also collected from them and developed during the workshop. Moreover, the authors spent the last three years (2017-2020) there and had also observed the social interaction, community management and organization, and sense of safety of this area (Figure 1). In regards to findings on Purbachal New Town, the results rely on the master plans, reports and scholarly literature of its planning and

development (Figure 1). Relevant data regarding planning strategies designed built environment and natural features, availability and proximity of public amenities and key drawings including the master plan of the township have also been collected from Purbachal New Town Project Office, Dhaka. Additional data such as the possibility and potential of community interaction and social safety features have been identified through the urban studio workshop organized by the University of Asia pacific in 2020. The authors actively participated in that workshop to explore the social and safety dimensions of the Purbachal New Town.

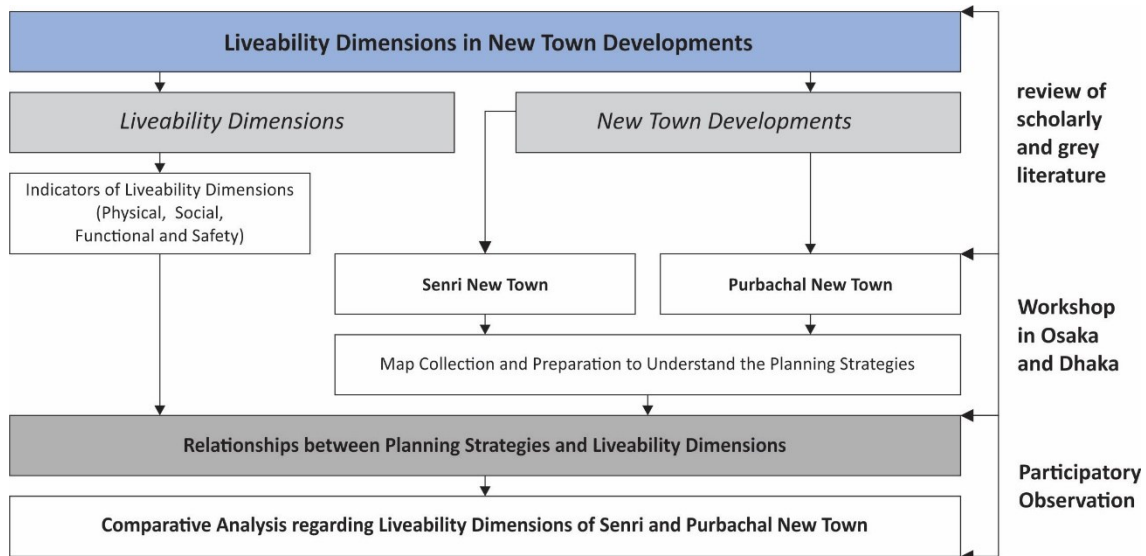


Figure 1. Methodology and Research Framework.

4. Senri New Town (Osaka)

Post-war (WWII) reconstruction in Japan was met with severe housing shortages, especially in major cities, which highly impacted the second world war. In response, the government of Osaka Prefecture planned over a million dwelling units to fill the housing

shortages. As part of this, the New Town Project was initiated with the construction of Senri New Town as the first major experimentation of New Towns in Japan. The aim was to build a healthy living atmosphere by having multiple low-cost housing and suburban areas (Hauk, 2015).

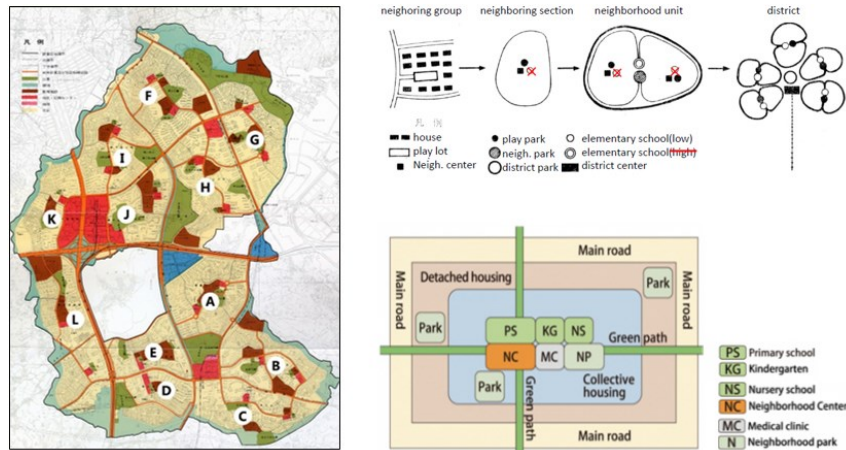


Figure 2. Senri New Town Development Plan and Planning Strategies. (SNTIC, 2020)

Following American urban planner Clarence Perry's famous 'neighbourhood unit theory', a master plan was developed for Senri New Town (Figure 2). Senri New Town, which included the north-eastern section of Toyonaka City and the north-western section of Suita City, was founded in 1962 by the Osaka Prefecture Enterprise Bureau (presently abolished). Spatially, the New Town Development is geographically distributed along north, south and central areas—each section separated by the main road. These three areas overlap the administrative boundaries of the suburban municipalities of Toyonaka City and Suita City. The three areas are further divided into twelve neighbourhood units, which conform to primary school districts in Japanese planning. Each zone consists of a park, residential area, schools, neighbourhood centre and public facilities (SNTRRC, 2006). It was designed for about 10,000 residents. In terms of land use distribution, out of the total 1,160ha, residential

districts (mainly including single-family houses, apartment complexes, and condos) constitute 43.1% whereas green space and parks account for 23.8%.

4.1 Liveability Dimensions of Senri New Town

4.1.1 Physical Dimensions

Primarily, Senri New Town was built to provide a large number of new residential accommodations (Sorensen, 2002). The physical elements of Senri New Town also include a city centre, expressway system, railway stations, and recreational facilities. Here, the business facilities are categorized as narrow-service areas (daily shopping) and broad-service areas with lower usage (weekly and monthly shopping) to cater for the regular neighbouring demands. Therefore, these business facilities are gradually constructed as city-centred, district-centred, and neighbourhood-centred structures (Itami, 2018).

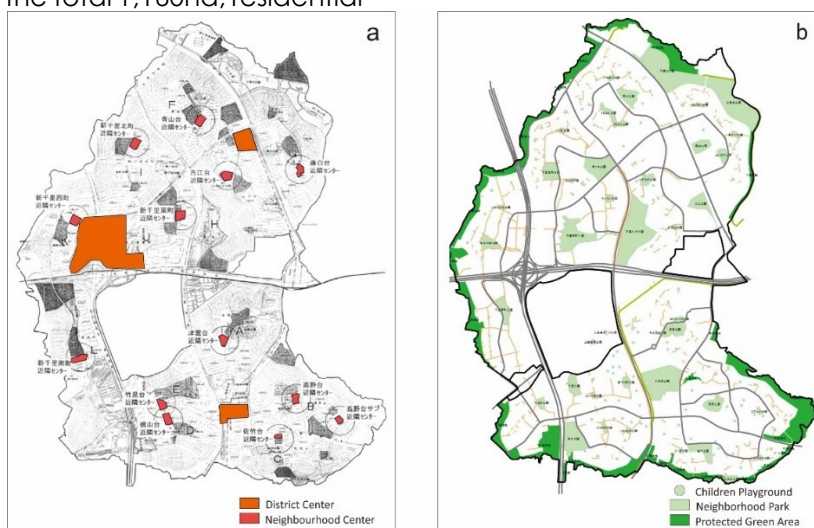


Figure 3. a) Neighbourhood Centres and b) Neighbourhood Parks in Senri New Town (SNTRRC, 2006); modified by authors.

4.1.2 Social Dimensions

From the experience of Tsutsumi (2021) and also from the authors' observation, several challenges have been tackled by local citizens collective initiatives to develop and reform society. Neighbourhood associations, usually composed of local residents, undertake place-making activities through locally oriented and community-based programs that seek to build a child-friendly community, preserving and enjoying the greenery, and pedestrianisation. Through local resident's volunteerism and collective activities, social ties and bonds with strong attachments to the neighbourhoods have emerged. Although the demographic profile of residents tends to be elderly centred and thus challenges the long term sustainability of collective activities, social activities are beginning to attract young families to diversity population (SNTIC, 2020).

4.1.3 Functional Dimensions

In terms of planning and availability of amenities, as well as the standard of the housing offered, Sorensen (2002) explained that the town developments of the 1960s in Japan were much more forward-thinking—coordinated attempts to accomplish inclusive growth with pedestrian linkages, roads, and economic uses near the commuter rail station. In the case of Senri New Town, by placing public housing in the heart of each neighbourhood unit and detached single-family dwellings on its outskirts, the residents benefitted from fast access to essential amenities like parks, play areas, education

facilities, and retail services (SNTIC, 2020). In particular, neighbourhood commercial centres were placed within walking distance (Figure 3).

4.1.4 Safety Dimensions

In designing and planning the new town, safety was one of the factors that the planners considered (Hauk, 2015). In this case, following the Radburn Layout of New Jersey, USA, cul-de-sacs were introduced to segregated residents from the main roads that provide the residents with quiet and spacious enclosed open spaces with buildings. Additionally, to ensure the safety of inhabitants, pedestrian, and automobile traffic lines are separated as far as possible (SNTIC, 2020).

5. Purbachal New Town (Dhaka)

Purbachal New Town is Bangladesh's largest planned township, with a total area of 2520 hectares divided into 30 sectors (Hasnat and Hoque, 2016; Hossain, 2014). The project aimed to minimize population pressure on Dhaka City by ensuring the possibility of residential accommodation for the city dwellers near the City (Hossain, 2014). Fatemi and Islam (2014) intimate that Rajdhani Unnayan Kartripakkha of Dhaka (RAJUK- the Capital Development Authority) anticipates planning and developing this area as a self-sufficient new township with all modern amenities and opportunities. The project, however, is far from completion as it was originally planned for 1995-2015 (Hasnat and Hoque, 2016) but major infrastructure development works are still in progress.

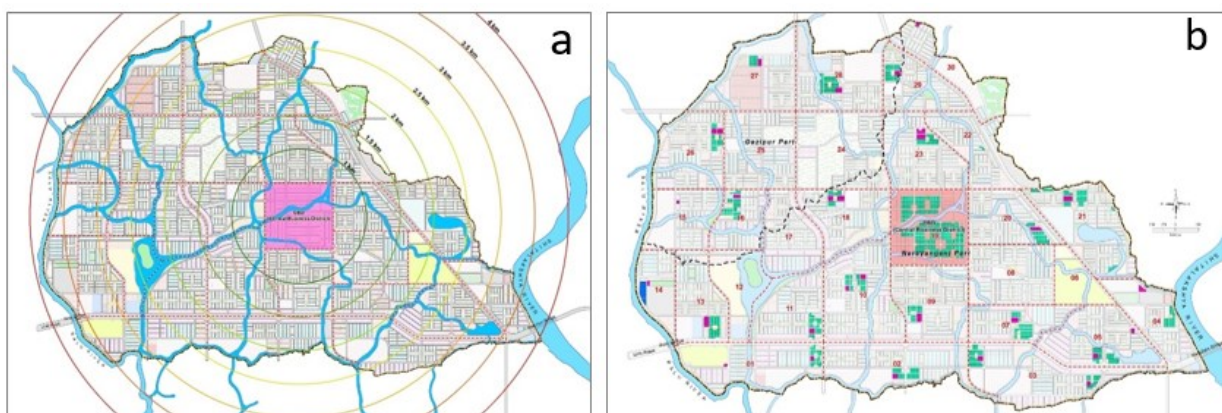


Figure 4. Planning Strategies with a) Central CBD and b) Secondary Commercial Centres of Purbachal New Town (Purbachal New Town Project Office, Dhaka).

Planning decisions were heavily influenced by the undulating topographical condition of the

site. (Fatemi and Islam, 2014) (Figure 4a). The existing large depressions of the site have

been converted to form an interconnected lake and canal system to facilitate the natural drainage and also create a recreational belt and pedestrian connectivity in the whole township (Hossain, 2014). However, the master plan for this township has been supplemented by a rigid grid-iron pattern road network. In Purbachal New Town, 38.7% (975 ha) of the total project area has been allocated for residential purposes (Figure 5), facilitated by 13.7% Forest, Eco-park, Green Belt, Urban Green, and Lake or Canal. According to Hasnat and Hoque (2016), the proportion of open space has shrunk from an originally planned 25% to the current 13.7% to

modifications for housing plots extension by the project planners. Intriguingly, the master plan seems to derive from the concentric zone theory (Fatemi and Islam, 2014), because of the CBD's dominant central location (Hossain, 2014; Ibrahim et al., 2017). But, it tends to be the Multiple Nuclei Concept of Chauncy D Harris and Edward L Ullman later, because of the equal distribution of secondary commercial centres along with their adjacent residential plot distributions (Figure 4b), which is quite uncommon in the previous planning precedents in the context of Dhaka (Fatemi and Islam, 2014; Ibrahim et al., 2017).

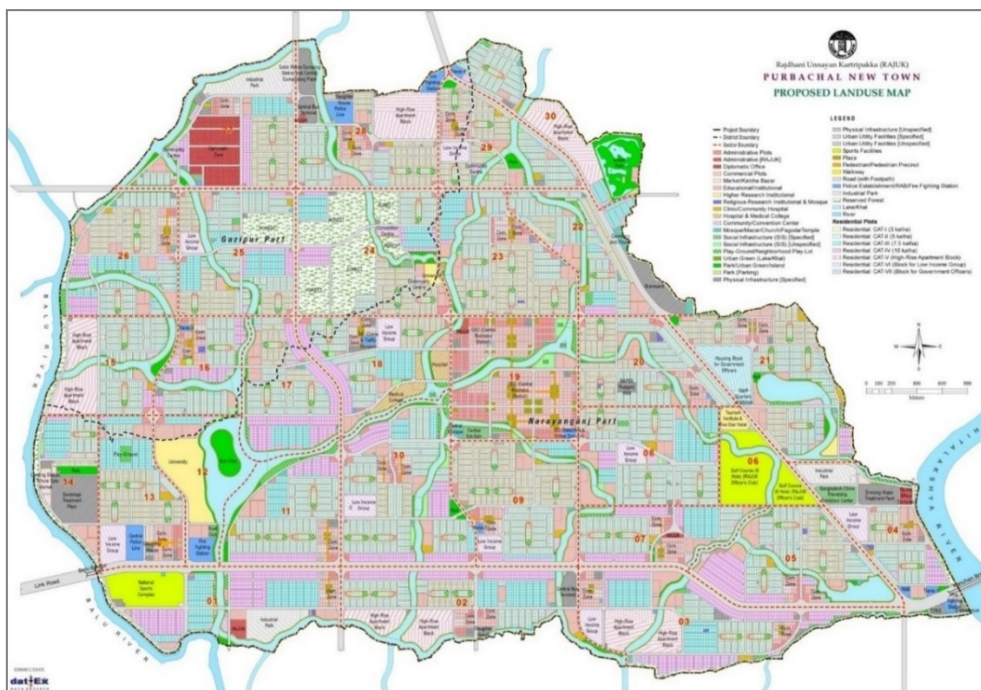


Figure 5. Purbachal New Town Development Plan (Purbachal New Town Project Office, Dhaka).

5.1 Liveability Dimensions of Purbachal New Town

5.1.1 Physical Dimensions

In Purbachal New Town, 25016 residential plots have been allocated covering 976.3ha (38.7% of the total land area). It also includes non-residential functions (Administrative, Commerce, Industrial, Diplomatic Area, and Institutional Area) of 242.9ha (9.6%). Road networks (along with footpath, pedestrian and walkways) cover about 652.7ha (25.9%) while open spaces (Forest, Eco-park, Green Belt, Urban Green, and Lake or Canal) represent 345.2ha (13.7%) (Figure 6). Additionally, sports facilities constitute 121ha (4.8%) and other facilities (Health, Education, Social Infrastructure, Urban Utility Facilities)

cover 184ha (7.3%). The entire residential area is planned for a safe and vibrant neighbourhood dominated by a continuous network of pedestrian pathways along with adjacent green areas which further emphasizes the planned intentions for a healthy and liveable community environment (Fatemi and Islam, 2014).

5.1.2 Social Dimensions

Pumain (2006) asserts that continuity of the built environment requires a coherent urban entity where all elements need to interact, as they share a common context, compete for a similar space, negotiate and collaborate for amenities and build a sense of place. Purbachal New Town was designed to

integrate such requirements with a simple framework of varying sizes of social clusters and their corresponding social institutions such

as Housing, Neighbourhood, Community, District, and Division level to ensure a sense of place (Fatemi and Islam, 2014).

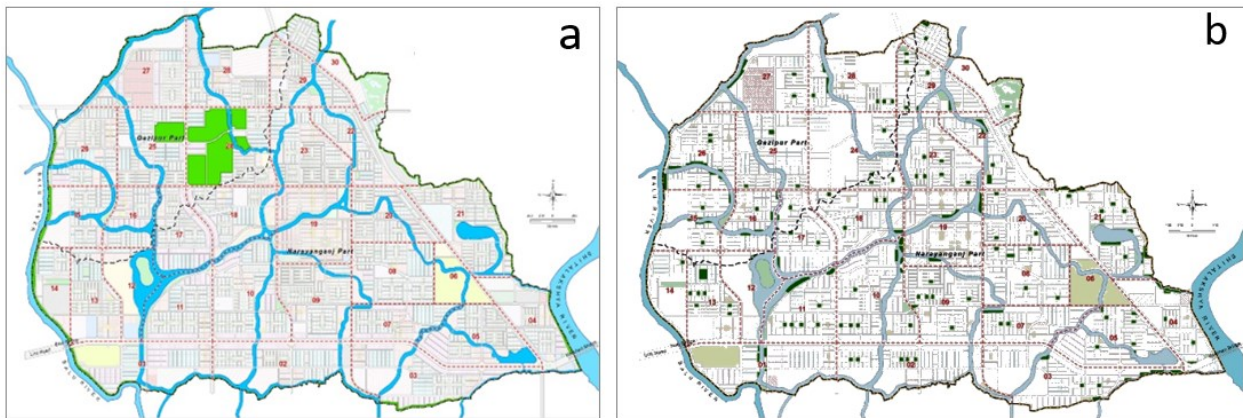


Figure 6. a) Forest and Interconnected Canals B) Community Playgrounds of Purbachal New Town. (Purbachal New Town Project Office, Dhaka)

The community playgrounds, nursery schools, health facilities, urban greens, and recreational facilities of this town are organized in this way to enhance the regular contact between residents and thus improve overall social ties. For this, Purbachal New Town positively followed the international standard to allocate the land for each land use (Hossain, 2014). Correspondingly, Cox and Streeter (2019) stated that Living in amenity-rich communities improves social goods like sociability, neighbourliness, and social trust while lessening social maladies like loneliness.

5.1.3 Functional Dimensions

According to Ibem (2013), improving accessibility for residents to public amenities and social infrastructures has been recognized as one of the key issues for decent living environments and sound healthy communities. The Purbachal New town has essential physical amenities like 165 community playgrounds covering 27.6ha, 87 nursery schools, and utility facilities (e.g. 129 neighbourhood waste disposal stations and 28 health facilities at 500 m walking distance from the residential neighbourhoods).

5.1.4 Safety Dimensions

Cox and Streeter (2019) argue that the proximity of public amenities and social infrastructures is strongly associated with the feelings of neighbourhood safety, and residents living near the neighbourhood amenities tend to feel safe in their communities. Purbachal New town is planned

to ensure neighbourhood safety by organizing the public amenities within the walking distance of its residents. Moreover, cul-de-sacs were designed on tertiary roads to separate the residences from main roads, providing citizens with safe and sound open spaces with buildings. Availability of continuous walkways, pedestrian precincts, and public plazas in this town separated the pedestrian from automobile traffic lines.

6. Similarities and Differences between Senri New Town and Purbachal New Town

This section identifies similarities and differences between Senri New Town and Purbachal New. In terms of overall built area, Purbachal New Town is more than twice the size of Senri New Town. However, Purbachal New Town has a much higher estimated population density (410 people/ha) than Senri New Town (130 people/ha). In both cases, the master plan is organized by the neighbourhood unit as their fundamental unit, though the numbers differ (12 units for Senri New Town and 30 units for Purbachal New Town).

There are also differences in the planning approach. Senri New Town's master plan was developed on the notion of 'Neighbourhood Unit Theory'. It just took ten years from 1960-1970 to execute the master plan of Senri New City. On the other hand, Purbachal New Town's Master Plan was developed using the 'Multiple Nuclei Model'. The implementation of this master plan has taken more than 20 years and it is still not ready for potential



residents (Table 2). While both master plans have a comparable proportion of residential land use, Senri New Town has a sufficient amount of mass housing accommodation, while Purbachal New Town has no provision of mass housing. In Purbachal New Town, there seems to be a limited allocation for public amenities (7.3%; 410 persons/ha) in

comparison with Senri New Town (14.4%; 130 persons/ha). A similar trend has been identified also for the availability of urban open spaces. Purbachal New Town's provision of open spaces (13.7 per cent) for 410 people/ha seems to be quite low in comparison to Senri New Town's provision of 20.9 per cent for 130 people/ha (Table 2).

Table 2. Comparative Analysis between Senri New Town and Purbachal New Town

Indicators	Senri New Town	Purbachal New Town
1. Developed Area	1,160ha	2,520ha
2. Projected Population Density	130 people/ha	410 people/ha
3. Fundamental Unit	neighbourhood unit (12 units)	neighbourhood unit (30 units)
4. Number of Dwellings	37,330	25,016
5. Planning Strategies	Neighbourhood unit theory	Multiple Nuclei Model
6. Planning Agencies	State Agencies (Public Enterprise Bureau, Osaka Prefectural Government)	State Agencies (Rajdhani Unnayan Kartripakkha (RAJUK Dhaka))
7. Implementation Period	1960-1970	1995-2015
8. Land Use		
i. Residential	41.7%	38.7%
ii. Public Amenities	14.4%	7.3%
iii. Road, Footpath, Pedestrian and Walkway	16.9%	25.9%
iv. Forest, Eco-park, Green Belt and Urban Green	20.9%	13.7%
v. Others	6.1%	14.4%

Source: Compiled by the authors.

7. Discussion

According to proponents, new town development offer benefits for a better urban life via the provision of affordable residential accommodation and basic public facilities, high-efficient transport infrastructure, and a better living environment (Kafkoula, 2009). Findings from the case reviews show that the master plans of Senri New Town and Purbachal New Town attempt to integrate liveability elements to ensure a better urban life for residents. However, several unique features have been identified in the master plans (Table 2).

The findings reveal that in Purbachal New town, the planners did not sufficiently plan for mass transportation, as only 20%, suggesting heavy private vehicle dependence. However, L. Wang et al. (2010) lamented that due to the slow development of mass transit and the distance to the MRT stations, the Shanghai new towns have not developed into complete residential communities. This essentially contradicts the current global agenda and recommended practices and policies for sustainable mobility. For Senri New Town, strong connection and easy access have been offered to the city centre (Hauk,

2015)— approximately 20 min by railway or subway (Tsutsumi, 2021).

In Addition, Randall (2017) reported several abandoned satellite towns which had never been built due to their ambitious plans that often create ghost towns such as Fordlandia in Brazil, Harlow in England, or New Cairo in Egypt. The critics of satellite towns point to the lengthy development timetable and the exorbitant costs of infrastructure development (Abubakar and Doan, 2017; Randall, 2017). A typical case in point is Purbachal New town. Based on Table 2, the development phase for Purbachal New Town is quite protracted and hence, frequently criticised at time-demanding.

Furthermore, the estimated population density is very low (130 people/ha) for the Senri New Town, less than the minimum density level (150 people/ha) recommended by UN-Habitat (2014a) to make a city sustainable. On the contrary, Purbachal New Town is comparatively high with 410 people/ha. Recently, there has been increasing concern that high-density urban form has resulted in overpopulation, extreme compactness, and relative loss of public facilities (Chen et al., 2008; Y. Wang and Shaw, 2018). From this perspective, the provision of public facilities in



Senri New Town (14.4%) seems to be adequate for its population density compared with the public facilities provided by Purbachal New Town (7.3%). Additionally, Fatemi (2014) indicated the urban green spaces as an essential component of liveability dimensions for a highly dense area and emphasized preserving an adequate amount of these quality green spaces. Correspondingly, the UN-Habitat recommended 15% provision for open and green spaces in high-density settlements (150 people or more per hectare) (UN-Habitat, 2013) is met in Senri New Town (20.9 per cent), but not Purbachal New Town (13.7 per cent). This is quite surprising given that the preservation of existing greens and formulation of an interconnected lake and canal system are major concerns in developing its planning decisions.

New townships are expected to tackle housing shortages through sufficient plot reservations for mixed-use and affordable residential accommodations (Cutts, 2016). UN-Habitat (2014a) advocates a 'social mix of citizens from various economic classes' to promote stable social networks and reduce social inequality. The original plan for Senri New Town consisted of single-family dwellings, apartment complexes (public and private), and condominiums comprising diverse social groups (Tsumumi, 2021). However, there is no evidence of public mass housing in the case of Purbachal New Town as private development and low-income housing represent 88% and 12% of residential allocations respectively (Fatemi and Islam, 2014). This suggests that the increasing attention to integrating social mix through the adequate combination of lower, middle and higher-income housing into new town developments in Asian cities are yet to take hold in Bangladesh.

8. Conclusion

The promotion of inclusive and sustainable living environments remains an important policy and planning agenda at the global and national levels. Several countries have experimented with new town developments as part of planning initiatives to decongest the central cities and offer a healthier living environment for residents. In this paper, the authors have offered a brief review of master plans via the lens of the dimensions of

liveability within New Town Developments based on the examples of Senri New Town (Osaka, Japan) and Purbachal New Town (Dhaka, Bangladesh). The comparative review found that physical, social, functional and security dimensions of liveability could be referenced. However, although Senri New Town was developed almost half a century ago, it appears to have better conform to liveability dimensions compared to Purbachal New Town (Dhaka, Bangladesh). Seemingly, the latter has missed opportunities for integrating some of the key principles in the liveability discourse that gained relevant attention in recent years. While this paper does not report on liveability evaluation of the two new town developments, by drawing on the project components to infer liveability dimensions, the authors suggest the following planning implications:

First, planners and city authorities must recognize the importance of social mix and adequately plan for developments that provide sufficient allocations for lower-income and middle-income housing. This is necessary for inclusive development that provides opportunities for the poor to access better living environments necessary for their wellbeing.

Secondly, the integration of diverse socio-economic profiles invites public-private-people partnerships (P4) to emphasize citizen-centeredness in the planning, design, implementation and evaluation of new town developments.

Thirdly, integrating a diversified density for different zones and pairing with community centres, public facilities, in addition, to properly designed and well connected public open and green and blue spaces. Last of all, promoting a transport hierarchy that restricts vehicular traffic and promotes pedestrianization is relevant for making these new townships truly liveable and sustainable.

Acknowledgement

The authors express sincere gratitude to Dr. Seth Asare Okyere, Assistant Professor, Division of Global Architecture, Osaka University for his comments on an earlier version of the paper.



Funding

This research did not receive any specific grant from funding agencies in the public, commercial, or not-for-profit sectors.

Conflict of interests

The authors declare no conflict of interest.

References

- Abubakar, I. R., & Doan, P. L. (2017). Building new capital cities in Africa: Lessons for new satellite towns in developing countries. *African Studies*, 76(4), 546-565. <https://doi.org/10.1080/00020184.2017.1376850>
- ADB. (2019). *Creating Livable Cities: Regional Perspectives*. Manila, Philippines: Asian Development Bank (ADB).
- Aulia, D. N. (2016). A framework for exploring livable community in residential environment. Case study: public housing in Medan, Indonesia. *Procedia-social and behavioral sciences*, 234, 336-343. <https://doi.org/10.1016/j.sbspro.2016.10.250>
- Beattie, L., & Haarhoff, E. (2018). Urban growth, liveability and quality urban design: questions about the efficacy of urban planning systems in Auckland, New Zealand. *Journal of Contemporary Urban Affairs*, 2(2), 12-23. <https://doi.org/10.25034/ijcua.2018.3667>
- Chatterjee, A., & Chattopadhyay, R. (2020). Satellite Town Development in Retrospect and Prospect. In A. Chatterjee & R. Chattopadhyay (Eds.), *Satellite Towns in Neo-metropolitan Development in India* (pp. 59-85). Singapore: Springer Nature. https://doi.org/10.1007/978-981-15-1502-6_3
- Chen, H., Jia, B., & Lau, S. (2008). Sustainable urban form for Chinese compact cities: Challenges of a rapid urbanized economy. *Habitat International*, 32(1), 28-40. <https://doi.org/10.1016/j.habitatint.2007.06.005>
- Cividino, S., Halbac-Cotoara-Zamfir, R., & Salvati, L. (2020). Revisiting the "City Life Cycle": Global Urbanization and Implications for Regional Development. *Sustainability*, 12(3), 1151. <https://doi.org/10.3390/su12031151>
- Cox, D. A., & Streeter, R. (2019). *The importance of place: Neighborhood amenities as a source of social connection and trust*. Retrieved from Washington DC, USA:
- Cutts, A. (2016). *New Cities and Concepts of Value: Planning, Building and Responding to New Urban Realities*. Paris, France: New Cities Foundation.
- Deepthi, S., & Shobha, M. (2019). Satellite Towns: An Emerging Need for Metropolitan Cities. *Journal of the Institute of Town Planners India*, 16(2), 32-41.
- Deng, F. F., & Huang, Y. (2004). Uneven land reform and urban sprawl in China: the case of Beijing. *Progress in planning*, 61(3), 211-236. <https://doi.org/10.1016/j.progress.2003.10.004>
- EIU. (2019). *The Global Liveability Index 2019*. London, UK: Economist Intelligence Unit (EIU).
- Fatemi, N. (2014). *Urban green space in a high-density city: User expectations, accessibility and experience in context of Dhaka*. Paper presented at the 2nd International Urban Design Conference on Cities, People and Places: CCPP- 2014 Colombo, Sri Lanka
- Fatemi, N., & Islam, N. (2014). *Learning from Precedents: Emerging Urban Planning Practices towards Livable Communities in Dhaka*. Paper presented at the Second International Urban Design Conference on Cities, People and Places (ICCP-2014), Colombo, Sri Lanka
- Girardet, H. (2004). *Cities people planet: liveable cities for a sustainable world*. Chichester, UK: Wiley-Academy Press. <https://doi.org/10.1093/oso/9780199264520.003.0011>
- Hasnat, M. M., & Hoque, M. S. (2016). Developing satellite towns: a solution to housing problem or creation of new problems. *International Journal of Engineering and Technology*, 8(1), 50-56. <https://doi.org/10.7763/IJET.2016.V8.857>
- Hauk, M. L. (2015). *Postwar Residential New Towns in Japan: Constructing Modernism*. (Master Thesis), Washington University, Washington DC, USA.
- Hoornweg, D., & Pope, K. (2017). Population Predictions for the World's Largest Cities in the 21st Century. *Environment and Urbanization*, 29(1), 195-216. <https://doi.org/10.1177/0956247816663557>
- Hossain, M. A. (2014). *Purbachal New Town Project*. Dhaka, Bangladesh: Rajdhani Unnayan Karttripakkha (RAJUK), Ministry of Housing and Public Works, Government of the People's Republic of Bangladesh.



- Ibem, E. O. (2013). Accessibility of services and facilities for residents in public housing in urban areas of Ogun State, Nigeria. *Urban Forum*, 24(3), 407-423. <https://doi.org/10.1007/s12132-012-9185-6>
- Ibrahim, M. A., Shoma, A. N., & Tariq, S. H. (2017). Predictions for 'Purbachal': Learning from 'Dhanmondi'. *AIUB Journal of Science and Engineering (AJSE)*, 16(1), 11-18.
- Itami, K. (2018). *Plan, Concept and Actuality of New Town*. Osaka, Japan: Osaka University.
- Kafkoulas, K. (2009). New Towns. In R. Kitchin & N. Thrift (Eds.), *International Encyclopedia of Human Geography* (pp. 428-437). Amsterdam, The Netherlands: Elsevier. <https://doi.org/10.1016/B978-008044910-4.00855-5>
- Leby, J. L., & Hashim, A. H. (2010). Liveability dimensions and attributes: Their relative importance in the eyes of neighbourhood residents. *Journal of construction in developing countries*, 15(1), 67-91.
- Leh, O. L. H., Aziz, M. H. A., Mahbot, N. M., & Marzukhi, M. A. (2020). A Study of Urban Liveability In a City and a Suburban-Case Study: Kuala Lumpur And Puncak Alam, Malaysia. *Journal of Surveying, Construction and Property*, 11(2), 16-26. <https://doi.org/10.22452/jscp.sp2020no1.2>
- Lerch, M. (2017). *International Migration and City Growth*. New York, USA: Department of Economic and Social Affairs, Population Division, United Nations (UN).
- Marcotullio, P. J. (2001). Asian urban sustainability in the era of globalization. *Habitat International*, 25(4), 577-598. [https://doi.org/10.1016/S0197-3975\(01\)00025-X](https://doi.org/10.1016/S0197-3975(01)00025-X)
- Paul, A., & Sen, J. (2020). A critical review of liveability approaches and their dimensions. *Geoforum*, 117, 90-92. <https://doi.org/10.1016/j.geoforum.2020.09.008>
- Percival, T., & Waley, P. (2012). Articulating intra-Asian urbanism: The production of satellite cities in Phnom Penh. *Urban Studies*, 49(13), 2873-2888. <https://doi.org/10.1177/0042098012452461>
- Pumain, D. (2006). Alternative explanations of hierarchical differentiation in urban systems. In D. Pumain (Ed.), *Hierarchy in natural and social sciences* (pp. 169-222). Berlin, Germany: Springer. https://doi.org/10.1007/1-4020-4127-6_8
- Randall, K. (2017). *Satellite Cities Are Everywhere, and They Might Save Our Urban Future*. *Virgin Hyperloop*.
- Razvadauskas, F. V. (2019). *Megacities: Developing Country Domination*. London, UK: Euromonitor International.
- Selhausen, F. M. Z. (2013). Growing Cities: Urbanization in Africa. In E. Frankema, E. Hillbom, U. Kufakurinani, & F. M. Z. Selhausen (Eds.), *The History of African Development: An Online Textbook for a New Generation of African Students and Teachers*: African Economic History Network.
- Shaw, A. (2004). *The Making of Navi Mumbai*. New Delhi, India: Orient Longman Private Limited.
- SNTIC. (2020). *Our Town: What is Senri New Town?* (Vol. 2021). Suita, Osaka, Japan: Senri New Town Information Center (SNTIC).
- SNTRRC. (2006). *Senri nyūtaun no genjō dai [Current Status of Senri New Town]*. Osaka, Japan: Senri New Town Revitalization Review Committee (SNTRRC).
- Soomro, T., & Soomro, M. A. (2018). Planning failure of satellite town: A case study of Korangi, Karachi-Pakistan. *Mehran University Research Journal of Engineering and Technology*, 37(1), 209-222. <https://doi.org/10.22581/muet1982.1801.19>
- Sorensen, A. (2002). *The making of urban Japan: cities and planning from Edo to the twenty-first century* (Vol. 53). London, UK: Psychology Press.
- Southworth, M. (2016). Learning to make liveable cities. *Journal of Urban Design*, 21(5), 570-573. <https://doi.org/10.1080/13574809.2016.1220152>
- Tsutsumi, K. (2021). Social Movements and Social Capital in Senri New Town. In K. Tsutsumi (Ed.), *Depopulation, Aging, and Living Environments. Advances in Geographical and Environmental Sciences*. Singapore: Springer. https://doi.org/10.1007/978-981-15-9042-9_9
- UN-Habitat. (2013). *Streets as public spaces and drivers of urban prosperity*. Nairobi, Kenya: United Nations Human Settlements Programme (UN-Habitat).
- UN-Habitat. (2014a). *A new strategy of sustainable neighbourhood planning: Five principles*. Nairobi,



- Kenya: United Nations Human Settlements Programme (UN-Habitat).
- UN-Habitat. (2014b). *Urban Planning for Growing Cities: Key Tools for Sustainable Urban Development*. Nairobi, Kenya: United Nations Human Settlements Programme (UN-Habitat).
- UN-Habitat. (2020). *World Cities Report 2020: The Value of Sustainable Urbanization*. Nairobi, Kenya: United Nations Human Settlements Programme (UN-Habitat).
- Van Leynseele, Y., & Bontje, M. (2019). Visionary cities or spaces of uncertainty? Satellite cities and new towns in emerging economies. *International Planning Studies*, 24(3-4), 207-217. <https://doi.org/10.1080/13563475.2019.1665270>
- Wang, L., Kundu, R., & Chen, X. (2010). Building for what and whom? New town development as planned suburbanization in China and India. In M. Clapson & R. Hutchison (Eds.), *Suburbanization in Global Society (Research in Urban Sociology, Vol. 10)* (pp. 319-345.). Bingley, UK: Emerald Group Publishing Limited. [https://doi.org/10.1108/S1047-0042\(2010\)0000010016](https://doi.org/10.1108/S1047-0042(2010)0000010016)
- Wang, Y., & Shaw, D. (2018). The complexity of high-density neighbourhood development in China: Intensification, deregulation and social sustainability challenges. *Sustainable Cities and Society*, 43, 578-586. <https://doi.org/10.1016/j.scs.2018.08.024>
- Ye, N., Kita, M., Matsubara, S., Okyere, S. A., & Shimoda, M. (2021). A Study of the Spatial Distribution of Danwei Compounds in the Old Town of Hefei, China. *Urban Science*, 5(1), 7. <https://doi.org/10.3390/urbansci5010007>
- Yeung, Y.-m. (2011). Rethinking Asian Cities and Urbanization: Four Transformations in Four Decades. *Asian Geographer*, 28(1), 65-83. <https://doi.org/10.1080/10225706.2011.577975>
- Yokohari, M., Takeuchi, K., Watanabe, T., & Yokota, S. (2008). Beyond greenbelts and zoning: A new planning concept for the environment of Asian mega-cities. In J. M. Marzluff, E. Shulenberg, W. Endlicher, M. Alberti, G. Bradley, C. R. C. ZumBrunnen, & U. Simon (Eds.), *Urban Ecology* (pp. 783-796). New York, USA: Springer. https://doi.org/10.1007/978-0-387-73412-5_50
- Ziari, K. (2006). The planning and functioning of new towns in Iran. *Cities*, 23(6), 412-422. <https://doi.org/10.1016/j.cities.2006.08.006>



How to cite this article:

Rahman, T., & Fatemi, M. N. (2021). Liveability Dimensions in New Town Developments: An Overview of Senri New Town and Purbachal New Town. *Journal of Contemporary Urban Affairs*, 5(2), 221-233. <https://doi.org/10.25034/ijcua.2021.v5n2-6>