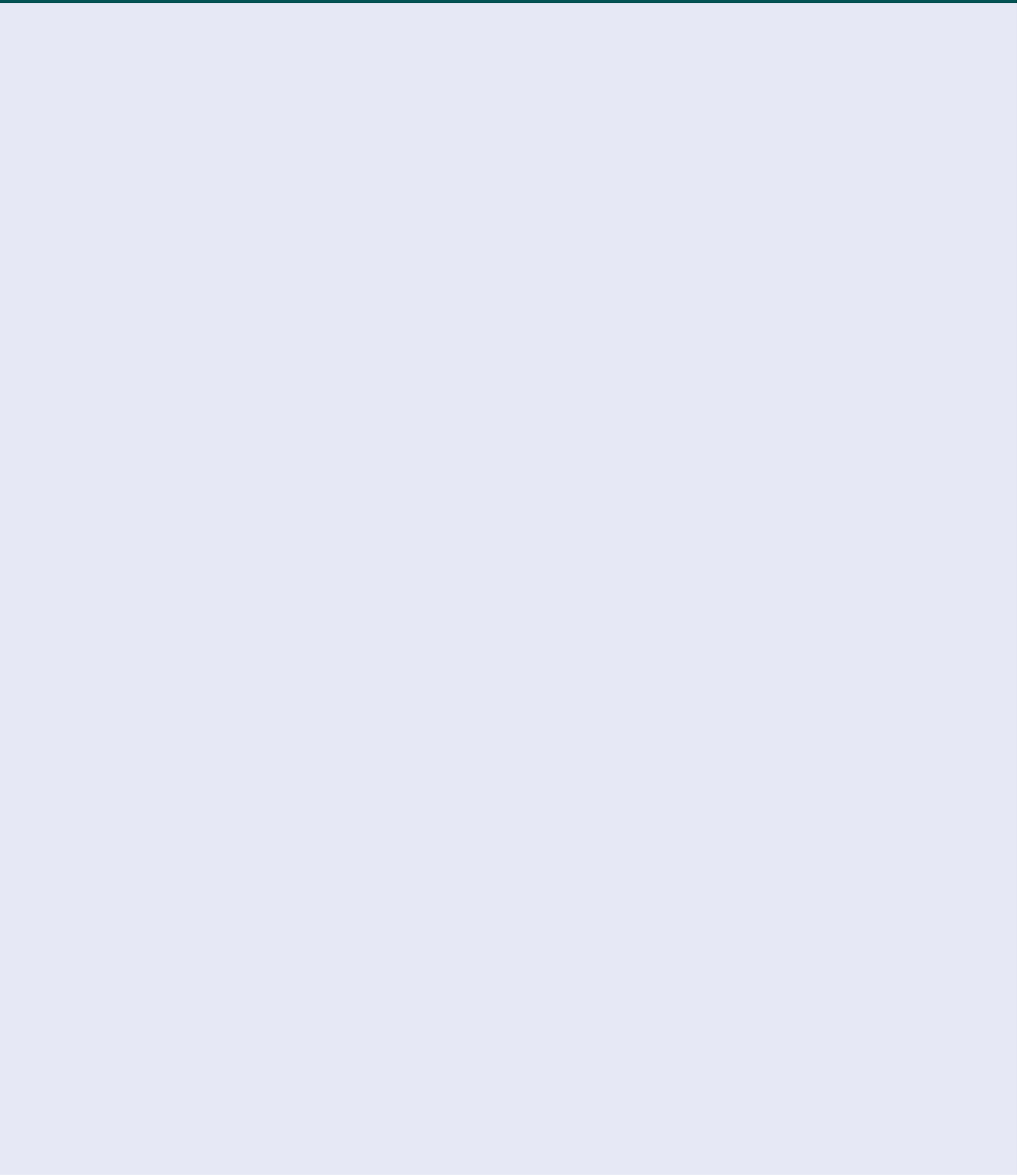


DPZ *06*

PANCHLAISH – BAIZID



4.6 DPZ-06: PANCHLAISH – BAIZID

4.6.1 EXISTING SITUATION

a) Location and Administrative Boundary: The Zone consists of the hills and foothills of the northern hill range on the west and the flood plains of the Halda on the east. The northern edge is the northern city limit. The zone is largely unoccupied due to its hilly terrain. In the plains agricultural use is predominant. The foothills have a concentration of brick manufacturing operations. The Chittagong Cantonment falls largely here. The zone consists of two full and one partial ward. These are: ward 1, 3 and part of 2. The total area is about 9,601 acres.

b) Population: As per the BBS census 2001 the population of the Area was 168,051. It is estimated to be 281,402 in 2015. Density of the area will rise from 18 / acre in 2001 to 29 in 2015.

c) Land Ownership: Major land owners in this Area are the Military (approximately 15% of the area), and the government assuming that the hilly areas on the west are primarily owned by them (Forest department and Government Khash).

d) Socio Economic Condition: According to the socio economic survey HH size varies from 1 to 12 members with 4-6 member families more common. Approximately 70% HH have 4 to 6 members. Again 51.50% of the population is male and 48.50% is female. About 12.09% of the population is of 10 – 14 age group. Literacy rate varies from 26% to 20%. Secondary education has been completed by 20-25% of the population. Small and middle scale business and agricultural work is the main occupation. Agricultural use consists of crop farming, fish cultivation, livestock and poultry rearing.

4.6.2 EXISTING LAND USE AND DEVELOPMENT STATUS

In the flood plains of the Halda River, areas are predominantly under agricultural use, with rural homesteads being the predominant feature. Brick making sites is significant. Large-scale hill cutting has taken place in the foothills. Sector wise uses are as follows:

Table 4.6: Existing land use features of DPZ-06

Sl. No.	Type of use	Area (in acre)	Percentage
1	Agriculture	2026	21.10%
2	Commercial	72	0.75%
3	Education & Research	18	0.19%
4	Manufacturing & Processing	157	1.64%
5	Mixed Use	19	0.20%
6	Open/Community Space	15	0.16%
7	Residential	1287	13.40%
8	Transportation	358	3.73%
9	Vacant Land	792	8.25%
10	Water Body	727	7.57%
11	Miscellaneous	68	0.70%
12	Restricted area	1426	14.85%
13	Hill	2636	27.46%
Total		9601	100

Source: Land use survey, 2006-2007

a) Residential: According to physical feature survey, a total number of structure is 18,345 of which some 19% are pucca, 37% semi pucca and 44 % Katcha, of which 13% are residential buildings. Of the residential structures 17%, are pucca and 47% katcha. There are squatters in the folds of the hills. Real estate developers are in a process of subdividing and selling plots in scattered locations, in the Halda plains and the west of the Hathazari road where minimal access can be provided. Development Control is weak, and most action on land takes place arbitrarily - without any overall plan.

b) Industrial: A small northern portion of the Nasirabad I/A falls in this zone. Some plots are underused while others have encroached on the mandatory set back space. Thus they minimal offset from road reserves. A number of industries are operating in the non-industrial sites or within paddy fields and polluting the surrounding environment. Discharge from the tannery site is severely polluting surrounding agricultural land and the drainage channels.

c) Commercial: Around 1,225 commercial structures are present which mostly retail shops. These are mostly in the form of ribbon development along the existing Hathazari and other roads. Some agro based commercial activities have also developed in ward 01.

d) Topography and Drainage: Topographically the area can be divided into at least five morphological units. Hills occupy the major part of this area, and are located in the west of Hathazari road and north of CDA east-west connecting road. Such hills are dissected; mostly north south aligned and is up to 250 ft in height. There is an extensive development of valley in between these hill ranges and the Chittagong Cantonment occupies the major part of this valley, particularly in the south. Along the eastern fringe of this hill ranges, a narrow stripe of piedmont land has been developed, with an average elevation of 50 ft. However, due to massive human interferences, it is very difficult to isolate the limits of valleys and piedmont areas. An extensive alluvial plain land has been developed in between the Hathazari road and piedmont range, which gradually widens

in the north. This plain land has a general eastward slope. The topography of the south-east part of this planning area is mostly plain, marshy and swampy land. Due to east and south-east ward general slope of the area, all gullies and streams originating from the hills finally discharge into the Karnaphuli and Halda river system. Some major streams originating from the hill ranges and flowing east are Shital Jharna khal, Baman Shahi khal, Khandakia khal and Akuti Jharna khal.

e) Transport:

i) Road Network: Road network is not sufficient for vehicular traffic movement. Most of the roads are narrow in Ward no. 3. This network does not follow regular shape. Hathazari road lies in the eastern periphery of DPZ 06, which has important role on this area's transportation network. Oxygen Quash road is an important link with Ward 3. Another important road named Baizid Bostami Road in Ward no 2 has opened up the area. Access roads are narrow and congested in Ward no. 3. Some important access roads connected with Hathazari road lie in Ward no. 3 namely Vatiary road, Shajalal road, Sayed Kasem road and Mahmudabad road..

ii) Rail Way: A total of 5 km rail track remain from south to north in this zone that is parallel to Hathazari Road. Student of Chittagong University goes to their university from main city by Shuttle train running on this track.

f) Institutional: The Bangladesh Scientific Research Council is located on the west side along the Hathazari road of this DPZ. It has large underused facilities such as office building and research fields.

g) Restricted Area: The Chittagong Cantonment is situated within the hilly areas.

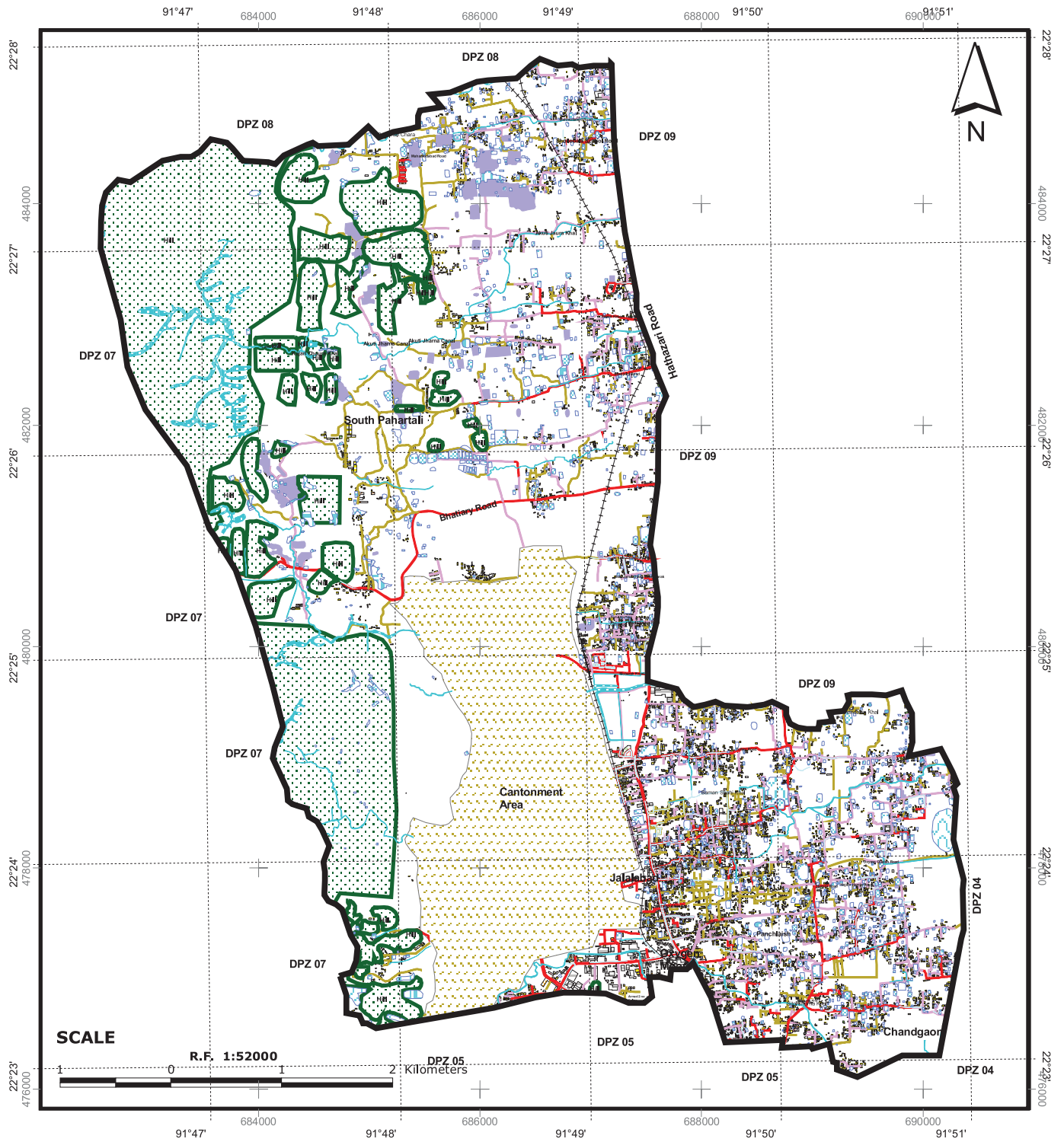
h) Community Facilities:

i) Health Services: Local Health centres are situated are concentrated along roads. These consist of small clinics and diagnostic centre.

ii) Education: A number of educational institutes exist which are recorded in the data base.

i) Utility Services:

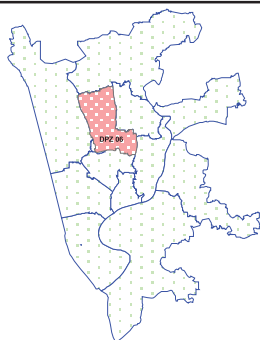
FIGURE 4.11: EXISTING LAND USE MAP OF DPZ- 06 (Panchlaih-Baizid)



SCALE

R.F. 1:52000

0 1 2 Kilometers



KEY MAP

LEGEND

Existing Structure

- Residential
- Commercial Activity
- Community Service
- Education & Research
- Governmental Services
- Manufacturing and Processing Activity
- Miscellaneous
- Mixed Use
- Non Government Services
- Service Activity
- Transport & Communication
- Agriculture

Existing Road

- Pucca Road
- Semi-pucca Road
- Katcha Road
- Railway Line

Existing Waterbodies

- Marshland
- Ditch
- Pond
- Khal
- Drain

Other Use

- Restricted
- Hilly Area
- Other Use

i) Water Supply: CWASA is responsible to supply piped water in Ward no. 3. Water supply line exists along the roads. Individual supply is taken from the main line along the roads. Water is dirty and supply is irregular. Shallow tube well is dug supply of drinking water. A huge amount of water is used for industrial activities in southern part of his zone.

ii) Gas and Electricity: Gas supply authority has provided their services in developed parts of study area. Few poor families can not bring gas line because of financial inability. They cook food in traditional mud made oven. Electricity supply authority has given their supply in the whole area of DPZ 06.

iii) Drain and Sewerage: Drainage system particularly around the industries is not well. During heavy rain fall wastewater of drains occurs flooding to the surrounding areas. Drainage system of the Detailed Area Plan is very poor condition as well as creates unhygienic conditions. Drains are not enough wide everywhere and it does not follow continuity as well. Most of the drains are broken. There is no sewerage system in Chittagong city. Few households have septic tank but almost of wastewater are discharged directly into canals. NGOs are helping some poor households to establish sanitary ring.

iv) Solid waste: Solid waste management system is not well in this area. Households dump waste indiscriminately along the roadside, drain, pond and canal that pollutes water body. This unsanitary situation may lead pollution that occurs health hazard.

j) Culture and Heritage: There is an old temple on the hill at the end of Shajalal road in Ward no. 1. Some historic ponds exist in the area. The Jalalabad Pahar is located here. These need protection and development as places of interest and attraction.

k) Agriculture: Agriculture use is extensive in this area. Water from pond and marshy land are used for cultivation. A considerable number of poultry farms as well as a large number of fisheries are observed in DPZ 06. Fish farming

exists on the flood plains. The Halda estuary is the only natural breeding ground for fishes.

4.6.3 EXISTING ENVIRONMENTAL ISSUES

The generalized Land use pattern of this area is the narrow industrial belt along the Baizid Bostami and Hathazari road; Military Cantonments in the hill valley areas; unplanned residential growth between Hathazari road and Hathazari rail line; agricultural uses in the plain lands; brick fields in the north and sporadic houses with rural characteristics in the south-east. The environmental profile of this Zone reflects its topographic settings, existing land use characteristics and human intervention on the natural system. Some environmental issues are:

i) Hill cutting: Hill cutting is a serious environmental concern in this planning zone. There are a series of records of indiscriminate unplanned hill cuttings, mostly for brickfields and housing plots. The extent of hill cutting for brickfield in the northern part of the zone and also into the heart of the hill land mass is so destructive that it has lead to a major environmental concern for the city. It has reached alarming proportions. Based on the extent of hill cutting, the hills of the zone have been classified as **type- H1, H2 and H3**. **Type- H1** hills are those, which have not been noticeably altered and need to be conserved as hill and forested area. **Type- H2** hills are those, which have been altered and may be allowed for controlled low-density development. **Type - H3** hills are those where massive destruction of virgin hill topography has been made into the interior of hill areas particularly for brick manufacturing. This has become a threat to the forest ecology of the area..

ii) Hill Erosion and Landslide: Hill cutting and alteration of slopes, has lead to massive erosion after a torrential rainfall, which have resulted in massive land slides and loss of live and properties. (The land slides at Lebugagan and Kaichaghuna and Sekandarpara near the cantonment area on 6 June 2007 and the death trolls reflect the fragile hill environment of the area.)

iii) Brickfield and Air Pollution: Brick making operations in the interior as well as the northeastern fringe of the hills is a serious environmental issue. These operations alter hill topography, and pollute the atmosphere. It is a threat to forest ecology and hill environment.

iv) Flash Flooding and Water Logging: These phenomena are major environmental concern. The worst affected area is the southeastern flat plain. The main causes are siltation due to hill erosion in the uplands, depressed marshy lands in the east and artificial obstacles.

v) Ponds and Water Bodies: A large number of different sized water bodies mostly adjacent to settled areas in the plain, exist. These are used for water supply and are part of the rural cultural setting. Some ponds are large and used by entire communities. Banks of these ponds are lined with trees and the whole setting enhances the environment.

vi) Industrial Pollution: A small industrial area developed by CDA exists. Some industries are located in narrow strips in the Oxygen junction and along the Hathazari road. Dyeing and tannery industries in these locations and the numerous poultry farms are a source of pollution. The effluences and solid waste from such establishments find their way into the Karnaphuli, the pollution level of which is now at an alarming level. Moreover, the effluences from the tanneries spill over adjacent agricultural fields and are a threat to agricultural output, fisheries and human health.

4.6.4 HIGHER LEVEL PLANNING

a) Urban Development Plan 1995: The following issues, problems, opportunities and required actions have been recognized in DPZ-06 in the Urban Development Plan, which is clarified through observation.

Major Issues and Problems

- Many formal developments have been commenced but have not been completed-mainly through lack of a mechanism for forward planning and planned development.

- Environmental problems caused by hill cutting for creation of development sites, for mining of sand for building purposes and for extraction of clay for brick making.
- Pollution caused by industries.
- Ribbon development and market centres along the Hathazari road causing traffic congestion and hazard.

Opportunities

- Proximity to the existing urban area
- Part of the area has been identified in the Structure Plan as one of three preferred locations for peripheral expansion
- New east-west road link proposed in the Structure Plan to 'open up' the area for development

Actions Required

- Identify and establish a mechanism to enable the area to be developed in a timely and coordinated manner prior to haphazard intervention.
- Redefine the eastern boundary of the proposed regional park and maintain it as the western boundary of development.
- Implement the transport proposals of the Long Term Development Strategy
- Encourage the full development of the Industrial Area
- Control emission of pollutants and provide effective solid waste and liquid effluent disposal.

The above actions should be considered as a priority. Relocation of polluting industries should be considered if effluent treatment and water management can not be ensured.

b) Storm Water and Drainage Master Plan CMMP 1995: The DPZ 06 covers part of Drainage Area No. 7 and Drainage Area No. 9 of the Drainage Master Plan. The prime proposals given for the areas are khal rehabilitation, new secondary and silt trap.

c) Long Term Strategy for Traffic and Transportation Master Plan CMMP 1995: Major

long-term proposal is to construct east-west-connecting road from Oxygen to Quaish.

4.6.5 DETAILED AREA DEVELOPMENT PROPOSALS

Improving drainage, protecting, improving and enhancing the hilly environment, protecting the Halda River, and protecting the haphazardly developing fringe areas will be a major challenge for the Zone. The aim would be to introduce a forward planning practice. Plot boundary readjustment, guided land development techniques should be used widely to promote development. Original landowners will be a partner to development or will be rehabilitated within the areas in most cases. Land acquisition led development will be resorted to only where absolutely necessary (Refer to Chapter 5)

Existing agricultural use will be retained and protected until planned growth can be ensured. Haphazard and sporadic subdivision of agricultural and vacant land for development purposes and ribbon development along existing and new roads will be strictly controlled. No new road should be considered without protecting controls and identifying planned uses and access on both sides of the road.

The following development proposals have been shown in *Figure no 4.12*.

a) Residential (Housing)

In planning and developing these areas, the Authority will provide guidance and assistance for guided planned development of the sporadically developed rural and semi urban settlements primarily for residential purposes with all supporting urban amenities and public open spaces, play grounds and parks. Limited commercial use for offices and shopping will be permitted in 4-5 % areas. No industrial use will be permitted. Off and on site planned employment areas will be permitted in low and middle-income areas. Sub areas may be classified for the various income groups such as: i) HI, ii) HI and MI iii) MI and LI iv) LI and v) all three groups

R-06-01: Two areas may be reserved for new residential area development with for all three groups with emphasis to the LI and MI group. Authority will decide the number of units. The distribution will be LI 50%, MI 40% and 10% HI. Minimum and row housing will be permitted. A combination of land acquisition and land readjustment technique may be used to create flood storage ponds, parks and open spaces (7-10% area) and limited commercial sites (max. 10%) to recoup costs. Planned provisions will be made for the existing settlements on the northern edge. Both have khals going through the area, which will be extended as lakes, and leisure areas.

Policies H3, H3.1, H3.2, H4.2, H4, 4, H6a (Chapter-2) and Guidance Notes -10, 11, 12 (Annex-2) will apply.

Implementing Agency: CDA / CCC / NHA / Private sector companies / NGO's/ Local residents / local representatives

R-06-02: Two sites may be designated for low-income housing and ancillary uses. Need for employment facilities and protection of the environment has to be considered. .

Policies H 3, ECN 11, ECN 11.1 (Chapter-2) and other relevant and Guidance Notes 01, 1.1, 1.2, 1.3, 1.4, 1.5 (Annex-2) will apply.

R-06-03: Three sites may be designated for MI and LI housing and ancillary uses. Need for employment facilities and protection of the environment has to be considered.

R-06-04: This site may be designated for HI 40% and MI 60% planned housing. Authority will decide the number of units on assessment of future requirement. There will be a range of unit sizes. Large cluster of water bodies will be retained (with or without modification to create larger connected bodies). These are mandatory requirement for environmental protection, economy and leisure. A defined lake will be created. The actual position and volume of the lake will be determined on detailed survey of and water management requirements. The development aim should be to create self-sustained communities with adequate urban amenities and facilities

H3, H3.1, H4.2, H4.3, H4.4, H6a, RO 1, RO 2, RO 3.1, RO 3.4, RO 3.5, RO 3.8, CH 2.3 (Chapter-2) Guidance Notes 01, 05, 06, (as relevant), 10, 11, 12 (Annex-2) will apply

Implementing Agency: CDA / CCC / NHA / Private sector companies / NGO's/ Local residents / local representatives

R-06-05: Two sites may be designated for the high-income group. High standard of aesthetics, play grounds and open space provision and urban amenities will be ensured.

Policies H3, H3.1, H3.2, RO 1, RO 3.1, RO 3.2, RO 3.4, RO 3.5, CH 2.3 (Chapter-2) and Guidance Notes 05, 06, 10,1,12 (Annex-2) will apply.

Implementing Agency: CDA / CCC / NHA / Private sector / land owners

R-06-06: The two sites east of Oxygen Moore will be developed in planned manner through land development technique. Need for access road, play ground and other urban amenities have to be incorporated in the sites. Mixed use may be permitted along the Hathazari road.

Implementing Agency: CDA / CCC / BPC / Private sector / Local landowners

R-06-07: Existing settlement will be guided by the authority. Vacant lands can be used for planned housing with supporting facilities. Educational and training institution will be highly encouraged in this site.

R-06-08: This site will be developed as Planned Housing including community facilities such as provision of space for CCC, Police Station and Fire Brigades. The authority (CDA) can take an effort in this regard.

b) Industrial: In undertaking any industrial development environmental considerations must be considered and easy transportation and housing for workers.

In-06-01: Environmental conditions of the existing industries have to be improved. It should be mandatory to stop the establishments from polluting nearby water channels and fields and relocate them to a suitable location where environmental protection is ensured. The

surrounding vacant plots need full utilization. Small-scale manufacturing and processing industries may be permitted. The northern part of the Nasirabad I/A is inefficiently developed as in the other section. Sufficient setback, entry setback, trees and environmental protection has to be ensured by the respective Authorities.

Policies ECN 04, ECN 4.2, ECN 4.3, ECN 4.4 (Chapter 2), and Guidance Notes 7 (Annex-2) sections as relevant

Implementing Agency: CDA /CCC / BSCIC/ other govt./Private sector companies/ landowners/

c) Commercial:

Com-06-01: The Authority will provide guidance to develop the rectangular site at the cross roads into a planned commercial area. Open spaces (with seats and landscaping) and parking facilities are to be provided in the site.

Implementing Agency: CDA / CCC / Other Relevant Govt. / Private sector companies / private land owner/s

d) Mixed Use

MU-06-01/ MU-06-02/MU-06-03: The Authority will provide guidance to upgrade three areas along the Hathazari road into a mixed use area incorporating housing for all classes. Environmental and access conditions will be improved and open spaces created.

Implementing Agency: CDA / CCC / Private sector/ land owners

e) Drainage: Following Storm Water Drainage and Flood Control Master Plan, 1995, it is evident that Detailed Planning Zone -6 (DPZ-06) covers part of Drainage Area No. 7 and Drainage Area No. 9. Whole area of DPZ 06 is covered by Drainage Master Plan Proposals. DAP study has also identified some additional drainage works to be done for DPZ 6.

Drainage Master Plan Proposals for the area include:

1. Rehabilitation of Shital Jharna Khal.
2. One secondary new khal near to Rupnagar Residential area and opposite of rail line in Panchlaish Ward.

3. 1 silt trap in appropriate location along Shital Jharna Khal near to Oxygen round about.

All the above proposals are identified in the DPZ – 06, land use plan (Figure no 4.12).

DAP proposals:

1. Rehabilitation of 4 khals with a total length of about 11 km in Ward 01 namely Balukhali khal, khal along Mahmudabad road, Akuti Jharna khal and Khandakia khal (part).
2. Retaining and preservation of 180 ponds of 0.5 acres and above. The accumulated size of these existing ponds to be preserved equal to approximately 191 acres. These ponds are identified in figure 4.12.
3. A total of 3 flood storage ponds with an accumulated size of about 4 acres. Their locations are shown in figure 4.12.
4. Three interceptor khals, as shown in figure 4.12, with an accumulated size of 55 acres are proposed.
5. Following drainage-guiding principles/guidelines C at page 3-3 remaining drainage networks is proposed and identified in the proposed land use plan of Figure 4.12.
6. Where not shown specifically in the land use map, Drainage Guiding Principles/Guidelines will apply.

f) Transportation: In order to develop a proper road network to serve this zone, all the major access roads need to be widened to play the role of secondary roads. The details are indicated below:

f1. Proposed New Roads: A number of new secondary road links of 60ft ROW from Hathazari road to the west may be incorporated in the new township.

f2. Proposed Widening of Roads: To improve traffic circulation within this zone, it is important to develop some sort of network. The existing Hathazari road has to be widened up to 120 feet. To this end, a number of roads are proposed for widening, so that they could play the role of secondary roads. Please see the Figure 4.12 for details.

f3. Tran-06-01: This site is suggested for inter

district bus terminal and truck terminal with proper design. A green buffer is mandatory surrounding the bus and truck terminal.

g) Community Facilities

Comm-06-01: The science research centre should be fully utilized. Limited visitor facility may be introduced.

Implementing Agency: CDA/Relevant Government department

h) Leisure, Recreation, Parks and Open Spaces:

RO-06-01: The northern part of the proposed Regional Park falls in this zone. This is marked on the plan and is to be separated from the adjacent area on the east by a 100m vegetation strip. No construction other than those associated with a regional park such as trails, lakes and water bodies, camping grounds, nature walks, viewing towers, botanical gardens will be permitted in this special park area. An abandoned brick field within this area marked in plan may be converted into a landscaped garden with lake and other visitor facilities and leisure activities.

Implementing Agency: CCC / CDA/ Forest Department / private sector

RO-06-02: An area near natural khal and proposed road may be retained as water based recreational facility. Adequate parking, dropping, ticketing areas have to be ensured. Public toilets have to be provided at appropriate locations.

Implementing Agency: CCC / CDA/ private sector companies /private landowners

i) Utility Services

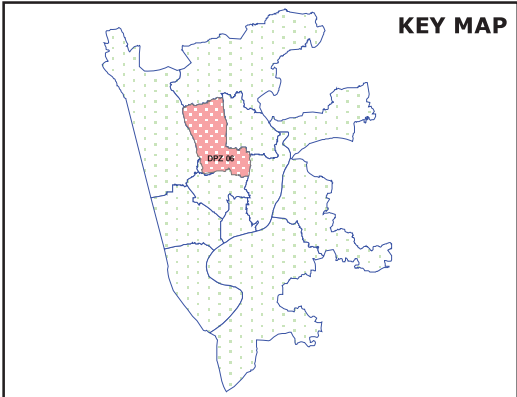
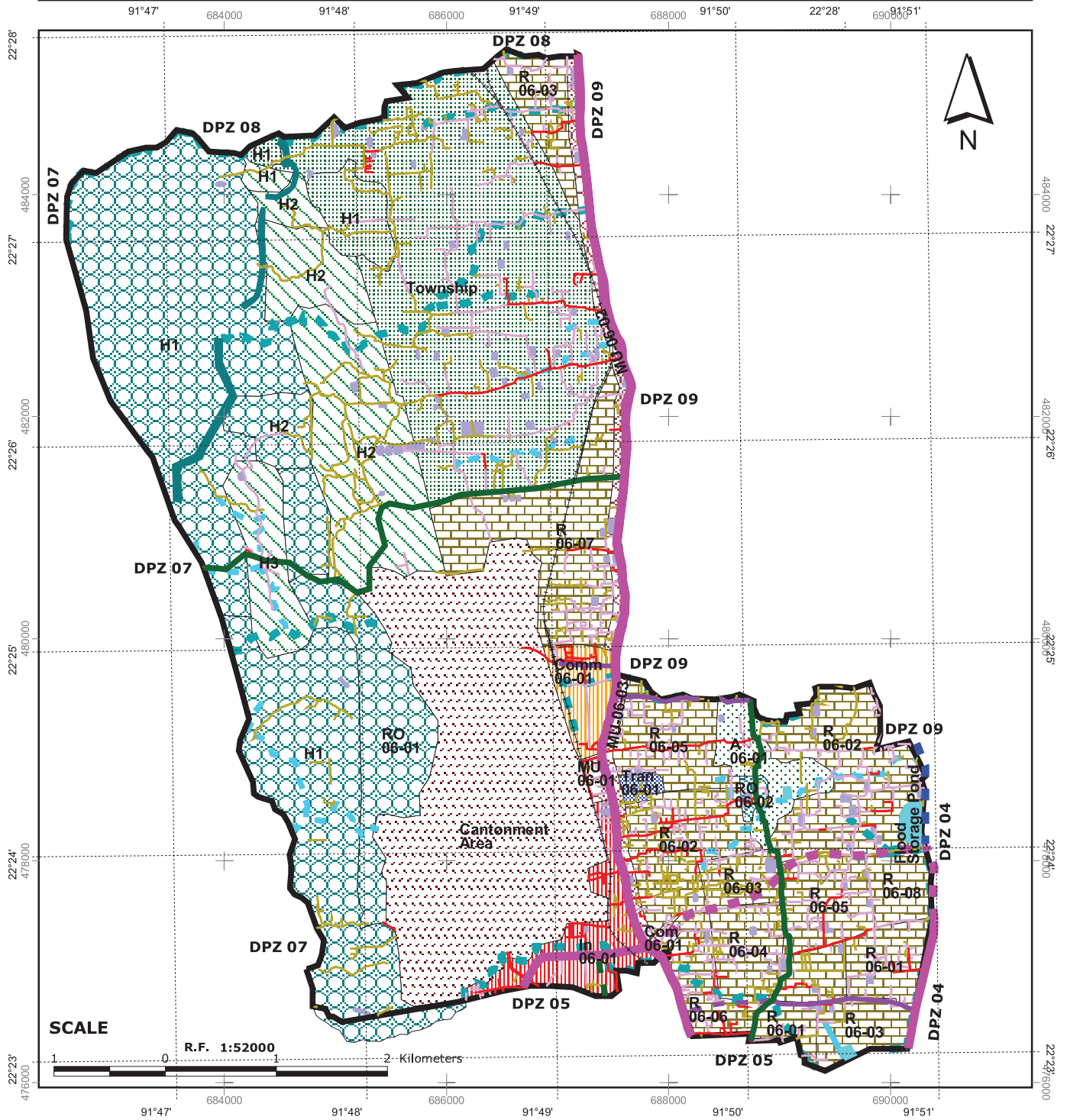
Ut-06-01: The present DAP study recommends that the responsible agencies for the provision of utility services, will prepare their own detailed plan in respective fields.

j) Culture and Heritage

Conservation of Historic and cultural sites:

The following building and sites may be protected from demolition and disfigurement, or identified and listed and enhanced as conservation sites. The government should develop access to these sites and efforts should be taken to undertake

FIGURE 4.12: PROPOSED LAND USE PLAN OF DPZ- 06 (Panchlaish-Baizid)



LEGEND	
Proposed Landuse	Proposed Road
Residential	P-120'
Commercial	P-100'
Industrial	P-60'
Mixed Use	P-40'
Community Facility	Widening Road
Environmental Protection/Enhancement	W-120'
Recreation, Leisure & Open Space	W-60'
Culture and Heritage	W-40'
Transport Related Use	Proposed Drainage
Reserved Hill	Primary Khal Rehabilitation
Agriculture	Secondary Khal Rehabilitation
Restricted	Proposed Primary Khal
Interceptor Khal	Existing Road
Township	Pucca
Retention Pond	Semi-pucca
Silt Trap	Katcha
	Railway Line

appropriate development to promote them as tourist sites.

- Nandir hat Mandir and Zamindar Bari. The Authority will initiate a process for the conservation and enhancement of the historic Mandir and residence of SK Shaha and facilitate it as a place of visitor interest.
- Jalalabad Hills (site of battle in Quit India Movement 1931-34)
- Historic Tanks and Water bodies.
- Shahdur Pahar north of the Cantonment

Implementing Agency: CDA /CCC / Landowner

k) Agriculture

A-06-01: This site will be retained and protected as agricultural use until planned growth can be ensured.

Implementing Agency: CDA / CCC / Landowners

l) Township: Taking into account the planned extension of Chittagong city, an attempt needs to be taken in order to build a new township in the tentative designated area. This township will be planned following required infrastructural

development. Different types of land uses, facilities and services may be incorporated in this new town, for example residential area for all income groups, industrial and commercial use, parks and open spaces, garments village, education village, sports complex, shopping complex, industrial waste water and sewage treatment plant, five star hotel, religious places, administrative and government offices, transport related activities, flood storage pond etc.

4.6.6 ENVIRONMENTAL PROTECTION AND ENHANCEMENT

Massive hill cutting, land slides, brick making operation, industrial pollution (water), flash flooding and water logging and retention of ponds and water bodies are the major considerations in the future development activities of this planning Zone. As major parts of the area is rural in character and not yet urbanized, and other hilly areas have been degraded, it is necessary to develop the area with greater consideration to environment friendly development planning. Some guiding principles are as follows:



Fig. 4-44 Proposed Fateyabad New Township.

En-06-01: The Authority will ensure protection and enhancement of Hilly ecology. No hill cutting and forest clearing shall be allowed in the existing hilly areas. The hills shall be classified as:

H1: No hill cutting and limited use will be permitted depends on the Nagor Unnayan Committee Tree and plantation cover in remaining area.

H2: Restoration of green ecology and limited development in a planned and environmentally sustainable manner is recommended.

H3: The Authority should ensure removal and relocation of all brickfields from the hills and hill fringe areas. These should be relocated outside the city area.

En-06-02: The Authority will ensure rehabilitation and bank line demarcation of all major khals. Along the bank line there should be a buffer zone of green belt, up to 100 ft wide on both sides. However, for Shital Jharna and Khandakia khals, the green belt can be much wider, and where possible small patches of forested areas along the backline should be generated.

En-06-03: To avoid conflicts to delineate the boundary between the Regional Park and adjoining lands, a forest buffer zone along the eastern edge of the hills is recommended. Similarly green buffer zones of varying width are recommended along all major roads and railways. Generating a special forest buffer zone of up to 200 m width can also delineate the western boundary of the cantonment area.

En-06-04: All the water bodies and ponds of 0.5 acres and above must be preserved under the guidelines of water body preservation (Refer drainage section) Special projects may be undertaken to improve the quality of some of the big historical ponds. Measures should be taken to establish one or more swimming training school for school and college going students (girls and boys) in some ponds.

En-06-05: The Authority will ensure environmental enhancement of the growth areas, in the plains on the east of the hill ranges. A lake of about 1.5 km long and 100m widths is proposed

in this area. This lake would also be an attraction for leisure and tourism.

En-06-06: Considering the needs for brick supply in the city, these may be shifted outside the city boundary. However, the Authority will ensure that all brickfields operate following the brickfield and environmental Rules. A green buffer of minimum of 100' must be planted surrounding the brickfields. The Authority must ensure such provisions. This must be a condition of lease. The Authority for brick making operations must prepare a manual.

En-06-07: The tanneries are a major source of water and soil pollution. Considering the environmental impact, it is unsuitable to locate these industries in and around residential areas. It is thus proposed to relocate all such industries (tannery and dying) to the industrial belt.

