

APPENDIX 4: LAND USE STUDY

4.1 Introduction

The land uses study was conducted with the total land area of about 148,000 hectare. All land use data as of 2009 has been collected based on satellite image analysis and field survey. The land use characteristics are described by geographical zone and Thana/Upazil (administrative unit). There are total of 30 Thanas/Upzias in the study area, of which 22 Thanas are in Dhaka Metropolitan Area (DMA) and 8 Upzias are outside of DMA. Some Upzias outside of the MDA are not fully included in the study area, which is similar to the RAJUK administrative area.

In order to understand characteristics of urbanization and land use pattern in DMA and RAJUK area, the study area is divided into six geographical zones: (1) Dhaka City Corporation Zone; (2) Eastern Fringe Zone; (3) RAJUK North Zone; (4) RAJUK South Zone; (5) RAJUK East Zone; and (6) RAJUK West Zone.

Figure 4.1-1 shows land use map as of 2009 in the study area and Table 4.1-1 shows land use composition by category.

Table 4.1-1 Land Use Composition in the Study Area

Land use category	Area (ha)	Ratio (%)
Housing Area	46,952	23.72
Commercial	1,555	0.79
Industrial Area	2,454	1.24
Mixed use area	884	0.45
Public facilities	3,211	1.62
Road/Railways	3,570	1.80
Park/Play Ground/Urban Green area	247	0.12
Restricted Area /Brick Field	3,992	2.02
Cultivated Land/Open Space/Forest	68,703	34.71
Swamp/Marsh/Char/Island/Water Bodies	16,376	8.27
Not Available	50,009	25.26
	147,948	100.00

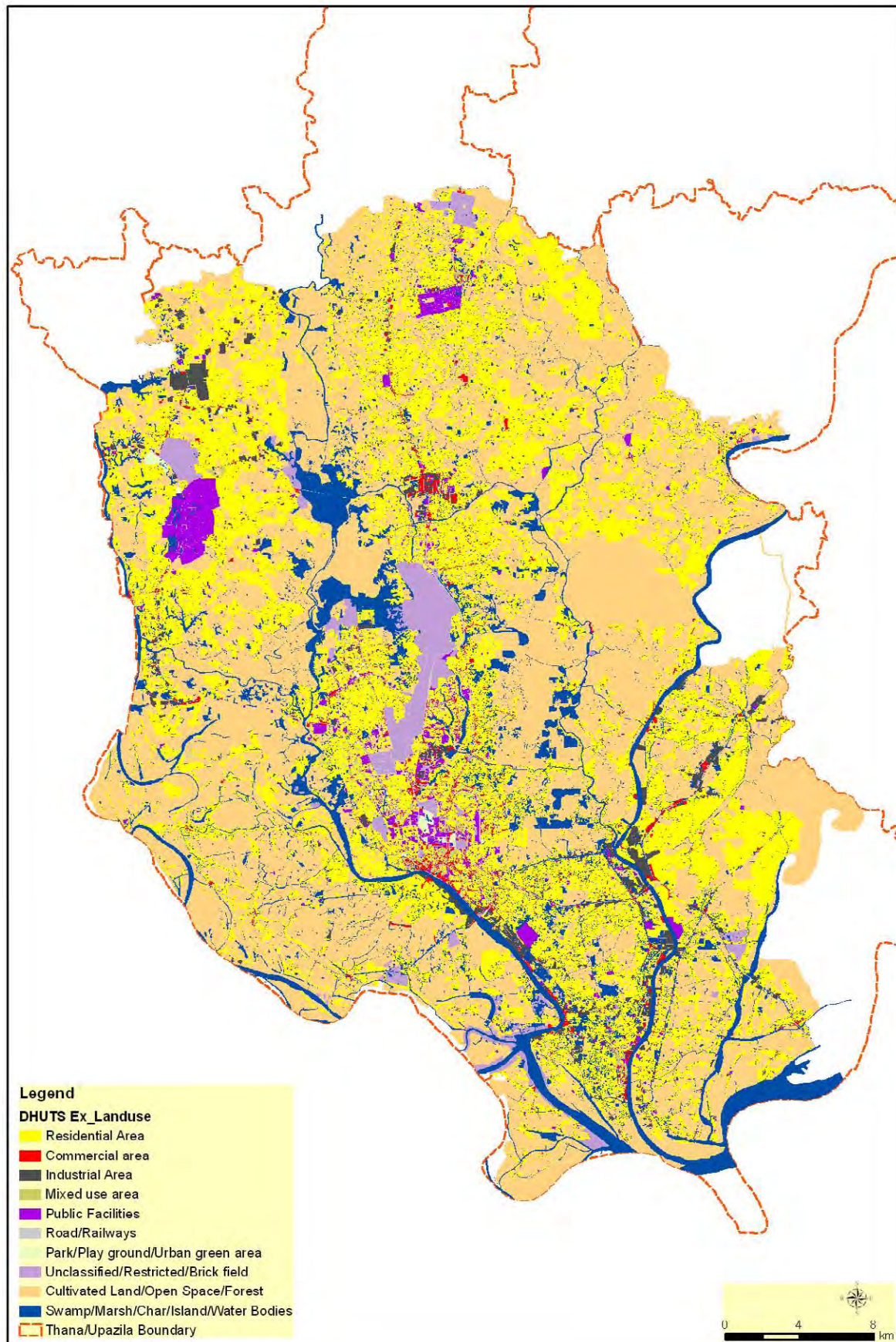


Figure 4.1-1 Existing Land Use in the Study Area (Year 2009)

4.2 Land Use Characteristics by Geographical Zone

4.2.1 Dhaka City Corporation (DCC) Zone

General description: This zone consists of 90 wards within the 21 Thanas in Dhaka Metropolitan Area (DMA). Most of this area is already urbanized. The total administrative area is 15,768 hectare (38,963 acre, 157.68 Sq. Km.). The total population of this area has been increased from 2,464,504 inhabitants in 1981 to 3,583,480 inhabitants in 1991 and 5,333,571 inhabitants in 2001. From 1991 to 2001 the population has been increased by 1,750,091 persons. The average population density was about 338 persons per hectare in 2001.

Table 4.2-1 shows land use composition and Figure 4.2-1 shows the existing land use pattern in 2009.

Table 4.2-1 Land Use Composition in Dhaka City Corporation Area

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	5,722.16	44.35	Park/Play Ground/Urban Green area	154.78	1.20
Commercial	553.06	4.29	Restricted Area /Brick Field	1,086.30	8.42
Industrial Area	259.16	2.01	Cultivated Land/Open Space/Forest	1,015.36	7.87
Mixed use area	535.52	4.15	Swamp/Marsh/Char/Island/Water Bodies	1,194.74	9.26
Public facilities	1,027.80	7.97	Not Available	3.42	0.03
Road/Railways	1,350.05	10.46			

Major activities in this area are summarized below.

Restricted area: This area has some restricted area. There are about 1,086.30 ha (8.42%) of restricted area occupied by military or government facilities. Some of major facilities in this category are:

- President's Office and Residence at Banga Bhaban
- Prime Minister's Office and Residence
- National Parliament Building
- Dhaka Cantonment Area
- Mirpur Cantonment area at Mirpur-12
- Bangladesh Rifles (BDR) at Jhikatola
- Zia International Airport
- Secretariat near Paltan
- Residence of other ministers, Chief justice and important high Govt. officials
- Old Airport Area at Tejgaon
- Rajar Bag Police Line near Maibag
- Dhaka Central Jail at Lalbag area

- Lalbag fort
- Inland Container Depot (ICD) at Kamalapur
- National Botanical Garden at Mirpur

Industrial Use: There are many garment factories in DCC. The Tejgaon Industrial Area is the planned industrial setup and many garment factories are located in Pallabi, Mirpur and Hazaribag Thanas. There are about 259 ha (2.01%) of industrial use in DCC.

Commercial area: The major commercial activities are mostly located in the southern side of DCC. This is the old part of Dhaka city; there are mainly concentrated in Kotwali, Lalbag and Sutrapur Thanas. Other commercial concentration can be seen in Motijheel, Ramna, Tejgaon, Khilgaon Thana in the central part of DCC and Gulshan, Mirpur, Badda and Uttara Thana in the northern part of DCC. All major commercial activities are situated along the major roads. It has 553 ha of commercial area, which occupies 4.3% of total land area.

Residential area: There are about 5,722 ha of residential area in DCC, which occupies 44% of the total land area. Major planned residential areas within DCC are as follows:

- Gulshan Residential area
- Banani Residential area
- Baridhara Residential area
- Uttara Residential area
- Dhanmondi Residential area
- Bashundhara Residential area
- Nikunja Residential area
- Lalmatia Residential area
- Mohammadi Housing area
- Mirpur Housing area
- Pallabi Housing area

These residential areas are occupied by mainly middle and high income groups. . Other residential areas are developed by spontaneous efforts of the local people and resided by low income group. There are many spontaneous residential areas in DCC, especially in Mohammadpur, Hazaribag, Mirpur, Pallabi, Kafrul, Badda, Tejgaon and Demra Thanas.

Transport Network: The main arterial roads are Uttara to Shahbag VIP road, Progati Sarani-DIT road-Atish dipankar road, Mirpur road, Hatkhola road, Shaheed Tajuddin road, Dhaka-Chittagong road, Dhaka-Mawa road. These roads are almost always congested in the peak hours. There are 1,350 ha of road space in total, which occupies 10.46% of the total land area in DCC.

Bangladesh Railway line passes through north-south directions. It comes from the Tongi railway junctions and passes through the Airport station, Cantonment station, Tejgaon station and up to

Kamalapur railway station. Another railway line starts from Kamalapur and ends at Narayanganj railway station in the southern direction.

Public facilities: The total land areas of public facilities are 1,027.80 ha (about 7.97%). The public facilities are mainly concentrated in Dhanmodi, Gulshan, Ramna, Motijheel, Mirpur Thanas. The important public facilities are as follows:

- Secretariat Building
- Dhaka City Corporation (DCC)
- Dhaka University
- Bangladesh University of Engineering and Technology (BUET)
- Dhaka Medical College
- Banga Bandhu Sheikh Mujib Medical University (BSMMU)
- Bardem Hospital
- Bangladesh Bank Building
- Kamalapur Railway station
- Gabtali Inter-District Bus Terminal
- Mohakhali Inter-District Bus Terminal
- Saidabad Inter-District Bus Terminal
- Dhaka College
- Teacher's Training College
- Mohakhali ICDDR
- Mohakhali TB Hospital
- Dhaka Polytechnic Institute
- Survey of Bangladesh
- Other Government offices

Park / Play ground: About 155 ha (1.2%) of the land is used for recreation activities, which is significantly low compared with other major cities. The important park and play ground in the city are as follows:

- Ramna park
- Shohrawardi Uddan
- Osmani Uddan
- Banga Bandhu National Stadium
- Dhanmondi play ground
- Moulana Bhashani Hockey stadium
- Mirpur Stadium
- Abahani Krira chakra play ground
- Kala Bagan Krira Chakra play ground

- Banani play ground
- Baridhara play ground
- Wander land park

Agricultural use: In the peripheral area near the DCC boundary, there are some agricultural lands with 1,015 ha (7.87%). Agricultural lands are mostly located in Mohammadpur, Hazaribag, Mirpur, Badda, Demra, Sabujbag and Khilgaon Thanas. Besides this there are 1,195 ha (9.3%) of water body/char/swamp area. Some swamp areas are used for agriculture in dry season.

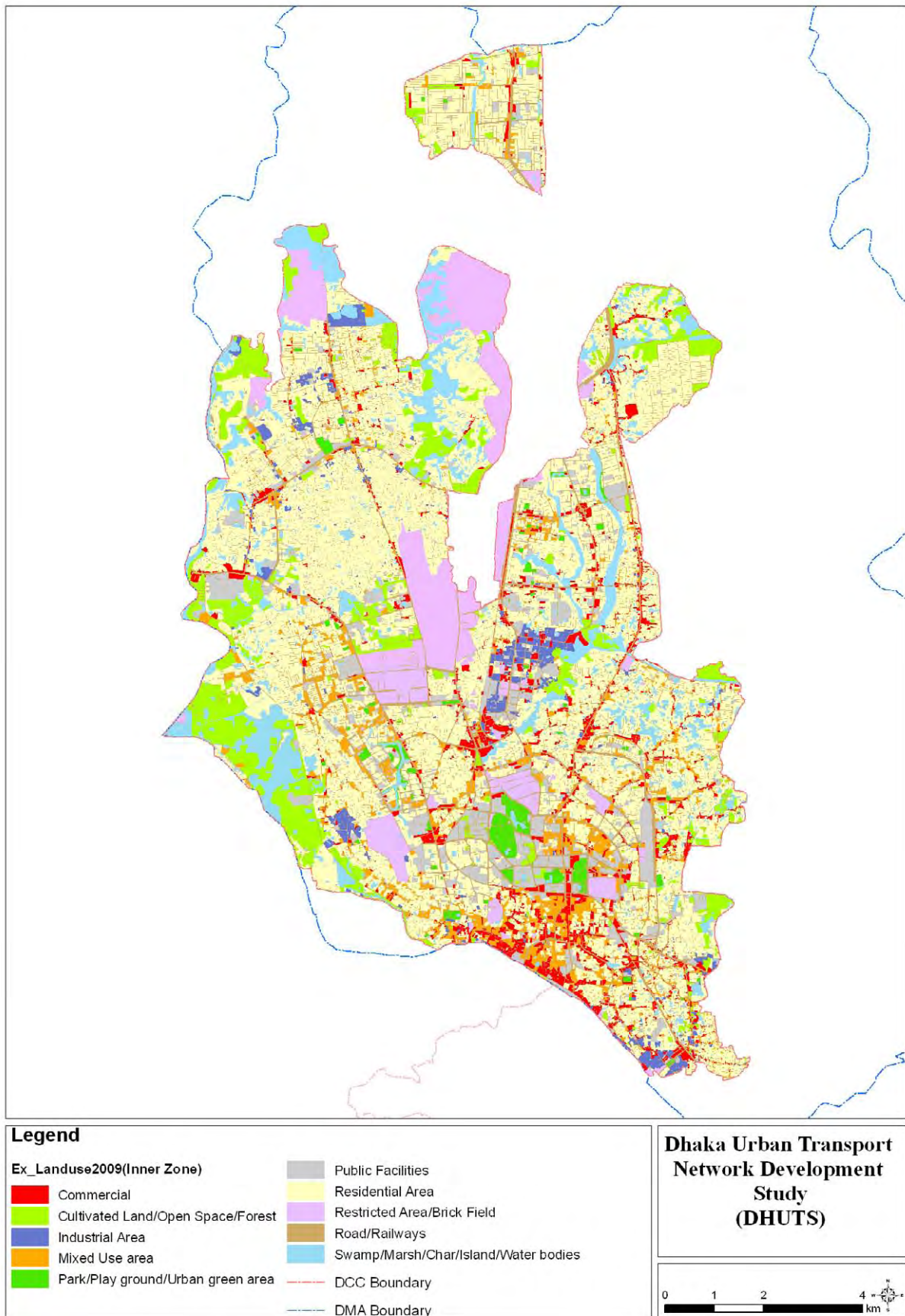


Figure 4.2-1 Existing Land Use in Dhaka City Corporation Area (Year 2009)

4.2.2 Eastern Fringe Zone

General description: The Eastern Fringe Zone is located outside of DCC and surrounded by the Turag River in the north and the west, by the Balu River in the east and by the Buriganga River in the south up to the boundary of Narayanganj District. It consists of 10 unions within 7 Thanas; i.e., Uttara, Biman Bandar, Badda, Sabujbag, Demra, Shayampur and Kamrangir Char Thanas. The 10 unions in this zone are mainly located in the north and east of the DMA and Sultanganj Union is located in the south-western corner of DMA. The unions in this zone are: Dakshin Khan, Harirampur, Uttar Khan, Beraid, Bhatara, Demra, Matuail, Dhania, Sultanganj and Shyampur. The total land area of the Eastern Fringe Zone is 14,557 hectare (35,971 acre or 145.57 sq Km.). The population was 1,149,306 persons and the population density was about 79 persons per hectare in 2001.

Table 4.2-2 Land Use Composition in the Eastern Fringe Area

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	4,520.26	34.99	Park/Play Ground/Urban Green area	1.65	0.01
Commercial	101.24	0.78	Restricted Area /Brick Field	1,274.92	9.88
Industrial Area	212.36	1.65	Cultivated Land/Open Space/Forest	7,253.43	56.22
Mixed use area	50.83	0.39	Swamp/Marsh/Char/Island/Water Bodies	2,963.83	22.97
Public facilities	184.79	1.43	Not Available	5.57	0.04
Road/Railways	393.71	3.05			

Major activities in this area are summarized below.

Agricultural area: The Eastern Fringe Area is mostly occupied by agricultural land and low lying land. More than half of the land with 7,253 ha is agricultural area and another 2,963 ha. is char/water body/swamp area. In the dry season, some seasonal crops are grown in these char/swamp area. As it is close to the urbanized area, more urbanization would occur surrounding the peripheral semi-urban area of this zone.

Industrial area: By the river side of Buriganga, Shitalakhaya and Turag River, some industrial development has been occurred. It covers about 1.65% (212 ha) of the total land area. As it is outside of DCC area, road network is not so well planned and accessibility is not so good, only by the side of the national highways, regional highways and some important feeder roads, some industrial activities are situated.

Housing area: About 34.99% (4520 ha) of total land area is occupied by the housing area. As it is the peripheral area of DMA, sub-urban housing areas are situated both side of roads within this area. Other housing areas are the homestead area by the side of agricultural land with low income group. Other than those areas, new planned private housing areas are being developed by the real estate developers. These planned residential areas are developed for middle income and high income group in this zone.

Housing Projects are being developed in this zone area –

- Basundhara-Baridhara project
- Sornali Abasik project
- Sunvally Abashik project
- BDDL Natundhara Abashik prokolpo
- United city
- Xenovally Pink city
- Uttara 3rd Phase developed by RAJUK
- Uttaran housing project by private sector
- Relience Model Town by private sector
- Evergreen Model Town by private sector
- Green Model Town
- BRAC Concord Rajdhani Prokalpa
- BRAC Concord Krishnachura Prokalpa

Among them only Basundhara-Baridhara project is partially approved by RAJUK, and rest of them are yet to be approved. Among them only Basundhara-Baridhara project is partially approved by RAJUK, and rest of them are yet to be approved.

Construction work of Concord Rajdhani Abashik prokolpo and Krishnachura prokolpo by the side of the Demra –Tarabo road and Green Model town in the northern side of this Thana are now going on.

Commercial area: It has 0.78% (101 ha) of commercial activity area in respect of total land area. As it is outside of DCC area, road network is not so well planned and accessibility is not so good, only by the side of the national highways, regional highways and some important feeder roads, some commercial activity is situated.

Transport Network: As Dhaka-Mymensingh, Dhaka-Chittagong, Dhaka-Munshiganj and Abdullahpur to Ashulia road passes through this zone area, it is always congested by heavy traffic coming from different directions to Dhaka city. Of them Dhaka-Chittagong road is the busiest one, huge inter district and intra-urban transport mode run through this particular road.

Road network on this zone is only 3.05% (393 ha). Only the Jatrabari to Demra Ghat road is the regional highway within this zone. Other roads are feeder roads. Some east-west feeder roads are connected up to the Balu River from the Airport road and the Progati Sarani road. But in the planned residential area, they have primary road, secondary road and local roads in their housing premises. A new proposal for Eastern By pass road would go through the eastern part of this zone area.

The Main railway line coming from New Airport Station towards Cantonment railway station passes through this zone area. The Dhaka-Narayangan railway line also passes through this zone area.

Some small boats and trawler are frequently plying through the Buriganga, the Shitalakhaya, the Turag and the Balu River as connectivity within this zone area.

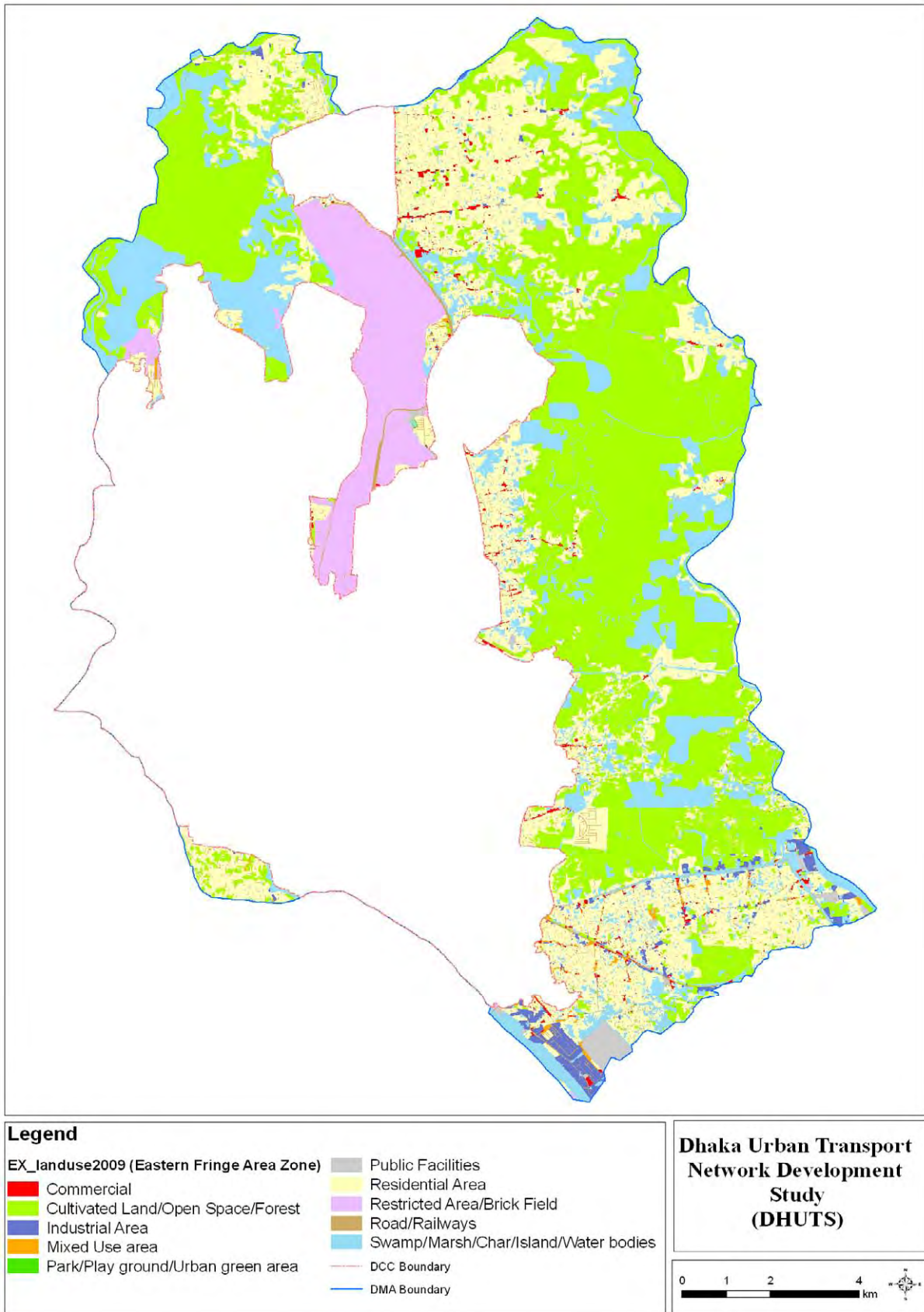


Figure 4.2-2 Existing Land Use in Eastern Fringe Area (Year 2009)

4.2.3 RAJUK North Zone

General description: This zone consists of only Gazipur Sadar Upzia. It is situated north of Dhaka Metropolitan Area (DMA). About 60.64% land of this zone belongs to RAJUK administrative area. The total administrative area is 44,637.99 hectare (110,302.9 acre, 446.38 Sq. Km.). This zone has Gazipur Sadar Upzia headquarter and Gazipur pourashava and Tongi pourashava area within this Upzia. The Dhaka-Mymensingh highway passes through this area. Some industrial and commercial activities are situated by the road side of that highway. The population of this area in the census 2001 was 866,540 and in the census 1991, it was 588,492. In 1981, the population was 377,333. In ten years interval from 1991 to 2001 the population has been increased up to 278,048. As it is an industrial and commercial area, increase of population occurs day by day. The population density in 2001 was about 19 persons per hectare.

Table 4.2-3 Land Use Composition in RAJUK North Zone

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	10,615.85	23.22	Park/Play Ground/Urban Green area	2.16	0.00
Commercial	273.52	0.60	Restricted Area /Brick Field	262.24	5.07
Industrial Area	334.01	0.73	Cultivated Land/Open Space/Forest	13,457.36	29.43
Mixed use area	85.40	0.19	Swamp/Marsh/Char/Island/Water Bodies	1684.48	3.68
Public facilities	465.97	1.02	Not Available	17,997.40	39.36
Road/Railways	543.92	1.19			

Major activities in this area are summarized below.

Agricultural area: This area is mostly dominant by agricultural land. About 29.43% (13,457 ha) area belongs to this activity. This land area is relatively high value agricultural land in respect to southern part of the RAJUK area. About 3.68% (1,684 ha) area is char/island/swamp area. These swampy areas are situated by river side of Turag in the south-eastern and eastern part of this zone area. In the dry season, some seasonal crops are grown in these char/island area.

Industrial area: By the road side of Dhaka-Mymensingh highway, some industrial development has been occurred. The Tongi area is the major industrial area in this Upzia. Another industrial zone is in the eastern side of the Upzia in Kashimpur union. Beximco Industrial park is situated near by the Zirani Bazar. Other industrial areas are situated in a scattered way by the side of river or by the side of major roads. It covers about 0.73% (334 ha) share in respect to the total land area within this zone area.

Housing area: About 23.22% (10,615 ha) of total land area is occupied by the housing area. Gazipur and Tongi pourashava have their urbanized housing area with middle income group. Others are the rural home stead area with low income people around the agricultural land within this zone area. Now Real estate Developers are developing new planned residential areas within this zone area.

Private Housing Projects are being developed in this zone area –

- BDC North Town project
- Great Wall City
- Probashi Palli-1

BDC north town is situated north of Tongi Municipality, Great wall city is situated north-east of Joydevpur road intersection and Probashi Palli-1 is situated south of Mirer Bazar within this zone area. These areas are being developed for middle income/higher middle income group within this zone.

Commercial area: It has 0.60% (273 ha) of commercial activity area in respect of total land area. By the road side of Dhaka-Mymensingh highway, commercial activities have been occurred and the Gazipur and Tongi pourashava areas are the major commercial activity area in this zone. Among those areas, Tongi pourashava area has the most commercial activity area within this zone.

Transport Network: As Dhaka-Mymensingh highway passes through this zone area, this area is always congested by Inter-district traffic. Dhaka By-pass also goes through this area starting from after Kadda Bazar towards Kanchan Bridge. Small portion of Kaliakoir-Joydevpur Highway and The Dhaka By-pass are the two National Highways there. Tongi to Mymensingh, Tongi to Kaliganj, Joydevpur to Narshindi and Gazipur Bazar to Chatar Bazar are the five regional highway passes through this zone area. Other than those roads, all are feeder roads.

Road network on this zone is about 1.19% (543 ha) in respect huge land area of this Upzia. Dhaka–Chittagong, Dhaka-Tangail and Dhaka-Mymensingh railway line passes through this area. So, the Tongi railway junction and the Joydevpur railway junction are the transfer hub of this area to go to different parts of the country.

Restricted area: In this area, about 5.07% (262 ha) land area belongs to the restricted area. There is a Army Machine Tools Factory in the northern side of the zone area. Bangladesh Ordnance Factory (BOF) is also there. The Security Printing Press is also there.

Public Facilities: About 1.02% (465.97 ha) land area belongs to the public facilities in this area. In that area the following institutions are there:

- Bangladesh Agricultural Research Institute (BBRI)
- Central Extension Resources Development Institute (CERDI)
- Seed Certification Agency (SCA)
- BRAC Dairy Farm
- Dhaka University of Engineering and Technology (DUET)
- Bangobondhu Sheaikh Mujibur Rahman Agriculture University (BSMRAU)
- National University
- Bangladesh Open University (BOU)

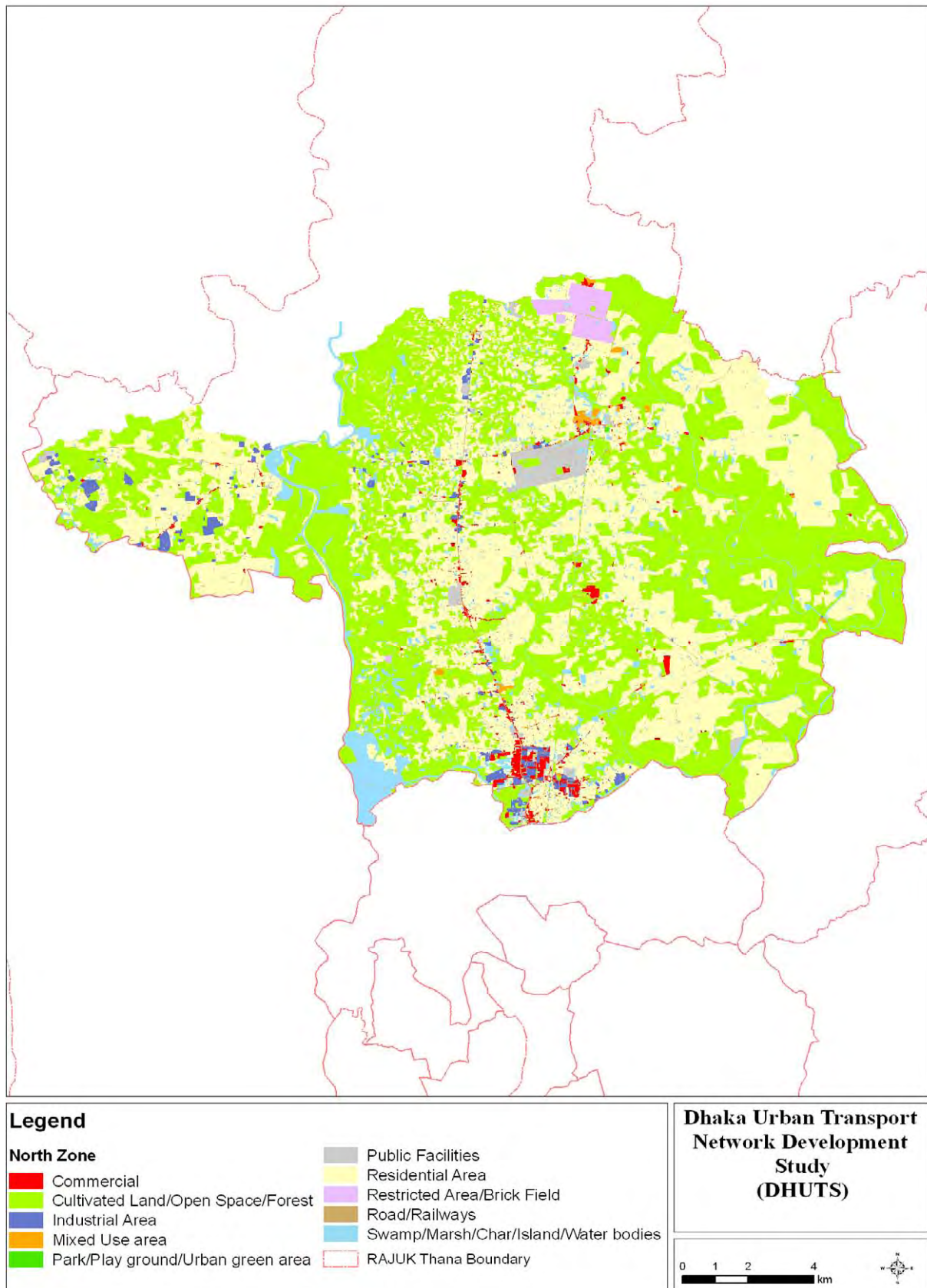


Figure 4.2-3 Existing Land Use in RAJUK North Zone (Year 2009)

4.2.4 RAJUK South Zone

General description: This zone is consists of full of Narayanganj and Bandar Upzia and part of Sonargaon Upzia (four unions – Kanchpur, Sadipur, Mugrapara and Shambhupur) and Keraniganj Upzia (four unions - Aganagar, Subhadya, Tegharia and Konda). It has Narayanganj district headquarter and three Pourashavas, Narayanganj pourashava, Kadam Rasul pourashava and the other is recently established Siddhirganj pourashava. In this zone, especially Narayanganj area grew as a centre for commercial and industrial activities as there were so many establishments of Jute and Hosiery mills. Narayanganj has an important river port within this zone. This zone is connected by three type of transport ways as Rail, Road and River, mostly in Narayanganj area. This zone has a good communication system with rail and river ways regarding the freight movement. Many industries are mainly situated by the river bank of the Buriganga and Shitolakhhya. About 82.00% land area belongs to the RAJUK administrative area. The total area of this zone is about 38,494 hectare (95,120.75 acre, 384.94 Sq. Km.). The population of this area in the census 2001 was 1,666,650. As it is an industrial and commercial area, increase of population occurs day by day. The population density in 2001 was about 43 persons per hectare.

Table 4.2-4 shows land use composition and Figure 4.2-4 shows existing land use map in the RAJUK South Zone.

Table 4.2-4 Land Use Composition in RAJUK South Zone

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	9,596.00	30.40	Park/Play Ground/Urban Green area	9.00	0.03
Commercial	296.00	0.90	Restricted Area /Brick Field	792.00	2.50
Industrial Area	698.70	2.20	Cultivated Land/Open Space/Forest	14,032.00	44.43
Mixed use area	135.00	0.40	Swamp/Marsh/Char/Island/Water Bodies	5,156.00	16.32
Public facilities	377.00	1.20	Not Available	6,908.00	18.00
Road/Railways	493.00	1.60			

Major activities in this area are summarized below.

Agricultural area: At present 14,032 hectares area belongs to cultivated land, which is 44.43% of total land area within this zone. About 5,156 hectares (16.32%) are of Water bodies/Char/Swamp/Marshy land in which some crops are grown in the dry season only. The middle portion of Narayanganj sadar Upzia maximum portion of Bandar, Sonargaon and Keraniganj Upzia area are mostly used for agricultural activity having with low lying area.

Industrial area: Surrounded by many transport networks, industrial development occurs gradually in some portion of it. It is mainly developed along the Shitalakhya River, Buriganga River and Old Brahmaputra River and both sides of Dhaka-Chittagong, Dhaka-Sylhet and Dhaka-Mawa highways. It has 2.20% (698 ha) share as industrial area in respect total land area. Now Adamjee Export Processing Zone (EPZ) is established in the premises of previous renowned Adamjee Jut mills near

Siddirganj in Narayanganj. It has a great importance to locate this EPZ here. Many income generating activities are going on now. Other industries are located eastern side of Shitalokhhaya River in Bandar Upzia, by the Brahmaputra River on Sonargaon Upzia and by the Buri Ganga River on Keraniganj Upzia.

Housing area: It has 30.40% (9,596 ha) of housing area in respect of total land area of which urbanized housing area are located in Kadam Rasul, Sidhhirganj and Narayanganj Pourashavas, Fatullah, Shimrail area near Kanchpur Bridge, Kanchpur, Madanpur, Islamia Bazar, Bandar Upzia head quarter, Mugrapara, Subhadya and Ekuria Bazar with middle income group. Other than those areas almost all are rural home stead area with low income group. Housing companies are now developing planned residential area in this zone.

Housing Projects are being developed in this zone area –

- Jheelmeel Abashik prokolpo by RAJUK
- Rupayan Town project by private sector
- BDC East Town project by private sector
- BDC South Town project by private sector
- Basundhara River-view project by private sector

By the side of Dhaka-Narayanganj main road “Rupayan Town” has been developed at Bhuigar as a planned residential area apart from the main Narayanganj pourashava in the north. In that Rupayan Town, developers had constructed high rise residential buildings in their land and they sell flats to the people. In that area other facilities like commercial, social, shopping centre, mosques are provided. The Basundhara River-view project, Jheelmeel Abashik prokolpo and BDC south town are situated by the Dhaka-Mawa highway. The BDC East Town is located near Islamia Bazar by the side of Dhaka-Chittagong highway.

Commercial area: It has 0.90% (296 ha) of commercial activity area in respect of total land area. All this activities are located in three pourashava areas, along the side of the Buriganga River and the Shitalakhhaya River. Mugrapara, Islamia Bazar, Katchpur, Ekuria Bazar, Fatulla, Kutubpur, Shiddirganj, Shimulpara, Narayanganj pourashava, Sidhhirganj pourashava and Kadam Rasul pourashava are the main commercial activity centres in this zone. Actually main commercial activity occurs in the three pourashava areas. All industry offices, other offices and banks are located here.

Transport Network: The Dhaka-Chittagong highway, Dhaka-Sylhet highway, Dhaka-Mawa highway and other regional highways pass through this zone area. Besides the Highways, there are four major roads are regional highways, they are as follows; Bandar to Araihasar, Postogola to Narayanganj and Munshiganj road via Fatullah, Shimrail to Narayanganj and Madani Nagar (Sign-Board) to Narayanganj. Other than those roads, all are feeder roads within this zone area. It has about 1.60% (493 ha) land area belongs to this activity. As Narayanganj is a district town so, it has

bus terminal, railway station and launch terminal within this zone. There are frequent bus services from Narayanganj to Dhaka City and as well as to the other area also. By using the Dhaka-Chittagong, Dhaka-Sylhet and Dhaka-Mawa road, a huge inter-district traffic movement has been occurred in the peak hour within this zone area.

The railway line is directly connected with Dhaka city “Kamalapur” railway station with the Narayanganj railway station. Commuter trains are running several times a day in that route. Now Bangladesh railway has a proposal to connect Dhaka with Chittagong via Narayanganj railway station linking new railway line from Narayanganj to Laksham railway station situated in Comilla district. In that case Narayanganj will be connected with Chittagong port city directly by train. That will enhance this zone to grow as an more urbanized area with much more industrial and commercial activities there.

By the water ways, people are using for freight movement by using the Buri Ganga River, Dhaleshawri River, Shitalokhhya River and also the old Brahmaputra River within this zone area.

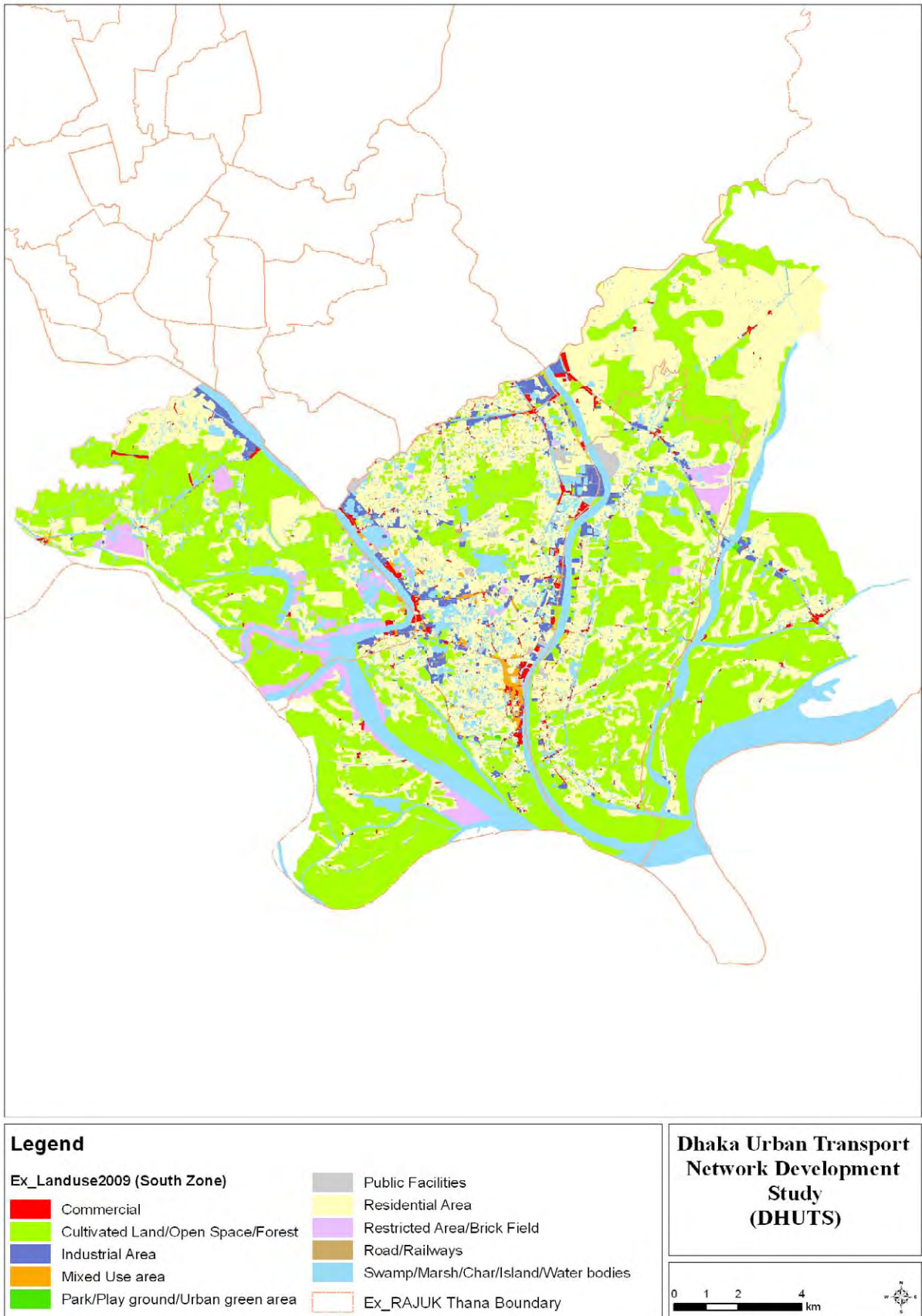


Figure 4.2-4 Existing Land Use in RAJUK South Zone (Year 2009)

4.2.5 RAJUK East Zone

General description: This Zone consists of Kaliganj Upzia and Rupganj upazia. It is situated east of Dhaka Metropolitan Area (DMA). About 65.50% land of this zone belongs to RAJUK administrative area. This zone is surrounded by Narayanganj and Sonargaon Upzia. The total administrative area is 33,494.98 hectare (82,767.94 acre, 334.95 Sq. Km). The Dhaka–Sylhet highway passes through this area. Some Industrial and commercial area is situated by the road side of this highway. The population of this area in the census 2001 was 643,156 and in the census 1991, it was 551,850. In 1981, the population was 436,592. In ten years interval from 1991 to 2001 the population has been increased up to 91,306. The increase of population occurs day by day within this zone. The population density in 2001 was about 19 persons per hectare.

Table 4.2-5 shows land use composition and Figure 4.2-5 shows existing land use map in the RAJUK East Zone.

Table 4.2-5 Land Use Composition in RAJUK East Zone

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	6,164.02	28.10	Park/Play Ground/Urban Green area	0.00	0.95
Commercial	146.71	0.70	Restricted Area /Brick Field	35.60	0.20
Industrial Area	382.19	1.70	Cultivated Land/Open Space/Forest	13,424.86	61.19
Mixed use area	3.61	0.00	Swamp/Marsh/Char/Island/Water Bodies	1,466.88	6.69
Public facilities	108.56	0.50	Not Available	11,549.91	34.50
Road/Railways	212.64	1.00			

Major activities in this area are summarized below.

Agricultural area: This area has significant share in respect of all land use category. It has the 3rd largest agricultural activity in all the Thana/Upzia within this RAJUK area. About 61.19% (13, 424 ha) area belongs to this activity. This area is mostly low lying area. Besides this, about 6.69% (1,466 ha) area is water body/char/swamp area. In the dry season, some seasonal crops are grown in these char/swamp area.

Industrial area: Along the Shitalakhaya River, some industrial development has been occurred. It is mainly developed by the road side of Dhaka-Sylhet highway. The major commercial places are Tarabo, Golakandail, Bhulta and Rupganj within this Thana area. It covers about 1.70% (382 ha) of the total land area.

Housing area: About 28.10% (6,164 ha) of total land area is occupied by the housing area. By the road side of Dhaka-Sylhet road at Tarabo, Bhulta and Golakandail and Rupganj Upzia head quarter, Kaliganj Upzia head quarter has some urbanized residential area with middle income group within this zone. Other than those areas, the remaining is the rural home stead area with low income people. There are some new planned residential areas developed in this zone area recently.

Housing Projects are being developed in this zone area –

- Purbachal Housing area developed by RAJUK
- Purbachal American City by private sector
- Purbachal Eastwood City by private sector
- Probashi Palli Housing project by private sector

These housing projects are situated by the road side of Dhaka-Bypass road from Mirer Bazar via Kanchan Bridge up to Bhulta.

Commercial area: It has smaller share of commercial activities in respect to other land use category within this zone. It has 0.70% (146 ha) of commercial activity area in respect of total land area. Mostly commercial areas are located along the Dhaka –Sylhet highway at Tarabo, Baraba Bazar, Barpa Bazar, the Dhaka-Kaliganj road at Kaliganj Upzia head quarter area and by the river side of the Shitalakhaya.

Transport Network: As the Dhaka By-pass road and Dhaka-Sylhet highway passes through this Upzia area, this area is always congested by Inter-district traffic. Dhaka-Kaliganj road and Rupganj to Araihasar road (towards Araihasar Upzia via Bhulta Bazar) are regional highways within this zone area. Other roads are feeder roads.

Road network on this Upzia is about 1.00% (212 ha) of total land area. The main artery is the Dhaka-Sylhet road after that the Dhaka By-pass and Dhaka-Kaliganj roads are also important roads within this zone area.

This zone is also connected by Dhaka – Chittagong railway line. Arikhola railway station is adjacent to Kaliganj Upzia head quarter. This railway line connects the people of Kaliganj with the people of Dhaka and Bhairab and also the people of Chittagong and Sylhet. The Shitalakhaya river is used as water ways by local people by using traditional boats in that area.

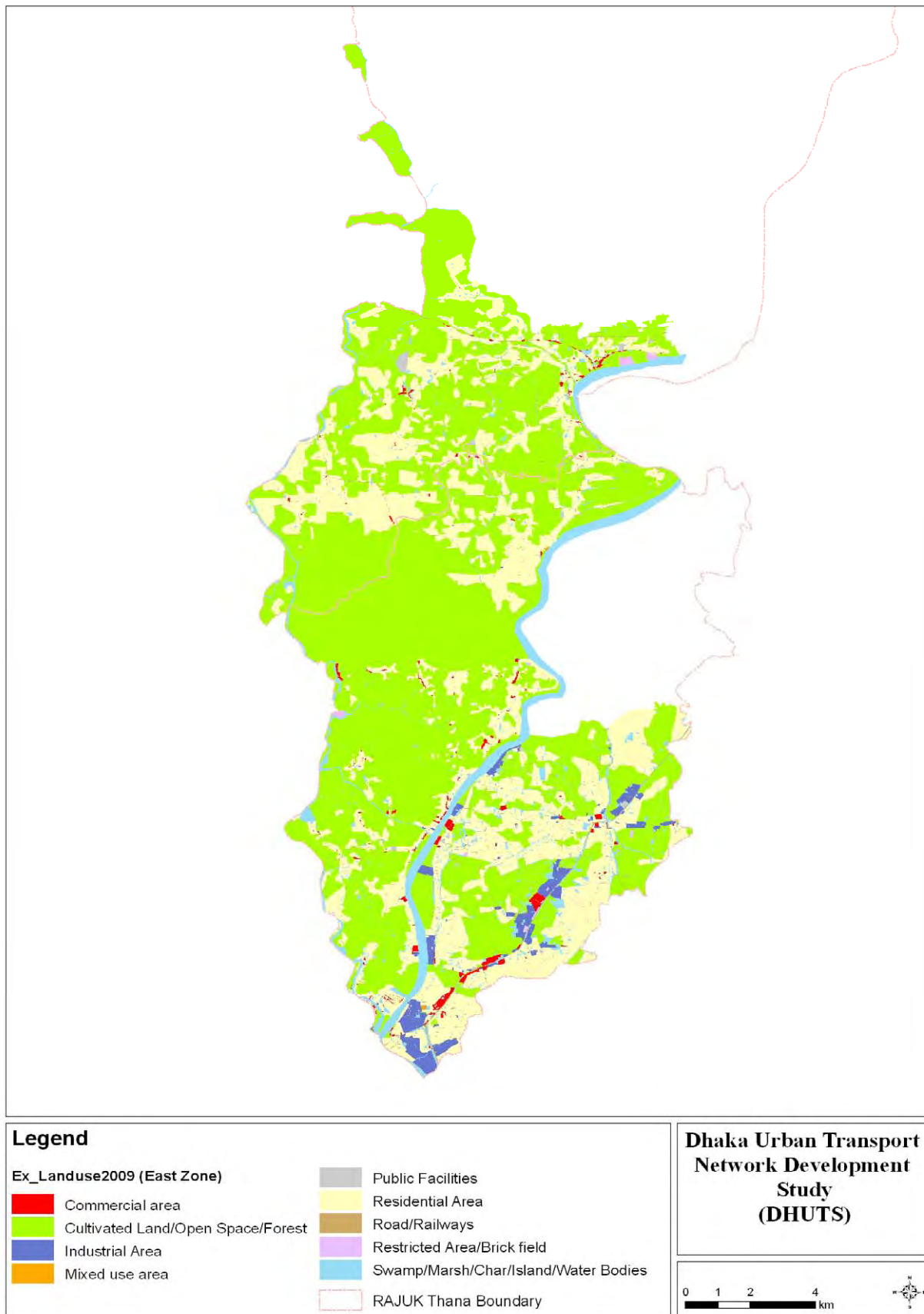


Figure 4.2-5 Existing Land Use in RAJUK East Zone (Year 2009)

4.2.6 RAJUK West Zone

General description: This zone consists of Savar Upzia and Eight unions (Hazratpur, Kalatia, Taranagar, Sakta, Rohitpur, Basta, Kalindi and Zinzira) of Keraniganj Upzia. About 92.73% land of this zone belongs to RAJUK administrative area. The total administrative area is 39,727 hectare (98,167.55 acre, 397.27 Sq. Km.). It has Savar and Keraniganj Upzia headquarters and Savar pourashava area within this Upzia area. The Dhaka-Aricha, Dhaka-Mawa and Nabinagar – Tangail highways pass through this area. Some industrial and commercial area is situated by the road side of these highways. The population of this area in the census 2001 was 1,105,466. As it is an industrial and commercial area, increase of population occurs day by day. The population density in 2001 was about 28 persons per hectare.

Table 4.2-6 shows land use composition and Figure 4.2-6 shows existing land use map in the RAJUK West Zone.

Table 4.2-6 Land Use Composition in RAJUK West Zone

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	1,0343.00	28.10	Park/Play Ground/Urban Green area	78.00	0.21
Commercial	185.00	0.50	Restricted Area /Brick Field	532.00	1.40
Industrial Area	570.00	1.50	Cultivated Land/Open Space/Forest	19,524.00	53.00
Mixed use area	74.00	0.20	Swamp/Marsh/Char/Island/Water Bodies	3,905.00	10.60
Public facilities	1,048.00	2.80	Not Available	28.90	7.27
Road/Railways	577.00	1.60			

Major activities in this area are summarized below.

Restricted area: About 2.36% (453 ha) land belongs to this land use category. There are some restricted areas within this zone area in which Savar Cantonment area is the prime restricted area.

Agricultural area: More than fifty percent area includes with this activity. It has some high value agricultural land as well as some low lying areas also. In this zone, about 53.00% (19,524 ha) area belongs to this agricultural activity. Besides that, about 10.60% (3,905 ha) area is char/water body/swamp area. In the dry season, some seasonal crops are grown in these char/swamp area.

The main crops grown in Savar area are Paddy, Jute, peanut, onion, garlic, chilli and other vegetables. The extinct or nearly extinct crops in the region are Aus paddy, Asha Kumari paddy, sesame, linseed, kali mator, randhuni saj, mitha saj, kaun and mas kalai. The main fruits cultivated here are Jackfruit, mango, olive, papaya, guava, kamranga, berry and banana. There are 181 combined fisheries, dairies and poultries Dairy, 5 hatcheries, 209 poultries, and 1,319 fisheries. (Source: website - Wikipedia)

Industrial area: The Savar Export Processing Zone is the main Industrial block by the road side of Nabinagar-Tangail road. By the road side of Dhaka-Arich highway, Hemayetpur-Singair road, Ashulia road, some industrial establishment is occurred. It has very insignificant in share in respect to

total land area. It covers about 1.50% (570 ha) of the total land area.

Manufacturing facilities include Ceramic industry, beverage industry, press and publication, garments industry, foot ware, jute mills, textile mills, printing and dyeing factory, transformer industry, automobile industry, biscuit and bread factory, pharmaceutical industry, soap factory, brick field, cold storage, welding, plant nursery, etc. Bangladesh Export Processing Zone is located in this zone. The Cottage industry includes 8 Weaving, 100 goldsmith and 29 others workshops. The main exports are Jackfruit, papaya, flower, sapling, dairy products, meat, transformer, fabrics, dye, medicine, readymade garments, electronics and electric goods, shoe, brick, sweetmeat etc. (Source: website - Wikipedia)

Housing area: About 28.10% (10,343 ha) of total land area is occupied by the housing area. By the road side area of Dhaka –Aricha, Nabinagar-Tangail road, Ashulia road and Dhaka-Keraniganj road, some urbanized residential area with the middle income group. And the remaining is the rural homestead area with low income people. New planned private housing areas are being developed by the real estate developers recently.

Private Housing Projects are being developed in this zone area –

- Modhumoti Model Town
- Nandakhali Abasik project
- Ashulia Model Town
- BRAC Concord Rainbow housing project

Still those housing projects have to get approval from RAJUK finally. Other private developers are developing other areas as planned residential areas within this zone area

Commercial area: The major commercial activity areas are the Hemayetpur, Savar Bazar, Nabinagar, Ganak Bari, Zirani area. By the river side of Buriganga and by the Dhaka-Keraniganj road side area, some commercial activity is situated here. It has smaller share among the all land use category. It is about 0.50% (185 ha) of commercial activity area in respect of total land area within this zone area.

There are 14 regular Hats and bazars here. Noted bazars are Savar, Nabinagar, Amin Bazar, Balibhadra and Bagbari Bazar. Noted hats include Ashulia, Savar, Shimulia, Kathgara, Sadullapur, Nayar hat (with adjoined bazar), and Vhakurar Hat. Prominent fairs include Darogali Bayati Mela (Nayarhat), Bahattar Prahara mela (Savar), Ghora Piner Mela (Nalam), Muharram Mela (Katlapur) and Pawsh Mela (Dhamsona). (Source: website - Wikipedia)

Transport Network: As Dhaka-Aricha and Nabinagar-Tangail highway passes through this Upzia area, this area is always congested by Inter-district traffic movement. Regional highways are the roads towards Rohitpur via Keraniganj, Keraniganj to Kalatia and Hazratpur to Hemayetpur is passes through this zone. Other roads are feeder roads. Road network on this Upzia is about 1.60% (577 ha)

of total land area. The main artery is the Dhaka-Aricha highway and the Nabinagar-Tangail highway also has a great importance for the northern district traffic movement. A new bridge over Buriganga River (Called as a 3rd Buriganga Bridge) has been recently open for the vehicular traffic movement connected Basila to Keraniganj area. It would play an important role for the better communications with Dhaka to Keraniganj.

There are 62 km of pucca, 56 km of semi pucca, 562 km of mud road; and 50 km of highway in the Savar area. Transports used here include the traditional (and extinct or nearly extinct) Palanquin, bullock cart and horse carriage in the rural areas and as well as modern day vehicles in the urban areas. (Source: website - Wikipedia)

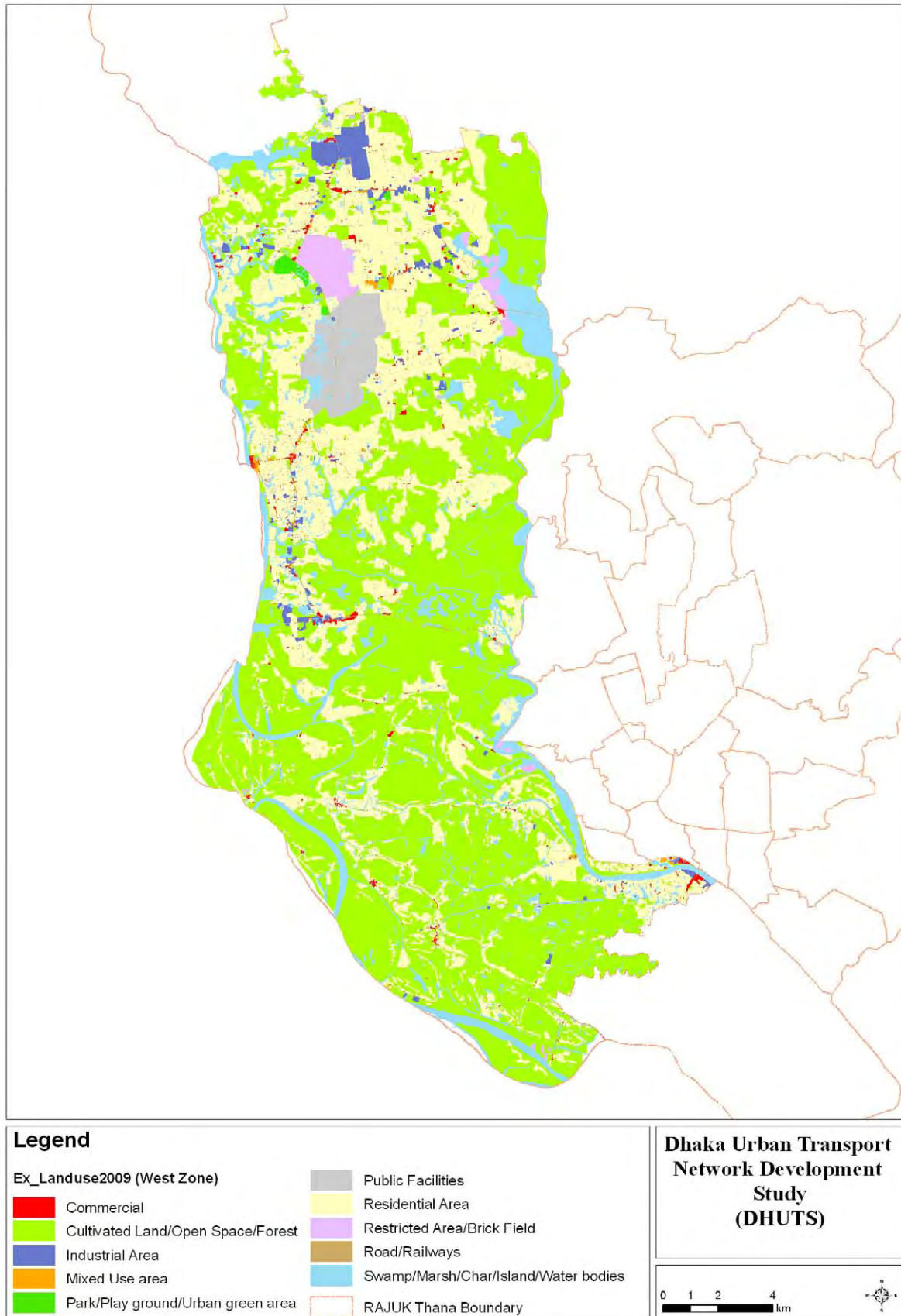


Figure 4.2-6 Existing Land Use in RAJUK West Zone (Year 2009)

4.3 Land Use Characteristics by Thana/Upzia

4.3.1 Badda Thana

General description: Badda Thana is situated east of DCC and it consists of ward number 17 and 21 and other three unions (Beraid, Dakshin Khan union-partly and Bhatara union-partly). This Thana is surrounded by the Balu River in the east. The total administrative area is 4,985 hectare (12,319 acre or 49.85 Sq Km.). The Progoti Sarani road passes through this area and it is major road in north – south direction from Kuril to Saidabad Bus Terminal via Malibag rail crossing. Some commercial activities are situated along the road of Progoti Sarani. The population of this area was 359,256 inhabitants and the population density was about 72 persons per hectare in 2001. The built up area is about 28% of total land area.

Table 4.3-1 shows the land use composition and Figure 4.3-1 shows land use map of 2009.

Table 4.3-1 Land Use Composition in Badda Thana, 2009

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	1,232.30	23.47	Park/Play Ground/Urban Green area	0.0	0.0
Commercial	63.26	1.20	Restricted Area /Brick Field	19.35	0.37
Industrial Area	5.27	0.10	Cultivated Land/Open Space/Forest	2,997.32	57.08
Mixed use area	11.44	0.22	Swamp/Marsh/Char/Island/Water Bodies	749.77	14.28
Public facilities	29.84	0.57	Not Available	0.0	0.0
Road/Railways	142.29	2.71			

Major activities in Badda Thana are summarized below.

Agricultural area: In this area, agriculture is dominant activity with the land area of 2,997 ha, which occupies about 57% of the total land area. This area is mostly low lying area. About 749 ha or 14% of the total land area is occupied by char/water body/swamp area. In the dry season, some seasonal crops are grown in these areas. Some of the agriculture and swamp areas in this Thana have been lost significantly by housing development in the peripheral area.

Industrial area: There are very few industrial developments along Progoti Sarani road.

Housing area: About 1,232 ha is occupied by the housing area, which corresponds to 23% of total land area. Residential areas are mostly located along Progoti Sarani road and Airport road (Joar Sahara towards Khilkhet). Other housings are characterized as homesteads scattered in agricultural areas mostly in the three unions. It can be seen some private housing developments in the north-east side of the Thana. Real estate developers will develop housing for high income group. Some of these private housing developments are:–

- Basundhara-Baridhara project
- Sornali Abasik project
- Sunvally Abashik project

- BDDL Natundhara Abashik prokolpo
- United city
- Xenovally Pink city

Basundhara-Baridhara project is partially approved by RAJUK, and rest of them are yet to be approved.

Commercial area: There are 63 ha of land of commercial activities, which occupies 1.2% of the total land area. Mostly commercial activities are located along the Progati Sarani road and other feeder roads. Some of important commercial activities are

- Jamuna Future Park
- Suvastu Nazar Vally shopping mall

Transport Network: Airport road and Progati Sarani road pass through this Thana in north-south direction. These roads are always congested by heavy traffic coming from northern area of Dhaka city. Airport road is one of the most congested roads in the city with inter district and intra-urban transport modes. At Kuril road intersection, traffics are divided in to two directions, one through Progati Sarani and the other through the Airport road towards Banani. A new road from Kuril road intersection towards Purbachal housing project is now under construction. For the better traffic movement, a flyover is to be built in this intersection. So, this Kuril road intersection has a great importance and it is the main entry to Dhaka's Central Business District (CBD). Along the new road toward Purbachal, many private housing development projects are now undergoing. The road area amounts to 142 ha or 2.7% of the total land area in this Thana.

The railway line runs in north-south direction in parallel with Airport road. There are two stations in this Thana: Airport station and Cantonment station. All trains coming from rest of the country to Dhaka have to pass through this area. Some small boats and trawler are frequently plying across the Balu River to carry people and goods. A new proposal for Eastern By pass road would go through the eastern part of this Thana.

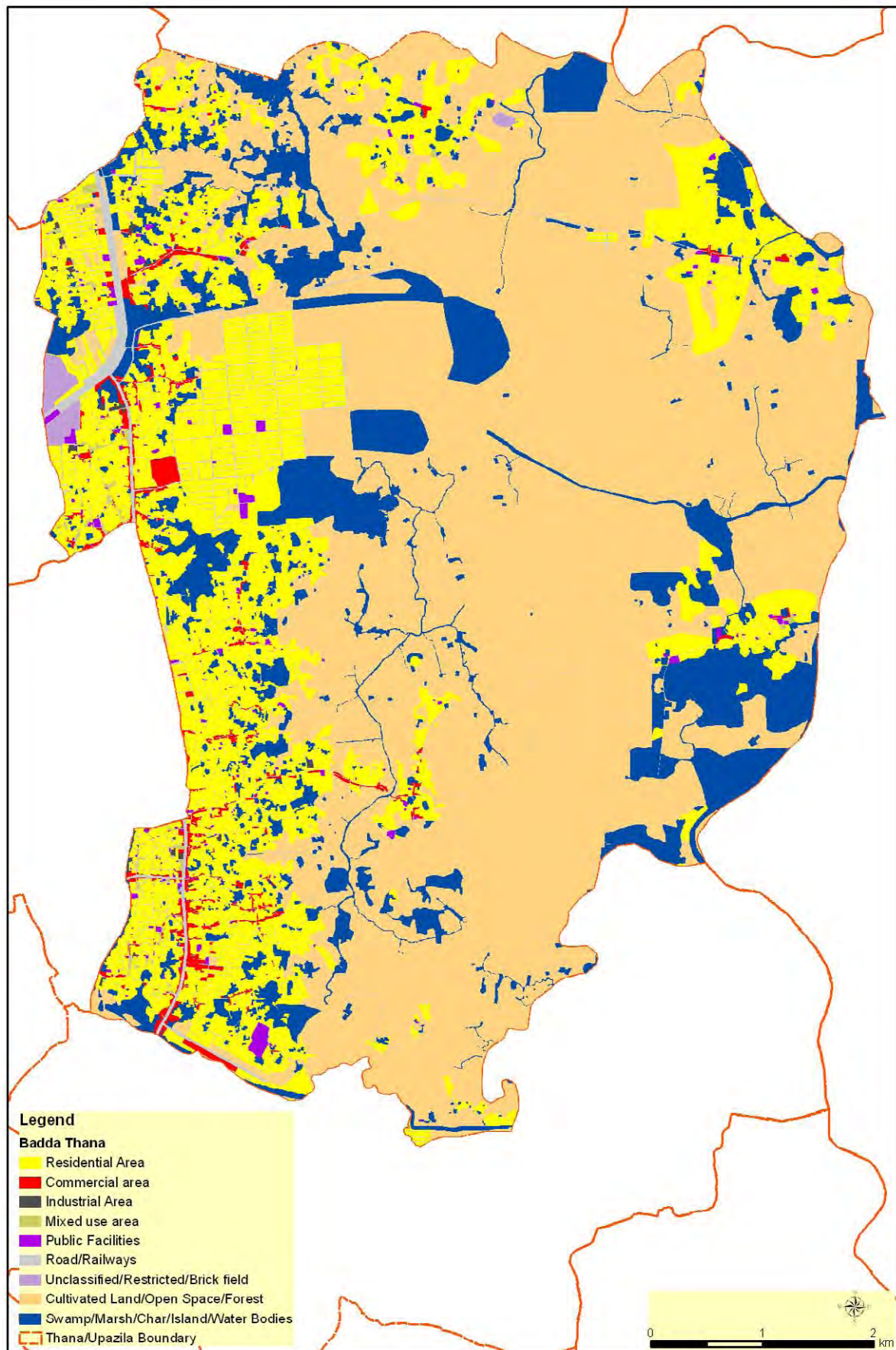


Figure 4.3-1 Existing Land Use Map in Badda Thana (Year 2009)

4.3.2 Bandar Upzia

General description: Bandar Upzia is situated in the east of Narayanganj and west of Sonargaon Upzia. The total administrative area is 5,584 hectare (13,798.37 acre or 55.84 Sq Km.). Administratively, there are Upzia headquarter and Kadam Rasul pourashava (municipality) in this Upzia. The Dhaka-Chittagong highway passes through in the north of the Upzia. Some industrial and commercial areas are situated along the Dhaka-Chittagong highway. This Upzia is surrounded by Shitalakhhaya River in the west and by Old Brahmaputra in the east. The population of this area was 197,839 inhabitants in 1981, 212,572 inhabitants in 1991 and 250,220 inhabitants in 2001. From 1991 to 2001 the population has been increased by 37,648 people. The population density was about 45 persons per hectare in 2001. The built up area amounts to 37% of total land area.

Table 4.3-2 shows the land use composition and Figure 4.3-2 shows land use map of 2009.

Table 4.3-2 Land Use Composition in Bandar Upzia

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	1,843.75	30.80	Park/Play Ground/Urban Green area	2.32	0.04
Commercial	41.78	0.70	Restricted Area /Brick Field	128.44	2.15
Industrial Area	118.06	1.97	Cultivated Land/Open Space/Forest	2,792.30	46.65
Mixed use area	7.38	0.12	Swamp/Marsh/Char/Island/Water Bodies	848.90	14.18
Public facilities	119.85	2.00	Not Available	0.0	0.0
Road/Railways	83.46	1.39			

Major characteristics of land use in Bandar Upzia are summarized below.

Agricultural area: This area is mostly occupied by low lying area. There are 2,792 ha of agricultural land, which corresponds to 46.6% of the total land area. There are some 848 ha (14%) areas of water body/char/island/swamp. The water bodies within this Thana are mainly river, big ditches and ponds.

Industrial area: The areas along Dhaka-Chittagong highway and Dhaka By-pass road, some industrial developments have been occurred. There are 118 ha of industrial area in this Upzia, which corresponds to about 2% of the total land area. It is mainly located along the Shitalakhhaya River and both sides of Dhaka-Chittagong highway at Islamia Bazar and Kadam Rasul Pourashava.

Housing area: There are 1,843 ha of residential area, which occupies about 30% of the total land area. The residential areas are mainly located in Islamia Bazar near Madanpur in the Dhaka-Chittagong Highway, Kadam Rasul Pourashava and Upzia head quarter areas. These housing are mainly for middle income group. In addition, rural home stead housing are scattered within this area. Recently, private housing project near Islamia Bazar, named BDC North Town, is under development with the total area of 108 acres.

Commercial area: There are total of 41 ha of commercial area. Major commercial activities are

located along the Dhaka –Chittagong highway at Islamia Bazar and at Kadam Rasul pourashava.

Transport Network: Dhaka-Chittagong road and Dhaka By-pass road passing through this Upzia. These roads are always congested by inter-district traffic. A regional highway is connected toward Araihasar Upzia via Nayapur Bazar. Other roads are all feeder roads. There are total of 83 ha of road area, which is only 1.4% of the total land area in Bandar Upzia.

Bandar Upzia headquarter is situated at the eastern side of the Shitalakhhaya river. Kadam Rasul pourashava is situated north of Upzia headquarter. Narayanganj pourashava and Kadam Rasul Pourashava are located in both sides of the Shitalakhhaya River. These two pourashavas are not connected by bridge. People have to cross the river by local boat or ferry. From Bandar to Narayanganj, need to cross the bridge at Kanchpur.

Public facilities: There are about 119 ha of land area used for public facilities. The biggest public facility in this Upzia is a power station at Haripur, which has a great contribution in the power supply in the country.

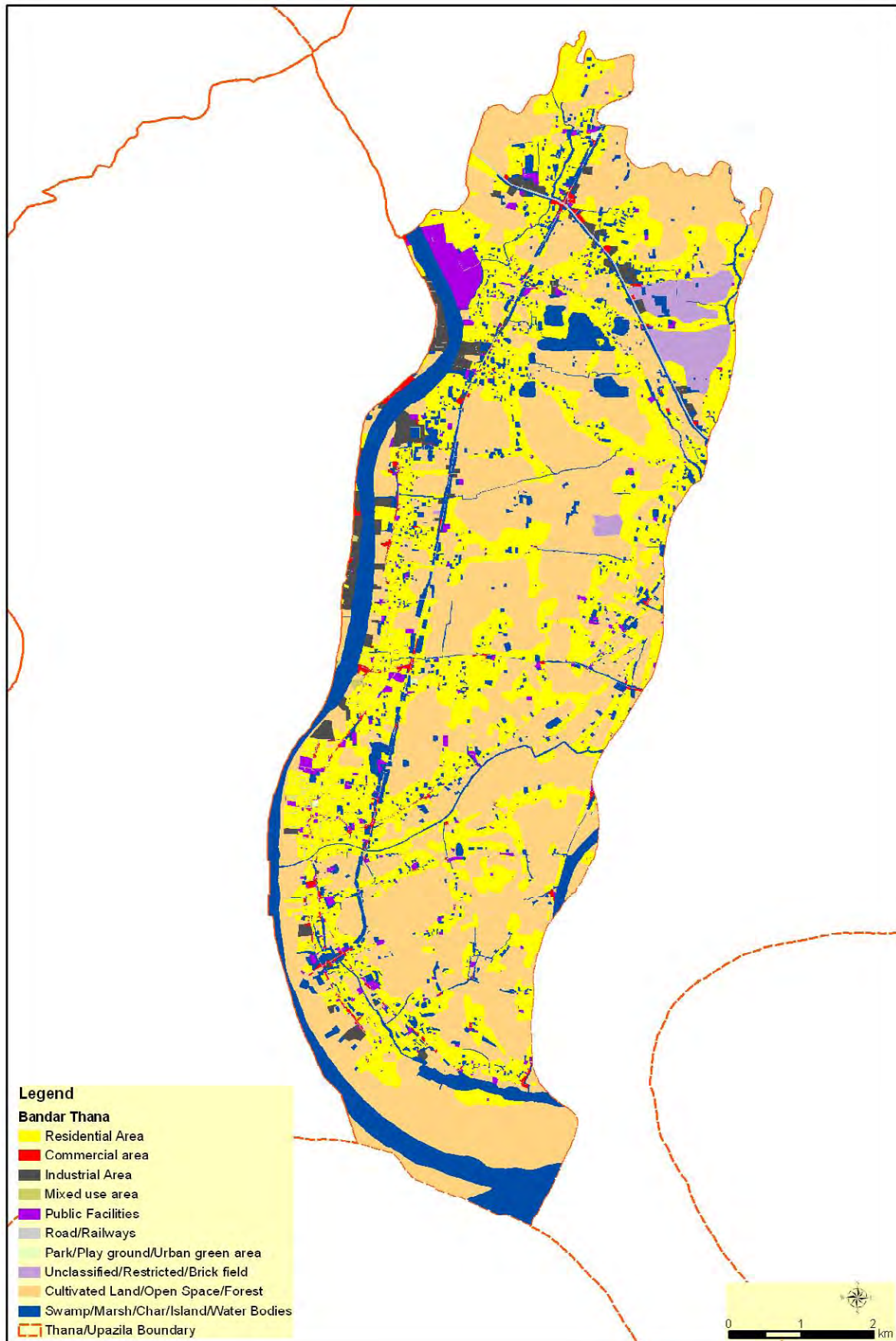


Figure 4.3-2 Existing Land Use in Bandar Upzia (Year 2009)

4.3.3 Biman Bandar Thana

General description: Biman Bandar Thana is situated north of Dhaka City Corporation (DCC) and surrounded by Uttara Thana in north, east and west. It consists of ward no.1 (partially) and Dakshin Khan Union (partially). Most of the land in this Thana belongs to the Zia International Airport. This Thana has an administrative area of 446 hectare (1,104 acre or 4.47 Sq. Km). The population of this area was 5,079 inhabitants and the population density was about 11 persons per hectare in 2001. The built up area amounts to 20.8% of total land area.

Table 4.3-3 shows land use composition and Figure 4.3-3 shows land use map of Biman Bandar Thana.

Table 4.3-3 Land Use Composition in Biman Bandar Thana

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	118.27	14.74	Park/Play Ground/Urban Green area	0.00	0.00
Commercial	8.32	1.04	Restricted Area /Brick Field	538.34	67.08
Industrial Area	0.38	0.05	Cultivated Land/Open Space/Forest	36.78	4.58
Mixed use area	0.16	0.02	Swamp/Marsh/Char/Island/Water Bodies	66.27	8.26
Public facilities	4.81	0.60	Not Available	0.00	0.00
Road/Railways	29.15	3.63			

Major characteristics of land use in Biman Bandar Thana are summarized below.

Restricted area: Biman Bandar Thana has a vast land belongs to Zia International Airport with 538.34 ha, which occupies 67% of the total land in the Thana. Dhaka-Mymensingh highway bisects this Thana into two parts: one in the west is the Airport and other is in the east with some residential areas.

Housing area: The housing area is mostly located in the eastern part of the Dhaka-Mymensingh road with the area of 118 ha. Most of these housing areas were developed by RAJUK and the residents are high/middle income group. A private housing project named “Asian City” is now ongoing at the eastern side of this Thana.

Commercial area: It has 1.04% (8.32 ha) of commercial area. Most of commercial areas are located along the eastern side of Dhaka – Mymensingh highway.

Transport Network: Dhaka-Mymensingh highway passes through this Thana in north-south direction, which is always congested by intercity and intra city traffic. There are 29 ha of road area, which corresponds to 3.6% of the total land area. Bangladesh railway line is also running through in parallel to the Dhaka-Mymensingh highway. The airport railway station is located at the entrance of international airport.

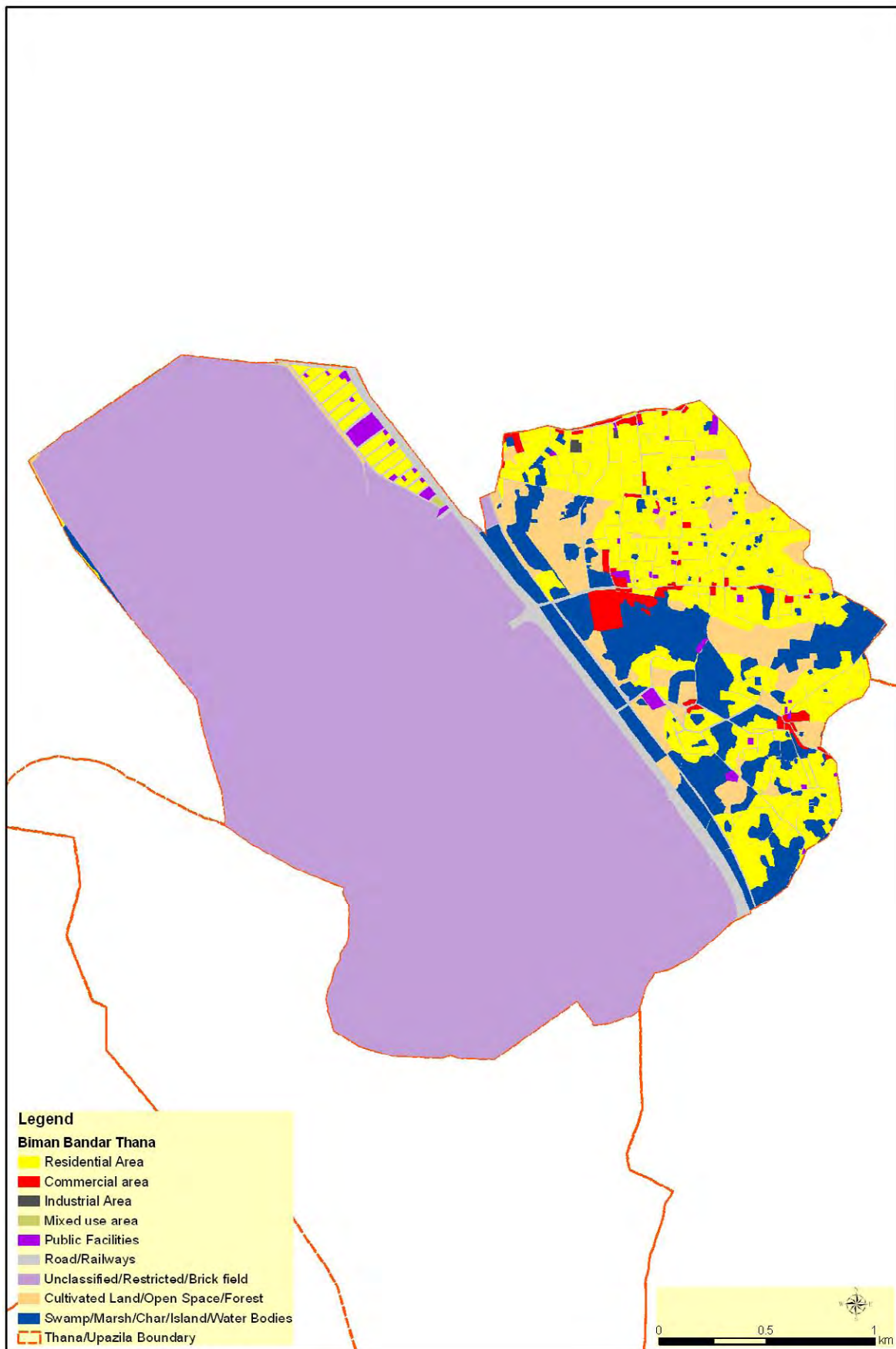


Figure 4.3-3 Existing Land Use in Biman Bandar Thana (Year 2009)

4.3.4 Cantonment Thana

General description: Cantonment Thana is situated in the middle of Dhaka City Corporation (DCC). Cantonment is exclusively restricted area. The total administrative area is 1,044 hectare (2,580 acre or 10.44 Sq. Km.). The Dhaka-Mymensingh highway passes through this area and some commercial areas are situated along the highway. The population in this Thana has increased from 105,659 inhabitants in 1981 to 117,464 inhabitants in 2001. The Population density was about 112 persons per hectare in 2001.

Table 4.3-4 shows land use composition and Figure 4.3-4 shows land use map of Cantonment Thana.

Table 4.3-4 Land Use Composition in Cantonment Thana

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	56.11	6.03	Park/Play Ground/Urban Green area	0.72	0.08
Commercial	1.80	0.19	Restricted Area /Brick Field	812.17	87.27
Industrial Area	0.00	0.00	Cultivated Land/Open Space/Forest	6.74	0.72
Mixed use area	1.09	0.12	Swamp/Marsh/Char/Island/Water Bodies	12.94	1.39
Public facilities	8.37	0.90	Not Available	0.00	0.00
Road/Railways	30.69	3.30			

Major characteristics of land use in Cantonment Thana are summarized below.

Restricted area: Most of the land in this Thana belongs to the Dhaka Cantonment. About 812 ha (87.3% of the total land) is occupied by the restricted area.

Housing area: There are only small portion of housing areas living civilian people in this Thana. About 56 ha or 6.0% of total land area is occupied by the housing area. This area is mostly developed for high density residential area for middle income group.

Transport Network: As it is a fully restricted area, the road infrastructure belongs to Cantonment Board. The road network is only 30.69 ha or 3.3% of the total land area. The main artery in this Thana area is the Dhaka-Mymensingh highway. Dhaka-Chittagong railway line also passes through this Thana.

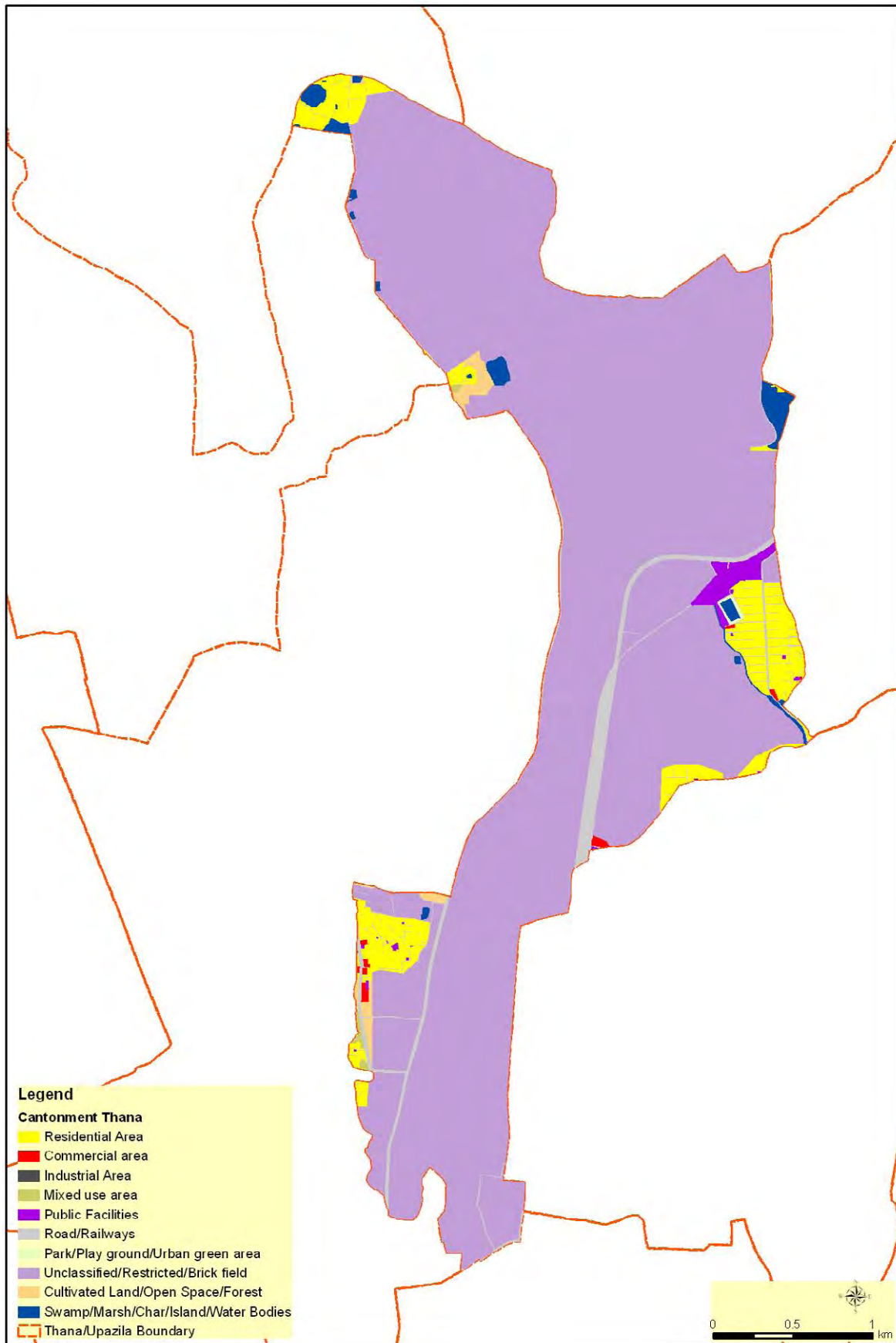


Figure 4.3-4 Existing Land Use in Cantonment Thana (Year 2009)

4.3.5 Demra Thana

General description: Demra Thana is situated in the South-East of Central Business District (CBD) of DCC. It is surrounded by Narayanganj Upzia in the south and by the Balu River in the east. The Thana consists of ward no.84, 85 and 86 and Demra union-partially, Matuail union-partially and Dhania union-partially. The total administrative area is 3,965.51 hectare (9,799 acre or 39.66 Sq. Km.). Dhaka-Chittagong and Dhaka-Demra Regional highways pass through this area. Some industrial and commercial area is situated by the road side of those highways. The population in this area has increased significantly from 292,093 in 1981 to 427,972 in 1991 and to 521,160 in 2001. The population density was 108 persons per hectare in 2001. The built up area amounts to 45.6% of total land area.

Table 4.3-5 shows land use composition and Figure 4.3-5 show the existing land use map of Demra Thana.

Table 4.3-5 Land Use Composition in Demra Thana

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	1,204.47	34.83	Park/Play Ground/Urban Green area	1.93	0.06
Commercial	37.47	1.08	Restricted Area /Brick Field	0.66	0.02
Industrial Area	92.15	2.67	Cultivated Land/Open Space/Forest	1,291.99	37.37
Mixed use area	34.49	1.00	Swamp/Marsh/Char/Island/Water Bodies	588.90	17.03
Public facilities	76.02	2.20	Not Available	0.00	0.00
Road/Railways	129.59	3.75			

Major characteristics of land use in Demra Thana are summarized below.

Agricultural area: This Thana is still dominant by agricultural land use. There are about 1,292 ha of agricultural land, which occupies 37% of the total land area. The agricultural lands are mostly situated in northern side of Demra –Tarabo road. The lands between the Dhaka-Chittagong Highway and the Dhaka-Narayanganj-Demra (DND) embankment are occupied by low lying area with water body and swampy area (589 ha). In the dry season, some seasonal crops are grown in this low lying swampy area.

Industrial area: There are some industrial areas along Dhaka-Chittagong highway and Dhaka-Demra-Tarabo regional highway, with the area of 92 ha.

Housing area: About 34.83% (1,204.47) of total land area is occupied by the housing area. This area has been developed as densely populated area for middle and low income groups. The residential areas are mostly located in Saidabad, Jatrabari, and in DND triangle area. The enclave within DND embankment area is a low lying area. There is some rural home stead housing along the agricultural land. Some private real estate developers have new residential development5 plan in this Thana. Some of the private housing areas are:

- Green Model Town
- BRAC Concord Rajdhani Prokalpa
- BRAC Concord Krishnachura Prokalpa

Concord Rajdhani Abashik prokolpo and Krishnachura prokolpo are located near the Demra –Tarabo road and Green Model town is located in the northern side of this Thana. These housing developments are now undergoing.

Commercial area: Most of commercial areas are located along the Dhaka – Chittagong highway at Saidabad, Jatrabari and near Demra ghat area. It has 37.4 ha in total.

Transport Network: Dhaka-Chittagong highway and Dhaka-Demra-Tarabo regional highway passes through this area, and these roads are always congested by intercity and intra city traffic. Road area occupies 129.5 ha in total, which is only 3.7% of total land area. The main artery is the Dhaka-Chittagong highway. And other connector roads are from Jatrabari-Demra-Tarabo towards Bhulta and from Demra Ghat towards Shimrail. The Saidabad Bus terminal is located here, which serves inter-district buses from the north-eastern, eastern and south-eastern districts.

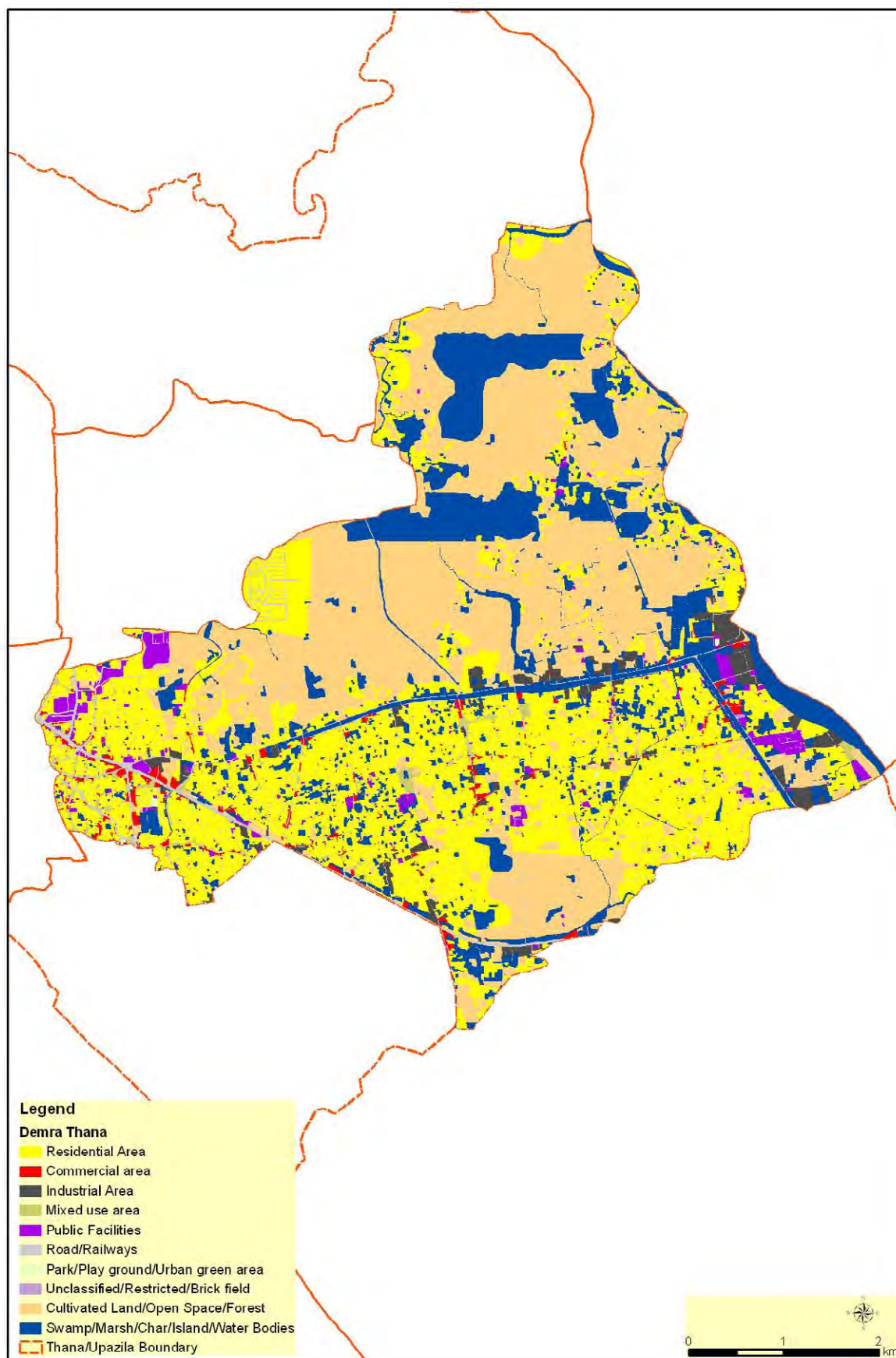


Figure 4.3-5 Existing Land Use in Demra Thana (Year 2009)

4.3.6 Dhanmondi Thana

General description: Dhanmondi Thana is situated in the western side of Dhaka City Corporation. In this Thana, Dhanmondi Residential area occupied most of the land. It consists of ward no. 48 (partly), 49, 50, 51 (partly) and 52. The total administrative area is 623.21 hectare (1,540 acre or 6.23 Sq. Km.). The Mirpur road and the Satmasjid road are the main arterial road in this Thana. Some commercial area is situated by these main roads. The population of this area has increased from 113,009 in 1981 to 201,529 in 1991 and to 252,519 in 2001. The population density was quite high with 405 persons per hectare in 2001. Almost all the areas are built up area.

Table 4.3-6 shows land use composition and Figure 4.3-6 show the existing land use map of Demra Thana.

Table 4.3-6 Land Use Composition in Dhanmondi Thana

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	279.49	48.29	Park/Play Ground/Urban Green area	15.68	2.71
Commercial	20.85	3.60	Restricted Area /Brick Field	60.81	10.51
Industrial Area	0.50	0.09	Cultivated Land/Open Space/Forest	1.13	0.19
Mixed use area	46.37	8.01	Swamp/Marsh/Char/Island/Water Bodies	19.94	3.44
Public facilities	59.00	10.19	Not Available	0.00	0.00
Road/Railways	75.06	12.97			

Major characteristics of land use in Dhanmondi Thana are summarized below.

Restricted area: In this Thana, There are 60.8ha of restricted area, which is about 10.5% of the total land area. They are: Bangladesh Rifles (BDR) head quarter and Bangladesh National Scientific and Technical Documentation Centre (BANSDOC).

Industrial area: In this Thana area, Industrial activities are negligible. It covers only 0.09% (0.50 ha) of the total land area. Some industries are located west of BDR head quarter and east of Rayer Bazar area.

Housing area: About 48.29% (279.49 ha) of total land area is occupied by the housing area. This is the third largest housing area among the all Thana/Upzia within RAJUK administrative area. In this area, Dhanmondi residential area occupies the major portion of this residential area. In the western part of this Thana, residential area is located in a haphazard manner and the road network is not so well developed. Other areas like Kala Bagan, Kathal Bagan, Bhuter goli Pantho path and Green road area and Neelkhet areas are also residential area but the road network in the inner side is not so well planned. These areas are mostly developed by high income group and as well as also for the higher middle income group.

Commercial area: It has 3.60% (20.85 ha) of commercial activity area in respect of total land area. As this area is mostly residential areas, commercial activities are also located near by the residential

areas. These areas are New Market area, Gausia market, Eliphant road, Eastern plaza, Neelkhet area. Other areas like Kala Bagan, Kathal Bagan, Bhuter goli Pantho path and Green road area areas are also have some commercial activities. The shopping malls are mainly located on both sides of the Mirpur road at Dhanmondi road #4 to 7, at Kala bagan, at Sukrabad and Sobhan bag area.

Transport Network: Road network on this Thana is mostly 12.97% (75.06 ha) in respect to the total land area. As there is a planned residential area, so road hierarchy is maintained in Dhanmondi residential area. The major roads are Mirpur road, Satmasjid road, Elephant road, Green Road, Pantho path road, Jahir Raihan road. Actually these roads are always congested due to heavy traffic volume in this area.

Public Facilities: There are several educational institutions like Dhaka College, Teacher's Training College and NIAM.

Play Ground / Urban Green Area: As it is a planned residential area, play ground is about 2.71% (15.68 ha) of total land area. It has Dhanmondi play ground, Abahani Krira chakra play ground and Kala Bagan Krira Chakra play ground are the major play grounds in that area.

Mixed Use area: About 8.01% (46.37 ha) land area belongs to this activity. In Dhanmondi residential area, the mixed use areas are the residential plus commercial activity area within this Thana.

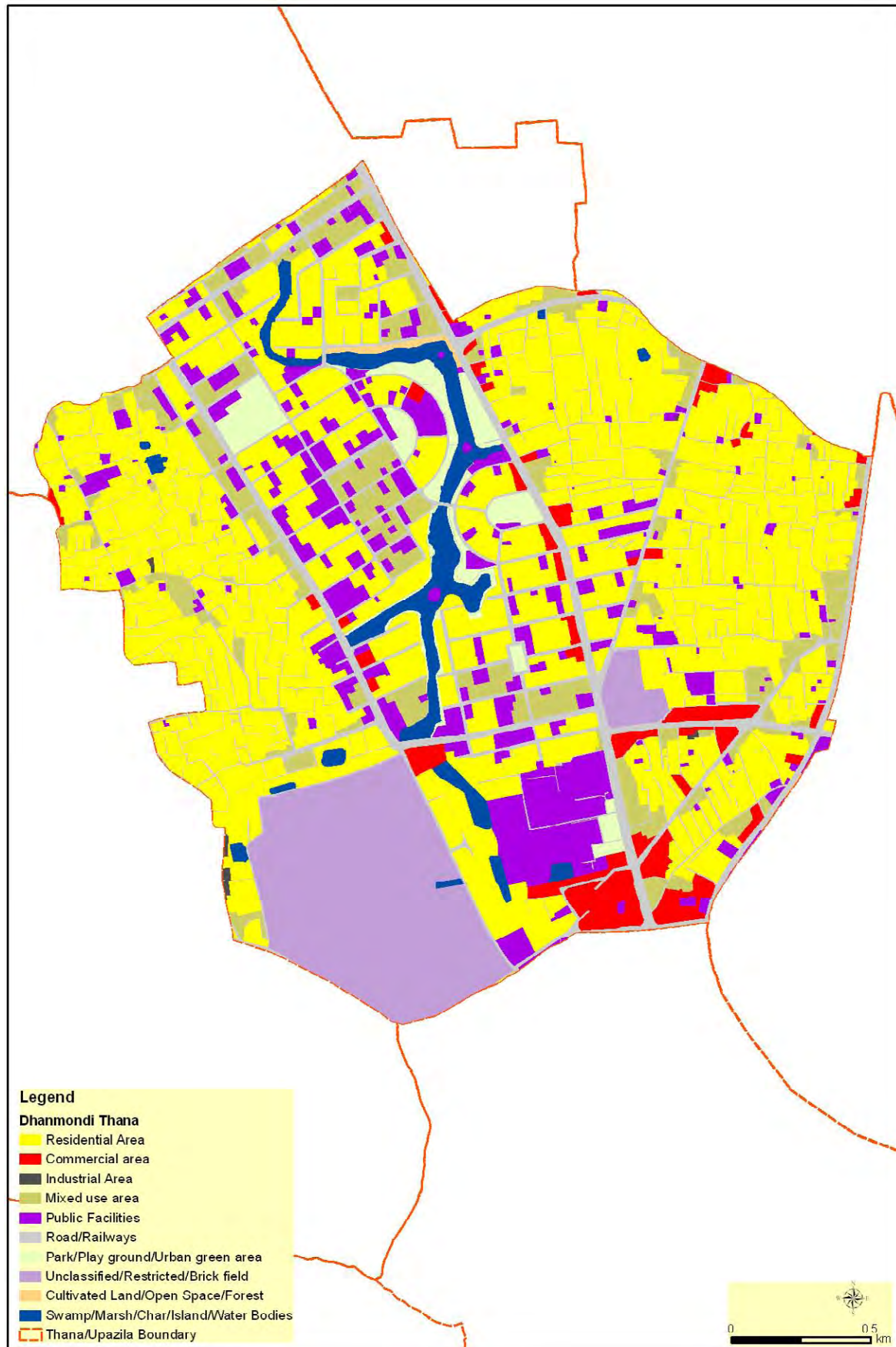


Figure 4.3-6 Existing Land Use in Dhanmondi Thana (Year 2009)

4.3.7 Gazipur Sadar Upzia

General description: Gazipur Sadar Upzia is situated north of Dhaka Metropolitan Area (DMA). About 60.64% land of this Upzia belongs to RAJUK administrative area. The total administrative area is 44637.99 hectare (110302.9 acre, 446.38 Sq. Km.). It has Upzia headquarter and Gazipur pourashava and Tongi pourashava area within this Upzia. The Dhaka-Mymensingh highway passes through this area. Some industrial and commercial activities are situated by the road side of that highway. The population of this area in the census 2001 was 866,540 and in the census 1991, it was 588,492. In 1981, the population was 377,333. In ten years interval from 1991 to 2001 the population has been increased up to 278,048. As it is an industrial and commercial area, increase of population occurs day by day. The population density in 2001 was about 19 persons per hectare. The built up area of this Upzia is 26.95% of total land area.

Table 4.3-7 shows land use composition and Figure 4.3-7 show the existing land use map of Gazipur Sadar Upzia.

Table 4.3-7 Land Use Composition in Gazipur Sadar Upzia.

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	10,615.85	23.22	Park/Play Ground/Urban Green area	2.16	0.00
Commercial	273.52	0.60	Restricted Area /Brick Field	262.24	5.07
Industrial Area	334.01	0.73	Cultivated Land/Open Space/Forest	13,457.36	29.43
Mixed use area	85.40	0.19	Swamp/Marsh/Char/Island/Water Bodies	1,684.48	3.68
Public facilities	465.97	1.02	Not Available	17,997.40	39.36
Road/Railways	543.92	1.19			

Major characteristics of land use in Gazipur Sadar Upzia are summarized below.

Agricultural area: This area is mostly dominant by agricultural land. About 29.43% (13457.36 ha) area belongs to this activity. This land area is relatively high value agricultural land in respect to southern part of the RAJUK area. About 3.68% (1684.48 ha) area is char/island/swamp area. These swampy areas are situated by river side of Turag in the south-eastern and eastern part of this Upzia area. In the dry season, some seasonal crops are grown in these char/island area.

Industrial area: By the road side of Dhaka-Mymensingh highway, some industrial development has been occurred. The Tongi area is the major industrial area in this Upzia. Another industrial zone is in the eastern side of the Upzia in Kashimpur union. Beximco Industrial park is situated near by the Zirani Bazar. Other industrial areas are situated in a scattered way by the side of river or by the side of major roads. It covers about 0.73% (334.01 ha) share in respect to the total land area within this Upzia area.

Housing area: About 23.22% (10,615.85 ha) of total land area is occupied by the housing area. Gazipur and Tongi pourashava have their urbanized housing area with middle income group. Others are the rural home stead area with low income people around the agricultural land within this Upzia

area. Now Real estate Developers are developing new planned residential areas within this Upzia area.

Private Housing Projects are being developed in this Upzia area –

- BDC North Town project
- Great Wall City
- Probashi Palli-1

BDC north town is situated north of Tongi Municipality, Great wall city is situated north-east of Joydevpur road intersection and Probashi Palli-1 is situated south of Mirer Bazar within this Upzia. These areas are being developed for middle income/higher middle income group within this Thana area.

Commercial area: It has 0.60% (273.52 ha) of commercial activity area in respect of total land area. By road side of Dhaka-Mymensingh highway, commercial activities have been occurred and the Gazipur and Tongi pourashava areas are the major commercial activity area in this Upzia. Among those areas, Tongi pourashava area has the most commercial activity area.

Transport Network: Dhaka-Mymensingh highway passes through this Upzia, and it is always congested by heavy traffic. Dhaka By-pass road goes through this area starting from Kadda Bazar towards Kanchan Bridge. Small portion of Kaliakoir-Joydevpur Highway and The Dhaka By-pass are the two National Highways. Tongi to Mymensingh, Tongi to Kaliganj, Joydevpur to Narshindi and Gazipur Bazar to Chatar Bazar are the regional highway passes through this Upzia. The total area for road network is 543.9 ha, which is only 1.2% of the total land area of the Upzia. Dhaka–Chittagong, Dhaka-Tangail and Dhaka-Mymensingh railway line passes through this area. Tongi railway junction and the Joydevpur railway junction is the transfer hub of this area to go to different districts of the country.

Restricted area: There is Army Machine Tools Factory in the northern side of the Upzia. Bangladesh Ordnance Factory (BOF) and Security Printing Press are located in the Upzia. The total land area of restricted area is 262 ha.

Public Facilities: Major public facilities are

- Bangladesh Agricultural Research Institute (BBRI)
- Central Extension Resources Development Institute (CERDI)
- Seed Certification Agency (SCA)
- BRAC Dairy Farm
- Dhaka University of Engineering and Technology (DUET)
- Bangobondhu Sheikh Mujibur Rahman Agriculture University (BSMRAU)
- National University
- Bangladesh Open University (BOU)

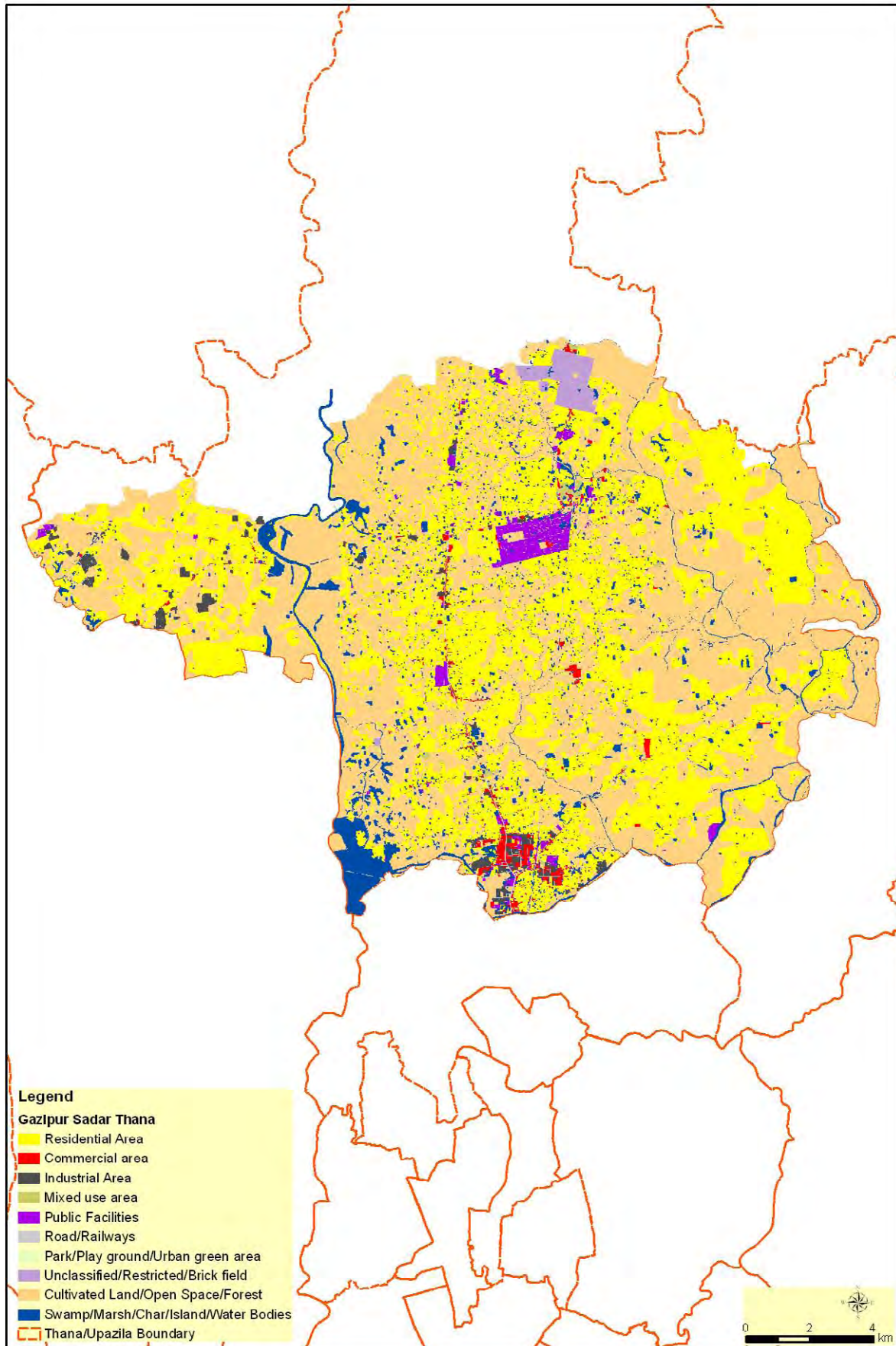


Figure 4.3-7 Existing Land Use in Gazipur Sadar Upzia (Year 2009)

4.3.8 Gulshan Thana

General description: Gulshan Thana is situated middle of Dhaka City Corporation (DCC). The total administrative area is 1,028.7 hectare (2,542 acre or 10.29 Sq. Km.). It consists of ward no. 18, 19 and 20. Some industrial and commercial areas are located along the major roads within this Thana. The population was 174,133.inhabitants in 1981, 281,337 inhabitants in 1991 and 190,590 inhabitants in 2001. From 1991 to 2001 the population has been decreased by 90,747 because of change of administrative boundary. The population density was 185 persons per hectare in 2001.

Table 4.3-8 shows land use composition and Figure 4.3-8 show the existing land use map of Gulshan Thana.

Table 4.3-8 Land Use Composition in Gulshan Thana

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	279.49	48.29	Park/Play Ground/Urban Green area	15.68	2.71
Commercial	20.85	3.60	Restricted Area /Brick Field	60.81	10.51
Industrial Area	0.50	0.09	Cultivated Land/Open Space/Forest	1.13	0.19
Mixed use area	46.37	8.01	Swamp/Marsh/Char/Island/Water Bodies	19.94	3.44
Public facilities	59.00	10.19	Not Available	0.00	0.00
Road/Railways	75.06	12.97			

Major characteristics of the land use in Gulshan Thana are summarized below.

Restricted area: In the western and northern part of this Thana, there is Dhaka Cantonment with high class army residents in Banani DOHS. About 10.5% (60.8 ha) land is occupied by Dhaka Cantonment.

Housing area: In this Thana, there are many planned residential areas; these are Banani, Gulshan and Baridhara residential areas. Those planned residential areas cover a large portion of the residential area in this Thana. Other residential areas are spontaneous development by the local people. The residents in this Thana are mostly high income and middle income group. There are some low income group residential areas in the south-western part of the Banani Lake.

Commercial/Industrial area: The commercial activities are mostly located in Gulshan-1, Gulshan-2, Kamal Attaturk Avenue, Mohakhali-Gulshan-1 road, Uttar Badda, Natun Bazar and Nadda area. It has 20.8 ha of commercial land use, which occupies 3.6% of total land area. There is very small industrial activity in Gulshan Thana.

Transport Network: The main artery is the Airport road, Progati Sarani road, Kamal Ataturk Avenue, Mohakhali to Gulshan-1 road, Shooting Club-Gulshan1-Gulshan2, and up to Baridhara DOHS road. The Bangladesh Railway line passes through in the western side of this Thana. The railway track started from Tongi railway junction towards Kamalapur railway station. Some portion of Mohakhali Fly-over is situated in this Thana.

Public facilities: There are educational institutions, hospitals, clinics, foreign embassies and high commissions in this Thana, with the total land area of 59 ha.

Play ground/Park: Some play ground, parks and urban green area are situated in the planned residential areas in this Thana. They are: Banani play ground, Baridhara play ground and Wander land park in Gulshan area.

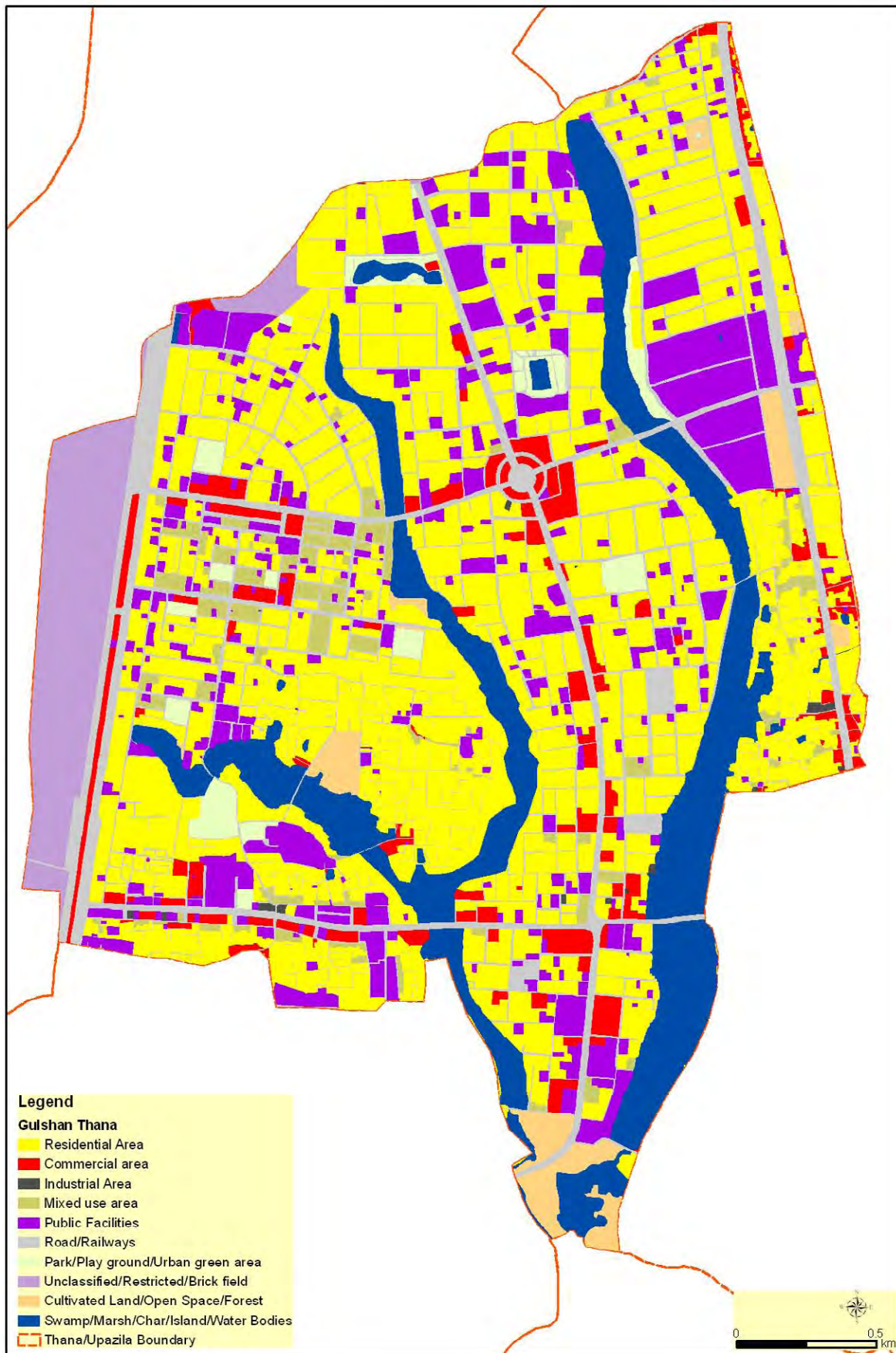


Figure 4.3-8 Existing Land Use in Gulshan Thana (Year 2009)

4.3.9 Hazaribag Thana

General description: Hazaribag Thana is situated in the west of DCC. It is surrounded by Mohammadpur and Dhanmondi Thana in the north and east. It consists of ward no. 47 (partly), 48 (partly) and 58. The total administrative area is 589.22 hectare (1456 acre or 5.89 Sq. Km.). Some industrial and commercial area is situated in the middle of this Thana. The population was 127,370 habitants and the population density was about 216 persons per hectare in 2001.

Table 4.3-9 shows land use composition and Figure 4.3-9 show the existing land use map of Hazaribag Thana.

Table 4.3-9 Land Use Composition in Hazaribag Thana

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	150.66	30.57	Park/Play Ground/Urban Green area	30.57	0.14
Commercial	6.08	1.23	Restricted Area /Brick Field	0.58	0.12
Industrial Area	24.97	5.07	Cultivated Land/Open Space/Forest	159.71	32.40
Mixed use area	23.54	4.78	Swamp/Marsh/Char/Island/Water Bodies	92.17	18.70
Public facilities	16.81	3.41	Not Available	0.00	0.00
Road/Railways	17.64	3.58			

Major characteristics of the land use in Gulshan Thana are summarized below.

Agricultural area: This area is dominant by agricultural land use with the total land area of 159.7 ha. The eastern side of the Thana is occupied by agricultural land and char/water body/swamp with the land area of 92.2 ha. In the dry season, some seasonal crops are grown in these char/swamp area.

Industrial area: The Middle Eastern portions of this area are used for industrial activities, which covers about 5.07% (24.97 ha) of the total land area.

Housing area: About 30.57% (150.66 ha) of total land area is occupied by the housing area. These housing areas are mostly in unplanned and haphazard manner. Residential areas are located in the eastern, south-western and north-western areas in this Thana. These areas are developed with high density residential area with lower-middle income group.

Commercial area: It has 1.2% (6.1 ha) of commercial activity, which is mostly concentrated on the eastern side of the Thana.

Transport Network: There is about 17.6 ha (3.5%) of the land area used for roads and transport facilities. The main road is the western Embankment cum road starting from Gabtali to Babu Bazar in the south of this Thana. This road has a great importance to reduce traffic congestion in the inner city by bypassing some traffic on this road as a western Ring road in the periphery of the city.

Mixed use area: There are about 23.5 ha of mixed use area with residential, commercial and small industries. The mixed use area is occupied by high density with mainly low income people.

Public Facilities: There is Shikdar Women Medical College in the western side of the embankment.

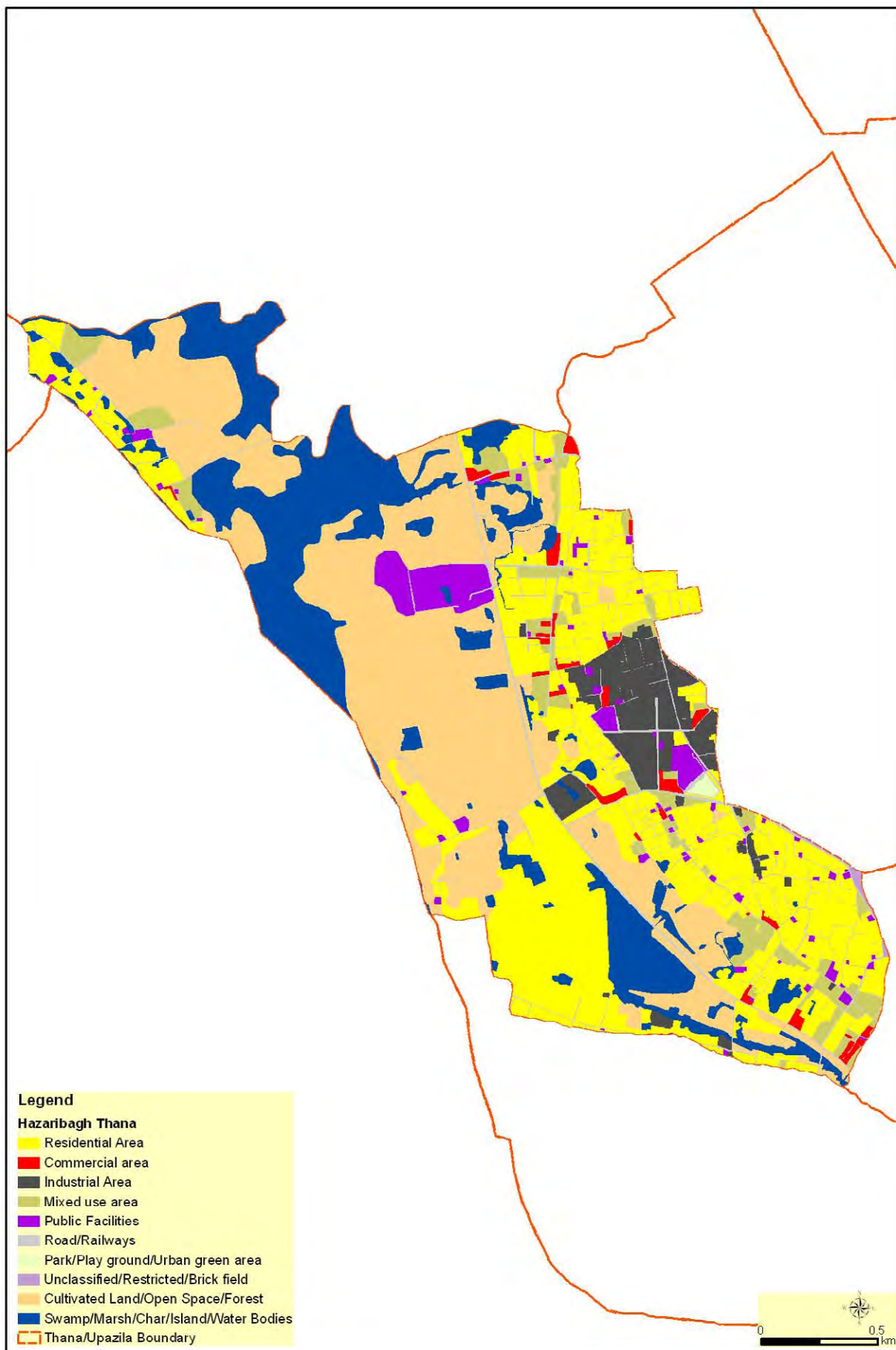


Figure 4.3-9 Existing Land Use in Hazaribagh Thana (Year 2009)

4.3.10 Kafrul Thana

General description: Kafrul Thana is situated in the middle of DCC with the total administrative area of 885 hectare (2,187 acre or 8.85 Sq. Km.). Some industrial and commercial activities are located along the major roads. The population was 289,986 inhabitants and the population density was 328 persons per hectare in 2001. It is a new Thana established after the 1991 census. Nearly half of the area is the built up area (53.9% of total land area).

Table 4.3-10 shows land use composition and Figure 4.3-10 show the existing land use map of Kafrul Thana.

Table 4.3-10 Land Use Composition in Kafrul Thana

Land use category	Area (ha)	Ratio (%)	Land use category	Area (ha)	Ratio (%)
Residential Area	475.78	44.12	Park/Play Ground/Urban Green area	0.35	0.03
Commercial	9.27	0.86	Restricted Area /Brick Field	306.81	28.45
Industrial Area	6.16	0.57	Cultivated Land/Open Space/Forest	90.13	8.36
Mixed use area	5.40	0.50	Swamp/Marsh/Char/Island/Water Bodies	99.79	9.25
Public facilities	21.09	1.96	Not Available	0.00	0.00
Road/Railways	63.53	5.89			

Major characteristics of the land use in Kafrul Thana are summarized below.

Restricted area: In this Thana, there is Old Airport in the south and Dhaka Cantonment in the north with the total area of 306.8 ha (28.4% of the total land).

Agricultural area: There are small share of agricultural land with .90.1 ha (8.3%). Besides, there are about 100 ha of water bodies and swamp area, which are mainly located in the northern side of the Thana.

Industrial area: By road side of Rokeya Sarani and Mirpur-14 road, some industrial development has been occurred. Many garments factories are located in Kazipara and Mirpur-13 and 14 areas.

Housing area: In this Thana area, out of restricted and agricultural area, mostly are designated as residential area. About 44.12% (475.78 ha) of total land area is occupied by the housing area. Some portion of Mirpur-13 area has middle income group's planned residential area. Other than that all residential areas are growing in a haphazard manner in that Thana. This area has been developed as medium type densely populated middle income residential area. There are also some low income housing areas in Bhasantek in the north-eastern area of this Thana.

Commercial area: It has only 0.86% (9.27 ha) of commercial activity in this Thana. Mostly commercial areas are located along the Rokeya Sarani, Mirpur-14 road and Bhashantek road.

Transport Network: Dhaka-Chittagong and Dhaka-Sylhet highway and a regional highway towards Araihasar Upzia via Nayapur Bazar pass through this Thana. Other roads are feeder roads. The total road space amounts to 63.5 ha, which occupies 5.9% of the total land area of the Thana. The major roads are Rokeya Sarani road, Mirpur-14 road, Bhashantek road and Airport road. These roads are mostly congested in the peak hours of a day time.

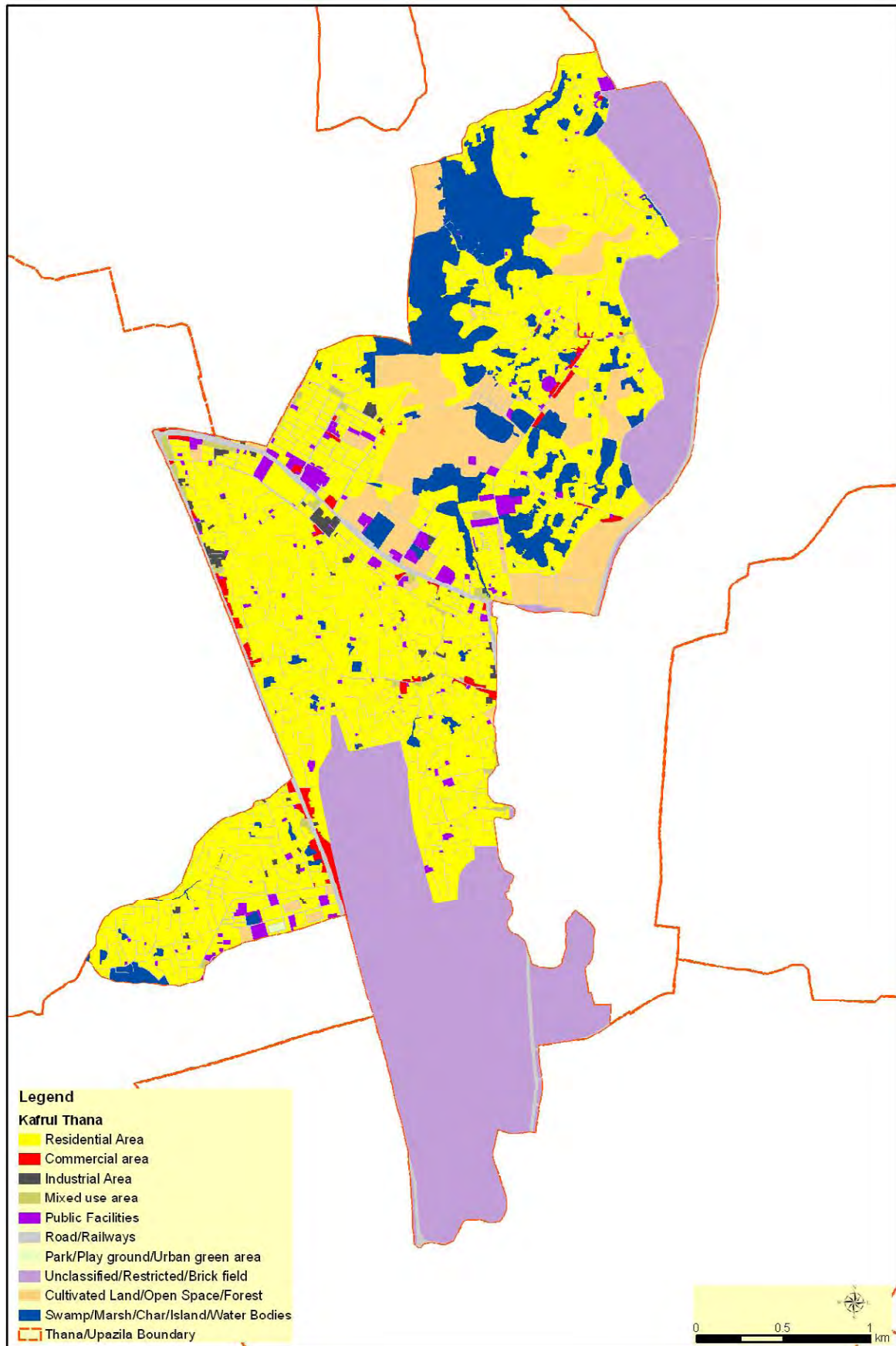


Figure 4.3-10 Existing Land Use in Kafrul Thana (Year 2009)