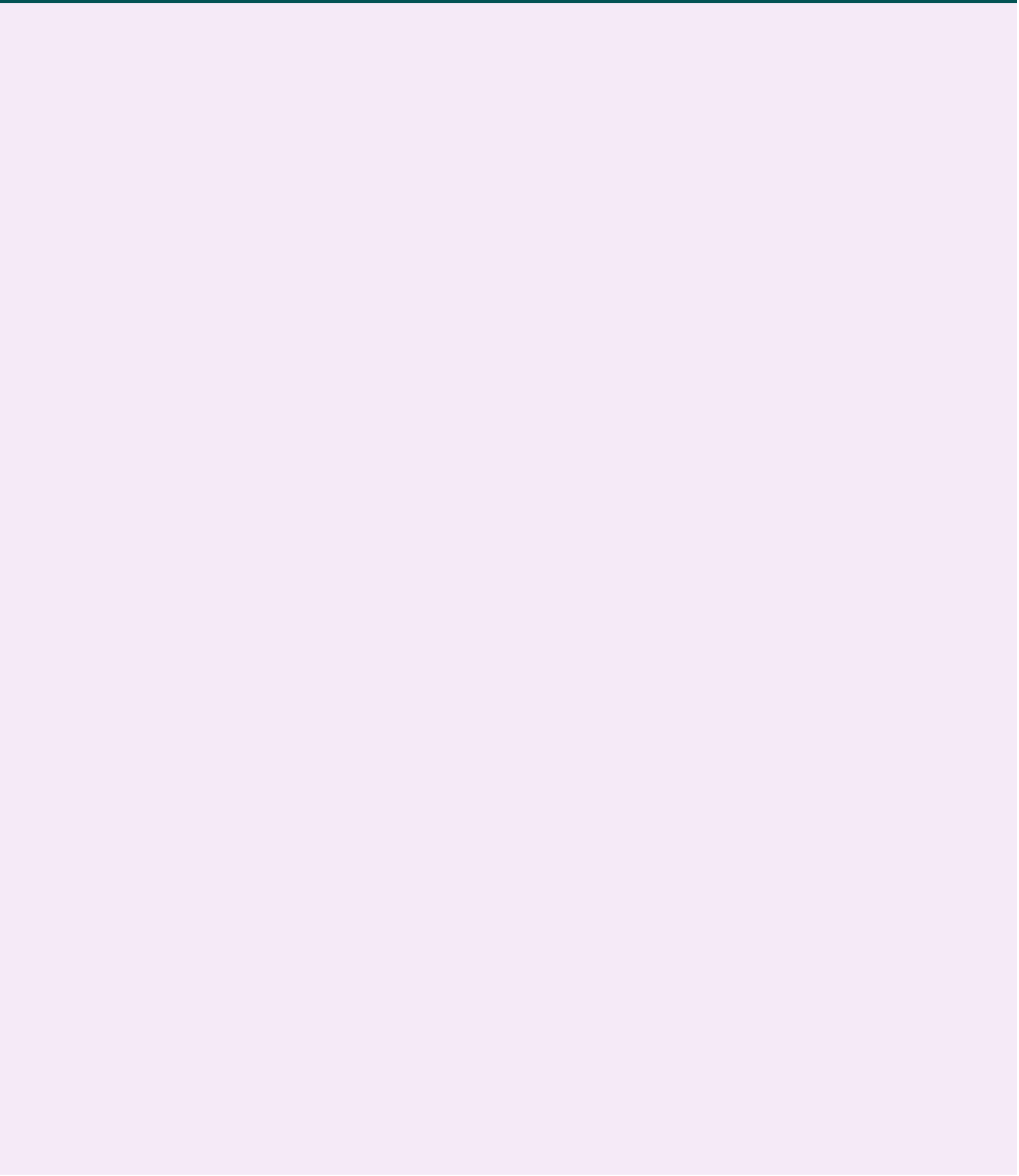


DPZ
09

KULGAON-HALDA



4.9 DPZ-09: KULGAON-HALDA

4.9.1 EXISTING SITUATION

a) Location and Administrative Boundary: This zone of about 7078 acres, consisting of the Halda flood plains, is on the immediate north of the existing city and east of Hathazari road. The area holds potentials for planned future expansion of the city. The Halda forms part of the eastern boundary. The zone lies within Hathazari Thana and comprises of four unions. This area is one of the urban fringe areas, which is immediate close to the Chittagong City Corporation area.



Pic. 4-47 Halda River.

b) Population: As per the BBS census 2001 the population of the zone was 40,852. According to the trend of the population projection the total population is estimated to be 78,276 in 2015. Density of the DPZ-09 will rise from 9/acre in 2001 to 11/acre in 2015.

c) Land ownership: Most land in this zone is under private ownership. There are some government educational facilities.

d) Socio-Economic Condition: The zone is semi-urban in character. According to socio economic survey, it is found that about 28.52% have attained the primary level and 26.53% have completed the secondary level education. (Source: Socio-economic Survey Report of DAP project in March 2007)

Structure in the DPZ-09 area fall into five main categories like pucca, semi-pucca, Katcha, Tinshed

and Jhupri. Katcha and Tinshed structure dominate this zone. (Source: Socio-economic Survey Report of DAP project in March 2007)

Agriculture as a whole including crops, livestock, poultry and fish cultivation, accounts for around 28.54%; there are about 12.53% day labour and around 8.52% are employed in informal activities (Source: Socio-economic Survey Report of DAP project in March, 2007).

According to the socio-economic survey report of the DAP project 2007, business, trade and agricultural goods are the prime sources of household monthly income accounting for around 52.32% of the total household monthly income. Income from wages and salaried job accounts for around 23.52%, cottage industry and professional services accounts for around 0.65%, agriculture as a whole, including crops, livestock and poultry and fish cultivation, accounts for around only 13.45%.

4.9.2 EXISTING LAND USE AND DEVELOPMENT STATUS:

As ascertained through field survey 2005-2006, the study area exhibits an admixture of a variety of land uses of rural character. Some development has occurred along the main roads, while inaccessible remote areas have remained in their original rural character comprising homestead, farmland, fallow land and ponds. The Table below shows the existing land use features of the zone. It is evident from the table that agriculture and fisheries is the dominant use.

a) Residential: Residential use occupies an area of 2161 acres (30.53%). There are (12796) dwellings in which 15.61% pucca, 9.56% semi pucca and 74.83% katcha.

b) Industrial: Within the zone is some fishing industries developed along the Halda River. These consist of salt crushing mills; saw mills, and rice mills. There are also 85 poultry farms in this zone. 35 acres (0.49%) of the total area is covered by this category.

Table 4.13: Existing land use features of DPZ-09

Sl. No	Type s of use	Area (in acre)	Percentage
1.	Agriculture and Fisheries	3437	48.56 %
2.	Commercial Activity	75	1.06 %
3.	Education and R esearch	100	1.41 %
4.	Hilly land	----	---
5.	Manufacturing & P rocessing	35	0.49 %
6.	Miscellaneous	31	0.44 %
7.	Mixed Use	25	0.35 %
8.	Office Use	4	0.06 %
9.	Open/Community Space	34	0.48 %
10	Residential	2161	30.53 %
.11.	Restricted	--- ---	--- --
12.	Servic e Facilities	4	0.06 %
13.	Transport & Community	190	2.68 %
14.	Vacant L and	174	2.46 %
15.	Water Body	808	11.42 %
T OTAL		7078	100

Source: Land use survey, 2006-2007

c) Commercial: Major land uses under this category are retail and wholesale vegetable markets in a ribbon like development along the Hathazari road. Land occupied by bazaars and such shops comprise of 75 acres (1.06%) of DPZ 09.

d) Mixed Use: Mixed land use area consists of some 25 acres (0.35%) of DPZ 09.

e) Topography and Drainage: The topography of this planning zone is almost flat and has a very gentle slope towards the east and southeast. However, based on land form characteristics the area can be divided into at least two morphological units, which are alluvial plain in the east of Hathazari road and plain marshy land in the south east. The area is criss-crossed by a number of khals, of which some major khals are Akuti Jharna khal, Ghosal shah khal and Khandakia khal. These khals are the major way of storm water discharge, which finally meet into the Halda River

f) Transport: An analysis of circulation pattern shows that there is no prominent arterial road network in this planning zone. As the proportion of industrial and mixed uses is low and residential

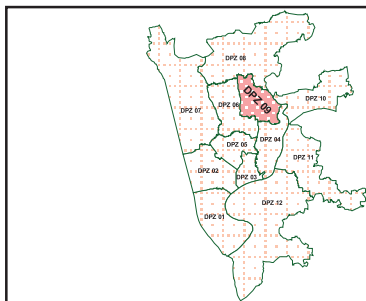
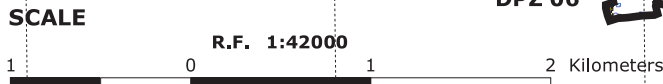
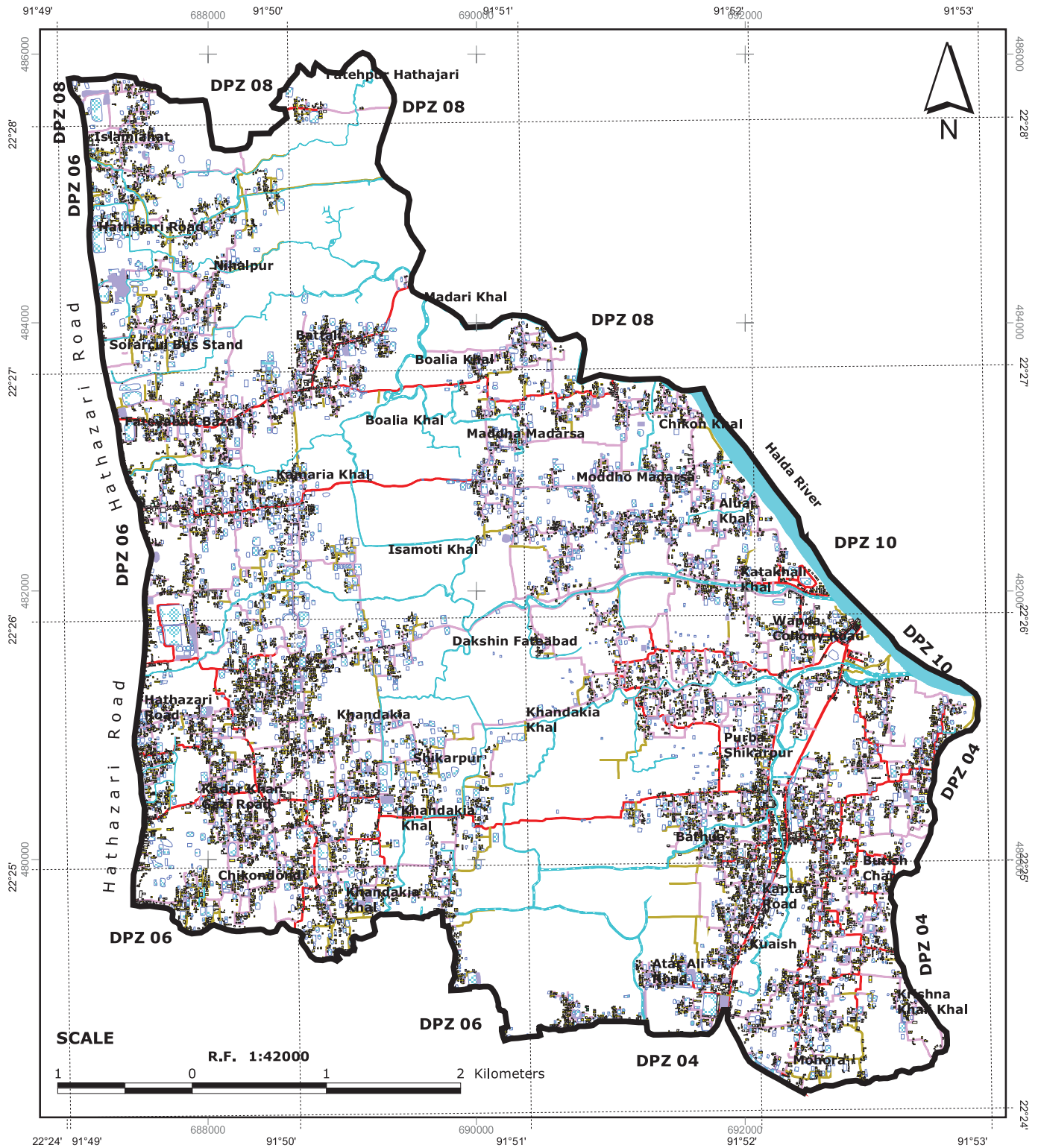
land uses are of rural character, transport network has not developed properly. Tertiary and access roads are also inadequate and very narrow. Again all of the existing roads do not form establish any circulation system. This category covers an area of about 190 acres (2.68%) land of DPZ 09.

g) Community facilities: Community facilities constitute about 34 acres (0.48%) of DPZ-09 (Table 4.14).

h) Utility services: There is no piped water supply network. HH tube wells are the predominant source. The significant number HH depend on community tube well for safe drinking water. Ponds are also a source. Supply of gas and electricity are available in limited parts of the area.

i) Agriculture: All agricultural fields, crop and grazing land including livestock farms are included in this category. It constitutes about 3437 acres (48.56%) land of this zone. Irrigation is extensively used for cultivation. Approximately 85 poultry farms and a certain number of fisheries play a great role in the local economy. Water bodies are widely spread in the zone and encompass almost 808 acres (11.42%) of the area as shown in the

FIGURE 4.17: EXISTING LAND USE MAP OF DPZ- 09 (Kulgaon-Halda)



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

Other Use

- Other Use

Existing Waterbodies

- Marshland
- Ditch
- Pond
- Khal
- River

Existing Road

- Pucca Road
- Semi-pucca Road
- Katcha Road

Table 4.14: Existing community facilities of DPZ 09

Community Facilities	Existing Features (Unit/No)	Area (in acre)
Police Box	1	0.025
Post office	1	0.025
Hospital	1	0.325
Clinic	8	0.85
Market	10	2.236
Bank	4	0.256
Community Centre/Club house	6	0.253
Graveyard	55	5.235
Mosque	65	7.693
Temple	12	2.254
Mazar/Dargah	8	0.253
Primary school	35	4.568
Secondary school	8	2.236
College	2	0.456
NGO school	12	0.0262
Madrassa	8	0.856
Playground	4	2.236
Corner shop	452	3.389
Water pump house/Water reservoir	8	0.242
Signal house/Cyclone centre	1	0.322
Petrol pump	3	0.52
Total	704	34

Source: Land use survey, 2006-2007

Table 4.13.

4.9.3 HIGHER LEVEL PLANNING:

a) Structure Plan 1995: The Structure Plan has sector wise policies. Though this area is not designated as an area for immediate development, considering the existence of the Hathazari road and the northward expansion potentials control on indiscriminate development of industries and land subdivisions of agricultural land must be secured.

b) Urban Development Plan 1995: The Urban Development Plan has identified Kulgaon as one of the urban fringe areas that may be suitable location for future urban expansion.

Major Problem:

- Loss of agricultural land

Opportunities

- Proximity to the existing urban area

- Easily developable land with minimum environmental consequences.

c) Storm Water and Drainage and Flood Control Master Plan 1995: The area has not been covered by the Drainage Master Plan 1995.

4.9. 4 EXISTING ENVIRONMENTAL ISSUES

The generalized land use pattern of this area is mostly rural in character, includes rural households and agricultural land. However, some environmental issues in this planning zone are:

i) Ponds and Water bodies: The planning area is characterized by large number of ponds and water bodies in the rural settlements, Two major segregation of ponds are; one along the eastern part of Hathazari road having about 950 ponds and other along the western side of Halda river bank having about 600 ponds. A buffer zone of vacant agricultural field remains in between. Some

of the ponds, particularly along the roadside are very large and also historically important.

ii) Water logging: Water logging is a serious environmental problem in this planning area. Unlike the developed part of the city, this planning area is vulnerable to flooding due to heavy torrential rainfall. The major supply of such run-off is from the hilly areas in the west. The waterlogging problem becomes serious in the southeastern depressed part, due to its poor drainage quality.

iii) Halda River front: Halda River is the only natural breeding ground of the local carps (such as Ruhi, Katol, Mrigal and Kali Baous). Halda River offers a typical environment for such carps to breed during first onset of monsoon. However, during the recent times, due to alteration of Halda bank-line geometry, particularly modification of shoreline bends; it has led to a threat to this natural unique ecosystem.

4.9.5 DETAILED AREA DEVELOPMENT PROPOSALS

The following development proposals have been shown in *Figure no 4.18*

The proposals are based on the fact that this zone has potentials for future planned growth of the city. Cyclone surges or massive flooding from the river does not affect it. However run off from the hills cause temporary flooding, which can be addressed.

The Authority will liaison with the relevant government department to ensure that indiscriminate subdivision of the agricultural land stopped. It will ensure that when the city needs to accommodate additional population, the area is available for development in a planned manner. Some areas may have to be acquired for major roads and lakes. Other areas will be developed with participation by original landowners.

a) Residential (Housing):

R-09-01/ R-09-02: The sites are recommended as residential use for low income and middle income people. Development has been occurred

spontaneously at the sites. To use the lands at optimum level, Land Development Techniques can be introduced to bring existing unplanned growth in organized development. Through site and services scheme the pocket vacant lands can be effectively utilized for planned housing. The authority or private development organization can make an effort to launch such development program. Access roads have to be made to open up the sites for development. Parks and play ground, community facilities and other urban amenities need to be incorporated at the sites.

R-09-03: An area along the Halda River may be developed as an aqua village to promote tourism. The traditional fishing villages may be improved and facilities to enjoy the river may be developed.

R-09-04: The area west of Kaptai road is designated for residential use. Mechanism for planned development as it is mentioned in (R-09-01/R-09-02) can be applied in this area.

R-09-05: This curvature shaped site is situated to the east side of Hathazari road. This area has to be developed through land development techniques following proper access road. Step needs to be taken for planned housing by the authority through participatory approach. Housing project can be made to meet the demand of all income groups. Necessary community facilities and amenities have to be made available in this area.

R-09-06: This site is designated as high density planned housing for low income people. The authority (CDA) may launch this kind of program.

b) Commercial:

Com-09-01: An area on the east of Hathazari Road may be designated as a wholesale market. Adequate measures have to be taken to provide parking and stalling spaces for trucks and other vehicles. Highway traffic must not be affected.

c) Mixed Use

MU-09-01/ MU-09-02: The two sites one is along the Kaptai Road and another adjoining to the Halda River are recommended for mixed use area. Planned housing and commercial use will be permitted as per Building Construction Rules. Required parking facilities have to be incorporated

in the commercial establishment.

MU-09-03/ MU-09-04: An area east of the Hathazari Road may be used as a mixed-use area. Planned use of commercial and residential use with other community facilities may be incorporated as per needs of the time.

d) Drainage: Major proposals by DAP are as follows:

- i) A section of a new primary khal is proposed to link Khandakia Khal with Krishna Kumari Khal. The location of this new khal is shown in the proposed land use plan of Figure-4.18
- ii) A new secondary khal is proposed that is shown in the proposed Land Use Plan of Figure-4.18
- iii) Rehabilitation of Bazury Khal, Water Board Khal, Kamaria Khal, Boalia Khal, Isamoti Khal, Hacheer Khal, Banya Khal, Khandakia Khal, Krishna Khali Khal, Ghoshal Sha Khal, Chikon Khal, Aluar Khal and Katakhal Khal having a total length of about 47.93 km. The locations are identified in the proposed land use plan of Figure 4.18. Khandakia khal has lost its track after Khandakia Hat. This khal is to be re excavated following R.S. record.
- iv) Retaining and preservation of 146 ponds of 0.5 acres and above are proposed. The accumulated size of these existing ponds proposed to be preserved equal approximately 124 acres. The locations are identified in the proposed land use plan of Figure 4.18.
- v) Two flood storage ponds are proposed and identified in the proposed land use plan of Figure 4.18
- vi) Following drainage guiding principles/guidelines C at page 3-3 remaining drainage network is proposed and identified in the proposed land use plan of Figure 4.18
- vii) Where not shown specifically in the proposed land use plan of Figure 4.18, drainage guiding principles/guidelines will apply.

e) Transportation: The long-term development strategy for traffic and transportation contains some major proposals, which would contribute in enhancing accessibility as well as encourage

development of DPZ-09.

Figure 4.18 illustrates the proposed roads and those to be widened to form a road network in DPZ-09. The details are indicated below:

Primary Roads (District Distributor Roads): It is proposed that the existing north-south Chittagong-Hathazari Road to be widened to have a ROW of 120 ft. This is also a part of the major primary road network proposed under DAP. Another new 100 ft ROW road is proposed parallel to Hathazari Road approximately 2 km away on the east side towards the Anannya Residential Area.

Secondary Roads (Other Distributor Roads : A good number of secondary roads (distributor road) proposed to be built new or widened to improve circulation within this zone as well as to promote future development. These roads will mostly have 60 ft ROW with a few of them having a ROW of 40 ft. These will provide both east-west and north-south links.

Embankment-cum-Road: In order to promote future development of DPZ-09, an embankment is proposed to be built along the bank of Halda River. The ROW of the embankment would be 200 ft.

Tran-09-01: This site on the east of Kaptai Road is designated for city and inter district bus terminal. The designs of bus terminals have to be made following good circulation and a green buffer.

f) Community Facilities:

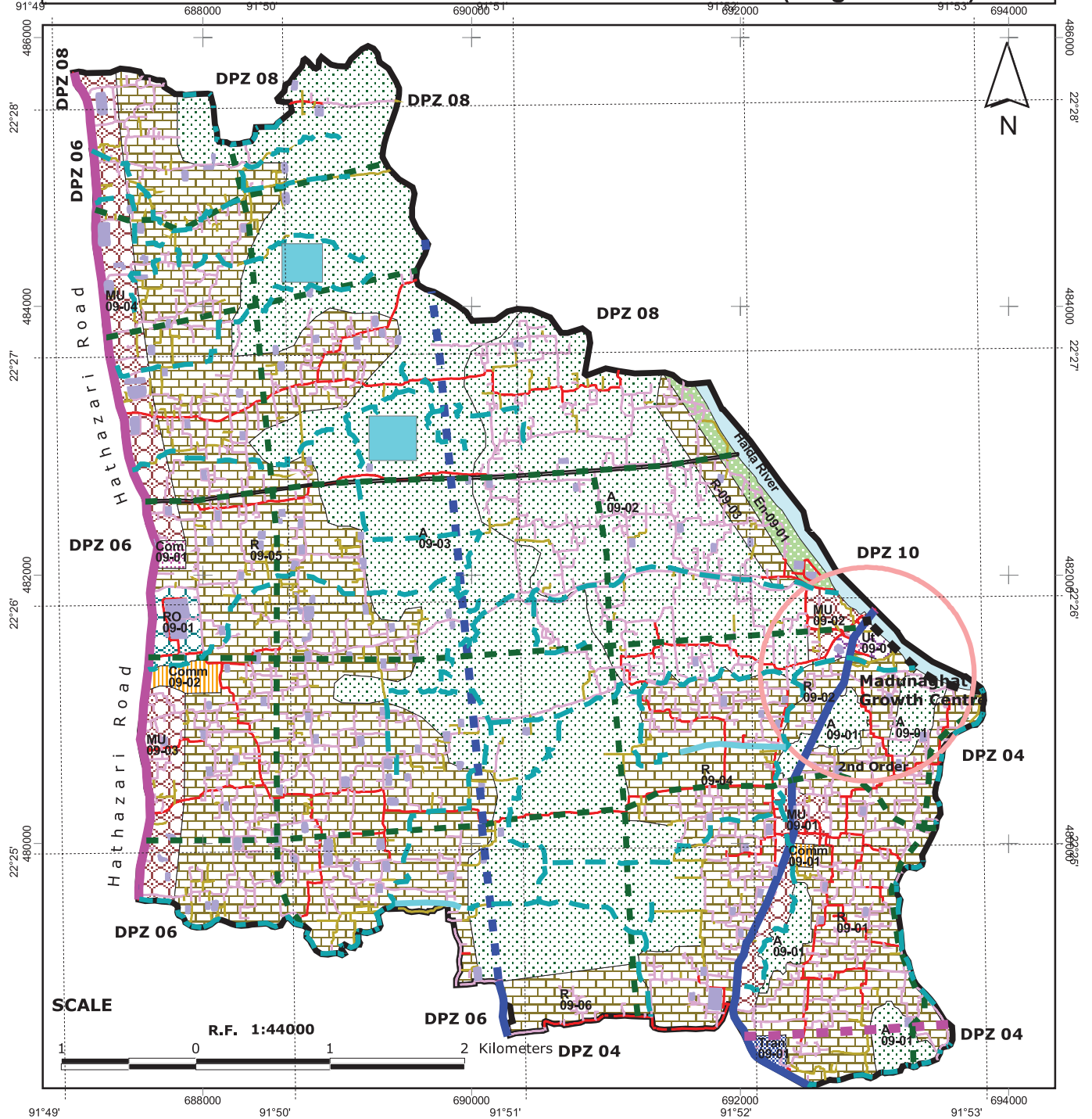
Comm-09-01: An area in the vicinity of the community focal point may be developed as a community centre. This site may also include educational and research institution, and cultural activities. An access road with bridge is required to make a connection with this community place.

Comm-09-02: This area on the east of Hathazari Road is mainly recommended for hospital and educational institution. Besides, other supporting community use may be permitted as per community need.

g) Leisure, Recreation, Parks and Open Spaces

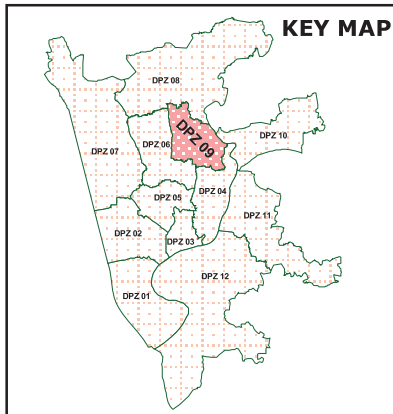
RO-09-01: This site east of Hathazari Road is designated for recreational use. Water based

FIGURE 4.18: PROPOSED LAND USE PLAN OF DPZ-09 (Kulgaon-Halda)



SCALE

R.F. 1:44000



LEGEND

Proposed Landuse

- Residential
- Commercial
- Mixed Use
- Community Facility
- Environmental Protection/Enhancement
- Education
- Recreation, Leisure & Open Space
- Transport Related Use
- Agriculture
- Retention Pond
- Flood Storage Pond
- River
- 2nd Order Growth Centre

Proposed Drainage and Embankment

- Embankment
- Khal Rehabilitation
- Proposed Khal

Widening Road

- Road-120'
- Road-100'
- Road-60'
- Road-40'

Proposed Road

- Road 120'
- Road 100'
- Road 60'

Existing Road

- Pucca
- Semi-pucca
- Katcha

recreational park including tree and some sitting arrangements may be developed at this site. Fishing and Boating may also be incorporated in existing water body of the park.

h) Utility Services

Ut-09-01: Power generating installation and water treatment plant are located at this place that will be retained as its present use.

Ut-09-02: The present DAP study recommends that the responsible agencies for the provision of utility services, will prepare their own detailed plan in respective fields.

i) Agriculture

A-09-01: The four pocket sites are recommended for agricultural use. Agro based installation may be permitted only for promoting agricultural production.

A-09-02: This site has a number of pocket type agricultural lands. Based on existing feature survey and proper inspection by the CDA Planning Committee, building construction will be permitted in the existing homestead.

A-09-03: This area is designated for pure agricultural use. Considering proposed khal rehabilitation program and brining it under irrigation system, agricultural production can be enhanced. Agro based installation may be permitted in order to increase agricultural production.

physical change of shoreline would be allowed. All existing activities, which are damaging to the Halda ecology and carp breeding process, must be removed. The Halda river based carp egg supplies would supplement the proposed aqua village. The proposed village thus should be ecological friendly.



Pic. 4-48 Halda riverbank to be identified as Special Ecological Zone.

En-09-02: All major khals, such as Akuti Jharna khal, Ghosal shah khal and Khandakia khal should be rehabilitated; backlines should be marked and fixed at least by vegetation coverage. Along the backline there should be a buffer zone of green belt, up to 100 ft wide on both sides.

En-09-03: Conservation of ponds and water bodies and developing a few as cultural centres. Same as in DPZ-06.

4.9. 6 ENVIRONMENTAL PROTECTION AND ENHANCEMENT

Water logging, Halda water pollution, preservation of ponds/water bodies and conservation of Halda carp breeding ground are the major considerations. Some guiding principles are:

En-09-01: Measures should be taken to conserve the nature breeding ground of the Halda River. On both sides of the Halda riverbank, a narrow 100 m wide belt has to be identified as Special Ecological Zone. No development activities, particularly