CHAPTER – I

INTRODUCTION

1.1 Introduction to the Theme of the research work

Urbanization is a process of population moving towards the cities from the rural areas, and taking up the culture and work prevailing in the urban areas. Urbanization and growth go together. No country has ever reached middle income status without a significant population shift into cities. The country’s population is spread over villages and also towards their nativity with formal occupation, mostly agricultural or its allied ones, making their living with or without ancestral property like lands or houses. An analysis of distribution of population between the rural and urban areas of country will reveal the extent of urbanization. Deteriorating quality of urban and suburban environment is to a great extent the result of injudicious land use and is a threat to the whole socio-economic system. Thus planned cities are as necessary as planned farms. The urbanization is taking place at a very rapid rate in the developing countries including India. After independence, mainly from late sixties in India as well as West Bengal urbanization process is continuously going on in the form of different planned urban community like satellite town, municipal town etc. These types of urban community establishment are good sign for the development and the progress of a country. But the rapid urbanization is affecting the concerned environmental conditions and the land use pattern of the urban community and its adjacent area. Population increases in urban areas due to two major reasons: the migration of rural population to urban areas and the increase of population by birth. As a result the boundary of any urban area expands by encroaching to the nearby rural areas. The urbanization without proper planning, leads to the environmental degradation in many forms. The Tarakeswar town has been selected as a study area. It is located in the Chandannagar subdivision in Hugli district of Burdwan Division in West Bengal. The town experienced rapid population growth during the last decades. The population increase in Tarakeswar is responsible for increased demand for employment, land for housing, social services and infrastructure; however such development is occurring in haphazard manner largely dominated by the urban development can be applauded due to increase in pilgrim tourists, social services and
expanding infrastructure, however such development is occurring in haphazard manner largely dominated by the urban informality in the most sectors. This has greatly contributed to the unsustainable utilization of natural resources resulting in environmental degradation through solid waste accumulation, wetland encroachment and destruction, water pollution, construction on the waste land, the land use changes in the municipality and its adjacent area. The positive impacts revealed that urbanization had improved the quality of life of people in terms of education, health, employment and income.

1.2 Importance and relevance of the study

In an urban setting, the habitat comprises not merely the territory of the city or town and its hinterland but also the spatial linkages between a large numbers of urban and rural settlements within the region. Apart from distance relationships, geographers also focus on the environment of the habitat which includes the climate, landform features, drainage, soils and vegetation. The environmental setting plays a key role in the desirability of an urban place as a residential area and to a large extent conditions its future growth. Urban areas are the products of man and environment interacting in a heuristic process of adaptation and response. The net result is a highly variable and complex matrix of human and environmental attributes which are in a constant process of change. A city or town is the focal point of a wider region and every town and city has its concomitant tributary area. Town and city exist not only on their individual productive base but also on the basis of mutual exchange of goods and services between the city on one hand and rural villages on the other. A town or city flourish on the wealth of surplus production in the surrounding region. City or town and its adjacent area are essentially a functional region where the functional relationships between town and its adjacent area are manifold. The regional approach, by linking the study of the rural with the study of the urban landscapes, provides a meaningful framework for understanding and also for planning for socio economic development of both rural and urban areas. Town and its adjacent area are not only a system of functionally diversified settlements but also a network of social, economic and physical interactions. Municipal towns surrounded by rural villages of the developing countries like India which has several focal points like main market, railway station, Bus stand, professional, educational and medical institutions, employment opportunities etc. All these focal points are linked with the
residential areas of rich and poor alike. Town is a heterogeneous in terms of its population composition and has a variegated and complex land use structure. It is unified by its network of planned or unplanned roads and the various modes of transportation and communication. The city comes to life with the spatial mobility of its people engaged in their day-to-day activities to satisfy their economic, social, and cultural needs. The municipal town plays a vital role to fulfill the daily basic needs of the people of municipal and its adjacent area. Tarakeswar town is one of the vivid examples in India. The economic condition of the residents of municipal and its adjacent area is highly dependent on the temple of Lord Shiva. An overall idea about the Impact of pilgrim tourism on rural economic conditions and spatio-temporal change of existing land use pattern due to urbanization can be understood through the study of Tarakeswar town and its adjacent area.

1.3 Aims and objectives

The aim and objectives of the study is to analyze the relationship between the urban growth and environment and to evaluate the impact of the urbanization on physical and social economic environment. The objectives are:

(i) to examine the spatio-temporal change of population, households and residential area in between the two decadal year 2001 and 2011 in Tarakeswar town.

(ii) to identify the spatio-temporal change of wetland landscape in the town between 2001 and 2011 due to urbanization.

(iii) to find out the changing pattern of agricultural landscape in the town between 2001 and 2011 due to urban sprawl.

(iv) to find out the changing pattern of residential area in the town between 2001 and 2011 due to urban sprawl.

(v) to study on the status of solid waste disposal and management system around town area.

(vi) to assess the impact of urbanization on the social environment of the town area in terms of urban amenities, educational and health care facilities.
(vii) to find out impact of urban outgrowth in the adjacent area in terms of agricultural landscape and residential area between 2001 and 2011.

(vii) to identify the impact of pilgrim tourism on the economy of the town and its adjacent area.

1.4 Database

Data base is a very important part for any kind of spatial, temporal and environmental research work. For proper analysis of the main objectives both primary and secondary data has been collected with the help of following principal sources:

(a) Available geographical literature associated with urbanization, statistical information, and thematic maps etc.

(b) Geographical observation of phenomena related to urbanization and its impact.

(c) The Primary data, on the other hand has been collected from the field through House hold survey, investigations and Interviews. The primary data have been collected about demographic characteristics, educational facilities and heath care facilities, urban amenities, Tourism, people’s perception and satisfaction level through the questionnaire schedule.

(d) The secondary data regarding demography, education have been collected from district census hand book-2001 and 2011.

(e) Satellite imagery and toposheet of the study area were collected from the Google earth software and survey of India respectively.

(f) The snaps were taken from the field.

1.5 Research methodology

Research methodology is a systematic way to solve a problem. It is a science of studying how research is to be carried out. Essentially the procedure by which researchers go about their work of describing, explaining and predicting phenomena are called research methodology. It is also defined as the study of methods by which knowledge is gained. Its aim is to give the work plan of a research. For my research work the following methodologies have been applied.
Pre field work

1. The history, geo-climatic condition of the Tarakeswar town and its adjacent villages have been studied from different literature as provided by the West Bengal District Gazetteers: Hooghly (1972), District Statistical Hand Book: Hooghly and other sources.

2. The major areas of the literature survey was land use study, change detection analysis, review of Remote Sensing and G.P.S data, data obtained on Geographical Information System (GIS).

3. Non geo-referenced land use map of the Tarakeswar town and the basic information of urban amenities were collected from the urban planning department of Tarakeswar Municipality. Census data of Tarakeswar town and its adjacent area were collected from the Census Office of India of 1981, 1991, 2001, and 2011 in the form of soft and hard copies.

Field survey

1. During the field survey Global Positioning System (GPS) data capturing survey was conducted in Town and its adjacent area to collect spatial information required for the study. Garmin GPS MAP 78S was used to capture data of the feature. The data of the boundary of the adjacent villages was collected. The basic spatial data, which was captured through the GPS survey, was all in WGS 84 datum and hence integration of these data sets in GIS environment was found perfect.

2. House hold survey was done in the town and its adjacent area. A total of 600 families in the Tarakeswar Town and 360 families of the adjacent villages were interviewed. Random sampling method was used to select the households. Detailed information of socio-economic condition of the residents was collected through a questionnaire. As the study area is famous for pilgrim tourism, a special survey has done in the periods of Sraboni mela and Chaitra mela in 2014. During the field visit photographs were taken of different features of the study area.

Post field work

1. The primary data, which were collected through the field survey and secondary data mainly census data of 1981, 1991, 2001 and 2011 were tabulated. These data have been
presented through Bar Graph, Pie-Graph, Line Graph etc using the Microsoft office excel software_2007 and SPSS_16 statistical software systems.

2. GPS data, which was captured during the field survey as the way points and the tracks, was opened through the Garmin map source application software and the saved data of GPS was opened in Google Earth Image of the study area. Then using the tools of Google earth software boundaries of the adjacent villages were demarcated on the Google Earth Image. Geo-referenced map of Tarakeswar was also imported in Google Earth Image. The total study area marked on Google Image was saved as KML file.

3. The preparation of thematic map and spatial map were carried out using GIS Software,ARC GIS 10.0 and Map Info11.5. The kml file was opened using the software ARC GIS 10.0. and the land use map were prepared both for 2001 and 2011. Mainly patch area, patch numbers of different land use were computed showing different land use like wet land ,the Agricultural Land and Residential area for 2001 and 2011.

1.6 Selection of the study area

Tarakeswar town and its adjacent villages have been selected as the study area for investigation of urbanization and its impact. The town and its adjacent area extend between the parallels of 22°51’52″N and 22°54’20″N latitudes and 87°59’00″E and 88°02’42″ E longitudes. The entire area considered for study is located in the northern part of Tarakeswar Block in Hugli district of West Bengal. Tarakeswar town came to the status of municipality on the 6th August, 1975. At present the area of the town is 3.90 sq.km. The municipality is divided into 15 wards for administrative work.

The town is surrounded by nine villages. On the north are Bhanjipur, Chandur and Hauli; on he east are Baidyapur and Bajitpur, on the Southeast is Jotsambhu, on the south is Bhimpur, on the southwest is Bhata and on the west is Gouribati village. The total area of the adjacent villages is 1,137.6 hectares. Tarakeswar town is connected with Burdwan, Medinipur, Howrah, Kolkata, Bankura, Chandannagar, Krishnanagar, Arambagh and some other towns and cities by bus service. Many towns and villages of Hugli, as well as Kolkata are connected with Tarakeswar by rail transport service.

As such Tarakeswar town plays an important role to connect the different rural places of Hugli, Howrah and Burdwan districts and the urban centres through well
integrated transport and communication system. The geo-climatic condition of the study area is highly suitable for agriculture. Tarakeswar town and its adjacent area are famous for the agricultural production due to its humid tropical monsoon climate, fertile alluvial soil, and well developed irrigation system. The area is a significant heritage place and is considered as a very important site of religious tourism for its historically and mythological well known Baba Tarakeswar temple where every year lakhs of pilgrim assemble particularly during Chaitra mela and Srabani Mela. The area has also been selected for its manageable extent and easily communicable environment.

Figure: 1.1: Location of the Study area (SOI Topo-sheet No. 79 B/1, 1971)
Figure 1.2: Location of the study area in the geographical environment
Figure: 1.3: Tarakeswar town and its adjacent area (Source: Google Earth, 2014)

Tarakeswar town was formed occupying some parts of five mouzas. These mouzas are Bhanjipur, Sahapur, Bhata, Tarakeswar and Bhajitpur. It was divided into eleven wards during 1975-2001. After 2001 four new wards were formed. The new wards were 12, 13, 14 and 15, which were created from wards 1, 4 and 11 respectively. The administrative area of the town however, remains unchanged (3.88 sq.km). The adjacent area was surrounded by Bhanjipur, Sahapur, Bhata, Tarakeswar and Bajitpur, Hauli, Chandur, Bhimpur, Gouribati and Baidyapur mouzas.
1.7 Literature Review

Literature dealing with the environment, demography and socio-economic aspects of Tarakeswar is very scarce. No systematic and in-depth study upon the growth and problems has been done on this settlement of Hugli district has been done so far in spite
of the fact that this township area is considered as one of the important heritage places of West Bengal and has been drawing lakhs of Hindu devotees every year over the centuries. A general account of Tarakeswar has been given by Banerjee (1976) in West Bengal District Gazetters, Hooghly from which its locational characteristics as well as its importance as a place of religious tourism can be obtained. District Census Hand Book, Hooghly (2001, 2011) produces necessary population figures and their changing pattern over the recent past decades. Mythological importance of Tarkeswar has been discussed in detail in Tarakeswar: the City of Lord Shiva (https://astrodevam.com/tarakeswar-tourism.html). This account is considered a valuable document of the past history of the temple as well as the township of Tarakeswar.

Any proper documentation about Tarakeswar is obscured. There was no existence of Tarakeswar in the Maps of Bengal published by Rennel (1779-1781). But later in the Maps of Bengal Government (1830-1845) Tarakeswar Temple was mentioned. The name Tarakeswar has also been mentioned in the Report of Tarakeswar Bandana preserved in the Asiatic Society of Bengal (S.K.Mitra, 1962). According to this report in the early Eighteenth century Raja Visnu Das was a resident of Hariharpur of Jounpur Pargana of Ayodha. The Raja immigrated to Bengal for the disturbance of Muslims, and took up his abode in the village of Ramnagar at Balagarh, near Haripal, about two miles from where Tarakeswar is now located. With him came 500 followers of his own caste and 100 Brahmans from Kanauj. The Nawab was convinced of his honesty and gave him a grant of 500 bighas of land eight miles from Tarakeswar. According to this story Tarakeswar temple was established in the closing part of 18th century.

Hunter (1876) noticed and typified development of Tarakeswar in the late 19th century. He referred to a large shrine dedicated to Lord Siva “where crowds of people assemble at all times of the year, but especially during the months of March and April”. He also wrote about the pilgrims flocking at this place of great sanctity “principally for the fulfillment of vows on recovery from sickness. Two large religious gatherings for the worship of Siva, the deity of the temple, are held every year. The first of them is Sivaratri, held in the month of February, on the fourteenth day after full-moon, in the Bengali month of Falgun. The second great religious festival held at the Tarakeswar temple is the Chaitra Sankranti on the last day of the Bengali month of Chaitra, falling
within April. It is also the day of the swinging (Charak) festival. Communication to Tarakeswar became easier with the opening of Howrah-Tarakeswar Railway line in 1885 (Choudhuri, 1990). O’Malley and Chakrabarty (1912) described that the pilgrims in those days used to come to the shrine throughout the year and on all the days of the week. The temple of Tarakeswar and its attractions to the tourists have also been mentioned by Saradananda (1921).