DEMOGRAPHIC TRANSITION AND ECONOMIC CHANGES OF
PANIHATI MUNICIPALITY SINCE 1961

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ABSTRACT

Panihati Municipality with a population about 377347 (2011 Census) is the 4th most populous municipality located in North 24 Parganas district of the state of West-Bengal. It covers an area of 19.43 sq. km. which is divided into 35 administrative wards. The growth of population in the study area has undergone variation from decade to decade. The growth rate was 57.92 percent in 1971 and decreased to 8.30 percent in 2011. The number of the female per thousand male was very low, i.e. 751 in 1961 and it is increased to 992 in 2011. The density of population has also been increased and it is 19421 persons per sq. km. in 2011. 94 percent of the whole populations are from general caste, 5 percent are from scheduled caste and 1 percent is scheduled tribes. Child population (aged under 6 years) of the study area is 7 percent. There are 85985 households in the city and an average 4.4 persons live in every family. The general literacy rate has registered by 85.54 percent and it was 79.39 percent in 1991 in the study area. Along with demographic characteristics the employment structure of the study area has changed over the year. The size of total workers either main or marginal workers has increased from 29.82 percent in 1961 to 34.82 percent in 2011 and 99.65 percentage of workers engaged in other than primary sector. The male work participation rate (male workers to total male population) has registered by 57 percent in 2011. The female work participation rate has increased from 2.06 percent in 1961 to 12.31 percent in 2011. The percentage of the main worker in the total workers was 98.37 percent in 1981 decreased to 93.39 percent in 2011.

KEYWORDS: *Population Growth, Population Density, Sex Ratio, Literacy Rate, Size of Workers, Main Workers*

INTRODUCTION

The major problem in respect of urban planning today is the largest population concentration in some of the cities. Among the different factors for the growth of overcrowded cities the primary causes of this problem are the rapid demographic growth and immigration of population from rural to urban areas. Panihati Municipality, the century old municipality of the Barrackpur industrial belt, has a glorious past. The position of the municipality in respect of both geographical and economic angle is considered very important. It is the 11th biggest city by area and the 4th most populous municipality in the district of North 24 Parganas. The purpose of the study is to have a depth understanding of this town and the study will make some interesting evaluation of the pattern of population growth, the process of urbanization, development of economy etc. in this municipality as well as part of metro city.

THE STUDY AREA

Panihati was known as a leading or business center in the early days when the river route was a main means of communication and even trade with the East-Bengal- Jessore was made. Then the town was known as PANNYAHATI (Emporium for the Merchandise). From the early name this place is said to be converted as PANIHATI later. The municipality was established on 1st day of April in the year 1900. The municipality, belongs in North 24 Parganas district, but it is the part of North Kolkata. The town was a famous business and trade center in one hand and rich in political and religious movement on the other hand. Attracted by its natural surroundings and locational advantage people from different parts of the state and outside have flocked to the town. However, after partition of India, there has been a sudden spurt of population due to immigration of a large number of refugees from erstwhile Pakistan now Bangladesh
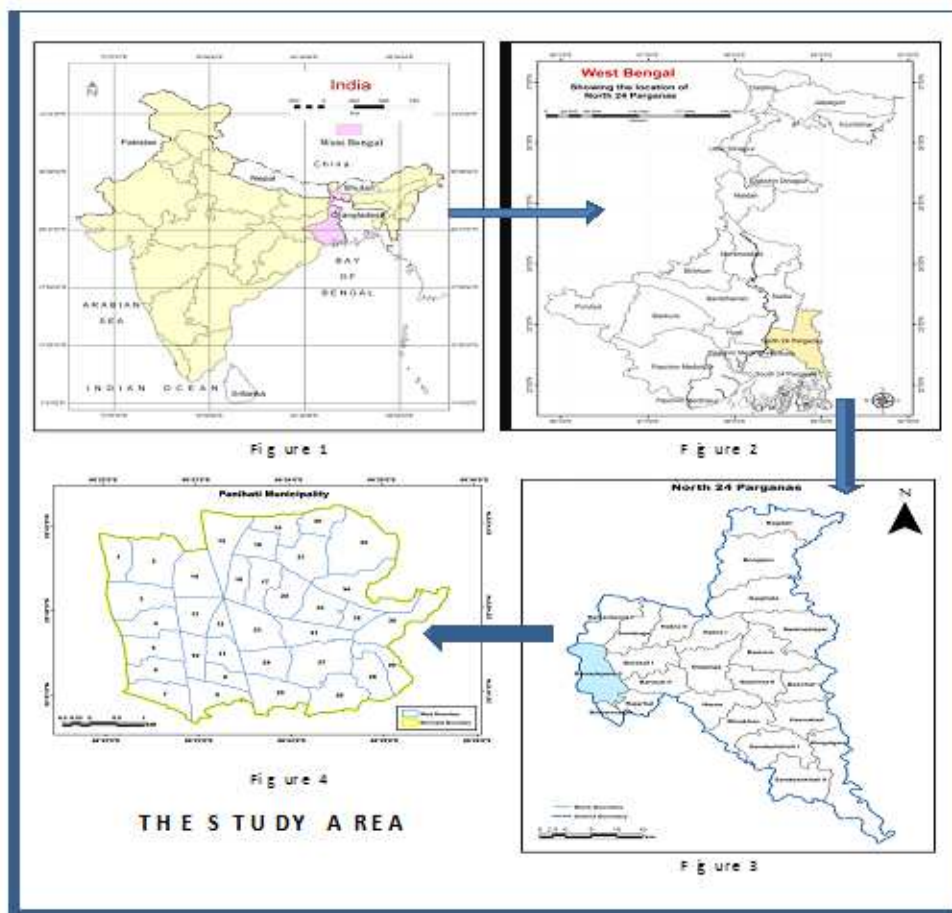

Figure 1,2,3,4

Panihati is a place in North Kolkata and a municipality under Khardaha police station under Barrackpur city police of Barrackpur subdivision situated on the eastern bank of river Hooghly. Geographically, it is located at 22° 42′ 2.41″ N and 88° 22′ 30.62″ E. It is bounded by Khardaha Municipality on the north, Kamarhati Municipality on the south, border of North Dum Dum Municipality and Bilkanda Panchayat area on the west. The geographical area of the municipality is 19.43 sq. km., which is divided into 35 administrative wards. It consists 377347 population as on census 2011.

DATA BASE AND METHODOLOGY

For the purpose of writing this paper, we have reviewed and analyzed secondary data, information and literature that is available in the public domain including information available on different official websites. The present paper has been prepared following the systematic methodology. The data has been analyzed by using simple statistical methods and various statistical diagrams are drawn to represent these data. The diagrams are interpreted to depict the real situation. The thematic maps have been done with the help of secondary data and GIS software.

PATTERN OF DEMOGRAPHIC CHANGES

The present study area comprises 35 administrative wards and considered as a town within the Kolkata Municipal Corporation. Panihati is 19 kms. Away from the CBD area. It grew as an industrial town, but has declined in the recent past. In 1961, there were eight administrative wards in Panihati Municipality and the total population was 93749 with 53536 male and 40213 female. The sex ratio was 751 females per 1000 males. The total number of the Scheduled Caste population was 3442 which is only 3.67 percent of the total population, while Scheduled Tribe population was 727 which was 0.78 percent of the total population. After a decade, i.e. in 1971 the study area had 148046 people. So, the growth of population in the decade of 1961-71 was 57.92 percent.The 1991 census recorded 275990 persons in the study area and ten years back i.e. in 1981 Census the study area had 205718 persons. The increase of population during the decades 1971-81 and 1981-91 was registered by 38.96 percent and 34.16 percent respectively. The population in the study area as recorded in 2001 and 2011 are 348438 and 377347 persons. In 2011 the total population in the study area was 377347 among which male and female 189446 and 187901.respectively. Hence, 50.20 % were male and the rest 49.80 % were female.The total number of the Scheduled Caste population was 20410 which are only 5.41 percent, while Scheduled Tribe population was 3672 (0.97 percent of total population). The population of 2001 census had increased by 26.25 percent over that of 1991 and the increase in 2011 was registered by 8.30 percent (Table-1)
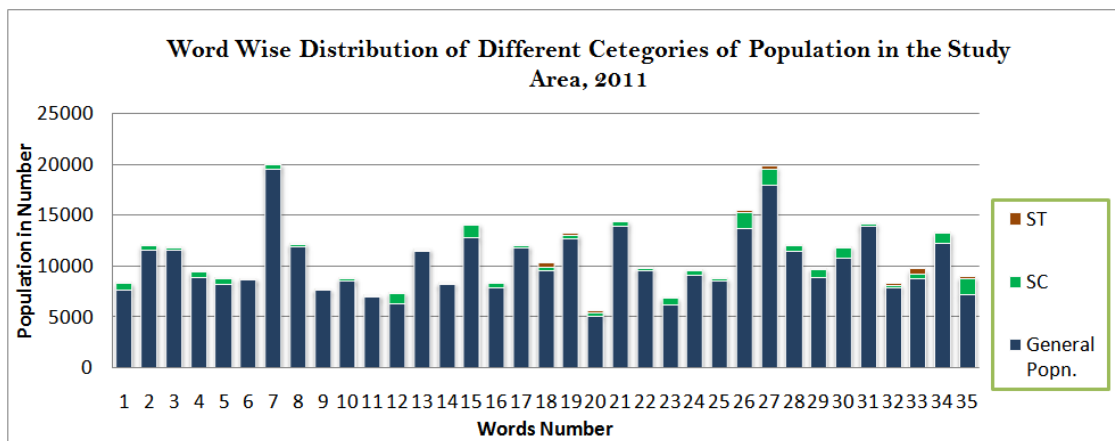
Table 1: Decade Wise Population and Its Growth Rate in Panihati Municipality

Decades	1961	1971	1981	1991	2001	2011
Total population	93749	148046	205718	275990	348438	377347
Scheduled Caste population	3442	3128	9867	13018	16226	20410
Scheduled Tribe population	727	915	1114	1530	2481	3672
Population growth (in percent)	-	57.92	38.96	34.16	26.25	8.30

Source: District Census Hand Books of the 24 Parganas and North 24 Parganas from 1961 to2011.

SPATIAL DISTRIBUTION OF POPULATION

In respect of ward wise population distribution in 1991, the highest population was found in the ward no. 14 (11871 populations) followed by ward no. 11, 14, 20 and the lowest population was in the ward no. 3 (6080 population). In the 1991 census, there were 30 wards in Panihati Municipality but in 2001 it is found that five wards were newly added in the municipality. It is happing due to increase of newer habitation and rapid rate of urbanization. But the municipal area (19.43 sq. km.) has not increased since 1961. In 2011, the highest population was found in the ward no. 7 (19966 population) followed by 21, 26, 27 (Fig. 5) while the lowest number population was in the ward no. 20 (5530 population).

Figure 5: Different Categories of Population, 2011

GROWTH OF POPULATION DENSITY

The term population density expresses the relationship between the number of inhabitants and the area they occupy (Getis *et al*, 1998). Geographers have been making more frequent use of the concept of density of population. It is a simple concept of relating population size to the land area with a view to assessing crudely the pressure of population upon the resources of the area. The population density of the study area has been calculated as 19421 persons per sq. km. in 2011, while it was only 4825 persons per sq km in 1961 and 10588 persons per sq km in the1981 census year. It is more than four times higher in 2011 than that of the 1961 census. The density scenario (Table-2) reveals that the density of population of the study area has been increased very rapidly. Rapid urbanization, infrastructural and economic developments are important factors for increasing population density.

CHANGING PATTERN OF SEX RATIO

Female-Male ratio is an important indicator of gender relations in a society (Hassan, 2002). The sex ratio is usually defined as the number of females per thousand males. The 1961 – 2011 change in general sex ratio reveals that the study area has registered a rising ratio (Table-2). The growth of female literacy, available public health and medical facilities, the nature of urban employment of women have responsible the balanced sex-ratio in the study area. The 1961 total figures represent the study area's general ratio of 751 females per 1000 males. It was increased into 883 females per 1000 males in 1981. The 2001 figures in general represent a somewhat increase in the ratio. There were 932 females per 1000 males in the study area. In 2011, the study area represents a ratio of 992 females per 1000 males. Improving sex ratio reflects a better situation in favor of females with the improvement of minimum facilities of education and health of women (Fig. 6).

Table-2: Population Density and Trend of Sex Ratio in the Study Area

Decades	Sex Ratio (Female per 1000 Male)	Population Density
1961	751	4825
1971	811	7619
1981	883	10588
1991	902	14204
2001	932	17933
2011	992	19421

Source: District Census Hand Books of the Corresponding Years of 24 and North 24 Parganas.
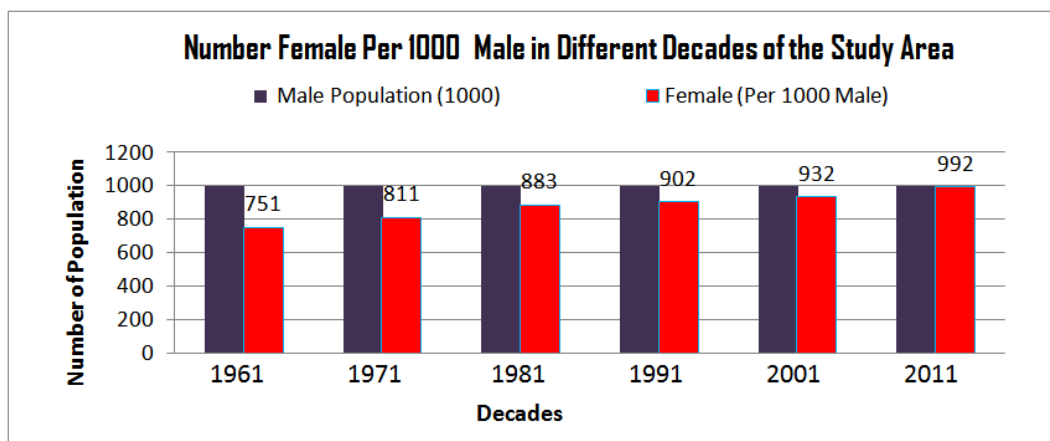
Figure 6: Sex Ratio (Number Female per 1000 Male)

INCREASE OF HOUSEHOLDS

The number of households of Panihati Municipality has increased gradually. In the year 1991, there were 50598 households in the study area and after twenty years, i.e., in 2011, the total number of households increased in 85985. Ward no. 21 and 19 had the maximum number of households in 1991 (2292 and 2282) built in 2011, the height, number of households has founded inward no. 27 (4504) followed by ward no. 7 (3742). It has changed due to reconstruction of wards of Panihati Municipality (Fig. 7).
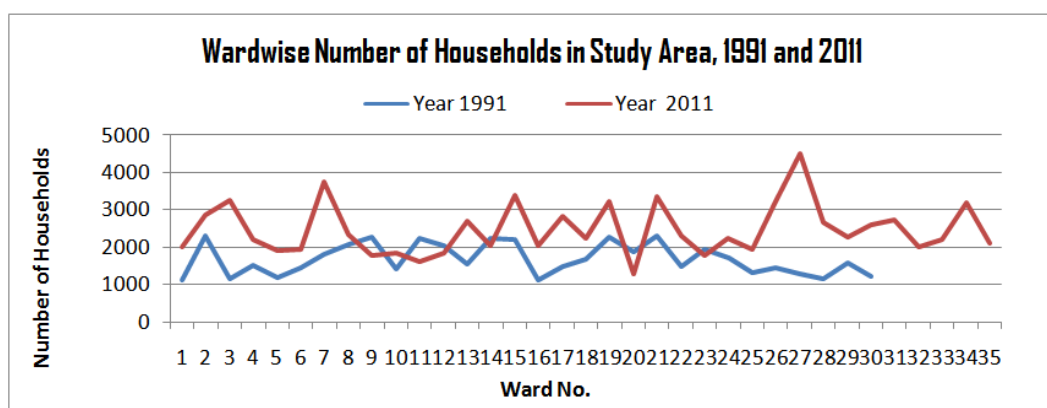

Figure 7: Ward Wise Distribution of Household in1991 and 2011

GROWTH OF URBAN POPULATION AND URBAN DENSITY

21st century is the era of urbanization. There is rapid growth of urban areas with simultaneous thrust on planned development works in the municipal areas. The growth of urbanization in West Bengal is higher than the other states of India. The century old Panihati Municipality has been evolutes through different processes of urbanization. The world is experiencing rapid urbanization all over and the rate of it is more in the developing countries. It reflects in a continuing increase in the number and size, in terms of both area and population, of towns and cities; and a characteristic feature of social and economic development throughout the world. Lampard (1965: cf. Chandna, 1986 p 191).

The demographic interpretation of the process of urbanization visualizes the process in terms of increasing degree of population concentration. The growth of urban population in the study area as recorded in 1971 and 1981 were 54297

persons and 57672 persons. The increase of urban population in 1991 and in 2001 was registered by 70272 persons and 72448 persons respectively. But in 2011, the growth of urban population was relatively less than the previous decades. 28909 people were increased in the decade of 2011.

The population density of the study area has been calculated as 7631 persons per sq km in 1971, while it increased into 10604 persons per sq km in the 1981 census year. This study area has experienced a more population density in the next decades due to rapid urbanization, good communication facilities and also the impact of the Calcutta conurbation. The study area had marked the density of 14226 persons per sq km in 1991, and there were 17961 persons per sq. km in 2001. After a decade, i.e. in 2011 the population density in the study area was 19451 population per. Sq. km. (Table- 3).

Table 3: Decadal Growth of Urban Population in the Study Area

Population Growth In percentage					
Decade	1971	1981	1991	2001	2011
Population Growth (in Percent)	57.92	38.96	34.16	26.25	8.30
Population Growth(in number)	54297	57672	70272	72448	28909
Urban Density	7631	10604	14226	17961	19451

Source: District Census Hand Books of the Corresponding Years of 24 and North 24 Parganas.

SIZE GROWTH OF THE MUNICIPALITY BY POPULATION

The Census of India classified of towns into six categories on the basis of their population. These are Class-I have a population size of 1, 00,000 persons or more; Class-II having a population size of 50,000 to 99,999 persons; Class-III have a population size of 20,000 to 49,999 persons; Class-IV having a population size of 10,000 to 19,999 persons; Class-V have a population size of 5,000 to 9,999 persons, and Class-VI have a population size less than 5,000 persons. The study area has been considered as Class-I town since 1971 because of its population was more than 100000 from the decade of 1971.

During the last 50 years, there is a continuous and steady growth of population in the study area and it was divided into more municipal wards after 1991. For example, there are 30 municipal wards in 1991 but 2001 census recorded 35 municipal wards in the study area. The numbers of municipal wards by its size of population (10000 – 15000) have been increased from 10 in 1991 to 13 in 2011. In 1991 there was no municipal ward where the population was in between 15000 to 20000 but in 2011 there are 3 municipal wards under this population size (Table-4).

Table 4: Municipal Wards under Different Size of Population

Census Years	Number of municipality wards by size of population					Total Municipal Wards
	<5000	5000-10000	10000-15000	15000-20000	>20000	
1991	0	20	10	0	0	30
2001	1	20	12	2	0	35
2011	0	19	13	3	0	35

Source: District Census Handbook of North 24 Parganas, Census of India,

GROWTH OF LITERACY RATE

As per the census 2001, a person aged seven and above who can both read and write with understanding of any language is treated as a literate (Pant, 2007). In 1991 the average literacy rate in the study area was 79.39 percent and the female literacy rate was 75.05 percent. In the last 20 years, both of general literacy and female literacy have increased. The general literacy rate and female literacy rate in 2011 have registered by 85.54 percent and 83.66 percent in the study area.

At ward level the height literacy rate is in ward no.17 (91.08 percent) followed by ward no. 22 (90.76 percent), 9 (90.49 percent) and 3 (90.30 percent). The male-female literacy ratio is 51.30 and 48.70 percent (Fig. 8).
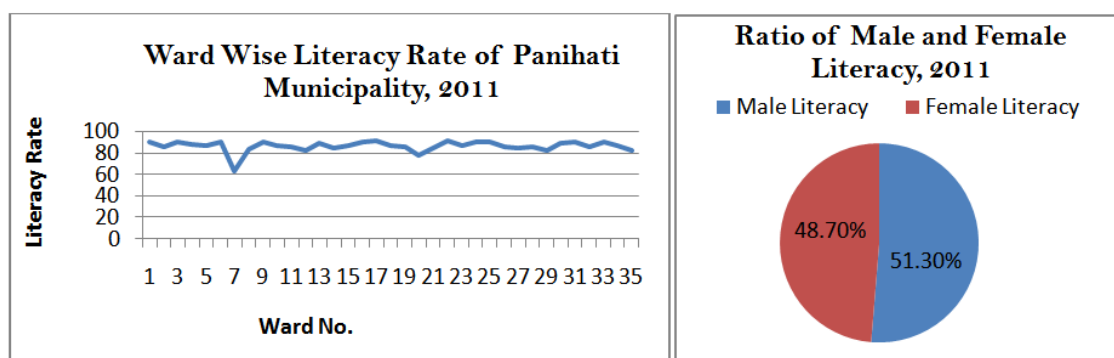

Figure 8: Literacy Rate in the Study Area, 2011

GROWTH OF SIZE OF WORKERS

In the urban sector labor participation is even higher than that in the rural sector of this district. The male component amongst the working force of the study area is much higher than the female component. In 1961, there are 27953 workers in the study area and the percentage of workers to total population (Work Participation Rate) was 29.82. After two decades, in 1981, the percentage of total workers to the total population had been decreased. The WPR had been registered at 26.43 percent in 1981. Because, at that time (1961 to 1981) a huge number of refugees came from erstwhile Pakistan (now Bangladesh) due to independence struggles and Hindu-Muslim riots in the study area. The 2011, Census recorded 131413 workers in the study area. The WRP in respect of the total population increased from 26.43 percent in 1981 to 34.83 percent in 2011.

As per census of India "Main workers are those who had worked for the major part of the year preceding the date of enumeration, i.e. those who were engaged in any economically productive activity for 183 days." In 1981 there were 53474 main workers in the study area and the percentage of the main worker in the total workers was 98.37 percent. After three decades, i.e. in 2011 the number of main workers was 122732 while the total workers were 131413 of the study area. The percentage of main workers had decreased from 98.37 percent in 1981 to 93.39 percent in 2011. The period since early 1990 West Bengal along with the rest of India witnessed a very slow employment generation. The employment growth lagged well behind output growth, and agriculture, created very few additional jobs (Chandrasekhar and Ghosh, 2003).

At the ward level the highest percentage of main workers to total workers was found inward no. 29 (98.20 percent) followed by ward no. 16 (97.79 Percent), ward no.24 (97.78 Percent). The lowest percentage was inward no. 2 (74.19 percent).

GROWTH OF FEMALE WORK PARTICIPATION RATE AND PERCENTAGE OF FEMALE WORKERS:

The female work participation rate and the percentage of female workers to total workers in the study area are relatively very lower than male workers (Fig. 9). As a social system the customs and tradition in some caste and religious group are such that they prescribe women's participation in the work out of the home and in time-bounded activities. In modern sector employment, it is expects a lower level of participation from rural women, because, it is believed that the

roots of traditional norms are difficult to remove from women in a rural setting (Devi, 1981). According to Desai and Krishnaraj (1990), women still suffer social and economic operation. In small towns and villages, upper caste women even today are confined to home bounded activities and involved in responsibilities and interests limited only to their kith and kin.
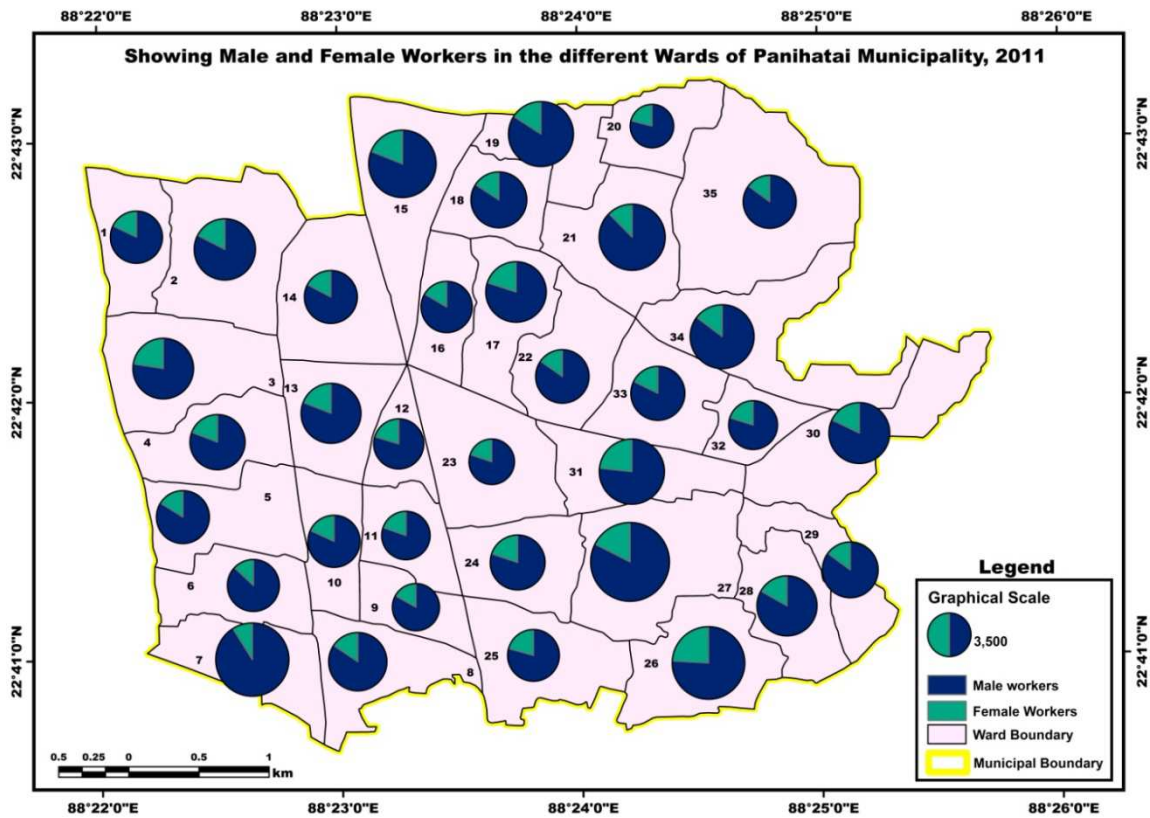

Figure 9: Percentage of Male and Female Workers in the Study Area, 2011

In 1961, there were only 827 female workers which were only 2.96 percent of the total workers of the study area and the female work participation rate (FWPR) i.e., the female worker to the total female population was 2.06 percent. The 1981 census recorded 3961 female workers and it was 7.28 percent to the total workers and the female work participation rate was registered by 4.11 percent. After twenty years, i.e. in 2001 the study area had 19689 female workers and the female workers in the total workers were registered by 16.29 percent and the female work participation rate was identified by 11.71 percent. In the next decade, i.e. in 2011, the study area had been recorded 23126 female workers which were only 17.60 percent of the total workers and 12.31 percent to the total female population (FWPR). The following table-5 shows the percentage of female work, participation in the different decades of the study area.

Table-5: Percentage of Female Workers and Female Work Participation Rate in Different Decades

Decades	1961	1971	1981	1991	2001	2011
Percentage of female workers	2.96	4.63	7.28	8.63	16.29	17.60
Female work participation rate	2.06	2.72	4.11	5.04	11.71	12.31

Source: *District Census Hand Books of the Corresponding Years of 24 and North 24 Parganas.*

INCREASE OF WORKERS IN THE NON-AGRICULTURAL PURSUITS

Trewartha (1969) observes that an increasingly relative high proportion of workers engaged in secondary

activities which is typical of the modern world, are a symbol of economic metamorphosis in which there is an increasing use of machine and mechanical power. The structural concept to the urbanization process highlights the transformation of primarily agrarian economy to primarily an industrial economy. The participation of workers in non-agricultural sectors have been increasing since 1971. The proportion of non-agricultural workers to the total workers of the study area was registered by 98.71 percent in 1961, and in 2011 it is registered by 99.65 percent. The following table-6 shows the percentage of non-agricultural worker in the different decades of the study area (Table-6).

Table 6: Percent of Worker in Non-Agricultural Sectors of the Urban Area

Decades	1961	1971	1981	1991	2001	2011
Percent of workers	98.71	97.42	99.37	98.90	99.79	99.65

Source: District Census and Statistical Handbook of 24 Parganas and North 24 Parganas, Census of India.

CONCLUSIONS

Panihati Municipality is characterized by full urban area covered by 'Kolkata Metropolitan Development Authority' and the demographic structure is completely urban. The nature of population growth is very high due to the rapidness of urbanization and crowding of the city with migrant population. Migration in the past had taken place due to its industrial location and good water transport system and now it is taking place for its good railway and road transport systems, amelioration as a town of 'Kolkata Metropolitan City', good academic and occupation facilities. At the very beginnings there were 6 wards only and the population about 11000. Presently there were 35 wards with 377347 populations approximately. It has been considered as Class-I town since 1971. The area under Panihati Municipality is getting developed day by day under its governance. The population is enjoying the betterment of both qualitative and quantitative increase of civic amenities. Socioeconomic development has also taken place. The sex ratio has been developed and in 2011 the ratio is registered by 992 females per 1000 males. The size of workers has also been increased and it is recorded by 34.83 percentages in 2011. The female work participation rate (WPR) has increased from 2.06 percent in 1961 to 12.31 percent in 2011. People in the study area do not stuck in a medieval and prejudice mindsets and the change of mindsets play an important role in the development of gender and socioeconomic structure. The municipality is working for the improvement of physical and social infrastructure with due consideration of environmental factors in all sectors of society. But there are different problems in the study area such as lack of efficiency to utilize all resource including urban land, not to create a strong fast transportation corridor with the KMA (Kolkata Metropolitan Area), not to provide sufficient space for economic growth including industrial establishment, not to ensure to provide all types of infrastructural, social and community facilities to the people of all sectors, Poor healthy and sanitary living condition to all, alarming rate of population growth, high level of water and air pollution due to emission of smoke and waste water of factories. Lot of small markets on the footpath in a congested pattern and there are also a number of major roads without footpath. So municipality should take different types of initiatives to overcome these problems. Besides that huge pressure of population must be decreased and basic civic amenities like pure drinking water supply, government health center must be increased. In spite of that it should be mentioned that the area has become more developed and organised than before and a very significant and important urban area of North 24 Parganas district due to its geographical, historical, academic, economic point of view and adjacent to Kolkata Metropolitan Area.

ACKNOWLEDGEMENTS

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