Urban Growth and its Impact on Tangail Municipal Area

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Abstract

The study has endeavored to investigate the urban development and its impacts on Tangail municipality, Tangail, Bangladesh. The factual data have been collected from secondary sources, while the perceptual data are based on survey questionnaires on the opinions of respondents. Data were collected through instant spot observation (transect survey) and in-depth consultation, and interviews. The study displays that, the population of Tangail municipality rapidly augmented after 1971. For instance, the population rose from 19.875 thousand in 1961 to 128.785 thousand in 2001. Additionally, the area of Tangail municipality was 15.50 km^2 in 1981 which has expanded to 29.40 km^2 in 2001. The proposed area of Tangail municipality was five km^2. In 1951 the level of urbanization in Tangail municipality was 1.79% which has experienced a sharp rise of 12.99 % in 2001. The study found that, the enlarged urbanization in Tangail town has resulted in higher population density, increased demand for food, alleviation of environmental pollution, increased traffic congestion, generation of solid waste, inadequate garbage disposal, effluent disposal into rivers, crime, and disappearing green and open space in the Tangail municipality.

Key words: Bangladesh, Environment, Impact, Tangail Municipality, Urbanization

Introduction

The quality of urban environment depends a great deal on the quality of infrastructure and their appropriate management. Utility services like sanitation, sewerage, drainage, drinking water supply, waste management, electricity, gas and fuel for cooking are inevitable physical infrastructure for maintaining the urban environmental quality (Islam, 1997). Laskar and Serajul (1983) studied the urban centers on the basis of their population distribution and location by region and also examined the nature and factors of their growth. The rate of growth in all major urban locations also exceeds the corresponding rural population growth rate. These facts clearly indicate an increasing pressure of population on urban land and environment. While developing nations in Asia depict rapid rate of urbanization, Bangladesh however remains less urbanized, though the absolute urban population as well as the number of cities and towns in the country has expanded manifold during the past few decades (BBS, 1992; Islam, 1996). The world urban population rose from 13% (220 million) in 1900 to 29% (732 million) in 1950, and to 49% (3.2 billion) in 2005 (United Nations, 2005). It is predicted that by 2030, around 61% of the world population will live in urban areas. The world urban population will be approaching 5 billion out of 8.1 billion world population by then. Bangladesh has been experiencing rapid urbanization since 1971 after its independence. About 35 million people or a quarter of the population currently live in urban areas, compared to only 8% during 1971 (World Bank, 2007) and it is estimated that by 2020, about 40% of the total population will live in urban areas (DFID, 2004). In 2001, the proportion of urban population was 23.10% which was half of the previous census (Rouf and Sarwar, 2007).

Urbanization in Bangladesh takes the form of rapid growth of urban population, largely due to natural growth and rural-urban migration. Hence, Bangladesh is still a relatively low urbanized country compared to other Asian countries. However, the Tangail Municipal area is now an urbanized area. The people of this area don't possess sufficient knowledge about urban growth. In this regard, awareness should be raised among them. The objectives of this research on urban growth and its effect on surrounding environment were to assess the trends of urban expansion in Tangail municipality, to investigate the causes of urban expansion in the study area, and to analyze the consequence of urban growth on the environment of Tangail municipality.

Materials and Methods

Study area

The study area was Tangail district, with an area of 334.26 km^2, surrounded by Kalihati upazila on the North, Nagarpur and Delduar Upazila on the South, Bashail Upazila on the East, Belkuchi and Chauhali Upazila on the West. The latitude and the longitude of Tangail district are 24.00ºN and longitude 90.34ºE, respectively. The area of Tangail town is 29.40 km which consists of 18 wards and 63 *mahallas*. Tangail municipality was established in 1887 and now it has a population of 128785 (male 66,856:female 61,929) with a density of 3650 km^{-2}. Archaeological heritage site Santosh Zamindar Bari (present Mawlana Bhashani Science and Technology University) is situated here. The Tangail *Paurashava* was established in 1987 when there were 5 wards there. Latter on new four wards were added to the master plan (Tangail Paurashava, 2007). Tangail municipality was selected for the study as people of this area are ignorant about the causes, effects and the problems of urbanization associated with it.
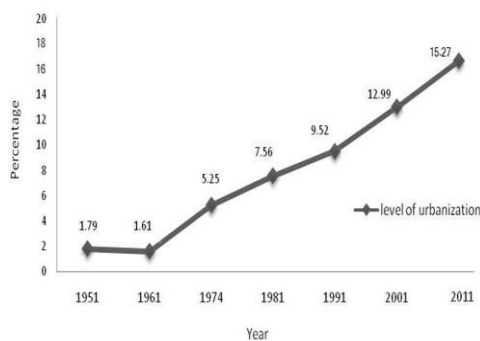
Data collection and analysis

Data were collected from selected local people (on the basis of different category) for information about the development of the Tangail *Paurashava*. The people from different professions like student, housewife,

teacher, businessman, shopkeeper, service holder and other people of the town were selected who can provide us with the real information about the facts. For identifying causes and effects of urbanization, specific location identification and status were carefully enlisted around the study area. Both primary and secondary data were used that were collected through in depth interview from the local people by the questions and interviews. Different types of questions (open-ended, close-ended) were made to obtain the specific and relevant information. Finally, the data have been statistically analyzed using Statistical Package for Social Sciences (SPSS) and Microsoft Office Excel.

Results and Discussion

Level of urbanization in Tangail town
The level of urbanization in Tangail *Paurashava* is increasing each year. The proportion of the urban area in Tangail sadar upazila rose to 32.13% in 2011 from 29% in last ten years (BBS, 2012). According to the following Fig. 1, in 1951 the level of urbanization was

only 1.79% then it decreased slightly to 1.61% by the next decade. After 1961 there was a steadily upward trend of urbanization till 2001, without any fluctuation of the increasing trend. The level of urbanization is projected to rise sharply in future considering the current situation.

Population status
According to the (Fig. 2), population of Tangail town is increasing at a great rate. In 1961 the population was 19.88 thousand and it had farther an increasing trend until the year 2011 when the population has increased at 167.42 thousand without any fluctuation. It reveals that, there was a sharp increase of population during 1961-1974 as well as 2001-2011 where the growth rates were 64.4% and 23.07%, respectively. Therefore, dramatically increasing trend of urban population causes serious problems (Rees, 1992) as there is not enough space to accommodate the whole population at the region.

Fig. 1. Level of urbanization in Tangail municipality

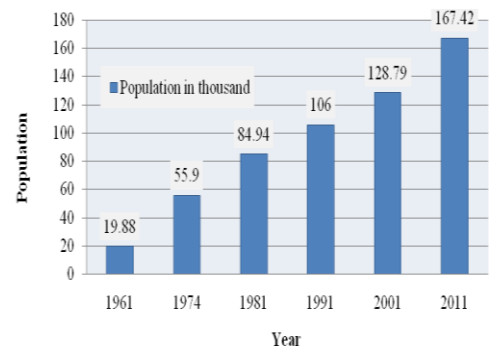

Fig. 2. Population status of Tangail municipality

Resident's perception of urbanization in Tangail town
A result of respondents' sex, education, occupation status, age group and residency status from the survey is mentioned in the following figures. Fig. 3(a), (b) and (c) represents that, 17.8% and 21.2% respondents were student and from other professions and coincidentally 12.2% respondents were from the each professions named as housewife, businessman, service holder, teacher and shopkeeper, respectively. Around 70% of the respondents were male and 30% were female whereas, 25.6% of the respondent were primary level education holder, 23.3%, 24.4% and 26.7% were of S.S.C, H.S.C. and graduate students respectively (Fig.

3(c). Additionally, the highest number of respondents (33.3%) belonged to an age group of between 21 to 30, half of them were from 31 to 50 years and the rest of the respondents aged above 50 (Fig. 3(d). Finally, a little less than the half of the respondents, as Fig. 3(e) shows, lived in Tangail municipality from 11 to 20 years whereas, only 21.1% respondents lived there for more than 20 years. Around 23% respondents lived there for up to one decade and rest of them dwelt there only from one to five years.
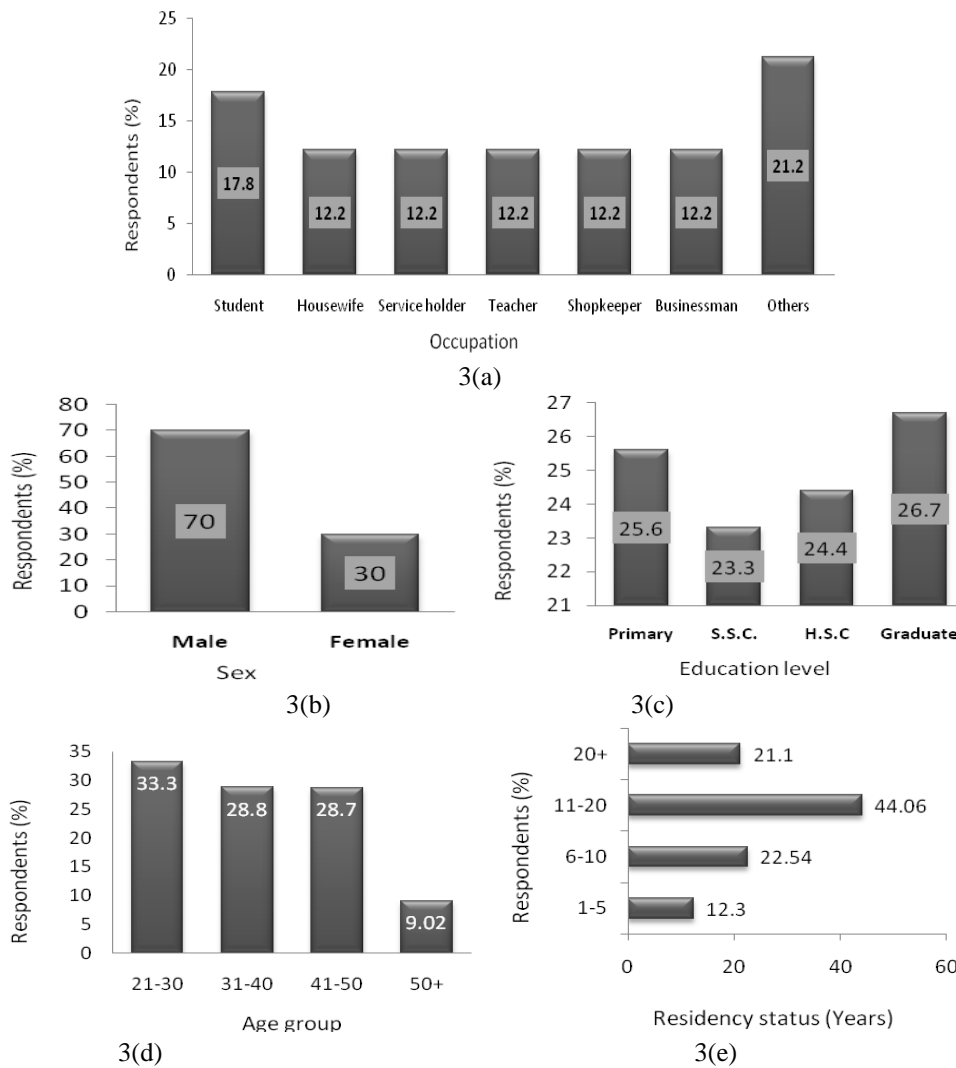
3(a)

3(b)   3(c)

3(d)   3(e)

Fig. 3. Respondents' profile

Causes of urbanization in Tangail municipality

Better economic status, standard education facilities, job opportunities, shopping facilities, quality health services, landlessness in rural areas, lack of employment and settlement, lack of access of basic needs (e.g., health, education, water, electricity, amenity etc.) are mainly causes of urbanization in Tangail. In rural areas surrounding the Tangail town, business and commercial activities, social factor and village politics, marital factors such as divorce, newly married and rural people believe that living standard is much better in urban areas than in rural areas (Tangail Paurashava, 2012). According to the survey on the respondent the reasons for people migrating to Tangail town are- seeking for services (11.1%), excellent education and health services (17.8%), marital factors (16.7%), business and job (24.4%), landlessness and disaster (6.7%), social factors (4.4%) and earning livelihood (18.9%) (Fig. 4). In Bangladesh, urbanization takes the pattern of rapid increase of urban population, largely because of natural growth and rural-urban migration (Rahman, 2005; Khan, 1982). Among the respondents, large number of people came aiming for having a job and way of earnings.
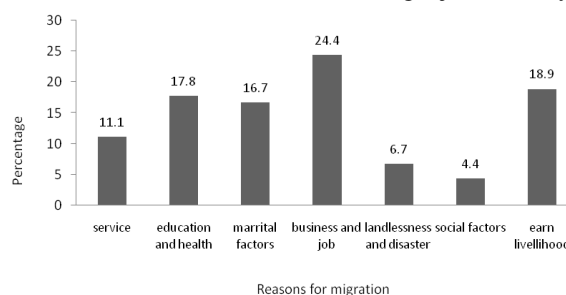

Fig. 4. Reasons for people migrating to this municipality

Urbanization status perception

Conducted survey underlined the results mentioned below (Table 1), in terms of the level of satisfaction regarding the level of urbanization in Tangail municipality.

Table 1. Perception about urbanization status of Tangail municipality

Sl. No.	Issues	Percentage considering opinion	
		Yes	No
1.	Urbanization status in Tangail municipality	17.0	83.0
2.	Abruptly increasing population in this municipality	87.0	13.0
3.	Traffic congestion is increasing due to urbanization	94.0	6.0
4.	Health service in Tangail municipality	49.0	51.0
5.	Tangail town follows well planned urban development	5.0	95.0
6.	Health problem due to unplanned urban development	76.0	24.0
7.	Does the current development hamper the environmental condition as well?	69.0	31.0
8.	Other facilities of Tangail municipality	34.0	66.0

Conclusions

Urbanization in Tangail municipal area is increasing alarmingly searching more facilities to the urban inhabitant like education, shelter, better job opportunity, business and commercial activities, and faster approach to information technology etc. Urbanization also occurs due to problem in rural areas such as over population, lack of productive assets such as land, lack of infrastructures and basic services (health, education, water and sanitation etc.) in nearby rural areas of Tangail town. However, unfortunately a master plan for urban development in Tangail municipality is yet to be formulated. Therefore, to minimize the environmental impacts of urbanization and to achieve a livable healthy status of Tangail municipality, proper and sufficient measures should be taken through conducting an Environmental Impact Assessment (EIA), developing a master plan and its implementation, adopting a suitable transportation system, monitoring and regulating environmental pollution, encouraging stronger social bonds through enhancing respect and tolerance to traditional norms which can act to reduce crime. Besides it, providing standard education and job opportunities in rural areas are unavoidable along with the decentralization of industrial and development activities which will act against migration.

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