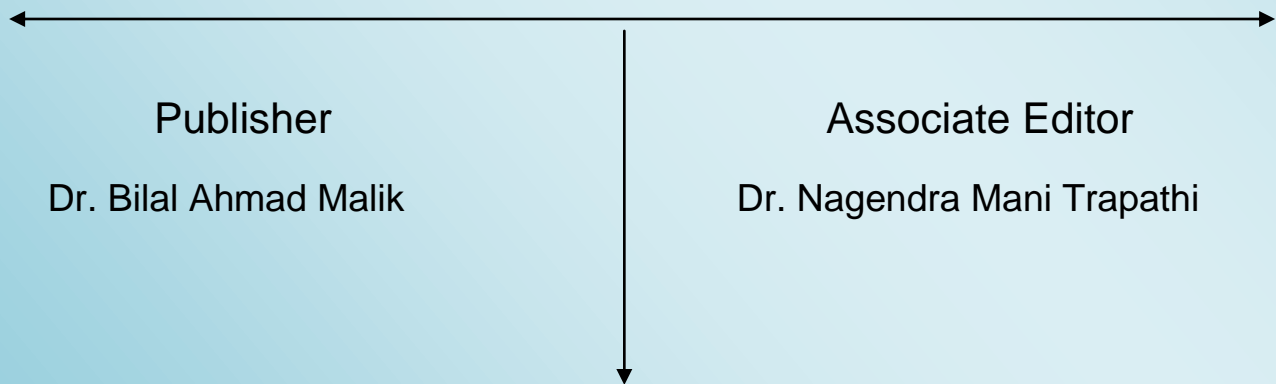


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ISSUES RELATED TO URBAN SPRAWL IN SOUTH 24 PARGANAS WITH SPECIAL REFERENCE TO DIAMOND HARBOUR MUNICIPALITY, WEST BENGAL, INDIA

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ABSTRACT:

Urban sprawl outside large cities expands the city itself and brings the demand for extending infrastructure and several towards adjacent municipality and panchayat areas. There are several issues or issues related easily adopted in this area physically and socially with the urban sprawl in this municipal area. So, this study deals with issues related to urban sprawl in this area and suggests the sustainable use of land to conserve environment. It also tries to make some strategies to ensure planned expansion of urban areas. The present study focuses on the nature of urban expansion in Diamond Harbour Municipality.

Urban growth is a worldwide phenomenon. It is not only a haphazard physical explosion of urban population but also manifests a disorderly and discontinuous development of urban place. Urban growth is a process slowly or rapidly to occupy the adjacent land of city or town. The attraction and the benefits of every one having a lawn, trees and big house, people are beginning to recognize the negative consequences of this land development pattern. The negative effects that sprawl can have on a community its people and its resources help demonstrate why land-use planning is so important.

Key words: *Urban sprawl, urban expansion, rapidly, negative effects, community, land-use planning, Municipality.*

1. INTRODUCTION:

As urban populations grow and more people want privacy and green space, development will inevitably creep beyond city limits, creating wild land urban interface. If the development occurs without consideration for infrastructure, commercial needs, efficient transportation options, or quality of life, it can degrade rather than enhance the community.

Urban sprawl has been defined as “low density development beyond the the edge of service and employment, with separates where people live from where they shop,work,recreate and educate thus requiring cars to move between zones”(1000 Friends of Florida 2005).

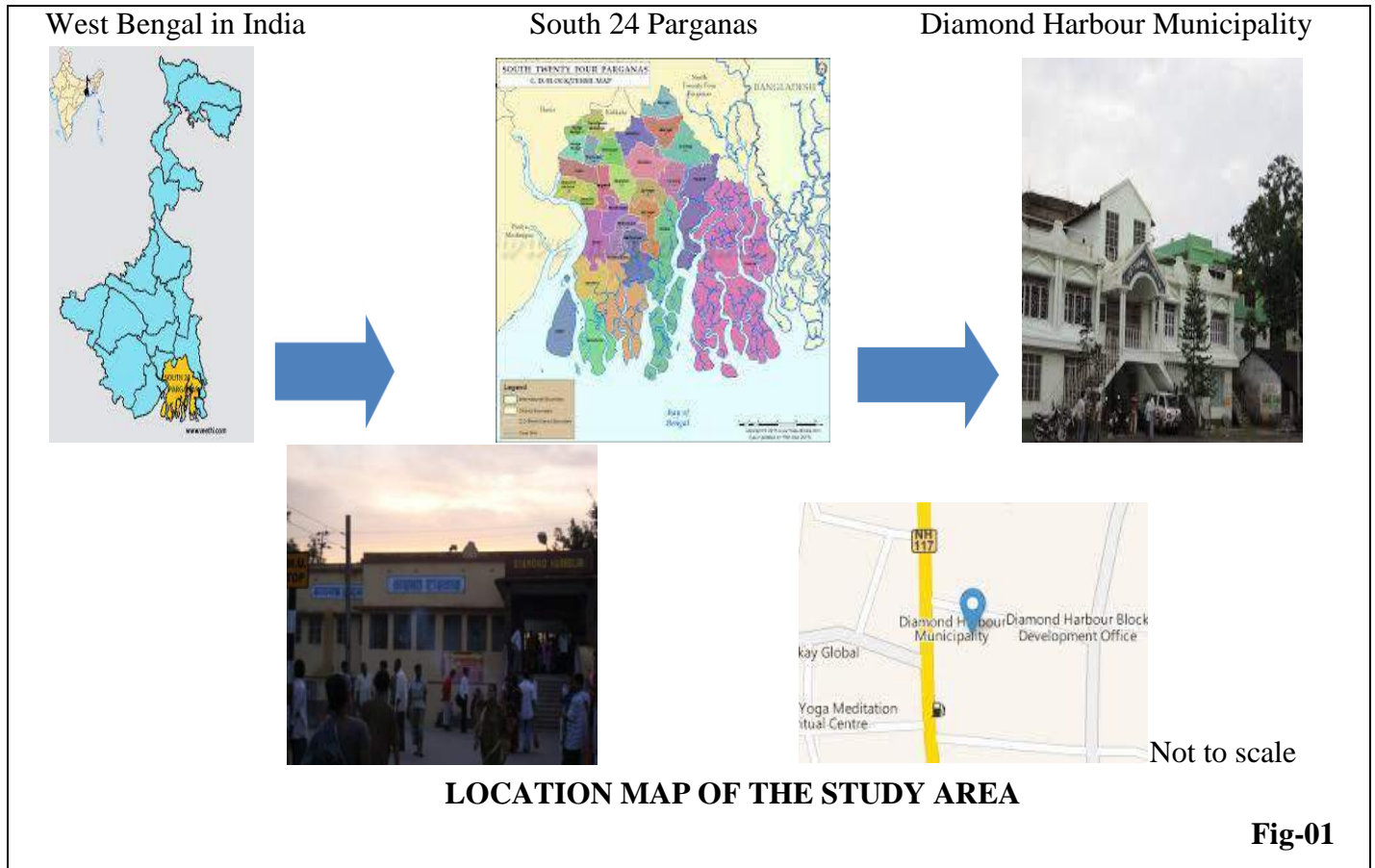
An analysis of BPL population in slum areas and non slum areas in the DHM have also been done, and it is found that there is possibility of existence of more BPL population outside the existing slum areas. Present demand and supply scenario of housing in such that there would be natural tendency of creation of new slum areas i.e. habitation in degraded environmental conditions, in small towns and peri urban areas because even MIC population would also find hard to afford proper shelter at market prices.

Diamond Harbour town a recently developed major planned satellite township located in the peri urban areas of South 24 Parganas.

At this juncture the paper tries to understand the role of planning politics in building this township and the role of state as an active agent of planning process. The papers have main sections dealt with brief history of Diamond Harbour Municipality area, land acquisition process and the role of the states, urbanization process and its socio-economic implications of the Diamond Harbour with special emphasis on environment destruction.

2. LOCATION OF THE STUDY AREA:

Diamond Harbour town have built up to reduce over population of South 24 Parganas district. The Diamond Harbour Municipality is divided into 16 wards covering 10.56 square kilometers, with population of 42494 as per 1st may, 2012 census and recently 60000 approx, out of with 22% are currently under the below poverty level where as BPL average percentage in west Bengal as per2011 census is 31.63%.The study area extends from 88°11'12''E to 89°25'35''E longitude and 22°10'15''N to 23°25'10'' N.



3. AIMS AND OBJECTIVES:

The main objectives of the study area as follows-----

- To find out the specific causes of urban sprawl in this Municipality area.
 - ❖ To analysed the different issues, problems of urban sprawl in this area.
- To study the socio-economic and demographic condition of this area.
 - ❖ To indentify the BPL, APL family and focus on their needs.
- To study social and economic effects of urban sprawl in this Municipality area.
 - ❖ To suggestion the sustainable use of land to conserve environment in this township area.

4. METHODOLOGY:

To achieve the objectives the methodology of the study have been performed in different sequential stages----

- i) Deploying the statistical tools to design a blue print of the present scenario of this Municipality area.
- ii). Conducting survey through GPS and various other sources information and data are to be collected land acquisition process, urbanization process and its socio-economic implications of this area
- iii) Various cartographic techniques are to be employed to analysis the problems and prospect of urban sprawl.
- iv) GIS techniques have been applied to develop necessary map to analyse this research.
- v) Finally suggestions are to be made to eliminate the problems of urban sprawl.

5. DATA SOURCES:

Keeping in view the objectives of the study the data are collected from both primary and secondary sources.

The primary data are collected through observation and direct communication with the respondents in one form and other through personal interviews. The several ways to collect the primary data may be as follows—

- i) observation method, ii) interview method, iii) questionnaire method.

The secondary data are collected from District hand book, B.D.O office, Mucipality office, Website, Journals, newspaper, census reports and Publications etc.

6. RESULTS AND DICUSSION:

6.1. URBANZATION PROCESS AT DIAMOND HARBOUR:

Earlier known as Hajipur, this charming place was named Diamond Harbour by British. It is well connected with Kolkata by road and rail. In earlier days Diamond Harbour used to be a stronghold of Portuguese pirates. The ruins of the fort of Chingrikhali can still be seen. It is believed to be linked with the Portuguese but some opine that the East India Company built it before they could establish themselves in Kolkata.

The population was 37238 as per census and 41798 was as per census 2011. The current population growth rate of Diamond Harbour Municipality is approximately 4.64% per decade and if it continues like this by the year 2025 the population will be, means the population density will be 6441 persons per square kilometres. In Diamond Harbour Municipality the density of slum population is about 43%. The overall status regarding their languages is 98% are Bengali speaking and the rest 2% speaking other language. (Table-01).

TABLE 1

ITEM	DIAMOND HARBOUR,2001	DIAMOND HARBOUR,2011
TOTAL POPULATION	37238	41215
MALE	19137	21069
FEMALE	18101	20729
DENSITY OF POPULATION	3409	4256
SLUM POPULATION	15868	19562
POPULATION LITERATE	22450	26790
POPULATION ILLITERATE	91021	10448
TOTAL WORKER	27254	37238
POPULATION GROWTH(ANNUAL)	4.94%	4.64%
BPL	8210	8638
NO. OF HOUSEHOLDS	8012	9777

SOURCE: Census of India.

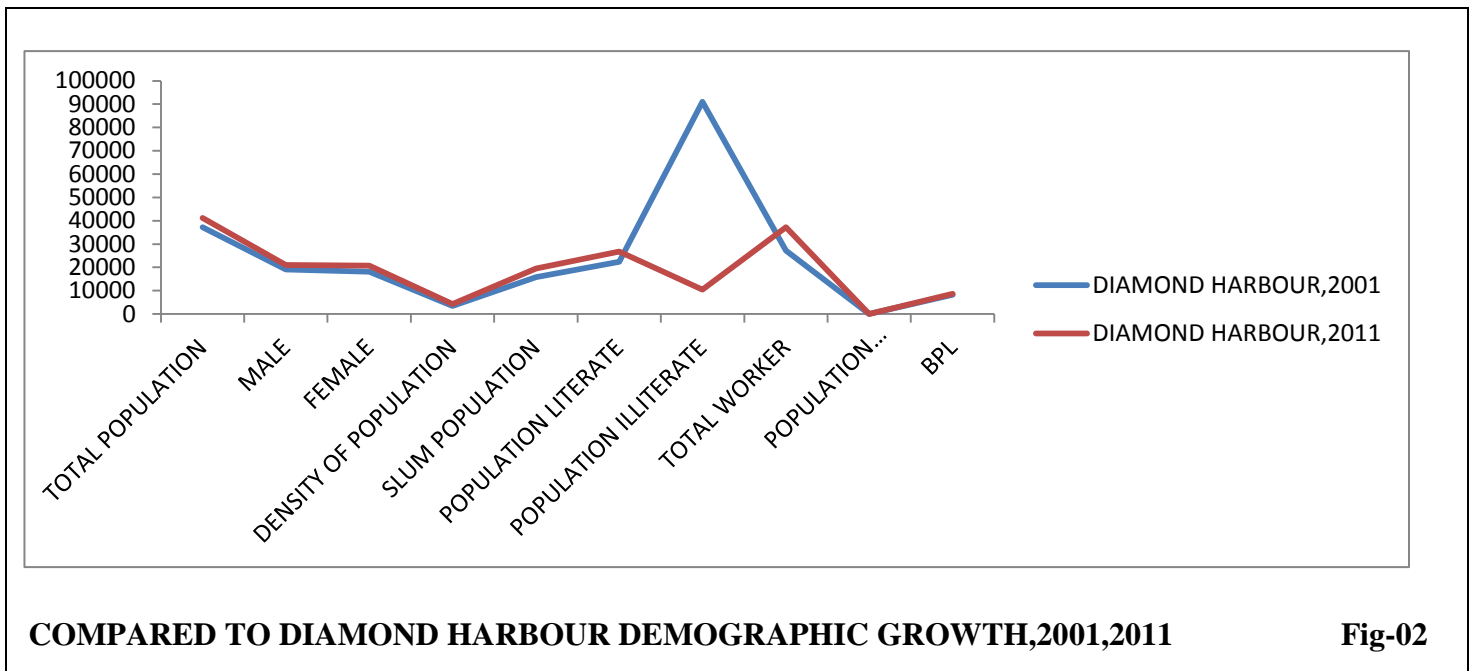
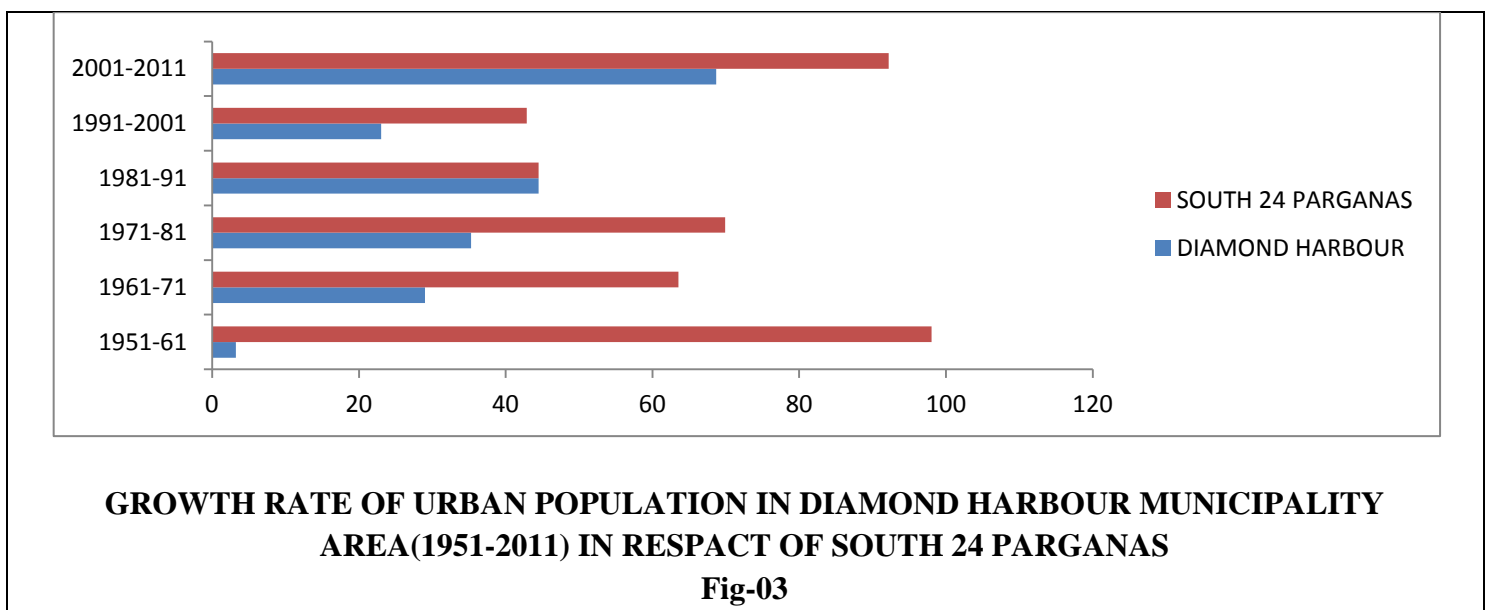


Table-02, GROWTH RATE OF URBAN POPULATION IN DIAMOND HARBOUR MUNICIPALITY AREA (1951-2011).

AREA	1951-61	1961-71	1971-81	1981-91	1991-2001	2001-2011
DIAMOND HARBOUR	3.23	28.98	35.29	44.48	23.02	68.68
SOUTH 24 PARGANAS	98.03	63.55	69.92	44.48	42.85	92.21

SOURCE: Census of India, 1951,1961,1971,1981,1991,2001,2011.



6.2. GROWTH RATE OF URBAN POPULATION:

South 24 parganas a less developed district of West Bengal. Between 1951-1981 growths rate of urban population declined largely. Many of the migrants from southern part of South 24 Parganas and others district settled in the urban areas in and around Kolkata occupation migration from others districts and states of India to the Diamond Harbour Municipality area.

Urban growth rate registered continuous decline during 1991-2001.Highest peak in urban growth was observed during 2001-2011.More than 50 percent found in Diamond Harbour during (2001-2011).

6.3. DISTRIBUTION OF URBAN CENTRE AND POPULATION:

Relative concentration of urban population in Diamond Harbour has been measured for each census years by Location Quotient (L.Q) Method.

In regional context a higher or lower value of L.Q indicates relative concentration (value of L.Q being more than 1) or dispersion (values of L.Q being less than 1) of the concerned attribute respectively.

In 1951 concentration in Diamond Harbour was observed (values of L.Q was 1.67). In 2011 concentration was moderate (values of L.Q being 1.24).

Table-03, LOCATION QUATIENTS OF URBAN POPULATION IN SOUTH 24 PARGANAS (1951-2011)

CENSUS TOWN	1951	1961	1971	1981	1991	2001	2011
DIAMOND HARBOUR	1.67	0.91	0.75	0.74	1.57	1.39	1.24
SONARPUR	4.03	2.64	2.06	2.90	1.54	1.36	1.22
BARUIPUR	1.92	1.35	1.21	0.95	1.08	0.72	1.37
JAYNAGAR	1.49	1.15	0.79	0.54	0.77	0.64	0.54
BUDGE BUDGE	4.78	4.00	3.79	3.90	5.03	4.87	3.40

SOURCE: Computed by the Author from the report of the census of India 1951,1961,1971,1981,1991,2001,2011.

Table-04, DECADAL GROWTH OF POPULATION OF URBAN CENTRES IN SOUTH24 PARGANAS COMPARED TO DIAMOND HARBOUR (1951-2011) (%)

MUNICIPALITIES	1951-61	1961-71	1971-81	1981-91	1991-2001	2001-2011
DIAMOND HARBOUR	+3.23	+28.98	+54.98	+49.40	+23.02	+12.27
JAYNAGAR-MAZILPUR	+6.15	+7.34	+7.39	+23.70	+15.32	+11.18
BARUIPUR	+47.30	+50.65	+27.94	+43.58	+19.26	+18.29
RAJPUR-SONARPUR	+52.13	+38.61	+45.66	+26.17	+43.68	+26.03
BUDGE BUDGE	+23.69	+28.16	+37.94	+10.19	+5.13	-5.78

Source: Census of India 1951, 1961, 1971, 1981, 1991, 2001, 2011.

6.4. NAME OF RECOGNISED SLUMS: TABLE-05**Table-05**

Sl.No.	Slum Name	Ward No.
1	Das,Jana,Baidya,Muslim Para	1
2	Kapat Manna Para	2
3	Mondal Moira School Para	2
4	Harindanga Uttar Paschim Mistri Para	3
5	Harindanga Purba Dakhin Para	3
6	Hospital Colony	4
7	New town Bhagabrapur Harindanga Para	4
8	Hater Bagan Ramchandrapur Muslim Para	5
9	Kalinagar Para	5
10	Raynagar Ramchandrapur Talberia Dalui Para	6
11	Rajer Taluk Para	7
12	Dhanberia Dakhin Para	7
13	Dhanberia Purba School Para	8
14	Dhanberia Purba School Para	8
15	Ray Das Dhopa Para	9
16	New Madhavpur, Maya Road Colony	9
17	Hochi Min Nagar Kali Bazar Purkait Para	10
18	Rabindra Nagar UttarPara	10
19	Ray Nagar School Para	11
20	Ray Nagar Rail Lain Majhi Para	12
21	Satpally Masjid Para	13
22	Raynagar Natun Pole Para	13
23	Noongola Riverside Jele Para	14
24	Shanti Pally Sat Pally	14
25	Shanti Pally Sat Para	15
26	Brahman Munsef Raja Para	15
27	New Town Halder Para	15
28	Sukanta Pally	16
29	Naiya Muslim Utter Para	16

There are 29 recognised slums in this municipality. Many of these slums suffer from various infrastructural shortcomings and service deficiencies in the nature of open defecation systems, inadequate quantity of drinking water, water logging due to improper drainage, broken roads, inefficient solid waste management etc.

6.5. BROAD PRESENT INFRASTRUCTRE AND SOCIO-ECONOMIC CONDITION OF SLUMS (Table-06).

WARD	POPULATION	BP	ILLITERATE POPULATION	NO OF DROPOUT CHILDREN IN SLUM	NO OF FAMILIES HAVING WOMEN EARNING MEMBERS IN SLUM	NO OF SLUM POPULATION REMOTE ACCESS TO DRINKING WATER SOURCE	SLUM POPULATION HAVING ACCESS TO HOUSE AS KUTCHA ROAD	USE OF TOILETS AS OTHERS	IDENTIFYING WATER LOGGING >1DAY	IDENTIFYING THEIR HOUSE AS KUTCHA AND OTHER
1	2	3	4	5	6	7	8	9	10	11
1	621	236	248	28	30	497	124	497	199	373
2	626	238	250	29	12	501	125	501	200	376
2	733	279	56	10	16	586	125	586	63	440
3	395	150	158	18	11	316	79	140	126	125
3	784	298	48	36	12	627	157	627	251	470
4	178	68	71	3	9	142	96	100	40	120
4	898	341	359	51	52	718	357	718	287	539
5	903	343	361	41	15	722	87	722	289	542
5	827	314	331	38	17	662	46	662	265	496
6	854	325	342	39	21	683	84	683	273	512
7	506	192	202	23	10	405	36	405	162	304
7	608	231	243	28	15	486	121	486	195	365
8	594	226	238	27	8	475	32	475	190	52

8	657	250	263	30	10	526	131	526	210	56
9	648	246	259	30	13	518	97	518	207	389
9	110	42	44	5	21	88	85	145	35	124
10	604	230	242	28	25	483	120	483	193	362
10	609	231	244	28	32	478	227	487	195	365
11	723	275	289	33	12	578	42	578	231	434
12	694	275	278	32	36	555	139	555	22	215
13	507	264	203	23	21	406	97	406	162	304
13	121	193	48	5	13	97	25	97	39	73
14	109	46	44	5	23	87	162	87	35	65
14	178	41	71	8	52	142	36	142	57	107
15	796	68	318	36	31	637	159	637	255	478
15	588	302	235	27	36	470	118	470	188	353
15	108	223	43	20	21	86	22	46	35	65
16	106	41	42	5	20	85	21	85	34	64
16	361	137	144	16	18	289	72	289	116	217

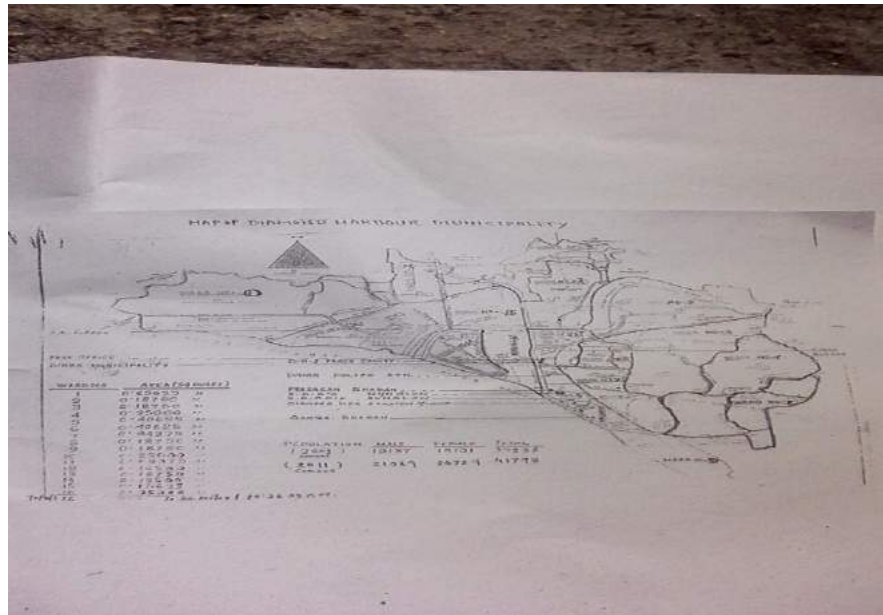
SOURCE: Primary survey, 2016

Most of the slum dwellers are aware of safe sanitation practices, 17% of the families have women members in the slums, 72% of the slum households take 5 to 10 minutes to collect water, 67% have kutchra road in front of their house, 58% of the slum households have toilets with pans, 66% of the slum household complain of water logging for a week, for the rest it is more. The only source of water is tube well. Despite provision of sanitation, facilities slum dwellers continue to defecate openly.

6.6. LAND USE /LAND COVER CHANGE:

Diamond Harbour today is one of the fast growing towns in south 24 parganas, the land use of the town over a period from 1982-2015 showed tremendous rises in the built up from agricultural area, vegetation and vacant land. The town today has its centre at the core areas. It is growing largely towards north, North West and southeast direction along the main transport routes. There was ample agriculture and vegetation land in outside the municipality area. In this period of time commercial and residential area was dominantly expanded.

The land use/land cover maps were prepared for the year 2000 and 2015. These two maps were then overlaid to find the land use/land cover change for year 2000-2015 the amount of land use change from agricultural and forest to other land uses were found (fig-04).



WARDWISE AREA DISTRIBUTION IN DIAMOND HARBOUR MUNICIPALITY, 2012

Fig-04

6.7. LAND USE /LAND COVER CLASIFICATION SYSTEM:

In the present study, a very detailed classification system is being adopted for mapping using large scale aerial photographs and high resolution satellite data.

In the present study the preliminary classification was conceptualized and desings with the help of some secondary data.

The details of each class and their operational definition are described as follows-----

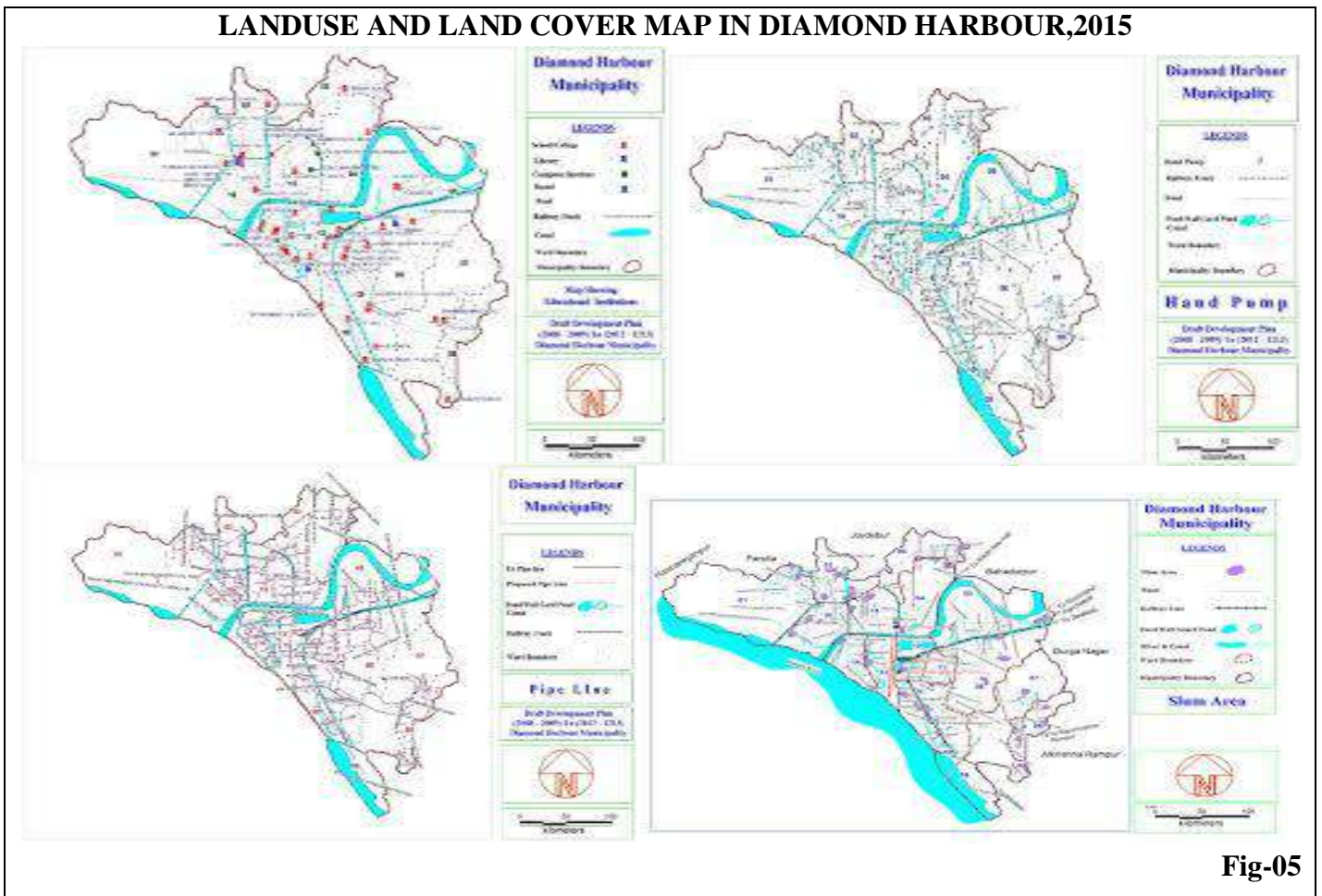
- i). RESIDENTIAL AREA:** This includes land, which provides living space within and around buildings or houses to meet the daily needs of the families of different size and composition. Two types of residential area like residential urban, residential other. Residential land use relatively evenly distributed barring ward 2and 11.
- ii). COMMERCIAL:** Commercial areas are those built-up lands with non residential use and broadly classified in to some kind of business transaction. It includes wholesale market, retail trade, shopping complexes and other commercial activities but not related to the manufacturing industry. Commercial land use high in wards 2,6,9 and 10.In wards 3,4,6 and 10 the proportion of pucca residential constructions are relatively higher than the other area.

iii). **TRANSPORTATION:** The land use included in the transportation, communications occurs to some degree within built up categories and actually can be found within many other categories. Roads, bus station, railway station, railways and workshops are in this category (fig-05).

iv) **AGRICULTURAL LAND:** Agricultural used for production of food and fiber. High agricultural land in wards 1, 6 and 12.

v). **WET LAND:** This covered with natural drainage system like rivers, streams as well as manmade features classified like tanks, ponds, canals etc. This types of land seen ward 6 large rest of the words have few water bodies.

vi). **VACANT LAND:** Two types of vacant lands are observed n this area first category is open, unused land and second is under development (fig-05).





7. CONCLUSIONS:

These regions have to be considered as urban land immediately before some unplanned urban land use is imposed within its rural character. The vision is to provide a good healthy environment to all sections of people with a special emphasis on poorer section, with the quality of services by utilizing the resources efficiently. To develop infrastructure along with health, education and cultural with extensive participation of citizen as a whole. The greatest challenge for research on urbanization in peri urban areas and urbanizing trends is that often opinions are given on the basis of plans that are specifically designed by hardcore planners. By focusing on particular portion of peripheral conversion tried to explore the greater dimension of conflict and chaos, tension and turbulence in the relationship between cities and its peri urban and also its rural interface. By shedding light on numerous social and ecological problem of conversion to urban area the paper attempted to focus on the intergraded development overall spatial progress important pillars of successful urbanization. It is also important to study the trend and direction of urban growth with ultimately focuses for urban landscape planning and environmental management.

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