

## Migration, Urbanization and Land Use Transformation: A Case Study of Ghatail Pourashava

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### Abstract

Bangladesh is experiencing massive rural to urban migration, particularly in divisional cities and secondary towns at the District and Pourashava levels. The major reasons behind the massive migration are regional disparity, challenges in existing livelihoods, climate change and expectation to obtain better living standard. The people come to the major cities basically for searching their daily necessities and have an intention to settle down there. Therefore, it encourages unplanned urbanization to meet the demand of increasing population in the cities. This study tried to examine the relationship between migration, urbanization and land use transformation with respect to Pourashava. Due to unplanned urbanization, the migrants are not able to gain their expected results from their rural to urban migration, and as well as reckless land use transformation is the ultimate result of massive migration that happened meeting additional residential demand, rather than existing agricultural use particularly in the Pourashava level.

### Introduction

The relationship between migration, urbanization and land use transformation are well known phenomenon, with each variable may be the cause as well as the effect of other. Based on the projection by 2030, globally urban population will reach up to 61%. In this case, Asian cities will play a significant role in the process of urbanization (Haider, 2008). Urbanization is being the process of becoming urban, moving to cities, changing from agriculture to other pursuits common to cities and the changing and corresponding changes of behavior patterns (Mithcell, 1957). In Ghatail Pourashava, the urban population is increasing because of rural urban migration and natural growth of urban population. In 2011, the urban population of the study area was about 48.53% whereas in 2001 it was about 24.38% of total population. The growth rate urban population in that time was 0.09 (Field survey, 2012). In Bangladesh, about seventy-three percent of the population lives in rural areas and remaining were in urban areas (USAID, 2011) and the urban growth rate is also dominated mainly by rural urban migration and it contributes between three-fifths to two-thirds of this growth (UN, 1993). Because of increasing population, the study area is facing challenges with regards to unemployment, urban poverty, unplanned development due to rapid land use transformation, meet basic social needs (such as health, education, sanitation and housing etc.), and infrastructure development and maintenance.

For rapid urbanization, the land use of the study area is transformed mainly from agriculture to residential and commercial uses. At the Pourashava level, there is existed different land uses that particularly covered by administrative office, educational institutions, shopping complex, water bodies, residential areas, play ground and as well as agricultural land use. In the study area, particularly water bodies and agricultural lands are transformed into residential purpose widely and most of the development happened in an unplanned way. In the recent decade natural drainage system is seriously disrupted for unplanned development activities especially natural canals are illegally occupied for residential and commercial use. Due to lack of awareness and responsibility among the Pourashava authority, the process of illegal occupancy is increasing day by day. While

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the study area is also facing difficulties, there is no proper drainage system in the study area for waste water collection. The unplanned development is occurred due to lack of proper planning and its implementation.

### Objective and Methodology of the Study

The objective of the study is to examine the relationship between migration, urbanization and land use transformation. In order to achieve the objective of the study, it is tried to explore the reasons behind migration at Pourashava level, to identify the level of urbanization and finally examine the result of migration and urbanization in the form of land use transformation. In these cases, to assess the level of urbanization, migration and land use transformation both primary and secondary data were collected regarding the study area. A questionnaire survey was conducted at the field level for collection of these relevant data and the sample size of the questionnaires was 60 to assess the reason behind migration and other relevant factors. In the study, purpose sampling technique was used for this purpose. Relevant data were collected for detecting migration through questionnaire survey, which contained structured and open-ended questions meanwhile in order to examine the level of urbanization and land use transformation of the study area.

### Conceptual Issues

#### Migration

Migration is a form of geographical or spatial motion between one geographical unit and another. Internal migration consists of rural-rural, rural-urban, urban-urban and urban-rural migration. Migration is continuous and repeated process rather than a single event. Because of these facts, it is difficult to measure and study. The time of migration also varies; it can be periodic, seasonal, or long-term migration (Bilsborrow, *et.al.*, 1987).

Migration is the main reason for rapid growth of mega-cities. Migration has been going on over centuries and it is normal phenomenon. When considering urbanization rural-urban and urban-rural and rural-rural migrations are very important. Urban-urban migration means that people move from one city to another (Bilsborrow, *et.al.*, 1987). Rural to urban migration may be happened in different forms, such as (a) temporary migration, (b) permanent migration, (c) circular migration, (d) seasonal migration and (c) commuting. The process ranges from short distance mobility (commuting) to long distance and long term movement or permanent migration (Islam, 1999).

#### Reasons of Migration

People move for a variety of reasons. They consider the advantages and disadvantages of staying versus moving, as well as factors such as distance, travel costs, travel time, modes of transportation, terrain, and cultural barriers (Human Migration Guide, 2005).

The causes of migration are usually explained by using two broad categories, namely, push and pull factors. For example, people of a certain area may be pushed off by poverty to move towards a town and/or industrial base for employment. While a better employment or higher education facility may attract people to avail these opportunities. People's decision to migrate from one place to another may be influenced by many non-economic factors such as, personal maladjustment in the family or community (Hossain, 2001).

#### Push Factors

The people are migrated or leaving a place because of a difficulty such as a food shortage, war, flood, etc. (Human Migration Guide, 2005). Technological improvement in the agricultural sector increase productivity which leads to decreasing demand for agriculture workers and subsequently enables agricultural workers to migrate to non-agricultural sectors. On the other hand poor development can act as a factor of push factor for rural to urban migration. If the agriculture fails to accommodate growing number of worker in this sector, then people may shift rapidly towards

urban area to seek alternative livelihoods. In some cities of Bangladesh rural-urban migration contributed 40-70% demographic change in urban population (Haider, 2008).

#### **Pull Factors**

The people are moved into a place because of something desirable such as a nicer climate, better food supply, freedom, etc. (Human Migration Guide, 2005). The pull factors are operative at the urban destination end. Real or perceived job opportunities and higher wages in the city are the main pulls. Rural-urban disparities in other opportunities and services are also responsible. A large proportion of rural-urban migrations are due to marriage and other familial reasons. (Islam, 1999) Migration is the consequence of both push-pull factors. Considering the Push-Pull model, push factors (at rural end) identified for Bangladesh as:

- Population pressure, adverse person-land ratio, landlessness and poverty.
- Frequent and severe natural disasters.
- Law and order situation.
- Lack of social and cultural opportunities which is applicable for rural rich people (Islam, 1999).

#### **Urbanization**

Urbanization refers to the percent of national population living in urban areas. It's happened due to rural-urban migration which leads to urban growth and difference in rate of rural population growth and urban population growth leads urbanization (Islam, 1999). On the other hand according to Gyabaah (n.d) Urbanization is the outcome of social, economic and political developments that lead to urban concentration and growth of large cities, changes in land use and transformation from rural to metropolitan pattern of organization and governance.

Urbanization is also defined as the process by which large numbers of people become permanently concentrated in relatively small areas, and finally forming cities. Internal rural to urban migration means that people move from rural areas to urban areas. In this process the number of people living in cities increases compared with the number of people living in rural areas. Natural increase of urbanization can occur if the natural population growth in the cities is higher than in the rural areas. This scenario, however, rarely occurs. A country is considered to urbanize when over 50 per cent of its population live in the urban areas (Long, 1998). Thompson in his article "Urbanization" in the Encyclopedia of Social Sciences<sup>1</sup> writes that urbanization is characterized by "the movement of people from small communities generally larger whose activities are centered with Government, trade, manufacture or allied interests".

#### **Land Use**

Land use is not a one dimensional concept but rather a complex mix of various characteristics of ownership, physical environment, structure and space uses. Land use refers to the utilization of land for different functions, including forest, agriculture, wild life habitat, human settlement etc. It plays a significant role in the all levels of planning, implementation and management (Asib, 2011).

Urban land use comprises two elements i.e. the nature of land use which relates to which activities are taking place where, and the level of spatial accumulation, which indicates their intensity and concentration. Central areas have a high level of spatial accumulation and corresponding land uses, such as retail, while peripheral areas have lower levels of accumulation. Most economic, social or cultural activities imply a multitude of functions, such as production, consumption and distribution. These functions take place at specific locations and are part of an activity system. Activities have a spatial imprint. Therefore, some are routine activities, because they occur regularly and are thus predictable, such as commuting and shopping. Others are institutional activities that tend to be irregular, and are shaped by lifestyle (e.g. sports and leisure), by special needs (e.g. healthcare). Still others are production activities that are related to manufacturing and distribution, whose linkages may be local, regional or global. The behavioral patterns of individuals, institutions and firms have an imprint on land use (Rodrigue, 1998-2010).

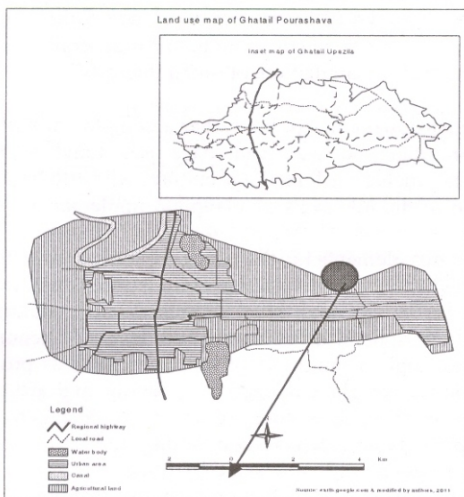
The concept of land use expresses the use of land for various activities by human being for their well being. In other word, land use can be defined as use of land by man usually with the emphasis on its prime role in economic activities. Islam (1996) defined land use as “land use is the surface utilization of all developed and vacant land on a specific point, at a time and space”. On the basis of human activities, urban land use can be defined as the utilization of urban land for the urban activities determining the spatial structure and distribution of urban land.

Land use is the function of activity system, which primarily concerned with the location, intensity and the amount of land development required for the various space using functions of city life such as industry, wholesaling, business, housing, recreation, education, health and communication. Four perspectives must be recognized in creating a land use information module i.e. i) land as a functional space devoted to various uses, ii) land as a setting for activity system, iii) land as a commodity to be developed and iv) land as a perceptual image or aesthetic resource (Chapin, *et.al.*,1995). The Peoples Republic of Bangladesh adopted a National Land use Policy in 2001, which included some recommendations including-

- o Stopping the high conversion rate of agricultural land to non-agricultural purposes
- o Utilizing agro-ecological zones to determine maximum land-use efficiency
- o Adopting measures to discourage the conversion of agricultural land for urban or development purposes; Improving the environmental sustainability of land-use practices (USAID, 2011).

### Study Area

Ghatail Pourashava is selected as the study area, which is located at the upazila administrative headquarters under Tangail district. The Pourashava is consisted with 9 wards. It has a population of 26,375 among them 13,488 are male and 12,887 are female (Field survey, 2011). In 1991, it was about 2 sq.km. and latter on in 1998 after declaration of Pourashava, 11 sq.km area come under the Pourashava jurisdiction. The current land use of the study area is dominated by residential and commercial land use, while the major portion of the land use is covered by the agricultural land use. Due to some potentialities including business opportunities, flood free land, educational and health care facilities accelerating the migration, urbanization and land use transformation in the study area. The land use map of Ghatail Pourashava is shown in Figure 1.



Source: Earth.google.com and modified by the author, 2012  
 Fig. 1: Land use map of Ghatail Pourashava

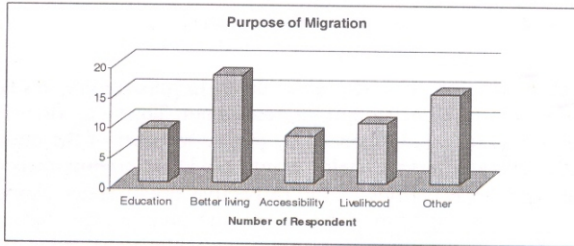
### Migration Status of the Study Area

Considering the physical characteristics, both rural and urban areas, have different functions and characters. Rural areas are the major contributors of food, industrial raw materials, and urban labor force. On the other hand, urban areas are the major consumer of the rural goods and similarly urban area serves rural areas by their manufactured goods and services. The information flows between rural and urban areas can involve information about resources or raw materials from rural to urban areas, about markets and prices for agricultural and rural commodities from urban to rural areas and about employment opportunities for potential migrants (Zewdu and Malek, 2010).

#### Purpose of Migration

The term migration refers to movement from rural to urban areas. It may be happened though regular commuting, temporary and permanent migration. These types of migration from rural to urban area are particularly happened in rural areas due to existence of regional disparity in all over the Bangladesh. It is the only way for rural poor people to generate income and established alternative livelihood for survival. Income generation from agriculture sector are declined due to scarcity of agricultural land, higher cost involvement in the agricultural production, and lack of marketing facilities in the rural areas.

In order to find out reason behind the migration, the current study identifies several reasons of migration from remote rural areas. The study identifies that education, better living, accessibility, livelihood are the main causes behind migration in the study area. About 36.66% of the respondents are migrated for searching better living condition in Ghatail Pourashava. The people who have come from the rural area to urban area for education and livelihood are near about 17% and 16.32% respectively. The people seem to come in the study area for good accessibility and that is about 13.33% of total respondents (field survey, 2011).

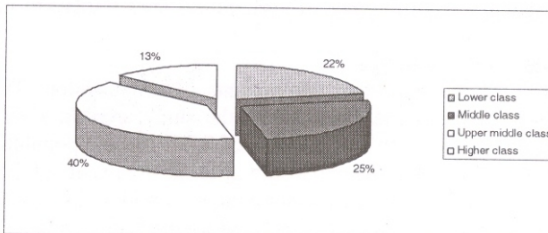


Source: Field survey, 2011

Fig. 2: Purposes of migration

#### Economic Status of Migrants

In Bangladesh from rural to urban migration usually happened for different reasons that is already known from earlier discussion. Now, it will try to find out the economic status of the migrants families who actually migrated from rural to urban area. The study identifies that the upper middle class families are migrating most for better living condition, education and other purposes and it is about 40% of total respondent. While 22% respondents of lower class families are also migrated for better livelihood in the study area (field survey, 2011).

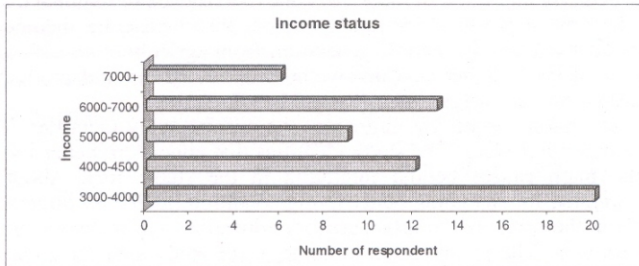


Source: Field survey, 2011

Fig. 3: Economic status of migrants

### Sources of Income

Rural areas are mainly produce goods particularly agricultural goods for meeting their own demand and export surplus goods for urban areas. Based on the definition of urban area, usually 75% populations are heavily depends on the non-agricultural activities. In this case, this study shows that about 72% people are mainly involved in non-agricultural activities and the remaining are involved in agricultural activities. The nature of non-agricultural activities includes small business, retail and wholesaling, service sectors and small manufacturing industry etc. In the study area, more than 33.33% of respondents have income between the range of 3000-4000 Tk. and only 10% of respondents have the income more than 7000 Tk. (field survey, 2011). The average income status of the respondent is shown in Figure 4.



Source: Field survey, 2011

Fig. 4: Average income status of the respondent

### Migration Decision

Like as other decision making process, migration decision making process is an important task that usually help any body to take decision to migrate or not. The study findings reveal that about 40% decision regarding migration is influenced by female member of the families, while 23% by male and 17% by both male and female (field survey, 2011). Migration decision heavily depends on particular facilities and opportunities of the respective urban areas. Sometimes specific age group that contributes a lot in migration decision making process, the study shows that the age between (15–30) are most migration prone group particularly for education, and livelihood purpose (field survey, 2011).

### Examining Migration, Urbanization and Land Use Transformation

In Bangladesh, urbanization is acting as a driving force for economic growth, modernization and development. As a result, towns and cities are affecting in-terms of physical area, land use, human health, livelihoods, and environment. The implications of rapid urbanization and demographic trends for employment, food security, water supply, shelter and sanitation, especially the disposal of wastes (solid and liquid) that the cities produce are staggering (UNCED, 1992). Now, the question that arises is whether the trend of urbanization is sustainable considering the rapid land use transformation particularly huge number of agricultural land transform into non-agricultural purposes.

### Urbanization and Demographic Change

Population growth is one of the important components of urbanization. To accommodate the increasing population, the urban area is expanded in the study area. In 1991, the urban area of Ghatail Pourashava was 0.6 sq.km. with a population of 2,205 but the population is increased and it is about 20,728 in 2001. In that time, the expansion of urban area is about 3.8 sq.km. The area is going to be an attractive place for its vast employment opportunities and as well as a good transport system with the surrounding area. In 2011, the total urban area of Ghatail Pourashava is 5.5 sq.km. which is more than 1 sq. km from the year of 2001 (field survey, 2011). The expansion of urban area with the increasing population in the study area is given in Table 1.

Table 1: Urbanization and demographic change of Ghatail Pourashava

Year	Urban area (Sq.km)	Population
1991	0.6	2205
2001	4.4	20728
2011	5.5	26375

Source: Ghatail Pourashava, 2011

### Urban Population in Ghatail Pourashava

The growth of urban population is dependent on natural increase, net migration and net accretion of population (Kumar, 1998). In 2001, the total population of the Pourashava was 20, 728 of which 15675 was rural and 5054 was urban population. In 2011, the rural population is decreased but at the same time, the urban population is increased because of rural-urban migration. The percentile of decreasing rural population is about 86.60% and increasing urban population is about 253.26%. The annual growth rate of urban population is 0.09 in the study area in 2011 (field survey, 2011). The rural-urban population of the study area during different period is given in Table 2.

Table 2: Annual growth of rural-urban population of Ghatail Pourashava

Year	Rural	Urban	Total	Annual growth rate	
				Rural	Urban
2001	15674	5054	20728	-	-
2011	13575	12800	26375	0.01	0.09

Source: BBS, 2001

### Proportion of Migrants to Total Population

The development pressure in different wards is measured in terms of population of the study area. The migrants who come from different places outside of the study area for their livelihood are also considered for this purpose. In Ghatail Pourashava, the proportion of migrants in terms of total population is higher in ward 7 and that is 53.14% of total population. The ward 8 is in second position and ward 9 is in third position. The share of migrants as percentage of total population in ward 8 and 9 are 49.41% and 43.73% respectively (field survey, 2011). The ranking is made to identify the potential ward for future development based on the choice of migrants in the study area.

Table 3: Migrants as percentage of total population in 2001

Ward	2001		Migrants as % of total population	Ranking based on migrants
	Total	Migrants		
01	1850	760	41.08	4
02	1710	280	16.37	7
03	1851	335	18.09	6
04	1374	123	8.95	9
05	1956	442	22.60	5
06	1743	220	12.62	8
07	3970	2110	53.14	1
08	3198	1580	49.41	2
09	3076	1345	43.73	3
Total	20728	7195	34.71	-

Source: Ghatail Pourashava, 2011

**Share of Urban Population**

In the study area, the share of urban population is 24.38%, which is almost double in 2011 and that is about 48.53% of total population. In 2001, the urban population in Ghatail Pourashava was 5054. In 2011, the urban population is 12800 in terms of total population of the study area (field survey, 2011). The information on share of urban population is given in Table 4.

Table 4: Share of urban population of Ghatail Pourashava

Year	Total population	Urban population	Urban population as % of total population
2001	20728	5054	24.38
2011	26375	12800	48.53

Source: BBS 2001 and Ghatail Pourashava 2011.

**Urbanization and Land Use**

Because of rapid urbanization, the urban land of Ghatail Pourashava is increased. In 1991, the urban land of the study area was 0.6 sq. km., but it has been increased in the following year to meet the demand of increasing population. The decadal growth rate of population from 1991-2001 of Ghatail Pourashava was 0.25. In 2001-2011, the population of the study area is increased with a growth rate of 0.024. The increasing population is created tremendous pressure on urban land. The decadal growth of urban land is 0.02 in 2001-2011. In the study area, the significant change has been found in 1991-2001. In that time, the urban area is increased with a rate of 0.22 (field survey, 2011).

Table 5: Growth of population and area during 2001-2011

Population			Decadal growth rate		Urban area in sq.km.			Decadal growth rate	
1991	2001	2011	1991-2001	2001-2011	1991	2001	2011	1991-2001	2001-2011
2205	20728	26375	0.25	0.024	0.6	4.4	5.5	0.22	0.02

Source: Ghatail Pourashava, 2011

The study further reveals that in 1991, the developed area was 30% whereas there was 70% of underdeveloped area in respect of total area (field survey, 2011). The developed area usually contains residential use, commercial use, industrial use, educational use, play grounds and as well as roads and streets. In 2001, the underdeveloped area is decreased and that is 60% of total land. Therefore, the agriculture land is decreased for expansion of urban area. The development is almost half of total land in 2011 (field survey, 2011).

Table 6: Developed and undeveloped area of Ghatail Pourashava during 1991-2011

Year	Population	Total area (Sq. km)	Underdeveloped area (%)	Developed area (%)
1991	2205	2	70	30
2001	20674	11	60	40
2011	26375	11	50	50

Source: Ghatail Pourashava, 2011

**Level of Urbanization**

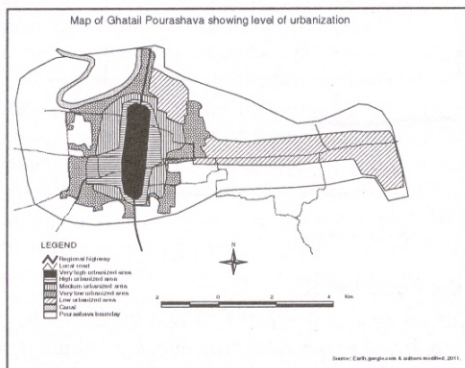
Kumar (1998) has been defined the level of urbanization as the ratio of urban to total population and classified into five categories. These are very low urbanized area (below 10%), low urbanized area (10-20%), medium urbanized area (20-30%), high urbanized area (30%-40%) and very high urbanized area (40% and above). The study area because of its good connectivity is developed



along with regional and local roads. It indicates that linear development is particularly existed in the study area (field survey, 2011). Based on the above classification, the central part of the study area is characterized by very high urbanized area, and other part of the areas are represented by high, medium, low and very low urbanized area respectively from central area to outer area of the study area. The level of urbanization of the study area is shown in Figure 5.

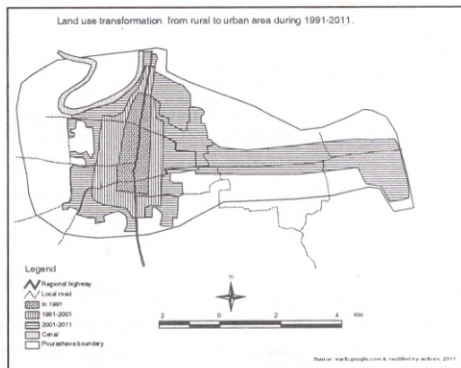
### Land Use Transformation

Based on the satellite image analysis and focus group discussions result, land use transformation from non urban agricultural land use to urban land use is mostly for residential purpose because of location of cantonment. It is located outside of the study area and already large numbers of people are migrated here and sometimes they are encouraged to purchase land and settled down permanently. The land use transformation of the study area during 1991-2011 is shown in Figure 6.



Source: Earth.google.com and modified by the author, 2012

Fig. 5: Level of urbanization of Ghatail Pourashava

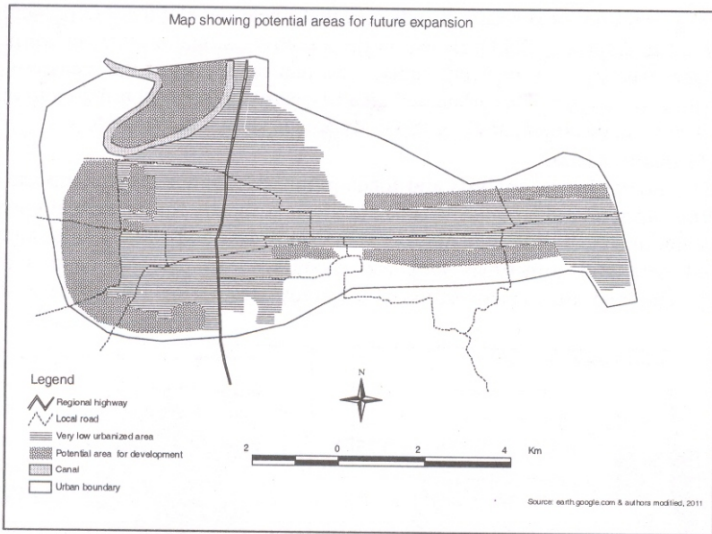


Source: earth.google.com and modified by the author, 2012

Fig. 6: Land use transformation from rural to urban area during 1991-2011

One of the most important reasons for land use transformation of the study area is its good accessibility. The study area is located almost in the middle of the Ghatail Upazila and has well defined network with its surrounding area particularly east to west and north to south. There are ample business opportunities, health and educational opportunities. The main businesses of the study area are agricultural and non-agricultural product marketing, retail & wholesaling of construction materials. As Upazila headquarter which facilitates the people come from different parts of the Upazila particularly from rural areas for meeting basic health services. Beside the government health care facilities, there are several numbers of private health clinic already established in the study area, so people can easily avail their expected health services from Upazila level.

Because of its locational characteristics, the study area is now in rapid development pressure and mostly the agricultural and vacant land are transformed into non agriculture use. Since the development is occurred along the road network, there is a change to convert agriculture land into residential, educational, health and business purposes. Industrial use especially small and cottage industry can also be flourished in future. The potential area for future expansion is shown in Figure 7.



Source: earth.google.com and modified by the author, 2012

Fig. 7: Potential area for future expansion in the study area

### Urbanization at the Local Level

Government has declared any rural area to be an urban area, if it is satisfied that three-fourths of the adult male population of such area are chiefly employed in pursuits other than agriculture, five thousand population, and an average number of not less than two thousand inhabitants per square mile (Pourashava Ordinance, 1977).

The urban local government primarily initiated by the British and setting-up of a municipal administration and provided responsibilities to municipal committees for civic amenities. Gradually municipalities turn into representative bodies with the promulgation of number of acts between 1860 to 1947. Later on according to Pourashava Ordinance 1977, Peoples Republic of Bangladesh has been formulated urban governance system defining the specific roles and responsibilities of Pourashava/City Corporation. The promulgation of the Upazila Parishad Ordinance (1982) was to bring the government closer to the people (As-Saber and Rabbi, 2009).

The current study finding shows that during 90s urbanization rate was very low in Ghatail Pourashava. The land use characteristics of the study area are same as other urban areas of Bangladesh. In 90s people were more concentrated in agriculture and agro-base business but the current scenario is depicted different picture in terms land use transformation and relevant economic activities. According to statistics in Bangladesh, it is well known that land is a declining resource and 220 ha of arable land are being lost daily for the construction of road, industry and houses. While about 50% of the coastal lands face different degrees of inundation, thus limiting their effective use (Islam, 2006). The major land use transformation occurred in agricultural land transformation into residential purpose particularly horizontal rather than vertical transformation in the study area.

### Recommendations

To control unplanned urbanization and migration to the major cities and town Socialist model and South-African model could be applied. Socialist model could be applied to control urbanization. Socialist model is the method to control urbanization by the place where people born. People who are born in the countryside are not allowed to move permanently to the urban areas. This means

that people have to live at place similar they have been born. They belong to the rural areas if they are born in there and vice versa. Although, rural people can move to other rural areas and urban people could move to the similar rural areas. The method is successfully applied in China and Russia to control urbanization to the cities and towns. This method is very effective when controlling urbanization. Thus it doesn't give alternatives to the inhabitants (Sajor, 2001).

Another method such as South-African model could be applied to control migration in the cities and towns. The main idea of this method is not to control the migration of single people but decrease migration with families. Normally, if the migration is permanent, people bring the whole family to the city. This increases the city population with much more people than only single migration. The method will prohibit the migrant people to bring their families with them. This decrease the rate of permanent migration because normally people do not want to be in the city alone and the family cannot survive without help on the rural areas. Thus, this method puts lot of pressure to the women in the countryside because they have to take care of the whole family when their men are working in the city, even for some part of the year (Sajor, 2001).

The Pourashava should prepare and execute a master plan as soon as possible, while master plan should be incorporated with drainage master plan, preservation of natural water bodies, and play ground. Authority should take an appropriate action for removal of illegal obstruction from natural water flows, so that water logging and drainage congestion could reduce at expected level in the study area. Reckless development should be controlled by the Pourashava authority and prior approval system should be functioning for all development work, which will ensure efficient use of scarce land resources. On the other hand, legislative measurement should be taken in terms of agricultural land protection and should be part of national agricultural land policy, and acquisition of existing and potential irrigated land should be stopped completely. So, it will promote planned urbanization in the designated area. Beside this unplanned rural settlement should be address properly in order to protect transformation of valuable agricultural land to settlement. On the other hand, existing urban land should be use efficiently through promoting vertical expansion.

### Conclusion

Migration, urbanization and land use transformation are individually very much important and linked with each other. The process of migration, urbanization and land use transformation may not be stopped, but it can be managed through specific rules and regulations, otherwise, development will occur in a hazardous form. It has been realized that only planned development can ensure better managed urbanization, which will ultimately play a significant role in development control. Beside this, planned development will also play significant role in compact vertical expansion, which will ultimately protect misuse of potential agricultural land in the study area.

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