The Growth Pattern of new municipalities around Kathmandu Valley: A Case of Kageshwori Manohara Municipality

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Abstract

Cities offer a significant range of opportunities and life quality improvements to their residents. The decline in environmental quality of the densely built city centers, traffic congestion, pollution, degradation of public spaces and safety; change in lifestyles due to increase in incomes, in favor of more spacious decentralized housing; the replacement of residential land use in the city center by tertiary activities; the fact that housing improvement in the city center costs more than new construction outside the city; and the housing supply strategies of real estate agents, which find less resistance in the more spacious out-of-town areas have been the cause of urban growth, a study by Camagni in 2002 suggests.
Kathmandu Valley from its historic period has been the political and economic capital seat of the country. With the increasing global trend of urbanization, Valley is also growing with Kathmandu city regarded as one of the fastest urbanizing cities of South Asia. The impact of urbanization currently is not only limited within the core of Kathmandu but rather has spread in the suburb areas. Kageshwori Manohara municipality which fell under rural areas just half a decade back is now an independent municipal corporation. However, the growth pattern of Kageshwori Manohara as a city is seen to be highly related to the growth of Kathmandu city. Sharing its boundary with Kathmandu in the Southern areas, the urbanization of Kageshwori Manohara is highly dominated and concentrated in these areas. In other words, what we can say is the development of Kageshwori Manohara is a peripheral growth of Kathmandu in which the wards connected geographically to Kathmandu holds the largest share of what we call as urban growth of the municipality.

Keywords

Urbanization, growth pattern, outgrowth, satellite city

1. Introduction

Urbanization in simple words can be inferred as the increasing number of people living in urban areas. Yet, urbanization is not only about a simple increase in number of urban residents, but also involves a series of change from rural to urban styles in terms of industry structures, employment, living conditions and social public services (Chen M et al, 2014). It is the global phenomenon with the world urban population increasing from 746 million in 1950 to 3.96 billion in 2014 [1]. Out of total population in the world, 55 percent lived in urban areas in 2018 and is expected to reach 68 percent by 2050 as per UNDP-2017.

The growth pattern of cities around the globe although differ according to their geographic location, history, political and economic conditions [2], they tend to follow similar patterns. The city may be looked on as a story, pattern of relations between human groups, a production and distribution space, a field of physical force, a set of linked decisions or an arena of conflict [3]. Nepal as a developing South Asian country, showcased the level of urbanization of 18.2 percent [4] with an urban growth rate of 3 percent [1]. The trend of urbanization in Nepal is dominated by few large cities and primarily by Kathmandu Valley which has the largest cities and excessive population. While the population distribution is uneven, Kathmandu has the highest population density of 19,726 (MOUD,2016) per square kilometer (1972 PPH) covering 9.7 percent (MOUD,2016) of the total urban population of Nepal. After the Nation's restructuring process in 2014, several new Municipalities have been added to the Kathmandu Valley, together with which there are now 18 municipalities in the Valley. The

creation of new cities is a planning approach adapted in several regions around the world, in order to accommodate urban growth [5].It surprises no one to hear that it is impossible to explain how a city should be, without understanding how it is but perhaps it is surprising to accept the reverse that an understanding of how a city is depends on a valuing of what it should be [3]. The new municipalities are simply the outward extension of the urban population growth of Kathmandu city core. There are numerous factors of a city core like traffic congestion, housing shortages, lack of open spaces, over-crowding, pollution that push its inhabitants outwards. The declaration of new municipalities and definition of urban centers have long been debated in the context of Nepal since most of the new municipalities possess the urban-rural characteristics rather than purely urban. Unmanaged urban expansion increases the costs of service provision, deepens spatial inequities, and imposes heavy economic and environmental burdens (Mahendra A and Seto K, 2019). On the other hand, it is also in these areas where there is an opportunity to manage urban growth before it becomes the permanent chaotic characteristics of that particular area.

2. Research Question

This research aims to find appropriate answers to the following question:

- How cities grow and how should cities grow in modern times?

3. Research Objective

The major research objective of this paper is to study the urban growth pattern of one of the newly formed municipalities of Kathmandu district, Kageshwori Manohara municipality.

4. Methodology

The research aims to study the pattern of urban growth of the city which falls under the pragmatic paradigm. The strategy adapted is a case study strategy as the study tries to find how the new cities of Kathmandu Valley are growing but has chosen a single city i.e., Kageshwori Manohara municipality for the study. The research explored the pattern of city growth around the

world and also studied the theories of urban growth to establish a relation between actual growth scenario of study area with the desired growth pattern of a city as suggested by theories. Thus, deductive logic system was adapted.

The type of data required to study the pattern of urban growth were collected from literature review. It required both quantitative as well as qualitative data and analysis methods. A good set of documents were obtained from municipality which mostly generated quantitative data. Researcher's observation was congregated during the site visits in photographs. A list of key informants was made and interview conducted to further know about the study area. In addition to this, questionnaire survey was also done to understand the people's perception on urban facilities that are expected from any city.

5. Study Area

Kageshwori Manohara municipality, situated in the Northern part of Kathmandu valley in Bagmati Province, is one of the 13 newly declared municipalities in Kathmandu district. The Municipality is surrounded by Gokarneshwor Municipality in the West, Sindhupalchowk District in North, Shankharapur municipality and Bhaktapur District in the East and Kathmandu Metropolitan City in the South.
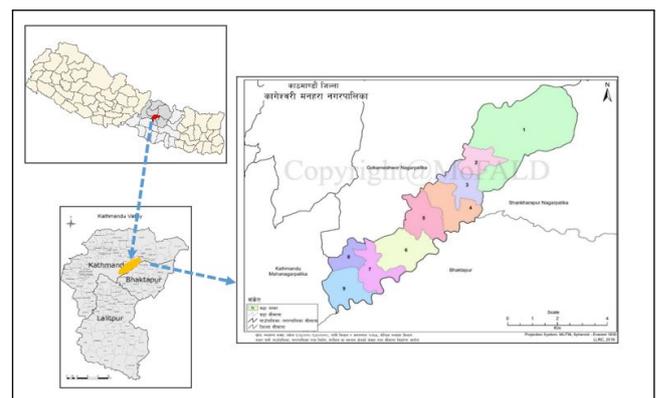

Figure 1: Location Map of Kageshwori Manohara

Administratively divided into 9 wards (Wards 1 to 9 in ascending order from North to South), Kageshwori Manohara was declared as municipality in 2nd December, 2014. It has population of 1, 02, 265 with 26,166 households according to Household Survey 2019. The growth rate of population is found to be 5 percent per annum in the period of 2011 to 2019

(Municipal Profile and Household Survey, 2019).

6. Results and Analysis

6.1 Land Use

It is learned from the history and literature of city growth that with the increase in urbanization rate, land use also changes. The open and agricultural land gets changed into buildings and urban structures with growth of the city. The similar phenomenon can be noticed in Kageshwori Manohara municipality.
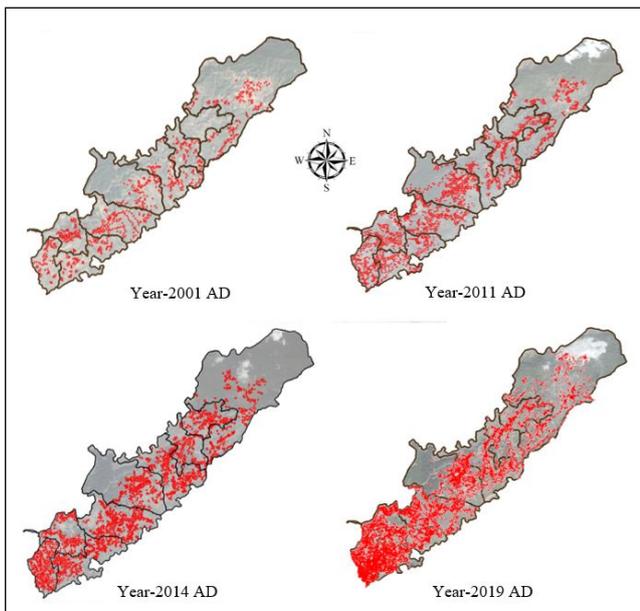

Figure 2: Increase in Built-up Areas in last two decades

The comparative study of satellite images of Kageshwori Manohara in different years of last two decades reveal the fact that Kageshwori Manohara is a growing city. The number of households increased from 6,351 in 2001 AD [6] to 14,329 households in 2011 AD [7]. At present, as per Household Survey, 2019, the number of households has reached 26,166. The growth of kageshwori Manohara is further justified by the increasing built-up area and decreasing agricultural land as demonstrated in the figures below.
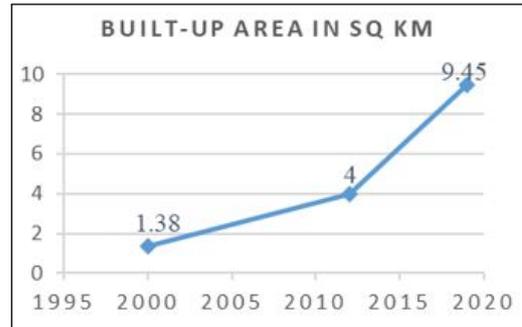

Figure 3: Total Built-Up Area in 2000,2012 and 2019
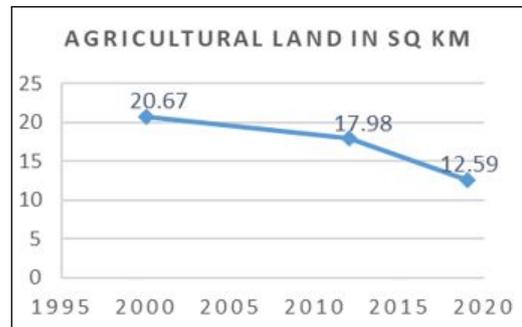

Figure 4: Total Agricultural Area in 2000,2012 and 2019

The total built up area of the Municipality has increased from 1.38 sq.km. in 2000 to 4 sq.km. in 2012. It increased by 300 percent in the time period of twelve years. The increment continued and reached to 9.45 sq.km. Between 2012 to 2019, the Built up increased by 225 percent. Meanwhile, the agricultural land has been decreasing. The municipality had 20.67 square kilometers of agricultural land in 2000 which accounts to 75 percent of the total land area. It decreased to 17.98 sq.km. in 2012 accounting to total 13 percent decrement in agricultural land and again decreased by 30 percent in between 2012 to 2019 and has reached to the area of 12.59 sq.km. in 2019. A sparse settlement can be noticed in 2001 AD all over the Kageshwori Manohara. By 2011, an uneven urbanization can be noticed feebly with denser settlements in the southern wards (6,7,8 and 9 wards) of the municipality. After declaration of municipality in 2014 AD, the urban growth is seen to be increased tremendously and by 2019 AD, the southern areas have urbanized to a much larger extent as obtained from the satellite imageries. The type of settlement growth is varying from North to South. More urban growth is seen in the Southern Wards i.e., wards 6, 7, 8 and 9. Towards South, the intensification of buildings is seen quite noticeably whereas the middle

areas of the municipality are both intensifying as well as dispersed buildings are noticed to be emerging. The North-most areas depict new kinds of slow growth of buildings. The wards 7 and 9 that are close to Kathmandu Metropolitan City are seen to be mostly intensifying. The southern areas of Kageshwori Manohara shares its boundary with the largest economic center of the country, Kathmandu. The study of land use and urban growth gives the impression of influential growth in the areas with the proximity to Kathmandu city.

Figure 6: Ward Wise Population Distribution in 2019

6.2 Demography

Population Growth

The increase in population within a designated area is one of the best indicators of urban growth. The number of populations has increased from 31,144 in 2001 with the rate of 6 percent increment per annum to 60, 237 in 2011 as per Municipal Profile and the current population of the Municipality is 1,02, 235 as per Household Survey of 2019. In the last 8 years, population has increased with the rate of 5 percent per annum.
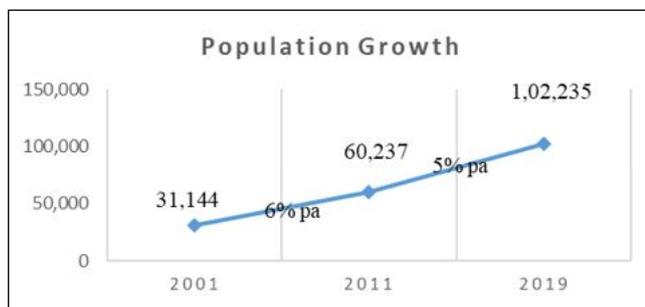
Population Density

The data shows that Ward 9 not only has the highest number of population but also highest density with 194.86 People Per Hectare (PPH) which is almost five times higher than the average population density of the municipality, 37.36 PPH. It is followed by ward 7 and 8 in population density. The 500 units high rise apartment located at Ward 9 has also contributed in the high density of the ward.

Figure 5: Population Growth of Kageshwori Manohara

Figure 7: Ward Wise Population Density in 2019

Population Distribution

Similarly, the distribution of population is not even inside the municipality. Ward 9 has the highest population of 28,522 which is around 28 percent of the total population in 2019 while ward 3 has least population of 2932 which is only 2 percent of the total population. Thus, it is evident from the data that population is higher to the Southern Wards (6,7,8,9) than the Northern Wards (1 to 5).
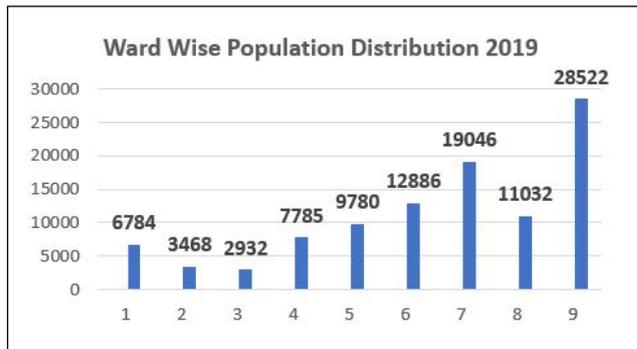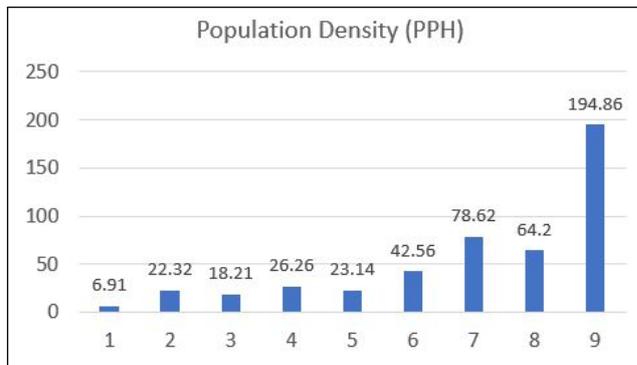
Migration

The migration has social, economic and political impacts on a city. One of the important parts of sustainable growth thus is the maintenance of societal harmony among the local and migrated residents. Coping with migration-based growth comes with its own challenges and opportunities.
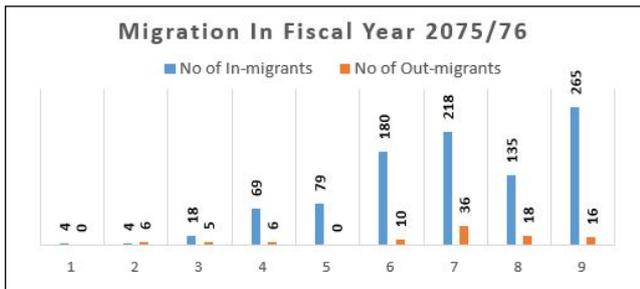
Figure 8: Ward Wise Migration in FY 2075/76

The in-migration of the municipality is concentrated among Southern wards. In the Fiscal year 2075/76, ward 9 alone accommodated 27 percent of total in-migrations followed by ward 7 which accommodated around 25 percent of the total in-migrations. The data on ward wise in-migration reveals the fact that the wards to the South of municipality and closer to Kathmandu is attracting a lot of people. The location next to a larger economic hub might be opportunity for migrants in those areas.
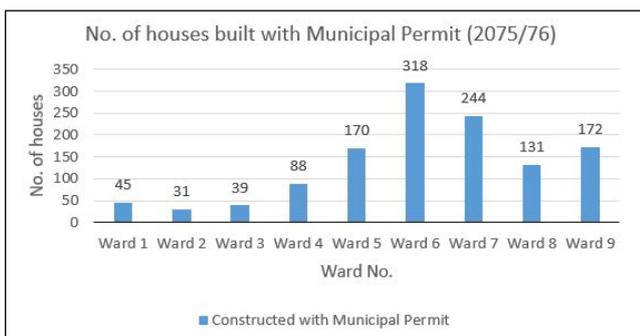
6.3 New Construction

Figure 9: Building Permit issued in the FY 2075/76

Along with the migration concentrated towards the South of the city, new construction of fiscal year 2075/76 also showed the most of the total new construction taking place in the wards 6, 7,8 and 9 of Kageshowori Manohara.
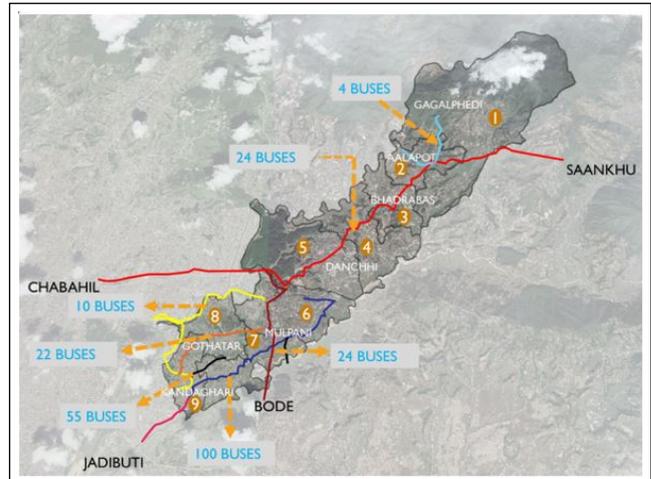
6.4 Mobility

Figure 10: Public Transportation Routes in different areas of municipality

The figure above is the mapping of different public transportation routes and number of vehicles operating each day in the routes. A larger number of vehicles are seemed to be operating in the Southern Wards. Only 28 buses run to provide linkage to Wards 2, 3, 4 and 5 out of which only 4 buses reach Ward 1. On the other hand, almost 215 buses run linking Wards 6,7,8 and 9 with Kathmandu and Bhaktapur on a daily basis. The transportation routes are well connected with almost 7 times more vehicles operating in the Southern Wards of Kageshwori Manohara.

The questionnaire survey conducted among residents suggested that almost 60 percent of the people travel to Kathmandu on a daily basis for work, almost 50 percent people go to Kathmandu for shopping and 100 percent people prefer to go to Kathmandu for health services. This mobility pattern connected to Kathmandu gives the impression of Kageshwori Manohara not only growing due to the growth of Kathmandu but also dependent upon it for a larger portion of urban services.

Findings

There are various causes of urban growth. Natural increase in population, migration, industrialization, commercialization, advancement of transportation and communication, availability of educational and recreational facilities are some of the factors to name a few causes of urban growth. Another important nature of urban growth as seen is the development of

peri-urban areas around major city center. The development of a CBD influences development of several supporting services at a farther distance from its center. Closeness to major infrastructures plays a crucial role in a locality's development [8]. Kageshwori Manohara is one of the 13 newly formed municipalities of Kathmandu Valley. The valley with its major cities like Kathmandu, Lalitpur and Bhaktapur is prime economic center of the Nation. In the period between 2002 to 2012, Valley's population grew by 61.2 percent as [9] causing the subsequent expansion of the built-up area to the peripheral landscapes. The total built up area of Kathmandu Valley in 1989 was 5 percent which has increased to 26 percent by 2016 [9]. It is seen to be expanding rapidly outwards after 2009. Till 2016, the intensification at center and spread outwards both can be seen. Few decades back Kageshwori Manohara was a rural area close to major cities and facing urbanization in the areas sharing proximity to the major cities. This entire process of rural-urban transformation can be better understood via study of satellite images and supporting data that has been discussed in the paper earlier. Kageshwori Manohara lies at the North Eastern periphery of the Valley sharing its boundaries with two existing urban centers Kathmandu and Thimi. However, the access roads and transportation network is well established with Kathmandu as compared to that of Thimi. The previously discussed data on population distribution and migration trend showed higher urbanization rate in the Wards 6,7,8 and 9. Because Wards 8 and 9 shared their boundary with Kathmandu but felt outside the municipal jurisdiction before 2014, it is quite clear that it attracted developmental growth. According to the study of 499 cities conducted by World Resources Institute, most of the South Asian cities exhibit outward growth rather than upward growth. Kathmandu being the capital and major urban and economic center of the country, it is entirely normal for the city to grow and expand. The Oxford dictionary of Architecture defines satellite town as "Towns that are self-contained and limited in size, built in the vicinity of a large town or city to house and employ those who would otherwise create a demand for expansion of the existing settlement, but dependent on the parent-city for population and major services." On that regard, Kageshwori Manohara can be understood as a satellite city of Kathmandu as the growth trend shows major dominance in the areas sharing boundaries with Kathmandu city, which is a growing city in itself.

Conclusion

Though established as an independent municipal corporation, the growth of Kageshwori Manohara demonstrate its high level of dependency with the growth of Kathmandu Metropolitan City. Kageshwori Manohara is undergoing organic influential urbanization. While it is natural for a larger city to influence growth in its peripheral areas, Kageshwori Manohara needs its own internal assessment and development plans in order to develop it as a self sustaining city in the long run.

Acknowledgments

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