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PART I—Orders and Notifications by the Governor of West Bengal, the High Court, Government Treasury, etc.

HALDIA DEVELOPMENT AUTHORITY

(ISO 9001:2008 Certified)

Haldia Unnayan Bhawan, City Centre, Debhog,
Haldia, Dist. Purba Medinipur-721 657

PUBLIC NOTICE

No. 1145/HDA/IX-95

Dated, Haldia, the 28th August, 2014.

Under section 38 of the West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act-XIII of 1979).

Notice is hereby given that Haldia Development Authority has, in exercise of its power conferred by section 40 of the West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) prepared an Amendment of Land Use and Development Control Plan in respect of its Old Planning Area (entire area of Haldia Municipality, Haldia and Sutahata Blocks and 42 mouzas of Mahishadal Block upto Hijli Tidal Canal) and the same has been approved by Government of West Bengal, Urban Development Department, Town & Country Planning Branch as per provision under section 37(1) of the West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) vide memo no. 2444-TCP/C-2/IS-04/13 dated 26th August, 2014.

Copy of the said Amendment of Land Use and Development Control Plan may be inspected on all working days between 11-00 A.M. to 4-00 P.M. at the Office of the Chief Executive Officer, Haldia Development Authority, Haldia Unnayan Bhawan, City Centre, Debhog, Haldia, Dist. Purba Medinipur-721 657.

By order of the Governor,

UJJAL KUMAR SEN GUPTA, IAS,
Chief Executive Officer,
Haldia Development Authority.

1.0 BACKGROUND

Haldia Development Authority (HDA) intends to amend the Land Use and Development Control Plan for Old Haldia Planning Area. It has already accomplished the task of updating the existing land use database ([See Appendix-I for Notification](#)). Department of Architecture and Regional Planning, Indian Institute of Technology Kharagpur, has been entrusted with the task of providing technical expertise for the “*Preparation of Land Use and Development Control Plan for (Revision/Amendment) Old Haldia Planning Area*” vide Memo No 220/HDA/IX-95 dated 19th May 2011 of Haldia Development Authority.

Haldia Development Authority (HDA) is an autonomous body constituted in 1980 under The West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979). The Authority is guided by the Board of Haldia Development Authority. The Board has been re-constituted by the Govt. of West Bengal Notification No. 1655-T&CP/C-2/2C-2/2001 dated Kolkata, the 17th August, 2011([See Appendix-II for Notification](#)).

Located in the Purba Medinipur District of West Bengal, Haldia Planning Area (HPA) was declared a Planning Area under Section 9(1 & 2) of The West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979) ([See Appendix-III for Notification](#)). Presently the total of Haldia Planning Area includes the whole of Haldia and Tamluk Sub-divisions.

In this report the amendment of Land Use and Development Control Plan has been proposed for the part of the Planning Area covering 326.85 sq km, hereinafter called as Old Haldia Planning Area ([Refer Map No. 1.1](#)). However, data for only 317.65 sq km has been provided on GIS platform since the remaining area of 9.2 sq km (eight mouzas) remains submerged in the rivers. The Old Haldia Planning Area comprises of Haldia Municipal Area, Satahata C.D. Block, Haldia C.D. Block and Part of Mahisadal C.D. Block with 42 mouzas only. The Planning Area is bounded by River Hooghly, River Haldia, and Hijli Tidal Canal. It has a total of 260 mouzas (out of which eight mouzas remains submerged in the rivers).

2.0 LEGAL FRAMEWORK

2.1 Statutory Provision

The amendment of Land Use and Development Control Plan had been proposed for the old Haldia Planning (as per provision under section 40 of The West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979) and subsequent amendments thereon.

Section 40 of the West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date states:-

40. Amendment of Land Use and Development Control Plan - (1) At any time after the date on which the Land Use and Development Control Plan for an area comes into operation, and at least once in every 10 years after that date, the concerned authority shall, after carrying out such fresh surveys as may be considered necessary, prepare and submit to the State Government a Land Use and Development Control Plan for any alterations or additions considered necessary.

(2) The provisions of sections 36, 37 and 38 shall, mutatis mutandis, apply to such a Land Use and Development Control Plan.

This document, including the schedules and diagrams, may be called "The Amendment of Land Use and Development Control Plan for the Old Haldia Planning Area".

This shall apply to the whole of the Old Haldia Planning Area.

2.2 Provision under the Act

The West Bengal Town & Country (Planning & Development) Act, 1979 as amended up to date provides the basis for preparation and amendment of Land Use and Development Control Plans and procedure for their statutory approval.

The act suggested that,

2.2.1 The Development Authority shall, within two years of the declaration of a Planning Area, prepare a plan which will be called the Land Use and Development Control Plan, for the Planning Area and forward a copy of the same to the State Government:

The Land Use and Development Control Plan in any area shall be a written statement,-

- (a) formulating the policy and the general proposals including maps of the Planning Authority or the Development Authority in respect of the development and general use of land in that area including measures for the improvement of the physical environment;

- (b) stating relationship between these proposals and general proposals for the development and general use of land in neighbouring areas which may be expected to affect the area; and
- (c) containing such other matters as may be prescribed or directed by the State Government.

A Land Use and Development Control Plan in any area shall contain or be accompanied by such maps, diagrams, illustrations and descriptive matters as the Planning Authority or the Development Authority thinks appropriate for the purpose of explaining or illustrating the proposals in the plan and such diagrams, illustrations and descriptive matters shall be treated as parts of the plan.

The Land Use and Development Control Plan may also-

- (a)
 - (i) indicate broadly the manner in which the Planning Authority or the Development Authority proposes that land in such area should be used;
 - (ii) indicate areas or buildings requiring preservation and conservation for historical, architectural, environmental and ecological and religious purposes;
- (b) allocate areas or zones of land for use-
 - (i) for residential, commercial, industrial, agricultural, natural scenic beauty, forest, wild life, natural resources, fishery and landscaping;
 - (ii) for public and semi-public open spaces, parks and playgrounds;
 - (iii) for such other purposes as the Planning Authority or the Development Authority may think fit;
- (c) indicate, define or provide for--
 - (i) the existing and proposed national highways, arterial roads, ring roads and major streets;
 - (ii) the existing and proposed lines of communications, including railways, transports, airports, canals and linkage between towns and villages;
 - (iii) the existing and proposed amenities, services and utilities, systems for water supply including improvement of lakes, rivers, fountains and the like, sewerage, drainage and waste disposal, generation and distribution of electric power and distribution of gas, etc;
- (d) include regulations (hereinafter called zoning and sub-division regulations) to control within each zone the location, height, number of storeys and size of buildings and other

structures, the size of yards, courts and other open spaces and the use of buildings, structures and land and sub-division of land and the street alignments, set-back distances, embankments, constructional activities destroying natural scenic beauty and provide for amenities in hill areas and coastal areas and such other issues as may be considered appropriate by the Authority;

(e) locate cluster of villages and huts and designate land for hats, markets, cottage industry, livestock, pasture festivals, fairs, melas and like community facilities and conservation of trees and forests;

(f) indicate areas or zones for catchment, soil conservation, plantation, unsafe for any construction, subsidence for any reason including operation of mines, earthquake prone area and control of natural disaster.

Explanation.--The expression "mine" has the same meaning as defined in the Mines Act, 1952 (35 of 1952);

(g) designate land as subject to acquisition for any public purposes.

2.2.2 Approval of the State Government to the publication of notice of preparation of Land Use and Development Control Plan

As soon as may be after the Land Use and Development Control Plan has been submitted to the State Government, but not later than the time prescribed, the State Government shall direct the Planning Authority or the Development Authority to make such modifications in the Land Use and Development Control Plan as the State Government thinks fit and thereupon the concerned authority shall make the modifications.

2.2.3 Public notice of the preparation of the Land Use and Development Control Plan

- (1) After the modifications, if any, the Planning Authority or the Development Authority shall publish a public notice in the Official Gazette and in one or more local newspapers, of the preparation of the Land Use and Development Control Plan and the place or places where copies of the same may be inspected, inviting objections in writing from any person with respect to the Land Use and Development Control Plan within a period of sixty days from the date of publication of the public notice in the Official Gazette or from the date of publication of the public notice in the newspaper, whichever is later.
- (2) The notice of preparation of the Land Use and Development Control Plan as provided under the preceding sub-section, shall, notwithstanding anything contained in the Land Acquisition Act, 1894 (1 of 1894), be deemed to be a declaration duly made under section 4 of the said Act.

- (3) After the expiry of the period mentioned in sub-section (1), the concerned authority shall appoint a Committee consisting of three of its members, to consider the objections filed under sub-section (1) and submit report within such time as the Planning Authority or the Development Authority may fix in this behalf.
- (4) The Committee so appointed shall have power to invite any other person, and such a person shall have a right to take part in the discussions of the Committee relevant to that purpose but shall not have a right to vote at a meeting and shall not be a member for any other purpose.
- (5) The Committee so appointed shall afford a reasonable opportunity of being heard, to any person, including representatives of Government Departments, or local authorities who has or have filed any objection, and who has or have made a request for being so heard.
- (6) As soon as may be, after the receipt of the report from the Committee, but not later than such time as may be prescribed,] the Planning Authority or the Development Authority shall consider the report and may make such modifications in the Land Use and Development Control Plan as it considers proper, and shall submit the Land Use and Development Control Plan with or without modifications together with the report of the Committee to the State Government.

2.2.4 Approval of the State Government

- (1) As soon as may be, after the receipt of the Land Use and Development Control Plan, together with the report of the Committee, but not later than such time as may be prescribed, the State Government may either approve the Land Use and Development Control Plan with or without modifications or return the Land Use and Development Control Plan to the concerned authority to modify the plan or to prepare a fresh plan in accordance with such directions as the State Government may issue in this behalf.
- (2) After modification in the plan or preparation of a fresh plan in accordance with the directions of the State Government under sub-section (1), the same shall be submitted to the State Government for approval and the State Government shall intimate its decision within such time of the receipt of the plan as may be prescribed.

2.2.5 Coming into operation of the Land Use and Development Control Plan

- (1) Immediately after the Land Use and Development Control Plan has been approved by the State Government, the Planning Authority or the Development Authority shall publish a public notice in the Official Gazette and in a local newspaper or

newspapers, of the approval of the Land Use and Development Control Plan and the place or places where copies of the Land Use and Development Control Plan may be inspected.

- (2) The publication of the notice in the Official Gazette of the approval of the Land Use and Development Control Plan shall, notwithstanding anything contained in the Land Acquisition Act, 1894 (1 of 1894), be deemed to be a declaration duly made under section 6 of the said Act.
- (3) The Land Use and Development Control Plan shall come into operation from the date of publication of the aforesaid notice in the Official Gazette.
- (4) If the Land Use and Development Control Plan contains zoning and sub-division regulations as referred to in clause (d) of sub-section (4) of section 31, it shall be the duty of the Corporation or the Commissioners of the municipality or any other local authority, within whose jurisdiction such area or zone is situate, to enforce such regulatory measures in supersession of the rules and regulations, if any, applicable to such area or zone.

2.2.6 References to High Court questioning the validity of the Land Use and Development Control Plan

- (1) Within one month of the coming into operation of the Land Use and Development Control Plan, any person aggrieved by it may make an application to the High Court questioning the validity of the Land Use and Development Control Plan or any provisions contained therein on the following grounds:--
 - (a) that it is not within the powers conferred by this Act, or
 - (b) that any requirement of this Act, or any rules made there under have not been complied with in relation to the making of the Land Use and Development Control Plan.
- (2) The High Court, after giving an opportunity to the authority concerned and the State Government to be heard,--
 - (a) may stay, until the final determination of the proceedings, the operation of any provisions contained therein so far as it affects any property of the applicant; and
 - (b) if satisfied that the Land Use and Development Control Plan or any provision contained therein is not within the powers conferred by this Act, or that the interest of the applicant has been substantially prejudiced by a failure to comply with any requirement of this Act or rules, may quash the plan or any provision contained therein generally or in so far as it affects any property of the applicant.

- (3) Subject to the above provisions of this section, a Land Use and Development Control Plan shall not, either before or after it has been approved, be questioned in any manner, in any legal proceedings whatsoever.

2.2.7 Amendment of Land Use and Development Control Plan

At any time after the date on which the Land Use and Development Control Plan for an area comes into operation, and at least once in every 10 years after that date, the concerned authority shall, after carrying out such fresh surveys as may be considered necessary, prepare and submit to the State Government a Land Use and Development Control Plan for any alterations or additions considered necessary.

2.3 Power to Relax

Notwithstanding anything contained in this Land Use Development Control Plan, the Haldia Development Authority may, for reasons to be recorded in writing and with the previous approval of the State Government, relax any provision of these regulations for dealing with a case in a just and equitable manner.

2.4 Objective of the Study

To prepare a comprehensive, functional, implementable & enforceable land use plan with statutory back up as per the West Bengal Town and Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979) and taking into consideration the existing laws/rules and regulations.

2.5 Scope of Work

This plan will regulate land use and development activities. It will broadly follow the frame work of land use classification and developmental guidelines recommended by UDPFI guidelines and modern concept of planning and development issues followed in the state & in India.

Contemporary zoning and land use classification techniques along with innovative development control mechanism to be adopted based on the past and current best practices across the country and abroad.

The planning process and formulation should be on scientific methodology, analysis and approach and it shall be prepared on digital based geo referenced base map.

It will cover all issues and aspects of planning and development at micro and macro level.

It should consider the environment aspects and optimum utilization of natural resources.

It should act as a tool for development permission u/s 46 and with specific rules & regulations and procedure for permission and should have a statutory back up and practical approach to preparation of projects/ schemes.

3.0 PLAN PREPARATION & IMPLEMENTATION:

The LUDCP for Old HPA aims to induce new development in the area through land use zoning and control regulations. The aim is to achieve outcomes that are positive for the people, the economy and the environment. This plan will help in projecting this area as an attractive place to live, work and to make investments.

The stages of plan preparation has been designed to ensure that the development and use of land is in the public interest, that it optimizes the area's economic, environmental and social benefits and overcome its drawbacks.

3.1 Stages of Plan Preparation

The stages involved in preparation of this plan mainly include spatial data collection, socioeconomic survey, survey of the present land use, analysis of the data collected, discussion with the officials of the Haldia Development Authority and preparation of maps.

Stage 1: The planning process began with the surveying of the present land use condition in the planning area. The survey of the present land use was conducted by the Haldia Development Authority through Senes India Pvt. Ltd. in 2011. The previously prepared base existing land use map and 2010-Quickbird satellite images were used to update the land use. It was then collated with cadastral revenue sheets on GIS platform. The land use classification required to be used for updating the present land use was formulated by IIT Kharagpur which was later approved by the HDA.

The present land use survey data, transferred on to GIS platform, was handed over to IIT Kharagpur for feedback. IIT Kharagpur then conducted ground verification and made the necessary corrections. The final 'Surveyed Land Use Map', after its acceptance, formed the basis for preparation of the LUDCP 2013.

For effective data management and informed planning decisions, GIS platform was used all through the processes. GIS is a powerful tool for creating, managing, analyzing, and using geospatial data. It, thus, provided the consultant with improved operations, effective time management and effective decision making opportunities.

Stage 2: The 'Surveyed Land Use Map', the geo-referenced satellite images, mouza maps, digitised on GIS, and other information regarding the location of HDA acquired land, location of existing industries, and extent of land under Kolkata Pot Trust, extent of land under the Railways, ownership of land parcels and other major information were then obtained from the HDA vide memo no. 859/HDA/IX-95 dated 03.08.2011.

Stage 3: The data collected in the Stage 1 and Stage 2 was then transferred on to the GIS platform, during which period many interactive sessions were conducted with local authorities, public and other stakeholders.

Stage 4: The data obtained in Stage 1, 2 and 3 were utilized during the preliminary analysis of the strengths, weaknesses, opportunities and threats of the Planning Area. The analysis provided the objectives for the LUDCP. All these efforts culminated into the 'Inception Report' submitted to HDA on 14th September 2012.

Stage 5: Simultaneously Socio-economic survey was conducted by Silver Consultancy Services, a private consultant, and handed over the survey data to IIT Kharagpur for its analysis, the outcome of which has been submitted to HDA as the 'Socio Economic Survey Report 2013' on 25th February 2013. [Section 5.0](#) highlights the major inputs from the socio economic survey.

Stage 6: The Haldia Planning Area has a long history of plan preparations by various organizations. Each of these Plans was studied and their proposals were taken as planning inputs for the LUDCP. [Section 7.0](#) highlights the major proposals from the previous planning efforts.

Stage 7: The distribution of the present land use was then analysed and location of major facilities and their impact were identified. [Section 8.0](#) discusses the present land use pattern.

Stage 8: Population projection and future demand for various other facilities were made for Old Haldia Planning Area. The population was then suitably allocated to the various mouzas and the municipal area. Keeping in mind the image of Haldia as one of the industrial hub of the State and the recent lifting of the Environmental Moratorium, calculations were drawn for all future industrial demand.

Stage 9: A 'Broad Conceptual Plan' for LUDCP was prepared and elaborately discussed with the officials of HDA on 25th February 2013. Necessary modifications were thus incorporated in the Plan.

Stage 10: On acceptance of the 'Broad Conceptual Plan', the pre-draft Land Use and Development Control Plan' were prepared and presented on 23rd July 2013 and again on 22nd November 2013. This plan included the detailed land use distribution, zoning and development control regulations which were elaborately discussed with the officials of HDA and other stakeholders.

Stage 11: After incorporation of the feedback from Stage 9 and 10, the 'Draft Land Use and Development Control Plan' was finalised and submitted for Government's approval and subsequent scrutiny by the Public.

Stage 12: Since no objections and suggestions were received after the notification period from HDA, the Final LU&DCP has been submitted herewith for Government approval and notification.

3.2 GIS based Data Collection

Data collection was split into *data capture* (direct data input) and *data transfer* (input of data from other systems).

Two main types of data capture were

- *Primary data sources* which are collected in digital format specifically for use in a GIS project.
- *Secondary sources* which are digital and analog datasets that were originally captured for other purposes and need to be converted into a suitable digital format for use in a GIS project.

The processes of data collection are also referred to as data capture, data automation, data conversion, data transfer, data translation, and digitization.

3.2.1 Outline of the GIS database creation

- a) Primary geographic data capture
- b) Secondary geographic data capture
- c) Obtaining data from external sources (data transfer)
- d) Capturing attribute data
- e) Data management and analysis

3.2.2. Source of Information/ Map/ Data

Following table outlines the data that was collected from different sources.

Table No. 3.1: Source of data

Features	Source
Plot boundary, Mouza boundary	Village Map, Mouza Map / LR Data from HDA
Project Boundary of AOI (Area of Interest)	HDA Information/ Map
Land Use	Maps prepared by SENES (through HDA) , Satellite Image and Field Survey
Major Location, POI (Point of Interest)	GPS Survey
Image	Satellite Image collected from HDA
Other	HDA and Local Authority / Department

3.3 Plan Implementation

The plan will be finally accepted and notified by the State Government under West Bengal Town and Country (Planning and Development) Act 1979 as amended up to date, prior to which people's participation will be asked for in the form of objections and suggestions. The hearing procedure will be conducted by HDA towards this end.

The plan has also been supplemented with zoning and development control regulation. The plan implementation will primarily adopt these regulations.

All development shall have to incorporate the guidelines mentioned in this report. Applications for permissions shall be accordingly reviewed and scrutinized by the Haldia Development Authority and/or Haldia Municipal Corporation or the Gram Panchayats. However, the Development Authority in addition to enforcement of the Plan shall also fulfill the infrastructure demand and the need for housing for rehabilitation and economically weaker section. IIT Kharagpur as consultant shall provide all the technical support and justification for disposal of the objections.

Some budgetary estimation has to be prepared and priority for the development has to be finalised. It must also be kept in mind to follow the phase wise development and also mobilize resources from the users and financial institution.

4.0 DELINEATION OF PLANNING AREA

Old Haldia Planning Area is situated in the Purba Medinipur district of West Bengal. The area is bounded by distinct physical boundaries namely the Hooghly River, Haldi River and Hijli Tidal Canal. The total area of the Planning Area is 326.85 sq km.

4.1 Administrative Units (Refer Map No 4.1): The total planning area of Haldia Development Authority includes the whole of Haldia and Tamluk Sub-divisions. The administrative units within the entire Haldia Planning Area are given in [Table no. 4.1](#).

Table no. 4.1: Administrative Units in Haldia Planning Area

Blocks /Municipality	Notification no. and date	Area (sq km)	No. of Mouzas
1. Haldia Municipality		104.62	106
2. Haldia C.D. Block	1874-T&CP/1R-6/80 dated 17.03.1980	65.57	23
3. Sutahata C.D. Block		76.45	81
4. Mahisadal C.D. Block (Part)		71.01	40+Part of 2 Mouzas)
5. Haldia Municipality (Mouzas under River)		9.2	8
1. Mahishadal (Part)	354-T&CP/C-2/2L- 7/2001(1) dated 16.02.2004	55.91	34+(Part of 2 mouzas)
2. Nandigram - I		169.63	99
3. Nandigram - II		105.25	41
4. Nandakumar (Part)		103.62	41
5. Sutahata		-	01
1. Nandakumar (Part)	288-T&CP/C-2/2L- 7/2001 dated 13.02.2013	93.19	59
2. Tamluk		112.93	101
3. Sahid matangini		94.74	86
4. Panskura - 1		242.84	229
5. Kolaghat		153.43	114
6. Moyna		147.10	85
7. Chandipur		338.75	114
8. Tamluk Minicipality		20.79	17
9. Panskura municipality		17.04	19
TOTAL		1982.07	1300

includes Haldia Municipal Area (106 mouzas), Haldia C.D. Block (23 mouzas), Sutahata C.D. Block (81 mouzas) and Part of Mahisadal C.D. Block (42 mouzas). There are 260 mouzas (out of which eight mouzas are submerged in the rivers) within Old HPA. The area excluding the eight submerged mouzas is 317.65 sq km. The area under Haldia Municipality is 104.62sq km and under non-municipal area is 213.03 sq km. A basic outline of the administrative units within Old HPA is given in [Table no. 4.2 & 4.3](#). The mouza list is given in [Annexure-I](#).

Table no. 4.2: Administrative Units in Old HPA

Administrative Units	Name of units	No of Units
Blocks	Sutahata C.D. Block, Haldia C.D. Block, Mahisadal C.D Block	3
Municipality	Haldia Municipality	1
Police Stations	Bhabanipur PS, Durgachak PS, Haldia PS, Mahisadal PS, Sutahata PS	5

Table no. 4.3: Mouzas & Wards in the Blocks / Municipality

Blocks /Municipality	Mouzas	Wards	Area (sq km)
Haldia Municipality	106	26	104.62
Haldia C.D. Block	23	NA	65.57
Sutahata C.D. Block	81	NA	76.45
Mahisadal C.D. Block	40 + (Part of 2 Mouzas)	NA	71.01
Total	252	26	317.65

4.2 Delineation into Planning Zones: The Old Haldia Planning Area has been divided into smaller planning units called as 'Planning Zones' for easy operational purpose. These Zones are easier to deal with because of their convenient size and identifiable boundaries. The division of Planning Area into smaller zones may also help in studying the existing facilities across the Planning Area and for the purpose of allocation of future population and facilities based on the characteristics of a particular Planning Zone.

The Planning Zones have been delineated based on the homogeneity of land-use, population density and land price and having a convenient size. While delineating the planning zone boundary, administrative boundaries (block, mouza and ward) have been taken into consideration. The average size of a Planning Zone is approximately 21 sqkm. The planning area has been divided into 15 Planning Zones ([Refer Map No 4.2 & Annexure -II](#)). The zones are named alphabetically from Zone-A to Zone-P. To avoid confusion no zone is named with letter 'O'). The Planning Zones are listed in [Table No. 4.4](#).

Most of the existing development in Old HPA is limited on the southern side of Balughata-Kukrahati road, which mainly comprises the Municipality area. The municipality area has been divided into five Planning Zones, namely, Zone-A, Zone-B, Zone-C, Zone-D and Zone-E considering the ward boundaries as well as utility zone boundaries viz. sewerage zone and water supply zone from respective master plans. The area outside the municipality has been divided into ten Planning Zones (Zone-F to Zone-P, excepting zone 'O') and the zone division follows the mouza boundary.

The existing housing activities are concentrated in Planning Zone A and B. Apart from private dwelling units, it also contain government quarters and industrial housing. The majority of the existing port area is within Zone A. The existing industrial area is mostly contained within Zone C and D. The new dock area is situated under Planning Zone E. Major commercial activities take place in Planning Zone D, which also have some residential development. These Planning Zones outside the municipality area are primarily rural in character having sparse residential development and agricultural use.

Table no. 4.4: Planning Zones of Old HPA

No.	Name	Area (in sq Km)	Important Landmark	Existing Developments	Important Proposals
1	A	25.81	Rani Chak	Government housing, township, Dock Complex.	Residential development
2	B	21.00	City Center, APEEJAY Infralogistic Park, Balughata sunset point	Commercial development, sparse residential development	Balughata Growth Center , Logistic hub, industrial development, recreational center (owing to its tourism potential as sunset point)
3	C	19.02	Haldia Petro Chemicals Limited	Industrial development	Industrial development
4	D	31.22	VIP More, Khudiram Square, Girish more, Sutahata More	Major commercial and industrial development, Solid Waste Treatment Plant, Hazardous Waste Treatment plant,	Residential development
5	E	7.57	Second Dock Complex	River bank	Green belt development
6	F	23.00	Haldia Energy Limited	Sparse village settlement	Industrial development
7	G	27.49	Kukrahati Ferry Service terminal	River bank, Sparse village settlement	Kukrahati Growth Center , institutional hub, river front development

8	H	17.78	Haldia Water Supply Pumping Station, Chaitanyapur Junction	Sparse village settlement	Chaitanyapur Growth Center , Institutional hub
9	I	15.84	-	Sparse village settlement	Commercial hub, extensive industrial development
10	J	27.86	Balughata Kukrahati Road	Sparse village settlement	Commercial hub, recreational center
11	K	30.06	Disari Public School, Brajalalchak	Sparse village settlement, River bank	Brajalalchak Growth center , Logistic hub
12	L	19.40	-	Sparse village settlement	Housing for rehabilitation and economically weaker section
13	M	20.72	Hoogly and Rupnarayan river confluence, Geonkhali Water Treatment Plant	Sparse village settlement, River Bank	Geonkhali Growth Center , recreational center (owing to tourism potential of Geonkhali due the confluence of Hoogly and Rupnarayan River), housing for rehabilitation and economically weaker section
14	N	14.41	Mahishadal More, Terapekhya Road Junction, Mahishadal Palace, DewanBarhi	Residential development	Mahishadal Growth Center
15	P	16.48	Kapaserya Junction, Jawahar Navoday Vidyalay	Sparse village settlement	Kapaserya Growth center
Total		317.65			

4.3 Salient features of Haldia

4.3.1 Climate: The climate of Haldia is moderate with winter temperatures ranging from 9.6 degrees Celsius to 29.3 degrees Celsius. Summers, on the other hand, is hot and humid with a temperature range of 24 degrees to around 42 degrees. Rainfall is heavy during monsoons, and the rainy months are between May and September. Average rainfall of the area is 1580 mm. The area lies about 5.8 meters to 10 meter above mean sea level and has a flat topography.

4.3.2 Nature of development of the study area: Haldia is one of the fast growing urban industrial complexes of West Bengal. The industries are concentrated near the port area and are mostly petro-chemical based industries. The urbanisation process in Haldia is quite recent which started in the 1980's mostly triggered by the port and port based industrial activities.

The major residential area locally known as “township” is near the port area. This township is on the southern side of Balughata-Kukrahati road in-between River Haldi and NH-41. The commercial establishments have come up along the SH-4 near the industrial area.

The area on the northern side of Balughata-Kukrahati road is rural in nature. Agriculture is the main activity in this part of Old HPA. The development pattern resembles a cobweb characterised by a web of settlement spreading over the entire area with agriculture farms in between them.

4.3.3 Settlement Pattern: The Planning Area has six growth centers outside the Municipality area, namely, Chaitanyapur, Kukrahati, Geonkhali, Mahishadal, Kapaserya and Brajalalchak. The growth center of Balughata falls within the Municipality Boundary. The economic activity of non-municipal area is mostly concentrated around these six growth centers (Refer Map No. 4.3).

4.3.4 Density Pattern: The overall density in the municipal areas is found to be 1568 person per sq.km (as per Census of India 2001). Out of total 26 wards, some wards have a population density as high as 2500 persons per sq km; whereas, others are having density as low as 600 persons per sq.km. The average population density of the non-municipal area is found to be 1326 persons per sq km (Refer Map No. 4.4). The growth rate of non-municipal area is observed to be much lower than the municipal areas. A considerable volume of population within the study area resides in rural areas and around the growth centers.

4.3.5 Population: As per Census of India 2011 (Provisional) the Old Haldia Planning Area has a population of approximately 5.16 lakhs and has a gross density of 1581 persons per sq km.

Table no. 4.5: Provisional Population 2011

Block name	Total population	Male	Female	Other
Mahishadal CD Block (42mouzas)	99761	51466	48294	2
Sutahata CD Block	118612	60910	57702	-
Haldia CD Block	98001	50574	47427	-
Haldia Municipal Area	200330	104494	95831	6
Total Population	516,704	267444	249254	

Source: <http://haldiatourism.gov.in/haldia.html> as accessed on 14.07.2013

Table no. 4.6: Block wise Gross Density as per Provisional Population 2011

Block name	Total population	Area of the block (sq km)	Density (people per sq km)	Density (pph)
Mahishadal CD Block (42mouzas)	99761	71.01	1405	14.05
Sutahata CD Block	118612	76.45	1552	15.52
Haldia CD Block	98001	65.57	1495	14.95
Haldia Municipal Area	200330	104.62	1915	19.15
Total Population	516,704	317.65	1627	16.27

4.3.6 Economy

Over the last few decades, Haldia has attracted huge amount of investment in industrial activities – primarily in down-stream industries, petrochemicals, chemicals and allied processing activities. In the last decade, it has also invited lot of important tertiary sector functions like educational and research institutes, health care, retail, commercial and recreational functions. Prior to all these secondary and tertiary activities, the entire economy was predominantly agrarian in nature. A brief reconnaissance of the sectoral income and employment base reveals that all three sectors (primary, secondary & tertiary) exist till date within the study area – although in varying proportions.

4.3.7 Housing

The study area comprises of Haldia Municipal Area and Non-Municipal Areas of Sutahata CD Block, Haldia CD Blocks and Part of Mahisadal C.D. Block. The non-municipal area has eight growth centers. Therefore the housing characteristic of the study area has three patterns i.e. Haldia Municipal Area, growth centers and rural areas.

Private housing is the predominant component of the urban housing stock within the study area. There are few housing enclaves in form of ‘gated communities’ where the access is severely restricted to the outsiders. Most of the industrial housing campuses are of this kind i.e. HREL, IOCL, Mitsubishi etc.

A considerable volume of population within the study area resides in rural areas and growth centers. A significant part of the housing within the municipal limits has rural traits – especially in the peripheral areas annexed at later stages.

4.3.8 Traffic and Transportation

Haldia is well connected with the important growth nodes in eastern India via road, rail and river linkages. It does not have air connectivity. Regional connectivity of Haldia is of tremendous importance due to its port functions. Moreover, the industries which have come

up in Haldia depend heavily on these regional linkages for movement of raw materials or finished goods.

NH-41 connects Haldia with NH-6, via which it is linked with Kolkata Metropolitan Area in the east and Kharagpur, Medinipur, Jhargram, and important growth centers in Jharkhand in the west. NH-34 provides the linkage from Kolkata to the northern parts of West Bengal, North Eastern states, Nepal and Bhutan. NH-6 is connected to NH-2 near Dankuni, which provides access to the industrial agglomeration in Asansol and Durgapur and connecting it further to Jharkhand, Bihar, Uttar Pradesh and Delhi (part of Golden Quadrilateral)

NH-6 also links with NH-5 (near Kharagpur) which connects it to the destinations in Orissa via Balasore. Recently NH-60 has been upgraded for capacity augmentation which will connect Raniganj and the industrial agglomeration in Asansol-Durgapur with Balasore via NH-5.

SH-4 connects Haldia with Mahishadal, Tamluk and finally meets NH-6 near Mecheda. A part of the SH-4 branches off from Nandakumar which connects Haldia with Digha and all other coastal settlements in Purba Medinipur. This is also the only road link to Nandigram area which is now part of the extended Haldia Planning Area.

NH-41, the recently constructed four lane road is extensively used for road based freight movement for Haldia port and industries, though passenger interaction along this link is also high. Huge volume of iron ore exchange takes place from Orissa via NH-5, NH-6 and NH-41. SH-4 is a double lane link which is primarily used for passenger movement.

There are two bus terminal facilities existing within Haldia – Haldia central bus stand and Kukrahati bus stand. Haldia central bus stand is located within the Haldia Port Township area and Kukrahati bus stand is located adjacent to the Kukrahati jetty facility. A new regional level bus terminal facility has been proposed by the Haldia Development Authority at Bhabanipur near City Center. About five acres of land has been earmarked for regional bus terminus in Bhabanipur adjacent to NH 41. Out of the five acres of land 2.5 acres of land is being allotted to South Bengal State Transport Corporation for their depot.

A large volume of passenger movement takes place via ferry transit services in Haldia. The catchment area which is being catered by the ferry transit movement include Howrah, Kolkata, Southern parts of Kolkata Metropolitan Area, South 24-Parganas, Nandigram and other parts in Purba Medinipur.

Haldia is connected by a single line rail connection via Panskura. However, double tracking of this rail link has already started (Panskura-Tamluk stretch). The remaining stretch will be completed soon. This link is extensively used for freight movement to the port and other industries in Haldia. The passenger movement along this link is minimal.

4.3.9 Physical Infrastructure

Water Supply: The water supplies in Haldia Municipality are from both surface and ground water sources. The surface water from the river Hooghly is treated at Geonkhali water treatment plant and supplied to most of the industrial townships and some municipal areas by a piped water supply system. The areas uncovered by the PHED rural piped water supply system are having shallow tube wells provided by Gram Panchayats. In addition, residents have their own personal tube wells. The proposal to enhance the present water supply from 25 to 50 MGD is in the pipeline.

The industrial development of Haldia coupled with population growth has already put pressure on the water resources of the region. Thus overexploitation of groundwater has led to a steep fall in the water table level and as a consequence, it is reported that there is intrusion of saline water into freshwater aquifers in many parts of the region.

Sanitation and Drainage: The absence of a systematic wastewater management has been visibly felt in Haldia, the area as a whole appears to have no systematic sewerage facilities except the few industrial townships like the Port Township. The available drainage channels are highly incapable of handling the wastewater and storm water generated in the study area. There is no centralized collection system for sewage. The sanitation facilities in urban individual houses include septic tanks, which are not provided with soak pits in several households. Even the wastewater outlet in most of the houses is directed towards the main streets, roads and or drains. A master plan for the sewerage and sanitation for Haldia is still pending to be implemented.

The availability of natural slope of the ground for the drainage facility is fairly low. The Haldia Municipal area has been provided with partial storm water drainage, both open type pucca and kutcha drains, rectangular/trapezoidal sections, only to temporarily discharge the accumulated rainwater through the different canals to rivers Haldi and Hooghly. Some of the open drains are inadequate in size to carry the storm discharge and others are in defunct condition.

There is no operational activity of sluice gates either during rainy days or high tide period. All sluice and canal sections are inadequate due to increase in the paved area resulting from rapid industrialization and urbanisation of Haldia. Localized flooding occurs during and after heavy rainfall due to non-availability of drainage arrangements.

Solid Waste Management: The condition of solid waste disposal in Haldia has improved after the introduction of Solid waste Treatment Plant in Purba Srikrishnapur. The non-municipal areas should also have solid waste management system similar to the municipality area. The solid waste is observed as a complex mixture of household, commercial, construction, industrial and hospital wastes.

Haldia Development Authority has allotted about 70 acres of land for industrial and bio-medical hazardous waste to West Bengal Waste Management Limited, a joint venture company of Haldia Development Authority and RAMKY Enviro Engineers Limited and 33 acres of land has been handed over to the same company for treatment of municipal waste. Both the projects are operational at present. There are few big Industrial Township/ colonies like CPT, IOC and MCC etc within the municipal area. In these areas, door-to-door collection services and masonry/metal bins are provided by municipal authority.

4.3.10 Social Amenities and Facilities

Education: As per the Census of India (2001), the rate of literacy in the Haldia Municipal Area was 82.1 percent, much above the national average and the literacy level of the district. Haldia is definitely a frontrunner in education, with numerous schools like St. Xavier's, Assembly of God Church, Kendriya Vidyalaya and Bharatiya Vidya Bhavan. There are also many institutes of higher learning like the Haldia Institute of Technology, Central Institute of Plastic Technology (CIPET), Haldia Law College, Marine Engineering College, Hotel Management institutions and also an Industrial Training Center. A dental college and medical college have also come up in Haldia. However, in view of the growing population and rapid industrialization, Haldia must be prepared to provide quality educational facilities to cater to the growing demand. Apart from meeting its own demand, expansion of education infrastructure, particularly technical education and research, will also help establish Haldia as one of the centers of higher education in the state.

Health: The Haldia Township is well equipped with medical facilities. There is a Sub-Divisional Hospital with specialized health care, prevention and treatment, diagnostic and pathology facilities. Also an Eye care center, Dr. B. C. Roy Hospital cum Dental College, Government run health centers, primary health units and clinics take care of existing need. Apart from these the Indian Oil Refinery and Port have their own hospitals and clinics equipped with all modern facilities.

Culture, Recreation and Tourism: Haldia, being located in a state and district having a strong cultural heritage needs better city-level socio-cultural facilities for preserving and boosting the tradition.

Haldia lacks organised open spaces and recreational facilities except in the planned port township and other industrial housing estates. Small public parks are located near the Haldia Railway Station, the Haldia Municipality building and the riverside, but Haldia is badly in need of city-level recreational spaces.

There is an immense scope for the development of nature tourism as well as business tourism. The coastal stretches along the rivers Hoogly and Haldi, the island of Nayachar and other picturesque locations in and around Haldia surely have tremendous potential of

attracting tourists from far and wide. Prospective entrepreneurs, Consultants, advisers, engineers, economists, technicians and CEOs from all round the globe keep coming to the port city for business. Numerous hotels, motels and guest houses have come up in and around the port city to accommodate these business tourists.

4.3.11 Environment

Haldia area is a potential pollution belt as it serves a couple of massive industries. It is known that airborne particulates, primarily from industrial process, exert a significant influence on atmospheric phenomena, plants, property and human and animal health. These industries are expected to have their own arrangement for reducing both air and water pollution. The control devices include gravitational settling chambers, centrifugal collectors, wet collectors, electrostatic precipitators and fabric filters; the selection of a control device depends on a number of factors. But, observing and sensing the quality of the air, the dusty and smoky environment prevails especially during morning time; it is felt that the air quality is mainly affected by industrial emissions.

Haldia area has been declared by the Central Pollution Control Board (CPCB) as one of the urban areas in which prescribed National Ambient Air Quality Standards (NAAQS) are violated in terms of RSPM. This situation is aroused out of the widespread uncontrolled industrialization of the area without adequate environmental considerations.

Haldia Planning Area makes a part of the coastal plain blocks of Purba Medinipur District of West Bengal. The study conducted by Central Ground Water Board (CGWB) reveals that due to over exploitation of the ground water resources, the water level has declined steeply over the last three decades. The Central Ground Water Board (CGWB) authority has notified the aquifer below 120 m of ground level in entire Haldia municipal area covering 109 sq. km and imposed certain restriction under the Environmental Protection Act.

In view of nature and character of industrialization and their distribution, there are possibilities of fire hazards. The fire fighting mechanism and facilities should be given appropriate consideration.

4.4 Connectivity with neighbouring areas

The Planning Area is situated in a very advantageous position. Important commercial and industrial hubs such as Kolkata and Kharagpur are well connected by National Highway and Railways. Haldia is located at approximately 120 km (road distance) south-west of Kolkata. Kharagpur industrial hub is at an approximate distance of 110 km (road distance) to the west of Haldia. Tamluk, the district Head Quarter of Purba Medinipur is located at approximately 38 km from Haldia and is connected by SH-4. The rail distance from Tamluk to Haldia is approximately 45 km. Nandigram is at a distance of about 57 km (road distance) from Haldia and is connected via Nandakumar. It is also connected by ferry service.

5.0 SOCIO-ECONOMIC STATUS SUMMARY

5.1 Survey sample size, sample selection, commissioning of the work

The socio-economic survey was designed to collect information from the field by interviewing the households residing in the study area. Old Haldia Planning Area has been divided into four strata namely Haldia Municipal Area, Haldia C.D. Block Area, Sutahata C.D. Block Area and Mahishadal C.D. Block Area. Each stratum has been so selected that it matches with administrative boundary and reflects its own character, social and cultural as well as the pattern of land use. A certain percentage of households of every stratum (Municipality/ C.D. Block) were surveyed through interviews.

Sampling size of household survey from each unit was decided based on existing household number. Total 5644 number of households has been surveyed among which Haldia Municipality, Haldia C.D. Block, Mahishadal C.D. Block and Sutahata C.D. Block have 38%, 18%, 22% and 22% share respectively following their share in total population. The sample covers about 5% of total households in the Planning Area. The Planning Area was divided into four strata as explained before and a random stratified sampling technique was used. While it was not a Census survey where 100% households are covered in the survey, adequate measures were taken to make the sample as representative as possible.

Data collected was then grouped stratum wise so as to get a comparison of situation between Strata. Questionnaire was designed to collect information on various aspects relating to socio-economic status of the households. The survey was conducted by scientifically designed structured questionnaires which were prepared by IIT Kharagpur. The questionnaire contains information about:

- Identification of Household
- Family member details
- Family description
- House details
- Household assets
- Physical infrastructure
- Social amenities
- Indoor environment
- Travel details
- Birth details
- Death details
- Illness
- Household expenditure details
- Remittance, savings and loans
- Development priorities

Silver Consultancy, a private consultant to HDA was entrusted for the survey work. The interview was conducted by structured questionnaires with help of trained investigators. The survey team was comprised of local people of Planning Area and supervisors appointed by the private consultant.

5.2 Salient findings of the survey

Following are the key findings from the socio-economic survey for Old Haldia Planning Area.

It is noticed that nearly 98% of households in Haldia are Bengali natives. In the HPA, about 81.86% are Hindu and 17.86% are Muslim. A look at the social category reveals that about 76% of households belong to the general category and nearly 17% of households belong to SC category. About 21% of the households came to Haldia within the last 25 years.

The housing scenario in the Planning Area reveals that approximately 36% of dwelling units are in bad condition. Nearly 3.6% of households stay in rented accommodation in the Planning Area, which is approximately double in Haldia Municipality. About 55% of households availing rental accommodation in the Planning Area pay under Rs. 1000 per month. Plotted development is the major type of residential development in the Planning Area which is about 94% of all dwelling units. About one third of the households have a plot area in the range of 1-3 Decimal.

A significant percentage of population is within the working age. Percentage of population in the age group of 18-60 years in the Planning Area is close to 64%. About 23% of population is within 6-18 years of age. The sex ratio demonstrates that female population is less and there are 930 female per 1000 male population in the Planning Area. A significant percentage of population over 18yrs of age in the Planning Area is married. About 85% of male and 94% of female over the age of 18 are married.

Agriculture and allied industry is a major source of employment in the Planning Area. About 10.36% of people are marginal workers and 21.71% are main workers. Approximately 44% of households earn less than Rs. 2000 per month and about 38% earn between Rs. 2000 – Rs. 5000 per month. As the rural areas follow an agrarian system, the livestock ownership is high. About half of the household owns any kind of livestock in the C.D. blocks. It appears that about 15% of the households have monthly rice consumption below 10 kg.

Walking and bicycle are the dominant mode of transport to reach workplace, school, market, health facilities etc. The patterns of travel distance to workplace, school, market and bus stop show highest concentration in the range of 1-2 km, whereas for medical facilities it is 2-5 km and for rail station it is 5-10 km. Most of the people do not have any expenditure for travelling +

-as they walk or use bicycle to reach destination.

Literacy rate of the Planning Area is about 81.13% where male and female literacy rate is about 89.20% and 72.37% respectively. In all stratum disparity in literacy is high between male and female. Most of the people have education up to class eight. Only 7.58% of male

and 3.49% of female have qualification of graduation and above. About 88.66% of the people do not have any technical education in the Planning Area.

About 19.62% child birth is still birth in the Planning Area. The percentage is highest in Mahishadal C.D. Block area and lowest in Sutahata C.D. Block area. About 33.08% of the delivery takes place in hospital and 18.67% takes place in nursing home. Most of the deaths take place due to old age. However, 29.20% of deaths occurred due to different diseases. About 9.02% of the people did not get any medical treatment during death. The percentage is highest in Mahishadal C.D. Block area. Skin disease is predominant in the Planning Area.

Tube-well is the major source of potable water for domestic use in particular. The next predominant source is community taps. About 89% of the households take water from community sources. It is observed from the data that in the Planning Area, about 50% of the households are at a distance between 100 m and 500 m from source of water. The percentage of households satisfied with the volume of water supplied is 67.19%, whereas 26.06% felt summer time scarcity. Although, more than 90% of the household has access to individual toilets, about 40.71% of households have toilet with septic tank and 47.37% of households have toilet with Pit. Only 22.30% of the houses are connected to drains which are not cleaned regularly. About 24.11% of households enjoy house collection system in the Planning Area, whereas 59.83% households dispose waste in the open place. It is observed that in the Planning Area almost 69.06% of the households have electricity connection.

On an average, playground is situated nearby house for only 12.48% households, whereas, it is more than 2 km away for 24.18% households for the Planning Area. For most of the people, primary school is available in between 500 m and 1 km distance, whereas high school is situated more than 2 km away. Primary health center and post office are also situated more than 2 km away for most of the households. For more than 60% of the people, bank is situated more than 2 km away in general, though for the Haldia Municipality area, the situation is comparatively better. The situation for availability of daily market is comparatively better as about 75% of the people have access to it within 2 km distance. On the other hand, about half of the people travel more than 2 km to access large market. Availability of metal road is disproportionately high in case of Haldia Municipality area whereas in case of Mahishadal C.D. Block only 5% people have metal roads nearby to the house.

It is observed that maximum (nearly 21%) households assigned first priority for employment generation, whereas about 13% assigned first priority for improvement of ration system (PDS), improvement of accessibility and communication and provision of health care facilities each. Improvement of water supply, agriculture and irrigation facilities and educational facilities are also important as about 9%, 7% and 5% of the people assigned first priority on these aspects respectively.

5.3 Development Priorities

The household proforma desired to have a user based priority of development. Accordingly, 12 parameters were outlined for which the surveyed population gave their ranking.

It is observed that nearly 21% of the households assigned first priority for employment generation, whereas about 13% assigned first priority for improvement of ration system (PDS), accessibility and communication and provision of health care facilities. Improvement of water supply, agriculture and irrigation facilities and educational facilities are also important as about 9%, 7% and 5% of the people assigned first priority on these aspects respectively. Following table shows ranking for development activities according to the importance (first priority) assigned by people in the Planning Area.

Table No. 5.1: Percentage distribution of Ranking of Priority in Development Activity

Items	First Priority	Rank
Employment Generation	21.29%	1
Ration System (PDS)	13.68%	2
Accessibility & Communication	13.22%	3
Health Facilities	13.06%	4
Water Supply	9.51%	5
Agriculture and Irrigation Facilities	7.35%	6
Education Facilities	5.39%	7
Open Space Conservation	3.39%	8
Drainage and Solid Waste Management	2.80%	9
Environmental Pollution	2.68%	10
Preparedness against Natural Disasters	1.05%	11

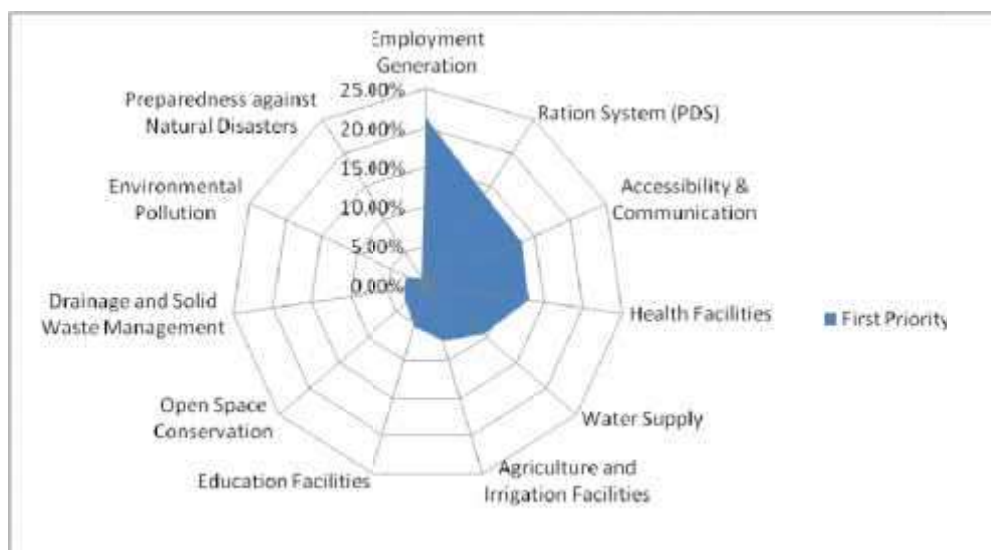


Figure No.5.1: Percentage distribution of Ranking of Priority in Development Activity

6.0 DEMOGRAPHY

6.1 Present population characteristics

This section gives an overall idea of the demographic features of Old Haldia Planning Area as has been found from socio-economic survey and census data. Some of the parameters taken into consideration are language, religion, social background, age, sex etc.

6.1.1 Language (Mother Tongue)

Socio-economic survey data reveals that apart from the majority of Bengali speaking households (97.87%), about 2% of people have other Indian languages as their mother tongue in the Planning Area. The concentration of Non-Bengali Household is more in the municipality area where 2.36% of households have Oriya as their mother tongue. The Haldia C.D. Block area has the maximum concentration of household with Bengali as their Mother tongue.

Table No. 6.1: Percentage distribution of households by Mother Tongue

Mother Tongue	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
Bengali	96.72%	99.70%	98.54%	97.74%	97.87%
Oriya	2.36%	0.30%	1.22%	2.18%	1.70%
Hindi	0.32%	0.00%	0.00%	0.00%	0.12%
English	0.00%	0.00%	0.00%	0.00%	0.00%
Others	0.60%	0.00%	0.24%	0.08%	0.30%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

6.1.2 Religious Background

From Census of India data, it is observed that, 81.86% of the households in the Planning Area are Hindu by Religion. Another major religion is Islam with a presence of about 17.86%. Christian Households are found, however, in small percentage.

Table No. 6.2: Percentage distribution of households by Religious Background

Religion	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
Hindu	85.30%	85.12%	74.10%	81.51%	81.86%
Muslim	14.22%	14.79%	25.83%	18.13%	17.86%
Christian	0.22%	0.00%	0.01%	0.26%	0.14%
Others	0.25%	0.09%	0.06%	0.09%	0.15%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

(Source: Census of India, 2001 as given in District Statistical Handbook, 2010-11)

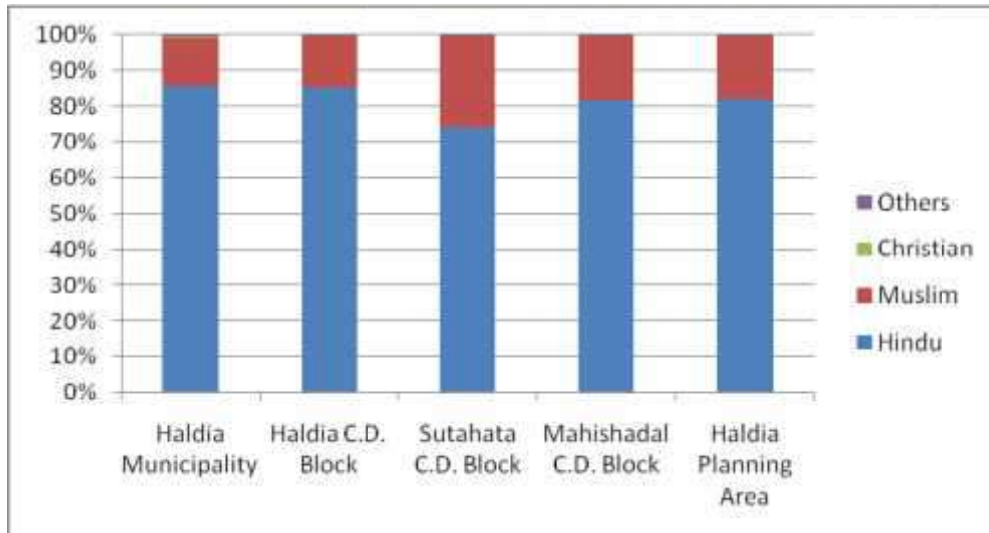


Figure No. 6.1: Percentage distribution of households by Religious Background

6.1.3 Social Background

The overall population has been divided into the social groups Schedule Castes, Schedule Tribes, OBC (Other Backward Caste) and Others. The socio-economic survey data reveals that in HPA, 75.94% of households are of Other (General) category whereas 16.94% of households are under SC category. The study shows a significant variation in the category of social groups across C.D. Blocks and Municipality. The concentration of Other category is highest in Haldia C.D. Block. The Sutahata C.D. Block has 34.34% of household under SC category and about 7.24% of Households belong to ST category which is highest in comparison to other C.D. Blocks and Municipality.

Table No. 6.3: Percentage distribution of households by Social Background

Class	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
SC	15.30%	4.18%	34.34%	12.91%	16.94%
ST	4.30%	0.30%	7.24%	0.08%	3.30%
OBC	3.05%	3.08%	7.08%	2.50%	3.81%
Others	77.35%	92.44%	51.34%	84.50%	75.94%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

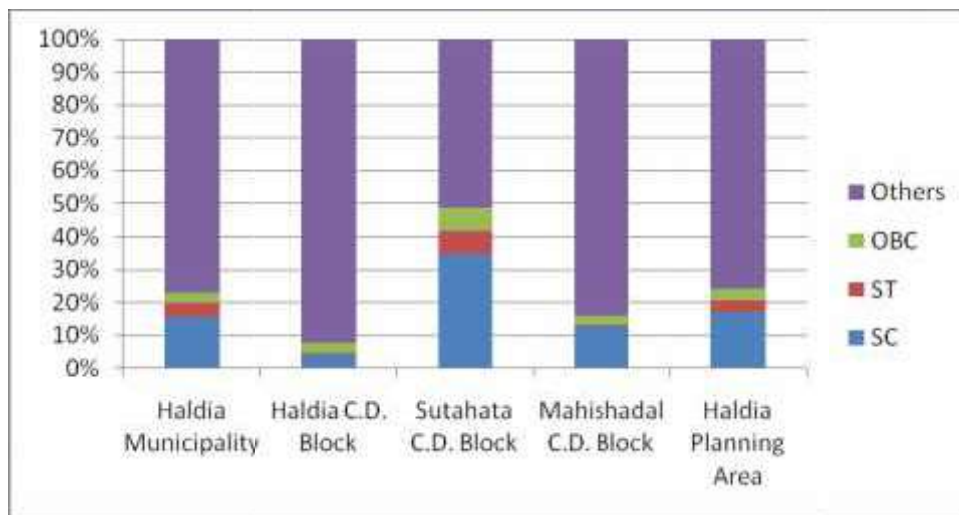


Figure No. 6.2: Percentage distribution of household by Social Background

6.1.4 Age Distribution

The socio-economic survey data on age reveals that 63.86% of population in the Planning Area is in the range of 18-60 years. About 22.57% of population is in the range of 6-18 years. The percentage of population in the 18-60 years range is higher in the municipality than the C.D. blocks. There is not much difference in male and female population in percentage across different age category.

Table No. 6.4: Percentage distribution of population by broad age group (Total)

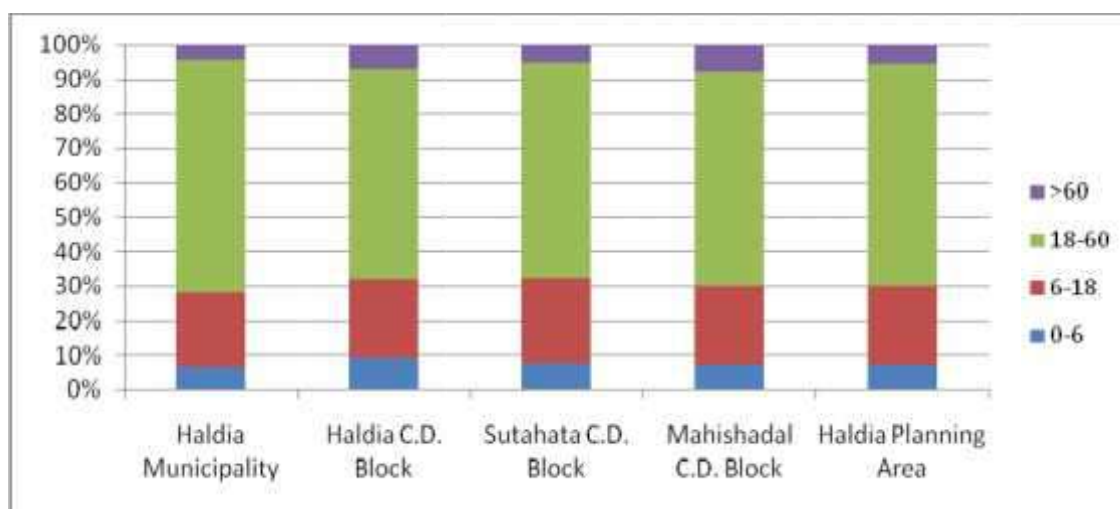
Age (Total)	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
0-6	6.80%	8.99%	7.95%	7.25%	7.56%
6-18	21.33%	23.00%	24.51%	22.54%	22.57%
18-60	67.03%	61.03%	62.07%	62.62%	63.86%
>60	4.84%	6.98%	5.46%	7.59%	6.01%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Table No. 6.5: Percentage distribution of population by broad age group (Male)

Age (Male)	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
0-6	6.63%	7.96%	7.58%	7.07%	7.18%
6-18	20.40%	23.17%	23.50%	21.31%	21.76%
18-60	67.59%	60.74%	61.79%	62.85%	64.01%
>60	5.38%	8.13%	7.12%	8.78%	7.05%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

Table No. 6.6: Percentage distribution of population by broad age group (Female)

Age (Female)	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
0-6	6.97%	10.07%	8.33%	7.46%	7.96%
6-18	22.31%	22.81%	25.58%	23.88%	23.42%
18-60	66.45%	61.34%	62.37%	62.36%	63.71%
>60	4.27%	5.78%	3.72%	6.30%	4.92%
Total	100.00%	100.00%	100.00%	100.00%	100.00%

**Figure No. 6.3:** Percentage distribution of population by broad age group (Total)

6.1.5 Sex Ratio

The sex ratio, according to the Census of India data, is shown in the following table. It can be observed that male population is more than female population. The male to female ratio is 51.80% to 48.20% with the sex ratio of 930 females per 1000 male population. The disparity is most significant in Haldia Municipality area where the sex ratio is 899 females per 1000 male population.

Table No. 6.7: Percentage distribution by Sex and Sex ratio

Gender	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
Male	52.67%	51.32%	51.29%	51.20%	51.80%
Female	47.33%	48.68%	48.71%	48.80%	48.20%
Total	100.00%	100.00%	100.00%	100.00%	100.00%
Sex Ratio	899	949	950	953	930

(Source: Census of India, 2001 as given in District Statistical Handbook, 2010-11)

6.1.6 Literacy

Literacy rate of HPA is about 81% out of which male and female literacy rate accounts about 89% and 72% respectively according to Census of India data. Disparity between male and female in this regard can be observed from the following table.

Table No. 6.8: Literacy Rate (Percentage)

Literacy rate	Haldia Municipality	Haldia C.D. Block	Sutahata C.D. Block	Mahishadal C.D. Block	Planning Area
Male	90.00%	88.90%	88.10%	89.20%	89.20%
Female	73.20%	71.80%	71.30%	72.60%	72.37%
Total	82.10%	80.60%	80.00%	81.10%	81.13%

(Source: Census of India, 2001 as given in District Statistical Handbook, 2010-11)

7.0 PLANNING INPUTS FROM PREVIOUS STUDIES

7.1 Outline Development Plan

The Outline Development Plan was prepared by the Haldia Development Authority. The plan attempted to regulate the existing developments of Haldia Municipality Area. The peripheral area was mainly kept as agricultural use with homestead lands. The major growth centers of the Planning Area were also identified.

7.2 Perspective Plan

The Perspective Plan of Haldia Planning Area was prepared in November 2001, by CES India Pvt. Ltd. The goal of the study was to develop Haldia as a strong industrial hub to continue as the regional center with a view to act as counter-magnet to Kolkata. Provision for facilities such as economic opportunities, social infrastructure, physical infrastructure, housing and communication of higher order were also considered. The plan provides broad idea about the future spatial structure, future land requirement and zoning pattern. As per the plan, major residential activities are proposed as the continuation of existing township. The location of proposed commercial, Industrial and public and semi-public activities are also very important for future planning purposes.

7.3 Mobility Improvement Plan

The Mobility Improvement Plan was prepared by the Dept. of Architecture and Regional Planning, IIT Kharagpur, in the year 2008. The plan focused on improvement of regional and local connectivity of Haldia, enhancement of the capacity of existing road network, integrating land use with transportation etc. This detailed study suggested new road links, augmentation of the existing roads, intersection improvements and location for new Bridges to connect Haldia with Raichak and Nandigram. The study also suggested new locations for Truck and Bus Terminal. [Figure No. 12](#) shows some of the proposals of Mobility Improvement Plan.

7.4 City Development Plan

The City Development Plan (CDP) was prepared in the year 2011. According to CDP, the anticipated growth in the coming years with their physical manifestation and growing urban population are likely to exert tremendous pressure on the existing infrastructure, necessitating planned interventions in the region. This phenomenon also triggers the need for expansion of the existing urban area into the hinterland which was developed in a haphazard manner through encroachment on agricultural land. Therefore, allocation of land resources for various usages is very important. CDP has attempted to respond the future requirements regarding land resources, economy, physical and social infrastructure etc by analysing the existing scenario and changes which took place over the years. There is need to assess the share of

land to be allocated for various uses since Haldia is expected to attract large investments which are land intensive in nature.

7.5 Infrastructure Plans

Other than the above mentioned studies, the 'Storm Water Drainage Master Plan for Haldia' prepared by IIT Kharagpur in 2008, 'Sewerage Master Plan for Haldia Municipal Area' prepared by IIT Kharagpur in 2009 and 'Master Plan for Haldia Water Supply System' prepared by IIT Kharagpur in 2010 have also been taken into account for in-depth understanding of the infrastructural projects of Haldia Planning Area.

7.6 Tourism Development Plan

The Haldia Development Authority prepared the Tourism Development-cum-Investment Plan for Haldia and Its adjoining areas in June 2002. This was an effort to put Haldia Planning Area on to the Tourism map. The main objective was to Harness the tourism potential of the Region, exploring the possibilities of private sector investment for tourism projects and creating alternative avenues for employment generation. It identified the Haldia Town, Geonkhali and Mahishadal as having tourism potential. Balughata can also be explored as a tourism destination.

8.0 ANALYSIS OF SURVEYED LAND USE

The land use of the study area was prepared and adopted u/s 29(5) of the West Bengal Town and Country (Planning and Development) Act, 1979 as amended up to date on 04.04.1987. On the basis of that 'Outline Development Plan' had been prepared by HDA and approved by the Government of West Bengal and the same was published in the Calcutta Gazette on 03.04.1993 (Refer Map No. 8.1).

After that a lot of development has taken place for which fresh survey was conducted in 2011-12. On the basis of fresh survey, the Land Use map has been prepared (Refer Map No. 8.2). The derived surveyed Land use was verified on ground by IIT Kharagpur, the consultants in 2012. The 2011 surveyed land use is prepared using level-III land use classification (Refer Annexure III) based on NRSC land use classification guidelines.

Table No. 8.1 shows the surveyed Land-use breakup of the Planning Area. Other than agricultural use (50.52%), it can be seen that residential activity (19.78%) contributes the major land use in Old Haldia Planning Area. Industrial activity constitutes around 5% of the land. The commercial sector, both retail and wholesale sectors can be seen along the National Highway towards the city center square. The commercial activity is also high around Khudiram square area. Transportation and water bodies cover around 5.72% and 8.61% of the total area respectively (Refer Map No. 8.2). Table No. 8.2, 8.3, 8.4 and 8.5 shows the block wise surveyed land use break-up of the area.

Table No. 8.1: Surveyed (Current 2012) Land use area break-up of Old Haldia Planning Area

SI No.	Land Use	Area (in Ha.)	Area (in %)
1	Residential-Urban	701.76	2.21
2	Residential-Other	5591.57	17.60
3	Commercial	265.69	0.84
4	Public/Semi-Public/Institution	224.16	0.71
5	Industrial	1700.54	5.35
6	Public Utilities	174.88	0.55
7	Recreational	66.51	0.21
8	Transportation*	1815.67	5.72
9	Agricultural Land	16046.25	50.52
10	Vegetation / Forest Land	673.74	2.12
11	Water Bodies / Wetland	2734.47	8.61
12	Waste Land	800.72	2.52
13	Others**	211.06	0.66
14	Vacant Land Within Developed Area	758.24	2.39
	Total Area	31765.24	100.00

*The Transportation area includes Dockyard area

**The 'Others' area includes Heritage Monuments

Table No. 8.2: Surveyed (Current 2012) Land use area break-up of Mahishadal C.D. Block

SI No.	Land Use	Area in Ha	Percentage
1	Residential-Urban	32.18	0.45
2	Residential-Other	1330.03	18.73
3	Commercial	24.23	0.34
4	Public/Semi-Public/Institution	27.55	0.39
5	Industrial	3.79	0.05
6	Public Utilities	78.56	1.11
7	Recreational	6.46	0.09
8	Transportation*	213.71	3.01
9	Agricultural Land	4373.24	61.59
10	Vegetation / Forest Land	150.84	2.12
11	Water Bodies / Wetland	662.79	9.33
12	Waste Land	71.45	1.01
13	Others**	97.15	1.37
14	Vacant Land Within Developed Area	28.50	0.40
	Total	7100.46	100.00

*The Transportation area includes Dockyard area

**The 'Others' area includes Heritage Monuments

Table No. 8.3: Surveyed (Current 2012) Land use area break-up of Sutahata C.D. Block

SI No.	Land Use	Area in Ha	Percentage
1	Residential-Urban	21.25	0.28
2	Residential-Other	1418.39	18.55
3	Commercial	17.69	0.23
4	Public/Semi-Public/Institution	27.00	0.35
5	Industrial	97.05	1.27
6	Public Utilities	22.22	0.29
7	Recreational	3.18	0.04
8	Transportation*	205.48	2.69
9	Agricultural Land	4781.51	62.54
10	Vegetation / Forest Land	140.47	1.84
11	Water Bodies / Wetland	717.59	9.39
12	Waste Land	135.26	1.77
13	Others	36.59	0.48
14	Vacant Land Within Developed Area	21.59	0.28
	Total	7645.26	100.00

*The Transportation area includes Dockyard area

Table No. 8.4: Surveyed (Current 2012) Land use area break-up of Haldia C.D.Block

SI No.	Land Use	Area in Ha	Percentage
1	Residential-Urban	7.32	0.11
2	Residential-Other	1575.52	24.03
3	Commercial	18.72	0.29
4	Public/Semi-Public/Institution	18.72	0.29
5	Industrial	9.20	0.14
6	Public Utilities	3.29	0.05
7	Recreational	1.48	0.02
8	Transportation*	130.73	1.99
9	Agricultural Land	4158.89	63.43
10	Vegetation / Forest Land	71.33	1.09
11	Water Bodies / Wetland	466.36	7.11
12	Waste Land	49.26	0.75
13	Others	22.48	0.34
14	Vacant Land Within Developed Area	23.89	0.36
	Total	6557.18	100.00

*The Transportation area includes Dockyard area

Table No. 8.5: Surveyed (Current 2012) Land use area break-up of Haldia Municipality

SI No.	Land Use	Area in Ha	Percentage
1	Residential-Urban	641.02	6.13
2	Residential-Other	1267.63	12.12
3	Commercial	205.05	1.96
4	Public/Semi-Public/Institution	150.89	1.44
5	Industrial	1590.50	15.20
6	Public Utilities	70.82	0.68
7	Recreational	55.39	0.53
8	Transportation*	1265.75	12.10
9	Agricultural Land	2732.61	26.12
10	Vegetation / Forest Land	311.10	2.97
11	Water Bodies / Wetland	887.72	8.48
12	Waste Land	544.76	5.21
13	Others	54.85	0.52
14	Vacant Land Within Developed Area	684.26	6.54
	Total	10462.34	100.00

*The 'Transportation' area includes Dockyard area

9.0 POPULATION PROJECTION

Attempts have been made to ascertain the future population of the Planning Area in previous Development Plans.

The Outline Development Plan of Haldia Development Authority had projected the population for 2001 based on three criteria. For alternative one, an assumption of vigorous growth of downstream industries was made in view of the setting up of Petrochemical Complex and expansion of Port Complex, Oil Refinery and some other important existing industries. Second alternative assumed that Petrochemical Complex will be launched in the nineties but the growth of downstream industries and other developments would progress at moderate pace. Alternative three assumed that even if Petrochemical Complex did not materialize within the planning period, growth will take place primarily on account of development of the tertiary sector and some limited growth in the secondary sector. [Table no. 9.1](#) shows the population projections made in the Outline Development Plan.

Table No. 9.1: Population projection in Outline Development Plan

Year	Alternative I	Alternative II	Alternative III	Population as per Census
1991	366874	366874	366874	-
URBAN	100109	100109	100109	100347
2001	499712	480412	472061	469521
URBAN	183350	155878	141115	170673

For the year 2001 it is seen that the population projection of the municipal area is a close reflection of reality as per alternative one. However for the total population projection alternative three is close to the actual population as per census.

The projection made in the Perspective Plan was an over estimation of the population. [Table No. 9.2](#) shows the projections made for the years 2001, 2011, 2021.

Table No. 9.2: Population projection in Perspective Plan

	2001*	Population as per Census 2001	2011*	Population as per Census 2011 (Provisional)	2021*
TOTAL	5.5	4.69	7.8	5.17	10.4
URBAN	2.1	1.71	3.7	2.0	5.4
RURAL	3.4	2.98	4.1	3.16	5.0

The City Development Plan for Haldia included the Municipality and part of Haldia and Sutahata C.D. Block. It majorly followed the projections made by exponential method in the Perspective Plan.

The Planning Area had a population of 1.38 lakhs in 1951. In the following three decades the population double and stood at 2.87 lakhs in 1981. The population of Old Haldia Planning Areas as a whole increased at a moderately high rate compared to the rate of growth of population of the State as a whole. Till the year 2001 Old Haldia Planning Area saw a steady decadal growth rate of around 27%. However the population growth has seen a severe decline during 2001-2011 (as per provisional census data for the year 2011). It is lower than the decadal growth of the State which stands at 14% in 2011.

Following the trend line (Table No. 9.3 & Figure No. 9.1), the projected population for the Old Haldia Planning Area stands at 7,10,000 in 2021.

Table No. 9.3: Population projection for the year 2025

Sr. No	Year	Haldia Notified Area (Urban)/ Municipality	Decadal growth rate of municipality population	Rural	Total	Decadal growth rate of total population
1	1951	23232		114897	138129	-----
2	1961	30940	33.17%	143812	174752	26.51%
3	1971	43932	41.99%	178372	222304	27.21%
4	1981	66211	50.71%	221269	287480	29.31%
5	1991	100347	51.55%	266527*	366874*	27.61%
6	2001	170673	70.08%	298848	469521	27.97%
7	2011	200762**	17.62%	316403**	517165**	10.14%
8	2021	318275***	58.53%	391725***	710000***	37.28%
9	2025	385500***	-	405000***	790500***	-
10	2031	466807***	46.66%	433193***	900000***	26.76%

**Provisional Census Data

***Projected Population

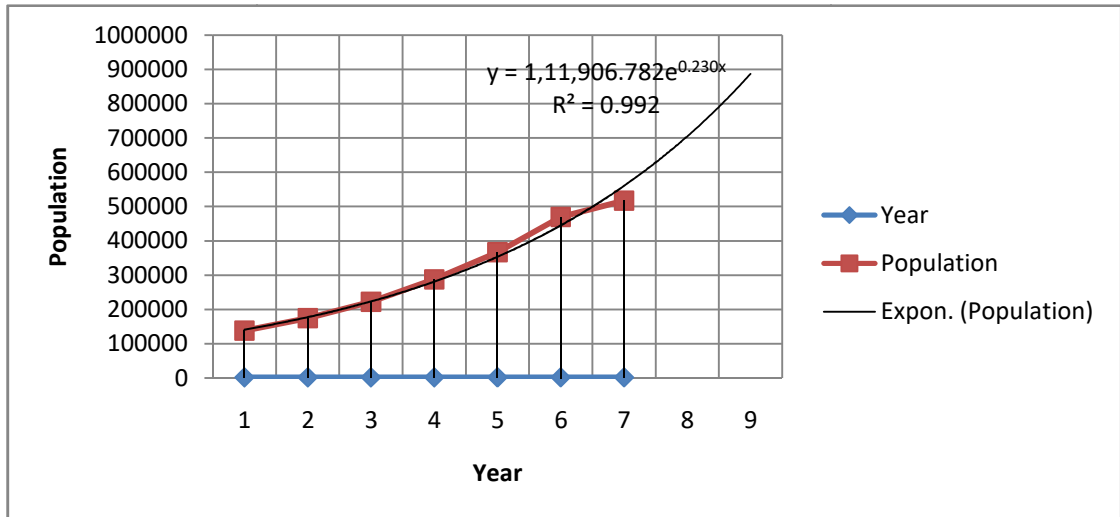


Figure No. 9.1: Population Projection for Old Haldia Planning Area

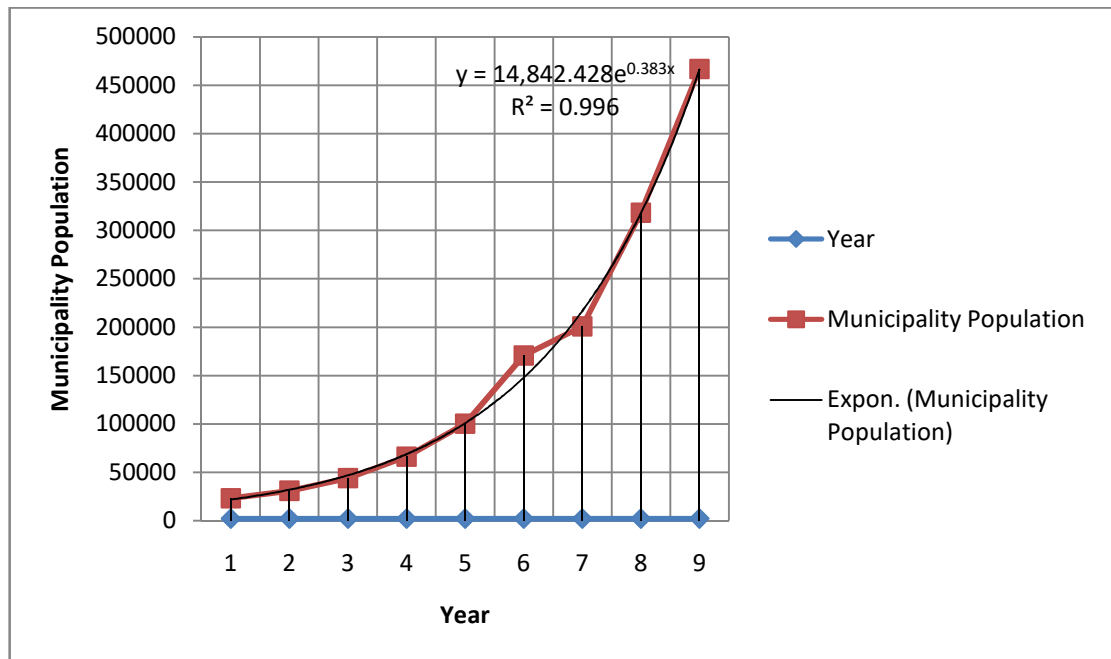


Figure No. 9.2: Population Projection for Haldia Municipality Area

9.1 Population Density

The overall density of population increased from two persons per acre in 1951 to four persons per acre in 1981. By 2001, overall density of population rose to six persons per acre with an urban density of nine per acre and rural density of five per acre. An alternative measure of density is number of household per acre. Although, density of developed land or residential density would be somewhat higher than non residential area it should be within the desirable limits following public health, safety and convenience standards (Table No. 9.4).

Table No. 9.4: Population Density

Year	Population	Area in sq km	Area in Ha	Gross Density (PPH)	Gross Density (PPAcre)
1951	138129	326.85	32685	4.23	1.76
1961	174752	326.85	32685	5.35	2.23
1971	222304	326.85	32685	6.80	2.83
1981	287480	326.85	32685	8.79	3.66
1991	366874	326.85	32685	11.22	4.68
2001	469521	326.85	32685	14.37	5.99
2011	517165**	326.85	32685	15.82	6.59
2021	710000***	326.85	32685	21.72	9.05
2025	790500	326.85	32685	24.18	9.78
2031	900000***	326.85	32685	27.54	11.47

**Provisional Census Data

***Projected Population

10.0 PLANNING PROCEDURE

10.1 Plan Period

Rapid urbanisation trends in Haldia is characterised by haphazard urban growth as well as weak enforcement of regulations concerning land development control. With the Land Use and Development Control Plan, it is expected that the Haldia Development Authority will be better equipped to manage and regulate the development in the region. However, due to the dynamics associated with the rapidly industrializing town like Haldia, it is difficult to propose a long term Land Use and Development Control Plan. The Land Use and Development Control Plan for Old Haldia Planning Area is proposed for the year **2025**.

10.2 Planning Directives

The main objective of LUDCP is to allocate land uses to ensure public welfare and better standard of living. The land use distribution is based on compatibility of uses. The development control plan manages and regulates land development and ensures that all developments conform to a pre-determined set of objectives, policies or standards. Thus the Land Use and Development Control Plan must be inclusive of the physical, environmental, economic, social and aesthetic aspects.

To prepare this plan certain planning directives were followed.

1. Land use plan shall respond to the natural surroundings, topography, geology, hydrology, ecology, etc.
2. The land use shall show location of settlements both urban and rural. It will earmark agricultural land, forest land, river basins, flood prone areas, streams and canals, water bodies.
3. The multi-cropping land parcel, as per data received from the HDA, shall be protected. The same shall be earmarked as 'Agricultural Use Zone' along with other area which are most suited for agricultural use.
4. The river bank shall be protected by a green belt / plantation.
5. CRZ Regulations shall be applicable to all land adjacent to the river ([Refer Annexure V](#)). The area falling under CRZ III shall be earmarked as 'No Development Zone'. As per Coastal Regulation Zones Rules no major development will be proposed within 100 m from the high tide line. The proposals will conform to the provisions of the CRZ Notification 2011.
6. It shall allocate land for regional infrastructures like water treatment plants, sewerage treatment plants, and solid waste treatment plant as per respective master plans. These would essentially follow the natural contours of the area.

7. Alignments of the streams and canals will be demarcated as per the drainage master plan. Other canals and drains existing within the Planning Area shall also be earmarked. The 'Government Land' along all these drains shall be marked as Green Belt.
8. Transit facilities and logistic infrastructure are to be located as per Traffic and Transportation Master Plan and as per the requirement of the new industrial zone proposed in the LUDCP 2013.
9. Location of central business district as well as other ancillary economic activities will be earmarked
10. Green Belt will be introduced to segregate the industrial zone from the densely developed residential areas.
11. The existing industry is allowed to continue operations. Their expansion may be permitted provided that it is of non-polluting nature.
12. Priory aspects must be decided as per the development priorities obtained in the socio-economic survey.
13. While allocating public infrastructures, priority will be given to the land under the possession of the government and the Haldia Development Authority. Ownership of plots of land will be given importance.
14. Areas of Heritage value will be given due importance and incorporated in the plan. Owing to its natural location, tourism activities will be proposed, especially along the river.
15. Provision of public facilities and infrastructures like health, education, government, recreation, community development, will be made as per the UDPFI Guidelines.

10.3 Methodology/Approach

Without the knowledge of the existing situation, future proposal for land use and development control cannot be prepared. The first step in the preparation of the plan is updating the existing land use. After that, considering socio-economic survey data, present situation is analysed. Projections are made for required infrastructure facilities and past proposals are considered for preparation of conceptual broad zoning. Then draft LUDCP will be prepared with detailed zoning regulations and development control guidelines. After considering stakeholders' objections/ suggestions, final LUDCP will be submitted. The detailed steps for preparation of LUDCP are shown in [Figure No. 10.1](#).

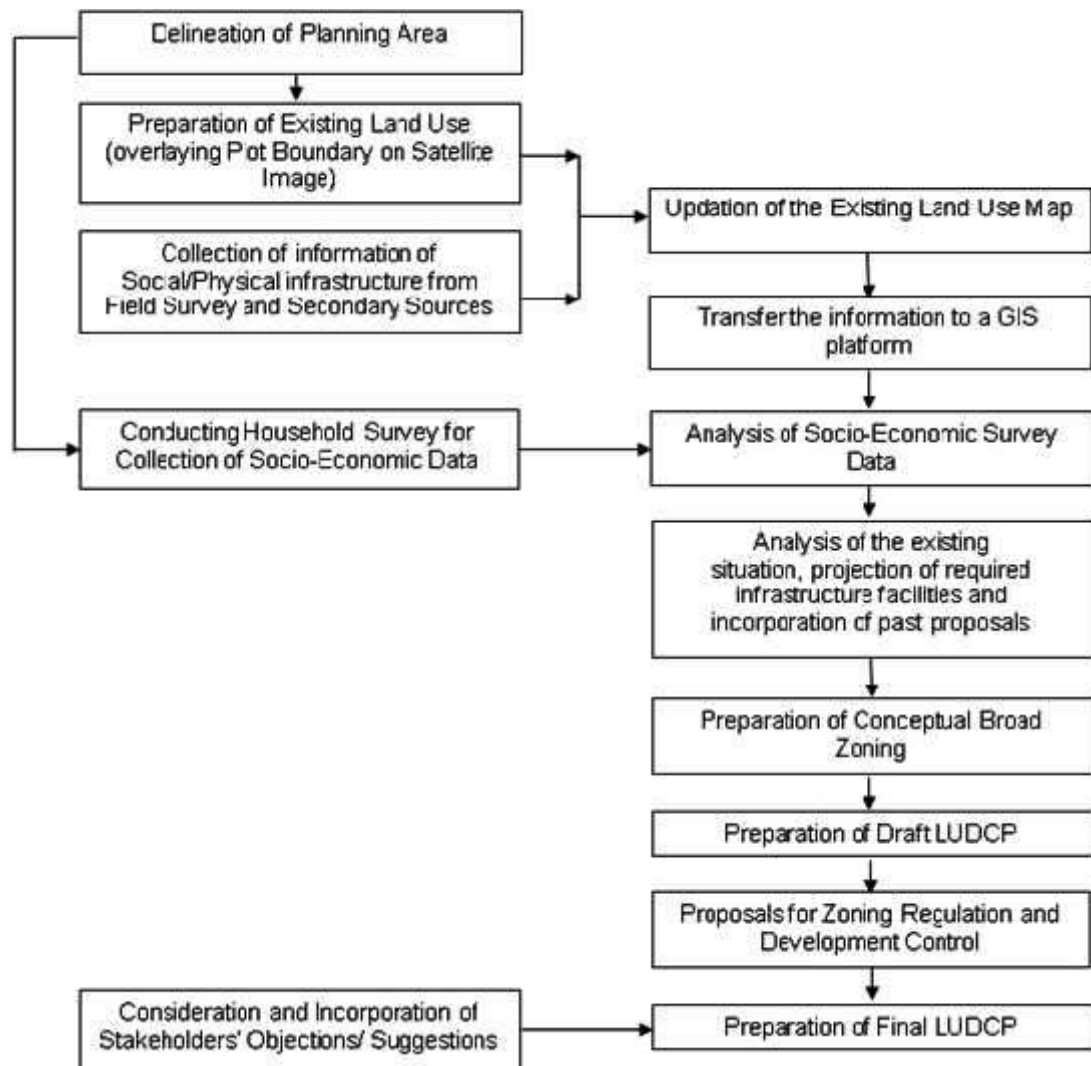


Figure No. 10.1: Methodology

10.4 Summary of major development proposals for LUDCP

Haldia is being projected as a major riverine port and industrial belt of West Bengal, located approximately 120 km from Kolkata. Prior to 1960's the Planning Area consisted of purely rural settlements. The decision to develop a major port, a township and some important public and private sector industries initiated industrial and urban development in Haldia in late 1950's and early 60s. This brought about a structural change in the physical and socio-economic sphere of the Planning Area.

The excellent location advantage of Haldia and comprehensive port facilities provided by the Haldia port paved the way for the establishment of various public sector companies like the Indian Oil Corporation and Hindustan Fertilizers Corporation. It also attracted private sector giants like Hindustan Lever, Exide Industries, Shaw Wallace to set up their enterprises along with various small-scale units engaged in engineering and fabrication, automobiles, electrical, food processing, packaging and building materials. The port has attracted factories of foreign

companies like Mitsubishi Chemical Company (MCC). Among the important FDI projects in West Bengal, the single largest Japanese investment in India has been made by MCC PTA at Haldia in 2000.

Haldia is fast emerging as a very important destination of West Bengal. During the period from 1991 to 2004, 991 projects with a total investment of Rs. 26680.14 crores were implemented in West Bengal. Haldia implemented Rs 8942 crores investment worth industrial projects accounting for 33.64 per cent of total industrial investment of Rs. 26580.14 crores during 1991 to 2004. Haldia is already a chemical hub in the eastern region with the presence of IOC's Haldia Refinery, Haldia Petrochemicals Ltd., MCC PTA, Dhunseri Petrochemicals and Tea Ltd. along with a modern port, with the possibility of converting Haldia into a chemical and petrochemical hub.

10.4.1 Major Development Proposals (Refer Map No. 9.1, 9.2 & 9.3)

Residential Areas have been proposed in continuation of the existing residential areas. Land parcels having high land value (collected from socio-economic survey) have been proposed for residential and commercial use.

The existing industrial activities may be permitted to continue. The expansion of the existing industries may be allowed in the non-polluting industrial zone only on the condition that the expansion is of non-polluting nature. The proposals for polluting industries (Refer Annexure IV) have been made in areas contiguous to the existing polluting industries.

The existing parks and playgrounds have been preserved and proposals for creation of new parks and public open spaces have been made as per UDPFI Guidelines. The existing wet lands, tanks, ponds, and water bodies have been preserved in the LUDCP.

Proposals for tourism have been made in Garkhamalpur mouza near Mahishadal Rajbari. It is to be noted here that the heritage sites protected by ASI will have a 300 m. buffer around the site as per AMASR Act 2010 (Ancient Monuments and Archaeological Site & Remains Act).

Also recreational zones have been proposed near Geokhali and Balughata to tap its tourism potential.

10.4.2 Proposed Land Use Categories

As a primary center of attraction for the industrial sector, Haldia Development Authority and the other stakeholders must have adequate knowledge of the ground truth and information on the gamut of activities taking place within the planning boundary thus understanding their complex interrelation. The 'Surveyed Land Use Map' and the 'Proposed Land Use Map' are tools that will allow the stakeholders to gauge the activity pattern in the area while making decisions.

In order to reduce the problems of haphazard, uncontrolled development, deteriorating environmental quality, loss of prime agricultural lands, and destruction of wetlands, the

present and future activities of the Old Haldia Planning Area has been grouped under eighteen broad categories. This will also help in comparison of land development over time period.

10.4.3 Proposed Land Use Classification

The proposed land use classification for Old HPA has been designed considering the West Bengal Town and Country (Planning and Development) Act, 1979 as amended up to date and the UDPFI Guidelines, 1996, Ministry of Urban Affairs and Employment, Government of India. The land use categories as per the 'Surveyed Land Use' have been distributed amongst the eighteen 'Proposed Land Use' categories. However, in view of this area being one of the industrial hubs of the State, the industries already existing in the area has been categorized separately as 'Existing Industries' in the 'Proposed Land Use'. The land use classification adopted for the Land Use and Development Control Plan of Old HPA has been elaborated in [Table No. 10.1](#). The detail list of activities under each land use category has been included in the Zoning Regulations given in Chapter 11.

Table No. 10.1: Proposed Land Use Classification

Level I Use Zone	Proposed land use categories
Residential	1. Residential
	2. Village Settlement*
Commercial	3. Retail Commercial and Business
	4. Warehousing/Logistic
Industrial	5. Existing Industries
	6. Industrial
Public & Semi Public	7. Public & Semi Public
	8. Utilities and Services
Transportation and Communication	9. Roads
	10. Railways
	11. Transport Terminal
	12. Dockyard
Recreational	13. Recreational
Agriculture	14. Agriculture
	15. Green Belt
	16. Water bodies
Special Area	17. Heritage and Conservation
	18. No Development Zone

*Village Settlement refers to the existing village homestead cluster. These areas shall maintain status quo until faced with market force to have development in future. In that case these areas may be developed as 'Residential use Zone', as per the approval of the Haldia Development Authority, with related zoning regulations applicable.

Following tables describe the area of land earmarked within different land zones in hectares. The tables also indicate the relative distribution of land under each use – zone:

Table No. 10.2: Proposed Land Use area break-up of Old Haldia Planning Area

SI No	Land Use	Area in Ha	Percentage
1	Residential	4562.80	14.36
2	Village Settlement	4225.91	13.30
3	Retail Commercial and Business	878.57	2.77
4	Warehousing/Logistic	504.18	1.59
5	Public-Semi Public	1877.37	5.91
6	Existing Industries	1776.19	5.59
7	Industrial	2350.42	7.40
8	Utilities and Services	190.87	0.60
9	Recreational	402.26	1.27
10	Roads	1873.48	5.90
11	Transport Terminal	24.34	0.08
12	Railways	454.10	1.43
13	Dock Complex	959.92	3.02
14	Heritage and Conservation	29.05	0.09
15	Green Belt	2099.92	6.61
16	Agriculture	6404.44	20.16
17	Water Bodies	2996.85	9.43
18	No Development Zone	154.59	0.49
	Total	31765.25	100.00

Table No. 10.3: Proposed Land use area break-up of Mahishadal CD Block

SI No	Land Use	Area in Ha	Percentage
1	Residential	800.46	11.27
2	Village Settlement	1292.62	18.20
3	Retail Commercial and Business	45.99	0.65
4	Warehousing/Logistic	0.94	0.01
5	Public-Semi Public	331.78	4.67
6	Existing Industries	3.18	0.04
7	Industrial	0.01	0.00
8	Utilities and Services	77.32	1.09
9	Recreational	75.32	1.06
10	Roads	329.17	4.64
11	Transport Terminal	0.55	0.01
12	Railways	87.12	1.23
13	Heritage and Conservation	29.05	0.41
14	Green Belt	346.62	4.88
15	Agriculture	2982.70	42.01
16	Water Bodies	637.86	8.98
17	No Development Zone	59.76	0.84
	Total	7100.46	100.00

Table No. 10.4: Proposed Land use area break-up of Sutahata CD Block

SI No	Land Use	Area in Ha	Percentage
1	Residential	817.77	10.70
2	Village Settlement	1261.63	16.50
3	Retail Commercial and Business	205.53	2.69
4	Warehousing/Logistic	66.17	0.87
5	Public-Semi Public	798.52	10.44
6	Existing Industries	92.76	1.21
7	Industrial	1001.33	13.10
8	Utilities and Services	20.95	0.27
9	Recreational	0.01	0.00
10	Roads	371.56	4.86
11	Transport Terminal	0.24	0.00
12	Railways	78.99	1.03
13	Green Belt	597.73	7.82
14	Agriculture	1532.29	20.04
15	Water Bodies	736.02	9.63
16	No Development Zone	63.76	0.83
	Total	7645.27	100.00

Table No. 10.5: Proposed Land use area break-up of Haldia CD Block

SI No	Land Use	Area in Ha	Percentage
1	Residential	745.94	11.38
2	Village Settlement	1205.84	18.39
3	Retail Commercial and Business	367.90	5.61
4	Warehousing/Logistic	202.38	3.09
5	Public-Semi Public	302.70	4.62
6	Existing Industries	9.19	0.14
7	Industrial	495.51	7.56
8	Utilities and Services	2.74	0.04
9	Recreational	131.02	2.00
10	Roads	372.96	5.69
11	Green Belt	327.41	4.99
12	Agriculture	1889.45	28.82
13	Water Bodies	474.76	7.24
14	No Development Zone	29.36	0.45
	Total	6557.18	100.00

Table No. 10.6: Proposed Land use area break-up of Haldia Municipality

SI No	Land Use	Area in Ha	Percentage
1	Residential	2198.63	21.01
2	Village Settlement	465.81	4.45
3	Retail Commercial and Business	259.14	2.48
4	Warehousing/Logistic	234.68	2.24
5	Public-Semi Public	444.36	4.25
6	Existing Industries	1671.06	15.97
7	Industrial	853.57	8.16
8	Utilities and Services	89.87	0.86
9	Recreational	195.91	1.87
10	Roads	799.78	7.64
11	Transport Terminal	23.55	0.23
12	Railways	287.99	2.75
13	Dock Complex	959.92	9.17
14	Green Belt	828.16	7.92
15	Water Bodies	1148.20	10.97
16	No Development Zone	1.72	0.02
	Total	10462.34	100.00

Zoning protects residential area from the harmful invasions of commercial and industrial uses and at the same time promotes the orderly development of industrial and commercial areas. By regulation the spacing of buildings, adequate light, air, protection from fire etc. can be provided. It prevents overcrowding in buildings and land, thus ensures adequate facilities and services.

Zoning is not retrospective. It does not prohibit the uses of land and buildings that are lawfully established prior to the coming into effect of the zoning regulations. If these uses are contrary to the newly proposed uses, they are termed as non-conforming uses and are gradually eliminated over years without inflicting unreasonable hardship upon the property owners.

The zoning regulation is a major tool to control the development pattern of the Planning Area.

10.5 Resource Mobilization Options

It is primarily understood that to accommodate a population of approximately 8 lac, Haldia Development Authority will have to initiate major infrastructure development schemes confirming the land use zones proposed in this Land use and Development Control Plan. The budgetary requirement for such development is anticipated to be huge. The Haldia Development Authority must prepare itself to incur such expenditure and must decide to levy certain charges so as to mobilize the resources. Therefore, it is argued and advised that HDA would need to exploit the potential non-conventional means of resource mobilization, apart

from reforming and strengthening the conventional means of resource mobilization like Inter-governmental partnership etc.

10.5.1 Non – conventional sources

In spite of several measures taken by the ULBs, there remain several inadequacies in raising tax and non-tax resources. As these sources have been stagnant over time and are not subject to revision and levy to the discretion of ULGs, it has become imperative that they make special efforts to mobilize the resources within their jurisdiction using non-conventional instruments and channel them effectively towards laying down the urban infrastructure services and their maintenance.

The following are some of the options that the HDA can exercise to generate revenue.

- Consortium Finances – Partners could be USAID, GOI / Ministry of Urban Development, Housing and Urban Development Corporation (HUDCO), Infrastructure Leasing and Financial Services Ltd. (IL&FS), National Institute of Urban Affairs (NIUA)
- Development Authority Bond
- Project Initialisation Fund / Project Development Fund
- Foreign Direct Investment
- Leveraging Insurance Sector Funds
- Public Private Partnership

Development Charges: As per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the Haldia Development Authority can, through a notification, levy 'Development Charge' on carrying out of any development or change of use of land for which permission is required.

The rate of charges may be fixed up for the following:

1. For the institution of the use (for example-residence, commerce, industry)
2. For change of use (for example- agriculture to residence, agriculture to industry, residence to industry, residence to commerce, etc.). However the permission for the change of use shall be given as per the discretion of the Haldia Development Authority or of the Competent Authority.
3. For carrying out any other development under the WBTCP Act.

As per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 106, the Haldia Development Authority may, by notification, also levy a 'Civic amenity charge' for extending civic amenities in the whole or part of the Planning Area.

Apart from the above, the Haldia Development Authority may also charge a fee for division and sub-division of land parcels. The categories for such divisions may be considered as follows:

The HDA has, under its ownership, some amount of land which may be put forth on lease for private uses. Any use, other than public infrastructure construction or government related project on government land, shall be made chargeable and the lease period should not be more than 30 years. The decision to renew the lease shall rest on the discretion of the Development Authority.

11.0 ZONING REGULATION

The aim of this section is to enable the implementation of the Land Use Plan by providing specific regulations regarding the allowable uses of land under the purview of this Plan. These regulations are forwarded to preserve the characteristics of the various land use zones proposed, while resolving compatibility issues of the various activities. It is expected that the zoning regulations will promote and protect public health, safety, convenience, general welfare and the natural environment of the planning area.

11.1 Activities 'Permitted', 'Permissible', 'Prohibited'

The zoning regulations elaborates the activities that are generally permitted within each of the 18 land use zones (Table No. 11.1). No person shall construct, or move a building, and no person shall establish a new use of land or expand or intensify an existing use unless it conforms to the permitted uses provided in the zone district or conforms to a permit and regulations authorizing a discretionary use in the zone district in which the land is located. All construction, alteration, reconstruction or enlargement of buildings and all uses of buildings and land shall comply with all provisions of this chapter except as otherwise provided for nonconforming structures and uses

Such use/activity is termed as Permissible on Application to Competent Authority (with conditions). The uses/activities which are otherwise not allowed in a particular use zone are termed as Activities/Uses Prohibited in certain use zones.

11.1.1 Development Control Zone 'Residential': This comprises the areas that are primarily used for residential purposes mixed with other uses. This zone also includes the areas which are likely to be used in future for mainly residential purposes.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.2 Development Control Zone 'Village Settlement': This comprises the area within Haldia Planning Area that area principally used for existing village settlement mixed with other ancillary uses. This zone also includes the areas which are likely to be used in future to accommodate the natural expansion of the existing village settlement and the commercial and institutional facilities that might be required to support such expansion. The intention is to discourage large scale development in this zone through some conscious development controls measures.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.3 Development Control Zone 'Retail Commercial and Business': This comprises of the areas that are used principally for commercial purpose mixed with other uses that are permissible as per the zoning regulations indicated in this document. This zone includes areas which are likely to be used in future for commercial activities.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.4 Development Control Zone' Wholesale Commercial': This comprises of the areas that are used principally for wholesale commercial purpose mixed with other uses that are permissible as per the zoning regulations indicated in this document. This zone includes areas which are likely to be used in future for activities like Wholesale and warehouses – business, Agro Mandis, Perishable goods (Fruit/Vegetable/Fish etc) Market, Ice factory, Heavy goods markets, Loading/Un-loading bays, Logistic hubs.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.5 Development Control Zone 'Existing Industries': This zone mainly comprise of the existing industries which are polluting in nature. Adequate measures have been taken in the LUDCP to minimize the harmful effects of these industries on residents of the HPA by physically segregating residential areas through green belts. Also, a list of industries that are allowed in this zone have been provided as annexure along with this DCR.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.6 Development Control Zone 'Industrial': This zone mainly comprise of the new industries which shall preferably be non – polluting in nature. This zone has been deliberately put as a buffer surrounding the polluting industries in a way such that the residential, commercial and institutional areas are away from the harmful effect of this zone. Also list of industries that are allowed in this zone have been provided as annexure along with this DCR.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.7 Development Control Zone 'Public / Semi – public': This zone comprises of the areas that are used principally for educational, health related and social institutions and also Govt. / semi – govt. offices. This zone has been suitably located so that the institutions can be easily accessible from different parts of the HPA. Also huge parcels of land along the National Highway have been earmarked for this use.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.8 Development Control Zone 'Utilities and Services': This zone comprises of the utilities and services that are existing in HPA and shall continue to do so.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under

the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.9 Development Control Zone 'Roads', 'Railways', 'Transport Terminal' and 'Dockyard': These zone comprises of the all the transport infrastructure existing in the HPA. This zone shall comprise of the proposed roads, railways, bus terminal, truck terminal and dockyard that will come up in the area.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.10 Development Control Zone 'Recreational': This zone comprises of the areas that are used principally for recreational and green open spaces and in future shall be used for recreational purposes.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.11 Development Control Zone 'Agriculture': This zone comprises of the areas that are used principally for agriculture. This also includes the multi cropping area within HPA.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.12 Development Control Zone 'Green Belt': Green buffer zone has been proposed around the industrial areas. It is also proposed in the area between the river and the bund

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.13 Development Control Zone 'Water Bodies': Comprises of all types of water bodies which includes river, canal, lakes, ponds, etc.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.14 Development Control Zone 'Heritage and Conservation': This zone comprises of the heritage palace of Mahishadal and the Dewan Barhi.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

11.1.15 Development Control Zone 'No Development Zone': This zone comprises less developed areas that falls under the purview of CRZ III as per the Coastal Zone Regulations.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 as amended up to date (West Bengal Act XIII of 1979), section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi -Public, Transportation & communication and Recreational, shall be charged as 'Commercial', and the activities listed under the Broad use - Industrial shall be charged as 'Industrial'.

Development permissions shall be given as per Annexure VII.

Table No. 11.1: Zoning Regulations for Old Haldia Planning Area

Residential Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	<p>Plotted housing (detached, semi-detached, row housing)</p> <p>Group housing, Apartments, Multi Dwelling Units</p> <p>Guest houses , Service apartments, Hostels, Night shelters, Boarding and lodging houses</p> <p>Dharmashala, Old age homes, Orphanages, Dormitories</p> <p>Housing for rehabilitation and economically weaker section</p> <p><i>Note: Residential use shown over land belonging to the Government or HDA must essentially be utilized for housing for rehabilitation and economically weaker section</i></p>	<p>Any residential development covering more than 3500 sqm. of plot area</p> <p>Transient visitors' camp</p> <p>Temporary shelter for disaster affected people</p> <p><i>Note: Minimum road width for the above establishment shall be 30m</i></p>	<p>All activities not listed in 'Permitted' and 'Permissible' column</p>
Commercial	<p>Retail commercial shops/departmental stores (total floor area not exceeding 300 sqm.)</p> <p>Eateries and restaurants (without bar facilities and total floor area not exceeding 300 sqm.)</p> <p>Hotels (up to 3 star category)</p> <p>Professional consulting offices/private offices (total floor area not exceeding 300 sqm.)</p> <p>Banks, financial institutions and professional establishments</p> <p><i>Note: Minimum road width for the above</i></p>	<p>Retail commercial shops, retail shopping complexes, professional consulting offices/private offices, banks, financial institutions, professional establishments (total floor area of the above commercial establishment exceeding 300 sqm.)</p> <p>Restaurants with/without bar facilities (with floor area more than 300 sqm.)</p> <p>Cinema halls and multiplexes</p> <p>Fuel stations, automobile repairing workshops/garages</p>	<p>Storage/warehousing/Godown (involving/not involving perishable, inflammable, explosive or other kinds of hazardous materials)</p> <p>Storage, segregation and sale of second hand/ junk goods/recyclables</p> <p>All activities not listed in 'Permitted' and 'Permissible' column</p>

	<p>commercial establishment shall be 12 meter.</p> <p>In case of mixed use the commercial floor area shall not exceed 10% of the total floor area of the concerned residential development or 300 sqm., whichever is less</p>	<p>Note: Minimum road width for the above commercial establishment shall be 18 meter.</p> <p>Daily or weekly markets (not more than 100 - 150 units per location and total area not exceeding 0.2 Hectare)</p> <p>Note: Minimum road width for daily or weekly market shall be 12 meter.</p> <p>In case of mixed use the commercial floor area shall not exceed 10% of the total floor area of the concerned residential development or 300 sqm., whichever is less</p>	
<p>Industrial</p>	<p>Industries listed under "EXEMPTED" category of WBPCB</p> <p>Note: Minimum abutting road width shall be 12 meter</p> <p>In case of mixed use the industrial floor area shall not exceed 10% of the total floor area of the concerned residential development or 200 sqm., whichever is less</p>	<p>Industries listed under "GREEN" category of WBPCB (Small scale)</p> <p>In case of mixed use the industrial floor area shall not exceed 10% of the total floor area of the concerned residential development or 200 sqm., whichever is less</p>	<p>Industries listed under "GREEN" category of WBPCB (Other than small scale)</p> <p>Industries listed under "ORANGE", "ORDINARY RED" and "SPECIAL RED" category of WBPCB (All scale)</p>
	<p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • maximum power consumption for industrial operations up to 10 HP (power required for air conditioning, lifts and computers are excluded from power consumption specified above) • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for residential areas • adherence to the emission standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		

Public/Semi-Public	<p>Government/semi-government offices, post offices, police post, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, kindergartens, pre-primary, primary, secondary schools, tutorial institutions, libraries and reading rooms, training institutions</p> <p>Health clinics, dispensaries, nursing homes and child welfare & maternity center (upto 30 beds), diagnostic centers</p> <p>Note: Health facilities should not exclusively treat contagious diseases and floor area should not exceed 500 sqm. at one location</p> <p>Multi-purpose community halls, auditoriums, assembly halls, gymnasium</p> <p>Note: Design occupancy of the above assembly buildings should not exceed 300 people</p> <p>Places of public worship, religious buildings, welfare institutions, clubs, exhibition and art galleries</p> <p>Note: Total floor area consumed by institutional activities above not exceeding 300 sqm.</p> <p>Electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards/transfer points and other public facilities</p>	<p>Higher secondary schools, integrated residential schools, , colleges</p> <p>Health clinics, dispensaries, diagnostic centers (with floor area exceeding 500 sqm. at one location)</p> <p>Nursing homes and health centers (up to 100 beds and/or floor area more than 500 sqm.)</p> <p>Pathological laboratories</p> <p>Rehabilitation centers</p> <p>Note: Health facilities should not exclusively treat contagious diseases</p> <p>Multi-purpose community halls, auditoriums, assembly halls, recreational clubs, exhibition centers</p> <p>Note: Design occupancy of assembly buildings above should not exceed 500 people</p> <p>Places of public worship, religious buildings, welfare institutions, clubs, exhibition and art galleries, gymnasium</p> <p>Note: Total floor area consumed by above institutional activities exceeding 300 sqm.</p> <p>Sub-fire stations, fire stations, solid waste treatment units, solar power installations rain water harvesting installations, dhobi ghats</p>	<p>Electric grid station, water treatment plant, Sewage treatment plant, slaughter house</p> <p>All activities not listed in 'Permitted' and 'Permissible' column</p>
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Transportation and Communication	Roads, railway lines and station facilities, metro lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), transmission and communication lines, highway amenities	Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles (i.e. LCV, MCV up to Type 2 vehicles with maximum permissible gross weight up to 16.2 tonnes), helipads <i>Note: For terminal facilities the minimum road width shall be 24 m</i>	All activities not listed in 'Permitted' and 'Permissible' column
Recreational	Parks/ tot lot, playgrounds, gardens, multi-purpose open spaces, (including incidental buildings thereon), swimming pool <i>Note: The above recreational activities shall have minimum 12m wide abutting road</i>	Public swimming pools, golf courses, indoor stadiums, sports complexes/training facilities <i>Note: The above recreational activities shall have minimum 24m wide abutting road</i>	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	Nursery, high density urban farming/vertical farming/stacked green house farming, , community garden farming, <i>Note: The above urban agricultural activities shall be confined to plot area not exceeding 1.0 Hectare</i> Urban forestry/plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel)	Urban agricultural activities (for plot area exceeding 1.0 ha), storage, processing and sale of farm produce	All activities not listed in 'Permitted' and 'Permissible' column

Village Settlement Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	<p>Plotted houses (detached, semi-detached)</p> <p>Note: The above residential activities shall be permitted on plot area not exceeding 200sqm.</p> <p>Farm houses and buildings for agricultural activities</p> <p>Note: Farm houses and their ancillary buildings and uses not exceeding 200 sqm. of plinth area. It shall not be used for commercial purpose. The height of such building shall be restricted to 9 meter</p> <p>Dwelling for the people engaged in the farm</p>	Dharmashala, Old age homes, Orphanages,	All activities not listed in 'Permitted' column
Commercial	<p>Retail commercial shops (total floor area not exceeding 25 sqm.)</p> <p>Eateries (total floor area not exceeding 25 sqm.)</p> <p>Professional consulting offices/private offices (total floor area not exceeding 25 sqm.)</p> <p>Agro Mandis, daily/weekly market</p>	<p>Banks, financial institutions and professional establishments (total floor area not exceeding 50 sqm.)</p> <p>Typing/ Computer training institutes, Tutorial centers</p> <p>Storage/warehousing/Godown (involving only agricultural products)</p>	All activities not listed in 'Permitted' and 'Permissible' column
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (small scale)</p> <p>Note: Minimum abutting road width shall be 9 meter</p> <p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> Categories of Industries will be as per Annexure IV 	<p>Industries listed under "EXEMPTED" category of WBPCB (other than small scale)</p> <p>Note: Minimum abutting road width shall be 9 meter</p>	All activities not listed in 'Permitted' and 'Permissible' column

	<ul style="list-style-type: none"> • maximum power consumption for industrial operations up to 10 HP (power required for air conditioning, lifts and computers are excluded from power consumption specified above) • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for residential areas • adherence to the emission standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		
Public/Semi-Public	<p>Government/semi-government offices, post offices, police post, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, kindergartens, pre-primary, primary, tutorial institutions, reading rooms</p> <p>Multi-purpose community halls, assembly halls</p> <p>Places of public worship, religious buildings, welfare institutions</p> <p>Electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards/transfer points and other public facilities</p>	<p>Secondary schools , higher secondary schools, training institutions</p> <p>Health clinics, dispensaries</p> <p>Note: Health facilities should not exclusively treat contagious diseases</p> <p>Solid waste treatment units, solar power installations, rain water harvesting installations, dhobi ghats</p>	All activities not listed in 'Permitted' and 'Permissible' column
Transportation and Communication	Road, railway lines, terminal facilities for para-transit modes bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), transmission and communication lines		All activities not listed in 'Permitted' column

Recreational	Parks/ tot lot, playgrounds, gardens, multi-purpose open spaces		All activities not listed in 'Permitted' column
Agriculture	Agriculture, horticulture, green house farming, pasture, forestry, pisciculture, aquaculture, agro-forestry Plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel)		All activities not listed in 'Permitted' column

Retail Commercial and Business Use Zone

Broad use	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	Plotted housing (detached, semi-detached, row housing) Group housing, service apartments, multi Dwelling Units Hostels, night shelters, dormitories, boarding and lodging houses, guest houses Housing for rehabilitation and economically weaker section	Any residential development covering more than 5000 sqm. of plot area.	All activities not listed in 'Permitted' and 'Permissible' column
Commercial	Retail commercial shops, departmental stores, whole sale commercial shops, retail shopping complexes/malls, whole sale commercial/trading complexes, retail 'haat' Eateries and restaurants Hotels, convention centers, banquet halls Cinemas and multiplexes Banks, financial institutions, professional establishments, commercial/private and	Storage/warehousing (involving perishable, inflammable, explosive or other kinds of hazardous materials) including ancillary activities Storage, segregation and sale of second hand/ junk goods/recyclables LPG storage (up to 8000 kg storage capacity)	All activities not listed in 'Permitted' and 'Permissible' column

	<p>corporate offices</p> <p>Daily or weekly markets, perishable goods market</p> <p>Fuel stations, automobile repairing workshops/garages</p> <p>Storage/warehousing (not involving perishable, inflammable, explosive or other kinds of hazardous materials)</p>		
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (all scale)</p> <p>Industries listed under "GREEN" category of WBPCB (small scale)</p>	<p>Industries listed under "GREEN" category of WBPCB (other than small scale)</p> <p>Industries listed under "ORANGE" category of WBPCB (small scale)</p>	All activities not listed in 'Permitted' and 'Permissible' column
	<p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for commercial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		
Public/Semi-Public	<p>Government/semi-government offices, post office, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, kindergarten, integrated residential schools, higher secondary schools, tutorial institutions, educational institutions, colleges, libraries, technical institutions, research establishments, experimental and testing laboratories,</p>	<p>Nursing homes and health centers (upto 300 beds)</p> <p>Note: Health facilities should not exclusively treat contagious diseases</p> <p>Places of public worship, religious buildings</p> <p>Electric grid station, water treatment plants, sewage treatment plants, solid waste treatment units, solar power installations, rain water harvesting installations, Dhobi ghats</p>	All activities not listed in 'Permitted' and 'Permissible' column

	<p>training institutions</p> <p>Health clinics, dispensaries, diagnostic centers, nursing homes, child welfare & maternity centers, health centers, (up to 100 beds), rehabilitation centers</p> <p>Note: Health facilities should not exclusively treat contagious diseases</p> <p>Multi-purpose community halls, auditoriums, assembly halls, gymnasium</p> <p>Note: Design occupancy of assembly buildings above should not exceed 1000 people</p> <p>Welfare institutions, clubs, exhibition and art galleries, museums, science centers</p> <p>Fire station, electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards and other public facilities</p> <p>Fuel stations, automobile repairing workshops/garages</p>		
Transportation and Communication	<p>Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-by facilities, loading/unloading bays, transmission and communication lines</p>	<p>Terminal facilities for passenger and goods vehicles (i.e. bus, truck, trailer), logistic facilities, weighbridge facilities</p> <p>Railway yards/car shed</p> <p>Note: For terminal facilities the minimum road width shall be 24 m</p>	All activities not listed in 'Permitted' and 'Permissible' column

Recreational	<p>Parks, playgrounds, gardens, multi-purpose open spaces, botanical garden, swimming pools, golf course, indoor stadium, sports complexes/training facilities</p> <p>Note: Minimum road width for the above commercial establishment shall be 24 meter.</p>	<p>Outdoor stadium, organised recreational complexes, eco-park</p> <p>Note: Minimum road width for the above commercial establishment shall be 30 meter</p>	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	<p>High density urban farming/vertical farming/stacked green house farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p> <p>Urban forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel, reservoir)</p>	Urban agricultural activities (for plot area exceeding 3.0 ha), storage, processing and sale of farm produce	All activities not listed in 'Permitted' and 'Permissible' column

Warehousing/Logistic Use Zone

Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	<p>Guest houses , Service apartments, Hostels, Night shelters, Boarding and lodging houses</p> <p>Housing for rehabilitation and economically weaker section</p>	<p>Plotted housing (detached, semi-detached, row housing)</p> <p>Group housing, Apartments, Multi Dwelling Units</p> <p>Note: The above housing shall be ancillary to the warehousing/logistics facilities</p>	All activities not listed in 'Permitted' and 'Permissible' column
Commercial	<p>Retail commercial shops, whole sale commercial shops, whole sale commercial/trading complexes.</p> <p>Eateries and restaurants (without bar facilities) ancillary to the</p>	<p>Retail Shopping complexes</p> <p>Hotels, convention centers, banquet halls</p> <p>LPG storage (up to 8000 kg storage capacity)</p>	All activities not listed in 'Permitted' and 'Permissible' column

	<p>warehousing/logistics facilities</p> <p>Banks, financial institutions, commercial offices</p> <p>Perishable goods market/farmers market</p> <p>Fuel stations, automobile repairing workshops/garages</p> <p>Storage/warehousing (involving/not involving perishable, inflammable, explosive or other kinds of hazardous materials) including ancillary activities</p> <p>Storage, segregation and sale of second hand/ junk goods/recyclables</p>		
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (all scale)</p> <p>Industries listed under "GREEN" category of WBPCB (all scale)</p>	Industries listed under "ORANGE" category of WBPCB	All activities not listed in 'Permitted' and 'Permissible' column
	<p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for commercial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		
Public/Semi-Public	<p>Government/semi-government offices, post office, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, training institutions</p>	<p>Technical institutions, research establishments, experimental and testing laboratories</p> <p>Rehabilitation centers, Welfare institutions</p> <p>Electric grid station, water treatment plants, sewage treatment plants, solid waste</p>	All activities not listed in 'Permitted' and 'Permissible' column

	<p>Health clinics, dispensaries</p> <p><i>Note: Health facilities should not exclusively treat contagious diseases</i></p> <p>Fire station, electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards and other public facilities</p> <p>Fuel stations, automobile repairing workshops/garages</p>	<p>treatment units, solar power installations, rain water harvesting installations</p>	
Transportation and Communication	<p>Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines</p> <p>Terminal facilities for passenger and goods vehicles (i.e. bus, truck, trailer), logistic facilities, weighbridge facilities, container terminals</p> <p>Railway yards/car shed</p>		All activities not listed in 'Permitted' column
Recreational	<p>Parks, gardens, multi-purpose open spaces</p>		All activities not listed in 'Permitted' column
Agriculture	<p>High density urban farming/vertical farming/stacked green house farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p>	<p>Urban agricultural activities (for plot area exceeding 3.0 ha), storage, processing and sale of farm produce</p>	All activities not listed in 'Permitted' and 'Permissible' column

	Urban forestry/plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)		
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Existing Industries Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	Residential incidental to the existing industries	Guest houses , hostels, night shelters, boarding and lodging houses <i>Note: The above housing shall be ancillary to the existing industrial facilities</i>	All activities not listed in 'Permitted' and 'Permissible' column
Commercial	Eateries and restaurants (without bar facilities) ancillary to the warehousing/logistics facilities <i>Note: The above commercial activities shall not exceed total floor area of 100 sqm.</i> Fuel stations, automobile repairing workshops/garages Storage/warehousing (involving/ not involving perishable, inflammable, explosive or other kinds of hazardous materials) including ancillary activities	Banks, financial institutions and professional establishments <i>Note: The above commercial activities shall not exceed total floor area of 300 sqm.</i>	All activities not listed in 'Permitted' and 'Permissible' column
Industrial	Industries listed under "EXEMPTED" category of WBPCB (all scale) Industries listed under "GREEN" category of WBPCB (all scale) Industries listed under "ORANGE" category of WBPCB	Industries listed under "ORDINARY RED" category of WBPCB Industries listed under "SPECIAL RED" category of WBPCB	All activities not listed in 'Permitted' and 'Permissible' column

	<p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for industrial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 	
Public/Semi-Public	<p>Nursery crèches</p> <p>Technical training institutions, experimental and testing laboratories</p> <p>Health clinics, dispensaries</p> <p>Fire station, electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards</p>	All activities not listed in 'Permitted' column
Transportation and Communication	<p>Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines</p> <p>Terminal facilities for passenger and goods vehicles (i.e. bus, truck, trailer), logistic facilities, weighbridge facilities, container terminals</p> <p>Railway yards/car shed</p>	All activities not listed in 'Permitted' column
Recreational	Parks, gardens	All activities not listed in 'Permitted' column

Agriculture	Plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)		All activities not listed in 'Permitted' column
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Industrial Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	Group housing, service apartments, hostels, dormitories, boarding and lodging houses, hotels and guest houses Housing for rehabilitation and economically weaker section <i>Note: The above residential activities shall be ancillary to the industrial activities and shall not exceed 3500 sq m plot area</i>	Any residential development covering more than 3500 sqm. of plot area. <i>Note: The above residential activities shall be ancillary to the industrial activities</i>	All activities not listed in 'Permitted' and 'Permissible' column
Commercial	Retail commercial shops/departmental stores (total floor area of not exceeding 300 Sqm.) Eateries and restaurants (without bar facilities) Professional consulting offices/private offices (total floor area of each not exceeding 300 sqm.) Banks, financial institutions and professional establishments Fuel stations, automobile repairing workshops/garages Storage/warehousing (involving/not involving perishable, inflammable, explosive	Professional consulting offices/private offices (total floor area of each exceeding 500 sqm.) Restaurants with/without bar facilities (with floor area more than 500 sqm.) <i>Note: Above activities shall be ancillary to the industrial activities</i> LPG storage (up to 8000 kg storage capacity)	All activities not listed in 'Permitted' and 'Permissible' column

	<p>or other kinds of hazardous materials) including ancillary activities</p> <p>Storage, segregation and sale of second hand/ junk goods/recyclables</p>		
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (all scale)</p> <p>Industries listed under "GREEN" category of WBPCB (all scale)</p> <p>Industries listed under "ORANGE" category of WBPCB</p>	<p>Industries listed under "ORDINARY RED" category of WBPCB</p> <p>Industries listed under "SPECIAL RED" category of WBPCB</p>	All activities not listed in 'Permitted' and 'Permissible' column
	<p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for industrial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		
Public/Semi-Public	<p>Government/semi-government offices, post Office, police station, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, kindergarten, pre-primary, primary schools, technical training institutions, research institutions, experimental and testing laboratories</p> <p>Health clinics, dispensaries, nursing homes and health centers (upto 30 beds), diagnostic centers</p> <p>Note: The above health facilities should not exclusively treat contagious diseases and</p>	<p>Water treatment plants, sewage treatment plants, solid/industrial (hazardous) waste treatment units including disposal facilities, solar power installations, alternative energy installations</p>	All activities not listed in 'Permitted' and 'Permissible' column

	<p>floor area should not exceed 300 sqm.</p> <p>Multi-purpose community halls (design occupancy should not exceed 300 people)</p> <p>Fire stations, electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities</p> <p>Fuel refueling stations, automobile repairing workshops/garages</p>		
Transportation and Communication	<p>Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines</p> <p>Terminal facilities for passenger and goods vehicles (i.e. bus, truck, trailer), logistic facilities, weighbridge facilities, container terminals</p> <p>Railway yards/car shed</p>		All activities not listed in 'Permitted' column
Recreational	<p>Parks, playgrounds, gardens, multi-purpose open spaces</p>		All activities not listed in 'Permitted' column
Agriculture	<p>Plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel, reservoir)</p>		All activities not listed in 'Permitted' column

Public & Semi Public Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	<p>Group housing, Apartments, Multi Dwelling Units</p> <p>Note: Residential activities should not exceed 3500 sqm. of plot area and should be ancillary to the institutional activities</p> <p>Dharmashala, Old age homes, Orphanages, Dormitories</p> <p>Housing for rehabilitation and economically weaker section</p>	<p>Guest houses , Service apartments, Hostels, Night shelters, Boarding and lodging houses</p> <p>Any residential development covering more than 3500 sqm. of plot area</p> <p>Note: Residential activities should be ancillary to the institutional activities</p>	All activities not listed in 'Permitted' and 'Permissible' column
Commercial	<p>Retail commercial shops/departmental stores (total floor area not exceeding 500 sqm.),</p> <p>Eateries and restaurants (without bar facilities)</p> <p>Hotels, convention centers, banquet halls</p> <p>Banks, financial institutions, professional establishments, commercial/private and corporate offices</p> <p>Note: Minimum road width for the above commercial establishment shall be 18 meter</p>	<p>Retail commercial shops/departmental stores (total floor area exceeding 500 sqm.),</p> <p>Retail shopping complexes/malls, retail 'haat'</p> <p>Cinemas and multiplexes</p> <p>Note: Minimum road width for the above commercial establishment shall be 24 meter</p> <p>LPG storage (up to 8000 kg storage capacity)</p> <p>Fuel stations, automobile repairing workshops/garages</p>	All activities not listed in 'Permitted' and 'Permissible' column
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (all scale)</p> <p>Industries listed under "GREEN" category of WBPCB (all scale)</p>	Industries listed under "ORANGE" category of WBPCB (small scale)	All activities not listed in 'Permitted' and 'Permissible' column

	<p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for commercial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		
<p>Public/Semi-Public</p>	<p>Government/semi-government offices/institutions, post offices, police station, police post, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets, correctional homes,</p> <p>Nursery crèches, kindergarten, integrated residential schools, secondary and higher secondary schools, tutorial institutions, educational institutions, colleges, universities, libraries, technical institutions, research establishments, experimental and testing laboratories, meteorological observatories, technical institutions, research establishments, experimental and testing laboratories</p> <p>Health clinics, dispensaries, diagnostic centers, pathological labs, nursing homes, child welfare & maternity center, health centers, hospitals, sanatoria, rehabilitation centers and other medical and public health institutions</p> <p>Multi-purpose community halls, auditoriums, assembly halls, cinema halls, open air theatres, gymnasium, places of congregation</p>	<p>Foreign missions, embassies, consulates</p> <p>Health facilities exclusively treating contagious diseases</p> <p>Water treatment plants, sewage treatment plants, solid waste treatment units, solar power installations, rain water harvesting installing, alternative energy installations</p> <p>Burial grounds, crematorium</p> <p>LPG storage (upto 8000 kg storage capacity)</p>	<p>All activities not listed in 'Permitted' and 'Permissible' column</p>

	<p>Places of public worship, religious buildings welfare institutions, clubs, cultural centers/institutions, exhibition and art galleries, museums, science centers, archives, commemorative complexes/grounds, public squares/plazas</p> <p>Fire stations, Electrical distribution facilities, electric grid station, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities</p> <p>Fuel stations, automobile repairing workshops/garages</p>		
Transportation and Communication	<p>Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines</p>	<p>Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles (i.e. LCV, MCV, HCV up to Type 2 vehicles with maximum permissible gross weight up to 16.2 tonnes), logistic facilities, weighbridge facilities, helipads</p> <p>Railway yards/car shed</p> <p>Note: For terminal facilities the minimum road width shall be 24 m</p>	All activities not listed in 'Permitted' and 'Permissible' column
Recreational	<p>Parks, playgrounds, gardens, multi-purpose open spaces, swimming pools, golf course, indoor and outdoor stadium, sports complexes/training facilities, organised recreational complexes/amusement parks, eco parks, science park</p>	<p>Zoological and botanical gardens, waterfront developments</p>	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	<p>High density urban farming/vertical farming/stacked green house farming, pisciculture, aquaculture, horticulture,</p>	<p>Urban agricultural activities (for plot area exceeding 5.0 ha), storage, processing and sale of farm produce</p>	All activities not listed in 'Permitted' and 'Permissible' column

	<p>floriculture, community garden farming, agro-forestry</p> <p>Note: Above urban agricultural activities should be confined to plot area not exceeding 5.0 Hectare</p> <p>Urban forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel, reservoir)</p>		
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Utility and Services Use Zone

Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Public/Semi-Public	<p>Fire stations, Electrical distribution facilities, electric grid station, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities</p> <p>Water treatment plants, sewage treatment plants, solid waste treatment units, solar power installations, rain water harvesting installing, alternative energy installations</p> <p>Burial grounds, crematorium</p> <p>Fuel stations, automobile repairing workshops/garages</p>		All activities not listed in 'Permitted' column
Transportation and Communication	<p>Roads, railway lines, transmission and communication lines</p> <p>Terminal facilities for para-transit modes, bus stand/shelter facilities</p>	<p>Terminal facilities for goods vehicles</p> <p>Railway yards/car shed</p> <p>Note: For terminal facilities the minimum road width shall be 24 m</p>	All activities not listed in 'Permitted' and 'Permissible' column

Agriculture	Farming, pisciculture, aquaculture, horticulture, floriculture, agro-forestry Urban forestry/plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)		All activities not listed in 'Permitted' column
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Roads Use Zone

Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Transportation and Communication	Roads, terminal facilities for para-transit modes, bus stand/shelter facilities, bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines	Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles (i.e. LCV, MCV, HCV), logistic facilities, weighbridge facilities <i>Note: For terminal facilities the minimum road width shall be 30 m</i>	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	Plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)		All activities not listed in 'Permitted' column

Railways Use Zone

Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	Group housing, Apartments, Multi Dwelling Units <i>Note: Residential activities should not exceed 1000 sqm. of plot area and should be ancillary to the institutional activities</i>	Dharmashala, dormitories, guest houses, hostels, night shelters, boarding and lodging houses Housing for rehabilitation and economically weaker section	All activities not listed in 'Permitted' and 'Permissible' column

Commercial	Retail commercial shops/departmental stores (total floor area not exceeding 100 sqm.) Eateries and restaurants (without bar facilities and total floor area not exceeding 100 sqm.)	Hotels (up to 2 star category)	All activities not listed in 'Permitted' and 'Permissible' column
Public/Semi-Public	Government/semi-government offices/institutions, post offices, police post, electricity offices, telecommunication offices, public toilets Experimental and testing laboratories Health clinics, dispensaries, diagnostic centers Multi-purpose community halls, auditoriums, assembly halls Fire stations, electrical distribution facilities, electric grid station, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities Fuel stations, automobile repairing workshops/garages		All activities not listed in 'Permitted' column
Transportation and Communication	Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines, Railway yards/car shed	Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles (i.e. LCV, MCV, HCV), logistic facilities, weighbridge facilities, helipads	All activities not listed in 'Permitted' and 'Permissible' column

Recreational	Parks, playgrounds, gardens	Multi-purpose open spaces	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	High density urban farming/vertical farming/stacked green house farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry Urban forestry/plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)		All activities not listed in 'Permitted' column

Transport Terminal Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential		Dharmashala, dormitories, guest houses, hostels, night shelters, boarding and lodging houses	All activities not listed in 'Permissible' column
Commercial	Retail commercial shops/departmental stores (total floor area not exceeding 100 sqm.) Eateries and restaurants (without bar facilities and total floor area not exceeding 100 sqm.)		All activities not listed in 'Permitted' column
Public/Semi-Public	Government/semi-government offices/institutions, post offices, police post, electricity offices, telecommunication offices, public toilets		All activities not listed in 'Permitted' column

Transportation and Communication	Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles, logistic facilities, weighbridge facilities, helipads	Railway yards/car shed	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	Gardens, plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)		All activities not listed in 'Permitted' column

Dockyard Use Zone

Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	Group housing, Apartments, Multi Dwelling Units <i>Note: Residential activities should not exceed 1000 sqm. of plot area and should be ancillary to the institutional activities</i>	Dharmashala, dormitories, guest houses, hostels, night shelters, boarding and lodging houses	All activities not listed in 'Permitted' and 'Permissible' column
Commercial	Retail commercial shops/departmental stores (total floor area not exceeding 100 sqm.) Eateries and restaurants (without bar facilities and total floor area not exceeding 100 sqm.)		All activities not listed in 'Permitted' column

	Fuel stations, automobile repairing workshops/garages Storage/warehousing (involving/not involving perishable, inflammable, explosive or other kinds of hazardous materials) including ancillary activities		
Industrial	Industries listed under "EXEMPTED" category of WBPCB (all scale) Industries listed under "GREEN" category of WBPCB (all scale) Industries listed under "ORANGE" category of WBPCB	Industries listed under "ORDINARY RED" category of WBPCB Industries listed under "SPECIAL RED" category of WBPCB	All activities not listed in 'Permitted' and 'Permissible' column
	<p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for industrial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		
Public/Semi-Public	Government/semi-government offices/institutions, post offices, police post, electricity offices, telecommunication offices, public toilets		All activities not listed in 'Permitted' column
Transportation and Communication	Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines Railway yards/car shed	Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles (i.e. LCV, MCV, HCV), logistic facilities, weighbridge facilities, helipads	All activities not listed in 'Permitted' and 'Permissible' column

Agriculture	Gardens, plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)		All activities not listed in 'Permitted' column
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Recreational Use Zone

Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Residential	Plotted housing (detached, semi-detached, row housing) Group housing, Apartments, Multi Dwelling Units <i>Note: Residential activities should not exceed 1000 sqm. of plot area and should be ancillary to the recreational activities</i>	Dharmashala, dormitories, guest houses, hostels, night shelters, boarding and lodging houses <i>Note: Residential activities shall be ancillary to the recreational activities</i>	All activities not listed in 'Permitted' and 'Permissible' column
Commercial	Retail commercial shops/departmental stores (total floor area not exceeding 100 sqm.) Eateries and restaurants (without bar facilities and total floor area not exceeding 100 sqm.)		All activities not listed in 'Permitted' column
Public/Semi-Public	Government/semi-government offices/institutions, post offices, police post, electricity offices, telecommunication offices, public toilets Meteorological observatories Multi-purpose community halls, auditoriums, assembly halls, open air theatres,	Water treatment plants, sewage treatment plants, solid waste treatment units, solar power installations, rain water harvesting installing, alternative energy installations Fuel stations, automobile repairing workshops/garages	All activities not listed in 'Permitted' and 'Permissible' column

	<p>gymnasium, places of congregation</p> <p>Places of public worship, religious buildings welfare institutions, clubs, cultural centers/institutions, exhibition and art galleries, museums, science centers, archives, commemorative complexes/grounds, public squares/plazas</p> <p>Fire stations, electrical distribution facilities, electric grid station, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities</p> <p>Note: The minimum road width for the above activities shall be 18 meter.</p>		
Transportation and Communication	<p>Roads, railway lines and station facilities, metro line and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus lay-bye facilities, loading/unloading bays, transmission and communication lines</p>	<p>Terminal facilities for passenger (i.e. bus, mini bus), helipads</p> <p>Note: For terminal facilities the minimum road width shall be 24 m</p>	All activities not listed in 'Permitted' and 'Permissible' column
Recreational	<p>Parks, playgrounds, gardens, multi-purpose open spaces, swimming pools, golf course, indoor and outdoor stadium, sports complexes/training facilities, organised recreational complexes/amusement parks, eco parks, science park, zoological and botanical gardens</p> <p>Race course, race / driving testing tracks</p>	Waterfront developments	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	Nursery, high density urban farming/vertical farming/stacked green house farming, ,	Urban agricultural activities (for plot area exceeding 5.0 ha), storage, processing and	All activities not listed in 'Permitted' and

	<p>community garden farming, agriculture, horticulture, pasture, pisciculture, aquaculture, agro-forestry</p> <p>Note: The above urban agricultural activities shall be confined to plot area not exceeding 5.0 Hectare</p> <p>Urban forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel)</p>	<p>sale of farm produce</p>	<p>'Permissible' column</p>
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Agriculture Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
<p>Residential</p>	<p>Farm houses and their accessory buildings and uses not exceeding 200/250sqm. of plinth area for the farmer's own use within the limitation of minimum plot area of 1.00 hectares and limited to G+ 1 floor.</p> <p>Dwelling for the people engaged in the farm (rural settlement)</p> <p>Note: The above activities shall be confined to a distance of 100 m around the 'Village Settlement' and 'Residential' Use Zone as shown in the Proposed land Use map for Old Haldia planning Area (2014) and subsequent amendments</p>	<p>Plotted housing (detached, semi-detached)</p> <p>Note: Plinth area for the above residential activities shall not exceed 150 sq m</p> <p>Transient visitors camp</p> <p>Temporary shelter for disaster affected people</p>	<p>All activities not listed in 'Permitted' and 'Permissible' column</p>
<p>Commercial</p>	<p>Daily or weekly markets (not more than 300 - 400 units per location and total area not exceeding 0.4 Hectare)</p> <p>Storage and sale of farm products locally produced, provided the ground coverage does not exceed 15 percent and subject to a maximum of G+1 floor only</p>	<p>Retail commercial, professional consulting offices/private offices, banks, financial institutions, professional establishments</p> <p>Note: Total floor area consumed by the above activities shall not exceed exceeding 500 sqm.</p> <p>The above activities shall be confined to a distance of 100 m around the 'Village</p>	<p>All activities not listed in 'Permitted' and 'Permissible' column</p>

		Settlement' and 'Residential' Use Zone as shown in the Proposed land Use map for Old Haldia planning Area (2014) and subsequent amendments	
Industrial	Industries listed under "EXEMPTED" category of WBPCB Note: Minimum abutting road width shall be 12 meter	Industries listed under "GREEN" category of WBPCB (Small scale) Note: Minimum abutting road width shall be 12 meter	Industries listed under "GREEN" category of WBPCB (Other than small scale) Industries listed under "ORANGE", "ORDINARY RED" and "SPECIAL RED" category of WBPCB. (All scale)
	Note: Permission should be given subject to <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • maximum power consumption for industrial operations up to 10 HP (power required for air conditioning, lifts and computers are excluded from power consumption specified above) • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for residential areas • adherence to the emission standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 		
Public/Semi-Public	Government/semi-government offices, post offices, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets Training institutions Health clinics, dispensaries (not treating contagious diseases) Note: The minimum abutting road width for the above activities shall be 9 m. The height of the building shall not exceed 9m	Rehabilitation centers, Correction homes Multi-purpose community halls, places of public worship, religious buildings, welfare institutions Fire stations, electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities Water treatment plants, sewage treatment plants, solid waste treatment units, solar power installations, rain water harvesting installing, alternative energy installations	All activities not listed in 'Permitted' and 'Permissible' column

	<p>The maximum ground coverage shall be 35%.</p> <p>The above activities shall be confined to a distance of 100 m around the 'Village Settlement' and 'Residential' Use Zone as shown in the Proposed land Use map for Old Haldia planning Area (2014) and subsequent amendments</p>	<p>,sewage farms and garbage dumping sites, solid waste landfills, power plants, dhobi ghat</p> <p>Fuel refuelling stations, automobile/farm machineries repairing workshops/garages,</p> <p>LPG storage (upto 8000 kg storage capacity), highway amenities viz., weigh bridges, check posts and tolls</p> <p>Burning and Burial grounds, Crematoria and Cemeteries</p> <p>Note: Highway facilities include the activities specified in the relevant Government orders/circulars.</p>	
Transportation and Communication	<p>Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), transmission and communication lines</p>	<p>Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles (i.e. LCV, MCV, HCV upto Type 2 vehicles with maximum permissible gross weight upto 16.2 tonnes)</p> <p>Note: For terminal facilities the minimum road width shall be 24 m</p>	All activities not listed in 'Permitted' and 'Permissible' column
Recreational	<p>Parks/ tot lot, playgrounds, gardens, multi-purpose open spaces, gymnasium,</p> <p>Recreational complexes/amusement parks, eco parks, science park, zoological and botanical gardens</p>	<p>Swimming pool, golf course, indoor stadium, sports complexes and training facilities, water sports, race course, race / driving testing tracks</p>	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	<p>Vertical farming/stacked green house farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p> <p>Forestry/plantation, riparian buffer</p>	<p>Storage, processing and sale of farm produce</p> <p>Mills for grinding, hulling, etc. of cereals, pulses, food grains and oil seeds</p> <p>Note: The site for above activities shall have proper access and installations shall not</p>	All activities not listed in 'Permitted' and 'Permissible' column

	<p>Dairy and cattle farms, Piggeries and poultry farms, livestock rearing</p> <p>Storing and drying of fertilizers</p> <p>Milk chilling centers, cold storage, pasteurisation plants</p> <p>Brick kilns, quarrying and removal of clay and stone up to 3.0 meter depth</p> <p>Rice mills, sugar mills, jaggery mills</p> <p>Orchards, nurseries and other stable crops, grazing pastures, forest lands</p> <p>Marshy land, barren land and water sheet</p> <p>Water bodies (ponds, lakes, canal, irrigation channel)</p>	<p>exceed 50 H.P.</p> <p>Agro processing units</p> <p>Quarrying of gravel, sand, clay or stone,</p>	
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Green Belt Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
	No development shall be permitted between the Low Tide Line and the Bund Road of the River Haldi and River Hoogly.		
Residential	<p>Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted</p> <p>Note: The above activities existing between the low tide line and the bund road of River Haldi and River Hoogly, should incorporate necessary disaster management provision</p> <p>No new construction shall be allowed.</p>	<p>Dwelling units of traditional communities including fisher folk and other communities dependent on river related activities</p> <p>Note: Such permission shall be in accordance with a Comprehensive Plan prepared by the State Government incorporating the necessary disaster management provision, sanitation and recommended by the WBCZMA to NCZMA for approval by MoEF</p>	All activities not listed in 'Permitted' and 'Permissible' column

Commercial	<p>Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted</p> <p>Note: The above activities existing between the low tide line and the bund road of River Haldi and River Hoogly, should incorporate necessary disaster management provision</p> <p>No new construction shall be allowed.</p>		All activities not listed in 'Permitted' column
Public/Semi-Public	<p>Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted</p> <p>Note: The above activities should incorporate necessary disaster management provision</p> <p>No new construction shall be allowed.</p>	<p>Fire stations, Electrical distribution facilities, electric grid station, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities</p> <p>Water treatment plants, sewage treatment plants, solid waste treatment units, solar power installations, rain water harvesting installing, alternative energy installations</p> <p>Burial grounds, crematorium</p> <p>Fuel stations, automobile repairing workshops/garages, Dhobi Ghat</p>	All activities not listed in 'Permitted' column
Transportation and Communication	<p>Roads, railway lines, terminal facilities for para-transit modes, bus stand/shelter facilities, transmission and communication lines</p> <p>Ferry ghat</p>	<p>Terminal facilities for goods vehicles (i.e. LCV, MCV, HCV upto Type 2 vehicles with maximum permissible gross weight upto 16.2 tonnes)</p> <p>Note: For terminal facilities the minimum road width shall be 24 m</p>	All activities not listed in 'Permitted' and 'Permissible' column
Recreational	<p>Parks, playgrounds, gardens, multi-purpose open spaces</p> <p>Note: The above activities should</p>	Waterfront developments	All activities not listed in 'Permitted' and 'Permissible' column

	incorporate necessary disaster management provision		
Agriculture	<p>High density urban farming/vertical farming/stacked green house farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p> <p>Note: The above activities should incorporate necessary disaster management provision</p> <p>Urban forestry/plantation, riparian buffer</p> <p>Brick kilns, quarrying and removal of clay and stone up to 3.0 meter depth</p> <p>Orchards, nurseries and other stable crops, grazing pastures,</p> <p>Marshy land, barren land and water sheet</p> <p>Water bodies (ponds, lakes, canal, irrigation channel)</p>		All activities not listed in 'Permitted' column

Waterbodies Use Zone			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
Transportation and Communication	Roads, railway lines, metro line, transmission and communication lines	Bus/truck lay-by facilities, loading/unloading bays,	All activities not listed in 'Permitted' and 'Permissible' column
Agriculture	Plantation, riparian buffer Marshy land, barren land and water sheet Water bodies (river, ponds, lakes, canal, irrigation channel), Reservoirs	Pisciculture, Aquaculture, Soilless agriculture	All activities not listed in 'Permitted' and 'Permissible' column

No Development Zone			
(Applicable in CRZ III - within the 100 m distance on the land ward side of the high tide line of River Hoogly and River Haldi - Refer Annexure V)			
Broad Uses	Uses Permitted	Uses Permissible	Uses Prohibited
	<ul style="list-style-type: none"> The NDZ shall not be applicable in such area falling within any notified port limits. Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted. The 'Permitted' and 'Permissible' activities shall be in correspondence with the Coastal Zone Regulations and its subsequent amendments. 		
Residential		Dwelling units of traditional communities including fisher folk and other communities dependent on river related activities Note: Such permission shall be in accordance with a Comprehensive Plan prepared by the State Government incorporating the necessary disaster management provision, sanitation and recommended by the WBCZMA to NCZMA for approval by MoEF	All activities not listed in the 'Permitted' or 'Permissible' column shall be prohibited.

Industrial	<p>Facilities for receipt and storage of petroleum products and liquefied natural gas as per specifications in CRZ notification shall be followed</p> <p>Facilities for regasification of liquefied natural gas subject to conditions as mentioned in CRZ notification</p> <p>Facilities for generating power by non conventional energy sources</p> <p>Foreshore facilities for desalination plants and associated facilities</p>		
Public/Semi-Public	<p>Projects relating to Department of Atomic Energy</p> <p>Weather radars, Meteorological observatories</p> <p>Dispensaries, Health Clinics</p> <p>Primary schools, Secondary Schools</p> <p>Community toilets</p> <p>Disaster management provision, Public rain shelter,</p> <p>Facilities required for local fishing communities such as fish drying yards, auction halls, net mending yards, traditional boat building yards, ice plant, ice crushing units, fish curing facilities and the likes</p>	<p>Facilities for water supply, drainage, sewerage, electric sub-station*</p> <p>Crematoria, cemeteries required by the local inhabitants*</p> <p>*Such permission shall be in accordance with the WBCZMA and dealt with on a case to case basis</p> <p>Units for domestic sewage treatment and disposal**</p> <p>**Such permission shall be given only after approval of the West Bengal Pollution Control Board</p>	
Transportation and Communication	Roads, Bridges, Culverts, Highway amenities, Railway lines, Transmission and communication lines		
Recreational	Nursery, Gardens, Parks, Play field, Multipurpose open space , Botanical garden		
Agriculture	<p>Agriculture, Horticulture, Green house farming, Plantation, Pasture, Forestry, Pisciculture, Aquaculture, Agro-forestry</p> <p>Waterbodies</p>		

Heritage and Conservation Use Zone			
	Uses Permitted	Uses Permissible	Uses Prohibited
	<p>No activity shall be permitted without the approval of the Haldia Development Authority. HDA shall permit activities only after consultation with the Competent Authority like ASI, NMA, Heritage Commission, INTACH and the likes.</p> <p>No activity shall have an adverse impact on the preservation, safety, security or access of the Heritage Structure.</p>		
		<p>Heritage Hotel, Library, Museum, Plantation and Landscaping*</p> <p>Maintenance, repairs and renovation of the structures</p> <p>Note: Such permission shall be granted by HDA only after consultation with the Competent Authority</p>	<p>All activities not mentioned in the 'Permitted' or 'Permissible' column shall be prohibited in the Heritage and Conservation Use Zone.</p> <p>All new constructions shall be prohibited.</p>

12.0 REGULATORY FRAMEWORK

This section of the LUDCP provides specific guidelines on controlling development within the Planning Area. The Development Control Regulations are proposed for ensuring sustainable and orderly development within the Old HPA. The major issues that would be covered are given in the following sections. For all other purposes the West Bengal Municipal (Building) Rules, 2007 shall be followed.

12.1 Regulation for Means of Access

12.1.1 Every plot shall abut a means of access which may be a public street or private street or passage.

12.1.2 The relationship between the width of the means of access and the maximum permissible height of the building shall be as indicated in [section 12.3](#) of this Land Use and Development Control Plan.

12.1.3 The minimum width of means of access in respect of a new building shall be as follows:-

(a) No new building shall be allowed on a plot unless the plot abuts a street which is not less than 10.00 meters in width at any part, or there is access to the plot from any such street by a passage which is not less than 10.00 meters in width at any part:

Provided that:-

- a) In case of a residential building with other occupancies, if any, of less than 10% of the total floor area of the building, the width of such street or passage shall not be less than 2.4 meters at any part.
 - b) In case of residential building with education occupancy of 10% or more of the total floor area of the building, the width of such street or passage shall not be less than 7.00 meters at any part.
 - c) In case of an educational building with residential occupancy the width of such street or passage shall not be less than 7.00 meters at any part.
 - d) In case of an educational building with other occupancy or occupancies not being residential of less than 10% of the total covered area of the building the width of such street shall not be less than 7.00 meters at any part.
- (b) Notwithstanding anything contained in [section 12.1.3 \(a\)](#), residential buildings up to a maximum height of 7.00 meters may be allowed on a plot abutting a means

of access not less than 1.20 meters, provided such means of access is in long existence and is recorded in the settlement record and/or Municipal records accordingly.

12.1.4 Any building, which, in full or part, is put to assembly occupancy for the purpose of theatre, motion picture house, city hall, dance hall, skating rink, auditorium, exhibition hall or for similar other purpose, shall not be allowed on a plot located within 50.00 meters of junction of two streets, and such street shall not be less than 15.00 meters.

12.1.5 For plots in a scheme for Economically Weaker Section and Low Income Group Housing, subject to the approval of the Haldia Development Authority, the minimum width of means of access shall be as indicated in [section 12.8](#) of this Land Use and Development Control Plan

12.2 Regulation for Ground Coverage

12.2.1 The maximum permissible ground coverage for building when a plot contains a single building shall depend on the plot size and use of the building as given in the table below:

Table no. 12.1: *Maximum Permissible Ground Coverage (Plot containing a single building)*

Types of the building	Maximum permissible ground coverage	
	In Residential Use Zone	In all other zones
1. Residential and educational		
a) On plot size up to 200.00 sqm.	50%	65%
b) On plot size of 500.00 sqm. or more	45%	-
2. Other use group including mixed use building	40%	40%

12.2.2 For a plot of size between 201 to 500 sqm., the maximum permissible Ground coverage shall be calculated by direct interpolation.

12.2.3 When a plot contains more than one building the maximum permissible ground coverage for the building shall be as stipulated in [section 12.7](#) of this Land Use and Development Control Plan.

12.2.4 For mercantile building (retail) and assembly buildings on plots measuring 5000 sqm. or more, the additional ground coverage to the extent of 15% may be allowed for car parking and building services. The additional ground coverage of 15% will be exclusively utilized for car parking, ramp, staircase, lift for upper level car parking and for building services such as Air Conditioned plant room, generator room, fire fighting equipments, not exceeding 5% out of such 15%, subject to compliance of other relevant building rules.

12.3 Regulation for Height of Buildings

12.3.1 Height of a building shall be the vertical distance measured from the average level of the centre line of the adjoining street or passage on which the plot abuts to the highest point of the building, whether with flat roof or sloped roof.

12.3.2 The following appurtenant structures shall not be included in the height of building:

- i. Stair cover not exceeding 2.40 meters in height;
- ii. Lift machine rooms as per as the latest edition of the National Building Code;
- iii. Roof tanks and their supports, the height of support not exceeding 1.00 meter.
- iv. Chimneys;
- v. Parapet walls not exceeding 1.50 meters in height;
- vi. Ventilating, air conditioning and other services equipments;
- vii. Height above mid-point between eaves level and ridge level;
- viii. Toilet at roof level upto a height of 3.00 meters subject to maximum floor area of 3.00 sqm.;
- ix. Garden cover with permeable material not exceeding 3.00 meters in height;
- x. Equipments for communication such as Microwave Antenna to, Tower, Dish Antenna as well as room for installing the said equipments subject to a maximum area of 20 sqm. and further subject to permission of the same from Haldia Development Authority.

12.3.3 The aggregate area of the structures mentioned in [section 12.3.2](#) shall not exceed one-third of the area of the roof upon which these are erected.

12.3.4 The maximum permissible height of buildings on a plot shall be as given in the table below:

Table no. 12.2: Maximum Permissible Height

Width of means of access (in meters)	Maximum permissible height (in meters)
i) 2.40 to 3.50	8.00
ii) Above 3.50 to 7.00	11.00
iii) Above 7.00 to 10.00	14.50
iv) Above 10.00 to 15.00	18.00
v) Above 15.00 to 20.00	24.00
vi) Above 20.00 to 24.00	36.00
vii) Above 24.00	1.5 x (width of the means of access + required width of front open space).

Note:

- i. There will be no restriction in height of buildings for plots abutting means of access above 10 meters in width subject to free gifting of strip of land as per prescribed

street alignment. However, this increase in height as mentioned above shall be permissible provided the minimum area of the plot is 2500 sqm. and minimum frontage of the plot abutting the main road is 30 meters.

- ii. In case of such additional height by free gifting the strip of land as mentioned above, the applicant will get FAR of original road width only. However, the applicant will be given benefit of FAR and ground coverage of the portion gifted to the Municipality.
- iii. Regulations for height of building exceeding 14.5 meters shall be as per [section 12.6](#).

12.4 Regulation for open spaces for Buildings

12.4.1 Generally

- (i) Every room intended for human habitation shall abut an interior or exterior open space or an open verandah, open to such interior or exterior open space. Open spaces shall be areas forming integral parts of the plot at ground level and shall be open to the sky without any projection or overhang excepting cornices, chajjas or weather –shades of not more than 0.50 meter in width.
- (ii) Every building shall have exterior open spaces comprising front open spaces, rear open space and side open spaces. The minimum width prescribed for front open spaces, rear open space and side open spaces shall be provided along the entire front, rear and side faces of the building respectively. For this purpose, the front of the building shall be that face of the building which faces the means of access of the building and the rear of a building shall be deemed to be that face of the building which is farthest from the means of access. These provisions shall also be applicable to each individual building separately when a plot contains more than one building. In case of a corner plot located at the crossing of more than one street or passage the rear of the building shall be deemed to be that face of the building which is farthest from the widest of all such streets and /or passages.
- (iii) Open spaces prescribing to one side cannot be taken for another side. No building shall at any time be erected on any open space prescribed in these regulations, nor shall such open space be taken into account in determining the area of any open space required under these regulations for any other building.
- (iv) If the front open space is 3.00 meters or more, a “Gate Goomti” for security purpose may be allowed in the said open space. The covered area of such “Goomti” shall not in any case exceed 3.00 sqm. and the height of such “Goomti” shall not exceed 3.00 meters. The covered area of the “Gate Goomti” shall not be included in the calculation of FAR and Ground Coverage. For buildings exceeding the height of

14.50 meters, such “Gate Goomti” shall not obstruct the vehicular movement from the means of access to the side and the rear open spaces.

- (v) For corner plots: In the case of any building intended to be erected at the corner of two streets, except the plan for a residential building, to be erected or re-erected on plot land of 300 square meters or less provided the height does not exceed 12.5 meters following regulations will apply:
- In case of both the adjoining roads are below 3.5 meter width and area of land is within 200sqm., the corner of such plot shall be splayed by 1.20m x 1.20m.,
 - In case any of the adjoining roads is more than 3.5 meter width and less than 10.0 meter width, the corner of such plot shall be splayed by 2.50m x 2.50m.
 - For roads more than 10.0 meters width, the splay shall be 3.5 m x 3.5 m

The land within the splayed portion shall be transferred to the local body by a deed of gift. However, area of land gifted to local body shall be considered for FAR and Ground Coverage as applicable.

12.4.2 The minimum open spaces with respect to height and category of buildings shall be as follows:-

Table no. 12.3: *Minimum open space required for Residential use*

Height of building (in meter)	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 8.0	1.2	1.2	1.2	2.0
Above 8.0 upto 11.0	1.2	1.2	1.2	3.0
Above 11.0 upto 14.5	1.5	1.5	2.5	4.0
Above 14.5 upto 18.0	3.5	3.5	3.5	5.0
Above 18.0 upto 24.0	5.0	5.0	5.0	7.0
Above 24.0 upto 36.0	6.0	6.5	6.5	9.0
Above 36.0 upto 60.0	8.0	8.0	8.0	10.0
Above 60.0 upto 80.0	10.0	15% of the height of the building	15% of the height of the building	12.0
Above 80.0	12.0	15% of the height of the building	15% of the height of the building	14.0

Table no. 12.4: *Minimum open space required for Education use*

Height of building	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 11.0 m (land area upto 500.0 square m)	2.0	1.8	4.0	3.5
Upto 11.0 m (land area above 500.0 square m)	3.5	3.5	4.0	4.0
Above 11.0 m upto 14.5 m	3.5	4.0	4.0	5.0
Above 14.5 m upto 21.0 m	5.0	5.0	5.0	6.0
Above 21.0 m	20% of the height of the building or 6.0 m, whichever is more	20% of the height of the building or 5.0 m, whichever is more	20% of the height of the building or 5.0 m, whichever is more	20% of the height of the building or 8.0 m, whichever is more

Table no. 12.5: *Minimum open space required for Institutional, Assembly, Business Mercantile and Mixed use Building*

Height of building	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 11.0 m (land area upto 500.0 square meter)	2.0	1.8	4.0	4.0
Upto 11.0 meter (land area above 500.0 square meter)	3.0	3.5	4.0	4.0
Above 11.0 meter upto 18.0 m	4.0	4.0	4.0	5.0
Above 18.0 m upto 24.0 m	5.0	5.0	5.0	9.0
Above 24.0 m upto 36.0 m	6.0	6.5	6.5	9.0
Above 36.0 m	8.0	9.0	9.0	10.0

Table no. 12.6: *Minimum open space required for Industrial and Storage Building*

Height of building	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 11.0 meter	5.0	4.0	4.0	4.5
Above 11.0 meter upto 18.0	6.0	6.5	6.5	10.0
Above 18.0 meter	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more

Note

- (i) Every residential building of height not more than 8.0 m on plot size not exceeding 65 sq.m in area shall have a minimum front space at ground level of 0.90 meter.
- (ii) For plots of size not more than 65 sq.m, minimum side open space of 0.90 meters may be allowed on each side, provided that the building height does not exceed 8.00 meters
- (iii) Notwithstanding anything contained in [Table no. 12.3](#), the minimum distance across the side open space from every new building to an existing building with a door or window opening shall be 1.80 meter;
- (iv) In the case of a building more than 24.00 meters in depth on a plot abutting any street, a passage along the entire depth of the building shall be provided and the minimum width of such passage shall be 4.0 meter.
- (v) For mixed use buildings the minimum front open space shall be the one applicable for that particular occupancy which gives the highest value of the minimum front open space.

12.4.3 For plots in a scheme for economically weaker section and low income group Housing approved by Haldia Development Authority the minimum space shall be as laid down in [section 12.8](#) of this Land Use Development Control Plan.

12.4.4 Interior Open Space:

The interior open space shall be as follows:

- a) For inner courtyard-
 - (i) In case the whole of one side or part of at least two sides of every habitable room is abutting either the front space, rear open space or side open space, it shall abut an interior open space. Interior open space at ground level shall be called courtyard.
 - (ii) Any room which is separated only by a verandah from the interior open space shall be deemed to abut on such interior open space for the purpose of this regulation.
 - (iii) The minimum dimension of any side of every interior open space (a) at ground level all sides of which are enclosed by a building or part thereof shall be 30% of the height of the building or 3.0 meters, whichever is more (b) at any other level, all sides of which are enclosed by a building or part thereof shall be 30%

of the height of the building or 3.0 meters, whichever is more, measured from the said level where interior open space is formed.

- (iv) Notwithstanding anything contained in these rules, if all sides of an interior open space is enclosed by a combination of higher and lower blocks of a building, the minimum dimension of such interior open space shall be governed by the height of lower block, provided that in no case the covered area under such lower block shall be less than 25% of the total covered area of the concerned building constituting the interior open space.
- (v) For the purpose of this rule, if any interior open space or courtyard is enclosed on three sides by a building or part thereof is meant to serve lighting and ventilation purpose to a part or whole of one side of one or more habitable rooms, the minimum width of such open space shall be 2.4 meters for building upto 14.5 meters in height, 3.5 meters for buildings above 14.5 meters upto 24.0 meters height, 5.0 meters for buildings above 24.0 meters upto 36.0 meters height, and 7.0 meters for all buildings above 36.0 meters height:

Provided that the depth of such open space shall not exceed twice its width and the same may be reduced to 1.2 meters, if no habitable room, or balcony attached to the habitable room is facing the interior open space. However, in case the depth of such interior open space is less than the width, the same shall not be considered as interior open spaces but be called as Notch and the same will be permitted without any restriction.

- (vi) A ventilation shaft having no access to the same except through one door for service purposes shall not be treated as a courtyard if the area of such shaft is less than 20 sqm.

b) Ventilation Shaft for Kitchen or toilet-

For ventilation of bathroom or water closet or if it does not open into the front open space, rear open space or side open space or an interior open space, it shall open into a ventilation shaft which shall not be less than the specification in [Table No. 12.7 and 12.8](#) below:-

Table no. 12.7: *Size of ventilation shaft*

Height of building (in meter)	Minimum size of ventilation shaft (in sqm.)	Minimum width of shaft (in meter)
Upto 11.0	2.5	1.2
Above 11.0 but less than 14.5	5.0	2.0
From 14.5 but less than 20.0	6.0	2.4
20.0 and above	9.0	3.0

Table no. 12.8: Combined Ventilation shaft for Kitchen and Toilet

Height of building (in meter)	Minimum size of ventilation shaft (in sqm.)	Minimum width of shaft (in meter)
Upto 11.0	3.0	1.5
Above 11.0 but less than 14.5	6.5	2.5
From 14.5 but less than 20.0	8.0	2.75
20.0 and above	9.0	3.0

Provided that for any building with height exceeding 20 meters, a mechanical ventilation system shall be installed in addition to the provision of minimum ventilation shaft:

Provided further that no chajja shall be allowed in any ventilation shaft:

Provided also that no ventilation shaft may be required for full air conditioned building, or mechanically ventilated toilet, kitchen, bath and W.C.

- c) If there be building other than boundary wall on not more than three sides of a building the minimum width of such courtyard shall not be less than 20% of the height of the building or 2.50 meters, whichever is more.

12.4.5 Joint Open Space: In case of multiple blocks of buildings connected with each other the open spaces between the two blocks will have to be 40% of the height of the lower block or 7.0 meters whichever is more.

12.4.6 For plot in a scheme for Economically Weaker Section and Low Income Group Housing, the minimum front space, side open space and rear open space shall be as laid downs in [section 12.8](#) of this Land Use and Development Control Plan.

12.5 Regulation for Provision of Parking within a Plot

12.5.1 Minimum Parking Space:

- i. No off- street parking shall be less than –
 - a) 12.5 sqm. (2.5 meters in width and 5.0 meters in length) for a motor car with a minimum head room of 2.2 meters if parked in a covered area.
 - b) 37.5 sqm. (3.75 meters in width and 10 meters in length) for a truck and a bus with a minimum head room of 4.75 meters if parked in covered area.
- ii. The minimum width of circulation driveway to be provided for adequate maneuvering of vehicles shall be 4.0 meters for cars and 5.0 meters for trucks exclusive of parking space referred to in [section 12.5.1 \(i\)](#). However a projection from a height above 5.50

meters from the ground level may be permitted keeping the mandatory open space open to sky as per this regulation.

- iii. The parking lay-out plan shall be so prepared that the parking space for each vehicle becomes directly accessible from the driveway or circulation driveway or aisles. However stack car parking arrangement will be allowed in such a way that every car can be moved by shifting not more than one car. This stack car parking will be allowed only on the basement and ground floor levels.
- iv. (a) For building with different uses, the area of parking space shall be worked out on the basis of respective uses separately and parking space to be provided for the total number of vehicle thus required.
(b) In case of a plot containing more than one building, parking requirement for all buildings shall be calculated consideration the area of respective uses.
- v. Notwithstanding anything contained in [section 12.5.1 \(i-iv\)](#) of this regulation, if the building site abuts on a street or means of access which is less than 3.5 meters, parking space may not be insisted upon.
- vi. In calculating the areas of different occupancies in the same building or different units of same occupancy in a building, the areas of common spaces of any floor which is included in the calculation of the Floor Area Ratio as per provision of these rules shall be distributed proportionately amongst the different units or occupancies. However, in case of residential use, the actual floor area of the tenements shall be considered excluding the areas of the common space. The requirements of car parking spaces shall be calculate accordingly.
- vii. The open spaces within the plot may be allowed to be utilized for car parking spaces open to the sky provided that the minimum front, rear and side open spaces prescribed in [section 12.4](#) of this Land Use and Development Control Plan shall be kept free of parking;
- viii. For plots in a scheme for Economically Weaker Section and Low Income Group housing approved by the Haldia Development Authority, the parking requirement shall be indicated in [section 12.8](#) of this Land Use and Development Control Plan.

12.5.2 Parking Space requirements for motor cars:

The parking space requirements for motor cars in respect of different categories of buildings are given in the [Table No. 12.9](#).

Table no. 12.9: Parking Space requirements for motor cars

Sl. No.	Occupancy	Off- Street Car Parking Spaces:
1	Residential	<p>(a) One car parking space to be provided for every 150 sqm. of floor area upto a total floor area of 600 sqm.</p> <p>(b) One car parking space to be provided for every 140 sqm. of floor area above a total floor area of 600 sqm upto 5000 sqm.,</p> <p>(c) One car parking space to be provided for every 130 sqm. of floor area above a total floor area of 5000 sqm.</p> <p>Note :</p> <p>(i) However for building or buildings having individual tenements size not exceeding 60.0 sqm. in the entire building, one car parking space to be provided for every 250 sqm. of floor area;</p> <p>(ii) For the purpose of calculation of number of car park nearest whole number is to be considered.</p>
2	Educational	<p>(i) For all educational buildings, one car parking space and one bus parking space are to be provided for every 500 sqm. of floor area and part thereof (exceeding 50%). However, at least one car parking space is to be provided for every educational building.</p>
3	Institutional	<p>For hospitals and other health care institutions-</p> <p>(i) One car parking space for every 150 sqm. of floor area is to be provided for a total floor area not exceeding 1000 sqm. However, at least one car parking space is to be provided for such institution building.</p> <p>(ii) One car parking space for every 100 sqm. of floor area is to be provided for a total floor area not exceeding 1000 sqm. (subject to a maximum of 250 nos of car parking space).</p>
4	Assembly	<p>(a) For theaters, motion picture house, auditorium or similar other halls-one car parking space for every 75 sqm of floor area shall be required. However, at one car parking space is to be provided for such buildings even having less than 75 sqm of floor area.</p> <p>(b) For Exhibition Halls, Town Hall or City Halls or similar other halls - one car parking space for every 200 sqm of floor area shall be required. However, at one car parking space is to be provided for such halls even having less than 200 sqm of floor area.</p> <p>(c) For restaurant, eating houses, bars, clubs, gymkhana, dance halls - one car parking space for every 75 sqm of floor area and/or part thereof (exceeding 50%). However, at one car parking space is to be provided for such buildings even having less than 75 sqm.</p> <p>(d) For hotels - one car parking space for every 250 sqm of floor area and/or part thereof (exceeding 50%). However, at least two car parking spaces are to be provided for such hotel buildings.</p> <p>Provided that for Hotels with Banquet Hall for other facilities like Conference, Marriage Ceremony and other public gatherings one car parking space for every 50 sqm of such floor area of banquet hall be</p>

		<p>required additionally:</p> <p>Provided further that while calculating the area of hotel to assess the requirement of car parking, area of banquet hall will not be considered.</p> <p>(e) For boarding house and guest house - one car parking space for every 500 sqm of floor area and/or part thereof (exceeding 50%). However, at least one car parking space is to be provided for such houses.</p> <p>For other assembly buildings like place of worship, gymnasium, sports stadium, railway or bus passenger station, airport terminal; or any other places where people congregate or gather – requirement of parking space shall be determined by the Haldia Development Authority.</p>
5	Business	One car parking space for every 100 sqm of floor area and/or part thereof (exceeding 50%). However, at least one car parking space is to be provided for such building.
6	Mercantile (retail)	<p>(a) For floor area up to 50 sqm. - no car parking space.</p> <p>(b) For floor area above 50 sqm. – one car parking space plus an additional car parking space for every 100 sqm. of the covered area.</p>
7	Industrial, Storage and Mercantile (wholesale)	<p>(a) For floor area up to 200 sqm. - no car parking space.</p> <p>(b) For floor area above 200 sqm. – one car parking space for every 200 sqm. and one truck parking space for every 1000 sqm. subject to a minimum of one truck parking space.</p> <p>(c) In no case the required car parking space shall exceed 50 and the required truck parking space shall exceed 50:</p>

Provided that while calculating the floor area for the purpose of car parking space required, covered areas for car parking are not to be considered.

12.6 Regulation for Tall Buildings (Exceeding Fourteen and half Meters in Height)

In Old Haldia Planning Area, in case of any building exceeding 14.50 meters in height, permission should be taken from Haldia Development Authority.

12.6.1 No building exceeding 14.5 meters in height shall be allowed on private or public street having less than 10.00 meters width;

12.6.2 Open spaces;

- i. There shall be a minimum front open space for every category of tall building at its narrowest part, as per provisions laid down in [section 12.4.2](#) of this Land use Development Control Plan.
- ii. There shall be a minimum rear open space for every category of tall building along the entire width of the building forming an integral part of the site, as per provisions laid down in [section 12.4.2](#) of this Land use Development Control Plan.
- iii. There shall be minimum open spaces on both sides for every category of tall building at its narrowest part, as per provisions as per provisions laid down in [section 12.4.2](#) of this Land use Development Control Plan.
 - a) In case the whole of one side or part of at least two sides of every room excepting bath, water-closets and store room, is not abutting either the front open space, rear open space or side open space, it shall abut an inner courtyard whose minimum width shall be 30% of the height of the building or 3 meters, whichever is more;
 - b) for ventilation of water closet in bathroom, kitchen or any room not intended for human habitation, if not opening on to front open space, rear open space, side open space or interior open space, such ventilation shall be opened up to a ventilation shaft, the size of which shall be as per provisions laid down in [section 12.4.4](#) of the Land use Development Control Plan.

12.6.3 for every building exceeding 14.5 meters, the FAR shall be as specified in the table below:-

Table no. 12.10: *Maximum permissible Floor Area Ratios*

Width of Means of Access (meters)	Residential Building		Institutional/Business Buildings		Industrial Buildings
	Residential Use Zone	Other use zones	Residential Use Zone	Other use zones	
Above 15 to 20	2.25	2.00	1.00	2.25	1.0
Above 20 to 24	2.50	2.25	1.50	2.50	1.0
Above 24	2.75	2.50	2.00	2.75	1.5

Note; while calculating the floor area under this section, the following shall not be included:-

- a) Stair cover not exceeding 2.4 meters in height and staircase with landing up to the extent of the width of the stairway in each floor including ramp if there be any;
- b) Lift machine room as per latest edition of National Building Code. Lift landing lobby with a maximum area of 6 sqm. in all floors including roof, if any;
- c) Roof tank and their support, the height of support not exceeding 1 meter;
- d) Chimneys, ventilating, air conditioning and service equipment attached to the building;
- e) Provided that the aggregate area of these structures mentioned at (a) to (d) above shall not exceed one-third area of the roof upon which these are erected;
- f) The actual area under covered car-parking space and area of basement used for car-parking only in accordance with the rule provided in [section 12.5](#) of this Land use and Development Control Plan subject to maximum permissible limit for one car parking space as 25 sqm. for ground floor and 35 sqm. other than ground floor inclusive of all circulation space and ramps. However, the area actually covered by the car parking space may be allowed even if the same is more than mandatory requirement. But the covered car parking shall be within the permissible ground coverage;
- g) Area of loft, ledge and areas of cupboards or wardrobes up to a maximum extent of 3% of total floor area but shall include the area of mezzanine floor;
- h) Area of service floor as permitted
- i) The areas for garden covered with permeable material, pergola, expanded or similar other material at the roof level, up to 5% of the total roof area or 10 sqm. which is more, subject to adoption of adequate structural safety measures;

12.6.4 All steel towers above 14.5 meters height should be ground based ones. Minimum access to such structure should not be less than 5.0 meters on any part. No such structure should be constructed on the mandatory open spaces of any existing building.

12.7 Regulation for Control of Development of Plot of Land Containing More Than One Building

12.7.1 General

- i. Every building on a plot containing more than one building shall abut an internal road connecting the means of access of the plot. The F.A.R. shall be calculated on the basis of the width of the means of access on which the plots abuts.
- ii. The minimum width of such internal roads shall not be less than 3.50 meters, where internal road of 3.50 meters in width is not possible to be provided due to an existing building constructed prior to the enforcement of this Land use and Development Control Plan, a building of not more than 7.0 meters in height may be allowed, provided that the width of the internal road shall not be less than 1.20 meters.
- iii. The maximum permissible height of any building on a plot shall be determined by the width of the means of access on which the plot abuts according to the [Table No. 12.2](#) given in [section 12.3](#) of this Land use and Development Control Plan.
- iv. The minimum width and the maximum length of all such internal roads shall be as per [Table No. 12.11](#) below.

Table no. 12.11: Width and Length of Internal Roads

SI No	Minimum Width of Internal Roads	Maximum length of internal roads	
		For internal roads closed at one end	For internal roads open to street at both ends
1.	3.50 meters and above but not more than 7.00 meters	25.00 meters	75.00 meters
2.	Above 7.00 meters but not more than 10.00 meters	50.00 meters	150.00 meters
3.	Above 10.00 meters	No restriction	No restriction

- v. In case the buildings within a plot are not of the same occupancy, an individual building of any particular occupancy shall comply with the regulation governing such occupancy except the provisions regarding Ground Coverage which shall be in accordance with [section 12.7.2](#) of this section.

12.7.2 Ground Coverage

- i. For plots measuring less than 5000 sqm. in area, the maximum Permissible ground coverage shall be the values prescribed in [section 12.2](#) of this Land use and Development Control Plan if the buildings are of same occupancy. If the buildings are not of same occupancy then the ground coverage shall be 40%.

- ii. For plots measuring 5000 sqm. or more in area, the maximum permissible ground coverage shall be 40% for building with same occupancy and 35% for buildings with different occupancies including mixed use occupancy.

12.7.3 Open Spaces

- i. Every building shall have minimum external open space as prescribed in [section 12.4](#), provided that on these open spaces internal roads may not be constructed.
- ii. Interspaces between two buildings, within a plot, shall be 40% of the average height of the buildings subject to a minimum of 4.0 meters even if the two buildings are inter connected by walkways, and other ornamental or structural elements say pergolas, radiating beams etc.

12.7.4 Parking:

The provision shall be the same as stipulated in [section 12.5](#) of this Land use and Development Control Plan.

12.8 Regulation for Control of Development of Residential Building for Economically Weaker Section and Low Income Group Housing Scheme

12.8.1 In a scheme for Economically Weaker Section and Low Income group Housing approved by Haldia Development Authority the following regulations shall be applicable, provided that the size of the plot is not more than 65.00 sqm. in area.

- i. No building shall be allowed on a plot if the width of the means of access to the plot is less than 1.20 meters.
- ii. No building exceeding 8.00 meters in height shall be allowed on a plot if the width of means of access to the plot is less than 3.5 meters.
- iii. The maximum permissible ground coverage shall be 75% of the area of the plot;
- iv. The maximum permissible height of the building shall be 10.00 meters;
- v. The minimum front open space shall be 0.80 meter;
- vi. The minimum rear open space shall be 1.00 meter;
- vii. The maximum permissible Floor Area Ratio shall be 1.75
- viii. The buildings may be of row housing type with common wall and the maximum length of the building in a row shall be 50.00 meters and after every 50.00 meters of length of such buildings in a row, there shall be an open space of not less than 2.50 meters in width for the entire depth of the building, and that such open space shall not be

necessary if there is a street or passage at such location the minimum width of which is not less than 2.50 meters;

- ix. There shall be no need to provide any car parking space within the plot;
- x. The size of rooms shall be as follows:
 - a. **Habitable Room:** The area of a habitable room shall not be less than 6.00 sqm. with a minimum width of 2.40 meters. The habitable room for this purpose would be any room to be used for human habitation other than a kitchen, both/water-closet, store/multi-purpose room;
 - b. **Kitchen :** The area of kitchen shall not be less than 3.00 sqm. with a minimum width of 1.50 meters;
 - c. **Water closet and bath room:** The area of an independent water closet shall not be less than 0.80 sqm. with a minimum width of 0.85 meter. The area of an independent bath room shall not be less than 0.80 sqm. with a minimum width of 0.85 meter. If water closet is combined with bath room its floor area shall not be less than 1.50 sqm. with a minimum width of 0.9 meter.
- xi. Minimum height of rooms: The height of all habitable and multi-purpose rooms shall not be less than 2.60 meters from the surface of the floor to the lowest point of the ceiling (bottom of the slab and/or beam). In the case of sloping roof, the average height of roof for habitable rooms shall not be less than 2.60 meters and the minimum height at caves shall be 2.10 meters. The height of kitchen, bath/water closet and corridor/passage shall not be less than 2.10 meters measured from the surface of the floor to the lowest point of the ceiling (bottom of the slab and/or beam);
- xii. Excepting the provisions of clause (i) to (xi) all other provisions of these regulations shall be applicable.

12.9 Provisions regarding Existing buildings

- 12.9.1 The provisions of the following regulations shall apply only in the case of an existing building not complying with the regulations of the Land Use and Development Control Plan. Existing building, for this purpose, shall mean any building which was erected before the date of coming into force of these regulations in accordance with a building plan sanctioned by an authority competent to sanction such building plan under Bengal Municipal Act 1932 (Bengal Act XV of 1932) or any other law for the time being in force.

12.9.2 In the case of existing building:

- i. Excepting storage or hazardous buildings, where the open spaces required have not been left, and addition in the number of stories, if otherwise permissible, may be allowed with a set back provided such building continuous with the same occupancy. Provided that no formal set back may be necessary up to a height of eight meters for adding only one floor over an existing single storied residential building.
- ii. The extent of the set back from the property boundary shall be such as to make the addition to the building in conformity with the provisions of [sections 12.2 and 12.4](#) of this Land Use and Development Control Plan.
- iii. If any car parking space is required to be provided under [section 12.5](#) of this Land Use and Development Control Plan and no such car parking space can be provided in such existing building, the covered area allowable under the provisions of these regulations shall be reduced by the area required for such car parking space. For this calculation, the area required for one car parking space is to be taken as 20.0 sqm..
- iv. The height of the building shall conform to the provisions as indicated in [section 12.3](#) of this Land Use and Development Control Plan and in no case the height shall exceed 14.50 meters after any addition to the number of stories;
- v. The addition to an existing building with residential occupancy shall not exceed 200.0 sqm. in covered area.
- vi. The addition to an existing building with educational occupancy shall not exceed the total covered area of the building.
- vii. The addition to an existing building with other occupancies including mixed uses excepting storage and hazardous building shall not exceed 100.00 sqm. in total covered area.
- viii. In case of partition of existing building common walls may be allowed as the partition line.

12.10 Regulation for Development of Building Site

No plot shall be used as site for erection or re-erection of any building:-

- i. If the level of the plot is lower than the level of the crown of the nearest public street, and
- ii. Unless the land is capable of being well- drained by, means of drainage facilities leading to the existing public drains or drainage channels.

12.11 Regulation for Sub - Division of Plots

12.11.1 Generally

- i. A plot to be sub-divided shall be termed as "mother plot".
- ii. Sub-division shall not be allowed if the "mother plot" abuts a means of access having width of less than 7.50 meters.
- iii. Every individual plot obtained by sub-division of the "mother plot" shall abut a means of access having a width of not less than 3.50 meters.
- iv. The junctions of means of access within the "mother plot" shall be provided with splayed corners measuring not less than 2.50 meters on each side and 3.5 meters if both roads are of 10.00 meters width or more.
- v. These regulations are not applicable in a scheme for Economically Weaker Section and Low Income Group housing approved by the Haldia Development Authority.
- vi. Sub-division may be allowed on condition that the following facilities shall be provided by the owner of the "mother plot" at his own cost, as may be directed by the Local Authority:
 - a) Drainage facilities ensuring drainage of each individual plot and of the means of access and passages leading to existing public drains or drainage channels.
 - b) Streets and passages along with street lighting.
 - c) Sanitary facilities including garbage disposal facilities.
 - d) Water supply facilities.
- vii. The minimum size of plot obtained by sub- division shall not be less than 100 sqm.
- viii. Plot sub-division will be guided by the width of the means of access as per [Table No. 12.12](#)

Table no. 12.12: *Plot sub division as per means of access*

Means of access	Area allowed for sub- division of plot
7.5m	Above 500 sqm. to 2000 sqm.
10.0 m	Above 200 sqm. to 5000 sqm.
20.0 m	Above 500 sqm. to 15000 sqm.
30.0 m	No restriction

12.11.2 Public open spaces

Sub division of mother plot measuring more than 500 sqm. in area shall only be allowed if a portion of the total area of the mother plot is developed as public open spaces or public amenities as follows:

- i. For mother plots above 2000.0 sqm. and below 5000.0 sqm.; 7.5% of the land (excluding roads) should be reserved for the above purpose.
- ii. For a mother plot measuring more than 5,000.00 sqm. in area and below 25000sqm, sub-division may be allowed, provided 8% of the total area of the mother plot is developed as public open space. The width of each such open space shall not be less than 10.00 meters and each such open space shall about a street having a width of not less than 7.00 meters. The minimum area of each of such open space in one parcel shall be 400.0 sqm. This open space shall be in addition to the land required for providing the means of access to the individual plots obtained by sub-division of the mother plot and 2% of the land should be reserved for public amenities.
- iii. Land for facilities -For a mother plot measuring more than 25000.00 sqm. in area, apart from providing 8% of the land for public open spaces provision of 7% additional land of the total area of the plot shall be reserved for use for facilities like school, Health Centers, Market, Police Outpost with booth, Post Office, Power Sub-station, Transport Terminal, Water Treatment Plant, Sewerage Treatment Plant as well as the provision for Green cover and free gift of land for Economically Weaker Section housing and the like, such land shall abut a means of access having a width of not less than 10.00 meters in addition to the land necessary for means of access and for open space mentioned in [section 12.11.2 \(ii\)](#) of this Land Use and Development Control Plan.

12.12 Regulations for new Township Project

The specific regulations for new township project shall be guided by the West Bengal Town and Country Planning (Development of Township Projects) Rules, 2008 notified vide Notification No. 2255-T&CP/C-2/IC-3/2005(II) dated 27th October, 2008 ([Refer Annexure -VI](#))

12.13 Regulation for Rain Water Harvesting, Tree Cover and Waste Water Recycling

12.13.1 Roof Top rain water harvesting and Tree Cover

- i. Roof Top rain water harvesting (RWH)
Roof Top RWH shall form a part of the building and shall have to be included in the plan either for direct use of rain water or for ground water recharging or both, applicable in case of

- a) New building/buildings or any housing complex covering a total floor area of 6000 sqm. or more.
 - b) Expansion of any building/ buildings or housing complex, so as to cover 6000 sqm. of total floor area pr more additionally.
- ii. Tree Cover
- Provision of tree cover should be included in the plan for sites
- a) For any housing construction projects covering a total floor area of 6000 sqm. or more, the applicant should arrange for raising and maintenance of tree cover at their own cost which should be at least 15% of the land area within the premises
 - b) For any other housing construction project, having lesser total floor area the tree cover should be reduced proportionately in the perspective of (a) above.
 - c) The applicant shall make provision for drainage to raise and maintain the plantation at their own cost and submit such programme to the Authority before the plan is forwarded for sanction.

12.13.2 Waste Water Recycling

Waste water recycling system shall be incorporated in all buildings including group housing having a minimum discharge of 40,000 litres per day. Such recycled water shall be either for non domestic purpose or for recharging of ground water.

12.14 Coastal Regulation Zone

All permission shall be given as per the proposal/recommendations/approval of the WBCZMA or the Competent Authority.

The



Kolkata **Gazette**

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PART I—Orders and Notifications by the Governor of West Bengal, the High Court, Government Treasury, etc.

HALDIA DEVELOPMENT AUTHORITY

(ISO 9001:2008 Certified)

Haldia Unnayan Bhawan, City Centre, Debhog,

Haldia, Dist. Purba Medinipur-721 657

PUBLIC NOTICE

No. 2279/HDA/IX-73/A(P-III)

Dated, Haldia, the 28th December, 2015.

Under section 38 of the West Bengal Town and Country (Planning and Development) Act, 1979.

Notice is hereby given that Haldia Development Authority has, in exercise of its power conferred by section 38 of the West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) prepared Land Use and Development Control Plan in respect of part of Haldia Planning Area which was notified vide Notification No. 354-T&CP/C-2/2L-7/2001(I) dated 16-02-2004 and 355-T&CP/C-2/2L-7/2001(I) dated 16-02-2004 (36 mouzas of Mahishadal Block & 41 mouzas of Nandakumar Block in the district of Purba Medinipur) and the same has been approved by the Government of West Bengal, Urban Development Department, Town & Country Planning Branch as per provision of 37(1) of the West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) vide memo no.2371-T&CP/C-2/IS-04/13 dated 23-12-2015. List of the mouzas is as follows :

BLOCK - MAHISHADAL					
Sl. No.	Name of Mouza	J.L. No.	Sl. No.	Name of Mouza	J. L. No.
1	BARA AMRITBERIA	55	7	BHOLSARA	95
2	DANIPUR	56	8	BAMANPUR	96
3	MAGURI	57	9	KHALSA BAMANPUR	97
4	KESHABPUR	92	10	GHASIPUR	98
5	AMRITBERA	93	11	LAKSHYA	103
6	REJANAGR	94	12	GOPALPUR	104

Sl. No.	Name of Mouza	J.L. No.	Sl. No.	Name of Mouza	J. L. No.
13	BASULIA	105	25	ITAMAGRA	128
14	KAMALPUR	106	26	DAKSHIN KASIMNAGAR	129
15	LATMAJNUR UTTARCHAK	107	27	RAJARAMPUR	130
16	BANKA	108	28	UTTAR KASHIMNAGAR	131
17	GAZIPUR	109	29	KANCHANPUR	137
18	TERAPEKHIA	113	30	BAGDA	138
19	GOPALPUR	114	31	SARBERIA	139
20	MACHLANDAPUR	115	32	GHAGRA	140
21	KISMAT NAIKUNDI	116	33	SUNDARA	141
22	MALUBASAN	123	34	BASUDEVPUR	143
23	TAJPUR	124	35	NATSHALERCHAR	175
24	TERAPARA JALPAI	127	36	MAYACHAR	176

BLOCK - NANDAKUMAR

Sl. No.	Name of Mouza	J.L. No.	Sl. No.	Name of Mouza	J. L. No.
1	PADUMKHANA	34	22	PARAMHANSAPUR	84
2	PIYADA	35	23	BASUDEVPUR	85
3	HARIHARPUR	43	24	KHEJURBERIA	86
4	NARADARI	44	25	JAMBURBASAN	87
5	GURIA	45	26	KOLSAR	88
6	NARAYANPUR	46	27	KANDALDA	89
7	BETALBASAN	47	28	MANDERGECHHIA	90
8	CHARBETALBASAN	48	29	ROUTOURI	91
9	TOTABERIA	49	30	JASNAN	99
10	GHATUAL	50	31	DHITIBASAN	100
11	TARAGERIA	51	32	BAGMARI	101
12	TIKRAMPUR	52	33	NAMAL	102
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16	DAKSHIN SRIKRISHNAPUR	59	37	FATEPUR	120
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18	JALPAI	70	39	MADHAVPUR	122
19	SITALPUR	71	40	KALYANPUR	125
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21	SRIDHARPUR	82			

Copy of the said Land Use and Development Control Plan may be inspected in any working days between 11-00 A.M. and 4-00 P.M. at the Office of the Chief Executive Officer, Haldia Development Authority, Haldia Unnayan Bhawan, City Centre, Debhog, Haldia, Dist. Purba Medinipur-721 657.

By order of the Authority,

UJJAL KUMAR SEN GUPTA, IAS
Chief Executive Officer, Haldia Development Authority.

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SATISH SAMANTA
KISMAT NAIKUNDI
GARH KAMALPUR
NATSHAL II

NANDAKUMAR BLOCK

BABARTARHAT PASCHIM
BABARTARHAT PURBA

BASUDEVPUR
KUMARARA
KALYANPUR
SITALPUR

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1. Introduction

1.1 Background

The preparation of the 'Land Use and Development Control Plan' (LU & DCP) for Part Extended Haldia Planning Area (Part of CD Mahishadal Block having 36 Mouza's and Part of CD Nandakumar Block with 41 Mouzas) in Purba Medinipur District, West Bengal, formulate aims, objectives, strategy for planned development in an integrated and coordinated manner. These strategies will be applied to the Area of Interest (AoI) in the form of implementable statutory document as per the provisions under the West Bengal Town & Country (Planning and Development) Act, 1979.

The preparation of Land Use and Development Control Plan for the above mentioned part of Planning Area under the jurisdiction of Haldia Development Authority (HDA) has been undertaken as per the powers conferred under section 13 of the aforesaid Act. The plan is prepared as per the provisions under section 31-38 of the Act. The Present Land Use Map & Register (LUM&R) prepared as per the provisions under section 28 & 29 of the West Bengal Town and Country (Planning and Development) Act, 1979 and published (vide notification no 1680, dated 11th October, 2012 and subsequent ERRATA dated 16th December, 2014) was the basis for the preparation of LU & DCP.

A Development Plan (LU&DCP) prepared for any area serves as an important instrument to guide the process of future development. Over the years Development Plans (LU&DCP) have emerged as an important approach to urban planning in the country. The concept of Development Plan (LU&DCP) has no doubt made a discernible impact in regulating and channelizing the development and growth of cities and towns. The LU&DCP (Plan period upto 2026) will provide a policy framework which will serve as a guide in the preparation of five year Development Plans and Annual Plans for implementation of the proposals. It will lay down broad policies in term of land utilization, residential densities, and qualitative and quantitative aspects of infrastructure development.

The LU&DCP is prepared considering UDFPI guidelines, Town and Country Planning Organization (TCPO) guidelines, and other planning norms.

1.2 Aim and Objectives

Aim: To prepare a Land Use and Development Control Plan for Part of the Extended Haldia Planning Area comprising partly of Mahishadal block (36 Mouzas) and partly Nandakumar block (41 Mouzas).

Objectives:

- Define the direction of future growth and development.
- Formulate a broad land use pattern considering the potential growth and emerging needs of the area.
- Facilitate commercial, industrial, residential, tourism, recreational and other investments.
- Provide quality urban infrastructure in all the urban areas and also appropriately in the rural areas for improved quality of life.
- Suggest environmental and ecological measures for avoiding the harmful impact of the inappropriate location of industries.

- Evolve effective implementation and financial strategy.
- To make LU&DCP an effective, implementable statutory document to guide planned development.

1.3 Vision

“To develop the Part of Extended Haldia Planning Area as agro-based economic node with enhancing linkage and envisaging planned development having adequacy of access to facilities.”

1.4 Plan Preparation Methodology

Keeping in view, the statutory obligation of LU&DCP preparation, the Plan at various stages was discussed and presented in front of stakeholders and HDA. To start the basic framework, preparation of a good base map is the most crucial stage, since, among all planning aspects; the existing and proposed land use, sectoral analysis etc. were prepared on the base map. The digitized copies of the Mouza’s were made available by HDA, which were stitched and base map of part of Extended Haldia

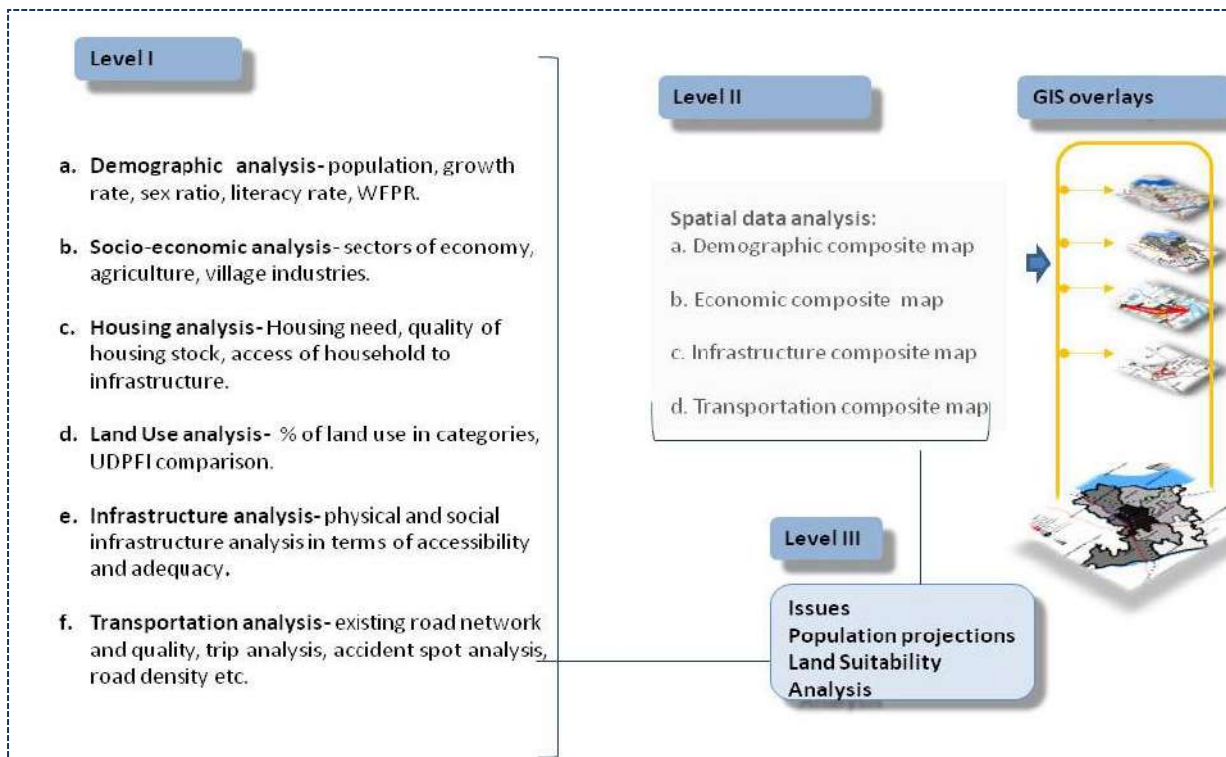


Figure 1-1: Method adopted for data analysis

Planning Area and its environs was generated. Along with this, updation of Base Map through change of Land Use listing given by HDA has been done. Analysis focused on the changes in urban land use, growth trends, areas of incompatible land uses, availability of open spaces and areas for future development and so forth.

A detailed analysis of the existing situation is necessary in order to formulate the vision and goals for future development. Three level approach is taken where primary indicators are analysed in terms of their growth, decline etc., then level II will translate all the indicators on spatial map, this was done as per the GIS overlay analysis technique explained separately in the respective chapters. Finally the issues from existing analyses were identified; an estimation of future population was conducted and composite land use suitability analysis from all GIS maps was generated.

The conceptual broad land use plan was prepared keeping in view the profile of the area in terms of its Regional importance, demographic profile, existing perspective plan, housing status, trade and commerce, physical and social infrastructure, environmental issues, land use pattern, urban growth, social and economic status, energy, public transport, etc. The conceptual broad land use zoning was prepared and presented before the stakeholders of the area for feed backs and suggestions for incorporating in the draft LU&DCP & zoning of detailed land use proposals.

The proposed land use plan was prepared after integrating layers of various aspects with detailed land use plan like road network, proposed infrastructure etc. The LU&DCP prepared a consolidated LU & DC Plan which included the objectives of Development Plan, defining the planning sectors, Population and employment, Growth scenario, Land use, Standard and Norms, Development Proposal, Land Use Zoning, Development Control Regulation, Permissible uses etc.

1.5 Highlights of the LU & DC Plan

The LU&DC Plan proposes two Growth Centre which are envisaged for providing economic trigger to the Part Extended Haldia Planning Area (PEHP Area). These Growth Centres will have industrial units, residential areas, commercial and amenities for inhabitants. A new road network is proposed which will strengthen the movement in the area. Regulation for conservation of water bodies and rivers are laid in the document. Hierarchical developments of villages are proposed according to envisaged settlement order. Quantity of infrastructure to be provided for concerted development of the area is given which include health, education, water supply, sewerage system, drainage network, road network, solid waste management system etc. Major projects in the LU& DC Plan is identified which will cover in five year phasing. Development Control Regulation and Zoning Regulation are formulated for the area to guide and control the future development.

1.6 Review of Perspective Plan 2025

1.6.1 Aim & Objectives of the Perspective Plan 2025

The perspective plan gives a blue print of the objectives and targets set for long term growth of Haldia Planning Area. The Perspective Plan 2025 for Haldia Planning Area has defined certain goals for planned development of Haldia. Therefore it becomes imperative to have a clear understanding of the Perspective Plan 2025 so that there are no contradicting concepts and the proposed development of the Part Extended Haldia Planning Area is in compliance with the surrounding region.

Goals:

The Perspective Plan 2025 outlines goals which will define the direction of growth in the future scenario. Few points pertinent to our study area are discussed below:

- Haldia shall be developed as the strong industrial hub to continue as the regional Centre with a view to act as counter magnet to Kolkata.
- To reduce dependency of Haldia for daily, weekly, monthly, periodic and occasional facilities on other centres in the region. This can be conceptualized to develop Mahishadal and Nandakumar urban areas as centres for higher order services.

The goals directs the development strategy of PEHP area as an highly interactive area with adequacy of higher order facilities, reducing growth pressure on Haldia per se, giving seamless interaction in terms of various sectors like transportation corridors, Urban forms, rational spatial distribution of infrastructure etc.

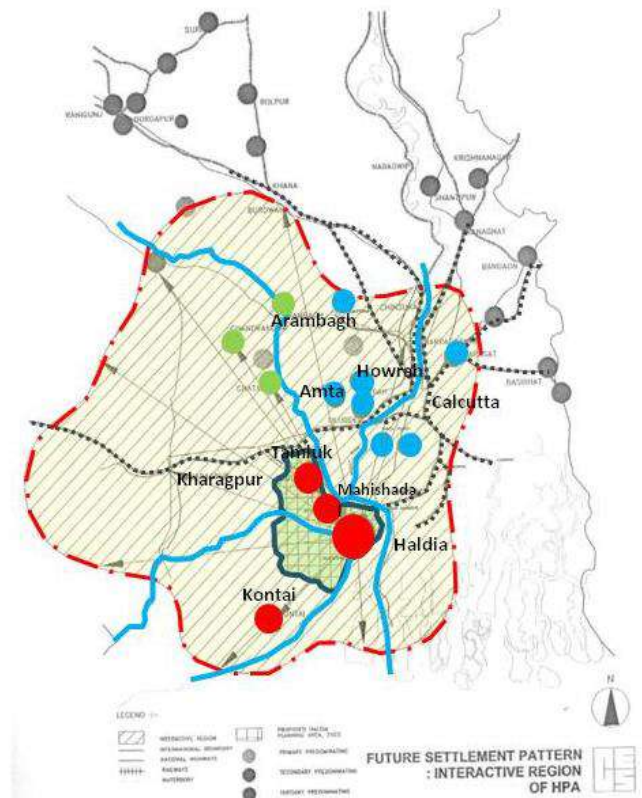


Figure 1-2 Perspective Plan Haldia Planning Area.

The Perspective Plan hierarchically sub divides Haldia Planning Area (HPA) into the following for purpose of population allocation for the future:

- Haldia Municipal Area
- Mahishadal Non-Municipal Area
- Semi-Urban Centres
- Rural HPA

As review of this plan is done with a purpose to study developmental strategies and future guidelines pertaining to the Part of Extended Haldia Planning area, hence strategies relevant to Mahishadal Non-Municipal Area and Rural HPA are considered.

1.6.2 Future Development Strategy

Based on the study and analysis for future spatial structure, land suitability with respect to different land uses and zoning pattern, the proposals for different land uses have been framed.

i. Agricultural Activities

The Part of Extended Haldia Planning Area renders a perfect setting for improving agriculture produce and product delivery. Few points to be considered as potentials are:

- Natural Resources like soil, rainfall and available man power in the area.
- Increasing demand of Agriculture Livestock produces- Rice, Potato, Vegetable, Fish, Milk and Egg etc. due to rapid urbanization in PHEP area.

- Prospects of Dairy, Poultry and Goatery by small and marginal farmers.
- Establishing rural storage network.

ii. Residential Area

As per the Perspective Plan 2025, it has been observed that Haldia urban area has a low bearing capacity varying from 1.5 tonnes/ sq.m. at surface to 5 tonnes/ sq.m. at a depth of 5 metres. For heavy structures, one has to resort to piling with ordinary spread foundation. Only low structures of two to three stories are economical to construct.

iii. Industrial Area

Haldia, being a major industrial growth centre in the state of West Bengal, industrial activity occupies a large share of land area within HPA.

Small scale industries of non-polluting type are also to be provided at the growth centres /Semi-Urban Centres. Hence, Mahishadal and Nandakumar have tremendous potential for Small Scale Industries.

Cottage and Small Scale Industries

- Apart from large scale industries in the region, the district as well as Part of Extended Haldia Planning area has huge resource on fisheries, forestry, aquaculture, pisciculture and floriculture. Foreseeing the potential of allied activities, industries based on forest resources like paper mill, saw mill, furniture making can be developed.
- Paddy is the main agriculture crop in the study area, attributing to rice mills in the Part of Extended Haldia Planning area. Apart from the existing units, new units like mini rice mills and solvent extraction units from rice bean oil can be developed.
- Jute production can be materialized into conventional jute bags, jute twine and other variety of jute products and marketed in the area.
- Potato is profoundly produced in Medinipur and Ghatal sub-divisions. Their storage will demand for number of cold storage units, whose potential can be extensively explored.
- Taking fair consideration of agriculture production in the Part of Extended Haldia Planning area, Tamluk and surrounding area has been identified as potential agro-based industrial and consumer- industries centre. Tamluk has the vantage location in respect of transport network; it might as well become a processing hub of semi-finished goods of nearby areas and supply to major rural areas, then supply the finished goods to Haldia.
- Considering the vitality of Haldia Petrochemicals Ltd., villages in the Part of Extended Haldia Planning area can be developed as potential Small Scale Plastic Industries.

iv. Physical Infrastructure

The plan outlines norms for water supply as 135 lpcd for urban sewered areas, 70 lpcd for urban unsewered areas and 70 lpcd for rural areas. As a factor of cost consideration, Mahishadal has been kept out of sewerage system in the plan. The ground water condition of Part of Extended Haldia Planning (PEHP) Area has been studied in the plan and problem in terms of salinity (intrusion of salt water in fresh water) hazards and restricted use of ground water has been identified.

Central Ground Water Board (CGWB), the national apex body for investigation, exploration, development and management of ground water resources of the country, has investigated the entire region in detail. The present ground water draft of Haldia area, as estimated by CGWB, is of

the order of 14 mgd which is considered to be on higher side. Further monitoring reveals that, it is fast declining, which calls for judicious ground water management. As a result, no further ground water development is advisable. However, existing ground water structures may continue.

Since ground water development is restricted, hence new alternative sources of water must be explored. Heavy rainfall in the region calls for Rain Water Harvesting to recharge fresh water aquifers. Mahishadal has been kept out of sewerage system where septic tank-soak pit or TPPF should be allowed.

Solid waste management is currently operational for Haldia Municipality under BOOT scheme.

HPA is highly rain fed area, all existing drainage courses discharge into Hooghly/ Rupnarayan and Haldi River. Assessment of drainage channels should be done for effective rain water harvesting which would-assist in ground water recharge and reduce salinity problem of the aquifer.

In addition to this, excavation of lakes should be done in inter-connected manner, to use stored sweet water for other purposes like domestic needs, gardening etc., to accentuate beautification of the area and act as shock absorbers in case of storm run-off.

v. Recreational uses

Recreation and open spaces constitute a major portion of Haldia Planning Area. The river front of River Haldi is to be developed as the recreational hub and a major tourist attract centre having water sports facilities, river cruising facilities, floating restaurants etc. The stretch along the River Hooghly starting from Geonkhali is also to be developed with landscaping, illumination & eateries. The green belts along with the existing network of canal system provide the much needed recreational areas. Provision of sufficient water bodies which are to serve as catchment for water harvesting as well as place of recreation is placed in the Perspective Plan 2025.

vi. Transportation

The major policy objective of the perspective plan is to provide efficient movement of goods and persons to and from Haldia. Following proposals are outlined for achieving this target.

SH-4 is proposed to be developed as a proper four lane facility with adequate access control, including service roads on two sides with segregation of slow traffic from fast.

The embankment road along river Haldi is proposed to be widened and improved to a two lane undivided roadway to give better access between the river front and

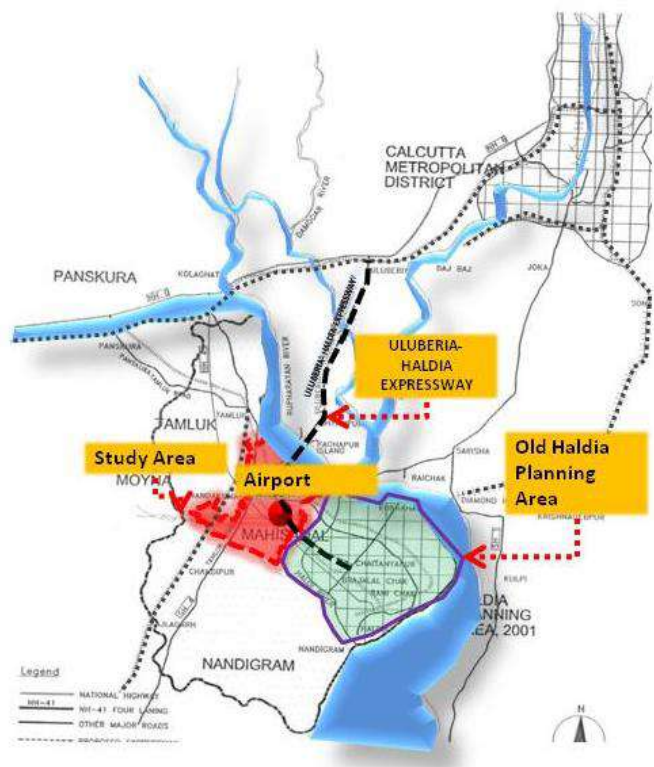


Figure 1-3 Transportation proposals in Perspective Plan 2025

residential areas.

Medium and Long Term Proposals

The medium and long-term proposals have been classified into the following groups as presented below:

Roadway Improvement

- SH-4 is proposed to be developed as a proper four-lane facility with adequate access control, including service roads on two sides with segregation of slow traffic from fast.
- The embankment road along river Haldi is proposed for widening and improvement to a proper two-lane undivided roadway to give better access between the residential area of township and the riverfront.

Tourism and urban conservation

The basic strategy outlines in the Perspective Plan 2025 would be to provide amenities and facilities as well as value addition of sites through urban conservation projects. These include:

- Conducting package tour covering the triangle of Haldia- Mahishadal-Tamluk.
- Development of modern tourist facilities including:
 - Tourists Villages
 - River cruising on luxury boats
 - Riverfront Development
 - Water Sports centre with boating and rowing facilities
 - Development of sunset point at Anchorage Camp
- Introduction of Dance festivals, craft village
- Tapping the potential of 'Haldia Mela' and the 'Rathajatra' at Mahishadal
- Facilitating the development of hotels and resorts keeping in pace with growth of tourism.

All the above measures are in conformity with CRZ II regulations. Site specific projects have been identified in the Volume III of this Plan Document in Annexure 10.

vii. Development Structure

After analyzing various spatial structures, mono-centric, duo-centric and poly-centric structures, it was found that poly centric structure provide flexibility in terms of socio-economic changes. Mahishadal has been envisaged as semi-urban growth centre with agro-service and tourism centre based functional specialization. The justification for function has been identified as being on important transportation node with a rich agricultural hinterland; it has all the possibilities to emerge as the future dispersal point of agro-products. Also, presence of tourist places makes it the future tourist centre.

2. Regional Study & Existing Profile

2.1 District Profile

Purba Medinipur is an administrative unit in the Indian state of West Bengal. It is the southernmost district of Burdwan division – one of the three administrative divisions of West Bengal. The Headquarter is located at Tamluk. It was formed on January 1, 2002 after the Partition of Midnapore into Purba Medinipur and Pashim Medinipur which lies at the northern and western border of it. The state of Odisha is at the south-west border whereas the Bay of Bengal lies in the south; the Hooghly River and South 24 Parganas district to the east and Howrah district to the north-east.

Purba Medinipur is formed of the sub-divisions of Tamluk, Contai and Haldia of erstwhile Midnapore district. Another sub-division, Egra has been created out of the erstwhile Contai sub-division during the partition of Midnapore. In 2011, the state government has proposed to rename the district as Tamralipta district after the ancient port city of Tamralipta which used to lie near the modern district headquarter.

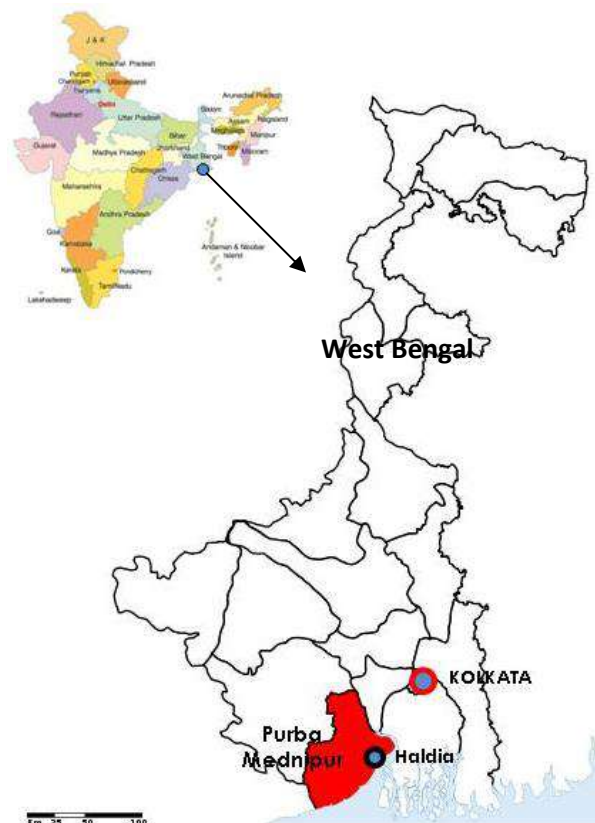


Figure 2-1 Location of Purba Medinipur District

2.1.1 Demography

According to the 2011 census Purba Medinipur district has a population of 50, 94,238 having an area of 4,736 sq.km. This gives it a ranking of 8th out of 19 districts of West Bengal State in 2011. The district has a population density of 1,076 inhabitants per square kilometre. Its population growth rate over the decade 2001-2011 was 15.32%. Purba Medinipur has a sex ratio of 936 females for every 1000 males, ranking 8th out of 19 Districts of the State. (Source: census of India, 2011)

2.1.2 Economic Resources

Forest Area: As per the District Statistical Hand Book, 2011 the district has a total area of 1831.97 hectares covered by un-classed state forest. During 2010-11 the district earned the revenue of Rs.19, 21,000 from forest produce and had incurred expenditure of Rs.6, 00, 26,000.

Mineral Product: The district is not very rich in minerals. However, the laterite rocks that cover an immense area in Purba Medinipur district are noteworthy. The gravelly laterite is extracted from the pit as road metal and is also used for building purposes. Two important minerals of the district available in south and east are iron ore and common salt.

Agriculture: The economy of the district is based on agriculture and upliftment of the standard of living of the people in the district depends solely on advancement of agriculture. A total of 3965.90 sq.km of land is under cultivation, 93.0 per cent of which is rice producing – both high-breed and customary included.

Irrigation: Area irrigated by the Government Canals in the district is 62.78 (in thousands) hectares, by tanks 22.88 (in thousands) hectares and by other sources 26.72 (in thousands) hectares. The number of Deep Tubewells in the district is 157, river lift irrigation 109 and shallow tubewells 9213 during 2010-11. (Source : District Statistical Hand Book, Purba Medinipur, 2011).

Fish Production: Purba Medinipur district is one of the highest producers of fish in the state. As per the statistics of Department of Fisheries, West Bengal 2009 -2010 the total inland fish production in the district was around 1,46,000 tons whereas total marine fish production was around 1,43,000 tons. The contribution of Purba Medinipur in total fish production is around 9.5 % in case of inland fishes and about 75 % in case of marine fishes. The total number of people engaged in fishing activity is as given below.

Table 2-1: People engaged in fishing activity in the District

Name of District	Fishing Village	Fisher folk family	Male	Female	Total	
Purba Medinipur	Inland	35	8625	27893	26800	54693
	Marine	621	20316	91419	30471	121890

Source: District Statistical Hand Book, 2011

Industries: Though basically an agricultural district with paddy being the main agricultural product, the district is also known for its handicraft and fishing. One of the recent developments for this district is the fast developing port of Haldia as an alternative to Kolkata where very large ships cannot enter because of the growing shallowness of the river bed. Haldia is also becoming one of the major industrial complexes in the State with a fast developing petro-chemical centre and various other downstream industries. As per District Statistical Handbook, 2010-11, Purba Medinipur has 111 registered factories employing 11,801 persons. In case of registered Small Scale industries Purba Medinipur has 2,829 units employing 20,883 persons as in the year 2011.

Trade and Commerce: The principal trade is rice, which is exported mainly to Kolkata. The other exports are sugar and molasses, jute, linseed, gram, pulses, charcoal, brass and bell metal ware, timber, hides, mats, silk and cotton cloths and netting, tusser silk, poultry, betel-leaf, flower and vegetables. The chief imports are cotton goods, coal and coke, kerosene oil, gunny, salt, tobacco, potatoes, enamelled ware, nails etc. The principal trading marts are Medinipur, Ghatal, Tamruk, Kukrahati, Panskura, Chandrakona, Balighai, Kesiari, Garhbeta and Nawada.

The commerce of the district is chiefly carried on by means of permanent markets such as those mentioned, but a considerable trade also takes place at fairs and religious gatherings.

2.1.3 Connectivity

The NH 6, NH 41, NH 116B and SH 4 is the major arterial roads of the district at present. Haldia is well connected with Kolkata and other parts of West Bengal by roads and railways. NH-41 connects Haldia with NH-6, which it is linked with Kolkata Metropolitan Area in the east and Kharagpur, Medinipur, Jhargram, and important growth Centres in Jharkhand in the west; whereas SH-4 connects Haldia with Mahishadal, Tamluk and finally meets NH-41 near Mecheda. A part of the SH-4 branches off from Nandakumar which connects Haldia with Digha and all other coastal settlements in Purba Medinipur. This is also the only road link to Nandigram area which is now part of the extended Haldia Planning Area. Both NH41 and SH4 pass through the study area. Ref map 2.1 in Volume II.

A large volume of passenger movement takes place via ferry transit services in Haldia. The catchment area which is being catered by the ferry transit movement include Howrah, Kolkata, Southern parts of Kolkata Metropolitan Area, South 24-Parganas, Nandigram and other parts in Purba Medinipur.

Haldia is connected by a single line rail connection via Panskura. However, double lining of this rail link has already been completed (Panskura-Tamluk stretch). The remaining stretch will be completed soon. This link is extensively used for freight movement to the port and other industries in Haldia. The Railway stations in PEHP area are Nandakumar Railway Station, Keshabpur Railway Station. The Railway Stations near PEHP area are Tamluk Station, Panskura Station, Basulia-Sutahata Station, Durgachak Town Station, Bandar Station, Barda Station and Haldia Railway Station.

2.1.4 Tourism spots near Part Extended Haldia Planning Area (PEHP)

Tourism activities are revenue earning sources which have multiplier effect on the economy. Tourism development conserves the environs of the spot and boosts the economy. PEHP area boundary does not have any significant tourist places, but the spots nearby the PEHP area will have some implication in terms of tourist flows, facility users etc. the figure 2-2 highlights few tourism spots in the district with its generic function like heritage, business, beach etc.

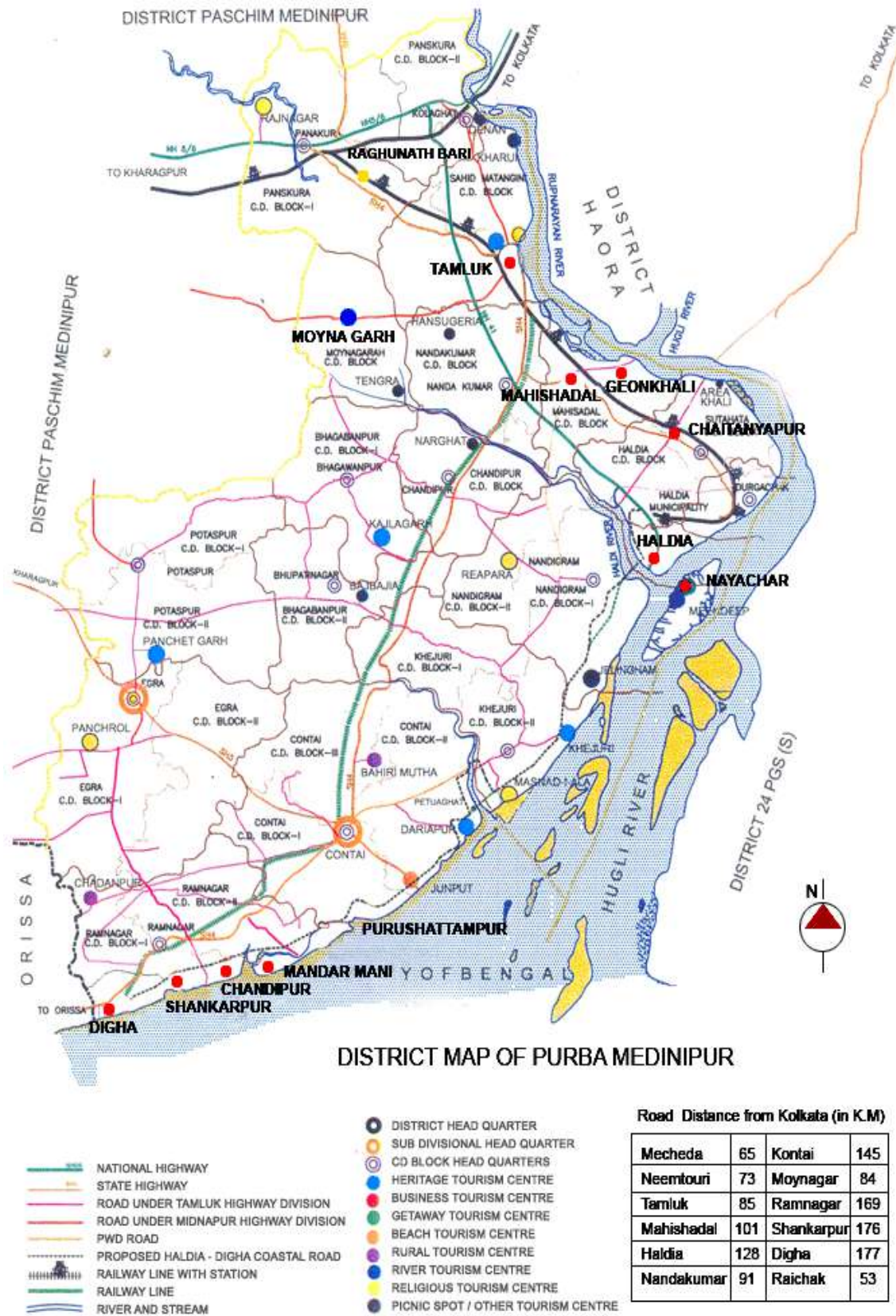


Figure 2-2: District map with tourism centres near PEHP area

2.2 Part Extended Haldia Planning Area

The rapid urbanization witnessed round the globe in general and in third world cities in particular is unprecedented in the human history. Haldia is no exception to this phase of development. For the last four decades it has experienced rapid urbanization and has grown from slumbering fishing village to an industrial city. The rapid industrialization during the last two decades with neo-urbanisation phenomenon has increased the demand for land to a large extent.

Haldia Development Authority with its limited resource is trying its utmost efforts to cope up with the development requirements, by providing land and other physical and social infrastructure facilities. Instead of a piecemeal approach an integrated, comprehensive and sustainable

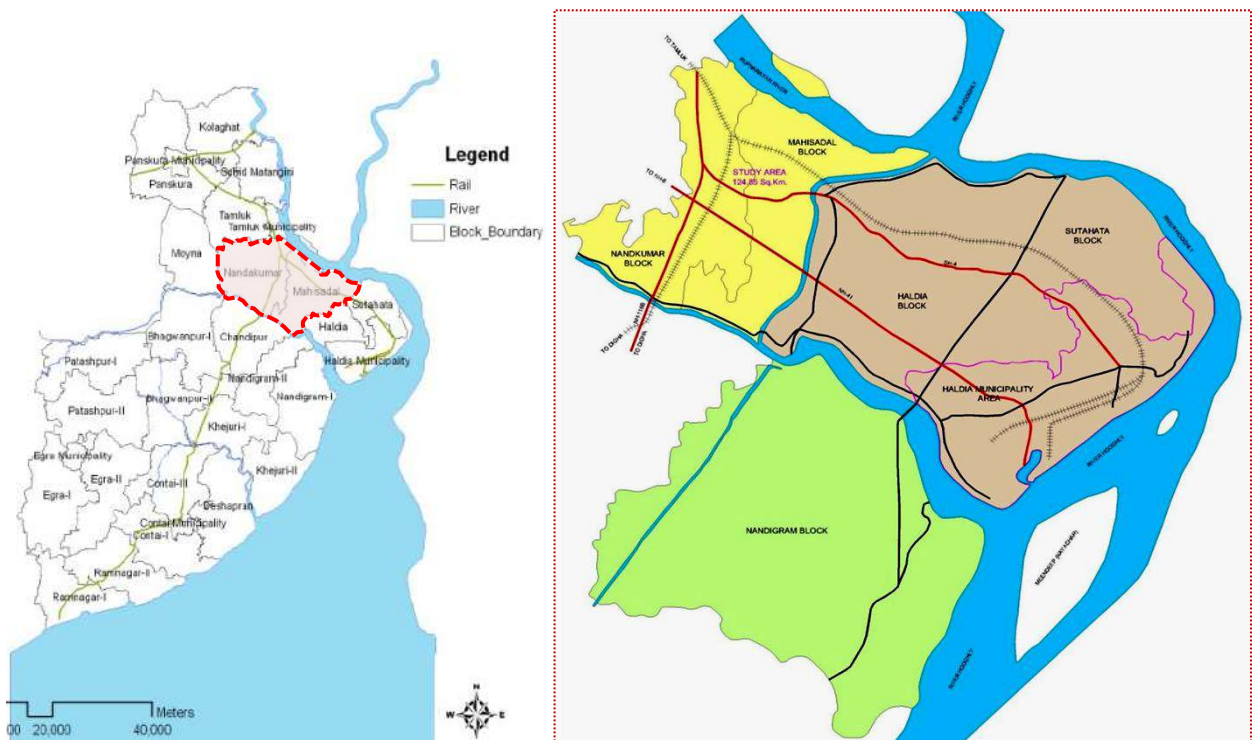


Figure 2-3 : Location of Study area in District

development approach to planning has been envisaged. In order to cater to the pressure of increasing demand for land resource HDA has earmarked 434.34 Sq Km area in addition to the existing Old Haldia Planning Area of 326.85 Sq Km.

Out of this total 434.34 sq Km area, the preparation of LU&DCP is for 124.85 sq Km area¹ comprising partly of Mahishadal block (36 Mouzas) and partly Nandakumar block (41 Mouzas) **[referred as Part Extended Haldia Planning Area (PEHP area) from here onwards].**

¹ Excluding 3 diluviated Mouzas under Mahishadal Block and 1 diluviated Mouza under Nandakumar Block

Table 2-2: Details of the Mouza included in PEHP area, 2026.

Block Mahishadal				
G.P. No.	Name of G.P.	Name of Mouzas	J.L. No.	Remarks
1	ITAMOGRA-I	TAJPUR	124	6 MOUZAS
		TERAPARA JALPAI	127	
		ITANAGAR	128	
		DAKSHIN KASIMNAGAR	129	
		RAJARAMPUR	130	
		UTTAR KASIMNAGAR	131	
2	KISMAT NAIKUNDI	LAKSHYA	103	
		TERAPEKHIA	113	
		GOPALPUR	114	
		MACHLANDAPUR	115	
		KISMAT NAIKUNDI	116	
		MALUBASAN	123	
		BAGDA	138	
		SARBERIA	139	
		BASUDEVPUR	143	
		GAGHRA	140	
		SUNDARA	141	
3	GARH	KANCHANPUR	137	136,112,144 & 145 ALREADY INCLUDED
	KAMALPUR			
4	SATISH SAMANTA	BAMANPUR	96	
		KHALSA BAMANPUR	97	
		GHASIPUR	98	
		GOPALPUR	104	
		BASULIA	105	
		KAMALPUR	106	
5	AMRITBERIA	BARA AMRITBERIA	55	J.L. NO. 94 & 175 ON RIVER OR DILUVIATED LAND
		DANIPUR	56	
		MAGURI	57	
		KESHABPUR	92	
		AMRITBERA	93	
		BHOLSARA	95	
		MAYACHAR	176	
6	NATSAL-II	BANKA	108	J.L. NO. 107 ON RIVER / DILUVIATED
		GAZIPUR	109	

Block Nandakumar				
G.P. No.	Name of G.P.	Name of Mouzas	J.L. No.	Remarks
7	BABARTARHAT PASCHIM	PADUMKHANA	34	5 MOUZAS
		PIYADA	35	
		HARIHARPUR	43	
		NARADARI	44	
		PARAMANANDAPUR	60	
8	BABARTARHAT PURBA	GURIA	45	ALL 14 MOUZAS INCLUDED IN THE PROPOSAL
		NARAYANPUR	46	
		BETALBASAN	47	
		CHAR BETALBASAN	48	
		TOTABERIA	49	
		GHATUAL	50	
		TERAGERIA	51	
		TIKRAMPUR	52	
		ICHHAPUR	53	
		MIRPUR	54	
		KANCHANPUR	58	
		DAKSHIN SRIKRISHNAPUR	59	
		KOLSAR	88	
		KANDALDA	89	
9	BASUDEVPUR	SRIDHARPUR	82	3 MOUZAS
		PARAMHANSAPUR	84	
		BASUDEVPUR	85	
10	KUMARARA	KHEJURBERIA	86	FULL G.P. WITH 12 MOUZAS
		JAMBURBASAN	87	
		MANDARGECHIA	90	
		ROUTOURI	91	
		JASNAN	99	
		DHITIBASAN	100	
		BAGMARI	101	
		NAMAL	102	
		NAIKUNDI	117	
		KUMARARA	118	
		MAHAMMALPUR	119	
11	KALYANPUR	SANDALPUR	121	FULL G.P. WITH 4 MOUZAS
		MADHAVPUR	122	
		KALYANPUR	125	

		KARAK	126	
12	SITALPUR	JALPAI	70	4 MOUZAS INCLUDED
		SITALPUR	71	
		BHABANIPUR	73	

Source: Haldia Development Authority, 2013

The map showing the Mouza's included in the PHEP area is given in Volume II as Map no. 2.2. The total area under HDA consists of the entire subdivisions of Haldia and Tamluk. The Details are as follows:

Table 2-3: Details HDA Planning Area with notification no. and date; area and no. of mouzas included

NAME OF THE BLOCK UNDER HDA PLANNING AREA	NOTIFICATION NO. AND DATE	TOTAL AREA (IN SQ. K.M.)	NO. OF MOUZAS
1) HALDIA MUNICIPALITY AREA	1874-T&CP/1R-6/80 DATED 17-03-1980	104.62	106
2) SUTAHATA		76.45	81
3) HALDIA		65.57	23
4) MAHISHADAL(PART)		71.01	40+(PART OF 2 MOUZAS)
5)HALDIA MUNICIPALITY (MOUZAS UNDER RIVER)		9.2	8
1) MAHISHADAL(PART)	354-T&CP/C-2/2L- 7/2001(I) DATED 16-02- 2004	55.91	34+(PART OF 2 MOUZAS)
2) NANDIGRAM-I		169.63	99
3) NANDIGRAM-II		105.25	41
4) NANDAKUMAR (PART)		103.62	41
5) SUTAHATA		-	01
1) NANDAKUMAR (PART)	288-T&CP/C-2/2L- 7/2001 DATED 13-02- 2013	93.19	59
2) TAMLUK		112.93	101
3) SAHID MATANGINI		94.74	86
4) PANSKURA		242.84	229
5) KOLAGHAT		153.43	114
6) MOYNA		147.1	85
7) CHANDIPUR		338.75	114
8) TAMLUK MUNICIPALITY		20.79	17
9) PANSKURA MUNICIPALITY		17.04	19

TOTAL =	1982.07	1300
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Source: Haldia Development Authority, 2013

*The part of extended Haldia Planning Area is falling under Notification No. **354-T&CP/C-2/2L-7/2001(I)** dated **16-02-2004**

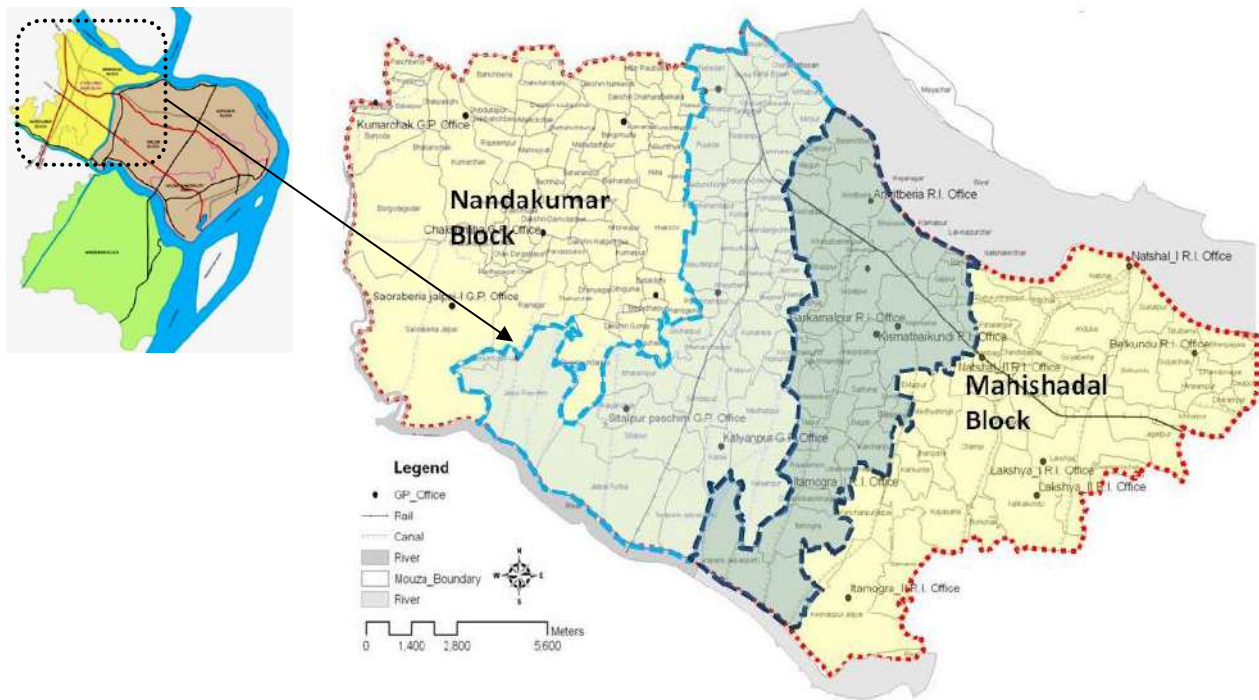


Figure 2-4 : Location of Part Extended Haldia Planning Area in Mahishadal and Nandakumar Block

2.3 Location

Haldia is a city and a municipality in Purba Medinipur district of West Bengal. It is a major River port and industrial belt located approximately 125 kilometres southwest of Kolkata near the mouth of the Hooghly River. The PEHP area comprising partly of Mahishadal block (36 Mouzas) and partly Nandakumar block (41 Mouzas) is located to the North of Old Haldia Planning Area approximately 20 km from Haldia city. The villages included within the PEHP area are listed in Annexure 6 of Volume III. PEHP area is bounded by Tamluk block in the north, Moyna in the West, Old Haldia planning area in south-east, Chandipur and Nandigram block in the south-west and Rupnarayan River in the north and Haldi River in the south. Major urban Centres around the PEHP area are Tamluk, Kolkata, Kharagpur, Contai, Digha, Panskura and Jhargram. Ref Map 2.3 in volume II.

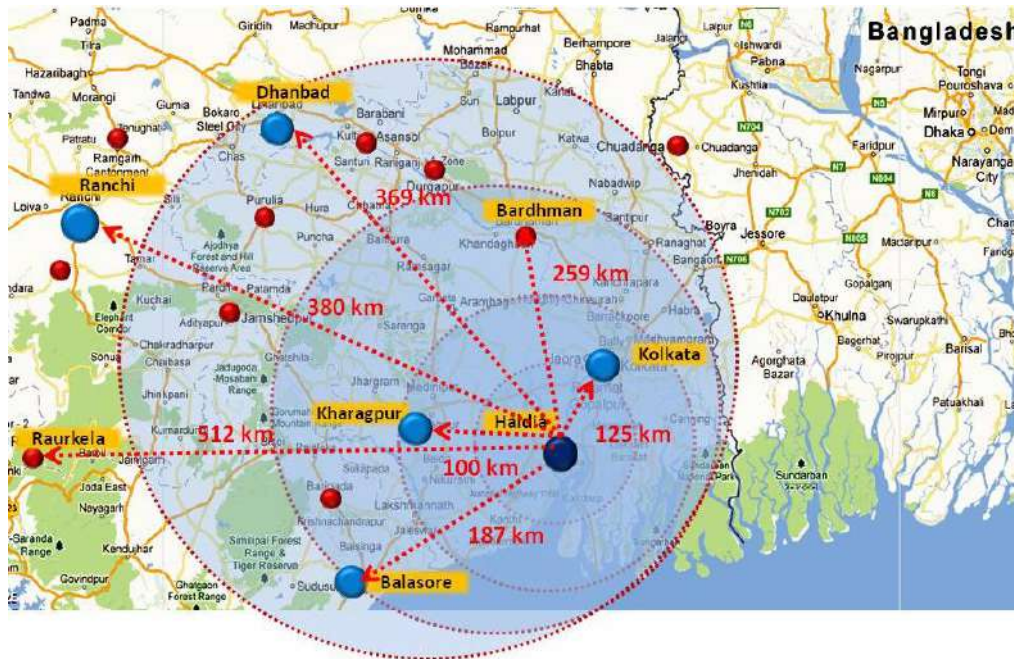


Figure 2-5 : Regional distances from major urban centres

2.4 Demography

According to Census of India 1991-2011, the PEHP area has seen population increase from 1.51 Lacs to 2.01 Lacs during 1991-2011. Our PEHP area constitutes of 0.2% of State total population and 3.9% of District Population in 2011. There is a gentle increase in growth rate from 14.15% in 1991-2001 to 16.21 % in 2001-2011. Ref map 2.4 in volume II.

Table 2-4: Population (1991-2011), PEHP Area

YEAR	NANDAKUMAR			MAHISHADAL			PEHP AREA		
	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL	MALE	FEMALE	TOTAL
1991	45104	42636	87740	31867	30213	62080	76971	72849	149820
2001	52543	49619	102162	36470	34794	71264	89013	84413	173426
2011	61580	58019	119599	40398	41550	81948	101978	99569	201547

Source: Census of India 1991, 2001, 2011(Provisional figures)

The growth rate of PEHP area is more than the District Average of 15.32 % and State Average of 13.93 %. Refer to the map for spatial distribution of population growth across Gram Panchayat (GP). Satish Samanta, Kismat Naikundi and Kalyanpur has highest GP growth rate. Ref map 2.5 in Volume II.

The PEHP area has population density of 1228 p/ sq.km in 1991 and 1402 p / sq.km in 2001 and 1599 p / sq.km in 2011. The PEHP area has population density more than state average (1029 p/ sq.km) and district average (1076 p / sq.km). Ref map 2.6 in Volume II.

2.4.1 Sex Ratio

There is a dismal picture of sex ratio in the study area which is depicted by declining sex ratio from 974 in 1991 to 948 in 2001 and stands even lower in 2011 at 940. To compare both the blocks,

Mahishadal has seen a sharp surge in the sex ratio figures from 954 in 2001 to 906 in 2011. There is a decline of 2.11% decadal during 2001-2011. The study area is below the benchmark averages of state (933) and District (936). Overall, Purba Medinipur ranks eight among 19 Districts in the state of West Bengal. The slump of such pattern in sex ration can be plausibly ascribed to migration trends. Ref Map 2.7 in volume II.

Table 2-5: Sex ratio, 1991-2011, PEHP Area

BLOCK	1991	2001	2011
Nandakumar	945	944	1748
Mahishadal	948	954	906
PEHP Area	946	948	928

Source: Census of India 1991, 2001, 2011 (Provisional figures)

2.4.2 Literacy Rate

Literacy levels are showing progressive development in education sector. There has been a consistent increase in literacy rate from 59% in 1991 to 77% in 2011. Despite such a rise, it is just close to state average of 77.08% and below the district average of 87.66%. Purba Medinipur again ranks eight in literacy levels among all the districts. See figure below. Ref Map 2.8 in volume II.

Table 2-6: Literacy level, 1991-2011, PEHP Area

YEAR	NANDAKUMAR			MAHISHADAL			PEHP AREA		
	MALE	FEMALE	RATE	MALE	FEMALE	RATE	MALE	FEMALE	RATE
1991	30744	20771	58.71	22365	15763	61.42	53109	36534	59.83
2001	39248	29939	67.72	28006	21845	69.95	67254	51784	68.64
2011	50425	42188	77.44	32860	27510	77.17	83285	69698	77.33

Source: Census of India 1991, 2001, 2011 (Provisional figures)

2.5 WFPR (Work Force participation Rate)

Work force participation rate has decreased from 40% in 1991 to 36.9% in 2001. There is a decrease at the rate of 8.25% during the decade. The slump in economy can be attributed to migration. See Map 2.9 in volume II.

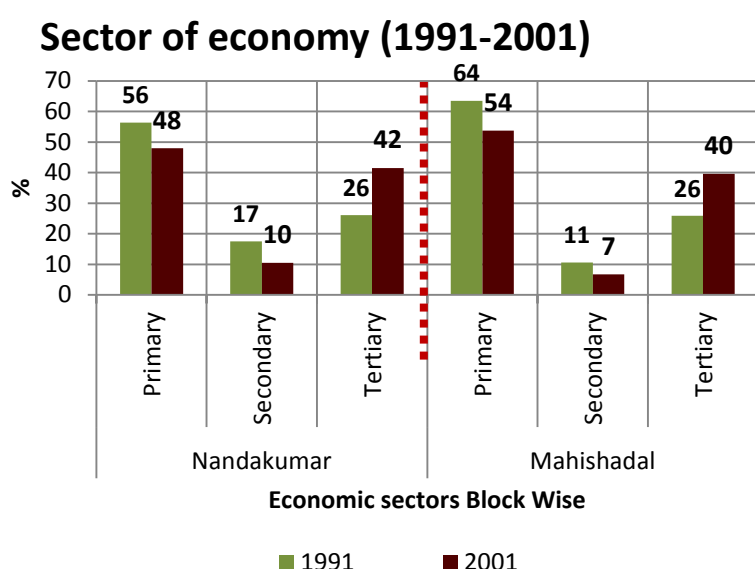


Figure 2-6 Block-wise sectors of Economy, 1991-2001, PEHP Area

2.5.1 Sectors of Economy

The study area has shown a shift in economic sectors of contribution. There has been transformation from primary to tertiary sector. The tertiary sector increased from 26% to 40% in Mahishadal Block from 1991-2001, with decline in primary sector from 64% to 54%. Secondary sectors are also

showing decline of 4-7% during the decade. This apparent trend shows underutilization of primary resources like agriculture, fisheries, livestock etc., also the economic focus of development in this region was on Haldia Port. Ref Map 2.10 in volume II.

2.5.2 Worker Characteristics

Main-Marginal worker distribution also supports the fact that there is beginning of decline in the economy. The main workers have slipped from 29% to 28% during 1991-2001. This gap is compensated by increase in marginal workers, which indicates the increasing scenario of unemployment in the study area. Ref Map 2.11 in Volume II. In the variation across the block, Nandakumar Block has seen major decline in main workers from 83% to 61%.

2.5.3 Issues in Demography

Based on the above analysis the main issues in demography have been identified. There is an increasing density along transport corridors- NH and SH, which indicates imbalanced population growth and weak connectivity throughout the area. People working in Haldia prefer to stay in PEHP area resulting in decline in the sex ratio. Due to under utilization of local resources, non-promotion of agro-products and absence of market spaces for rural products there is a decline in the economy activities ensuing increase in marginal workers, decline in WFPR, shift of economy to tertiary sector.



3.4.1 Comparative analysis of population and growth rates of surrounding urban nodes

To understand the growth patterns of surrounding urban nodes in the District, decadal growth rates of 2001-2011 are calculated. The growth rates are listed below:

Table 2-7 Growth Rate of surrounding urban areas, 2001-2011

Municipality	Population (2011)	Decadal Growth rate (%) (2001-2011)
Contai	92,212	18.96
Haldia	2,00,331	17.38
Tamluk	65,312	42.51
Erga	30,152	19.75
Study Area	2,01,547	16.21

Source: Census of India, 2001-2011.

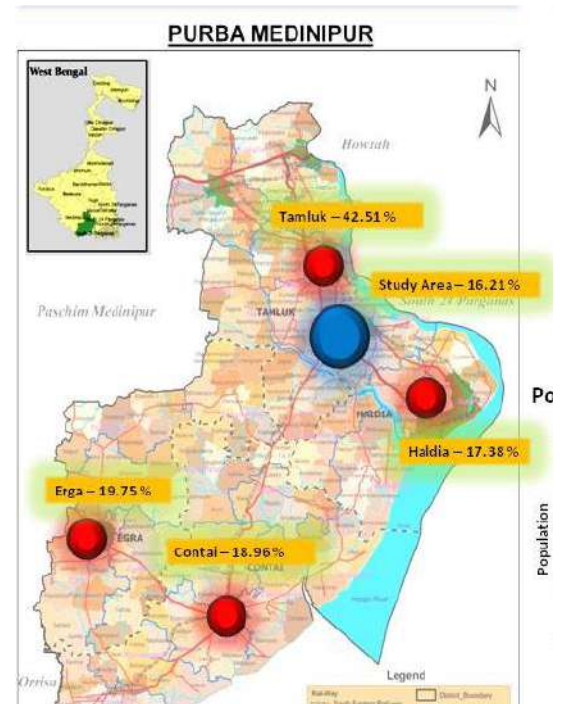


Figure 2-7: Decadal growth rate of Municipalities in Purba Medinipur, 2001-2011.

Refer to the figure 2-7 for location of municipalities in the District. The average growth rate is 24.65% of all urban nodes. PEHP area is having proximity to Tamluk, District Headquarter, which is growing at more pace than other nodes. The implication of high growth in Tamluk will be more in PEHP area, hence for future projections; growth rate of 25% decadal can be assumed which ascribes both nearby pressures of burgeoning Tamluk municipality and close to average growth of urban areas in the District.

2.6 Population Projections – 2026

Population projections are based on assumptions of growth rates adopted for the future scenario. Two different methods are used for projecting the future population which stands the base for calculating future infrastructure load, facilities etc. the first method is weighted average of arithmetic, geometric and exponential growth, also known as trend based analysis. Second method is assumption based comparative variable growth rate analysis, which takes into account both the effect of surrounding growth rates of urban areas and assumes a variable growth in phase wise projections. Both the methods are shown graphically below, for variable growth method 25% decadal is assumed for initial 10 years and 20% during last 5 years of perspective year.

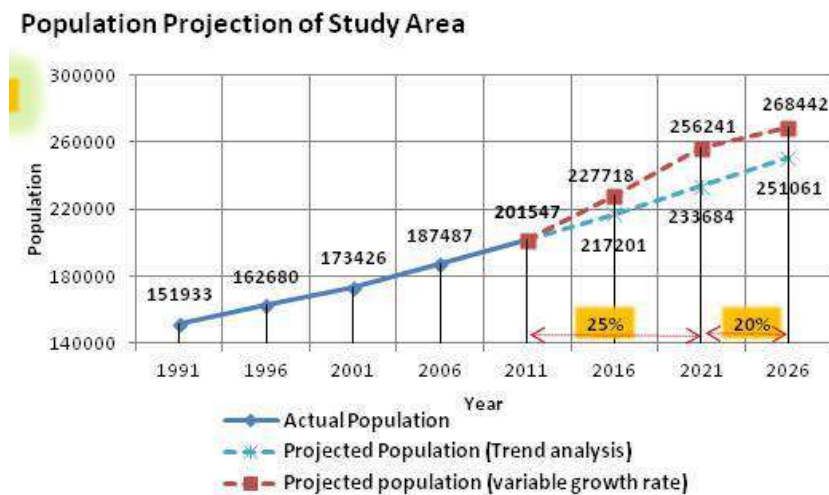


Figure 2-8 Population projections-2026

Table 2-8 Population Projections, 2026, PEHP Area

Years	Actual Population	Projected Population (Trend analysis)	Projected population (variable growth rate)
1991	151933		
1996	162680		
2001	173426		
2006	187487		
2011	201547	201547	201547
2016*		217201	227718
2021*		233684	256241
2026*		251061	268442
*Projected Population			

Variable growth methods model depicts a realistic scenario, hence, the projected population of the study area is enumerated as 2, 27,718 in 2016; 2, 56,241 in 2021 and 2, 68,442 in 2026.

Refer to Annexure 1 of Volume III for demographical data of PHEP area.

GIS overlay Analysis

The Demographic Characteristic data like Literacy Rate, Sex Ratio, Population Structure, Growth Rate and Density are linked to generate 'Overall Demographic suitability GIS Map'. The Gram Panchayat (GP) wise scoring is done to extract the prosperity/richness of the study area. The scoring pattern is dependent on the prosperity and potential of the each and every parameter of the Demographic feature. The Overall Demographic suitability GIS Map depicts that the GPs Babartarhat Paschim, Satish Samanta, Kalyanpur and Itamogra-I have the highest scoring, which clearly indicates that these GPs are most prosperous as far as Demographic character has concerned. Ref Map 2.12 in volume II.

2.7 Economic Profile

2.7.1 Agriculture

64% of the total study area is under cultivation. Paddy is the major crop in this region. The production in Mahishadal part of the study area is higher as compared to Nandakumar part. The total production in the study area in 2011 was 1897.45 MT. Kismat Naikundi is the highest producing GP i.e 390 MT and Kalyanpur and Ghar Kamalpur GPs are amongst the least producing GP i.e. 37 MT and 29 MT respectively. Ref Map 2.13 in volume II for GP wise production.

Table 2-9: Agricultural Production (MT), 2012, PEHP Area

Nandakumar	
GP name	Production (MT)
Babartarhat Paschim	172.65
Babartarhat Purba	206.24
Basudevpur	62.19
Kumarara	164.76
Kalyanpur	36.93
Sitalpur	171.91
Mahishadal	
Itamogra I	196.65
Amritberia	225
Natshal II	58.8
Satish Samanta	182.6
Kismat naikundi	390.2
Garh Kamalpur	29.5
Total (PEHP Area)	1897.45

Source: Office of Asst. Dir, Block Office, Mahishadal and Nandakumar, 2012.

In Mahishadal part of the study area approximately 4461 Ha of area is under mono cropping and 2975 Ha is under double cropping where as in Nandakumar part 3456 ha is under mono cropping

and 2357 Ha is under double cropping. Out of the total area under cultivation 87% is under paddy cultivation. Ref map 2.14 in volume II for GP wise area under mono & double cropping.

Table 2-10: Area under Mono crops in PEHP area - 2011.

Mono Cropped Area (ha)	Crops	Nandakumar	Mahishadal
	Aman Paddy		2890
Kharif vegts		135	180.5
Betel vine		200	166
Other Crops		231	-
Total		3456	4461.7

Table 2-11: Area under Double crops in PEHP area – 2011.

Double Cropped Area (ha)	Crops	Nandakumar	Mahishadal
	Boro Paddy		2085
Rabi Vegts		149	418
Rabi Pulses		1	-
Oil seeds		8	-
Potato		47	-
Others		67	-
Total		2357	2975.6

Source: Office of Asst. Dir, Block Office, Mahishadal and Nandakumar, 2012.

Refer Annexure 2 of volume III for tabulation of Agriculture data.

2.7.1.1 Issues

The prosperity of agricultural rich area depends upon multitude of factors like production values, timely adoption of innovative techniques backed with agriculture research units and markets for competitive prices. In PEHP Area, 87% of crops produced is paddy, but it has a low yield value of 0.06 tonnes/ hectare, comparing with one of the most prosperous states of India, Punjab, which has a yield value of 3.8 tonnes/ hectare and global average is around 4.3 tonnes/ hectare. This indicates lack of new scientific and innovative procedures of farming. Also, the PEHP area despite having an abundance of land under cultivation lacks agriculture research units to support and accentuate its crop production.

2.7.2 Industries

There are in all 953 Industrial and Handicraft units within the PEHP area in 2012. Babartarhat Purba and Paschim GPs in Nandakumar part of the study area are the most industrially rich GPs. The PEHP area has a worker density of 1064 workers/ Sq Km and Sitalpur and Basudevpur GPs have the highest worker density. Ref Map 2.15 for industry location and map 2.16 for worker density in various GPs in volume II. (Sources: Village Resource Mapping, Office of Industries, Block Level, 2011).

Following are the major type of industries present in the area.

- Agro Based: Paddy Husking, Wheat Grinding
- Food Based: Sweat Meat, Pickles & jam-Jelly, Packaged drinking water, Drinks from Betelvine, Puffed rice, Oil mill, Spice Grinding, Muri mill, Chira mill

- Forest Based: Bidi Furniture, Saw Mill
- Engg Based: Blacksmith, Tally Bhata, Brick field, Gate & Grill
- Poly & Chem: Ice Plant, Flexo Printing, Plastic Moulded goods, Shopping bags Mfg
- Elec & Electronics Based: Electronic goods
- Textile based: Handloom, Readymade Garments
- Fibre Based: Broom, Broom & coir thread
- Service Based: Cycle and two-wheeler repairing, Electric & Electronic goods repair, Tailoring

Mahishadal part of the PEHP area being agricultural active has more number of Forest product units. Engg. Units have maximum employment ascribing to its labour extensive nature. Zori & Kantha Stitch is chief handicraft product of the area. Textile, food and service industries are potential industries whereas Zori & Kantha Stitch, Jute and Mat are promising handicrafts industries in the area. Ref map 2.17 for GP wise existing and potential industrial and handicraft units in volume II.

Nandakumar part of the PEHP area has more service sector units and BDG employs maximum workers. Zori & Kanta Stitch, cane and bamboo are the main handicraft product in the area. Forest, service, Food and Agro products are the potential industries while Zori & kanta Stitch is a potential handicraft product for future. The graph below shows the type, mix and people working in different industries. Ref map 2.18 for GP wise existing and potential industrial and handicraft units in volume II. Tabulation of Industries are given in annexure 3 of volume III.

2.7.2.1 Issues

The analysis of the economic sector reveals that the numbers of agro based industries are less despite being an agriculture vibrant area. There is a shortage of adequate area for storage, processing and marketing spaces.

GIS overlay Analysis

The economic pattern of the study area has been generated through the 'Overall Economic suitability GIS Map'. Every Gram Panchayat (GP) has its own typical characteristic as far as Economic parameter is concerned. Various Economic parameters like Mono cropped area, Double cropped area, Worker Density, Agricultural Production and Cultivated Land are taken into the consideration for preparing an overall GIS Map. The GP wise scoring pattern of the GIS map is directly proportional to the value of the various Economic parameters. The Overall Economic suitability GIS Map indicates that Sitalpur and Garh Kamalpur GPs are the most economically prosperous. Ref map 2.19 in volume II.

2.8 Housing

2.8.1 Housing Need

The Census of India 1991 – 2011 shows that the housing demand in PEHP area has increased by 36% from 1991 to 2011. In 1991 there was a need for about 25,308 additional houses which has increased to 43,811 in 2011. The household size has decreased to 5 persons per house in 2011 as compared to 6 persons in 1991. Most of the houses in the area are in the form of individual plotted

development with little or no initiatives from private developers. Out of the total housing available 97% is occupied which shows effective utilization of the built stock.

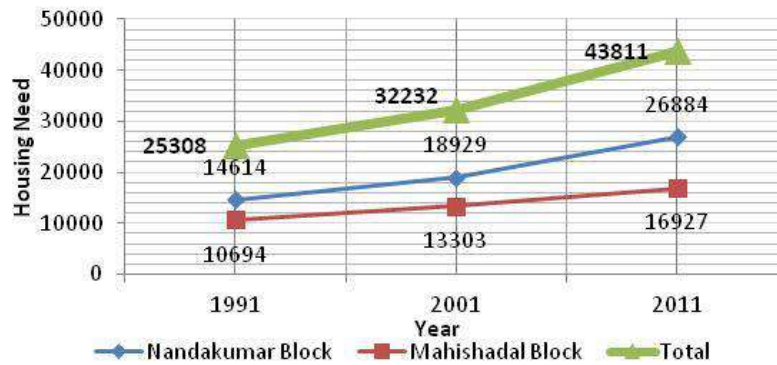


Figure 2-9 Housing Need, 1991-2011, PEHP Area

Source: Census of India 1991, 2001, 2011

2.8.2 Qualitative Assessment of the Housing Stock

As per the census figure the percentage of both dilapidated houses and overcrowding in houses has increased from 2001 to 2011. Moreover the percentage of Pucca houses has also gone up in this period. (This analysis pertains to rural area in the District)

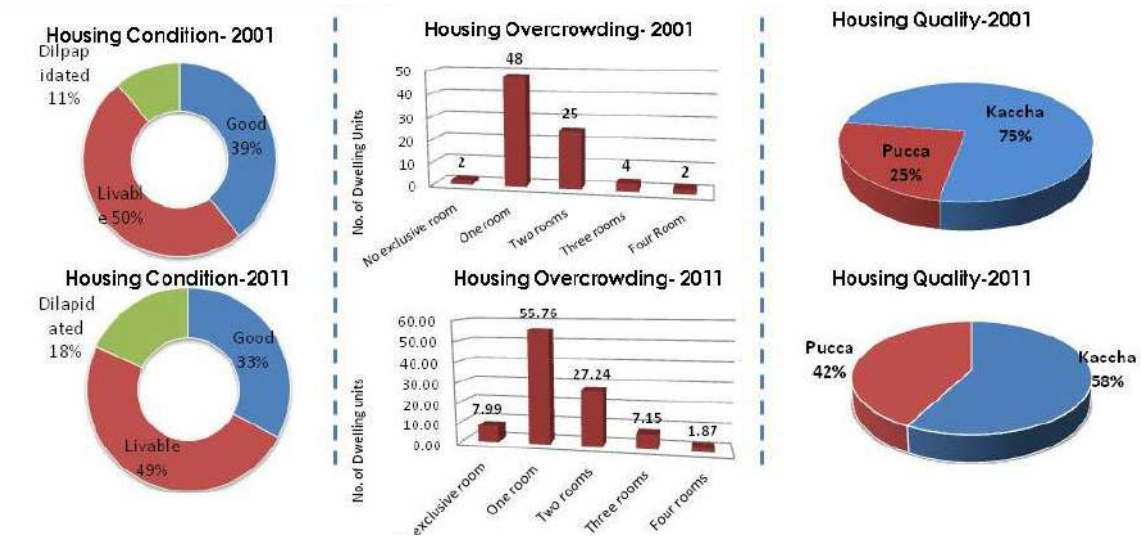


Figure 2-10 Qualitative analysis of housing stock, 2001-2011

Source: Census of India 1991, 2001, 2011

2.8.3 Infrastructure Assessment of the Housing Stock

A preliminary assessment of the availability and accessibility to the existing physical infrastructure facilities is done. (This analysis pertains to rural area in the District). The following conclusions can be drawn from the assessment:

- Although the availability of electricity has increased since 2001 there still persists a huge gap.

- Accessibility to water has increased over the years.
- Sanitation condition is very poor.
- Proper drainage network is missing.

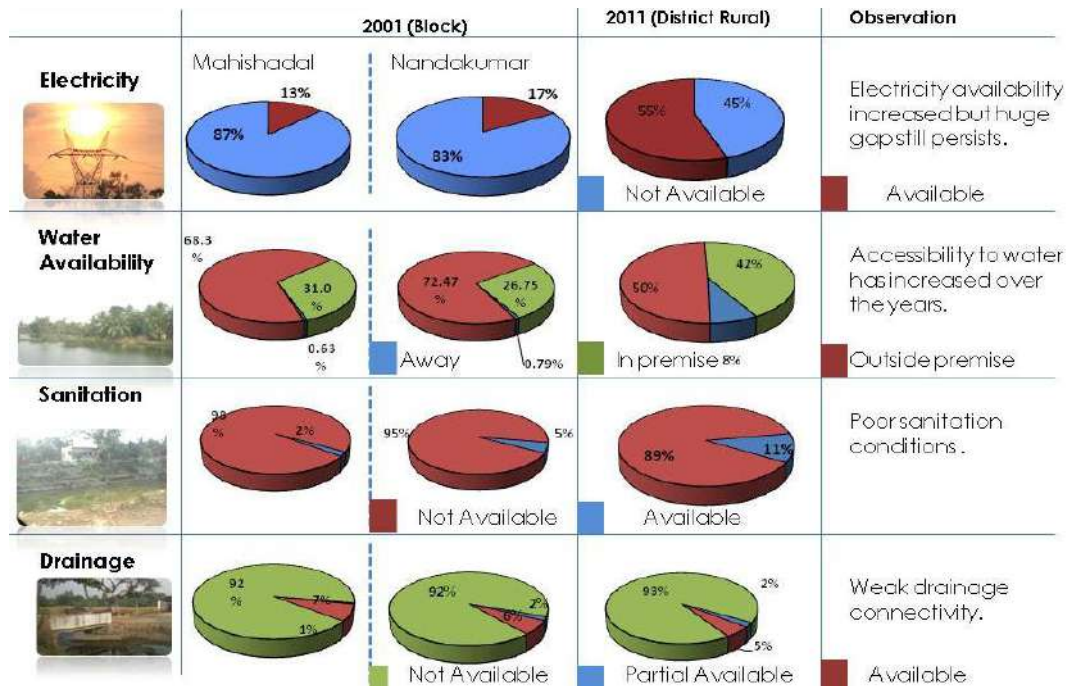


Figure 2-11 Infrastructure assessment of the housing stock, 2001-2011

2.8.4 Housing Need Projection

Based on the above analysis the housing need for 2026 is projected. The projection is done on the basis of the following assumptions.

- 20% dilapidation in 2011 (District Housing Condition).
- Effective Housing Stock reduces to 80%.
- Shortage of 20% will be compensated in 2016, 2021 and 2026.

As per the calculations there will be a need for 52900 DUs till 2026.

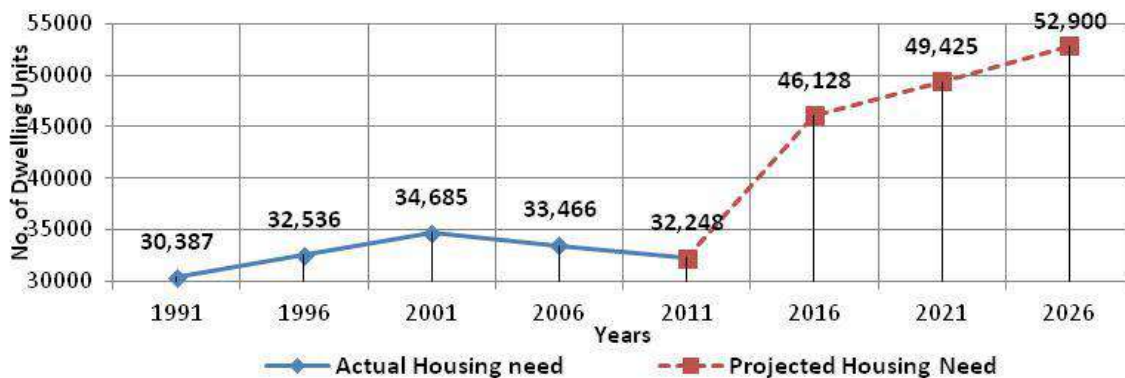


Figure 2-12 Housing Need Projection for PEHP area, 2026

The additional DU's required for the year 2016 is 13,880; for 2021 is 17,177 and for the horizon year is 20,652.

2.9 Land Use

The existing Land Use plan 2012 was prepared based on the available mouza maps and ground verifications. The existing Land Use break shows almost 58% area under agriculture use and 25% under residential. The percentage of land under recreation facilities is too low as per UDPFI standards. There is a high intensity of undeveloped and underdeveloped land and lack of proper connectivity between different village settlements. Ref map 2.20 in volume II.

Table 2-12 Existing Land use Distribution - 2012, PHEP Area

Land Use	Area (sq.km)	Percentage (%)	UDPFI guidelines
Residential	31.07	24.89	40-45
Commercial	0.27	0.22	2-3
Manufacturing	2.56	2.05	8-10
Public semi public	0.55	0.44	10-12
Recreational	0.25	0.20	18-20
Transportation	6.67	5.34	12-14
Agriculture	76.09	60.95	Balance
Water bodies	7.39	5.92	Balance
Total	124.85	100.00	

Source: Primary Survey, 2012

Although the PEHP area falls under rural area category as per 2001 -2011 census the comparison of land use percentages with the UDPFI standards is done, since no such standards area available for rural areas. Major issues include incompatible land uses like brick kiln near Haldi River and huge crunch of facilities.

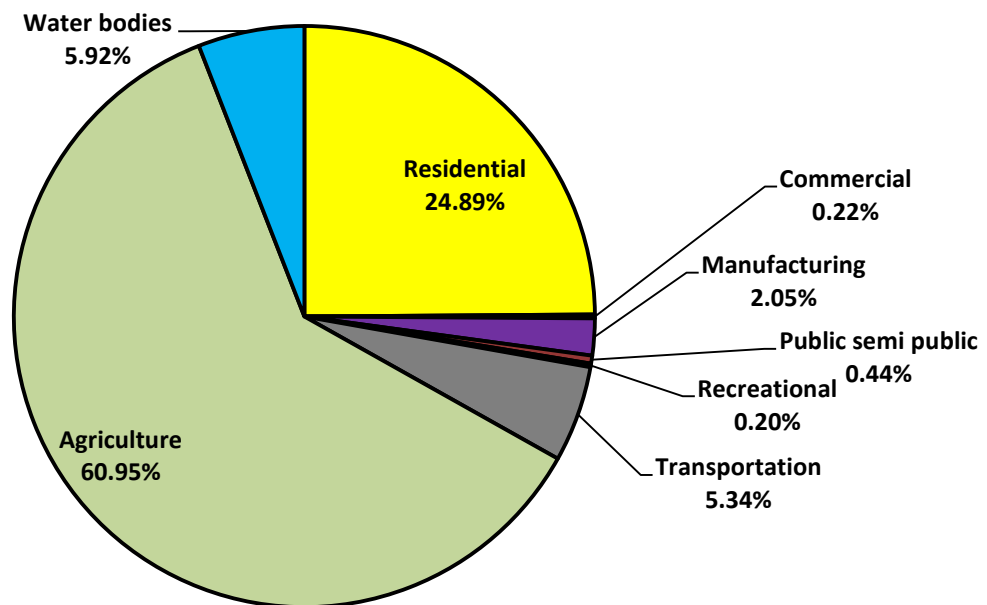


Figure 2-13 Land use Distribution 2012, PEHP Area

2.10 Physical Infrastructure

2.10.1 Water Supply

Water is available from both Surface Water and Ground Water. PEHP Area is bounded on the north and south side from Surface water flowing in the River Rupnarayan (North) and River Haldi (South). Within the PEHP area few settlements which are covered under Accelerated Rural Water Supply Programme have piped water supply. Other areas are having shallow Tube Wells provided by Gram Panchayat or own personal Tube Wells.

16 Mouzas covered under Pipe Water Supply Scheme in the PEHP Area (20 % Coverage through Piped Water Supply Scheme). The Piped Water Supply Scheme is commissioned in Jalpai (C-11), Dakshin Ghumai (C-10), Khejurberia (C-12), Rajarpur (C-49) & Gopalpur (C-47) Ref map 2.21 in volume II. *Source: PHE, Tamluk. Here C is a code used by PHE in their scheme.*

2.10.2 Sewerage and Drainage System

There is no proper sewerage system in place within the PEHP area. The sanitation facilities in individual houses include septic tanks, which are not provided with soak pits in several households. There is no centralized collection system for sewage. In many areas there is open defecation.

The available drainage channels are highly incapable of handling the wastewater and storm water generated in the PEHP area. Even the wastewater outlet in most of the houses is directed towards the main streets, roads and drains. The availability of natural slope of the ground for the drainage facility is fairly low. Localized flooding occurs during and after heavy rainfall due to non-availability of drainage arrangements.



2.10.3 Solid Waste Management

Garbage is seen littered on the road sides, open spaces and is even dumped in open nallas, ponds and natural drains leading to unhygienic living environment in the town besides polluting the water. There is no systematic collection and disposal system for household waste in the PEHP area. In some village households, waste is collected for production of bio gas. This is based on PPP (Public-Private Partnership) between Ramky Environ Engineers Ltd. and HDA with the name of West Bengal Waste Management Ltd. (WBWML) . WBWML is looking after the operation and maintenance of solid waste collected for Old Haldia Planning Area. Generation of solid waste in rural areas ranges between 50 gm/cap /day and 250 gm / cap / day.



2.11 Social Infrastructure

Development of physical infrastructure alone cannot usher overall development at the desired level if the social infrastructure is not simultaneously developed. The Education, Health, recreational facilities and other social amenities have to be developed to ensure proper social infrastructure.

The settlements within the PEHP area are mostly villages with an average population of 2000 to 3000 . The social infrastructure facilities available in these villages are poor in terms of both quality and quantity. These villages are mostly depend on the facilities available within Haldia Municipality for their day to day needs and of higher order.

2.11.1 Education

The education facilities within the PEHP area are in an inadequate state. Although sufficient number of primary schools are available within the area, but there is inadequacy of secondary and higher secondary schools. Amritberia GP in Mahishadal Block and Sitalpur GP in Nandakumar block has the maximum education facility available within the PEHP area while Natshal II GP in Mahishadal and Babartarhat Paschim GP in Nandakumar has the least number of facilities available. There are no colleges within the PEHP area, though few colleges like Raj College, Mahishadal girls College etc. are present in Old Haldia Planning Area catering to PHEP area as well. Ref map 2.21 in volume II for GP wise educational facilities.

Table 2-13: Gram Panchayat-wise existing Schools in Part Mahishadal Block under PEHP area, 2012

Gram Panchayat	Primary	Junior High	High	Higher Secondary
Itamogra I	12	2	2	0
Amritberia	13	1	3	2
Natshal II	2	0	0	0
Satish Samanta	12	0	0	2
Kismat naikundi	12	3	2	0
Garh kamalpur	2	1	0	0
Total	53	7	7	4

Source: Block Education Officer, Mahishadal Block, 2012.

Table 2-14: Gram Panchayat-wise existing Schools in Part Nandakumar Block under PEHP area, 2012

Gram Panchayat	Primary	Junior High	High
Babartarhat Paschim	7	1	1
Babartarhat Purba	16	4	2
Basudevpur	10	1	3
Kumarara	21	3	1
Kalyanpur	13	2	1
Sitalpur	26	4	2
Total	93	15	10

Source: Block Education Officer, Nandakumar Block, 2012.

2.11.2 Health

Like education health facilities are also inadequate. Only sub centre level health facilities are available within the areas except for one rural hospital in Satish Samanta GP of Mahishadal block. In Natshal II GP of Mahishadal block health facilities are totally absent. Ref map 2.21 in volume II for GP wise Health facilities.

Table 2-15: Gram Panchayat-wise existing Health Centres in Part Mahishadal Block under PEHP area, 2012

Gram Panchayat	No. of Sub Centres	Rural Hospital
Itamogra I	2	
Amritberia	3	
Natshal II		
Satish Samanta	2	1
Kismat naikundi	3	
Garh kamalpur	1	

Source: Block Medical Office, Mahishadal, 2012

Table 2-16: Gram Panchayat-wise existing Health Centres in Part Nandakumar Block under PEHP area, 2012

Gram Panchayat	No. of Sub Centres
Babartarhat Paschim	1
Babartarhat Purba	6
Basudevpur	2
Kumarara	4
Kalyanpur	2
Sitalpur	3

Source: Block Medical Office, Nandakumar, 2012

GIS overlay Analysis

The Infrastructure facilities like Water Supply, Education and Health are the prime indicators for the analysis of overall development scenario of the area. The 'Overall Infrastructure suitability GIS Map' has been prepared by linking the GP wise primary data of Water Supply, Education and Health facility. The prosperity of Infrastructural facilities is very prominent in the Sitalpur Gram Panchayat of Nandakumar Block. Ref map 2.22 in Volume II.

Refer annexure 4 of volume III for detailed tabulation of Social Infrastructure facilities.

2.11.3 Issues

The present infrastructure in PEHP area is in an abysmal state, which seems inevitable as infrastructure has not been able to pace up with the population demand. In water supply, there is a rapid depletion of ground water which is plagued with impurities such as salinity. Potable drinking water has very low coverage from piped water schemes. The hygiene of inhabitants is in peril as solid waste and sewerage system is absent. There is profound insufficiency of Health and Education facilities in PEHP area.

2.12 Transportation

Transportation is one of the most important infrastructures that govern the development of any area. Hence one of the main objectives of the LU&DCP will be to provide better connectivity within the PEHP area and with other parts of the district and state. NH-41, NH 116B & SH-4 passes through the PEHP area. 7.29 Km of NH-41



connects the area with Kolaghat in the north and Haldia in the south. 7.58 Km of NH 116B connects Nandakumar circle to Kanthi. 13.53 Km of SH-4 connects PEHP area with Tamluk in the north and Durgachak and Haldia in south. It further meets NH-41 near Mecheda. A part of the SH-4 branches off from Nandakumar which connects Haldia with Digha and all other coastal settlements in Purba Medinipur. Nandakumar Circle is an important junctions which should be considered for improvement in the development proposals. Ref Map 2.23 in volume II.



There are no other major roads passing through the PEHP area. The connectivity within the villages is poor only 11.4 Km of pucca village roads within the area. Other roads are mostly kuccha which gets flooded during rainy season making them totally non- motor able.



The railway line passing through the PEHP area connects Tamluk to Durgachak and Tamluk to Digha. Keshabpur and Nandakumar are the only two Railway Stations within the area.

The analysis of existing scenario gives the following conclusions:

- The average road density within the study area in 2012 was 1.16 Km/ 1000 persons or 1.9 Km/ sq Km area. Ref Map 2.23 in volume II.
- The SH provides accessibility to 15 settlements which caters to 21% of the population whereas the NH provides accessibility to 11 settlements i.e to 18% of the total population.
- The Modal split shows 81 % Motor cycle, 9% cars, 6% Heavy goods vehicles remaining 4% other vehicles.
- Highest numbers of passenger trips are between Tamluk and Haldia *Ref Map no. 2.24 in volume II.*
- Total number accident spots within PEHP area are Mahishadal -32 locations and Nandakumar- 20 locations. Ref Map 2.24 for locations in volume II. Refer annexure 5 for tabulation of accidents points in volume III.



2.12.1 Slope Analysis

The slope analyses at various sections within the PEHP area are performed. The analysis revealed some major water logged area in the region and along the main access routes. The location of water logged areas is listed in the Ref map 2.26 – 2.28 in volume II.

2.12.2 Issues

The main issues in transportation are as follows.

- **Road Condition**
 - Variable Road width creating intermittent bottleneck.
 - Kaccha Road sharing high percentage (About 60%).
- **Junction**
 - Number of village roads connecting to SH-4 making vulnerable points.
- **Unsafe Intra traffic movement for local people (Open van)**
- **Weak connectivity**
 - Road accessibility: - only 29 % of population.
- **Missing links**
 - Missing links in the area thereby increasing trip lengths

GIS overlay Analysis

The data related to Transportation facilities like Existing Transportation Scenario, Road Density pattern; Trips & Passengers and Road Accident are compared among each other and an 'Overall Accessibility suitable GIS Map' has been generated. The Kumara Gram Panchayat of Nandakumar Block depicts a very strong aspect of transportation facility inside the PEHP area. Ref map 2.29 in volume II.

2.13 Environment

With all the proposed planning interventions and initiatives the PEHP area is expected to grow rapidly within the next few years and this growth will obviously create pressure on the natural resources. Conservation of natural resources in the settlement is of utmost importance to make it sustainable.

There are certain aspects that will need special consideration and effort in order to protect them from degradation due to growth pressures. These are

- Rivers and its surroundings
- Water Bodies
- Low lying areas
- Agricultural Land

Rivers are the main source of water for drinking, daily usage and irrigation in the PEHP area. Hence it is necessary to have a proper management plan for conservation of these rivers. The areas just adjacent to the rivers i.e. the river banks are equally sensitive, proper development control norms are prescribed for these areas. Similar to rivers, water bodies are also important as many villagers use the water from these water bodies for different activities. In many case these water bodies are the source of mosquitoes breeding and spread of diseases. Cleanliness and good maintenance of these water bodies is necessary for healthy village environment.

There are certain low lying areas in the PEHP area (Ref Map 2.30 in volume II). These areas have been identified and proper development guidelines are specified for such areas in order to avoid flooding and water logging during heavy rains.

Agriculture land is an important aspect whose conservation should be given utmost importance. Since agriculture is the main economy of the area and all the future development will be based on agro-productivity only, it is important that the fertility of the land is maintained and its yield is increased. Care should be taken to ensure that improper agriculture practices, use of excessive fertilizers and development pressures should not render the soil infertile.

The river front has been identified as environmentally sensitive areas, so the introduction of new industries (polluting) and expansion of old industries are needed to be prohibited/restricted. However, the following uses are permissible in this zone – agriculture, horticulture, gardens, pastures, parks, play fields and forestry.

GIS overlay Analysis

Various Environmental aspect like Cultivated Land, River, Flood affected area and Water bodies are taken into the consideration for generating GIS maps for each of the individual Environmental aspect. The GIS maps of each Environmental aspect are then superimposed to obtain an overall environmentally suitable GIS map. The scoring pattern is then decided to extract the environmentally sensitive GP inside the PEHP area. Amritberia Gram Panchayat of Mahishadal block is the most environmentally sensitive out of the other Gram Panchayats. The development proposals for this GP have to be very conscious concerning its delicacy. Ref map 2.31 in volume II.

2.14 Overall Issues within the Study area

The table below compiles the overall issues in all the sectors within the Study Area

Table 2-17: Overall Issues in PEHP area, 2012

Demography	Economy	Housing	Land Use	Transportation	Infrastructure (Physical & Social)
Imbalanced Population growth	Low yield of paddy crop.	Low quality of Housing Stock.	Lack of adequate infrastructure	Poor quality of roads.	Low coverage of water supply schemes.
Additional pressure from Haldia town	Low agro-products despite agriculture rich area.	Inadequate housing infrastructure.	Incompatible land uses: polluting brick kiln near river front.	Weak internal connectivity.	Absence of solid waste disposal and sewerage facility.
Decline in economy: shift from primary to tertiary sector.	Absence of supporting research units for agriculture.			No terminal facilities	Less coverage of education and medical facilities
				Unsafe IPT modes	
			Missing links in study area		

2.15 Old Haldia Planning Area – Socio Economic Survey Report

A 'Socio-Economic Survey Report for Haldia Planning Area, 2013' was prepared by IIT Kharagpur in consultation with Silver Consultancy Services. The purpose of the report was to compute data collected from primary source, from door to door survey, at the identified units in the Haldia Planning Area (HPA). The task was not only to prepare a profile of a socio-economic data, but also to provide a basis for analytical understanding for the area.

The survey was carried out to reveal parameters like demographic features, occupational structure, housing conditions, community facilities, migration patterns, income distribution, rural-urban linkages, consumption level, poverty, employment, travel characteristics and sources of amusement/leisure, environmental conditions, and so on. The report also describes the analysis for different geographical and administrative divisions of HPA. Different classes of population have been examined under the aspects of demographic, occupational, travel character etc. The socio-economic survey was carried out to collect information from the field by interviewing the households residing in the area. A certain percentage of households of every stratum (Municipality/ C.D. Block) were surveyed through interviews. Data collected were then grouped stratum wise so as to get a comparison of situation between Strata. Haldia Planning Area has been divided into four strata namely Haldia Municipal Area, Haldia C.D. Block Area, Sutahata C.D. Block Area and Mahishadal C.D. Block Area.

The data and analysis related to Mahishadal C.D. Block Area are taken into the considerations so as to highlight the basic socio-economic conditions existing in and around the concerned PEHP area i.e. part block of Mahishadal (36 Mouzas) and Nandakumar (41 Mouzas). This study is based on collection of data for households in Mahishadal C.D. Block Area through a sample survey and the sample size was 1242 households.

The study was an attempt to analyze and compare the Socio-Economic profile from the primary survey data with the Census information from secondary sources for the PEHP area. The formulation of the concept and planning actions will depend on the issues pertaining to the Socio-Economic characteristics of both the primary source and secondary source. A comparative analysis among these sources (Primary and Secondary) would enable us to comprehend the existing socio-economic scenario and also the rate of progress in various parts of PEHP area.

2.15.1 Conclusions

Having a predominantly rural character in the region, agriculture and allied industry is a major source of employment. Also, the rural areas follow an agrarian system, the livestock ownership is high. About more than 50% of the household owns some kind of livestock.

Walking and bicycle are the dominant mode of transport to reach workplace, school, market, health facilities etc. The patterns of travel distance to workplace, school, market and bus stop show highest concentration in the range of 1-2 km, whereas for medical facilities it is 2-5 km and for rail station it is 5-10 km. Most of the people do not have any expenditure for travelling as they walk or use bicycle to reach destination.

Tubewell is the major source of potable water for domestic use in particular. The next predominant source is community taps.

On an average, playground is situated nearby house for only 38.93% households, whereas, it is more than 500m. away for 61.07% households. For most of the people, primary school is available in between 1 km to 2 km distance, whereas high school is situated more than 2 km away. Primary health centre and post office are also situated more than 2 km away for most of the households.

The analysis of the 'Socio-Economic Survey Report for Haldia Planning Area, 2013' reveals that the improvement of agricultural allied facilities is important. The development proposals concerning to the agrarian system for its advancement and up gradation will be most feasible for the PEHP area.

Most of the issues and finding from primary survey are similar to PEHP area's analysis of secondary information, as it is an agrarian setting and plagued with rural issues. The primary and secondary both the analysis reveals that there is low income levels with declining economy, moreover facilities are also inadequate which will set the theme for concept development.

3. Vision

3.1 Vision

The prime resource identified in the analysis of the PEHP area was agriculture but the inefficient resource utilization dragged the economy to poor levels. The inadequate infrastructure makes the situation graver which delinks the settlements and people from their mainstream. Hence, it was conceptualized to ascertain the economic up gradation through the local resources available and embed supporting market, distribution and trading infrastructures like rural hats etc. Maintaining the synergy of the Perspective Plan 2025 where Mahishadal non-municipal and rural Haldia Planning Area has been envisaged for utilizing primary resources with reducing dependency on Haldia Region for daily services through providing higher order services in adjoining sub centres. The vision for Mahishadal has been envisaged as “a semi-urban growth centre with agro-service and tourism centre based functional specialization” in the Perspective Plan 2025.

Assessing the PEHP area from all the perspectives, the following vision is conceived:

“To develop the PEHP area as agro-based economic node with enhancing linkage and envisaging planned development having adequacy of access to facilities.”

The vision has two pronged approach to follow, first, developing an agro-based economic Growth Centres which can boost the local economy of the area and Second, strengthening the infrastructure of the area through good linkages, adequacy of facilities and healthy living conditions.

3.1.1 Goals

In order to realize the above vision, two broad goals are outlined:

- a. **To develop Growth Centre for providing economic impetus to the area.** This goal will focus on providing new economic links by creating Growth Centre which utilize the present resources and generate local economy and trade to accentuate the quality of living standard.

The direct implication can be seen in resolving the identified issues like; imbalanced population growth, coping the additional pressure of Haldia, addressing the decline in Economy, untapped full potential of agro-based products.

- b. **Integrated rural planning for meeting the basic requirement of facilities.** This goal aims to uplift the rural backward linked areas, where living is plagued with issues of inadequate infrastructure and weak accessibility.

This goal was formulated to improve low quality of housing stock, Low accessibility and coverage of infrastructure- water supply, education, health; and weak connectivity.

3.2 Development Strategies

3.2.1 Future Growth Distribution

The current population in 2011 is 2.01 lakhs, the future projected population in 2026 is estimated at 2.68 lakhs. The additional population is estimated at 70,000 persons. Out of the 70,000 new additional population, 42% , i.e., approx 29,400 persons will be the growth as infill in the rural insertion; and 58%, i.e., 40,600 persons will be the population supported by two new Growth Centres.

The future growth scenario will also trickle to the economic sectors, where the current distribution stands at primary: 50%; secondary: 10%; and tertiary: 40% in 2001 will be changed as primary: 50%; secondary: 30% and tertiary: 20% in 2026. More increase will be seen in the secondary sector as contributed by the new Growth Centres.

Table 3-1: Proposed Workforce in PEHP area, 2026

Sectors	Percentage of Workers (%)		
	1991	2001	2026 (Proposed)
Primary	60	50	50
Secondary	14	10	30
Tertiary	26	40	20

The total projected population of PEHP area is 2.68 lakhs in 2026. Assuming workforce participation rate of 41% and floating population of 25%, the secondary worker population is calculated at 39,852. The industrial workforce is approx. 35,000. Considering the worker density of 100 workers per hectare, the area required for industries to support Growth Centres is 350 ha.

3.2.2 Economic strategies

Economy of an area is heavily influenced by regional pressure. In PEHP area, the huge magnet of Kolkata, Haldia and Tamluk will shape the future economic development. This is an established fact that the local economy in PEHP area has not paced well in about a decade and its slump has raised a worrisome situation for sustaining economic cycle of livelihood.

The development in PEHP area is capable of absorbing impulses from regional economies of Kolkata, Haldia and Tamluk. Introduction of new economies in terms of regional demand will be attained by Growth Centres, agriculture rich produces can be optimally used for processing. The ancillary industries of Haldia Port can be supported by PEHP area. Organized trade and logistics will make the economy more operational and mobile.

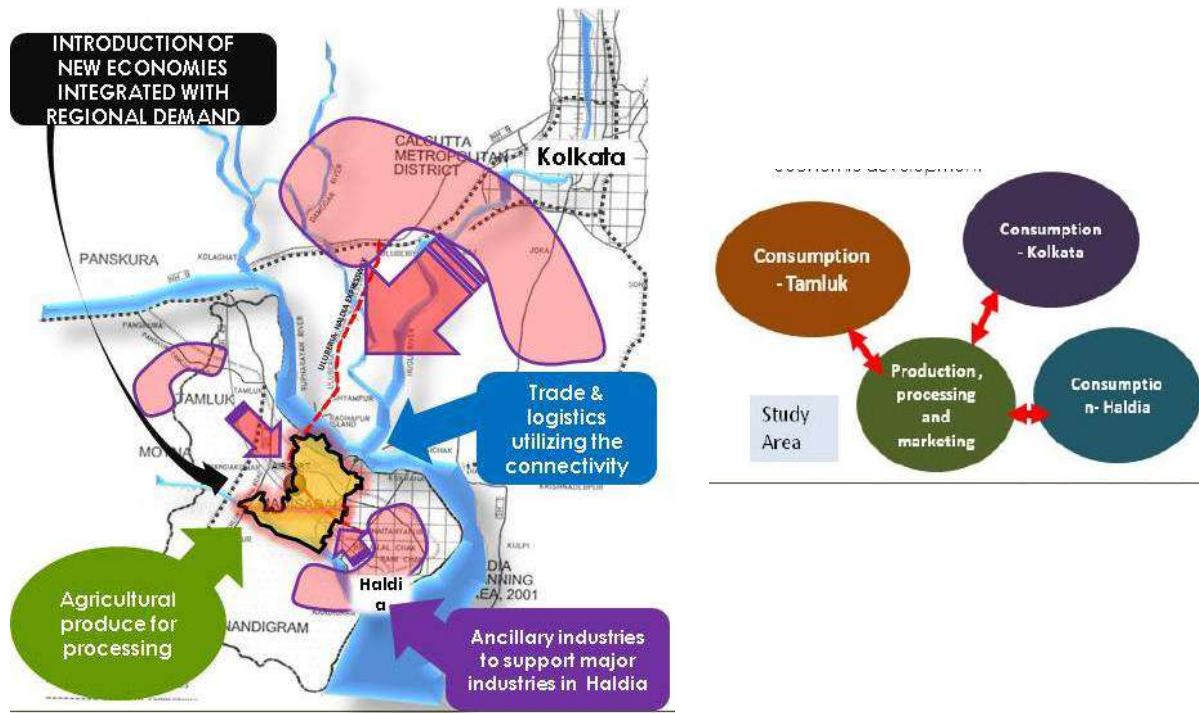


Figure 3-1 Regional Economic Strategies

PEHP area is a hub of production, processing and marketing of agro-based products, while its consumption markets are extending from Haldia, Tamluk to Kolkata. See figure. 3.1.

Availability of raw material with establishing spaces for their processing, storage and marketing in terms of infrastructure like cold storage, rice mills, solvent extractions, rural hat, logistic centre etc. will give the much needed push for economic upliftment.

3.2.3 Transport strategies

The PEHP area has poor accessibility with 60% of settlements not approachable with roads. A denser road network will be planned which will provide connectivity to maximum number of settlements possible and improve the overall accessibility and mobility in the area. The proposed road links will connect the rural market centres (population 5,000-10,000) and rural services centres (population 2,000-5,000). A semi ring road is proposed which connects major rural settlements. A By-pass is conceived to segregate Digha bound traffic from NH-41 via Nandakumar Rotary. Few internal links are provided to improve the internal movement in the area. Considering the regional demand of future, a regional bus terminal is proposed on NH41 near Nandakumar Rotary. Up gradation of SH-4 and embankment road near Haldi River is also envisaged. To improve last mile connectivity of railway stations, road linking to SH-4 and NH 41 are proposed.

3.2.4 Broad Land Use zoning strategies

The future strategy for land use is realized through proposing two Growth Centres and integrated rural settlement planning. The indicative Growth Centre details will be discussed after this section. The four- tier rural hierarchy system of development (discussed in Rural Development chapter) has

been established which will account for planned development. Transport zoning guidelines has evolved through proposing new links and upgrading the existing roads discussed under the transport strategies section. Infrastructure zoning will be dealt in two approaches, one for rural areas and other for Growth Centres. In rural areas, piped water supply scheme will be replicated for water need, whereas, common landfill and STP sites are proposed in old HPA area. For Growth Centres, separate water supply, solid waste management and sewerage system is proposed. Environment zoning is critical in the area, as the whole PEHP area is lying between two rivers, Rupnarayan in North and Haldi in the south. These are envisaged as environment sensitive zones with a green belt along the river stream having minimal guidelines for soft development like parks, recreation river front etc.

3.3 Growth Centres

In order to achieve an improved economic growth and overall development of the PEHP area it is envisaged to develop two major Growth Centres; 1) Agro based Growth Centre, 2) Handicraft and Engineering based Growth Centre. The detailed development strategies for these Growth Centres have been discussed in detail in chapter 4.

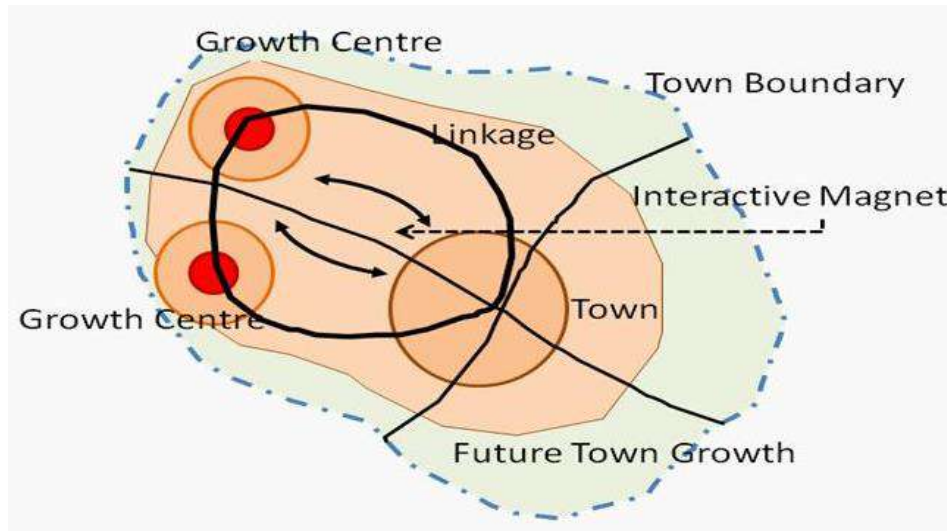
3.4 Rural Development

One of the important goals of the LU & DCP is to formulate strategies for an integrated rural development. In order to integrate the settlements a settlement hierarchy is developed based on the proposed population of the villages. This hierarchy is used further to distribute facilities as per population standards. The lowest settlement order starts from a village of 2000 population and highest order established are settlements above 10,000 population. The detailed development guidelines for rural area are discussed in chapter 5.

4. Growth Centre

4.1 Concept

John Malcolm, a regional economist, defined Growth Centre in 1975 as “Growth Centre is a node which propels industrial relations, sustains economic growth and transforms social attitude on the regional level. The region may be a state, zone or a small town”.



The above figure shows a town with linkages; there is a need to grow the town in planned fashion. To achieve this, two Growth Centres are proposed with linkage to the original town. After the development and construction of vital infrastructure, an interactive magnet is established between the old town and new Centres which start to fill the gap between them through planned development along this interactive corridor. Similar approach is adopted for PEHP area, where Growth Centres are proposed.

In order to boost the economy of the PEHP area and achieve optimum resource utilization it is envisaged to develop two major Growth Centres;

1. Agro based Growth Centre (Growth Centre I)

Food processing industries has ample scope in the PEHP area considering strong raw materials resource base and skilled human resources. The agro business has been identified as a key area for sustainable economic growth and there is a whole range of business opportunities for entrepreneurs. The West Bengal Government is also setting up a number of policies & plans to focus on the selected areas like vegetables, fruits, fisheries, rice, poultry, dairy & floriculture. Apart from industrial plots the Growth Centre will have common facilities like multipurpose cold storage, effluent treatment plant, quality control laboratory, packaging centre, warehouse, water supply, power supply, sewerage, etc.

2. Handicraft and engineering based Growth Centre (Growth Centre II)

The second Growth Centre in PEHP area will be based on handicraft and small scale engineering units. Apart from agriculture handicraft is the next major economic activity in

the region. Out of the total 953 industrial units in the area 375 units are handicraft based and employ almost 65% of the workforce. Moreover being close to Haldia which is a major Petrochemical Industrial hub in the state there is an ample scope for setting up of small ancillary units. The Govt. of West Bengal is also playing a vital role in growth of micro and small enterprises and generation of employment. The State Government is giving topmost priority and thrust for facilitating and coordinating the growth and development of these sectors. In the process active support is ensured to the entrepreneurs and all stake holders for more employment generation and welfare of the artisans through the various schemes and programmes.

For the details regarding location, sizing and product mix of these Growth Centres, refer Annexure 8 in volume III.

4.2 Location of Growth Centres

The agro based Growth Centre or Growth Centre I functioning as primary node is located on the western side of NH-116B while the small-scale non-polluting handicraft and engineering based Growth Centre or Growth Centre II functioning as secondary node is located on the southern side of NH-41. Ref Map 4.1 and 4.2 in volume II.

4.3 Growth Centre Development Guidelines

4.3.1 Population

40,000 persons will be the population supported by two new Growth Centres for the year 2026. Moreover the proposed development impetus will generate more employment opportunities and in turn increase the work force participation rate. In view of this it is assumed to achieve a WFPR of 41% in PEHP area till 2026. Considering this there will be approximately 1,26,000 workers till 2026 assuming 10% floating population. Assuming 30% as industrial workers the estimated working population in the Growth Centres will be 38000.

4.3.2 Industries

Type of Industries

The Agro Based Growth Centre is proposed in Sitalpur GP along NH 116B whereas the Handicraft and engineering Growth Centre located in Kalyanpur GP near NH 41. The type of industrial units in each of these industrial areas is as listed below.

Table 4-1 Type of Industries in Growth Centers

SR. NO	GROWTH CENTRE I	GROWTH CENTRE II
1	Rice Mill	Plastic molded products
2	Rice Processing	Auto parts , light engineering & service industries
3	Potato Processing	Printing, paper products & allied packaging
4	Oil Seed processing	Wooden Furniture

SR. NO	GROWTH CENTRE I	GROWTH CENTRE II
5	Groundnut Processing	Hosiery garments
6	Tomato Processing	Gold & Silver ornaments
7	Fruit Processing	Coir & jute products
8	Milk Processing	Marine Jewellery
9	Fish Processing	Hand Embroidery (Zori and Kantha stitch)
10		Wood curving & woodware
11		Brass & Bell metal

Plot Mix

On the basis of the analysis for sizing and product mix of the Growth Centres as discussed in Annexure 7 in volume III, a tentative plot mix and number of units is formulated as below.

Table 4-2 Plot mix and no. of units in Growth centre-I and II

GROWTH CENTRE I		GROWTH CENTRE II	
Plot Size in Sqm	No. of Units	Plot Size in Sqm	No. of Units
800	46	250	20
1000	50	500	175
1200	437	800	100
1400	175	1000	150
1400	75	1500	70
1600	112	2000	35
2000	220		

These plot size and number of units are indicative and can be changed as deemed fit by HDA.

Cold storage and Warehousing

The installed capacity of cold storages in the region is not sufficient for storage of the huge amount of crops like potatoes, fishes, fruits, etc. there is only one cold storage in Purba Medinipur district with a capacity of 90,000 quintals. The surrounding districts have comparatively more storage facilities but many of them are ancient and energy inefficient.

In Growth Centre I 25 acres of land is reserved for developing cold storage facilities, that will have an estimated capacity of 1,70,000 MT. Another 15 acres is reserved for warehousing facility.

Common Facilities

Apart from industrial plots the industrial zone will have common facilities like administration area, Research and training Centres, Exhibition space, canteen, convenient shopping, banks and parks and open spaces. The total area under these activities shall not be more than 10% of the total Industrial area.

4.3.3 Residential

As mentioned earlier, 40,000 will be accommodated in the Growth Centres. Growth Centre I will have a residential population of 25000 and Growth Centre II will have a population of 15000. Considering a residential density of 175 persons per hectare the total residential area in Growth Centre I will be 102 ha and in Growth Centre II 68.3 ha

Typical Neighborhoods

The proposed residential sectors can be planned as sustainable neighbourhood units with an approximate population of 15,000 each. Each sector shall be planned to be self-sufficient to satisfy the day-to-day needs of its residents.

This shall be planned as building blocks of the Growth Centre. Every such housing sector shall consist of three housing areas with a population of about 5,000 each and a shared facility core at the sector/ neighbourhood level in addition to the area level facilities. These housing areas shall be developed on the concept of graded mixing based on number of rooms.

The principles of neighbourhood development listed below can be followed in the planning of sector:

1. Neighbourhoods shall be compact and pedestrian friendly.
2. Many activities of daily living should occur within walking distance, allowing independence to those who do not drive especially the elderly and the young. Interconnected street network should be designed to encourage walking, reduce the number and length of automobile trips and conserve energy.
3. A broad range of housing types and price levels within each neighbourhood can effectively bring people from diverse ages, and incomes into daily interaction, strengthening the personal and civic ties essential to a well-knit community fabric.
4. Transit stops to be accessible through pedestrian paths /corridors permitting public transport to become a viable and popular choice to largely substitute the automobile.
5. Concentration of civic, institutional and commercial activity in the form of the facility cores should be well distributed at the neighbourhood level and area level for an equitable access.

Land utilization pattern within each neighbourhood / sector

Each sector whether developed by a developer or a government agency shall be planned with the following broad land utilization pattern.

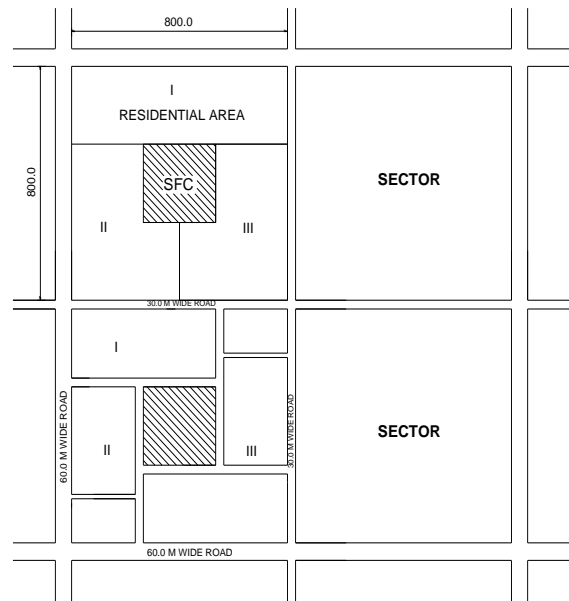


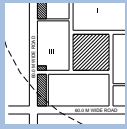
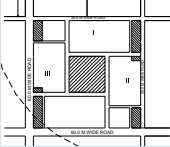
Table 4-3 Suggested land utilization pattern at sector level

Use	Percentage	Approximate area (in Ha)
Residential	55-65%	35.2 -41.6
Facilities	10%	6.4
Open spaces	12%	7.68
Circulation	10-20%	6.4 – 12.8
Total	100%	64

Facilities and Utility

Social infrastructure shall be provided in accordance to the following norms for a neighbourhood of 15,000 populations. The facilities shall be well divided at the area level as well as neighbourhood level to ensure easy accessibility for all.

Table 4-4 Hierarchy of Facilities at Neighborhood level

S.N.	Level	Facilities	No. of units	Unit Area (Sq.m.)	Total Area (Sq.m.)
1.	Housing area Pop. = 5,500 (Area: 1.75 ha) 	Nursery School	2	800	1600
		Primary School	1	4,000	4,000
		Community Room	1	500	500
		Religious Building	1	400	400
		Milk and vegetable Booth	1	30	30
		Convenience Shopping	1	1,100	1,100
		Housing Area Park	1	5,000	5,000
		Housing Area playground	1	5,000	5,000
		Sub-total			
2.	Neighbourhood Population = 15,000 (Area: 8.2 ha) 	Sr. Secondary School	2	16,000	32,000
		Dispensary	2	1,000	2,000
		Community hall and Library	1	2,000	2,000
		Electric Substation 11 KV	2	460	920
		Local Shopping incl. Service centre	1	4,600	4,600
		Three wheeler and taxi stand	1	500	500
		Neighbourhood Park	1	15,000	15,000
		Neighbourhood Play Area	1	15,000	15,000
		Public Parking lots			10,000
		Sub-total			

4.3.4 Commercial

According to UDPFI guidelines there shall be a neighborhood level commercial centre for every 12000 to 15000 population. In Growth Centre I 10 Ha of land and in Growth Centre II 4 Ha of land is reserved for commercial development.

The activities proposed in the commercial areas are listed as below.

- Retail Shopping

- Informal shops
- Repair shops
- Commercial offices
- Cinema hall
- Hotel
- Guest House
- Regulated Market in Growth Centre I

In both the Growth Centres 1% of the total area shall be reserved for informal sector/ vendor market development. This area can have temporary construction not to be included in coverage and FAR.

4.3.5 Social Infrastructure Facilities

The vision for PEHP area proposes to boost the economy of the area and improve the overall standard of living of the region. In view of this apart from the above listed facilities provided in each neighborhood there has to be certain higher order facilities that will serve not only the Growth Centres but also the whole of PEHP area i.e. a population of 2.68 lakhs. These facilities will be pertaining to education, health, recreation and socio cultural activities. In Growth Centre I 40 Ha of land and in Growth Centre II 24 Ha of land will be reserved for these higher order facilities.

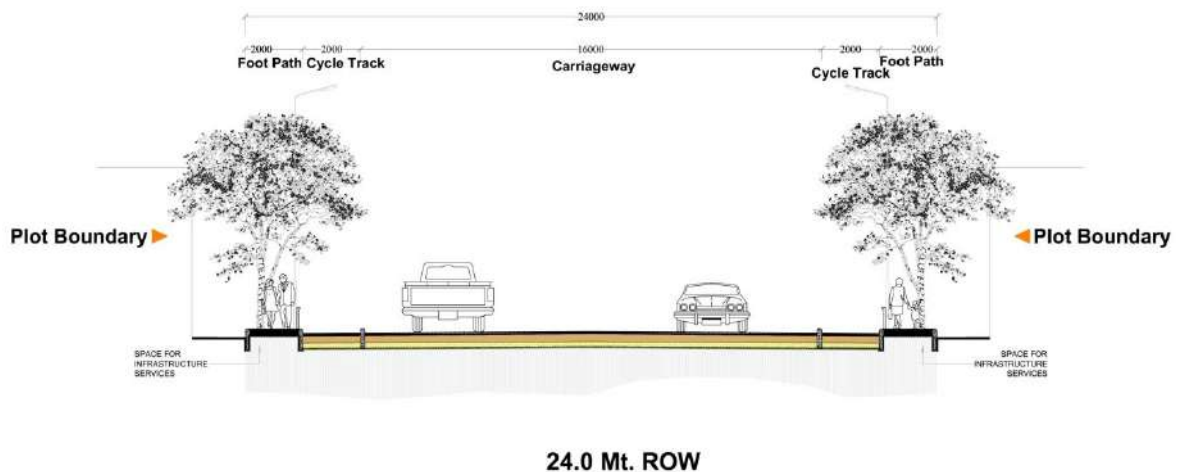
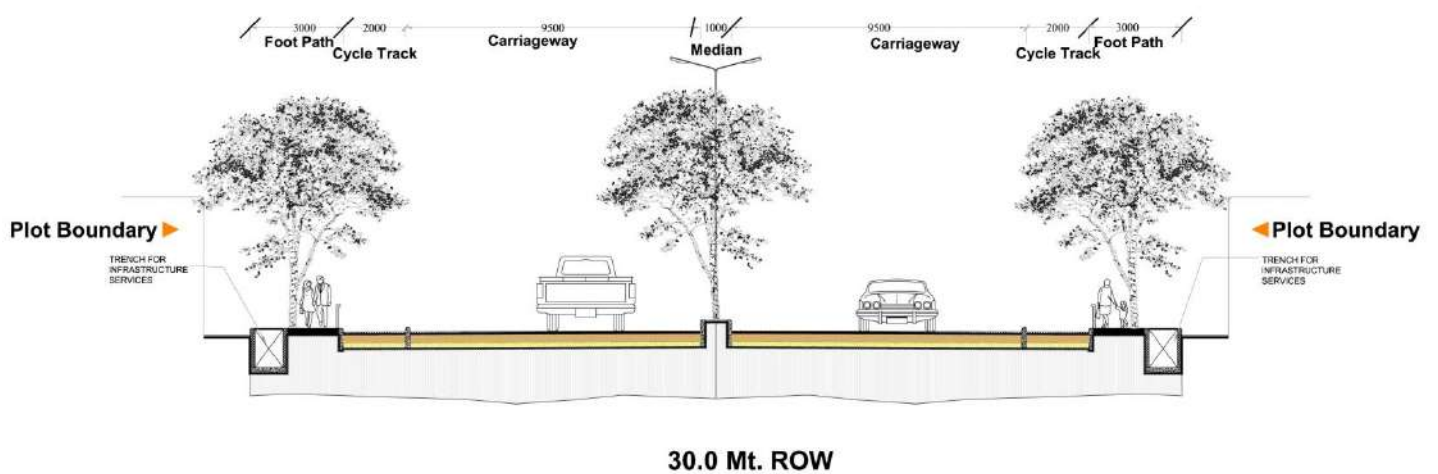
Table 4-5 List of facilities in Growth Centres

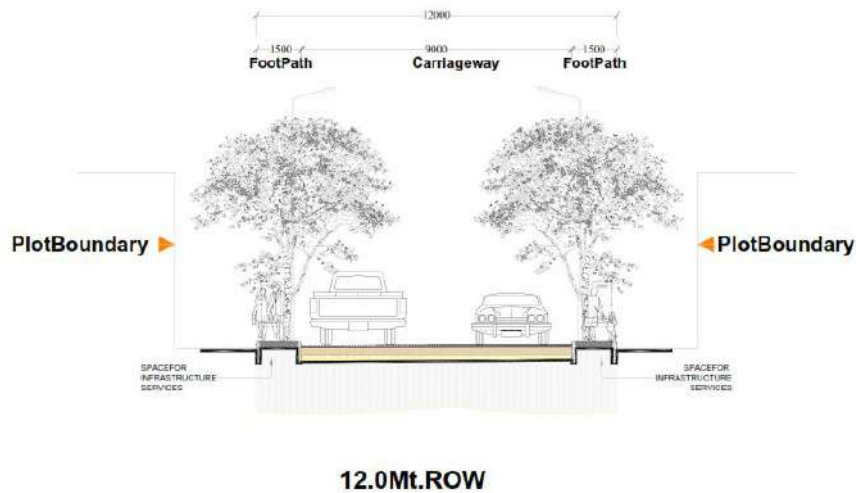
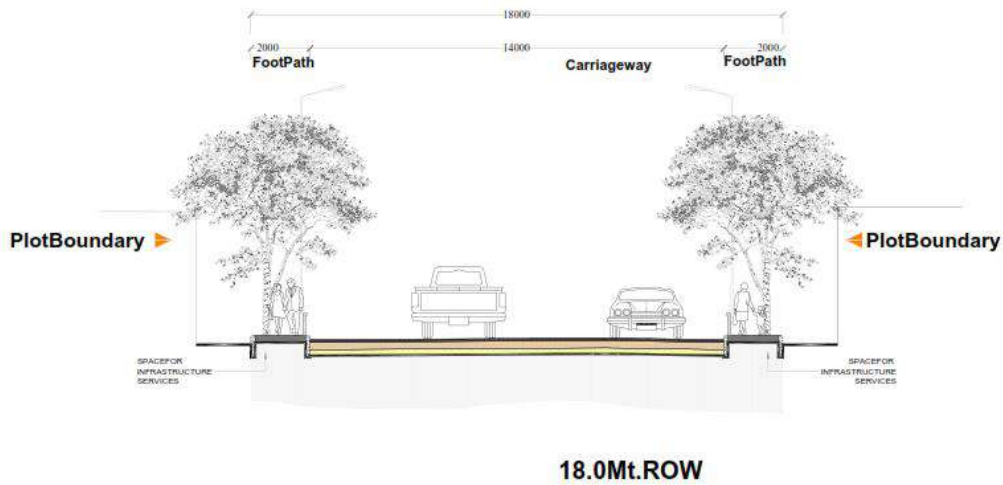
FACILITIES	GROWTH CENTRE I- (population 25,000)	GROWTH CENTRE II- (population 15,000)	AREA per unit in Ha
Education			
Integrated school with hostel	1		3.9
School for handicap		1	0.5
General collage	1		4.0
Vocational Institute	1	1	2.5
Health			
Nursing Home	1	1	0.3
Intermediate hospital		1	1.0
General hospital	1		6.0
Socio Cultural			
Club	8	3	4000 sqm
Community hall & Library	2	1	2000 sqm
Recreational			
Community Sports Complex	1		2.0
Community park	1	1	3.0
Other Facilities			
Fire station	1	1	
Police Post	1		
Petrol Pump	2	1	
Burning ghats/ Graveyards/ Burial grounds	1 each	1 each	

4.3.6 Transportation

Growth Centre I will have access from NH 116 B and Growth Centre II will have access from NH 41. A 30.0 M wide road will provide access to various activities within the area. All the major activities such as Warehouse & cold storage, Truck terminal, Bus terminal, commercial complex, colleges, hospitals and any other activity that generates heavy traffic movement shall be located on the 30.0 M ROW. The minimum road width within the industrial area shall be 18.0 M and in residential area shall be 12.0 M. There is provision of cycle track shown in 30 m and 24 m ROW.

The tentative road section will be as given below. There is provision of cycle track shown in 30 m and 24 m ROW. The cycling track can be applicable below 24m ROW roads.





Truck Terminal

The Growth Centre I which is an agro based industrial park will initiate movement of large volume of raw material and finished products in and out of the PEHP area. This will lead to heavy truck movement and will require substantial parking areas. A designated truck terminal of 5.0 Ha is proposed in Growth Centre I. The truck terminal will have facilities such as parking zone, repair shop, dhabas, dormitory and petrol pump.

Bus Terminal

The two Growth Centres that are proposed in the PEHP area will generate huge amount of employment. This will need people travelling from within PEHP area and from surrounding areas like Haldia, Tamluk and other villages in the nearby districts. Hence there is a need for an efficient public transport system.

1.5 ha area is reserved in Growth Centre I and 3.5 ha area in Growth Centre II for bus terminal. Apart from this all the villages rural market Centres (population 5,000-10,000) will have local bus terminal

with ideal parking facilities and the proposed bus routes will cover maximum number of settlements possible. The bus terminal will also have parking space for taxis and other IPT modes.

4.4 Physical Infrastructure

4.4.1 Water Supply

The design criteria for the design of water supply scheme for the Growth Centers is framed as per the guidelines prescribed by the CPHEEO, Ministry of Urban Development, Government of India and the relevant I.S. codes.

Table 4-6 Adopted norms for water supply

Activity	Quantity
Industrial	45000 lt/day
Residential	155 lpcd
Hotel	180 lpcd
Shopping Mall	45 lpcd
Restaurants	70 lpcd
Offices	45 lpcd
Cinema hall	15 lpcd
Mandi	15 lpcd
Hospitals	450 per bed
Schools/ Colleges	45 lpcd
University with hostel facility	135 lpcd
Sports complex without swimming pool	15 lpcd
Horticulture	20000 lt/acre/day
Truck & Bus Terminals	45 lpcd

Water Demand for Proposed Development

Based on the norms adopted above, the total water demands for the Growth Centre I is estimated at 14.62 MLD and for Growth Centre II is 6.02 MLD. Out of which approximate 20% will be recycled water. Summary of total water demand for the Growth Centres is given in Table below.

Table 4-7 Water Demand for Growth Centre I and II, 2026

Land Use	Growth Centre I (MLD)	Growth Centre II (MLD)
Industrial	7.11	2.24
Residential	5.14	2.78
Commercial	0.4	0.35
Institutional	0.75	0.17
Horticulture	1.22	0.48
Total	14.62	6.02

In Growth Centre I there is a requirement for 11.70 MLD of potable water where as in Growth Centre II there is a requirement of 4.8 MLD of potable water.

Source of Water

For Growth Centre I and II, the water shall be drawn from existing operational 50 MGD water treatment plant at Geonkhali, Mahishaldal or alternative sources can be explored. This is subject to detailed feasibility study.

Storage Reservoir

To supply water at desired pressure, either an overhead tank can be provided in the area or water pressure can be maintained by direct pumping/boosting in the lines from the underground clear water storage tank. It is proposed that water will be supplied for 8 hours a day on intermittent basis. Water will be pumped from the underground reservoirs into the individual ground level reservoirs and subsequently to roof top tanks. The underground reservoir will have a storage capacity of 24 hrs.

Growth Centers	Reservoir Capacity (MLD)
Growth Centre I	10.72
Growth Centre II	4.4

Water Recharge

Ground water extraction in rapidly depleting water table is non-sustainable for future scenario; hence options for recharge must be exercised. LU&DCP vehemently proposes for Roof top rainwater harvesting in both the Growth Centres. These provisions must be checked by the competent authority when approving the building layout of plots falling in Growth Centres.

4.4.2 Sewerage System

Sewerage Generation

A complete effective and economical sewerage system for collection of sewage generated at the sites, its transportation to the treatment site and disposal/ reuse is proposed. The topography of the area is more or less flat. The STP is located in the space reserved for the utilities. The sewer lines to be laid in the area according to slope, which will minimise the depth of line and cost of the project.

Assuming sewerage generation to be 80% of the total water demand the quantity of sewerage generated in Growth Centre I will be 11.6 MLD and in Growth Centre II will be 4.8 MLD

Recycled Water

By recycling water we can conserve a natural resource as well as save - because it is economically more viable to recycle water. A good & safely operated waste water treatment plant with tertiary treatment systems more or less will guarantee that the treated / recovered water is 100 % safe - in fact at times it is even better than the naturally recycled water available in the water bodies. Further, quality can be ensured in the treatment plant but not so in nature - where there are no operational controls. Table below shows the details of Recycled Water Requirement.

Table 4-8 Recycled Water Demand for Growth Centres I and II, 2026

Land Use	Growth Centre I (MLD)	Growth Centre II (MLD)
Industrial	1.422	0.448
Residential	1.028	0.556

Land Use	Growth Centre I (MLD)	Growth Centre II (MLD)
Commercial	0.08	0.07
Institutional	0.15	0.034
Horticulture	1.22	0.48
Total	3.9	1.58

4.4.3 Drainage

A separate storm water drainage network apart from sewerage system shall be proposed in the development area for the collection and safe disposal of storm water during rainfall. The design criteria to be followed for design of Storm Water Drainage network are broadly based on the recommendations as laid down in the CPHEEO Manual of Sewerage and Sewage Treatment, Ministry of Urban Development, Government of India and as per provisions laid down in the relevant I.S. codes. The design norms are essentially the same as suggested for sewerage system.

4.4.3.1 Ground water Recharging and Ultimate Disposal

While designing of storm water network, Natural Topography of the site shall be retained as far as possible. The low lying areas shall be developed as pond and can be used for recharging ground water. Ultimate disposal point shall be located as per the natural drainage of the area.

The total annual average rainfall in the region is 1500 mm. Considering an average run-off factor of 0.6, the total annual runoff from the area will be around 473,500 cum which may be used for ground water recharge purpose. This will help in improving the ground water reserves at site. Total no. of Rainwater recharge pits required to be provided will be worked out and will be proposed at suitable locations in detail Layout Plan of Growth Centre. The local conditions will play a significant role in assessing the ground water recharge potential of the area. Any excess rainfall occurring in the area will be discharged in to the nearest channels.

4.4.4 Solid Waste Management

The total estimated solid waste generated in Growth Centre I will be around 18.36 Ton/day and in Growth Centre II will be 10.75 Ton/day. Following norms adopted for calculation of solid waste generation.

Table 4-9 Norms for Solid waste Generation

Activity	Waste Generation
Industries	200 g/c/day
Residential	450 g/c/day
Commercial	500 g/c/day
Hotels	500 gm/per bed/day
Hospitals	500 gm/per bed/day
Others	100 g/c/day

4.4.4.1 Collection and Management

Waste will be collected from households, Industrial areas and other commercial and institutional establishments on a daily basis and dumped in the community bins. From these bins it will be further

transported twice a week to the solid waste management facility by West Bengal Waste Management Ltd. at Haldia. Gram Panchayat Samiti will be the nodal agency.

4.5 Land Use

The broad land use break up for the two Growth Centres are as given below. Ref Map of Proposed Land Use in volume II.

Table 4-10: Proposed Land Use for Growth Centres I and II, 2026

Sr. No	Land Use	Growth Centre I Area in Ha	Percentage	Growth Centre II Area in Ha	Percentage
1	Industrial Plots	144	33.10	62.49	31.95
2	Cold storage & Ware house	30	6.90		
3	Common Facilities	7	1.61	3.52	1.8
4	Residential	121	27.82	68.30	34.92
5	Commercial	9	2.07	4.69	2.4
6	Public Semi Public	42	9.66	17.56	8.98
7	Recreational	25	5.75	11.72	5.99
8	Transportation	53	12.18	24.96	12.76
9	Utilities	4	0.92	2.35	1.2
	Total	435		195.58	

The options for land assembly and financing of projects are given in Annexure 13 and 14 of volume III.

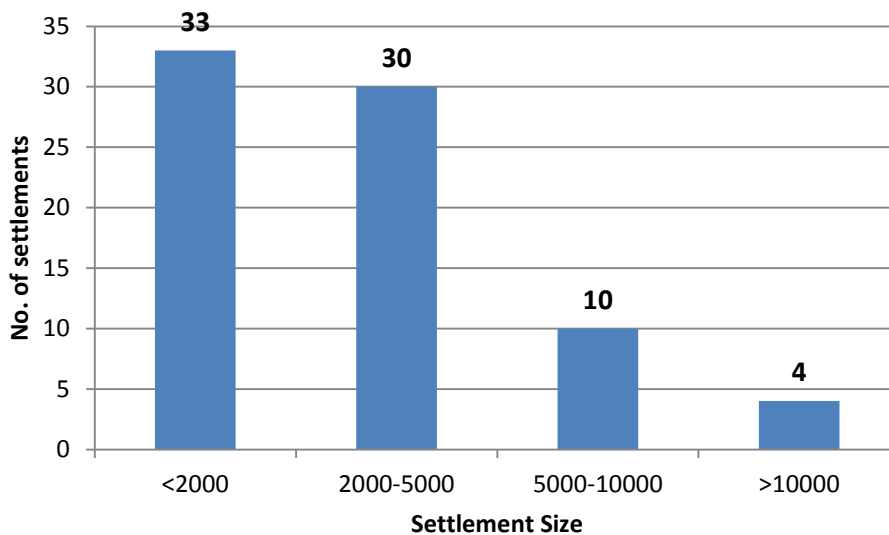
5. Rural Development

The LU &DCP will provide the foundations for future land use and help to achieve planned homogeneous development of PEHP area by imposing certain restrictions to control the haphazard growth. From the existing situation analysis it is very clear that PEHP area is not only an economically backward region but also lacks in providing the basic infrastructural facilities. In order to boost the economy and achieve over all development of the PEHP area it is important that the infrastructural facilities are adequately available.

5.1 Settlement Structure

To integrate villages an order of settlement has been considered, which categorizes the settlement by population sizes. This hierarchy will be used further to distribute facilities as per population standards. The lowest settlement order starts from a village of 2000 population and highest order established are settlements above 10,000 population.

The numbers of settlements which are included in various hierarchy systems are shown below



The listing of Mouza (village) including in various hierarchy order is given in annexure 6 in volume III and map no.5.1 in volume II.

5.2 Population and Workforce

The population in 2011 is 2.01 lakhs and the future projected population in 2026 is estimated at 2.68 lakhs. The additional population is estimated at 70,000 persons. Out of the 70,000 new additional approx 29,400 persons will be the growth as infill in the rural insertion.

As mentioned earlier the work force participation rate has decreased from 40% in 1991 to 36.9% in 2001. The proposed development impetus will generate more employment opportunities and in turn increase the work force participation rate. In view of this it is assumed to achieve a WFPR of 41% in PEHP area till 2026. On the basis of trends since 1991, workforce in 2026 is estimated in the three major sectors.

Table 3-1 shows that till year 2026 there will be a decrease in percentage of workers in primary and tertiary sector and substantial increase in secondary sector.

5.3 Social Infrastructure

As mentioned earlier for the purpose of planning an order of settlement has been considered, which categorizes the settlement by population sizes. The social infrastructure facilities in these settlements have been listed below as per their hierarchy.

Table 5-1 Population wise Social Infrastructure Facilities

Population Size	Function	Facilities
< 2000	Basic Village	<ul style="list-style-type: none"> Primary and Middle School ·Dispensary ·Branch Post Office ·Weekly Market ·Regular Bus Stop ·Coop. Bank ·Veterinary Aid Centre etc
2,000 – 5,000	Rural Service Centre	<ul style="list-style-type: none"> ·Primary schools ·Middle school ·Secondary school ·Post Office ·Bank ·Cooperative society ·Fair price shop ·Regional market ·Community centre ·Police post. ·Primary Health Centre ·Veterinary dispensary ·Middle Order Godowns ·Petrol station.
5,000-10,000	Rural Market Centre	<ul style="list-style-type: none"> ·Fair price shop ·Community centre ·Post Office ·Secondary Schools. ·P.H. Sub-Centre ·Bus Station

Population Size	Function	Facilities
		<ul style="list-style-type: none"> ·Weekly Market ·Bank (Branch) ·Z.P.Ayurvedic Dispensary etc.
>10,000	Rural growth node	<ul style="list-style-type: none"> ·Hospital ·Degree College ·Rural Dispensary ·Veterinary dispensary-I ·Cooperative and nationalized Banks and Mela ground ·Middle Order Godown ·Police Station.

Source: Rural-Urban District Planning, TCPO, MoUD, GOI

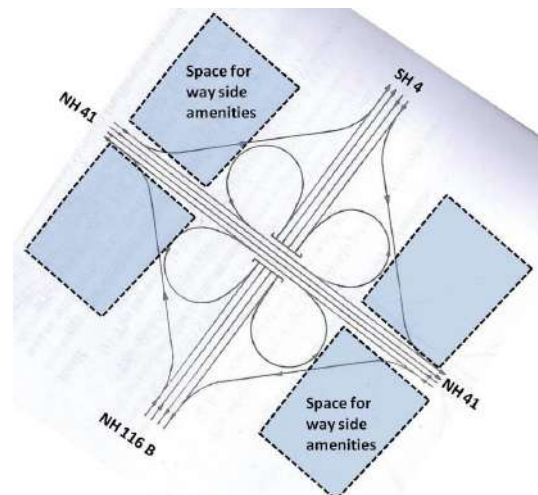
List of villages in above settlement in given in annexure.

5.4 Physical Infrastructure

- (i) **Water supply:** Rural Demand is considered at 40 lpcd, hence the demand in phased year is calculated at 8.7 MLD for 2016, 9.3 MLD for 2021 and 10 MLD for 2026. Since rural piped water scheme is running in few Mouza's in PEHP area as discussed in existing scenario, and water supply through pipelines would bear huge cost making it financially viable considering the rural water demand. Rural piped water supply in clusters shall be commissioned as going on in the current situation. PHE Tamluk will be responsible for preparing and executing schemes at Mouza level.
- (ii) **Sewerage System:** Sewage demand is considered 80% of the area. In 2016, the sewage demand would be 7 MLD, in 2021- 7.5 MLD and in the target year 2026, it would have a generation of 8 MLD. Low cost sewage disposal and treatment options should be adopted. Water Stabilization Pond (WSP) is considered suitable for rural area. Description of various low cost sewerage treatment options are discussed in Annexure 9 of volume III.
- (iii) **Solid waste:** The rural demand is considered at 250g per capita per day for PEHP Mouzas. The demand for 2016 is estimated at 54.3 MT, for 2021 at 58.4 MT and for 2026 at 62.8 MT. Mouza Level community bins should be provided which will collect the Village's Solid Waste after door to door collection system. There is a proposal to transport the solid waste to existing Solid Waste Site in Old Haldia Planning Area which is operating under PPP modal of West Bengal Waste Management Ltd. Gram Panchayat, HDA and WBWML will be authorized to prepare and execute concerted schemes at village level.
- (iv) **Drainage:** The drainage at Mouza level should be channelized in a manner which should serve both the purpose of draining the area and conserving the ground water. Since interconnected PEHP area level drainage network seems financially impractical. Desilting ponds at Mouza Level are proposed which will be part of Village (Mouza) Plans. Detail of Desilting ponds are given in Annexure 9 of Volume III.

(v) **Transportation:**

- a. **Semi-ring road:** 45m road is proposed which starts from SH 4 in Narayanpur Mouza and crosses NH 41 in Madhavpur Mouza and reaches NH 116B in Sitalpur Mouza.
- b. **Digha By-pass road:** The 45 m road described above is further extended to NH 41 beyond Nandakumar Rotary beyond Sridharpur and Bhabanipur Mouza, which will function as By pass for Digha/ Contai Bound traffic.
- c. **Internal links:** Various internal links of 30 m ROW and 24m ROW are proposed to strengthen the seamless internal movement. Refer Proposed Land Use for location and alignment of new links. Few links crosses the railway line, small railway crossings are proposed for immediate operation and further Rail Over Bridge (ROB) can be developed in future as per the requirement, which deems fit by HDA.
- d. **Last mile connectivity:** To improve the last mile connectivity of railway stations, 24 m road is proposed for both the stations, Keshabpur and Nandakumar, to NH and SH.
- e. **Up gradation of roads:** SH 4 is proposed for up gradation from existing 2 lanes undivided to 4 lanes divided carriageway. Embankment road along Haldi River is proposed for 30 m wide road.
- f. **Up gradation of railway stations:** Both railway stations, Keshabpur and Nandakumar Railway Station are proposed for up gradation foreseeing the future travel demand.
- g. **Regional Bus terminal:** To cater the future demand of passengers, a regional level Bus terminal of 7 ha is proposed on NH 41 near Nandakumar Rotary.
- h. **Junction Improvement of Nandakumar Rotary:** This junction is a prominent four-arm intersection where four regional roads branches off- NH 41, NH 116b and SH 4. This junction will become problematic in terms of traffic congestion and vulnerability (accident prone). To resolve the problem, a cloverleaf interchange is suggested with provisions for way side facilities.



Existing Nandakumar Rotary and future proposal

- i. **Way Side Amenities:** Provisions for way side amenities are kept which can be proposed along NH, SH and Major arterial roads at every 50 km spacing on NH, 10 km on SH and 5 km on Major arterial roads. These passenger oriented amenities are:
 - Parking lots
 - Snack bar/Restaurant
 - Toilets
 - Rest Rooms for short stay

- First aid
- Telephone booths
- Petrol pump/minor repair shop (optional)
- Kiosks for sale of miscellaneous/sundry items
- Landscaping

j. **Village Roads:** The internal access roads of the villages has been detailed in the Village Development Plans.

Refer Proposed Land Use Plan 2026 in Volume II.

5.5 Proposed Land Use Distribution-2026

Land in villages is subjected to speculation and local market forces operating in different socio-political scenario. One of the objectives of the plan is to control the development through compounding land use plan. Hence, it has been seen that the various use premises in village development can be broadly categorized into three land use subheads- village expansion (residential development), manufacturing (small non –polluting units) and facility centres (land for village amenities, recreational facilities etc.).

The village expansion area is based on density of villages which is having a range of 20 ppha – 80 ppha classified in different growth rates. The manufacturing area is based on an industrial density of 100 worker/ ha. The area for facility centre is based on hierarchy of settlement order, shown in vol.III annexure 6.5.

Mouza wise proposed Land use break up and percentages are shown in Vol. III annexure 7. For Mouza wise proposed Land use plans refer Volume- V Map 5.2 to 5.13. Refer Volume V for Mouza wise Proposed Land Use.

The proposed land use break up of PEHP area is shown below. (Refer Volume II Map 5.14)

Table 5-2 Proposed Land use 2026, PEHP area

Land Use	Total Area (sq.km)	Percentage (%)
Residential	38.98	31.22%
Commercial	1.58	1.27%
Manufacturing	9.21	7.38%
Public and Semi-Public	3.67	2.94%
Transportation	8.85	7.09%
Recreational (including Green Belt/ Buffer)	1.99	1.59%
Water Body	7.36	5.90%
Agriculture	53.21	42.62%
Total	124.85	100.00%

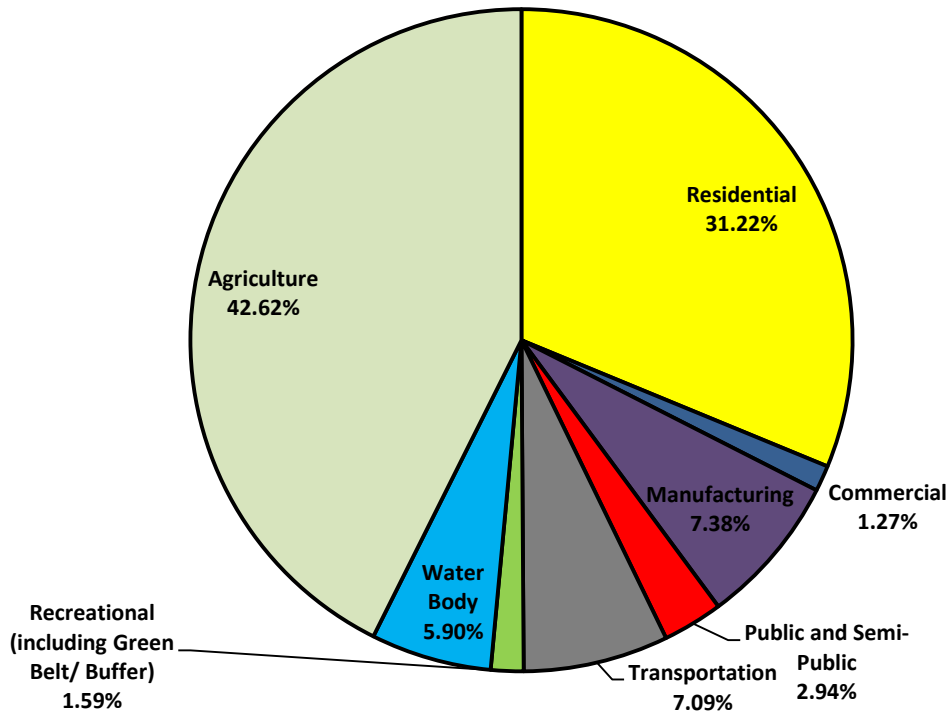


Figure 5-1 Proposed Land Use, PEHP-2026.

The zoning regulation of these land uses will be governed by Land Use and Zoning Regulation given in Chapter 6.

Green buffer

There is a provision of 50 m green buffer along both the rivers, Rupnarayan and Haldi shown in the Proposed Plan, which will serve as no development buffer with few permitted activities as given in the zoning regulations.

Green buffer of 5 m along water bodies are proposed near settlement area and 10 m around water bodies outside the settlement areas. Major water bodies are earmarked in the proposed plan while other minor water bodies shown in the plan will be conserved as per the buffer guideline mentioned above.

CRZ (Coastal Regulation Zone)

The Ministry of Environment and Forests had issued the Coastal Regulation Zone (CRZ) Notification on 19.2.1991 under the Environment (Protection) Act, 1986, with the aim to provide comprehensive measures for the protection and conservation of our coastal environment. In the 1991 Notification the CRZ area was classified as CRZ-I (ecological sensitive), CRZ-II (built-up area), CRZ-III (Rural area) and CRZ-IV (water area). In the 2011 Notification the above classification is retained. The only change is the inclusion of CRZ-IV, which includes the water areas upto the territorial waters and the tidal influenced water bodies.

The ministry (MoEF) has issued an amended notification in 2011 consolidating all the issues of 1991 Notification.

The main objectives of the Coastal Regulation Zone Notification, 2011 are:

- To ensure livelihood security to the fishing communities and other local communities living in the coastal areas;
- To conserve and protect coastal stretches and;
- To promote development in a sustainable manner based on scientific principles, taking into account the dangers of natural hazards in the coastal areas and sea level rise due to global warming.

As per the Order of MoEF dated 6-6-2012 (S.O. 1300 (E)), the Central Government constituted an Authority known as the West Bengal Coastal Zone Management Authority. (Notification annexed in the Annexure- 11 of volume III)

Among other powers and functions, the Authority

- Shall identify ecologically sensitive areas in the CRZ and formulate area specific management plan for such identified areas.
- Shall prepare and submit CRZ maps of the coastal area in the State as per procedure laid down in the Notification of the Government of India in the MoEF no. S.O.:19 (E) dated 6-01-2011.

It is reported that WBCZMA has yet to complete the said work. Hence it is not possible to assign the status of CRZ in PEHP area.

However, if WBCZMA prepares CRZ maps in such area duly approved by the Government of India, the same will be applicable in the PEHP area and restriction will be imposed thereon.

Irrigation Facility

PEHP area is rain fed and lies in a doab of two rivers, Rupnarayan and Haldi. Agriculture production is much dependent on supporting irrigation infrastructure. Since full coverage of irrigation network is not present, certain guidelines at policy level are conceived:-

- Rehabilitation of present Irrigation infrastructure through channelizing canals, securing drainage pattern, etc.
- Develop extension zones for extending irrigation facility to non-irrigated areas.
- Secure land allocated for extension zones through stringent Land Use Zoning implementation practice.
- Prepare projects for supporting farmers in managing water and maintaining infrastructure.

Irrigation and Waterways Department, Govt. of West Bengal and the Haldia Development Authority are responsible institutions for preparing and implementing irrigation facility and their extensions.

Agriculture flooding and drought management

Floods are among the most common and destructive natural hazards causing extensive damage to infrastructure, public and private services, the environment, the economy and devastation to human settlements. Recurring flood losses have handicapped the economic development, especially agriculture vibrant area.

Two pronged mitigation strategy is recommended.

- (i) Structural;
- (ii) Non-structural.

Structural measures are in the nature of physical measures and help in “**modifying the floods**”, while non- structural measures are in the nature of planning and help in “**modifying the losses due to floods**”.

Structural Measures:

- a) **Embankments:** Embankments have been extensively used for protection against floods of important towns and lands. However, the embankments are now the best means of communication in the flood-prone areas and are being recklessly used for transportation of materials by tractors and other heavy vehicles. During floods, people shift to the embankments for temporary shelter and often settle down there for good. Thus, embankments and their slopes become permanent settlements to flood victims and their livestock. It messes up proper maintenance, and embankments become susceptible to breaches during floods. Whenever there are lapses in maintenance, the protected areas are exposed to serious flood hazards.
- b) **Water Shed Management:** Timely cleaning, de-silting and deepening of natural water reservoir and drainage channels (both urban and rural) must be taken up.
- c) **Reservoirs:** The entire natural water storage place should be cleaned on a regular basis. Encroachments on tanks and ponds or natural drainage channel share to be removed well before the onset of monsoon.
- d) **Natural water retention Basins:** Construction and protection of all the flood protection embankments, ring bunds and other bunds. Dams and levees can also be constructed which can be used as temporarily storing space which reduces the chances of lower plains getting flooded.
- e) **Buildings on elevated area:** The buildings in flood prone areas should be **constructed on an elevated area and if necessary on stilts and platform.**

Non Structural Measures:

- a) **Flood Plain Zoning:** Flood plain zoning, which places restrictions on the use of land on flood plains, can reduce the cost of flood damage. Local governments may pass laws that prevent uncontrolled building or development on flood plains to limit flood risks and to protect nearby property. Landowners in areas that adopt local ordinances or laws to limit development on flood plains can purchase flood insurance to help cover the cost of damage from floods.
- b) **Flood Forecasting and warning:** These are issued for different areas mostly by the Central Water Commission/ Meteorological Department and by the State Irrigation/ Flood Department.

The usual impact of agricultural drought is in terms of loss of crops, malnutrition of human being and livestock, land degradation, loss of other economic activities, spread of diseases, and migration of people

and livestock. Droughts result in crop losses of different magnitude, depending on their geographic incidence, intensity and duration.

The main objectives of drought management strategy should be:

- (i) Distribution of essential commodities such as water, fodder and food at subsidized rates.
- (ii) Optimum utilization of resources in the affected areas with emphasis on primary resources viz. soil, water, vegetation, livestock, manpower, etc. Relief works undertaken for providing employment to drought stricken population mainly for drought proofing.
- (iii) Improvement in terms of living conditions of the rural poor who suffer the most due to scarcity and drought in particular, and the community in general by creating direct and indirect employment and taking up short duration programmes of development.

6. Land Use Zoning Regulation

Zoning Regulation entails guidelines for enabling the preparation of Detailed Plans, including designation of use zones and use premises, subdivisions of use zones into premises, use premises to be permitted in the use zones and use activities to be permitted in use premises.

The Zoning Regulation shall apply to the whole of PEHP area of 124.85 sq.km. comprising partly of Mahishadal block (36 Mouzas) and partly Nandakumar block (41 Mouzas), as delineated under section 9 (1) of The West Bengal Town and Country (Planning and Development) Act, 1979. PEHP area is located to the North of Old Haldia Planning Area approximately 20 km from Haldia city and is bounded by two rivers, namely, Rupnarayan River in the North and Haldi River in the South. PEHP area consists of two development entities,

- (i) PEHP Rural area,
- (ii) PEHP Growth Centres.

6.1.1 Objectives of Zoning

LU&DCP identifies Residential, Commercial, Manufacturing, Public and Semi-Public Facilities, Recreation, Transportation/ Communication and Agricultural Land Uses. The ancillary/incidental activities, which are not mentioned separately in the LU&DCP Plan, are to be permitted according to the zoning regulations. The provision of ancillary/incidental activities/utilities is required to be made by competent authority according to the Zoning Regulations and the specific requirement of a particular scheme so that public health, welfare and security may be ensured in the proposed planned areas.

6.1.2 Salient Features of Zoning Regulations

The development of various activities/utilities in ever changing physical, social and economical scenario of settlements is an ongoing process. In the zoning regulations, the approval of various activities/utilities under Predominant Land Use Areas has been laid down in order to simplify the procedures of planning and responding to the requirements of development. The salient features of the Zoning Regulations are as under:

- The complexities in usual zoning regulations are removed in order to simplify them. The permission of various activities in the predominant land-use areas are made user-friendly through a matrix.
- The concept of flexible and multi-utility use of land is adopted instead of regimented use of land, so that it may boost the fast development of the town.
- The planning and permission of multi-utility of a piece of land will be on the basis of their ancillaries and preference measures, so that the operational and economical capability of inter-dependent multi-utility land may be enhanced and predominant land uses also retain the basic character.

6.1.3 Establishment/Coding of Use Zones and Use Premises

To enunciate the use zones and use premises involved in the zoning regulation, an explicit listing of coding is provided below:

To regulate the development in PEHP area, within the framework of LU&DCP, the following shall be observed:

Use Zones

Use Zone means an area for anyone of the specific dominant uses of the urban/ rural functions. There shall be use zones classified in the following categories: Residential, Commercial, Manufacturing, Public and Semi-Public Facilities, Recreation, Transportation/ Communication and Agricultural Land Uses.

Use Premises

Use premises means one of the many sub-divisions of a use zone, designated at the time of preparation/ approval of Layout Plan, for a specific predominant use or activity.

The use zones included in this plan are as under:-

A. Residential

Residential

B. Commercial

Retail shopping

Warehouse/ Godown

C. Manufacturing

D. Public and Semi Public²

Govt. / Pvt. Office

Medical/ Health

Education Institutions

Religious/ Cultural

Cremation/ Burial

Utilities and Services

E. Green and Recreational

Parks and Playgrounds

Green belt/ buffer

F. Transportation/ Communication

Roads

Railway Line/ Corridor

Bus Terminal

G. Agriculture

Agricultural Land

H. Others (water body)

Water Body including Rivers, Canals and Open

Drains, Ponds etc

² Including village facilities listed in chapter 5.

USE PERMISSIBILITY

The different activities/utilities to be provided or planned in the proposed Land Use categories are as under:

i. Uses Permitted

The activities/utilities which are ancillary to the Predominant Land Use and are planned and permitted.

ii. Conditionally Permitted

The activities which are planned and permitted under the required terms and conditions in connections with the Main Land Use on the basis of their specific requirements.

iii. Uses Prohibited

These activities will not be permitted in the concerned Land Use.

Definition of Use Premises

The following definitions are used in Land Use Premises.

Sr. No.	Ref. No.	Definition
A.	1.	Residential
	1.1 (a)	Residential House/Plot - Plotted Housing: A premise for one or more than one dwelling unit and may not have on it one main building block and one accessory block for garage / garages and servant quarters.
	1.1 (b)	Residential Flat: Residential accommodation for one family (one household) which may occur as part of an independent building.
	1.2	Group Housing: A premise of size not less than 2000 sq. m comprising of residential flats with basic amenities like parking, park, convenient shops, public utilities etc. as specified or permitted in the building regulations.
	1.3	Guard/ Chaukidar Residence: Residential accommodation for watch and ward staff responsible for security and/ or maintenance of principal use.
B.	2.	Commercial
	2.1 (a)	Retail Shop/ Platform: A premise for sale of commodities directly to consumers with necessary storage
	2.2	Repair Shop: A premise equivalent of a retail shop for carrying out repair of goods.
	2.3	Personal Service Shop: A premise equivalent of a retail shop providing personal service like tailor, barber etc.
	2.4	Vending Booth: A premise in the form of booth or Kiosk for sale of commodities of daily needs either through a mechanical installation or otherwise.
	2.5	Showroom: A premise with facilities for display, sale and storage of Commodities.
	2.6	Weekly Market: An area used in a week by a group of informal shop establishments in the form of a market. These markets may shift from one area to another on different days of the week and may be planned at designated places in all land uses.
	2.7	Convenience Shopping Centre: A group of shops in a neighborhood in residential and other areas serving mainly for daily needs and a population of about 5,000 to 10,000 persons.
	2.8	Local/ Sector Level Shopping Centre: A group of shops serving a population of

Sr. No.	Ref. No.	Definition
		about 10,000 to 25,000 persons.
	2.9 (a)	Shopping Centre/Commercial Centre: A premise having group of shops/commercial establishments, offices.
	2.9 (b)	Shopping Mall: A Shopping Mall is one or more buildings forming a complex of shops representing merchandisers, with interconnecting walkways enabling visitors to easily walk from unit to unit, along with a parking area - a modern, indoor version of the traditional marketplace with controlled environment.
	2.10	Informal Commercial Unit / platform: A premise meant for commercial activities for informal sector.
	2.11	Wholesale Market/ Mandi: A premise from where goods and commodities are sold/ delivered to retailers. The premise includes storage, godown, loading and unloading facilities.
	2.12 (a)	Bakery: A Bakery (also called baker's shop or bakehouse) is an establishment which produces or/and sells baked goods from an oven.
	2.12 (b)	Confectionary: A premise for retail sale of confectionary items directly to consumers with necessary storage.
	2.12 (c)	Atta Chakki: A premise where grinding of grain, spices and dried eatables are carried out.
	2.13 (a)	Coal Market: A premise for retail sale of coal directly to consumers with necessary storage.
	2.13 (b)	Wood Market: A premise for retail sale of fuel wood directly to consumers with necessary storage.
	2.13 (c)	Building Material Market: A premise for retail sale of building materials like timber, stone, bricks, cement, hardware, paints etc directly to consumers with necessary storage.
	2.14	Vegetable / Fruit Market: A premise for retail sale of fruits and vegetables in shops or platforms.
	2.15	Cold Storage: A premise where perishable commodities are stored in covered space using mechanical and electrical devices to maintain the required temperature etc.
	2.16	Hotel: A premise used for lodging on payment with or without meals.
	2.18 (a)	Restaurant: A premise used for serving food items on commercial basis including cooking facilities. It may have covered or open space or both for sitting arrangement.
	2.18 (b)	Canteen: A premise used for serving food items to workers in an institution including cooking facilities. It may have covered or open space or both for sitting arrangement.
	2.18 (c)	Food Court: A Food Court is an (usually) indoor plaza or common area within a facility that is contiguous with the counters of multiple food vendors and provides a common area for self-serve dining. Food Courts may be part of shopping malls etc or may be stand-alone development.
	2.20 (a)	Exhibition Hall: A hall with facilities for exhibition and display of paintings, photographs, sculptures, murals, ceramics, handicrafts or products of specific category/ class.
	2.20 (b)	Exhibition Centre: A premise with facilities for exhibition, display and storage of paintings, photographs, sculptures, murals, ceramics, handicrafts or products of specific category/ class with related facilities.
	2.21	Banquet Hall/ Barat Ghar: A premise used for marriage and other social functions and run by an individual, or institution or a public agency.

Sr. No.	Ref. No.	Definition
	2.22	Petrol/ Diesel/ Gas Filling Station: A premise for sale of petroleum products to consumers. It may include servicing of automobiles.
	2.24	Gas Godown: A premise where cylinders of cooking gas or other gas are stored.
	2.25	Warehouse/ Godown for Non-Hazardous Items: A premise for exclusive use of storage of non-hazardous goods and commodities in a manner as per requirement of respective goods/ commodities. The premise includes loading and unloading facilities.
	2.26	Warehouse/ Godown for Hazardous Items: A premise for exclusive use of storage of hazardous goods and commodities in a manner as per requirement of respective goods/ commodities. The premise includes loading and unloading facilities.
	2.27 (a)	Automobiles Showroom: A premise for display, sale and repair of automobiles.
	2.27 (b)	Automobile Showroom cum Service Station: A premise for display, sale, repair and servicing of automobiles.
	2.29	Steel/ Cement/ Building Material Yard: A premise having storage and sale facilities for bulk building materials like cement, steel etc.
	2.30	Weigh Bridge/ Dharam Kanta: A premise with weighing facilities for empty or loaded trucks.
	2.31 (a)	Cinema/ Multiplex: A premise with facilities for projection of movies and stills with a covered space to seat audience.
	2.32	Agricultural Equipment Workshop/ Service Centre: A premise with facilities for servicing and repair of agricultural equipments like tractor, trolley, harvesters etc.
C.	3	Manufacturing
	3.1 (a)	Service Industry: An industry comprised of companies that primarily earn revenue through providing tangible products and services. Service industry companies are involved in retail, transport, distribution, food services, handicrafts and other service dominated businesses.
	3.1 (b)	Cottage Industry: An industry where the creation of products and services is home based, rather than factory based.
	3.1 (c)	Agro-Based Industry: An industry which depend on agricultural products as raw materials.
	3.2	Flatted Factories: A premise having a group of small industrial units having up to 50 workers with non-hazardous performance. These units may be located in multistoried buildings.
	3.3	Information/ Software Technology Park: A premise where computer softwares etc are prepared for information technology and I.T. enabled services.
	3.4	Small/ light Industry: Small/light industries as per classification of the State Government.
	3.5	Industrial Plot (Specific Industry type): A premise for an unit for manufacturing of specific products like electric goods etc.
	3.6	Medium & large scale industry: Medium and large scale industries as per classification of the State Government.
	3.7	Film Centre/ TV, Radio Programme Production Centre: A premise with facilities for shooting, recording, broadcasting and transmission of news and other programmes through the respective medium. It may include some hostel accommodation for guest artists, and transmission facilities like tower.

Sr. No.	Ref. No.	Definition
D.	4	OFFICES
	4.1	Govt. / Semi Govt. / Public Undertaking/ local Body Office: A premise used for offices of the Union and State Governments, Semi Government Organizations, Public Sector Undertakings and local Body Offices.
	4.2	Office/ Corporate Office: A premise used for office of commercial establishment, profit making organization and other Institutions.
	4.3	Professional/ Personal/ Agent Office: A premise where professional consultancy services are provided by an individual or a group of professionals like Chartered Accountant, Lawyer, Doctor, Architect, Designer, Computer Programmer, Tour & Travel Agent etc.
	4.4	Banks: A premise for office to perform banking functions and operations.
	4.5	Project Development/ Management/ Maintenance Office: A premise used by a Real Estate Developer for project development, management and maintenance within the project site for a specified period with previous approval of the Authority.
	4.6	Satellite/ Wireless/ Telecommunication Centre: A premise used for installation of a tower for communication purpose.
E.	5	PUBLIC AND SEMI PUBLIC
	5.1	Guest House/ Lodging: Guest House is a premise for housing the staff of Government, Semi-Government, Public Undertaking and Private Limited Company for short duration.
	5.2	Boarding House: Boarding house is a premise in which rooms are let out on a long-term basis as compared to hotels. Lodging House is a premise used for lodging of less than 50 persons.
	5.3	Hostel: A premise in which rooms attached to " Institutions" or otherwise, are let out on a long-term basis to students, trainees and workers.
	5.4	Reformatory and Orphanage: Orphanage would mean a premise with facilities for boarding of children who are bereaved .of parents. It mayor may not have educational facilities. Reformatory would mean a premise with facilities for confinement and reform of offenders.
	5.5	School for mentally Physically Challenged Persons: A premise with facilities for education, treatment, reformation and empowerment of mentally and/or physically challenged persons. It may be managed by an individual or institution on commercial or noncommercial basis.
	5.5 (a)	Creche & Day Care Centre: A premise having nursery facilities for infants during daytime. The centre may be managed by an individual or institution on commercial or noncommercial basis.
	5.5 (b)	Play & Nursery School: A premise with facilities for training and playing for children preparatory to the school.
	5.6	Old Age Home: Premises with commercial or non-commercial arrangement for long or short term stay of old people/ senior citizens . It may include arrangement for recreation, general health, catering etc.
	5.7	Primary School: A premise having educational and playing facilities for students up to 5th standard.
	5.8 (a)	Secondary School Senior Secondary School: A premise having educational and playing facilities for students up to X or XII standard. It shall include existing middle schools, which are upto VIII standard.
	5.8 (b)	Integrated Residential School: A premise having educational and playing facilities up to XII standard. It shall have boarding facilities for students and

Sr. No.	Ref. No.	Definition
		may have residence for faculty.
	5.9	Vocational Institute: A premise with training facilities for short term courses for discipline, predatory to the employment in certain profession and trade. It includes training-cum-work centre.
	5.10	Degree/ PG/ Professional College: A premise with educational and playing facilities for under-graduate and post-graduate courses under a university. It includes all professional disciplines.
	5.11	University: An institution for higher learning with teaching and research facilities as recognized by UGC. A university may exist without having any college connected with it, but have assemblage of colleges affiliated to it.
	5.12	Post office: A premise with facilities for postal communication for use by the public.
	5.13	Telephone Exchange: A premise having facilities for central operation of telephone system for a designated area.
	5.14 (a)	Police Station: A premise having facilities for the offices of local police station. It may include the residence of essential staff.
	5.14 (b)	Fire Station: A premise with facilities for fire fighting for a catchment area assigned to it. It may include residence of essential staff.
	5.15	Police Post: A premise having facilities for a local police post of a temporary nature or on small scale as compared to a police station.
	5.16	Library: A premise having large selection of books for reading and reference for general public or specific class.
	5.17	R&D Centre: A premise having facilities for research and development for any specialized field.
	5.18 (a)	Health Centre/ Family Welfare Centre: A premise having facilities for treatment of indoor and outdoor patients having up to 30 beds. The health centre may be managed by a public or a charitable institution on non-commercial basis. It includes family welfare centre.
	5.18 (b)	Dispensary: A premise having facilities for medical advice and provision of medicines by public or charitable institutions.
	5.19	Trauma Centre: A premise having medical facilities of specialized nature for providing instant treatment to patients under trauma.
	5.20 (a)	Hospital: A premise providing medical facilities of general or specialized nature for treatment of indoor and outdoor patients.
	5.20 (b)	Medical College: A premise where teaching, treatment, operation and research & development related to human bodies is carried out.
	5.21	Clinic / Polyclinics: A premise with facilities for treatment of outdoor patients by a doctor. In case of a polyclinic, it shall be managed by a group of doctors.
	5.22	Nursing Home: A premise having medical facilities for indoor and outdoor patients having up to 30 beds. It shall be managed by a doctor on commercial basis.
	5.23	Clinical Lab / Diagnostic Centre: A premise with facilities for carrying out various tests for confirmation of symptoms of a disease.
	5.24	Veterinary Hospital / Dispensary: A premise offering medical and similar facilities for animals.
	5.25	Health Club / Gymnasium: A room or building equipped for indoor sports and gym facilities.
	5.26	Dance / Music / Art Centre: A premise having facilities for imparting training and coaching for dance, music and art.

Sr. No.	Ref. No.	Definition
	5.27	Yoga / Meditation Centre : A premise having facilities for self attainment, achieving higher quality of mind and body etc.
	5.28	Milk Booth : A premise for retail sale of milk directly to consumers by manual or other means.
	5.29	Religious Building / Centre : A premise dedicated to accommodations and service of God and other objects of religious nature. It may have different nomenclature in different religions like temple for all faiths, mosque, church, Gurudwara, synagogue, ashram, bathing Ghats, Gaushala etc.
	5.30	Community Centre : A premise having an enclosed space for various social and cultural activities of a neighbourhood or a group housing complex.
	5.31 (a)	Convention/Conference Centre : A premise having all facilities for meeting, symposium, seminar etc. where a number of people from different organizations will be participating.
	5.31 (b)	Auditorium : A premise having an enclosed space to seat audience and stage for various performances like concerts, play, dance, drama, music, recitals, functions etc.
	5.32	Planetarium : A premise with necessary facilities and equipments for studying planets.
	5.33	Socio-cultural Centre : A premise with facilities for activities of socio-cultural nature.
	5.34	PCO : A premise with facilities to make phone calls from telephone to local, STD and international subscribers on payment basis.
	5.35	Internet/ Information Centre : A premise used for internet system for communication purposes.
	5.36	Social Welfare Centre : A premise with facilities for welfare and promotion of community development. It shall be run by a public or charitable institution.
	5.37	Cremation/ Burial ground/ Crematorium : Cremation ground would mean a premise with facilities for performing last rites of dead bodies by burning. Burial ground would mean a premise with facilities for burying of dead bodies. Crematorium would mean a premise with facilities for disposing off dead bodies in an electrical/ electronic furnace.
	5.38	Sewerage Treatment Plant : A premise with treatment facilities used for treatment of sewage.
	5.39	Sewerage Pumping station : A premise with a pumping station used for pumping sewage on to a higher gradient.
	5.40	Sanitary Landfill Site : A premises where solid waste is disposed off for short or Specific period.
	5.41	Solid Waste Treatment Plant : A premise where solid waste is collected, treated mechanically / electrically and processed for reuse.
	5.42	Tube Well/ Over Head Tank/ Underground Tank/ Rainy Well : Tube Well: A system to extract water from underground sources using mechanical means. It may consist of a room for operation and maintenance. Over Head Tank: A premise having overhead tank for storage and supply of water to its neighbouring areas. It may or may not include a pump house. Underground tank: A premise having underground tank for storage and supply of water to its neighbouring areas. It may or may not include a pump house. Rainy Well: A system to extract water from underground sources on the banks of a water body.
	5.43	Electric Sub Station : A premise having electrical installation and transformation

Sr. No.	Ref. No.	Definition
		for distribution of power.
	5.44	Public Toilet: A premise having latrines and urinals for use of public.
F.	6	TRANSPORTATION
	6.1	Open Parking: A premise open to sky used for parking of vehicles.
	6.3 (a)	Taxi/ Auto Stand: A premise used for parking of intermediate public transport vehicles run on commercial basis.
	6.3 (b)	Cycle Rickshaw Stand: A premise used for parking rickshaws and cycles.
	6.4	Truck Terminal/ Transport Nagar: A premise for parking of trucks on short term or long term basis. It may include agency offices, workshops, dhabas, spare part shops, god owns, petrol/ diesel filling stations, restaurants, guest houses, hotels and such other operational facilities as decided by the Authority
	6.5	Bus Stand / Shelter: A Bus Stand or Bus Shelter is a designated location on a road away from carriage-way to park buses for short time periods for embarkation and disembarkation of passengers.
	6.6 (a)	Bus Depot: A premise used by a public transport agency or any other such agency for parking, maintenance and repair of buses. This may or may not include a workshop.
	6.6 (b)	Bus Terminal: A premise used by a public or private transport agency to park the buses for short periods. It may or may not include restaurants, guest house, hotel and such other operational facilities for passengers.
	6.7	Motor Garrage/ Service Garrage/ Workshop: A premise for servicing and repair of automobiles.
	6.8	Traffic Park/ Children Traffic Park/ Training Centre: A premise in the form of park with facilities for introducing and educating public children about traffic and signals. The training centre shall have facilities for training of driving automobiles.
G.	7	PARK AND RECREATION
	7.1 (a)	Park: A premise used for recreational leisure activities. It may have on it related landscaping, parking facilities, public toilet, fencing etc. It will include synonyms like lawn, open space, green etc.
	7.1 (b)	Play Ground: A premise used for outdoor games. It may have on it landscaping, parking facilities, public toilet etc .
	7.2	Multipurpose Open Spaces: Space / Area which is essentially open and can be used for multiple temporal functions.
	7.4 (b)	Sports Training Centre: A premise having facilities for training and coaching for different indoor and outdoor games including swimming. It shall also include centre for physical education.
	7.4 (c)	Sports Complex: A premise for outdoor and indoor games with pavilion building, stadium and related facilities.
	7.6	Indoor Stadium/ Games Hall: A premise for indoor stadium with play area and spectator seating including related facilities.
	7.7	Amusement/ Specialized/ Theme Park: Amusement Park and Theme Park are terms for a group of rides and other entertainment attractions assembled for the purpose of entertaining a large group of people. An Amusement Park is more elaborate than a simple park or playground, usually providing attractions meant to cater to children, teenagers and adults.
	7.8 (a)	Recreational Club: A premise used for gathering of a group of persons for social and recreational purpose with all related facilities.
	7.8 (b)	Swimming Pool: A premise with facilities for swimming and spectators seating

Sr. No.	Ref. No.	Definition
		which shall vary with standard and purpose.
	7.9 (a)	Museum / Auditorium: Museum means a premise with facilities for storage and exhibition of objects illustrating antiques, natural history, art etc. Auditorium means a premise having an enclosed space to seat audience and stage for various performance like concerts, play, recitals, functions etc.
	7.9 (b)	Conference Hall: A premise having facilities for meeting, symposium, seminar etc. where a number of people will be participating.
	7.9 (c)	Art/ Exhibition Gallery: A premise with facilities for exhibition and display of paintings, photographs, sculptures, murals, ceramics, handicrafts or products of specific class.
	7.10	Open Air Theatre: A premise having facilities for audience seating and a stage for performance open to sky.
H.	8	AGRICULTURE
	8.1	Orchard/ Plant Nursery/ Social Forestry: Orchard would mean a premise with a thick growth of fruit trees. It may also include garden with fruit trees. Plant nursery would mean a premise with facilities for rearing and sale of young plants. Forestry would mean a premise with thick natural flora including social forestry, which may have part natural flora and part man made flora.
	8.2	Farm House: A premise with a dwelling house built on a farm for the owner of the agricultural land.
	8.3	Dairy Farm: A premise with facilities for preparing and processing of dairy products. It may have temporary structures for sheds of cows
	8.4	Poultry Farm: A premise with facilities for rearing and processing of poultry products. It may have temporary structures for sheds of birds.
	8.5	Fisheries Farm: Farm having practice of fisheries in the premises.

Conditions for activities in Zoning Regulation under conditional permissibility

Code No.	Necessary conditions for permissibility
1	Guard room on ground floor
2	Residential use on above floors leaving ground floor
3	Up to 5% of total area of plan
4	Up to 1% of total area of plan or maximum of 0.1ha of total area of plan, whichever is less.
5	10% area of total area of plan
6	On minimum 6 m wide road
7	On minimum 12 m wide road
8	On minimum 18 m wide road
9	On minimum 24 m wide road
10	On minimum 12 m wide road and maximum of 20 m wide road
11	On minimum 18 m wide road and maximum of 50 m wide road
12	Only on commercial centre highlighted in LUDCP
13	Only on manufacturing highlighted land use in LUDCP
14	Only permitted for non-hazardous activities
15	Only permitted outside existing built up area
16	Only permissible on major roads above 24 m width.

Code No.	Necessary conditions for permissibility
17	On minimum 12 m wide road with surface parking within the plot premises
18	On minimum 12 m wide road and away from existing built up area
19	Inside existing built up area
20	25% of permitted FAR or 100 sq.m, whichever less.
21	Only for incidental uses
22	Only in open form or unorganized
23	Only for contagious diseases- with a minimum radius of 500 m from settlement area.
24	Only in existing local park and existing recreation places
25	Only in proposed recreational places
26	Permissible in minimum 1 acre of Farm having maximum 250 sq.m covered area

Zoning regulation is regulated through three case scenarios: permissible, conditionally permissible and non-permissible (prohibited) across the various activities. These activities and predominant land uses are arranged in the form of a matrix which governs the future development. The columns are land uses and the rows represent the activities which can define the type of development. Each activity is relatively put for compatibility across land uses. The colour depiction for permissibility levels is discussed below.

Permissibility Matrix

INDEX	
Use Permitted	
Conditionally permitted	1 to 26
Uses prohibited	

Abbreviations
Res. - Residential
Comm. - Commercial
Manu.- Manufacturing
PSP.- Public and Semi-Public
Trans. - Transportation
Rec. - Recreational Green
Grn. B. - Green Belt/ Buffer
Agri. - Agriculture

Sr. No.	Activities	Existing Built up Area	Land Use Zones							
			Res.	Comm.	Manu.	PSP.	Trans.	Rec.	Grn. B.	Agri.
			3	4	5	6	7	8	9	10
1	Residential									
	Residential House / Plot			2	3					
	Group Housing	7			3			5		
	Guard / Chowkidar Residence			2	4	4	1	4		20
2	Commercial									
	Retail Shop		7					6		
	Repair Shop		7	7	7	7	7			
	Vending booth		7		7					
	Showroom	7			7			6		
	Weekly Market		7							
	Convenience shopping centre		12	7						
	Local/ Sector level Shopping centre		12	7						
	Shopping Mall			7	7					
	Informal Commercial Unit	6	6		6	6				
	Wholesale Market/ Mandi			7	7					
	Confectionary / Atta Chakki		6							
	Coal / Wood Market	6	7		7		7			
	Building Material Market			7			7			
	Vegetable / Fruit Market		12		7		7			
Cold Storage	7		7			7				

Sr. No.	Activities	Existing Built up Area	Land Use Zones							
			Res.	Comm.	Manu.	PSP.	Trans.	Rec.	Grn. B.	Agri.
			3	4	5	6	7	8	9	10
	Hotel	12	12				8	8		
	Restaurant / Canteen / Food Court		6					6		
	Petrol/ Diesel/ Gas Filling Station	8	9		9	9				7
	Gas Godown			7			7			
	Cinema/ Multiplex	7	8							
	Agricultural equipment workshop/ service centre	8			8	8	8			
3	Manufacturing									
	Service Industry	15	9	9		9				
	Information/ Software Technology Park	9	9	9						
	Small/ Light Industry			8						
	Agro based Industries	11	11	8		11				
	Sugar Mill, Rice Rollers/ Flour Mill									
	Dangerous/ Polluted Industries									
	Brick Kilns/ Crushers									
	Milk Pasteurization and Collection Centre									7
	Electricity Generation Plant/ Centre									7
4	Public and Semi-Public									

Sr. No.	Activities	Existing Built up Area	Land Use Zones							
			Res.	Comm.	Manu.	PSP.	Trans.	Rec.	Grn. B.	Agri.
			3	4	5	6	7	8	9	10
	Govt/Semi Govt/Public Undertaking/Local Body Office	6	7		20	20	20			
	Professional/Personal/Agent Office		20			20	20			
	Bank	6	7				7			7
	Commerce/Trading Offices	6	7			7	7			
	Labour Welfare Centre	6	6	6			6			6
	Satellite/Wireless/Telecom munication Centre	7	7	7	7	7	7			
	Guest House/Lodging	6	6				6			
	Boarding House/Night Shelter	6	6				6			
	Hotel	6	6	7	7					
	Reformatory and Orphanage	7	7	7	7					
	School for mentally/Physically Challenged Persons	19	6							
	Crèche & Day care centre									
	Old age home									
	Primary Education Institutions	6	6	6						
	Senior Secondary School	6	7	7						
	Vocational Institute		19							

Sr. No.	Activities	Existing Built up Area	Land Use Zones							
			Res.	Comm.	Manu.	PSP.	Trans.	Rec.	Grn. B.	Agri.
			3	4	5	6	7	8	9	10
	Degree/PG/Professional(medical/Engg.etc) college			9	9					
	University									
	Post Office		6							6
	Telephone, Radio and Television Office/Centre	6								7
	Police Station/Police Post/Fire Station		7							7
	Library		6							
	R & D Centre		6		6					
	Health Centre/Family Welfare Centre/Dispensary	9								
	Trauma Centre		7							
	Hospital	10			10					23
	Nursing Home	9	9		9					9
	Clinical Lab/Diagnostic Centre									23
	Health Club/Gymnasium									
	Dance/Music/Art Centre	6	6							
	Yoga/Meditation Centre	6	17					6		21
	Banquet Hall/Barat Ghar	7	7	7						
	Socio-cultural Centre	6	17	7			7			
	Social Welfare Centre	6			7					
	Cremation/Burial					14				

Sr. No.	Activities	Existing Built up Area	Land Use Zones							
			Res.	Comm.	Manu.	PSP.	Trans.	Rec.	Grn. B.	Agri.
	1	2	3	4	5	6	7	8	9	10
	ground/Crematorium									
5	Utilities									
	Sewerage Treatment Plant/Sanitary Landfill Site				14	14				
	Tube well/Over head tank/Electric sub-station							24		
	Water Works			7	7					
	Microwave Station			7	7	7	7	7		
	Compost Plant									
	Slaughter House						14			
	Cellular/ Mobile Tower								25	
6	Transportation									
	Open Parking			8			16	8		
	Taxi/ Auto/ Rickshaw stand			8			16			
	Bus Depot/ Transport Nagar									
	Bus Stand/ Shelter	7	7	7	7	7	16			
	Bus Terminal					7				
	Motor Garage/ Service Garage/ Workshop	7						6		
	Driving Training Centre									
	Loading/ Unloading Platform	7								
	Railway Godown/ Railway yard, Bus shelter					9				

Sr. No.	Activities	Existing Built up Area	Land Use Zones							
			Res.	Comm.	Manu.	PSP.	Trans.	Rec.	Grn. B.	Agri.
			3	4	5	6	7	8	9	10
	Weighing Bridge	7		7	7					
	Airport									
7	Parks and Recreation									
	Parks and Playground									
	Multipurpose Open spaces	7	7	7						
	Stadium / Sports Training Centre	22								
	Picnic Sport					21		21		21
	Traffic Park									
	Recreational Club/ Swimming Pool	6	6					6		
	Zoo, Aquarium, Museum									
8	Agriculture									
	Orchard/ Plant Nursery/ Social Forestry									
	Farm House									26
	Dairy farm									
	Poultry farm									
	Fishery Farm									
	Dhobi Ghat								18	18

7. Development Control Regulations

7.1 Development Control Regulation for Growth Centres

The Development Control Regulations such as FAR, Ground Coverage, setback, height restriction norms etc. are as follows:-

7.1.1 Ground coverage

The maximum permissible ground coverage for building, when a plot contains a single building, shall depend on the plot size and the use of the building as given in the table below:

Maximum permissible Ground Coverage (Plot containing a single building)

Type of building.	Maximum permissible ground coverage.
Residential and educational:	
(a) Plot size up to 200 sq. meters	65%
(b) Plot size of above 500 sq. meters;	50%
Other uses	40%

For any other size of the plot, in between the plot size of 201 to 500 square meters, the percentage of coverage shall be calculated by direct interpolation.

7.1.2 Permissible height of buildings

Height of a building shall be the vertical distance measured from the average level of the centre line of the adjoining street or passage on which the plot abuts to the highest point of the building, whether with flat roof or sloped roof.

Sl No.	Width of means of access (in meters)	Maximum permissible height (in meters)
1.	2.40 to 3.50	8.00
2.	Above 3.50 to 7.00	11.00
3.	Above 7.00 to 10.00	14.50
4.	Above 10.00 to 15.00	18.00
5.	Above 15.00 to 20.00	24.00
6.	Above 20.00 to 24.00	36.00
7.	Above 24.00	1.5 x (width of the means of access + required width of front open space)

7.1.3 Open spaces for building

The minimum open spaces with respect to height and Category of buildings shall be as follows:—

For residential use:

Height (meter)	Front open space (in meter).	Open space on side 1 (in meter).	Open space on side 2 (in meter).	Rear open space (in meter).
Upto 8.0	1.2	1.2	1.2	2.0
Above 8.0 upto 11.0	1.2	1.2	1.2	3.0
Above 11.0 upto 14.5	1.5	1.5	2.5	4.0
Above 14.5 upto 18.0	3.5	3.5	3.5	5.0
Above 18.0 upto 24.0	5.0	5.0	5.0	7.0
Above 24.0 upto 36.0	6.0	6.5	6.5	9.0
Above 36.0 upto 60.0	8.0	8.0	8.0	10.0
Above 60.0 upto 80.0	10.0	15% of the height of the building	15% of the height of the building	12.0
Above 80.0	12.0	15% of the height of the building	15% of the height of the building	14.0

For Educational use:

Height (meter)	Front open space (in meter).	Open space on side 1 (in meter).	Open space on side 2 (in meter).	Rear open space (in meter).
Upto 11.0 meter (land area upto 500.0 square meter)	2.0	1.8	4.0	3.5
Upto 11.0 meter (land area above 500.0 square meter)	3.5	3.5	4.0	4.0
Above 11.0 meter upto 14.5 meter	3.5	4.0	4.0	5.0
Above 14.5 meter upto 21.0 meter	5.0	5.0	5.0	6.0
Above 21.0 meter	20% of the height of the building or 6.0 M, whichever is more	20% of the height of the building or 5.0 M, whichever is more	20% of the height of the building or 5.0 M, whichever is more	20% of the height of the building or 8.0 M, whichever is more

For Institutional, Assembly, Business, Mercantile:

Height (meter)	Front open space (in meter).	Open space on side 1 (in meter).	Open space on side 2 (in meter).	Rear open space (in meter).
Upto 11.0 meter (land area upto 500.0 square meter)	2.0	1.8	4.0	4.0
Upto 11.0 meter (land area above 500.0 square meter)	3.0	3.5	4.0	4.0
Above 11.0 meter upto 18.0 meter	4.0	4.0	4.0	5.0
Above 18.0 meter upto 24.0 meter	5.0	5.0	5.0	9.0
Above 24.0 meter upto 36.0 meter	6.0	6.5	6.5	9.0
Above 36.0 meter	8.0	9.0	9.0	10.0

For Industrial and Storage Building:

Height (meter)	Front open space (in meter).	Open space on side 1 (in meter).	Open space on side 2 (in meter).	Rear open space (in meter).
upto 11.0 M	5.0	4.0	4.0	4.5
Above 11.0M upto 18.0 M	6.0	6.5	6.5	10.0
Above 18.0 M	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more

7.1.4 Permissible FAR for Residential Building

For residential use:

Plot Size (sq.m)	FAR
Upto 2000	1.25
2001-3000	1.25
3001-4000	1.75
4001-5000	1.75
5001-6000	2.10
6001-7000	2.10
7001-8000	2.25
8001-9000	2.25
9001-10,000 and above	3.20
Permissible for institutional and Commercial Buildings	2.75

7.1.5 Permissible Ground coverage, FAR and setbacks for Industrial Plots

Sr. No	Plot Size	Ground coverage %	Minimum Setback			FAR
			Front	Sides	Rear	
1	Upto 500 Sq mt	60	3.2	2.1	2.1	1.25
2	501 – 1000 Sq mt	60	4.5	3.0	3.0	1.25
3	1001 – 2000 Sq mt	60	7.5	3.75	4.5	1.00
4	2001 – 5000 Sq mt	60	9.0	4.5	4.5	1.00
5	Above 5000 sq mt	60	12	6	6	1.00

7.1.6 Distance from electric lines.

No building, or verandah, or balcony or projection in any building shall be permitted to be erected, re erected, added to or altered, in any case where the distance between such construction and any overhead electric lines, in accordance with the provision of the Electricity Act, 2003 (36 of 2003), is less than that specified hereinafter:—

	Vertical clearance	Horizontal clearance
Low and medium voltage lines including service lines	2.5 m	1.2 m
High voltage lines up to and	3.7 m	1.2 m

including 11,000 volts		
High voltage lines above 11,000 volts and up to and including 33,000 volts	3.7 m	2.0
For extra high voltage lines beyond 33,000 volts	3.7 m plus 0.3 m for every additional 33,000 volts or parts thereof	2.0 m plus 0.3 m for every additional 33,000 volts or parts thereof

7.2 DCR for Rural Areas

For rural areas following regulations shall be applicable. (Source: Model Guidelines for Development & Building Construction including safety provisions for Natural Hazards in Rural Areas, Prepared under Gol – UNDP Disaster Risk Management Programme Ministry of Home Affairs, Govt. of India New Delhi)

i. Residential Development

The Residential plotted development, till the development plans are prepared, the following norms shall be as follows:

1	Plotted Development excluding other activities such as Cattle Shed, Storage etc.	60 and above plots/hectare
2	Covered area per dwelling unit	25 sq. m. (minimum)
3	Height of buildings	10 m maximum (3 storeys)

Note: In exceptional cases, the height may be relaxed by Zilla Parishad Panchayat.

ii. Road Hierarchy

1	Road which connects villages to nearby areas	9 m (min.)
2	Main Village Roads	6 m
3	Internal Village Roads	4.5 m

iii. Social Facilities

Sr. No	Use	Standard Population	Area
1	Primary School	1 for 5000 population	0.4 to .6 hec
2	High School with primary school	1 for 15000 population	1 hectare
3	Dispensary/Health Centre	1 for 5000 population	05 hectare
4	Community Hall	1 for 5000 population	05 hectare
5	Anganwadi	1 for 5000 population	05 hectare

iv. Space requirement

The plot size ground coverage, FAR, height and set backs of various uses shall be as per following tables

Note:

1. The setbacks proposed here under will be limited to table i to iv. The setbacks along highways will be minimum as prescribed in section xii.
2. The norms are suggestive and may be modified as per local conditions in the States

3. The norms of nearby urban areas may also be referred.

v. Residential: Plotted Housing

Table: Plot Size, Ground Coverage, FAR, dwelling units, Storeys, height and set backs

Sr. No	Plot area in Sqm	Max Ground coverage %	FAR	No. of D/U	Max height in Mt	Set Back in Mt		
						Front	Side	Back
1	Below 30	90%	1.80	2	6	1.2		
2	30 - 50	80%	1.60	2	6	1.2		
3	51 - 100	80%	1.60	3	9	2.0		1.5
4	101- 150	75%	1.50	3	9	2.0		2.0
5	151 - 250	66%	1.30	3	9	3.0		3.0
6	251 -500	60%	1.20	3	9	4.5	1.5	3.0
7	Above 501	50%	1.00	3	9	4.5	3.0	3.0

* Subject to the minimum of 25 sqm covered area.

vi. Commercial Use

Table: Ground Coverage, FAR, height and set backs

Sr. No	Use	Ground coverage %	FAR	Max height in Mt	Set Back in Mt	
					Front	Back
1	Convenient Shops	75%	1.00	6	2	-
2	Local Shopping Centre	50%	1.00	6	3	-
3	Sectoral / Shopping	49%	1.20	9	4.5	-

Minimum size of plot for above will be 20 sq m

vii. Industrial Use

(Resource based cottage industries, non-polluting and non-hazardous industries except those permitted by the State)

Table: Ground Coverage, FAR, height and set backs

Sr. No	Plot size in Sqm	Max Ground coverage %	FAR	Max height in Mt	Set Back in Mt		
					Front	Side	Back
1	100 - 400	60%	1.20	8	3	-	3
2	401 - 1000	55%	1.10	8	4.5	-	3
3	1001 – 4000	50%	1.00	8	6	3	3
4	Above 4001	45%	0.90	8	9	3	4.5

viii. Institutional & Community Facilities

Table: Plot Size, Ground Coverage, FAR, height and set backs

Sr. No	Plot size in Sqm	Max Ground coverage %	FAR	Max height in Mt	Set Back in Mt		
					Front	Side	Back
1	Upto 1000	40%	1.20	9	4.5	3	3

Sr. No	Plot size in Sqm	Max Ground coverage %	FAR	Max height in Mt	Set Back in Mt		
					Front	Side	Back
2	1001 - 2000	33%	1.10	9	4.5	3	4.5
3	2001 – 4000	30%	0.90	9	6	3	4.5
4	Above 4001	25%	0.90	12	9	3	6

ix. Education & Health

Table: Plot Size, Ground Coverage, FAR, height and set backs

Sr. No	Use	Max Plot size in Sq.Mt	Ground coverage %	FAR	Max height in Mt	Set Back in Mt		
						Front	Side	Back
1	Nursery school/ Anganwadi	Upto 500	25%	1.00	10	3	3	3
2	Nursery school/ Anganwadi	501 - 1000	33%	1.00	10	4.5	3	3
3	Nursery school/ Anganwadi	1001 - 1500	33%	1.00	10	4.5	3	3
4	Primary school	1501 - 3000	30%	0.90	10	6	3	6
5	Senior secondary school	4000 – 10,000	25%	1.00	12.5	9	4.5	6
6	Nursing home, dispensary & diagnostic centre	250	35%	0.70	6	3	-	3
		251 – 500	33%	1.00	9	4.5	3	3
		Above 501	30%	1.00	12	6	3	4.5

x. Parking Norms

The following equivalent car parking space (ECS) be provided as follows:

Sr. No	Use	No. of Equivalent car space (ECS)
1	Residential plotted development	1 for 100-200 sqm Plot 2 for plots more than 201 sqm
2	Multifamily residential	1 for 75-100 sqm built-up area 1.25 for more than 101 sqm built-up area
3	Commercial Multiplex/shopping Mall	2 for every 100 sqm built-up area 1 for 10 seats and 2 for 100 sqm built-up area
4	Motel	1 for every room
5	Wholesale Mandi Godown/Cold storage	2.5 for 100 sqm built-up area 1 for 550 cu.m storage
6	Offices/Conference hall/Banquet hall	2 for 100 sqm built-up area
7	Educational	1 for 100 sqm built-up area
8	Industrial	0.5 for 100sqm built-up area

xi. Control of building activities along highways

The accesses to and developments along the National Highways, State Highways, Major District roads, shall conform to the following Regulations.

No development abutting National Highways, State Highways, Major District roads, shall be permitted without obtaining the NOC for access to such development from Highway Authorities or other appropriate authority. The development shall have to be separated from such highway by a parallel service road at least 12.00 m. wide.

Any activities related to excavation, earth work, construction, demolition or repairs to all sites within 100 m. from these roads shall be in accordance with the setback mentioned here below, subject to NOC from PWD/NHAI, where ever applicable

Type of building activities	National Highway or State Highway	Major District Road	Village Roads
Theatres, Industrial Units etc. Major Commercial Establishments	8 m. front set back	5 m. front set back	3m
Residential	5 m. front set back	3 m. front set back	3m
Institutional	8 m. front set back	5 m. front set back	5m
Excavation for taking out earth	100 m. front set back	100 m. front set back	50m

Essential highway amenities and services, namely, petrol pump, service station including emergency repair services, restaurants, parking lots, motels, police check-post, toll station, octroi post shall be permitted direct access from the National Highways, State Highways, Major District roads. Such access shall be provided with proper lay-by as per the guidelines specified by the Indian Road Congress.

FAR, No. of storeys and Maximum Height of buildings in Village settlements along National Highways, State Highways, Major District roads

Location	FAR	No. of storeys	Max. height
Village settlement	1.0	G + II or m. stilt with III	13.5
Development within 200 m from Village settlement boundary.	1.00	G + II or stilt with III	13.5 m.

Provisions kept for existing development along National Highway, State Highway and Major Arterial roads.

All Existing non nuisance, non-polluting uses to continue in the following use zones:

- Residential
- Commercial
- Industrial
- Public/Semi-public
- Transportation and Communication

All existing non nuisance, non-polluting uses may be allowed to continue/discontinue after an application for special permission to the Authority in the following use zones:

- Recreational
- Green Buffer
- Agricultural

Map 7.1 of volume II shows the applicability of DCR in two separate entities- for rural areas and for growth areas.

7.3 Levy of Development Charges

In accordance with the West Bengal Town & Country (Planning & Development) Act, 1979, Haldia Development Authority shall levy charge for carrying out any development or change of land use. The present rates of development charge for institutional use, change of use and for carrying out development by erection or re-erection has been notified vide Notification No. 1913/HDA/IX-73(Part-I) dated 8th November, 2013. (Notification annexed in the Annexure- 12 of volume III).

However, the rate of 'Development Charge' shall be applicable as per the rate of Development Charges approved by the Government from time to time, as per provisions under the West Bengal Town and Country (Planning and Development) Act, 1979.

For activities listed under predominant 'Residential' land use shall be charged as Residential, however the activities listed under predominant 'commercial', 'Public and Semi-Public', 'Transportation', 'Recreation', 'Green Belt/ Buffer' land uses shall be charged as Commercial. For activities under predominant 'Manufacturing' land use shall be charged as Industry. The development charges for activities under 'Agriculture' land use shall be charged for change of use as listed in the table above.

Section 104 gives the assessment of development charge, section -105 appeals against assessment and section -106 –development charges to be charged on land and to be recoverable as arrears of land revenue; in the Act.

In addition to this, Section 46, sub section (1)-(7) of the Act explains the process of taking permission from the development authority for carrying out any development work in PEHP area. Any person or body (excluding a department of the Central or the State Government or any local authority) intending to carry out any development on any land shall make an application in writing to the Planning Authority or Development Authority for permission in such form and containing such particulars and accompanied by such documents and plans as may be prescribed in the Act under the said sections.

Section 47 details the appeal against grant of permission subject to conditions or refusal of permission. Section 48, sub section (1), (2) and (3) of the Act gives provision for lapse of permission, wherein the permission for development shall remain for a period of one year with other provisions in the Act as may be prescribed.

8. Plan Phasing, Monitoring and Review

Plan Monitoring is essential to evaluate the changes required to improve the implementation of the Plan. Phasing makes the plan responsive to ever changing socio-economic forces.

8.1 Plan Monitoring and Review

The physical and socio-economic indicators responsible for development need to be monitored so that the changes required for improving the quality of life can be put into action. The plan shall be monitored continuously to update the socio-economic changes. Monitoring helps in evaluating the achievements of physical targets proposed in the plan. Following are the important indicators of physical and socio-economic changes to be monitored for the PEHP Area at 5 year intervals i.e. 2016 – 2021, 2021-2016.

Indicators of physical and socio-economic changes are listed below.

8.2 Plan Monitoring Review

Demographic	Population size, Age-sex structure, migration, HH Size, density pattern.
Economic	Distribution of Household by income, employment, workers participation rate, occupation pattern, growth of economic activities, increase in commercial activities in relation to population
Land Use	Land Use pattern, Layout Plans, Deviation in Land Use Plan, % of Proposed Land Use developed
Physical Infrastructure	Access to safe drinking water (supply rate at 155 lpcd for Growth Centre and 70 lpcd for rural area), access to sewerage (100% coverage of Household) and removal of garbage (visual inspection of vacant land/ plots, drains with development of Land fill site), drainage (% of water logged area).
Social Infrastructure	Access to health facilities & education facilities at different levels, number and capacity of various facilities such as police, fire, recreational areas, stadium, libraries etc. as per the population standards.
Housing	Household size, number of housing units vs. Housing need, housing condition
Environment	Air pollution, water pollution & noise pollution, Conservation of water bodies and préservation of green buffer, Forest etc.
Transport	Construction and development of Lu & DCP roads, Trips by public transport, Parking demand and supply in different areas, construction of other infrastructures like, Bus Stops, Truck Terminal etc. as per Plan proposals.

The above-mentioned list of socio-economic indicators is not exhaustive; HDA could add more indicators in due course of time.

8.3 Monitoring Unit

A dedicated Monitoring Unit with modern data processing facilities should be set up which would be responsible for collecting and analyzing primary and secondary data, acknowledging the important changes to the notice of Haldia Development Authority. A suitable mechanism is proposed which includes monitoring unit, which is also be in-charge of approved development plans and layout plans, infrastructure plans etc. enabling the LU & DCP for its timely implementation, identifying the need for any changes/ modifications.

8.4 Comprehensive Plan Review

In view of uncertain and changing socio-economic conditions, the LU& DCP - 2026 needs to be reviewed at 5 yearly intervals with a major midterm review in 2021 for target year of 2026. Reviewing indicators are discussed above.

8.5 Plan Phasing and Development Priority

Major Projects in the Plan with tentative time frame for its completion are listed in the table given below. Projects are listed under various development heads like, village development, residential, commercial, infrastructure, etc. Yearly interval for 5 year phasing is considered for developmental projects divided in three project phases 2011- 2016, 2016-2021, 2021-2026.

Project Phasing and Development Priority, PEHP area 2026																		
Sr. No.	Projects	Project Phasing (Percentage of work)															Implementing/ concerned Agencies	
		Phase I (2011-2016)					Phase II (2016-2021)					Phase III (2021-2026)						
		2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026		
1 Village Development																		
1.1	Village Development Plan																	HDA, BDO, PHED, PWD, State Electricity Dept. and Gram Panchayat
1.2	Facility																	
2 Growth centre Development (I and II)																		
2.1	Neighbourhood centres in Growth centre																	WBSIDC, HDA, PHED, PWD and concerned agencies
2.2	Facility Development in Growth centre																	
2.3	Commercial Development																	
2.4	Infrastructure Development																	
2.5	Industrial Development																	
3 Road Development																		
3.1	Nandakumar Rotary																	PWD, HDA
3.2	LUDCP Road (45 m, 30 m, 24 m)																	
3.3	Road up gradation and Strenghtening																	

The

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PART I—Orders and Notifications by the Governor of West Bengal, the High Court, Government Treasury, etc.

HALDIA DEVELOPMENT AUTHORITY

(ISO 9001:2015 Certified)

Haldia Unnayan Bhawan, City Centre, Debhog,
Haldia, Dist. Purba Medinipur-721 657

PUBLIC NOTICE

No. 02/HDA/IX-127/2014

Dated, Haldia, the 2nd April, 2018.

**Under section 38 of the West Bengal Town and Country (Planning and Development) Act, 1979
(West Bengal Act-XIII of 1979).**

Notice is hereby given that Haldia Development Authority has, in exercise of its power conferred by section 38 of the West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) prepared Land Use and Development Control Plan in respect of part of Haldia Planning Area which was notified vide Notification No. 354-T&CP/C-2/2L-7/2001(I) dated 16-02-2004 and 355-T&CP/C-2/2L-7/2001(I) dated 16-02-2004 consisting of all the mouzas under Nandigram - I & II Blocks in the District of Purba Medinipur and the same has been approved by the Government of West Bengal, Urban Development & Municipal Affairs Department, Town & Country Planning Branch as per provisions of 37 of West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) vide memo no. 911 -T&CP/C-2/1S-04/13 dated 29-03-2018.

Copy of the said Land Use and Development Control Plan may be inspected on all working days between 11-00 A.M. and 4-00 P.M. at the Office of the Chief Executive Officer, Haldia Development Authority, Satish Samanta Bhawan, City Centre, Debhog, Haldia, Dist. Purba Medinipur-721 657.

By order of the Authority,

Dated : Haldia, 2nd April, 2018.

UJJAL KUMAR SEN GUPTA, IAS,
Chief Executive Officer, Haldia Development Authority

LAND USE AND DEVELOPMENT CONTROL PLAN
FOR
NANDIGRAM I & II BLOCKS

FINAL REPORT

FEBRUARY 2018

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Annexure I – VI

Appendices

Maps

1 BACKGROUND

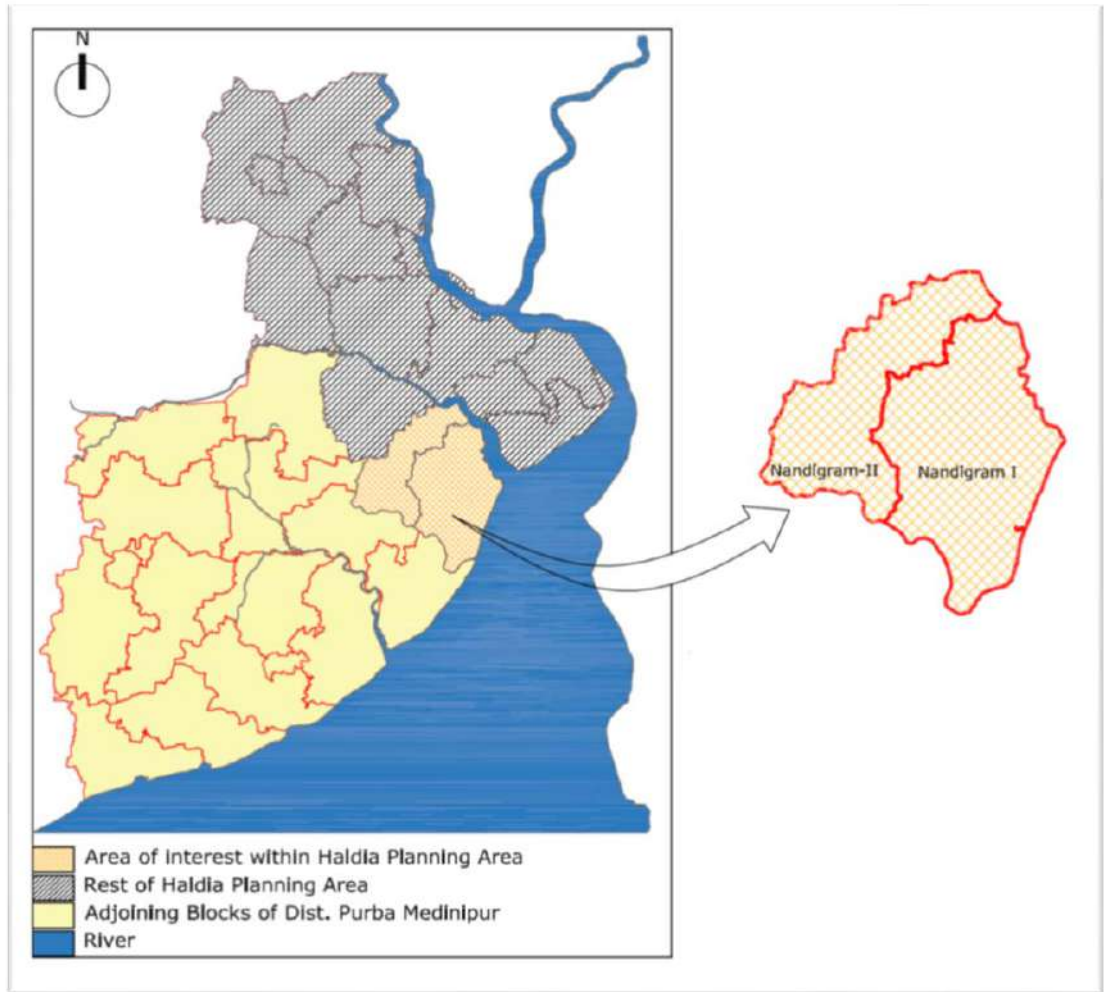
Haldia Development Authority (HDA) intends to prepare the Land Use and Development Control Plan for Nandigram I & II Blocks in the Purba Medinipur District. It has already completed the task of preparing and notifying the present Land Use Map and Land Register for part of Haldia Planning Area consisting of all mouzas under Nandigram I & II Blocks under Sub-section (I) of Section 29 of The West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act-XIII of 1979). The Official Gazette notification was published on Friday, May 30, 2014 ([See Appendix-I for the Gazette Notification](#)).

Department of Architecture and Regional Planning, Indian Institute of Technology Kharagpur, has been entrusted with the task of providing technical expertise for the *Preparation of Land Use and Development Control Plan for Nandigram I & II Blocks*.

Haldia Development Authority (HDA) is a statutory body constituted in 1980 under The West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979).

Located in the Purba Medinipur District of West Bengal, Haldia Planning Area (HPA) was declared a Planning Area under Section 9(1 & 2) of The West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979).

In this report the Land Use and Development Control Plan has been proposed for the part of the Planning Area covering 287.58 sq. km, hereinafter called as Nandigram I & II Blocks ([Refer Map No. 1.1](#)). Nandigram I & II Blocks have become part of the Haldia Planning Area in 2004 (vide notification no. 357-T&CP/C-2/L-7/2001(I) dated 16.02.2004) ([See Appendix-II for Notification](#)). Nandigram I Block has 99 mouzas with area of 181.84 sq.km where as Nandigram II Block has 41 mouzas covering 105.74 sq.km. These two Blocks belong to Haldia Sub-Division, Nandigram Police Station, and consists of 17 Gram Panchayats. It is located on the eastern bank of River Haldi, with River Hooghly forming its southern boundary, Khejuri I & II Blocks in east and Chandipur Block in the north.



Map No. 1.1. – Location map of Nandigram I and II Blocks within Haldia Planning Area

2.0 LEGAL FRAMEWORK

2.1 Statutory Provision

Preparation of Land Use and Development Control Plan had been proposed for Nandigram I & II Blocks as per provision under section 31 of The West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) and subsequent amendments thereon. The provisions of sections 36, 37 and 38 shall, mutatis mutandis, apply to such a Land Use and Development Control Plan.

This document, including the schedules and diagrams, may be called "Land Use and Development Control Plan for Nandigram I & II Blocks".

This shall apply to the whole of the two Blocks of Nandigram I & II in the District of Purba Medinipur, falling under Haldia Planning Area.

2.2 Provision under the Act

2.2.1 Preparation of Land Use and Development Control Plan

Section 31 of the West Bengal Town & Country (Planning and Development) Act, 1979 states:-

31. Preparation of Land Use and Development Control Plan –

(1) A Planning Authority or Development Authority shall, within two years of the declaration of a Planning Area, prepare a plan (hereinafter called the Land Use and Development Control Plan) for the Planning Area and forward a copy thereof to the State Government;

Provided that the concerned authority may prepare the plan in respect of any portion of the Planning Area, but plan in respect of the entire Planning Area shall be completed within a period of three years or within such time as the State Government may time to time extend.

(2) The Land Use and Development Control Plan in any area shall be a written statement, -

(a) formulating the policy and the general proposals including maps of the Planning Authority or Development Authority in respect of the development and general use of the land in that area including measures for improvement of the physical environment;

(b) stating relationship between these proposals and general proposals for the development and general use of the land in the neighbouring areas which may be expected to affect the area; and

(c) containing such matters as may be prescribed or directed by the State Government.

(3) A Land Use and Development Control Plan in any area shall contain or be accompanied by such maps, diagrams, illustrations and descriptive matters as the Planning Authority or the Development Authority thinks appropriate for the purpose of explaining or illustrating the

proposals in the plan and such diagrams, illustrations and descriptive matters shall be treated as parts of the plan.

(4) The land Use and Development Control Plan may also-

- (a) (i) indicate broadly the manner in which the Planning Authority or the Development Authority proposes that land in such area should be used;*
- (ii) indicate areas and buildings requiring preservation and conservation for historical, architectural, environmental and ecological and religious purposes;*

(b) Allocate areas or zones of land for use-

- (i) for residential, commercial, industrial, agricultural, natural scenic beauty, forest, wild life, natural resources, fishery and landscaping;*
- (ii) for public and semi-public open spaces, parks and playgrounds;*
- (iii) for other such purposes as the Planning Authority or the Development Authority may think fit;*

(c) Indicate, define or provide for-

- (i) the existing and proposed national highways, arterial roads, ring roads and major streets;*
- (ii) the existing and proposed lines of communications, including railways, transports, airports, canals and linkages between towns and villages;*
- (iii) the existing and proposed amenities, services and utilities, systems for water supply including improvement of lakes, rivers, fountains and the like, sewerage, drainage and waste disposal, generation and distribution of electric power and distribution of gas, etc.;*

(d) include regulations (hereinafter called zoning and sub-division regulations) to control within each zone the location, height, number of storeys and size of buildings and other structures and land and sub-division of land and the street alignments, set-back distances, embankments, constructional activities destroying natural scenic beauty and provide for amenities in hill areas and coastal areas and such other issues as may be considered appropriate by the Authority;

(e) locate cluster of villages and huts and designate land for hats, markets, cottage industry, livestock, pasture festivals, fairs, melas and like community facilities and conservation of trees and forests;

(f) indicate areas or zones for catchment, soil conservation, plantation, unsafe for any construction, subsidence for any reason including operation of mines, earthquake-prone areas and control of natural disaster.

Explanation. – The expression ‘mine’ has the same meaning as defined in the Mines Act, 1952 (35 of 1952)

(g) designate land as subject to acquisition for any public purposes.

2.2.2 Approval of the State Government to the publication of notice of preparation of Land Use and Development Control Plan

Section 35 of the West Bengal Town & Country (Planning and Development) Act, 1979 states:-

35. Approval of the State Government to the publication of notice of preparation of Land Use and Development Control Plan - As soon as may be after the Land Use and Development Control Plan has been submitted to the State Government, but not later than the time prescribed, the State Government shall direct the Planning Authority or the Development Authority to make such modifications in the Land Use and Development Control Plan as the State Government thinks fit and thereupon the concerned authority shall make the modifications.

2.2.3 Public notice of the preparation of the Land Use and Development Control Plan

Section 36 of the West Bengal Town & Country (Planning and Development) Act, 1979 states:-

36. Public notice of the preparation of the Land Use and Development Control Plan –

- (1) After the modifications, if any, the Planning Authority or the Development Authority shall publish a public notice in the Official Gazette and in one or more local newspapers, of the preparation of the Land Use and Development Control Plan and the place or places where copies of the same may be inspected, inviting objections in writing from any person with respect to the Land Use and Development Control Plan within a period of sixty days from the date of publication of the public notice in the Official Gazette or from the date of publication of the public notice in the newspaper, whichever is later.
- (2) The notice of preparation of the Land Use and Development Control Plan as provided under the preceding sub-section, shall, notwithstanding anything contained in the Land Acquisition Act, 1894 (1 of 1894), be deemed to be a declaration duly made under section 4 of the said Act.
- (3) After the expiry of the period mentioned in sub-section (1), the concerned authority shall appoint a Committee consisting of three of its members, to consider the objections filed under sub-section (1) and submit report within such time as the Planning Authority or the Development Authority may fix in this behalf.
- (4) The Committee so appointed shall have power to invite any other person, and such a person shall have a right to take part in the discussions of the Committee relevant to that purpose but shall not have a right to vote at a meeting and shall not be a member for any other purpose.
- (5) The Committee so appointed shall afford a reasonable opportunity of being heard, to any person, including representatives of Government Departments, or local

authorities who has or have filed any objection, and who has or have made a request for being so heard.

- (6) As soon as may be, after the receipt of the report from the Committee, but not later than such time as may be prescribed,] the Planning Authority or the Development Authority shall consider the report and may make such modifications in the Land Use and Development Control Plan as it considers proper, and shall submit the Land Use and Development Control Plan with or without modifications together with the report of the Committee to the State Government.

2.2.4 Approval of the State Government

Section 37 of the West Bengal Town & Country (Planning and Development) Act, 1979 states:-

37. Approval of the State Government –

- (1) As soon as may be, after the receipt of the Land Use and Development Control Plan, together with the report of the Committee, but not later than such time as may be prescribed, the State Government may either approve the Land Use and Development Control Plan with or without modifications or return the Land Use and Development Control Plan to the concerned authority to modify the plan or to prepare a fresh plan in accordance with such directions as the State Government may issue in this behalf.
- (2) After modification in the plan or preparation of a fresh plan in accordance with the directions of the State Government under sub-section (1), the same shall be submitted to the State Government for approval and the State Government shall intimate its decision within such time of the receipt of the plan as may be prescribed.

2.2.5 Coming into operation of the Land Use and Development Control Plan

Section 38 of the West Bengal Town & Country (Planning and Development) Act, 1979 states:-

38. Coming into operation of the Land Use and Development Control Plan –

- (1) Immediately after the Land Use and Development Control Plan has been approved by the State Government, the Planning Authority or the Development Authority shall publish a public notice in the Official Gazette and in a local newspaper or newspapers, of the approval of the Land Use and Development Control Plan and the place or places where copies of the Land Use and Development Control Plan may be inspected.
- (2) The publication of the notice in the Official Gazette of the approval of the Land Use and Development Control Plan shall, notwithstanding anything contained in the Land Acquisition Act, 1894 (1 of 1894), be deemed to be a declaration duly made under section 6 of the said Act.

- (3) *The Land Use and Development Control Plan shall come into operation from the date of publication of the aforesaid notice in the Official Gazette.*
- (4) *If the Land Use and Development Control Plan contains zoning and sub-division regulations as referred to in clause (d) of sub-section (4) of section 31, it shall be the duty of the Corporation or the Commissioners of the municipality or any other local authority, within whose jurisdiction such area or zone is situate, to enforce such regulatory measures in supersession of the rules and regulations, if any, applicable to such area or zone.*

2.2.6 References to High Court questioning the validity of the Land Use and Development Control Plan

Section 39 of the West Bengal Town & Country (Planning and Development) Act, 1979 states:-

39. References to High Court questioning the validity of the Land Use and Development Control Plan –

- (1) *Within one month of the coming into operation of the Land Use and Development Control Plan, any person aggrieved by it may make an application to the High Court questioning the validity of the Land Use and Development Control Plan or any provisions contained therein on the following grounds:--*
 - (a) *that it is not within the powers conferred by this Act, or*
 - (b) *that any requirement of this Act, or any rules made there under have not been complied with in relation to the making of the Land Use and Development Control Plan.*
- (2) *The High Court, after giving an opportunity to the authority concerned and the State Government to be heard,--*
 - (a) *may stay, until the final determination of the proceedings, the operation of any provisions contained therein so far as it affects any property of the applicant; and*
 - (b) *if satisfied that the Land Use and Development Control Plan or any provision contained therein is not within the powers conferred by this Act, or that the interest of the applicant has been substantially prejudiced by a failure to comply with any requirement of this Act or rules, may quash the plan or any provision contained therein generally or in so far as it affects any property of the applicant.*
- (3) *Subject to the above provisions of this section, a Land Use and Development Control Plan shall not, either before or after it has been approved, be questioned in any manner, in any legal proceedings whatsoever.*

2.2.7 Use and development of land to be in conformity with Land Use and Development Control Plan

Section 44 of the West Bengal Town & Country (Planning and Development) Act, 1979 states:-

44. Use and development of land to be in conformity with Land Use and Development Control Plan – After the coming into operation of any Land Use and Development Control Plan in any area, no person shall use or permit to be used any land or carry out development in that area otherwise than in conformity with such Land Use and Development Control Plan.

Provided that the Planning Authority or the Development Authority may allow the continuance, not exceeding 7 years, of the use, upon such terms and conditions as may be imposed by the concerned authority, of any land for the purpose and to the extent, for and to which it is being used on the date on which Land Use and Development Plan comes into operation.

2.3 Objective of the Study

To prepare a comprehensive, functional, implementable & enforceable land use plan with statutory back up as per The West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979) and taking into consideration the existing laws/rules and regulations.

2.4 Scope of Work

This plan will regulate land use and development activities. It will broadly follow the framework of land use classification and developmental guidelines recommended by URDPFI guidelines.

Contemporary zoning and land use classification techniques along with innovative development control mechanism will be adopted based on the past and current best practices across the country and abroad.

The planning process should be based on scientific inputs, rational analysis and pragmatic approach; and it shall be presented in geo-referenced digital base map.

It will cover all issues and aspects of planning and development at micro and macro level.

It should consider the environmental aspects and efficient utilization of natural resources with due consideration to equity.

It should act as a useful tool for development permission u/s 46 and with specific rules & regulations and procedure for permission, and should have a statutory standing and practical approach to preparation of developmental projects/ schemes.

3.0 PLAN PREPARATION & IMPLEMENTATION:

The LU&DCP for Nandigram I & II Blocks, which primarily consists of land used for agriculture and village settlements, aims to induce new development in the area commensurate to its existing agrarian character through land use zoning and control regulations. The aim is to achieve outcomes that are beneficial for the people, the economy and the environment.

The stages of plan preparation has been designed to ensure that the methodology suggested in the Act is adhered by making a rational framework of plan preparation with due attention to the existing land use characteristics and socio-economic condition of the planning area under consideration, keeping the process open and transparent to the all stakeholders, and allowing it to take advantage from the new development in planning ideas and technology.

3.1 Stages of Plan Preparation

The stages involved in preparation of this plan mainly include spatial data collection, socioeconomic survey, survey of the present land use, analysis of the data collected, discussion with the officials of the Haldia Development Authority and preparation of maps & development control guidelines. It is for part of Haldia Planning Area consisting of all mouzas under Nandigram I & II Blocks.

Stage 1: The planning process began with the surveying of the present land use condition in the planning area. The survey of the present land use was conducted by the Haldia Development Authority through Global Surveyors Pvt. Ltd. in 2013. A fresh base map was prepared collating the cadastral revenue sheets on AutoCAD platform and 2013-Quickbird satellite images were used to record the present land use. The land use classification required to be used for recording the present land use was formulated by the Haldia Development Authority broadly conforming to the URDPFI Guidelines, and it was similar to the classification followed in notified present Land Use Map and Land Register for other parts of the Haldia Planning Area i.e. Old Planning Area.

The Authority has completed the task of preparing and notifying the present Land Use Map and Land Register under Sub-section (I) of Section 29 of The West Bengal Town and Country (Planning and Development) Act, 1979 (West Bengal Act-XIII of 1979). The Official Gazette notification was published on Friday, May 30, 2014.

The notified present Land Use Map and Land Register was handed over to IIT Kharagpur in 2015 to transfer it on to GIS platform with necessary ground verification to update the recent changes. For effective data management and informed planning decisions, GIS platform was preferred by the Haldia Development Authority. IIT Kharagpur has conducted ground verification and made the necessary corrections. This updated present Land Use Map and Land Register was accepted by the Haldia Development Authority and it formed the basis for preparation of the LU&DCP in 2017.

Stage 2: The geo-referenced satellite images, mouza maps with updated present land use information, digitised on GIS, was now embedded with other information regarding the location of public land (under ownership of Government of West Bengal), extent of land under the Railways, land falling under Coastal Regulatory Zones, and other relevant information obtained from the Haldia Development Authority and other sources.

Stage 3: Simultaneously a Socio-economic survey of nearly 3000 households (roughly 5 percent of the total number of households within the Nandigram I & II Blocks) was conducted by IIT Kharagpur. The field data collection was carried out by MAK Geo-technologies Pvt. Ltd., a private consultant, under the supervision of IIT Kharagpur. A 'Socio-economic Survey Report' has been prepared and submitted to Haldia Development Authority on 2016 presenting the demographic and socio-economic characteristics of the people residing in Nandigram. [Section 5.0](#) highlights the major inputs from the socio economic survey.

Stage 4: The Haldia Planning Area has a long history of plan preparations by various organizations. Though, no such planning exercise has been conducted specifically for Nandigram I & II Blocks, planning initiatives in adjoining areas were considered as they often influence areas beyond their jurisdiction. Each of the plans for 'Old Planning Area' consisting of Haldia Municipal Area and adjoining Blocks (Sutahata, Haldia and part of Mahisadal) were studied and their proposals were taken as planning inputs for the preparation of LU&DCP. [Section 8.0](#) highlights some of the major proposals from the previous planning efforts.

Stage 5: The distribution of the present population and land use for Nandigram I & II Blocks was then analysed in [Section 6.0](#). Population projection and future demand for land for various purposes were made. The population was then suitably allocated to the various mouzas – in emerging 'Urban Node (UN)', 'Growth Nodes (GN)', and 'Rural Node (RN)', keeping in mind the image of Nandigram as that of a primarily rural area with predominantly agrarian economy.

Stage 6: A 'Broad Conceptual Plan' as part of the LU&DCP was prepared and elaborately discussed with the officials and other stakeholders of Nandigram I & II Blocks [in the offices of Panchayat Samity and Haldia Development Authority from September 2016 to May 2017]. All the elected Gram Panchayat officials were provided a hardcopy of this plan and feedback was sought from their office. Moreover, feedback from the Urban Development and Municipal Affairs Department, Government of West Bengal was received. Necessary modifications were duly incorporated in the Plan based on the above feedbacks.

Stage 7: On acceptance of the 'Broad Conceptual Plan', the pre-draft Land Use and Development Control Plan' were prepared and presented on June 2017. This plan included the detailed land use distribution, zoning and development control regulations which were elaborately discussed with the officials of Haldia Development Authority and other stakeholders.

Stage 8: Upon approval of the State Government, the Land Use and Development Control Plan', Haldia Development Authority has published a public notice on September 2017 for inspection and inviting objections in writing from any person with respect to the plan for a period of sixty days.

A presentation of the Land Use and Development Control Plan has been made to the Urban Development and Municipal Affairs Department, Government of West Bengal on February, 2018 and necessary modifications has been incorporated.

3.2 GIS based Data Inventory Preparation and Updating

Data collection was split into *data capture* (direct data input) and *data transfer* (input of data from other systems).

Two main types of data capture were

- *Primary data sources* which are collected in digital format specifically for use in a GIS project.
- *Secondary sources* which are digital and analog datasets that were originally captured for other purposes and need to be converted into a suitable digital format for use in a GIS project.

The processes of data collection are also referred to as data capture, data automation, data conversion, data transfer, data translation, and digitization.

3.2.1 Outline of the GIS database creation

- a) Primary geographic data capture
- b) Secondary geographic data capture
- c) Obtaining data from external sources (data transfer)
- d) Capturing attribute data
- e) Data management and analysis

3.2.2. Source of Information/ Map/ Data

Following table outlines the data that was collected from different sources.

Table No. 3.1: Source of data

Features	Source
Plot boundary, Mouza boundary	Village Map, Mouza Map /Land Record Data from the Notified Land Use Map and Land Register in AutoCAD and Microsoft Excel format by HDA

Features	Source
Project Boundary of AOI (Area of Interest)	HDA Information/ Map
Land Use	Maps prepared by Global Surveyors (through HDA), Satellite Image and Field Survey
Major Location, POI (Point of Interest)	GPS Survey
Image	Satellite Image collected from HDA /Open Source
Other (Land under CRZ, Railways, Public ownership etc.)	HDA and Railways/Other Departments

3.3 Plan Implementation

The plan will be finally accepted and notified by the State Government in the Urban Development and Municipal Affairs Department under

The plan has also been supplemented with zoning and development control regulation. The plan implementation will primarily adopt these regulations.

All development shall have to incorporate the guidelines mentioned in this report. Applications for permissions shall be accordingly reviewed and scrutinized by the Haldia Development Authority and/or the Gram Panchayats.

The development charges to carry out any development or to change any land use must be in conformity with the approved rates sanctioned by the State Government applicable for the Planning Area under Haldia Development Authority.

4.0 DELINEATION OF PLANNING AREA

Nandigram I & II Blocks as part of the Haldia Planning Area are situated in Haldia Sub-division of the Purba Medinipur district of West Bengal. The area is bounded by distinct physical boundaries namely the Hooghly River and Haldi River on two sides, Khejuri and Chandipur Blocks on other two sides. The total area of the Planning Area is 287.58 sq km.

4.1 Administrative Units

The planning area includes two Blocks – Nandigram I (99 mouzas) and Nandigram II (41 mouzas) (Refer Map No 4.1). There is no notified urban area within the planning area; however, 2 no.s of Census Towns has been identified in Census of India, 2011.

A basic outline of the administrative units within Nandigram I & II Blocks is given in Table no. 4.1 & 4.2. The mouza list is given in Annexure-I.

Table no. 4.1: Administrative Units in Nandigram I & II Blocks

Administrative Units	Name of units	No of Units
Blocks	Nandigram I, Nandigram II	2
Gram Panchayats	Nandigram I Block: Bhekutia, Daudpur, Gokulnagar, Haripur, Kalicharanpur, Kendamari, Mohammadpur, Nandigram, Shamsabad, Sonchura Nandigram II Block: Amdabad I, Amdabad II, Birulia, Boyal I, Boyal II, Khodambari I, Khodambari II	(10 + 7) = 17
Census Towns (CTs)	Nandigram (CT) in Nandigram I Block and Ashadtalya (CT) in Nandigram II Block	2
Police Stations	Nandigram P.S.	1

Table no. 4.2: Salient features of Nandigram I & II Blocks

Blocks	Mouzas (no.s)	Area (sq km)	Population (2011)
Nandigram I	99	181.84	202032
Nandigram II	41	105.74	117945
Total	140	287.58	319977

4.2 Delineation into Planning Zones

The planning area has been divided into smaller planning units called as 'Planning Zones' for ease of operation. These Zones have distinct existing characteristics as well as very different future growth potential. While delineating the planning zone boundary, administrative boundaries (mouza boundaries in particular) have been taken into consideration.

Three broad divisions has been –

- a) Urban Node (UN) – consists of 17 nos. of mouzas with high population density in and around Nandigram Village. The population of this Urban Node was 59145 in 2011 covering an area of 24.57 sq.km. It consists of 8.5% share of geographical area and 18.5% share of total population in the Nandigram I & II Blocks. Prominent signs of urbanism, i.e. urban way of living are evident in predominance of non-primary economic activities and employment pattern, housing characteristics, household assets etc. Existing higher order social amenities serving the Nandigram I & II Blocks are all located in this centre i.e. important administrative offices, trade and commercial functions, banking facilities, college, hospital, police station, bus terminal, etc.
- b) Growth Node (GN) – consists of 14 mouzas distributed in three strategic locations namely Gholpukuria - Hanubhunia (GN1), Bhekutia - Manuchak - Manuchak Jalpai - Manasaka Bharatchak - Jalpai V -Durgapur - Jelenara - Banelichak - Gobindapur - Babukhanbarh (1st part) (GN2) and Kalicharanpur - Gangra (GN3). The selection of these three growth nodes are based on certain features and are an outcome of a certain process.

Firstly, these Growth Nodes consists of mouzas already identified for having population of more than 5000. Secondly, they have some inherent locational advantages which are of strategic interest to the kind of development that the Development Authority and the stakeholders want to pursue.

The location of the Growth Nodes has been worked out in tandem with the development of the proposed Regional Road Network (including bridges and water transport links) within the planning area to provide better connectivity within the Nandigram I & II Blocks as well as with the important centres lying outside i.e Haldia, Chandipur, Khejuri, Digha and Contai. The decision process was also influenced from the feedback of stakeholders at various levels in a prolonged period of interactive participation [from September 2016 to March 2017].

Growth Node 1 [GN1] – consists of Gholpukuria & Hanubhunya mouza; located on the eastern part of the planning area and along the proposed rail link to Nandigram

from Panskura (part constructed). A proposed regional arterial also passes through this region, which provides this node certain growth potential based on rail-road logistics, trade and commerce. Given the proximity of this node to the Digha-Chandipur-Nandakumar alignment, this node will also act as a gateway from Nandigram to the outside region lying in northern side.

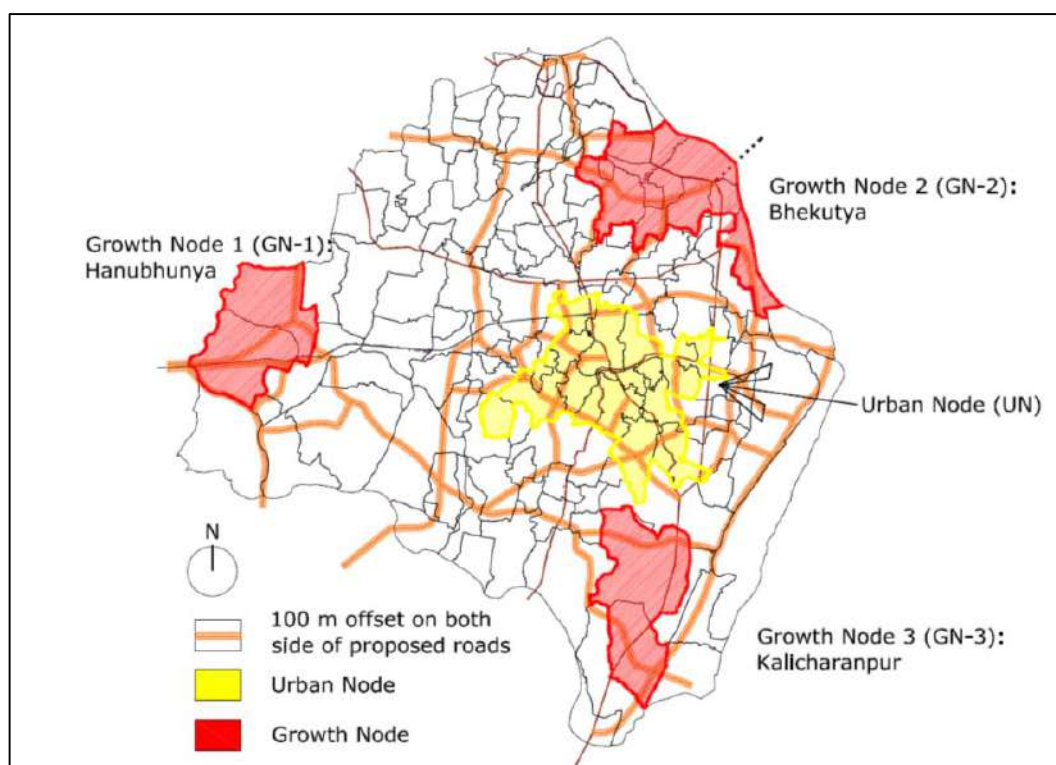
Growth Node 2 [GN2] – consists of Bhekutia-Manuchak-Manuchak Jalpai-Manasaka Bharatchak-Jalpai V-Durgapur-Jelenara-Banelichak-Gobindapur-Babukhanbarh (1st part) located on the northern side of the planning area, this area is very close to the proposed bridge location to connect Nandigram with Haldia Municipal Area (near Balughata). This growth node will turn into the gateway to Nandigram from the Haldia Town and exert tremendous development pressure. Given its proximity to river Haldi (falling within CRZ-I), it has been already notified under CRZ Act. Careful planning is required to realize the growth potential of this location with due attention to the sensitive coastal environment.

Growth Node 3 [GN3] – consists of Kalicharanpur & Gangra mouza; located at the southern side of the planning area and located along the proposed connection to Khejuri-Digha coastal belt as well as to Nayachar (proposed waterway connection). This zone has already emerged as a trade and commerce destination for fishery related produce owing to its proximity to coastal belt.

- c) Rural Nodes (RN) – remaining all 109 mouzas which have predominantly, rural character and therefore, development is planned through promotion of farm based activities.

The division of planning area into smaller zones helps in studying the existing characteristics across the Nandigram I & II Blocks. It is also beneficial for the purpose of projection of future population within the planning area and allocation of land among competing uses based on the strategic potential of a particular Planning Zone.

The planning area which has been divided into five distinct Planning Zones i.e. UN, GN1, GN2, GN3, and RN ([Refer Map No 4.2](#)) is listed in [Table No. 4.3](#). The detailed list of mouzas falling each Planning Zone is given in [Annexure -II](#)



Map No. 4.2: Urban Node (UN) and Growth Nodes (GN) depicted in the Planning Area

Table no. 4.3: Planning Zones of Nandigram and their salient characteristics

Planning Zone	Name	Population in 2011 (decadal growth rate)	Growth Prospects
UN	Nandigram	59,145 (19.8%)	Urban functions, Administrative centre, Commerce, Banking, Institutional facilities
GN1	Gholpukuria – Hanu Bhunya	13,832 (14.8%)	Multi-modal (rail – road based) transshipment; agro market, agro processing, cold storage facilities
GN2	Bhekutia-Manuchak-Manuchak Jalpai-Manasaka Bharatchak-Jalpai V-Durgapur-Jelenara-Banelichak-Gobindapur-Babukhanbarh (1st part)	13,039 (16.2%)	Improved connectivity to Haldia Industrial Area; Packaging and Processing activities
GN3	Kalicharanpur – Gangra	13,976 (16.4%)	Proximity to pisciculture activities; coastal road alignment Food processing; cold storage; gateway to eco-tourism (Nayachar)
RN	Remaining rural areas	2,19,985 (15.7%)	Boost in farm sector productivity; Improvement in irrigation, accessibility, knowledge dissemination; Promotion of rural non-farm sector to supplement farm sector income and employment.

Source: Census of India, 2011

4.3 Salient features of Nandigram

4.3.1 Climate

The climate is moderate with winter temperatures ranging from 9.6 degrees Celsius to 29.3 degrees Celsius. Summers, on the other hand, is hot and humid with a temperature range of 24 degrees to around 42 degrees. Rainfall is heavy during monsoons, and the rainy months are between mid-June and October. Average rainfall of the area is 1580 mm. The area lies about 3.1 meters to 6 meters above mean sea level and has a flat topography.

4.3.2 Nature of development of the study area

It is predominantly a rural area dependent on primary sector activities. Apart from agriculture, pisciculture has gained lot of attention in recent times along with poultry farming. Though there are as many villages where population is quite high and reliance on non-farm sector employment is also significant.

4.3.3 Settlement Pattern

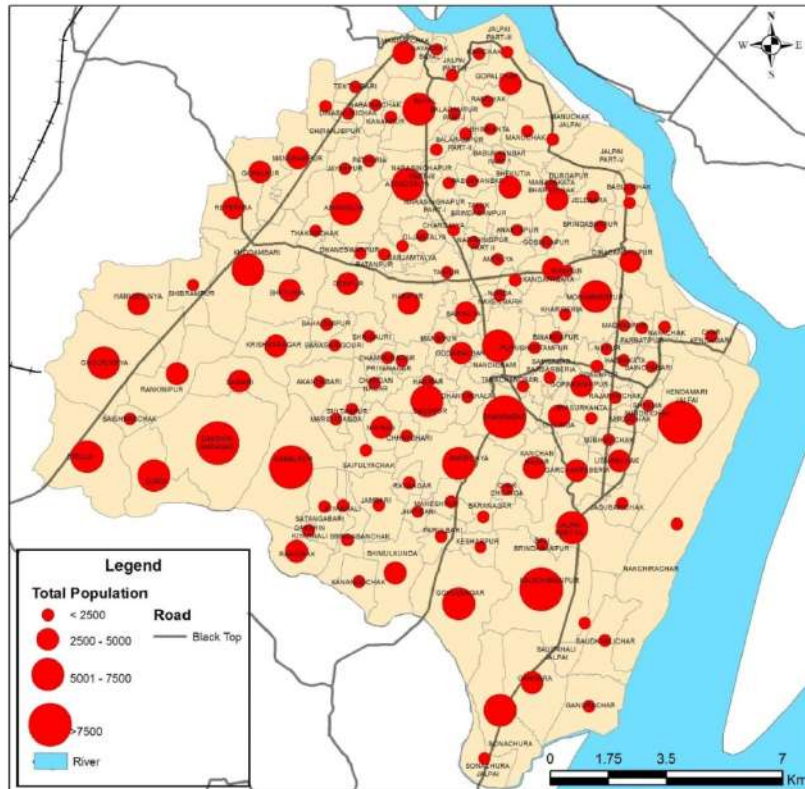
There is no notified urban area within the planning area. Out of 140 villages in Nandigram I & II Blocks, 02 of them have been identified as Census Town (CT) in 2011. There are 99 villages in Nandigram I Block and 41 in Nandigram II Block. Owing to proximity of the Digha-Nandakumar road link, villages in Nandigram II Block have experienced comparatively higher growth in population and economic activities. The detailed distribution of settlement according to their population sizes has been shown in [Map No. 4.3](#).

4.3.4 Density Pattern

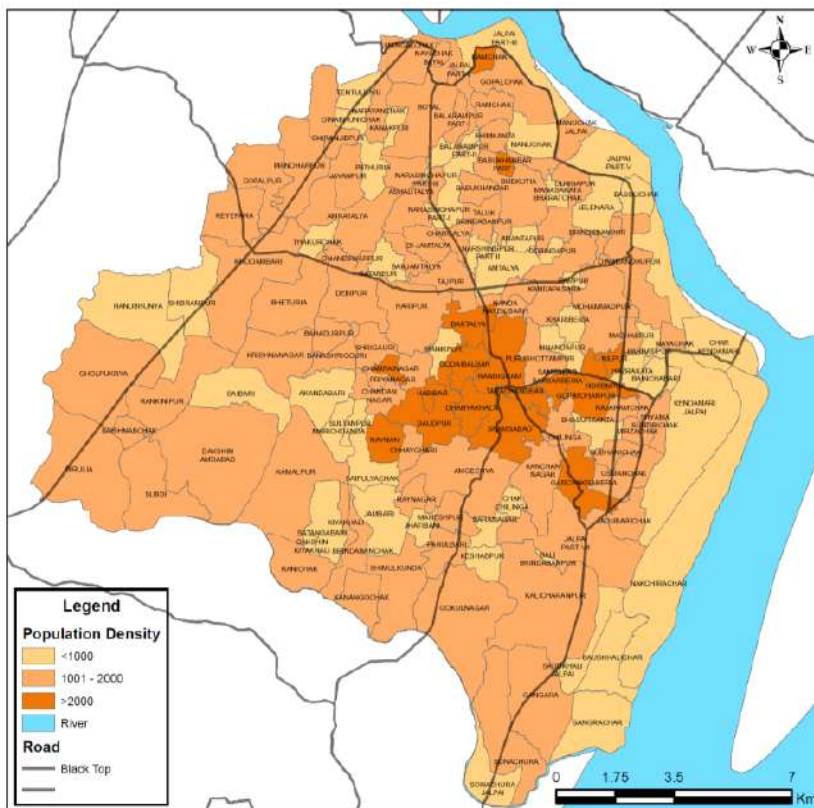
The overall population density in the Nandigram I & II Blocks is found to be 1112.6 person per sq.km (as per Census of India 2011). The population density distribution of planning area is shown in [Map No. 4.4](#). The population density in mouzas around Nandigram village is found 2407 which is quite high compared to the rest of the area. This dense core comprising of 18 no.s of mouzas has been designated as Urban Node (UN). This Urban Node with total population of 59,145 spread across only 24.57 sq.km comprises of 8.5 percent of area but accommodates 18.5 percent of population. It also has a decadal growth rate of 19.8 percent, which is much higher than the rest.

4.3.5 Population

As per Census of India 2011 Nandigram I Block has a population of approximately 2.02 lakhs, whereas Nandigram II Block has 1.18 lakhs. The combined population in Nandigram I & II Blocks was 3.2 lakhs.



Map No. 4.4: Hierarchy of settlement system distributed across the Planning Area



Map No. 4.4: Distribution of population density across the Planning Area

Table 4.4: Population density distribution in Nandigram I & II Blocks

Name of Block	Total population	Area (sq km)	Density (person/sq km)
Nandigram I	202032	181.84	1111.04
Nandigram II	117945	105.74	1115.4
Urban Nodes (17 mouzas) - A	59145	24.57	2407.2
Growth Nodes (14 mouzas) - B	40847	41.29	989.27
Rural Nodes – C	219985	221.72	992.17
Total (A+B+C)	3,19,977	287.58	1112.6

Source: Census of India, 2011

4.3.6 Economy

The economy primarily consists of primary sector activities with nearly 2/3rd of the employment generated in farm based activities. Recently diversification in rural economy has taken place – agriculture is supplemented with pisciculture and poultry farming activities. Nandigram II Block has greater reliance on pisciculture and poultry farming as evident from the considerably larger output compared to its size. Most of the people employed in agriculture belong to marginal farmer and agricultural labourer class, which is more pronounced in Nandigram II Block (71.6% of total agricultural workforce) when compared to Nandigram I Block (63% of total agricultural workforce). The share of workforce involved in agricultural sector has been provided in [Table 4.5](#).

Table 4.5: Percentage share of workforce involved in agricultural sector

Name of Block	Bargadars	Patta holders	Small farmers	Marginal farmers	Agricultural labourers
Nandigram-I	13.9	21.4	1.7	29.4	33.6
Nandigram-II	14.7	11	2.7	33.2	38.4

Source: District Statistical Handbook, 2013

Apart from farm sector, rural non-farm sector is also on rise, primarily to cater to the growing demand for trade and commerce in farm sector as well as household consumption goods and services.

The major crop produced in this two Blocks are rice, pulses, mustard and potato. However, yield obtained is not comparable to those obtained in districts like Bardhaman or 24 Paraganas (South). Moreover, it was also observed that Nandigram I has higher share of farmland dedicated to paddy cultivation, hence net output from rice cultivation is higher in Nandigram I when compared to Nandigram II. It can also be seen that most of the produce is obtained from the Aman crop. The yield rates are comparable in these two Blocks and the

yield from the Boro crop is highest. The details of rice and jute cultivation are provided in [Table 4.6A](#).

Table 4.6A: Major crops produced, area, productivity and yield

Name of Block	Aus			Aman			Boro			Jute		
	Area [#]	Prod.*	Yield**	Area	Prod.	Yield	Area	Prod.	Yield	Area	Prod.	Yield
Nandigram-I	3501	6.942	1983	13005	20.956	1611	1135	3.948	3478	13	0.201	15.43
Nandigram-II	150	0.297	1983	8005	18.935	2365	1448	5.079	3507	-	-	-

Area in Hectare

*Prod. in '00 MT

**Yield in kg/ha

Source: District Statistical Handbook, 2013

It is also observed that area put to cultivation of pulses, mustard or potato is higher in Nandigram I Block when compared to Nandigram II Block. This may be attributed to higher accessibility of commercial/Gramin banks in Nandigram I Block. The details of crops produced, area utilized and yield rates are furnished in [Table 4.6B](#).

Table 4.6B: Major crops produced, area, productivity and yield

Name of Block	Khesari			Mustard			Potato		
	Area [#]	Prod.*	Yield**	Area	Prod.	Yield	Area	Prod.	Yield
Nandigram-I	3000	5.113	1704	42	0.054	1290	952	18.683	19625
Nandigram-II	1220	2.079	1704	22	0.028	1290	359	8.649	24092

Area in Hectare

*Prod. in '00 MT

**Yield in kg/ha

Source: District Statistical Handbook, 2013

The total area under irrigation schemes is only around 10% of the total area under cultivation, where ratio of land under irrigation to land under cultivation is higher in Nandigram II as compared to Nandigram I. The distribution of the source of irrigation facilities has been shown in [Table 4.7](#).

Table 4.7: Source of irrigation and area irrigated by different sources

Name of Block	Tank		DTW		STW		Others		Total	
	No.	Area [#]	No.	Area [#]	No.	Area [#]	No.	Area [#]	No.	Area [#]
Nandigram-I	18000	2500	-	-	2	16	-	100	18002	2616
Nandigram-II	10000	1500	40	975	8	80	-	-	10048	2555

DTW: Deep Tubewell

STW: Shallow Tubewell

Area in Hectare

Source: District Statistical Handbook, 2013

The other major local economic pursuit of the people in Nandigram I & II Block is pisciculture related activities. Many of the inland waterbodies have been converted to fisheries for production of shrimps and prawns. As shown in [Table 4.8](#), Nandigram I Block is dominant in terms of area under pisciculture and number of person involved in the profession – but only in absolute figures. Nandigram II Block is much smaller in area but has commensurately higher values in all production parameters.

Table 4.8: Details of pisciculture activities

Name of Block	No. of Govt. Schemes operated	Expenditure ('000 Rs.)	Assistance to needy fishermen (' 000 Rs.)	Net area available for pisci-culture (hect.)	Net area under effective pisciculture (hect.)	No. of persons engaged in the profession	Approx. annual production (qtl.)
Nandigram-I	2	183	144	1400.00	1285.50	6210	39560
Nandigram-II	2	159	120	800.00	700.00	3200	21500

Source: District Statistical Handbook, 2013

Another important economic pursuit of the people in Nandigram I & II Blocks is rearing of livestock and poultry. As depicted in [Table 4.9](#), Nandigram II Block is the dominant in poultry and rearing of goats. Nandigram I Block is dominates in rearing of cattle stock.

Table 4.9: Estimated number of livestock and poultry

Name of Block	Live-stock					Poultry
	Cattle	Buffaloes	Goats	Sheep	Others	Birds
Nandigram-I	46050	-	33852	3972	29	148706
Nandigram-II	42455	7	35084	885	68	288406

Source: District Statistical Handbook, 2013

4.3.7 Housing

Residential population is accommodated in village settlements where housing is predominantly privately owned. Most of the dwelling units are located in large plots, however, a large section of them do not have land ownership documents (patta). A detailed analysis of the dwelling unit characteristics is presented later in [Section 5.0](#).

The village settlements are not dense and not restricted within a distinct boundary - rather they follow a loose organic pattern spread amidst the agricultural land. Ribbon type of development along the transportation corridors is also a predominant phenomenon.

4.3.8 Traffic and Transportation

Haldia Planning Area is well connected with the important growth nodes in eastern India via road, rail and river linkages. It does not have air connectivity. Regional connectivity of Haldia is of tremendous importance due to its port functions.

NH-41 connects Haldia with NH-6, via which it is linked with Kolkata Metropolitan Area in the east and Kharagpur, Medinipur, Jhargram, and important growth centers in Jharkhand in the west. NH-6 is connected to NH-2 near Dankuni, which provides access to the industrial agglomeration in Asansol and Durgapur and connecting it further to Jharkhand, Bihar, Uttar Pradesh and Delhi (part of Golden Quadrilateral). NH-6 also links with NH-5 (near Kharagpur) which connects it to the destinations in Orissa via Balasore. Recently NH-60 has been upgraded for capacity augmentation which will connect Raniganj and the industrial agglomeration in Asansol-Durgapur with Balasore via NH-5.

SH-4 connects on one side Haldia with Mahishadal, Tamluk and finally meets NH-6 near Mecheda. Another side of the SH-4 (renamed as NH-116B) branches off from Nandakumar which connects Haldia Planning Area with Digha and all other coastal settlements in Purba Medinipur upto Chandaneswar in Odisha. SH-4 and NH-116B are double lane links.

This is the only road link to Nandigram area, though no part of Nandigram I & II Blocks get direct access to it. They are connected through intermediate lane and single lane roads connecting the NH-116B. Nandigram I & II Blocks are also well connected to Khejuri Blocks, mostly via single lane roads.

There is a bus terminal facility existing in Nandigram village – however, there are many para-transit terminal facilities at many other places. A large volume of passenger movement takes place via ferry transit services, primarily to Haldia Town via ferry ghat at Balughata and Port Township. Travel to Haldia Municipal Area via road necessitates significant detour as the only available river bridge crossing is on the Digha-Nandakumar link.

Haldia is connected by a double line rail connection via Panskura. A new single line is under construction which will connect Nandigram Blocks with Tamluk. The proposed railway station is near Nandigram village.

Though lot of road widening programme, road surface upgradation schemes, rail line construction etc. are going on under the stewardship of Haldia Development Authority and other governmental organisations, lack of intra-regional and inter-regional accessibility seems to be the most influential constraint hindering the development of this planning area. This has also been reiterated in the people's response as evident from the development priorities expressed in socio-economic survey, to be presented in later section.

4.3.9 Physical Infrastructure

Water Supply: Most of the household level potable water supply in Nandigram I & II Blocks is through tubewell. Presence of iron is often reported in many locations. Though surrounded by two rivers, the salinity in the river water prevents them for potable use. Indiscriminate drawing of ground water for farming and household consumption has raised an alarm on sub-surface water quality as well as sustainability. The overexploitation of groundwater has already led to a steep fall in the water table level and as a consequence, it is reported that there is intrusion of saline water into freshwater aquifers in many parts of the region. A major water supply scheme is under construction to provide filtered tap water supply to the village settlements reducing the existing excessive reliance on sub-surface water.

Sanitation and Drainage: Septic tank with/without soak pit facility is the predominant mode of waste water treatment. Nandigram II Block is much ahead of Nandigram I Block in terms of household access to hygienic sanitation facilities. Most of dwelling units do not have access to drains. Overall the drainage of the village settlement is taken care by natural slope, eventually discharged to the adjoining farmland or waterbodies. Villages with lower level of access to safe sanitation facilities and drainage are on high risk to contaminate the surface water sources. In dense village settlements, waterlogging in the heavily built-up area is common during heavy monsoon months due to flat topography and lack of adequate drainage.

Solid Waste Management: There is no systematic solid waste collection. Household refuse often finds their way to a vacant parcel of land or to the roads. Rains often carry them to the kutchra drains – often clogging the flow. Occasional rural local bodies take initiative to clear garbage dumps, but not on a systematic basis. Due to low settlement density, organic decomposable household waste creates fewer problems than the inorganic non-decomposable component.

4.3.10 Social Amenities and Facilities

Education: It was seen from the socio-economic survey that literacy rate is higher than state and national average. This can be attributed to the sizeable number of primary school in the study area. [Table 4.11A](#) shows the total number of schools in different hierarchy and the total number of enrolled students and teachers.

Table 4.11A: Number of schools, students and teachers in different hierarchy of schools

Name of Block	Primary School			Middle School			High School			Higher Secondary School		
	Institution	Student	Teacher	Institution	Student	Teacher	Institution	Student	Teacher	Institution	Student	Teacher
Nandigram-I	121	13472	365	0	0	0	14	10768	203	10	12223	204
Nandigram-II	92	10955	223	6	1875	60	11	5098	151	8	7853	167

Source: District Statistical Handbook, 2013

Table 4.11B further shows the total number of centers of higher learning and vocational training within Nandigram I and II. It can be seen Nandigram II has prevalence of professional and technical schools, whereas, Nandigram I has the only general college and special & non-formal education centers.

Table 4.11B: Number of schools, students and teachers in different hierarchy of schools

Name of Block	General College & University (Excluding Open University)			Professional & Technical Schools, Colleges & Universities			Special & Non-formal Education		
	Institution	Student	Teacher	Institution	Student	Teacher	Institution	Student	Teacher
Nandigram-I	1	1080	22	0	0	0	329	18134	527
Nandigram-II	-	-	-	2	150	18	203	10711	253

Source: District Statistical Handbook, 2013

There are also many institutes of higher learning in adjoining Haldia Town like the Haldia Institute of Technology, Central Institute of Plastic Technology (CIPET), Haldia Law College, Marine Engineering College, Hotel Management institutions and also an Industrial Training Center. Haldia has a dental college and medical college which can be accessed by the population in the planning area.

Health:

The total number of health facilities available in Nandigram I & II Blocks are summarized in Table 4.12. It can be seen that the total number of facilities in Nandigram I Block is higher than Nandigram II Block, where the former also has a private nursing home. The ratio of beds available per 1000 person is marginally higher in Nandigram I Block when compared to Nandigram II Block.

Table 4.12: Medical facilities available in the study area

Name of Block	Health & Family Welfare Dept., Govt of W.B.				N.G.O./ Private Bodies (Nursing Homes)	Total	Total No. of Beds	Total No. of Doctors
	Hospital	Rural Hospital	Block Primary Health Centre	Primary Health Centre				
Nandigram-I	-	-	1	2	1	4	56	10
Nandigram-II	-	1	-	2	-	3	30	5

Source: District Statistical Handbook, 2013

Nearby Haldia Town is well equipped with medical facilities. There is a Sub-Divisional Hospital with specialized health care, prevention and treatment, diagnostic and pathology facilities. Also an Eye care center, Dr. B. C. Roy Hospital cum Dental College, Government run health centers, primary health units and clinics take care of its surrounding region. Apart from these the Indian Oil Refinery and Kolkata Port have their own hospitals and clinics equipped with all modern facilities. A Super Specialty Hospital has also come up in the planning area.

Culture, Recreation and Tourism:

Nandigram I & II Blocks are a part of a district which has a strong cultural heritage. It is also located in proximity to Haldia, which has urban-level socio-cultural and recreational facilities. However, the study area is enriched with public libraries, reading rooms and cinema halls. The description of which has been provided in [Table 4.13](#).

Name of Block	Public Library	Free Reading Room	Number of Cinema House
Nandigram-I	6	6	3
Nandigram-II	5	5	1

Source: District Statistical Handbook, 2013

There is an immense scope for the development of nature based tourism activities as well as business tourism. The coastal stretches along the river Hooghly and Haldi, the island of Nayachar and other picturesque locations in and around Haldia surely have tremendous potential of drawing tourists not only from Kolkata and other nearby states. A river-sea-natural landscape-heritage based tourist circuit can be planned for a comprehensive development of these sectors.

4.3.11 Environment

Nandigram I & II Blocks belong to Low Elevation Coastal Zone (LECZ) within Purba Medinipur District of West Bengal. Globally, Low Elevation coastal zone is defined as areas lying within 100kms from the coast or within 10m elevation from the Mean Sea level. Development of human settlement and proliferation of economic activities within LECZ is a global concern,

particularly in South Asia where the Accelerated Sea Level Rise (ASLR) is expected to have most adverse impact due to climate change.

Under the stewardship of Ministry of Environment and Forests, Government of India, under sub-section (1) and (3) of Section 3 of the Environment (Protection) Act, 1986 (29 of 1986) the Central Government has constituted an authority known as West Bengal Coastal Zone Management Authority through a Gazette publication dated 6th June 2012, giving it the power to take measures for protecting and improving the quality of coastal environment.

Several mouzas along the river Hooghly and Haldi fall under Coastal Regulatory Zone I and II as declared by West Bengal Coastal Zone Management Authority. As a result development in those designated areas is controlled by rules and regulations pertaining to Coastal Regulatory Zone Notification 2011 and subsequent Amendments.

In addition to this, Institute of Environmental Studies & Wetland Management (IESWM) has been mandated by the Govt. of West Bengal to act as the State Project Management Unit for implementing the Integrated Coastal Zone Management (ICZM) Project funded by the World Bank in the state of West Bengal.

On a broad perspective/scale, the strategy for ICZM will be to understand, analyse and address implications of development plans and their threshold limits to cause environmental degradation, conflicting uses and interrelationships between coastal physical and biological processes and anthropogenic activities. The emphasis will be to promote linkages and harmonization among sectoral coastal and ocean activities requiring cooperative management and inter-sectoral coordination through full involvement of all the stakeholders in a comprehensive and integrated program.

The sub-surface water condition is getting worse in the whole district – mostly due to increasing withdrawal due to farming and domestic/industrial consumption. Moreover, salinity intrusion due to shrimp farming and excessive extraction of sub-surface water during the non-monsoon months is aggravating the situation. Surface water quality is also degraded due to discharge of human settlement waste in absence of proper sanitation facilities.

As no major industries are located in Nandigram I & II Blocks, no major source of air pollution is reported.

5.0 SOCIO-ECONOMIC STATUS SUMMARY

5.1 Survey sample size, sample selection, commissioning of the work

The socio-economic survey was an integral part of the plan preparation for Nandigram I & II Blocks. The survey was designed to capture the socio-economic characteristics of the area using limited samples, collected across different strata of the population. This household level survey was carried out on the basis of personal interview by trained surveyors under the supervision of the project team from IIT Kharagpur. The total study area constitutes of two Blocks and phasing of the work was done along the administrative boundaries of these two Blocks– the first phase constituted of survey interviews conducted at Nandigram I Block and in the second phase the same exercise was conducted in Nandigram II Block.

Table 5.1: List of samples collected from different Gram Panchayats

SI. No.	Name of Block	Gram Panchayat	Village Name	J.L. No	No. of HH	Sample Size
Phase I						
1	Nandigram - I	Kalicharanpur	Kalicharanpur	248	1836	255
2	Nandigram - I	Samsabad	Samsabad	206	1508	220
3	Nandigram - I	Kendamari	Kenda Mari Jalpai	189	1513	210
4	Nandigram - I	Gokulnagar	Gokulnagar	241	1396	190
5	Nandigram - I	Mahammadpur	Mahammadpur	185	1308	160
6	Nandigram - I	Daudpur	Daudpur	234	1219	160
7	Nandigram - I	Nandigram	Nandigram (CT)	180	1225	150
8	Nandigram - I	Sonachura	Sonachura	251	1095	150
9	Nandigram - I	Haripur	Haripur	211	901	120
10	Nandigram - I	Bhekutya	Dinabandhupur	165	941	110
<i>Sub-total</i>						1725
Phase II						
1	Nandigram - II	Amdabad - I	Amdabad	140	2347	285
2	Nandigram - II	Amdabad - II	Kamalpur	220	1622	190
3	Nandigram - II	Khodambari - I	Khodambari	131	1623	190
4	Nandigram - II	Birulia	Ghol Pukurya	134	1592	190
5	Nandigram - II	Khodambari - II	Amratalya	125	1136	140
6	Nandigram - II	Bayal - I	Bayal	117	1207	140
7	Nandigram - II	Bayal - II	Ashadtalya (CT)	152	1143	140
<i>Sub-total</i>						1275
Total						3000

In view of the rural characteristics of the area and feedback received from Haldia Development Authority, it was decided to conduct the survey for around 5% of the households, which roughly translates to around 3000 households. The Block of Nandigram I was sub-divided into 10 sub-zones based on the number of households in a Gram Panchayat. The sampling schedule had been designed in a manner, which would prioritize the

settlements which are larger in size and have the potential to develop as future growth nodes in the study area. Similarly, the Nandigram II block was sub-divided into 7 sub-zones. The number of samples collected from these sub-zones are shown in [Table 5.1](#).

The survey questionnaire has been designed in a manner so as to collect data both at the household level, as well as at the individual family member level. The questionnaire has been classified in ten broad groups as mentioned below

- i. Identification of sample households
- ii. Household characteristics including family member details
- iii. Housing conditions
- iv. Conditions of Water Supply, Sanitation, Drainage, Solid Waste Management and Power Supply
- v. Household assets
- vi. Neighbourhood facilities and Living Environment
- vii. Educational attainment and employment particulars at family member level
- viii. Information of Birth, Death and Major illness
- ix. Liabilities and Savings
- x. Development priorities

As the residents of the area are predominantly Bengali speaking, the questionnaire was prepared in Bengali for ease of communication and avoids data loss. A private consultant MAK Geo-tech Pvt. Ltd. was entrusted the job of conducting the survey under the supervision of IIT Kharagpur. The survey team comprised of local surveyors from the planning area.

5.2 Salient findings of the survey

Following are the key findings from the socio-economic survey for Planning Area of Nandigram I & II Blocks.

The household characteristics of the planning area depict that most of the households (HHs) are of nuclear type (72.7%) and the pattern is more predominant in Nandigram I Block. The average HH size in the area is 3.7 person per HH. Around 14% HHs belong to SC (Scheduled Caste Category) and a meagre 0.7% belong to ST (Scheduled Tribes). Moreover, it has been reported that around 5% of the total HHs belong to the OBC (Other Backward Class) category. If we look at the economic classification of the HHs, we find around 47% HHs belong to the BPL (Below Poverty Line) category. The number of BPL HHs is marginally higher in Nandigram II Block when compared to Nandigram I. However, this figure is much higher than the State level (28% BPL HHs) and the District level statistics (38% BPL HHs, as per the District Level Household and Facility Survey, 2010). The predominant religion in both these blocks is Hinduism - 83.5% HHs practicing Hinduism, followed by Islam.

The distribution of population as per age cohorts reveal 72.5% population lying in the age bracket of 15-59 in Nandigram I Block and 65.5% in Nandigram II Block. This age cohort is significant as it implies the working population present in the planning area. On the contrary, it can also be interpreted regarding the amount of dependent population – that Nandigram II Block clearly having a higher share of dependent population. The sex ratio in the planning area is 918 females for every 1000 males, which is significantly lower than National or State level figures. The sex ratio in Nandigram I Block is alarmingly low – 908 females for every 1000 males. Literacy rate in the study area is very high both for males and females, particularly female literacy rates are very high – 91.8% in Nandigram I and 83.3% in Nandigram II. These figures far exceed the National or State level literacy rates. This phenomenon can be seen across the district of Purba Medinipur which consistently exhibits one of the highest literacy rates in West Bengal.

In housing characteristics it was observed that majority of households resided in their own dwelling unit and a miniscule number resided in rented units (less than 1%). Almost all the dwelling units in the Planning area are of G+1 or G+2 type. Almost 46% HHs resided in dwelling units whose built-up area are less than 500 sq.ft and another 45% residing in dwelling units whose size varied from 750-1500 sq.ft. However, in Nandigram II Block almost 71% HHs resided in dwelling units whose built-up area was less than 500 sq.ft.

In terms of household level infrastructure, most HHs (almost 94% HHs in the planning area) are dependent on community level water sources (most prevalent being tubewells). Quantitatively, the most common problems of water supply related issues, reported during survey, was that of inadequate water supply during summer months (more pronounced in Nandigram II Block, where 92.5% HHs reported this problem). Water Quality problems consisted of high iron content and/or turbidity (more pronounced in Nandigram I Block, where around 82% reported about these problems). The average distance to the source of water was higher in Nandigram I Block than Nandigram II Block.

More than 83% HHs in Nandigram I Block and 96% HHs in Nandigram II Block have access to private toilets (mostly owning a single toilet). However, it was reported that most HHs have their bathrooms outside the dwelling unit. Most HHs in Nandigram II Block (around 70% HHs) do not have access to pucca drainage system (as against 45% HHs in Nandigram I Block). There is no formal solid waste management system in the planning area and most HHs dispose their domestic waste in adjoining open areas. Most of the HHs have access to electricity, and majority of HHs having their own electric meter at home.

As the average plot size of the dwelling units is high, it was reported that most HHs have open space within their premises (around 85% HHs in the planning area). Most of the HHs in the planning area are dependent on fire wood for cooking purpose (more than 90% HHs in Nandigram II Block). It was also observed that most HHs in Nandigram II Block had cooking arrangements within the dwelling unit (almost 92% HHs had no separate kitchen).

Proximity to amenities like banks and ATMs was poor – in Nandigram I Block more than 40% HHs reported that they had to travel more than 2 km to access such amenities. The situation is grimmer in Nandigram II Block where more than 70% HHs had to travel more than 2 km for such amenities. Moreover, more than 42% HHs in the planning area had to travel more than 1 km to access a metal road from their dwelling units. Less than 6% HHs reported about the presence of street lighting, which makes safety at night a concern for the population in the planning area.

Ownership pattern of vehicle clearly indicated preference for non-motorized mode like bicycle. This can be directly attributed to low income/purchasing power of the population in the planning area.

The education attainment statistics of the Planning area reveals high attrition rate for females (particularly in Nandigram II Block, where sex ratio dips to 886 females for every 1000 male students) after primary level of education. However, in the graduate level (in Nandigram II Block) and post graduate level (in both Nandigram I & II Block) sex ratio is greater than 1000.

Health indicators reveal that most of the people in Nandigram II (around 55%) resort to medical facilities outside their block for maternity related issues. This trend is relatively less pronounced in Nandigram I Block, where almost 77% people avail medical services, pertaining to maternity issues, within their Block. Moreover, it was found that almost 70% of the population in Nandigram I Block preferred self-medication or no treatment at all for their medical issues. It was also seen that people in Nandigram I Block preferred (around 56%) homeopathic treatment whereas, in Nandigram II Block allopathic treatment was more preferred (around 88%) for medical conditions.

For economic attainment of the population, Lorenz curves were prepared for Nandigram I and II and their respective GINI coefficient calculated. It was observed that Nandigram I Block (GINI of 0.37) had higher level income disparity compared to Nandigram II Block (GINI of 0.6). Moreover, it was also observed that a sizeable number of HHs (49% HHs) in Nandigram I Block own agricultural land within a range of 5 – 20 kattah, whereas, in Nandigram II Block almost 52% HHs owned agricultural land of area less than 10 kattah. It was also found that more than 80% of HHs also owned cattle and around 19% HHs in the planning area had private orchards. Around 75% HHs in Nandigram I Block and 89% HHs in Nandigram II Block owned a mobile phone, and around 35% HHs owned a colour television set. Monthly subscription to newspaper was abysmally less (around 1.5% HHs) in the planning area. More than 90% HHs had access to banks and around 70% HHs had insurance coverage for life risk.

5.3 Development Priorities

The socio-economic survey questionnaire had a dedicated section for gauging the perception of present status of development and the way ahead for future development. Likewise, a series of sectors were provided to the respondent and she/he had to prioritize the sectors as per its importance to overall development of the Planning area.

The predetermined set of priorities would save the participant from making wayward responses, which can be insignificant or inconsequential in the preparation of development priorities for the region.

The set of development priorities that the questionnaire offered are as follows

- i. Accessibility and communication
- ii. Health facilities
- iii. Educational facilities
- iv. Water supply
- v. Drainage and Solid Waste Management
- vi. Open space conservation
- vii. Environmental pollution
- viii. Agriculture and irrigation facilities
- ix. Employment generation
- x. Public Distribution System (PDS)
- xi. Preparedness against natural disasters
- xii. Others, if any

Majority of households in the study area have opted for Accessibility and communication as the most important priority (74.4% in Nandigram I Block and 61.9% in Nandigram II Block). The same is reflected in the weighted response. The same can be reflected in the distribution of surveyed households based on distance from metal roads.

Table 5.1.: Summary of development priorities

Priority Ranking	Name of Block	Share of HHs (%)											
		Accessibility & Communication	Health Facilities	Education Facilities	Water Supply	Drainage and Solid Waste Management	Open space conservation	Environmental Pollution	Agriculture and irrigation facilities	Employment generation	Ration System (PDS)	Preparedness against natural disasters	Others
1st	Nandigram I	74.4	10.6	1.8	0.9	0.2	0.1	0.4	1.8	8.0	1.7	0.1	0.1
	Nandigram II	61.9	14.3	4.0	4.8	1.2	0.1	0.3	2.6	5.8	4.2	0.6	0.2
2nd	Nandigram I	3.0	32.4	37.7	14.6	1.8	0.5	1.1	3.7	2.3	2.2	0.7	0.0
	Nandigram II	3.7	37.3	19.2	16.2	5.2	1.3	2.8	4.6	3.9	5.0	0.5	0.2
3rd	Nandigram I	3.0	32.4	37.7	14.6	1.8	0.5	1.1	3.7	2.3	2.2	0.7	0.0
	Nandigram II	3.7	37.3	19.2	16.2	5.2	1.3	2.8	4.6	3.9	5.0	0.5	0.2
4th	Nandigram I	2.1	4.7	26.1	13.9	31.7	7.0	1.1	7.4	3.7	2.0	0.4	0.0
	Nandigram II	2.8	6.7	31.2	13.2	6.9	6.3	8.0	9.8	7.5	6.1	0.9	0.7
5th	Nandigram I	1.9	3.5	2.7	14.1	5.0	9.4	32.6	18.6	8.4	3.3	0.4	0.2
	Nandigram II	1.9	5.7	5.8	13.2	3.2	2.0	8.8	19.3	22.5	13.8	2.2	1.7
Weighted	Nandigram I	26.5	13.8	16.4	9.0	8.2	3.0	5.1	6.1	8.5	2.7	0.5	0.1
	Nandigram II	22.8	17.1	13.7	10.6	3.8	2.0	3.9	7.2	8.8	8.0	1.4	0.7

Source: Socio-economic Survey of Nandigram I & II Blocks, 2016

The next most opted development priority was the provision of educational and health facilities in the study area. It can be recapitulated that distribution of households based on the distances of their residences from primary health centres and high school revealed that around 38% households had to travel more than 2 km from their house.

The weighted priority has been calculated based on weights assigned to each priority based on its rank as revealed through the surveys. The weight assignments are shown below

- Rank 1 – 5 points
- Rank 2 – 4 points
- Rank 3 – 3 points
- Rank 4 – 2 points
- Rank 5 – 1 point

The weighted assignment puts the highest development priority to accessibility and communication both by Nandigram I & II Blocks, followed by provision of educational and healthcare facilities in Nandigram I Block, and healthcare and educational facilities in Nandigram II Block.

The summary of development priorities based on ranking and weighted priority has been provided below in Table 5.1.

The graphical presentation of the weighted development priorities for the study area is presented in Fig. 5.1.

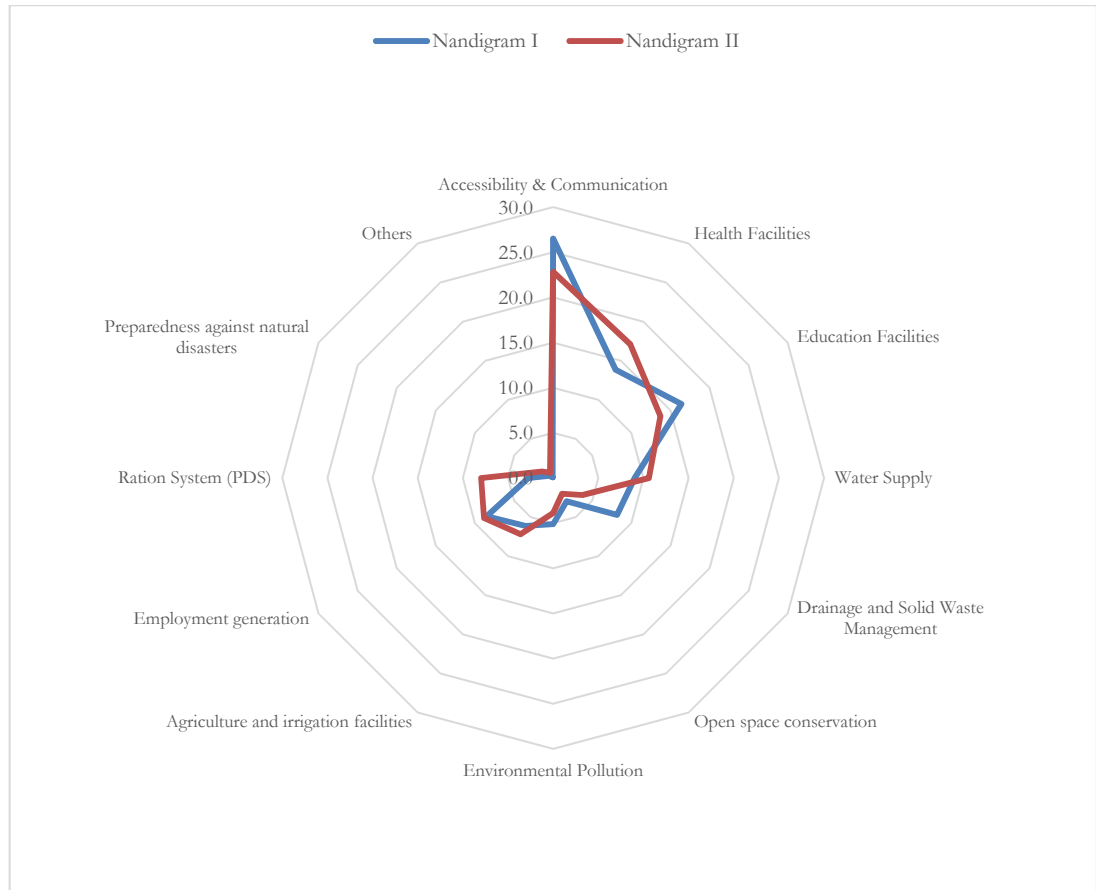


Fig. 5.1: Comparison of weighted development priorities at household level

6.0 DEMOGRAPHIC PROFILE AND POPULATION PROJECTION

This chapter has two major sub-sections where, the first one would highlight the significant demographic characteristics of the region. These characteristics would be based on the available Block level statistics for the planning area. The second sub-section would discuss the future population envisaged for the planning area and the methodology for arriving at the same.

6.1 Present population characteristics

This sub-section will highlight the significant demographic features of planning area, which define the population residing in the planning area. Some of the parameters taken into consideration are language, age-sex distribution, native place of stay etc.

6.1.1 Decadal population growth

From Census of India data, it is observed that, the entire planning area experienced a decadal growth rate of 14.5% during 2001-11 period, which is lower than the decadal growth rate of the district, i.e. 15.36% during the above mentioned time period. Moreover, it is interesting to see that the share of population of the planning area to the population of the district has decreased in the last decade. This phenomenon has to be kept in mind while population projection.

Table No. 6.1: Share of population w.r.t District population and decadal population growth rate in Nandigram I & II Blocks

Year	Population			Total (B)	%age Share (B/A)	Decadal Population Growth rate
	Purba Medinipur (A)	Nandigram I	Nandigram II			
2001	4417377	174691	104637	2,79,328	6.32	-
2011	5095875	202032	117945	3,19,977	6.28	14.5%

Source: Census of India, 2011

6.1.2 Age distribution and sex ratio

The socio-economic survey data on age reveals that almost 70% population in Nandigram I Block and 60% of population in Nandigram II Block lie in the age group of 15-50 years. About 18% of population in Nandigram I Block and 22% in Nandigram II Block is below the age of 15 years. The percentage of population above 60 years is higher in Nandigram II Block (8.6%) when compared to Nandigram I Block (4%). The summary of age wise distribution of population in both the blocks is given in Table 6.2.

Table No. 6.2: Percentage distribution of population by broad age group

Age group	Share (% of pop.)	
	Nandigram I Block	Nandigram II Block
0 to 4	3.9	6.1
5 to 9	5.3	7.1
10 to 14	9.2	8.8
15 to 19	10.7	10.8
20 to 24	12.1	10.1
25 to 29	11.5	9.8
30 to 34	9.5	7.7
35 to 39	10.6	7.8
40 to 44	8.1	6.9
45 to 49	7.4	7.0
50 to 54	4.1	5.0
55 to 59	3.4	4.3
60 to 64	1.8	3.4
65 to 69	1.4	2.3
70 to 74	0.5	1.3
75 +	0.4	1.6

Source: District Statistical Handbook, 2013

The age-sex pyramid for Nandigram I & II Blocks are provided below in [Figure 6.1A](#) and [Figure 6.1B](#). The age-sex pyramid reveal similarity in characteristics with a heavy belly and tapering ends indicating low dependency rate in the population.

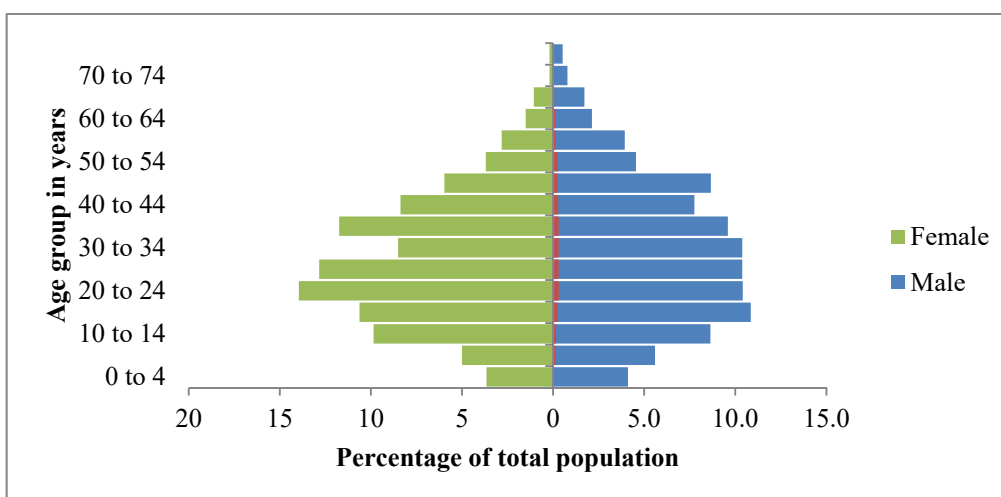


Figure No. 6.1A: Age-sex pyramid of Nandigram I Block

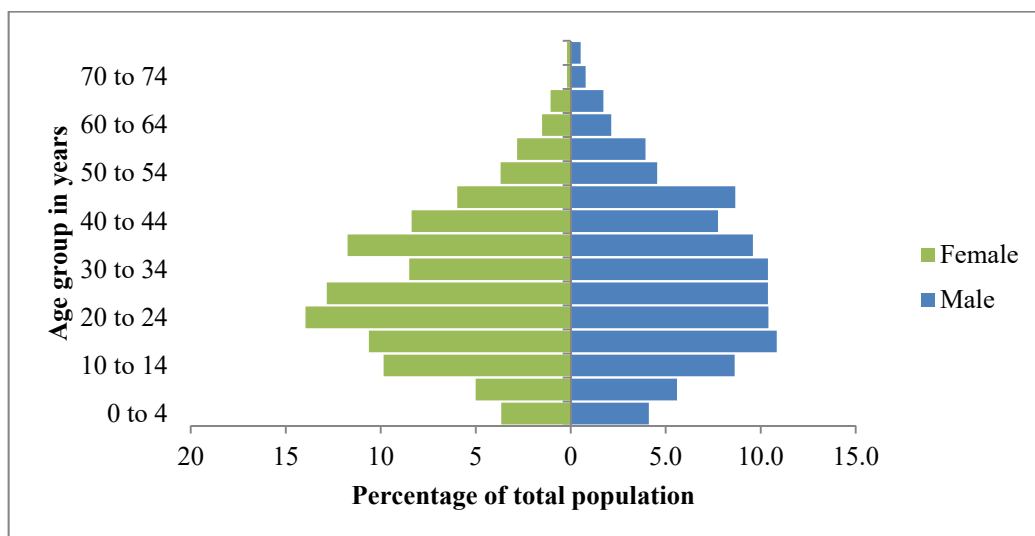


Figure No. 6.1B: Age-sex pyramid of Nandigram II Block

6.1.3 Language (Mother tongue) and native place of stay

The prevalent language spoken in the planning area is Bengali (above 99% of the population) and a miniscule share speaks in Oriya. This can also be attributed to the native place of stay. Most of the population have either moved over from some other rural areas in West Bengal to the planning area or, have been staying at this location from their birth.

6.2 Population projection

The sole purpose of population projection exercise is to envisage the development pressure and its distribution, which helps estimate the amount of space (area of land) that would be required in the given timeline (2031 AD) for the Nandigram I & II Blocks.

It was observed that the share of population of the planning area to the population of the district has decreased over the last decade. Assuming the same trend to continue due to diminishing natural population growth rate and migration, the population projection was carried out using the Shift-Share Analysis. The basic idea behind the assumption was that in future the rural nature of the planning area and its local economy will be retained by appropriate planning efforts.

First, the ratio of the population of the Planning Area to the population of the district was calculated for few decades and the data is then extrapolated for the timeline of 2021 and 2031. The projected population in 2021 and 2031 was calculated using the equation generated from the trend line. A linear trend line was assumed for conservative estimation, as no major changes in the local economy and way of life is envisaged in the future. However, it

goes without saying that the plan preparation intends to improve the Quality of Life of the population in the planning area.

The projected population for the Planning Area is provided in [Table 6.4](#).

Table 6.4: Projection population of Nandigram I & II Blocks

Year	Population				Share of Population (%)		
	Purba Medinipur	Nandigram I (B)	Nandigram II (C)	Total population (D)	(B/A)	(C/A)	(D/A)
	(A)						
1991	3845633		-				
2001	4417377	174691	104637	279328	3.95	2.37	6.32
2011	5095875	202032	117945	319977	3.96	2.31	6.28
2021	5903680	234063	133447	367510	3.96	2.26	6.23
2031	6868609	273007	151535	424542	3.97	2.21	6.18

Moreover, the Rank Size Rule was applied to check for primacy amongst settlements in the Planning Area. It was observed that Nandigram I did not exhibit tendency of primacy but Nandigram II had shown evidence of primacy.

6.2.1 Land requirement for Planning Area by 2031

As explained previously there are three new Growth Nodes (GN) proposed in the Planning Area based on the strategic location and availability of natural resources. Moreover, a new Urban Node (UN) has also been proposed to control the sporadic and unplanned growth in population density in the core area of the planning area. The population proposed in these urban node and growth nodes are shown in [Table 6.5](#).

Table 6.5: Proposed population allocation in Nandigram I & II Blocks

Name of Block	Population in 2011	Population in 2031	Additional population to be accommodated
Nandigram I	202032	273007	70975
Nandigram II	117945	151535	33590
Total	319977	424542	104565

As per the Census of India, 2011, the share of population residing within Urban Node (UN) and Growth Nodes (GN) is 31%. This is expected to increase to 40% by 2031. The land requirement for accommodating this population in these urban node and growth nodes are shown in the [Table 6.5](#).

Table 6.5: Area required for the proposed population in Planning Area

	Pop. to be accommodated by 2031	Net Residential Area required (in ha.)	Non-residential Area required (in ha.)	Total Area required in ha. (range)
Urban Node (UN)	26000	350	175	525 ~ (550 – 600)
Growth Nodes (GN)	16000	320	158	478 ~ (500 – 550)

The additional population to be accommodated by 2031 in the rest of the area in the Planning Area is 63,000. The land required for accommodating this population is 1600 hectare.

7.0 ANALYSIS OF SURVEYED LAND USE

The present Land Use Map and Land Register for Nandigram I & II Blocks was prepared and adopted u/s 29(5) of The West Bengal Town and Country (Planning and Development) Act, 1979 and was approved by the Government of West Bengal and the same was published in the Calcutta Gazette on Friday, May 30, 2014.

After that new development that has taken place has been updated and the Land Use Map and Land Register has been prepared. The derived surveyed Land use was verified on ground in 2016. The 2014 notified land use map was prepared using land use classification based on URDPFI guidelines with appropriate modification to suit local conditions ([Refer Annexure III](#)). The 2011 surveyed land use is prepared using level-III land use classification ([Refer Annexure III](#)) based on NRSC land use classification guidelines.

[Table No. 7.1](#) shows the existing Land-use breakup of the Nandigram I & II Blocks. The largest share consists of agriculture land use (58.98%). Village settlement occupies 23.78% of the total area followed by waterbodies (11.57%). Roads constitute of only 3.13 % of the total area and Special Area (as per the provisions of CRZ regulations along the coastal areas) comprises of 1.46% of the total land ([Refer Map No. 7.1](#)).

Table No. 7.1: Existing land use area break-up of Planning Area

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share in %age of total land
Residential	S-4	Village Settlement	67.74	23.78
Commercial	C-1	Retail Shopping Zone	0.11	0.04
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.07	0.02
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.11	0.04
	PS-3	Education	0.70	0.24
	PS-4	Medical & Health	0.06	0.02
	PS-5	Socio-Cultural and Religious	0.34	0.12
	PS-6	Utilities and Services	0.01	0.00
	PS-7	Cremation and Burial Grounds	0.09	0.03
Transmission and Communication	T-1	Roads	8.93	3.13
	T-2	Railway Track	0.07	0.02
	T-5	Transport Terminal	0.02	0.01
	T-6	Transmission and Communication	0.00	0.00
	A-1	Agriculture	168.02	58.98
	A-2	Forests	0.54	0.19
	A-3	Brick Kiln and Extractive areas	0.62	0.22
	A-4	Water bodies	35.69	11.57
		Barren Land	0.29	0.10
Recreation	P-1	Playground/Stadium/Sports Complex	0.03	0.01
		Special Area	4.15	1.46
Total Area			287.58	100.00

Table No. 7.2 and 7.3 shows the existing land use distribution in the proposed Urban Node (UN), and the Growth Nodes (GN) delineated from the Planning Area – which clearly points out that the present utilization of land in the Urban Node (UN) vary with the whole of Nandigram I & II Blocks and Growth Nodes (GN).

Table 7.2 depicts the summary of the land use distribution in Growth Nodes (GN) - around 60% land is occupied by agriculture land use, around 25% was taken up by village settlement and around 11.5% comprises of waterbodies. Roads comprises of 3.8% of the land.

Table No. 7.2: Existing land use area break-up of the Growth Nodes

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share in %age of total land
Residential	S-4	Village Settlement	10.172	24.59
Commercial	C-1	Retail Shopping Zone	0.003	0.01
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.013	0.03
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.004	0.01
	PS-3	Education	0.070	0.17
	PS-4	Medical & Health	0.005	0.01
	PS-5	Socio-Cultural and Religious	0.044	0.11
	PS-6	Utilities and Services	0.000	0.00
	PS-7	Cremation and Burial Grounds	0.004	0.01
Transmission and Communication	T-1	Roads	1.567	3.79
	T-2	Railway Track	0.000	0.00
	T-5	Transport Terminal	0.000	0.00
	T-6	Transmission and Communication	0.000	0.00
	A-1	Agriculture	24.661	59.62
	A-2	Forests	0.000	0.00
	A-3	Brick Kiln and Extractive areas	0.049	0.12
	A-4	Water bodies	4.675	11.47
		Barren Land	0.026	0.06
Recreation	P-1	Playground/Stadium/Sports Complex	0.000	0.00
		Special Area	0.000	0.00
<i>Total Area</i>			<i>41.29</i>	<i>100</i>

Table 7.3 shows the existing land use distribution of the Urban Node. Agriculture land use comprises of around 50% area, residential land use comprises of 40.72% area and waterbodies comprises of 5% area. It can be clearly seen that the area occupied by residential land use is much higher than Growth Nodes and the entire planning area, indicating at its growing urban nature. The area taken up by water bodies have also decreased when compared to Growth Nodes and the overall planning area.

Table No. 7.3: Existing land use area distribution of the Urban Node

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share in %age of total land
Residential	S-4	Village Settlement	10.02	40.72
Commercial	C-1	Retail Shopping Zone	0.03	0.12
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.02	0.07
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.02	0.09
	PS-3	Education	0.11	0.45
	PS-4	Medical & Health	0.00	0.01
	PS-5	Socio-Cultural and Religious	0.07	0.28
	PS-6	Utilities and Services	0.00	0.02
	PS-7	Cremation and Burial Grounds	0.02	0.09
Transmission and Communication	T-1	Roads	0.73	2.97
	T-2	Railway Track	0.01	0.05
	T-5	Transport Terminal	0.02	0.06
	T-6	Transmission and Communication	0.00	0.01
Agriculture	A-1	Agriculture	12.33	50.08
	A-2	Forests	0.00	0.00
	A-3	Brick Kiln and Extractive areas	0.00	0.00
	A-4	Water bodies	1.17	4.95
		Barren Land	0.00	0.00
Recreation	P-1	Playground/Stadium/Sports Complex	0.01	0.03
		Special Area	0.00	0
<i>Total Area</i>			<i>24.57</i>	<i>100</i>

Table 7.4 shows the land use distribution in the rest of the rural mouzas of the planning area. It can be seen that around 60% of the total area is assigned to agriculture land use, followed by residential (village settlement – 21.4%) land use.

Table No. 7.4: Existing land use area distribution of the Rural Node

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share in %age of total land
Residential	S-4	Village Settlement	47.54	21.44
Commercial	C-1	Retail Shopping Zone	0.07	0.03
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.04	0.02
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.08	0.04

	PS-3	Education	0.52	0.24
	PS-4	Medical & Health	0.05	0.02
	PS-5	Socio-Cultural and Religious	0.23	0.10
	PS-6	Utilities and Services	0.00	0.00
	PS-7	Cremation and Burial Grounds	0.07	0.03
Transmission and Communication	T-1	Roads	6.63	2.99
	T-2	Railway Track	0.06	0.03
	T-5	Transport Terminal	0.01	0.00
	T-6	Transmission and Communication	0.00	0.00
	A-1	Agriculture	131.03	59.09
	A-2	Forests	0.54	0.24
	A-3	Brick Kiln and Extractive areas	0.57	0.26
	A-4	Water bodies	29.85	13.46
		Barren Land	0.26	0.12
Recreation	P-1	Playground/Stadium/Sports Complex	0.02	0.01
		Special Area	4.15	1.87
<i>Total Area</i>			<i>221.72</i>	<i>100</i>

8.0 PLANNING PROCEDURE

8.1 Plan Period

The Land Use and Development Control Plan for Nandigram I & II Blocks is proposed for the year 2031. Though primarily rural in nature, signs of urbanism are visible in many areas, especially in the dense village settlements. Such trends are more in Nandigram II Block compared to Nandigram I Block. There are 08 no.s of villages identified within Nandigram II Block with population more than 5000 in 2011 as compared to 10 no.s in Nandigram I Block – though Nandigram I accommodates more population and spread over much bigger geographical area.

Haphazard urban growth as well as weak enforcement of regulations concerning land development control often degrades the quality of living environment and creates severe constraints for future development.

Keeping this in mind, with the help of Land Use and Development Control Plan, it is expected that the Haldia Development Authority will be better equipped to manage and regulate the development in the Nandigram I & II Blocks.

8.2 Planning Directives

The main objective of Land Use and Development Control Plan is to allocate land uses to ensure public welfare and better standard of living, while retaining the predominant character of this planning area. The land use distribution is based on compatibility of uses. The development control plan manages and regulates land development and ensures that all developments conform to a pre-determined set of objectives, policies or standards. Thus the Land Use and Development Control Plan must be inclusive of the physical, environmental, economic, social and aesthetic aspects.

To prepare this plan certain planning directives were followed.

1. Land use plan shall respond to the topography, geology, hydrology, ecology, etc.
2. The land use shall show location of existing rural settlements and it will earmark agricultural land, forest land, coastal zone, streams and canals, water bodies.
3. Most of the farm land is multi-cropping, and shall be protected to the maximum extent. The same shall be earmarked as 'Agricultural Use Zone' along with other area which are most suited for agricultural use.
4. The river bank falling under CRZ-I and CRZ-IVB shall be protected as 'Special Area'. CRZ regulations shall be applicable to all such land parcels ([Refer Annexure V](#)). The proposals will conform to the provisions of the CRZ Notification 2011 and subsequent amendments.

[List of Mouzas falling under

CRZ-I:

Mangalchak, Jalpai-2nd Part, Jalpai-3rd Part, Manuchak Jalpai, Jalpai-5th Part, Banelichak, Dinabandhupur, Jelenara, Kendmari Jalpai, Jalpai-7th Part, Kalicharanpur, Soudkhali Jalpai, Gangrachar, Saudkhalichakra, Nagchirachar, Charkandamari

CRZ-IVB:

Ranichak, Brindabanchak, Kanuntochak, Simulkundu, Gokulnagar, Gangra, Sonachura, Sonachura Jalpai

Apart from the mouzas falling under CRZ-I and CRZ-IVB, Special Area extends to two Mouzas, Narayanchak_Boyal_115 and Ramchak]

5. No large polluting industries are allowed in this planning area. Only small and medium scale non-polluting industries having link with the farm economy may be permitted.
6. Priority aspects regarding planning projects must be decided as per the 'development priorities' obtained in the socio-economic survey.
7. While allocating public infrastructure, priority will be given to the land under the possession of the Government.
8. Provision of public facilities and infrastructure like health, education, government, recreation, community development, will be made as per the URDPFI Guidelines as far as found appropriate to the local needs.
9. Areas of Heritage value will be given due importance and incorporated in the plan. Owing to its natural location, tourism activities will be proposed, especially along the river.

8.3 Planning Inputs from Past Studies

No past studies conducted for Haldia Planning Area has directly covered the development aspects of Nandigram I & II Blocks.

The oldest of them being Outline Development Plan, prepared by the Haldia Development Authority, attempted to regulate the existing developments of Haldia Municipality Area, but it also identified the major growth centers of the Old Planning Area – all being on the other side of the river Haldi.

The Perspective Plan of Haldia Planning Area was prepared in November 2001, by CES India Pvt. Ltd. The primary focus was to develop Haldia as a strong industrial hub to continue as the regional center with a view to act as counter-magnet to Kolkata.

In 2006, Nandigram and Nayachar island were included in the proposed Petroleum, Chemicals and Petrochemicals Investment Region (PCPIR). Later this plan was abandoned.

The Mobility Improvement Plan was prepared by the IIT Kharagpur, in the year 2008. The plan focused on improvement of regional and local connectivity of Haldia. This study suggested new road links and location for new Bridges to connect Haldia with Raichak and Nandigram.

The City Development Plan (CDP) prepared in the year 2011, focused on the pressure on the existing infrastructure, necessitating planned interventions in the Haldia Municipal Area and adjoining Blocks (in parts) since Haldia was expected to attract large investments.

Other than the above mentioned studies, the 'Storm Water Drainage Master Plan for Haldia' prepared by IIT Kharagpur in 2008, 'Sewerage Master Plan for Haldia Municipal Area' prepared by IIT Kharagpur in 2009 and 'Master Plan for Haldia Water Supply System' prepared by IIT Kharagpur in 2010 have also been taken into account for in-depth understanding of the infrastructural projects of the old Haldia Planning Area.

The Haldia Development Authority prepared the Tourism Development-cum-Investment Plan for Haldia and its adjoining areas in June 2002. This was an effort to put Haldia Planning Area on to the Tourism map. It identified the Haldia Town, Geonkhali and Mahishadal as having tourism potential along with Balughata. As Nandigram was not part of the Haldia Planning Area when this study was done, the tourism development potential of Nandigram and adjoining Nayachar Island was not explored.

Recently, Amended Land Use and Development Control Plan for Old Haldia Planning Area has been prepared – which hinted at greater interaction of people and commodities between Haldia town and Nandigram via river bridge crossing at Balughata and Port Township along with improved jetty facilities.

8.4 Methodology/Approach

Without the knowledge of the existing situation, future proposal for land use and development control cannot be prepared. The first step in the preparation of the plan is updating the existing land use. After that, present situation is analysed considering socio-economic survey data and other relevant secondary information about the planning area. Projections are made for required infrastructure facilities and past proposals are considered for preparation of conceptual broad zoning. Then, draft LU&DCP is prepared with detailed zoning regulations and development control guidelines. After considering stakeholders' objections/ suggestions, final LU&DCP will be submitted. The detailed steps for preparation of LU&DCP are shown in [Figure No. 8.1](#).

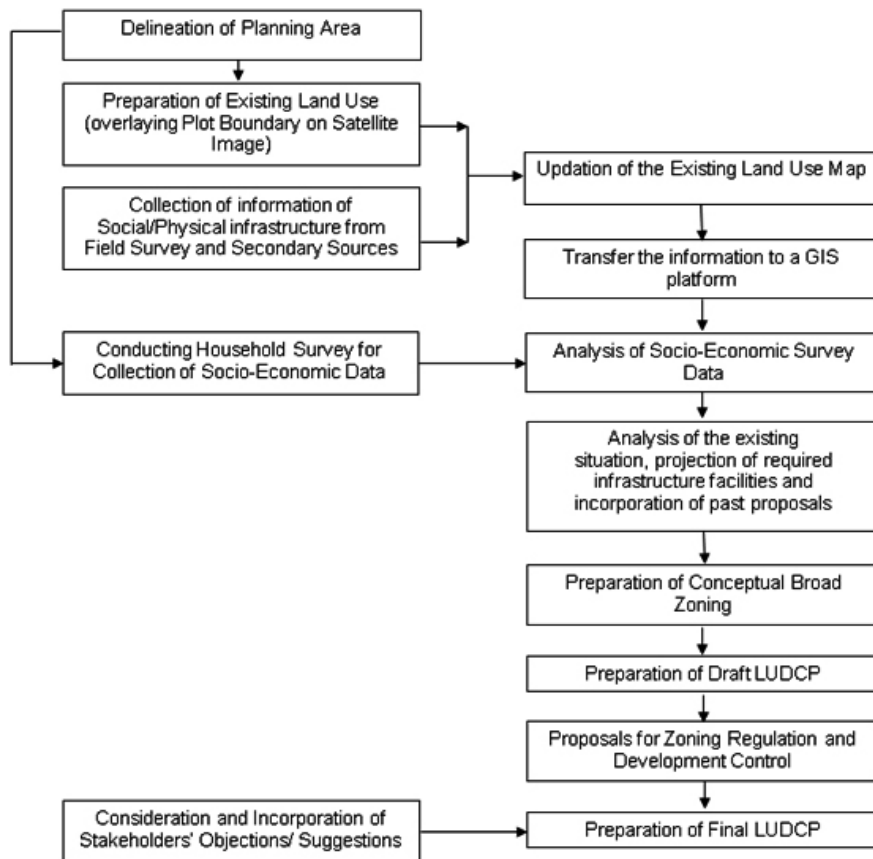


Figure No. 8.1: Methodology

8.5 Summary of major development proposals for LU&DCP

Nandigram I & II Blocks are predominantly rural in character with high dependence on primary sector activities. The low density village settlements developed in an organic manner along the access routes adjoining the agricultural land. One of the prime objectives of the Land Use and Development Control Plan is to promote limited development retaining the predominant character of the planning area.

Only the dense and large village settlements with high growth rate, or the villages which has huge potential to promote development in its hinterland has been considered for Urban Node (UN) and Growth Nodes (GN) – rest being considered as Rural Nodes (RN) with marginal change in character except providing improved connectivity and access to other infrastructure.

The proposed Urban Node (UN) has 17 mouzas and the population in 2011 for this identified node is that of a Class II level Census Town (i.e. population between 50,000 and 1,00,000). It is expected that the present character of development already warrants regulatory control of development commensurate of a municipal area. The proposed activities include Residential zone to accommodate its fast growing population; Public & Semi-public zone to accommodate

the public offices, physical and social infrastructure; Proposed Commercial zone for trade and commerce activities; Proposed Warehousing and Logistics zone for handling the farm products, processing and packaging, market facilities etc.

Three Growth Nodes (GN) located at three sides around the proposed Urban Node has been based on the distinct locational advantage each of them enjoys. Moreover, these Growth Nodes already has large population base (each greater than 13,000 in 2011) and exhibit comparatively high population growth rate than the remaining villages in Nandigram I & II Blocks.

Gholpukuria – Hanu Bhunya Growth Node (GN1) is closer to the Digha-Nandakumar-Haldia road link and the proposed rail line connecting Nandigram with Tamluk passes through this Growth Node. The proposed facilities include multi-modal (rail – road based) transshipment with agro-market, agro-processing, and cold storage facilities.

Bhekutia Growth Node (GN2) is located near the river bridge crossing proposed to connect with the Haldia Town. Improved connectivity to Haldia Industrial Area will accelerate residential and allied development in this Growth Node. Apart from that packaging and processing activities supplying the urban consumption demand of Haldia can also be explored. As a large part of this Growth Node belongs to CRZ-I, Special Area and Green Belt has been proposed in this Growth Node.

Kalicharanpur-Gangra Growth Node (GN3), which is closer to the Nandigram Khejuri-Digha coastal alignment, is already an established fishery product market – owing to its proximity to coastal location and pisciculture activities. The proposed coastal road alignment towards Digha all along the Coast of Purba Medinipur will open up tremendous opportunities not only for food processing and storage facilities but also promote it as a gateway to eco-tourism in Nayachar Island.

The remaining village settlements are connected to the Urban Nodes and Growth nodes through a proposed network of roads with 30 m ROW. The proposed road network attempts to provide connectivity to Nandigram Blocks four sides – towards Haldia via a proposed river bridge crossing and two upgraded ferry service facilities, towards Khejuri with proposed road connections, towards Nayachar Island with upgraded ferry service, and towards Digha-Nandakumar axis with new roads and upgraded existing roads. The ferry services are intended not only for movement of people in traditional low capacity boats but with modern jetty with Roll on-Roll off (Ro-Ro) facilities for efficient movement of passenger and freight vehicles. ([Refer Map 8.1](#))

8.5.1 Proposed Land Use Categories

In order to reduce the problems of haphazard, uncontrolled development, deteriorating environmental quality, loss of prime agricultural lands, and development pressure on coastal zones, the present and future activities of the Nandigram I & II Blocks has been grouped under broad Land use Zones and 26 Land Use Categories.

Table No. 8.1: Proposed Land Use Classification

Level I Use Zone	Proposed land use categories
Residential	1. Proposed Residential Zone
	2. Village Settlement
Commercial	3. Retail shopping zone
	4. Proposed Commercial Zone
	5. Wholesale market/Godowns/Warehouses/Regulated market
	6. Proposed Logistics/Warehousing
Public & Semi Public	7. Govt./Semi Govt./Public Offices
	8. Education
	9. Medical & Health
	10. Socio-cultural and Religious
	11. Utilities and Services
	12. Cremation and Burial grounds
	13. Proposed Public & Semi Public Zone
Transmission and Communication	14. Roads
	15. Railway Track
	16. Transport Terminal
	17. Transmission and Communication
	18. Proposed Arterial Roads
	19. Agriculture
	20. Forests
	21. Brick kiln and extractive areas
	22. Waterbodies
	23. Barren Land
	24. Proposed Green Belt
Recreation	25. Playground/Stadium/Sports Complex
	26. Special Area

Proposed land use classification for Nandigram I & II Blocks has been designed considering The West Bengal Town and Country (Planning and Development) Act, 1979 and the URDPFI Guidelines, 1996, Ministry of Urban Affairs and Employment, Government of India. In

addition, the notified Amendment of LU&DCP for Old Haldia Planning Area prepared by the Haldia Development Authority has been taken into account to maintain consistency and coherence in approach.

The land use categories as per the 'Surveyed Land Use' have been distributed amongst the 'Proposed Land Use' categories. However, in view of this area being primarily a rural area with predominantly agrarian character and with no medium and large scale industries, no industrial land use zone has been proposed separately. The land use classification adopted for the Land Use and Development Control Plan has been elaborated in Table No. 8.1. The detail list of activities under each land use category has been included in the Zoning Regulations given in Chapter 9.

Following tables describe the area of land earmarked within different Land Use Zones and Land Use Categories. The tables also indicate the relative distribution of land under each Land Use Zone and Land Use Category.

Table No. 8.2: Proposed Land Use area break-up of Nandigram I & II Blocks

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share (%)
Residential	S-4	Village Settlement	64.84	22.55
		Proposed Residential	14.21	4.94
Commercial	C-1	Retail Shopping Zone	0.11	0.04
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.07	0.02
		Proposed Commercial	2.09	0.73
		Proposed Logistics and Warehouse	1.30	0.45
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.09	0.03
	PS-3	Education	0.66	0.23
	PS-4	Medical & Health	0.06	0.02
	PS-5	Socio-Cultural and Religious	0.28	0.10
	PS-6	Utilities and Services	0.01	0.00
	PS-7	Cremation and Burial Grounds	0.02	0.01
		Proposed Public and Semi-Public	14.22	4.95
Transmission and Communication	T-1	Roads	8.37	2.91
	T-2	Railway Track	0.07	0.02
	T-5	Transport Terminal	0.02	0.01
	T-6	Transmission and Communication	0.00	0.00
		Proposed Arterial Roads	4.89	1.70
	A-1	Agriculture	134.68	46.83
	A-2	Forests	0.54	0.19
	A-3	Brick Kiln and Extractive areas	0.59	0.20
	A-4	Water bodies	35.69	12.41
		Barren Land	0.23	0.08
		Proposed Greenbelt	0.89	0.31
Recreation	P-1	Playground/Stadium/Sports Complex	0.03	0.01
		Special Area	3.64	1.27
<i>Total Area</i>			<i>287.58</i>	<i>100.00</i>

Table No. 8.3: Proposed land use distribution for the Growth Nodes (GN)

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share (%)
Residential	S-4	Village Settlement	10.17	24.63
		Proposed Residential	8.35	20.21
Commercial	C-1	Retail Shopping Zone	0.00	0.01
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.01	0.03
		Proposed Commercial	1.57	3.80
		Proposed Logistics and Warehouse	1.08	2.61
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.00	0.01
	PS-3	Education	0.07	0.17
	PS-4	Medical & Health	0.00	0.01
	PS-5	Socio-Cultural and Religious	0.04	0.11
	PS-6	Utilities and Services	0.00	0.00
	PS-7	Cremation and Burial Grounds	0.00	0.01
		Proposed Public and Semi-Public	4.04	9.77
Transmission and Communication	T-1	Roads	1.57	3.80
	T-2	Railway Track	0.00	0.00
	T-5	Transport Terminal	0.00	0.00
	T-6	Transmission and Communication	0.00	0.00
		Proposed Arterial Roads	0.95	2.30
Agriculture	A-1	Agriculture	7.45	18.05
	A-2	Forests	0.00	0.00
	A-3	Brick Kiln and Extractive areas	0.05	0.12
	A-4	Water bodies	5.02	12.14
		Barren Land	0.03	0.06
		Proposed Greenbelt	0.89	2.15
Recreation	P-1	Playground/Stadium/Sports Complex	0.00	0.00
		Special Area	0.00	0.00
Total Area			41.29	100.00

Table No. 8.4: Proposed land use distribution of the Urban Node (UN)

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share (%)
Residential	S-4	Village Settlement	9.66	39.31
		Proposed Residential	5.25	21.37
Commercial	C-1	Retail Shopping Zone	0.03	0.13
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.02	0.07
		Proposed Commercial	0.39	1.57
		Proposed Logistics and Warehouse	0.22	0.91
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.02	0.09
	PS-3	Education	0.11	0.45
	PS-4	Medical & Health	0.00	0.01
	PS-5	Socio-Cultural and Religious	0.07	0.28
	PS-6	Utilities and Services	0.00	0.02
	PS-7	Cremation and Burial Grounds	0.02	0.09
		Proposed Public and Semi-Public	1.50	6.09
Transmission and Communication	T-1	Roads	0.73	2.97
	T-2	Railway Track	0.01	0.05
	T-5	Transport Terminal	0.02	0.06
	T-6	Transmission and Communication	0.00	0.01
		Proposed Arterial Roads	0.59	2.39
	A-1	Agriculture	4.75	19.33
	A-2	Forests	0.00	0.00
	A-3	Brick Kiln and Extractive areas	0.00	0.00
	A-4	Water bodies	1.17	4.76
		Barren Land	0.00	0.00
		Proposed Greenbelt	0.00	0.00
Recreation	P-1	Playground/Stadium/Sports Complex	0.01	0.03
		Special Area	0.00	0.00
Total Area			24.57	100.00

Table No. 8.5: Proposed Land Use area break-up of the Rural Node

Level Use Zone	A-N Code	Proposed Land Use Categories	Area (in sq.km)	Share (%)
Residential	S-4	Village Settlement	45.01	20.30
		Proposed Residential	0.61	0.28
Commercial	C-1	Retail Shopping Zone	0.07	0.03
	C-3	Wholesale Market/Godowns/Warehouse/Regulated Market	0.04	0.02
		Proposed Commercial	0.13	0.06
		Proposed Logistics and Warehouse	0.00	0.00
Public & Semi Public	PS-1	Govt./Semi-Govt./Public Office	0.06	0.03
	PS-3	Education	0.48	0.21
	PS-4	Medical & Health	0.05	0.02
	PS-5	Socio-Cultural and Religious	0.17	0.08
	PS-6	Utilities and Services	0.00	0.00
	PS-7	Cremation and Burial Grounds	0.00	0.00
		Proposed Public and Semi-Public	8.69	3.92
Transmission and Communication	T-1	Roads	6.07	2.74
	T-2	Railway Track	0.06	0.03
	T-5	Transport Terminal	0.00	0.00
	T-6	Transmission and Communication	0.00	0.00
		Proposed Arterial Roads (ROW 30m)	3.35	1.51
Agriculture	A-1	Agriculture	122.47	55.24
	A-2	Forests	0.54	0.24
	A-3	Brick Kiln and Extractive areas	0.54	0.24
	A-4	Water bodies	29.51	13.31
		Barren Land	0.21	0.09
		Proposed Greenbelt	0.00	0.00
Recreation	P-1	Playground/Stadium/Sports Complex	0.02	0.01
		Special Area	3.64	1.64
Total Area			221.71	100.00

Zoning will protect village settlements, agricultural land and ecologically sensitive coastal zones from the pressure of conversion to commercially more beneficial land uses but having adverse social and environmental impacts. At the same time it also aims to promote the orderly development of economically productive land usage through promotion of mutually beneficial activities.

Zoning is not retrospective. It does not prohibit the uses of land and buildings that are lawfully established prior to the coming into effect of the zoning regulations. If these uses are contrary

to the newly proposed uses, they are termed as non-conforming uses and are gradually eliminated over years without inflicting unreasonable hardship upon the property owners.

8.5 Resource Mobilization Options

It is primarily understood that to accommodate a population of approximately 4.25 lakhs by 2031, Haldia Development Authority will have to initiate infrastructure development schemes conforming to the land use zones proposed in this Land use and Development Control Plan. The budgetary requirement for such development needs to be mobilized and Haldia Development Authority must prepare itself to incur such expenditure and must decide to levy certain charges to mobilize the resources. Haldia Development Authority would need to use the potential non-conventional means of resource mobilization, apart from reforming and strengthening the conventional means of resource mobilization.

Development Charges: As per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the Haldia Development Authority can, through a notification, levy 'Development Charge' on carrying out of any development of change of use of land for which permission is required.

The rate of charges may be fixed up for the following:

1. For the institution of the use (for example - residence, commerce, industry)
2. For change of use (for example - agriculture to residence, agriculture to industry, residence to industry, residence to commerce, etc.). However the permission for the change of use shall be given as per the discretion of the Haldia Development Authority or of the Competent Authority.
3. For carrying out any other development under the West Bengal Town & Country (Planning and Development) Act, 1979.

As per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 106, the Haldia Development Authority may, by notification, also levy a 'Civic amenity charge' for extending civic amenities in the whole or part of the planning area. Apart from the above, the Haldia Development Authority may also charge a fee for division and sub-division of land parcels.

The Haldia Development Authority with necessary approval from Government of West Bengal can use land under its ownership for generating revenue, which may be put forth on lease for private uses. Any use, other than public infrastructure construction or government related project on government land, shall be made chargeable and the lease period should be as per the guidelines of Development Authority. The decision to renew the lease shall rest on the discretion of the Development Authority.

9.0 ZONING REGULATION

The aim of this section is to enable the implementation of the Land Use Plan by providing specific regulations regarding the allowable uses of land under the purview of this Plan. These regulations are forwarded to preserve the characteristics of the various land use zones proposed, while resolving compatibility issues of the various activities. It is expected that the zoning regulations will promote and protect public health, safety, convenience, general welfare and the natural environment of the planning area.

9.1 Activities 'Permitted' and 'Prohibited'

The zoning regulations elaborate the activities that are generally permitted within each of the 26 land use categories (Table No. 9.1). No person shall construct, or move a building, and no person shall establish a new use of land or expand or intensify an existing use unless it conforms to the permitted uses provided in the zone district or conforms to a permit and regulations authorizing a discretionary use in the zone district in which the land is located. The uses/activities which are otherwise not allowed in a particular use zone are termed as Activities/Uses Prohibited in certain use zones.

9.1.1 Development Control Zone 'Proposed Residential Zone': This comprises the areas that are primarily used for residential purposes mixed with other uses. This zone also includes the areas which are likely to be used in future for mainly residential purposes. All these zones are located in Urban Node (UN) and three Growth Nodes (GN1, GN2 and GN3) within Nandigram I & II Blocks.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.2 Development Control Zone 'Proposed Residential Use Zone / Village Settlement': This comprises the area within Nandigram I & II Blocks that area principally used for existing residential use. This zone also includes the areas which are likely to be used in future to accommodate the natural expansion of residential activities. The intention is to discourage large scale development in this zone through some conscious development controls measures.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential

shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.3 Development Control Zone 'Proposed Commercial Zone + Retail Shopping Zone: Retail Shopping Zone comprises of the areas that are presently used principally for commercial purpose mixed with other uses that are permitted as per the zoning regulations indicated in this document. Proposed Commercial Zone includes areas which are likely to be used in future for trade and commerce activities.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.4 Development Control Zone 'Proposed Logistics/Warehousing + Wholesale market /Godowns /Warehousing /Regulated market: This comprises of the areas that are used principally for wholesale commercial purpose mixed with other uses that are permitted as per the zoning regulations indicated in this document. This zone includes areas which are presently used or likely to be used in future for activities like Wholesale markets, Godowns and warehouses, agro-Mandis, perishable goods (Fruit/Vegetable/Fish etc) storage facilities and market, ice factory, loading/un-loading bays, logistic facilities and associated commercial functions.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.5 Development Control Zone 'Proposed Public & Semi Public Zone + Govt./Semi Govt./Public Offices + Education + Medical & Health + Socio-cultural and Religious: This zone comprises of the areas that are used principally for Govt. / Semi Govt./Public offices, educational, health related and socio-cultural and religious institutions as well as the proposed public and semi-public zone.

The proposed public & semi-public zone has been principally allocated on land belonging to Government of West Bengal or private parcel of land along the proposed arterial roads so that the institutions can be easily accessible from different parts of the Nandigram I & II Blocks. It will cater to the future needs of public offices, education and health facilities, social-cultural, religious and recreational facilities as well as utilities and services catering to the Urban Nodes, Growth Nodes and Rural Nodes in Nandigram I & II Blocks.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.6 Development Control Zone 'Utilities and Services + Cremation and Burial grounds: This zone comprises of the existing utilities and services as well as the cremation and burial grounds that are presently serving Nandigram I & II Blocks and shall continue to do so.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.7 Development Control Zone 'Roads + Railway Track + Transport Terminal + Proposed Arterial Roads: These zone comprises of the all the transport infrastructure existing in the Nandigram I & II Blocks and shall also comprise of the proposed arterial roads and associated terminal facilities that will come up in the area.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.8 Development Control Zone 'Playground/Stadium/Sports complex': This zone comprises of the areas that are used principally for open-space based recreational and sports activities and green open spaces and in future shall be used for recreational purposes.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.9 Development Control Zone 'Agriculture + Brick Kiln and Extractive areas': This zone comprises of the areas that are used principally for primary sector activities i.e. farmland and extractive activities, and in future predominantly shall be used for such purposes – except in Urban Nodes and Growth Nodes.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.10 Development Control Zone 'Proposed Green Belt': Green buffer zone has been proposed near the river bank area in one of the Growth Node (GN3) in Bhekutia.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.11 Development Control Zone 'Water Bodies': It comprises of all types of water bodies which includes river, canal, lakes, ponds, etc.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be

charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

9.1.12 Development Control Zone 'Special Area':

This zone comprises land earmarked by West Bengal Coastal Zone Management Authority (WBCZMA) that fall under the purview of CRZ-I and CRZ-IVA as per the Coastal Zone Regulations.

Under the stewardship of Ministry of Environment and Forests, Government of India, under sub-section (1) and (3) of Section 3 of the Environment (Protection) Act, 1986 (29 of 1986) the Central Government has constituted an authority known as West Bengal Coastal Zone Management Authority (WBCZMA) through a Gazette publication dated 6th June 2012, giving it the power to take measures for protecting and improving the quality of coastal environment ([See Appendix-III](#)).

Several mouzas along the river Hooghly and Haldi fall under Coastal Regulatory Zone I and II as declared by West Bengal Coastal Zone Management Authority. As a result development in those designated areas is controlled by rules and regulations pertaining to Coastal Regulatory Zone Notification 2011 and subsequent Amendments.

For the purpose of levying Development Charges for the institution of the use, as per the provisions in West Bengal Town & Country (Planning and Development) Act, 1979 (West Bengal Act XIII of 1979), Section 102, the activities listed under the Broad use - Residential shall be charged as 'Residential, whereas the activities listed under the Broad use - Commercial, Public Semi-Public, Transportation & Communication and Recreational, shall be charged as 'Commercial, and the activities listed under the Broad use - Industrial shall be charged as 'Industrial.

Table No. 9.1: Zoning Regulations for Nandigram I & II Blocks

Proposed Residential Use Zone		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	<p>Plotted housing (detached, semi-detached, row housing)</p> <p>Group housing, Apartments, Multi Dwelling Units</p> <p>Guest houses, Service apartments, Hostels, Night shelters, Boarding and lodging houses</p> <p>Dharmashala, Old age homes, Orphanages, Dormitories</p> <p>Housing for rehabilitation and economically weaker section</p> <p><i>Note: Residential use shown over land belonging to the Government must essentially be utilized for housing for rehabilitation and economically weaker section</i></p>	All activities not listed in 'Permitted' column
Commercial	<p>Retail commercial shops/departmental stores (total floor area not exceeding 300 sqm.)</p> <p>Eateries and restaurants (without bar facilities and total floor area not exceeding 300 sqm.)</p> <p>Hotels (up to 3 star category)</p> <p>Professional consulting offices/private offices (total floor area not exceeding 300 sqm.)</p> <p>Banks, financial institutions and professional establishments</p> <p><i>Note: Minimum road width for the above commercial establishment shall be 12 meter.</i></p> <p><i>In case of mixed use the commercial floor area shall not exceed 10% of the total floor area of the concerned residential development or 300 sqm., whichever is less</i></p>	<p>Storage/warehousing/Godown (involving/not involving perishable, inflammable, explosive or other kinds of hazardous materials)</p> <p>Storage, segregation and sale of second hand/ junk goods/recyclables</p> <p>All activities not listed in 'Permitted' column</p>

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<p>Industrial</p>	<p>Industries listed under "EXEMPTED" category of WBPCB</p> <p>Note: Minimum abutting road width shall be 12 meter</p> <p>In case of mixed use the industrial floor area shall not exceed 10% of the total floor area of the concerned residential development or 200 sqm., whichever is less</p> <p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • maximum power consumption for industrial operations up to 10 HP (power required for air conditioning, lifts and computers are excluded from power consumption specified above) • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for residential areas • adherence to the emission standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 	<p>Industries listed under "GREEN" category of WBPCB (Other than small scale)</p> <p>Industries listed under "ORANGE", "ORDINARY RED" and "SPECIAL RED" category of WBPCB (All scale)</p>
<p>Public/Semi-Public</p>	<p>Government/semi-government offices, post offices, police post, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, kindergartens, pre-primary, primary, secondary schools, tutorial institutions, libraries and reading rooms, training institutions</p> <p>Health clinics, dispensaries, nursing homes and child welfare & maternity center (upto 30 beds), diagnostic centers</p> <p>Note: Health facilities should not exclusively treat contagious diseases and floor area should not exceed 500 sqm. at one location</p> <p>Multi-purpose community halls, auditoriums, assembly halls, gymnasium</p> <p>Note: Design occupancy of the above assembly buildings should not exceed 300 people</p> <p>Places of public worship, religious buildings, welfare institutions, clubs, exhibition and art galleries</p> <p>Note: Total floor area consumed by institutional activities above not exceeding 300 sqm.</p>	<p>Electric grid station, water treatment plant, Sewage treatment plant, slaughter house</p> <p>All activities not listed in 'Permitted' column</p>

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	Electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards/transfer points and other public facilities	
Transportation and Communication	Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), transmission and communication lines, highway amenities	All activities not listed in 'Permitted' column
Recreational	Parks/ tot lot, playgrounds, gardens, multi-purpose open spaces, (including incidental buildings thereon), swimming pool Note: The above recreational activities shall have minimum 12m wide abutting road	All activities not listed in 'Permitted' column
Agriculture	Nursery, high density farming/vertical farming/stacked greenhouse farming, community garden farming, Note: The above agricultural activities shall be confined to plot area not exceeding 1.0 ha Community forestry/plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel)	All activities not listed in 'Permitted' column

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Village Settlement		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	<p>Plotted houses (detached, semi-detached)</p> <p>Note: The above residential activities shall be permitted on plot area not exceeding 200sqm.</p> <p>Farm houses and buildings for agricultural activities</p> <p>Note: Farm houses and their ancillary buildings and uses not exceeding 200 sqm. of plinth area. It shall not be used for commercial purpose. The height of such building shall be restricted to 9 meter</p> <p>Dwelling for the people engaged in the farm</p>	All activities not listed in 'Permitted' column
Commercial	<p>Retail commercial shops (total floor area not exceeding 25 sqm.)</p> <p>Eateries (total floor area not exceeding 25 sqm.)</p> <p>Professional consulting offices/private offices (total floor area not exceeding 25 sqm.)</p> <p>Agro Mandis, daily/weekly market</p>	All activities not listed in 'Permitted' column
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (small scale)</p> <p>Note: Minimum abutting road width shall be 9 meter</p> <p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • maximum power consumption for industrial operations up to 10 HP (power required for air conditioning, lifts and computers are excluded from power consumption specified above) • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for residential areas • adherence to the emission standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 	All activities not listed in 'Permitted' column

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Public/Semi-Public	<p>Government/semi-government offices, post offices, police post, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, kindergartens, pre-primary, primary, tutorial institutions, reading rooms</p> <p>Multi-purpose community halls, assembly halls</p> <p>Places of public worship, religious buildings, welfare institutions</p> <p>Electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards/transfer points and other public facilities</p>	All activities not listed in 'Permitted' column
Transportation and Communication	Road, railway lines, terminal facilities for para-transit modes bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), transmission and communication lines	All activities not listed in 'Permitted' column
Recreational	Parks/ tot lot, playgrounds, gardens, multi-purpose open spaces	All activities not listed in 'Permitted' column
Agriculture	<p>Agriculture, horticulture, green house farming, pasture, forestry, pisciculture, aquaculture, agro-forestry</p> <p>Plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel)</p>	All activities not listed in 'Permitted' column

Proposed Commercial Zone + Retail Shopping Zone		
Broad use	Uses Permitted	Uses Prohibited
Residential	<p>Plotted housing (detached, semi-detached, row housing)</p> <p>Group housing, service apartments, Multi- Dwelling Units</p> <p>Hostels, night shelters, dormitories, boarding and lodging houses, guest houses</p> <p>Housing for rehabilitation and economically weaker section</p>	All activities not listed in 'Permitted' column

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<p>Commercial</p>	<p>Retail commercial shops, departmental stores, retail shopping complexes/malls, retail 'haat' Eateries and restaurants Hotels, convention centers, banquet halls Cinemas and multiplexes Banks, financial institutions, professional establishments, commercial/private and corporate offices Daily or weekly markets, perishable goods market Fuel stations, automobile repairing workshops/garages Storage/warehousing (not involving perishable, inflammable, explosive or other kinds of hazardous materials)</p>	<p>All activities not listed in 'Permitted' column</p>
<p>Industrial</p>	<p>Industries listed under "EXEMPTED" category of WBPCB (all scale) Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for commercial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 	<p>All activities not listed in 'Permitted' column</p>
<p>Public/Semi-Public</p>	<p>Government/semi-government offices, post office, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets Nursery crèches, kindergarten, integrated residential schools, higher secondary schools, tutorial institutions, educational institutions, colleges, libraries, technical institutions, research establishments, experimental and testing laboratories, training institutions Health clinics, dispensaries, diagnostic centers, nursing homes, child welfare & maternity</p>	<p>All activities not listed in 'Permitted' column</p>

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	<p>centers, health centers, (up to 100 beds), rehabilitation centers</p> <p>Note: Health facilities should not exclusively treat contagious diseases</p> <p>Multi-purpose community halls, auditoriums, assembly halls, gymnasium</p> <p>Note: Design occupancy of assembly buildings above should not exceed 1000 people</p> <p>Welfare institutions, clubs, exhibition and art galleries, museums, science centers</p> <p>Fire station, electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards and other public facilities</p> <p>Fuel stations, automobile repairing workshops/garages</p>	
Transportation and Communication	Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), bus/truck lay-by facilities, loading/unloading bays, transmission and communication lines	All activities not listed in 'Permitted' column
Recreational	<p>Parks, playgrounds, gardens, multi-purpose open spaces, botanical garden, swimming pools, golf course, indoor stadium, sports complexes/training facilities</p> <p>Note: Minimum road width for the above commercial establishment shall be 24 meter.</p>	All activities not listed in 'Permitted' column
Agriculture	<p>High density farming/vertical farming/stacked greenhouse farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p> <p>Community forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel, reservoir)</p>	All activities not listed in 'Permitted' column

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Proposed Logistics/Warehousing + Wholesale market /Godowns /Warehousing /Regulated market		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	<p>Guest houses , Service apartments, Hostels, Night shelters, Boarding and lodging houses</p> <p>Housing for rehabilitation and economically weaker section</p>	All activities not listed in 'Permitted' column
Commercial	<p>Retail commercial shops, whole sale commercial shops, wholesale commercial/trading complexes.</p> <p>Eateries and restaurants (without bar facilities) ancillary to the warehousing/logistics facilities</p> <p>Banks, financial institutions, commercial offices</p> <p>Perishable goods market/farmers market</p> <p>Fuel stations, automobile repairing workshops/garages</p> <p>Storage/warehousing (involving/not involving perishable, inflammable, explosive or other kinds of hazardous materials) including ancillary activities</p> <p>Storage, segregation and sale of second hand/ junk goods/recyclables</p>	All activities not listed in 'Permitted' column
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (all scale)</p> <p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for commercial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 	All activities not listed in 'Permitted' column

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Public/Semi-Public	<p>Government/semi-government offices, post office, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Nursery crèches, training institutions</p> <p>Health clinics, dispensaries</p> <p>Note: Health facilities should not exclusively treat contagious diseases</p> <p>Fire station, electrical distribution facilities, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs (overhead/underground), solid waste collection yards and other public facilities</p> <p>Fuel stations, automobile repairing workshops/garages</p>	All activities not listed in 'Permitted' column
Transportation and Communication	<p>Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), bus/truck lay-by facilities, loading/unloading bays, transmission and communication lines</p> <p>Terminal facilities for passenger and goods vehicles (i.e. bus, truck, trailer), logistic facilities, weighbridge facilities</p> <p>Railway yards/car shed</p>	All activities not listed in 'Permitted' column
Recreational	Parks, gardens, multi-purpose open spaces	All activities not listed in 'Permitted' column
Agriculture	<p>High density farming/vertical farming/stacked greenhouse farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p> <p>Community forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel, reservoir)</p>	All activities not listed in 'Permitted' column

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Proposed Public & Semi Public Zone + Govt./Semi Govt./Public Offices + Education + Medical & Health + Socio-cultural and Religious		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	<p>Group housing, Apartments, Multi-Dwelling Units</p> <p><i>Note: Residential activities should not exceed 3500 sqm. of plot area and should be ancillary to the institutional activities</i></p> <p>Dharmashala, Old age homes, Orphanages, Dormitories Housing for rehabilitation and economically weaker section</p>	All activities not listed in 'Permitted' column
Commercial	<p>Retail commercial shops/departmental stores (total floor area not exceeding 100 sqm.)</p> <p>Eateries and restaurants (without bar facilities and total floor area not exceeding 100 sqm.)</p> <p>Hotels, convention centers, banquet halls</p> <p>Banks, financial institutions, professional establishments, commercial/private and corporate offices</p> <p><i>Note: Minimum road width for the above commercial establishment shall be 18 meter</i></p>	
Industrial	<p>Industries listed under "EXEMPTED" category of WBPCB (all scale)</p> <p><i>Note: Permission should be given subject to</i></p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for commercial areas • adherence to the emission/discharge standard prescribed by WBPCB • adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable 	All activities not listed in 'Permitted' column

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Public/Semi-Public	<p>Government/semi-government offices/ institutions, post offices, police station, police post, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets, correctional homes,</p> <p>Nursery crèches, kindergarten, integrated residential schools, secondary and higher secondary schools, tutorial institutions, educational institutions, colleges, universities, libraries, technical institutions, research establishments, experimental and testing laboratories, meteorological observatories, technical institutions, research establishments, experimental and testing laboratories</p> <p>Health clinics, dispensaries, diagnostic centers, pathological labs, nursing homes, child welfare & maternity center, health centers, hospitals, sanatoria, rehabilitation centers and other medical and public health institutions</p> <p>Multi-purpose community halls, auditoriums, assembly halls, cinema halls, open air theatres, gymnasium, places of congregation</p> <p>Places of public worship, religious buildings welfare institutions, clubs, cultural centers/institutions, exhibition and art galleries, museums, science centers, archives, commemorative complexes/grounds, public squares/plazas</p> <p>Fire stations, Electrical distribution facilities, electric grid station, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities</p> <p>Fuel stations, automobile repairing workshops/garages</p>	All activities not listed in 'Permitted' column
Transportation and Communication	Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), bus/truck lay-bye facilities, loading/unloading bays, transmission and communication lines	All activities not listed in 'Permitted' column
Recreational	Parks, playgrounds, gardens, multi-purpose open spaces, swimming pools, golf course, indoor and outdoor stadium, sports complexes/training facilities, organised recreational complexes/amusement parks, eco parks, science park	All activities not listed in 'Permitted' column
Agriculture	High density farming/vertical farming/stacked greenhouse farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry	All activities not listed in 'Permitted' column

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	<p>Note: Above agricultural activities should be confined to plot area not exceeding 5.0 Hectare</p> <p>Community forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel, reservoir)</p>	
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Utility and Services + Cremation and Burial grounds		
Broad Uses	Uses Permitted	Uses Prohibited
Public/Semi-Public	<p>Fire stations, Electrical distribution facilities, electric grid station, telecommunication facilities/exchanges, water/sewage pumping stations, water reservoirs, solid waste collection yards and other public facilities</p> <p>Water treatment plants, sewage treatment plants, solid waste treatment units, solar power installations, rain water harvesting installing, alternative energy installations</p> <p>Burial grounds, crematorium</p> <p>Fuel stations, automobile repairing workshops/garages</p>	All activities not listed in 'Permitted' column
Transportation and Communication	<p>Roads, railway lines, transmission and communication lines</p> <p>Terminal facilities for para-transit modes, bus stand/shelter facilities</p>	All activities not listed in 'Permitted' column
Agriculture	<p>Farming, pisciculture, aquaculture, horticulture, floriculture, agro-forestry</p> <p>Community forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel, reservoir)</p>	All activities not listed in 'Permitted' column

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Proposed Arterial Roads + Roads (Existing)		
Broad Uses	Uses Permitted	Uses Prohibited
Transportation and Communication	Roads, terminal facilities for para-transit modes, bus stand/shelter facilities, bus/truck lay-by facilities, loading/unloading bays, transmission and communication lines	All activities not listed in 'Permitted' column
Agriculture	Plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)	All activities not listed in 'Permitted' column
Railway Tracks		
Broad Uses	Uses Permitted	Uses Prohibited
Transportation and Communication	Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi-level parking facilities (car/two-wheeler/bicycle), bus/truck lay-by facilities, loading/unloading bays, transmission and communication lines, Railway yards/car shed	All activities not listed in 'Permitted' column
Agriculture	Plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)	All activities not listed in 'Permitted' column
Transport Terminal		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	Dharmashala, dormitories, guest houses, hostels, night shelters, boarding and lodging houses	All activities not listed in 'Permitted' column
Commercial	Retail commercial shops/departmental stores (total floor area not exceeding 100 sqm.) Eateries and restaurants (without bar facilities and total floor area not exceeding 100 sqm.)	All activities not listed in 'Permitted' column

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Public/Semi-Public	Government/semi-government offices/institutions, post offices, police post, electricity offices, telecommunication offices, public toilets	All activities not listed in 'Permitted' column
Transportation and Communication	Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi level parking facilities (car/two-wheeler/bicycle), bus/truck lay-by facilities, loading/unloading bays, transmission and communication lines Terminal facilities for passenger (i.e. bus, mini bus) and goods vehicles, logistic facilities, weighbridge facilities	All activities not listed in 'Permitted' column
Agriculture	Gardens, plantation, riparian buffers Water bodies (ponds, lakes, canal, irrigation channel, reservoir)	All activities not listed in 'Permitted' column

Recreational Use - Playground/Stadium/Sports complex		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	Plotted housing (detached, semi-detached, row housing) Group housing, Apartments, Multi Dwelling Units <i>Note: Residential activities should not exceed 1000 sqm. of plot area and should be ancillary to the recreational activities</i>	All activities not listed in 'Permitted' column
Commercial	Retail commercial shops/departmental stores (total floor area not exceeding 100 sqm.) Eateries and restaurants (without bar facilities and total floor area not exceeding 100 sqm.)	All activities not listed in 'Permitted' column

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Public/Semi-Public	<p>Government/semi-government offices/institutions, post offices, police post, electricity offices, telecommunication offices, public toilets</p> <p>Multi-purpose community halls, auditoriums, assembly halls, open air theatres, gymnasium, places of congregation</p> <p>Note: The minimum road width for the above activities shall be 18 meter.</p>	All activities not listed in 'Permitted' column
Transportation and Communication	<p>Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street/multi-level parking facilities (car/two-wheeler/bicycle), bus lay-by facilities, loading/unloading bays, transmission and communication lines</p>	All activities not listed in 'Permitted' column
Recreational	<p>Parks, playgrounds, gardens, multi-purpose open spaces, swimming pools, golf course, indoor and outdoor stadium, sports complexes/training facilities, organised recreational complexes/amusement parks, eco parks, science park, zoological and botanical gardens</p>	All activities not listed in 'Permitted' column
Agriculture	<p>Nursery, high density farming/vertical farming/stacked green house farming, , community garden farming, agriculture, horticulture, pasture, pisciculture, aquaculture, agro-forestry</p> <p>Note: The above agricultural activities shall be confined to plot area not exceeding 5.0 Hectare</p> <p>Community forestry/plantation, riparian buffers</p> <p>Water bodies (ponds, lakes, canal, irrigation channel)</p>	All activities not listed in 'Permitted' column

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Agriculture + Brick Kiln and Extractive areas		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	<p>Farm houses and their accessory buildings and uses not exceeding 200 sqm. of plinth area for the farmer's own use within the limitation of minimum plot area of 1.00 hectares and limited to G+ 1 floor.</p> <p>Dwelling for the people engaged in the farm (rural settlement)</p> <p>Note: The above activities shall be confined to a distance of 100 m around the 'Village Settlement' and 'Residential' Use Zone as shown in the Proposed Land Use Map for Nandigram I & II Blocks (2017) and subsequent amendments</p>	All activities not listed in 'Permitted' column
Commercial	<p>Daily or weekly markets (not more than 300 - 400 units per location and total area not exceeding 0.4 Hectare)</p> <p>Storage and sale of farm products locally produced, provided the ground coverage does not exceed 15 percent and subject to a maximum of G+1 floor only</p> <p>Note: The above activities shall be confined to a distance of 100 m around the 'Village Settlement' and 'Residential' Use Zone as shown in the Proposed Land Use Map for Nandigram I & II Blocks (2017) and subsequent amendments</p>	All activities not listed in 'Permitted' column

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<p>Industrial</p>	<p>Industries listed under "EXEMPTED" category of WBPCB</p> <p>Industries listed under "GREEN" category of WBPCB (Small scale)</p> <p>Note: Minimum abutting road width shall be 12 meter</p> <p>Note: Permission should be given subject to</p> <ul style="list-style-type: none"> • Categories of Industries will be as per Annexure IV • maximum power consumption for industrial operations up to 10 HP (power required for air conditioning, lifts and computers are excluded from power consumption specified above) • noise generation limited to the prescriptions of the Ministry of Environment and Forest, Government of India., for residential areas • adherence to the emission standard prescribed by WBPCB <p>adherence to the fire safety norms laid down in the Nation Building Code of India and West Bengal Fire Services Act 1950 (West Bengal Act XVIII of 1950), if applicable</p>	<p>Industries listed under "GREEN" category of WBPCB (Other than small scale)</p> <p>Industries listed under "ORANGE", "ORDINARY RED" and "SPECIAL RED" category of WBPCB (All scale)</p>
<p>Public/Semi-Public</p>	<p>Government/semi-government offices, post offices, police stations, public distribution services (e.g. milk booths, electricity offices, telecommunication offices, postal services), public toilets</p> <p>Training institutions</p> <p>Health clinics, dispensaries (not treating contagious diseases)</p> <p>Note: The minimum abutting road width for the above activities shall be 9 m.</p> <p>The height of the building shall not exceed 9m</p> <p>The maximum ground coverage shall be 35%.</p> <p>The above activities shall be confined to a distance of 100 m around the 'Village Settlement' and 'Residential' Use Zone as shown in the Proposed Land Use Map for Nandigram I & II Blocks (2017) and subsequent amendments</p>	<p>All activities not listed in 'Permitted' column</p>

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Transportation and Communication	Roads, railway lines and station facilities, terminal facilities for para-transit modes, bus stand/shelter facilities, off-street parking facilities (car/two-wheeler/bicycle), transmission and communication lines	All activities not listed in 'Permitted' column
Recreational	Parks/ tot lot, playgrounds, gardens, multi-purpose open spaces, gymnasium, Recreational complexes/amusement parks, eco parks, science park, zoological and botanical gardens	All activities not listed in 'Permitted' column
Agriculture	<p>Vertical farming/stacked greenhouse farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p> <p>Forestry/plantation, riparian buffer</p> <p>Dairy and cattle farms, Piggeries and poultry farms, livestock rearing</p> <p>Storing and drying of fertilizers</p> <p>Milk chilling centers, cold storage, pasteurisation plants</p> <p>Brick kilns, quarrying and removal of clay and stone up to 3.0 meter depth</p> <p>Rice mills, sugar mills, jaggery mills</p> <p>Orchards, nurseries and other stable crops, grazing pastures, forest lands</p> <p>Marshy land, barren land and water sheet</p> <p>Water bodies (ponds, lakes, canal, irrigation channel)</p>	All activities not listed in 'Permitted' column

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Proposed Green Belt		
Broad Uses	Uses Permitted	Uses Prohibited
Residential	Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted Note: The above activities existing should incorporate necessary disaster management provision No new construction shall be allowed.	All activities not listed in 'Permitted' column
Commercial	Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted Note: The above activities existing should incorporate necessary disaster management provision No new construction shall be allowed.	All activities not listed in 'Permitted' column
Public/Semi-Public	Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted Note: The above activities should incorporate necessary disaster management provision No new construction shall be allowed.	All activities not listed in 'Permitted' column
Transportation and Communication	Roads, railway lines, terminal facilities for para-transit modes, bus stand/shelter facilities, transmission and communication lines Ferry ghat	All activities not listed in 'Permitted' column
Recreational	Parks, playgrounds, gardens, multi-purpose open spaces Note: The above activities should incorporate necessary disaster management provision	All activities not listed in 'Permitted' column

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Agriculture	<p>High density farming/vertical farming/stacked greenhouse farming, pisciculture, aquaculture, horticulture, floriculture, community garden farming, agro-forestry</p> <p>Note: The above activities should incorporate necessary disaster management provision</p> <p>Community forestry/plantation, riparian buffer</p> <p>Orchards, nurseries and other stable crops, grazing pastures,</p> <p>Marshy land, barren land and water sheet</p> <p>Water bodies (ponds, lakes, canal, irrigation channel)</p>	All activities not listed in 'Permitted' column
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Waterbodies		
Broad Uses	Uses Permitted	Uses Prohibited
Transportation and Communication	Roads, railway lines, transmission and communication lines	All activities not listed in 'Permitted' column
Agriculture	<p>Plantation, riparian buffer</p> <p>Marshy land, barren land and water sheet</p> <p>Water bodies (river, ponds, lakes, canal, irrigation channel), Reservoirs</p>	All activities not listed in 'Permitted' column

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Special Area (Applicable in CRZ-I and CRZ-IV B area demarcated by WBCZMA)			
Broad Uses	Uses Permitted	Uses Permitted	Uses Prohibited
	<ul style="list-style-type: none"> Special Area shall not be applicable in such area falling within any notified port limits. Existing authorized activities, shall be permitted to continue. Repairs or reconstruction of existing authorized structures, not exceeding existing Floor Area Ratio, existing plinth area and existing density shall be permitted. The 'Permitted' activities shall be in correspondence with the Coastal Zone Regulations and its subsequent amendments. 		
Residential	Dwelling units of traditional communities including fisher folk and other communities dependent on river related activities Note: Such permission shall be in accordance with a Comprehensive Plan prepared by the State Government incorporating the necessary disaster management provision, sanitation and recommended by the WBCZMA to NCZMA for approval by MoEF		All activities not listed in 'Permitted' column
Industrial	Facilities for generating power by non- conventional energy sources Foreshore facilities for desalination plants and associated facilities Facilities for receipt and storage of petroleum products and liquefied natural gas as per specifications in CRZ notification shall be followed Facilities for regasification of liquefied natural gas subject to conditions as mentioned in CRZ notification		
Public/Semi-Public	Weather radars, Meteorological observatories Dispensaries, Health Clinics Primary schools, Secondary Schools Community toilets Disaster management provision, Public rain shelter, Facilities required for local fishing communities such as fish drying yards, auction halls, net mending yards, traditional boat building yards, ice plant, ice crushing units, fish curing facilities and the likes Projects relating to Department of Atomic Energy		

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	<p>Facilities for water supply, drainage, sewerage, electric sub-station* Crematoria, cemeteries required by the local inhabitants*</p> <p>*Such permission shall be in accordance with the WBCZMA and dealt with on a case to case basis</p> <p>Units for domestic sewage treatment and disposal**</p> <p>**Such permission shall be given only after approval of the West Bengal Pollution Control Board</p>	
Transportation and Communication	Roads, Bridges, Culverts, Highway amenities, Railway lines, Transmission and communication lines	
Recreational	Nursery, Gardens, Parks, Play field, Multipurpose open space , Botanical garden	
Agriculture	Agriculture, Horticulture, Green house farming, Plantation, Pasture, Forestry, Pisciculture, Aquaculture, Agro-forestry Waterbodies	

10.0 REGULATORY FRAMEWORK

This section of the Land Use and Development Control Plan provides specific guidelines on controlling development within the Nandigram I & II Blocks. The Development Control Regulations are proposed for ensuring sustainable and orderly development. The major issues that would be covered are given in the following sections. For all other purposes, the West Bengal Municipal (Building) Rules, 2007 shall be followed in the Urban Node (UN) and Growth Nodes (GN1, GN2, GN3). In the remaining Rural Nodes (RN) i.e. mouzas not falling with Urban Node and Growth Nodes, the West Bengal Panchayat (Gram Panchayat Administration) Rules, 2004 (CHAPTER-IV Control of building operations) shall be followed.

10.1 Regulation for Means of Access

10.1.1 Every plot shall abut a means of access which may be a public street or private street or passage.

10.1.2 The relationship between the width of the means of access and the maximum permissible height of the building shall be as indicated in [Section 12.3](#) of this Land Use and Development Control Plan.

10.1.3 The minimum width of means of access in respect of a new building shall be as follows:-

- (a) No new building shall be allowed on a plot unless the plot abuts a street which is not less than 10.00 meters in width at any part, or there is access to the plot from any such street by a passage which is not less than 10.00 meters in width at any part:

Provided that:-

- a) In case of a residential building with other occupancies, if any, of less than 10% of the total floor area of the building, the width of such street or passage shall not be less than 2.4 meters at any part.
- b) In case of residential building with education occupancy of 10% or more of the total floor area of the building, the width of such street or passage shall not be less than 7.00 meters at any part.
- c) In case of an educational building with residential occupancy the width of such street or passage shall not be less than 7.00 meters at any part.
- d) In case of an educational building with other occupancy or occupancies not being residential of less than 10% of the total covered area of the building the width of such street shall not be less than 7.00 meters at any part.

(b) Notwithstanding anything contained in [Section 10.1.3 \(a\)](#), residential buildings up to a maximum height of 7.00 meters may be allowed on a plot abutting a means of access not less than 1.20 meters, provided such means of access is in long existence and is recorded in the settlement record and/or Municipal records accordingly.

10.1.4 Any building, which, in full or part, is put to assembly occupancy for the purpose of theatre, motion picture house, city hall, dance hall, skating rink, auditorium, exhibition hall or for similar other purpose, shall not be allowed on a plot located within 50.00 meters of junction of two streets, and such street shall not be less than 15.00 meters.

10.1.5 For plots in a scheme for Economically Weaker Section and Low Income Group Housing, subject to the approval of the Haldia Development Authority, the minimum width of means of access shall be as indicated in [Section 10.8](#) of this Land Use and Development Control Plan.

10.2 Regulation for Ground Coverage

10.2.1 The maximum permissible ground coverage for building when a plot contains a single building shall depend on the plot size and use of the building as given in the table below:

Table no. 10.1: *Maximum Permissible Ground Coverage (Plot containing a single building)*

Types of the building	Maximum permissible ground coverage	
	In Residential Use Zone	In all other zones
1. Residential and educational		
a) On plot size up to 200.00 sqm.	50%	65%
b) On plot size of 500.00 sqm. or more	45%	-
2. Other use group including mixed use building	40%	40%

10.2.2 For a plot of size between 201 to 500 sqm., the maximum permissible Ground coverage shall be calculated by direct interpolation.

10.2.3 When a plot contains more than one building the maximum permissible ground coverage for the building shall be as stipulated in [Section 10.7](#) of this Land Use and Development Control Plan.

10.2.4 For mercantile building (retail) and assembly buildings on plots measuring 5000 sqm. or more, the additional ground coverage to the extent of 15% may be allowed for car parking and building services. The additional ground coverage of 15% will be exclusively utilized for car parking, ramp, staircase, lift for upper level car parking and for building services such as Air Conditioned plant room, generator room, firefighting equipment, not exceeding 5% out of such 15%, subject to compliance of other relevant building rules.

10.3 Regulation for Height of Buildings

10.3.1 Height of a building shall be the vertical distance measured from the average level of the centre line of the adjoining street or passage on which the plot abuts to the highest point of the building, whether with flat roof or sloped roof.

10.3.2 The following appurtenant structures shall not be included in the height of building:

- i. Stair cover not exceeding 2.40 meters in height;
- ii. Lift machine rooms as per as the latest edition of the National Building Code;
- iii. Roof tanks and their supports, the height of support not exceeding 1.00 meter.
- iv. Chimneys;
- v. Parapet walls not exceeding 1.50 meters in height;
- vi. Ventilating, air conditioning and other services equipment;
- vii. Height above mid-point between eaves level and ridge level;
- viii. Toilet at roof level up to a height of 3.00 meters subject to maximum floor area of 3.00 sqm.;
- ix. Garden cover with permeable material not exceeding 3.00 meters in height;
- x. Equipment for communication such as Microwave Antenna Tower, Dish Antenna as well as room for installing the said equipment subject to a maximum area of 20 sqm. and further subject to permission of the same from Haldia Development Authority.

10.3.3 The aggregate area of the structures mentioned in [Section 10.3.2](#) shall not exceed one-third of the area of the roof upon which these are erected.

10.3.4 The maximum permissible height of buildings on a plot shall be as given in the table below:

Table no. 10.2: Maximum Permissible Height

Width of means of access (in meters)	Maximum permissible height (in meters)
i) 2.40 to 3.50	8.00
ii) Above 3.50 to 7.00	11.00
iii) Above 7.00 to 10.00	14.50
iv) Above 10.00 to 15.00	18.00
v) Above 15.00 to 20.00	24.00
vi) Above 20.00 to 24.00	36.00
vii) Above 24.00	1.5 x (width of the means of access + required width of front open space).

Note:

- i. There will be no restriction in height of buildings for plots abutting means of access above 10 meters in width subject to free gifting of strip of land as per prescribed street alignment. However, this increase in height as mentioned above shall be permissible provided the minimum area of the plot is 2500 sqm. and minimum frontage of the plot abutting the main road is 30 meters.

- ii. In case of such additional height by free gifting the strip of land as mentioned above, the applicant will get FAR of original road width only. However, the applicant will be given benefit of FAR and ground coverage of the portion gifted to the Local Body.
- iii. Regulations for height of building exceeding 14.5 meters shall be as per [Section 10.6](#).

10.4 Regulation for open spaces for Buildings

10.4.1 Generally

- (i) Every room intended for human habitation shall abut an interior or exterior open space or an open verandah, open to such interior or exterior open space. Open spaces shall be areas forming integral parts of the plot at ground level and shall be open to the sky without any projection or overhang excepting cornices, chajjas or weather-shades of not more than 0.50 meter in width.
- (ii) Every building shall have exterior open spaces comprising front open spaces, rear open space and side open spaces. The minimum width prescribed for front open spaces, rear open space and side open spaces shall be provided along the entire front, rear and side faces of the building respectively. For this purpose, the front of the building shall be that face of the building which faces the means of access of the building and the rear of a building shall be deemed to be that face of the building which is farthest from the means of access. These provisions shall also be applicable to each individual building separately when a plot contains more than one building. In case of a corner plot located at the crossing of more than one street or passage the rear of the building shall be deemed to be that face of the building which is farthest from the widest of all such streets and /or passages.
- (iii) Open spaces prescribing to one side cannot be taken for another side. No building shall at any time be erected on any open space prescribed in these regulations, nor shall such open space be taken into account in determining the area of any open space required under these regulations for any other building.
- (iv) If the front open space is 3.00 meters or more, a "Gate Goomti" for security purpose may be allowed in the said open space. The covered area of such "Goomti" shall not in any case exceed 3.00 sqm. and the height of such "Goomti" shall not exceed 3.00 meters. The covered area of the "Gate Goomti" shall not be included in the calculation of FAR and Ground Coverage. For buildings exceeding the height of 14.50 meters, such "Gate Goomti" shall not obstruct the vehicular movement from the means of access to the side and the rear open spaces.
- (v) For corner plots: In the case of any building intended to be erected at the corner of two streets, except the plan for a residential building, to be erected or re-erected on plot land of

300 square meters or less provided the height does not exceed 12.5 meters following regulations will apply:

- a) In case of both the adjoining roads are below 3.5 meter width and area of land is within 200sqm., the corner of such plot shall be splayed by 1.20m x 1.20m.,
- b) In case any of the adjoining roads is more than 3.5 meter width and less than 10.0 meter width, the corner of such plot shall be splayed by 2.50m x 2.50m.
- c) For roads more than 10.0 meters width, the splay shall be 3.5 m x 3.5 m

The land within the splayed portion shall be transferred to the local body by a deed of gift. However, area of land gifted to Local Body shall be considered for FAR and Ground Coverage as applicable.

10.4.2 The minimum open spaces with respect to height and category of buildings shall be as follows:-

Table no. 10.3: *Minimum open space required for Residential use*

Height of building (in meter)	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 8.0	1.2	1.2	1.2	2.0
Above 8.0 upto 11.0	1.2	1.2	1.2	3.0
Above 11.0 upto 14.5	1.5	1.5	2.5	4.0
Above 14.5 upto 18.0	3.5	3.5	3.5	5.0
Above 18.0 upto 24.0	5.0	5.0	5.0	7.0
Above 24.0 upto 36.0	6.0	6.5	6.5	9.0
Above 36.0 upto 60.0	8.0	8.0	8.0	10.0
Above 60.0 upto 80.0	10.0	15% of the height of the building	15% of the height of the building	12.0
Above 80.0	12.0	15% of the height of the building	15% of the height of the building	14.0

Table no. 10.4: *Minimum open space required for Education use*

Height of building	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 11.0 m (land area upto 500.0 square m)	2.0	1.8	4.0	3.5
Upto 11.0 m (land area above 500.0 square m)	3.5	3.5	4.0	4.0
Above 11.0 m upto 14.5 m	3.5	4.0	4.0	5.0
Above 14.5 m upto 21.0 m	5.0	5.0	5.0	6.0
Above 21.0 m	20% of the height of the building or 6.0 m, whichever is more	20% of the height of the building or 5.0 m, whichever is more	20% of the height of the building or 5.0 m, whichever is more	20% of the height of the building or 8.0 m, whichever is more

Table no. 10.5: *Minimum open space required for Institutional, Assembly, Business Mercantile and Mixed use Building*

Height of building	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 11.0 m (land area upto 500.0 square meter)	2.0	1.8	4.0	4.0
Upto 11.0 meter (land area above 500.0 square meter)	3.0	3.5	4.0	4.0
Above 11.0 meter upto 18.0 m	4.0	4.0	4.0	5.0
Above 18.0 m upto 24.0 m	5.0	5.0	5.0	9.0
Above 24.0 m upto 36.0 m	6.0	6.5	6.5	9.0
Above 36.0 m	8.0	9.0	9.0	10.0

Table no. 10.6: *Minimum open space required for Industrial and Storage Building*

Height of building	Front open space (in meter)	Open space on side 1 (in meter)	Open space on side 2 (in meter)	Rear open space (in meter)
Upto 11.0 meter	5.0	4.0	4.0	4.5
Above 11.0 meter upto 18.0	6.0	6.5	6.5	10.0
Above 18.0 meter	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more	6.0 or 20% of the height of the building whichever is more

Note:

- (i) Every residential building of height not more than 8.0 m on plot size not exceeding 65 sq.m in area shall have a minimum front space at ground level of 0.90 meter.
- (ii) For plots of size not more than 65 sq.m, minimum side open space of 0.90 meters may be allowed on each side, provided that the building height does not exceed 8.00 meters
- (iii) Notwithstanding anything contained in [Table no. 10.3](#), the minimum distance across the side open space from every new building to an existing building with a door or window opening shall be 1.80 meter;
- (iv) In the case of a building more than 24.00 meters in depth on a plot abutting any street, a passage along the entire depth of the building shall be provided and the minimum width of such passage shall be 4.0 meter.
- (v) For mixed use buildings the minimum front open space shall be the one applicable for that particular occupancy which gives the highest value of the minimum front open space.

10.4.3 For plots in a scheme for economically weaker section and low income group Housing approved by Haldia Development Authority the minimum space shall be as laid down in [Section 10.8](#) of this Land Use Development Control Plan.

10.4.4 Interior Open Space:

The interior open space shall be as follows:

- a) For inner courtyard-
 - (i) In case the whole of one side or part of at least two sides of every habitable room is abutting either the front space, rear open space or side open space, it shall abut an interior open space. Interior open space at ground level shall be called courtyard.
 - (ii) Any room which is separated only by a verandah from the interior open space shall be deemed to abut on such interior open space for the purpose of this regulation.
 - (iii) The minimum dimension of any side of every interior open space (a) at ground level all sides of which are enclosed by a building or part thereof shall be 30% of the height of the building or 3.0 meters, whichever is more (b) at any other level, all sides of which are enclosed by a building or part thereof shall be 30% of the height of the building or 3.0 meters, whichever is more, measured from the said level where interior open space is formed.
 - (iv) Notwithstanding anything contained in these rules, if all sides of an interior open space is enclosed by a combination of higher and lower blocks of a building, the minimum

dimension of such interior open space shall be governed by the height of lower block, provided that in no case the covered area under such lower block shall be less than 25% of the total covered area of the concerned building constituting the interior open space.

- (v) For the purpose of this rule, if any interior open space or courtyard is enclosed on three sides by a building or part thereof is meant to serve lighting and ventilation purpose to a part or whole of one side of one or more habitable rooms, the minimum width of such open space shall be 2.4 meters for building up to 14.5 meters in height, 3.5 meters for buildings above 14.5 meters up to 24.0 meters height, 5.0 meters for buildings above 24.0 meters up to 36.0 meters height, and 7.0 meters for all buildings above 36.0 meters height:

Provided that the depth of such open space shall not exceed twice its width and the same may be reduced to 1.2 meters, if no habitable room, or balcony attached to the habitable room is facing the interior open space. However, in case the depth of such interior open space is less than the width, the same shall not be considered as interior open spaces but be called as Notch and the same will be permitted without any restriction.

- (vi) A ventilation shaft having no access to the same except through one door for service purposes shall not be treated as a courtyard if the area of such shaft is less than 20 sqm.

b) Ventilation Shaft for Kitchen or toilet-

For ventilation of bathroom or water closet or if it does not open into the front open space, rear open space or side open space or an interior open space, it shall open into a ventilation shaft which shall not be less than the specification in [Table No. 10.7 and 10.8](#) below:-

Table no. 10.7: Size of ventilation shaft

Height of building (in meter)	Minimum size of ventilation shaft (in sqm.)	Minimum width of shaft (in meter)
Upto 11.0	2.5	1.2
Above 11.0 but less than 14.5	5.0	2.0
From 14.5 but less than 20.0	6.0	2.4
20.0 and above	9.0	3.0

Table no. 10.8: Combined Ventilation shaft for Kitchen and Toilet

Height of building (in meter)	Minimum size of ventilation shaft (in sqm.)	Minimum width of shaft (in meter)
Upto 11.0	3.0	1.5
Above 11.0 but less than 14.5	6.5	2.5
From 14.5 but less than 20.0	8.0	2.75
20.0 and above	9.0	3.0

Provided that for any building with height exceeding 20 meters, a mechanical ventilation system shall be installed in addition to the provision of minimum ventilation shaft:

Provided further that no chajja shall be allowed in any ventilation shaft:

Provided also that no ventilation shaft may be required for full air conditioned building, or mechanically ventilated toilet, kitchen, bath and W.C.

- c) If there be building other than boundary wall on not more than three sides of a building the minimum width of such courtyard shall not be less than 20% of the height of the building or 2.50 meters, whichever is more.

10.4.5 Joint Open Space: In case of multiple blocks of buildings connected with each other the open spaces between the two blocks will have to be 40% of the height of the lower block or 7.0 meters whichever is more.

10.4.6 For plot in a scheme for Economically Weaker Section and Low Income Group Housing, the minimum front space, side open space and rear open space shall be as laid downs in [Section 10.8](#) of this Land Use and Development Control Plan.

10.5 Regulation for Provision of Parking within a Plot

10.5.1 Minimum Parking Space:

- i. No off- street parking shall be less than –
 - a) 12.5 sqm. (2.5 meters in width and 5.0 meters in length) for a motor car with a minimum head room of 2.2 meters if parked in a covered area.
 - b) 37.5 sqm. (3.75 meters in width and 10 meters in length) for a truck and a bus with a minimum head room of 4.75 meters if parked in covered area.
- ii. The minimum width of circulation driveway to be provided for adequate maneuvering of vehicles shall be 4.0 meters for cars and 5.0 meters for trucks exclusive of parking space referred to in [Section 10.5.1 \(i\)](#). However a projection from a height above 5.50 meters from

the ground level may be permitted keeping the mandatory open space open to sky as per this regulation.

- iii. The parking lay-out plan shall be so prepared that the parking space for each vehicle becomes directly accessible from the driveway or circulation driveway or aisles. However stack car parking arrangement will be allowed in such a way that every car can be moved by shifting not more than one car. This stack car parking will be allowed only on the basement and ground floor levels.
- iv. (a) For building with different uses, the area of parking space shall be worked out on the basis of respective uses separately and parking space to be provided for the total number of vehicle thus required.
(b) In case of a plot containing more than one building, parking requirement for all buildings shall be calculated consideration the area of respective uses.
- v. Notwithstanding anything contained in [Section 10.5.1 \(i-iv\)](#) of this regulation, if the building site abuts on a street or means of access which is less than 3.5 meters, parking space may not be insisted upon.
- vi. In calculating the areas of different occupancies in the same building or different units of same occupancy in a building, the areas of common spaces of any floor which is included in the calculation of the Floor Area Ratio as per provision of these rules shall be distributed proportionately amongst the different units or occupancies. However, in case of residential use, the actual floor area of the tenements shall be considered excluding the areas of the common space. The requirements of car parking spaces shall be calculate accordingly.
- vii. The open spaces within the plot may be allowed to be utilized for car parking spaces open to the sky provided that the minimum front, rear and side open spaces prescribed in [Section 10.4](#) of this Land Use and Development Control Plan shall be kept free of parking;
- viii. For plots in a scheme for Economically Weaker Section and Low Income Group housing approved by the Haldia Development Authority, the parking requirement shall be indicated in [Section 10.8](#) of this Land Use and Development Control Plan.

10.5.2 Parking Space requirements for motor cars:

The parking space requirements for motor cars in respect of different categories of buildings are given in the [Table No. 10.9](#).

Table no. 10.9: Parking Space requirements for motor cars

Sl. No.	Occupancy	Off- Street Car Parking Spaces:
1	Residential	<p>(a) One car parking space to be provided for every 150 sqm. of floor area upto a total floor area of 600 sqm.</p> <p>(b) One car parking space to be provided for every 140 sqm. of floor area above a total floor area of 600 sqm upto 5000 sqm.,</p> <p>(c) One car parking space to be provided for every 130 sqm. of floor area above a total floor area of 5000 sqm.</p> <p>Note :</p> <p>(i) However for building or buildings having individual tenements size not exceeding 60.0 sqm. in the entire building, one car parking space to be provided for every 250 sqm. of floor area;</p> <p>(ii) For the purpose of calculation of number of car park nearest whole number is to be considered.</p>
2	Educational	<p>(i) For all educational buildings, one car parking space and one bus parking space are to be provided for every 500 sqm. of floor area and part thereof (exceeding 50%). However, at least one car parking space is to be provided for every educational building.</p>
3	Institutional	<p>For hospitals and other health care institutions-</p> <p>(i) One car parking space for every 150 sqm. of floor area is to be provided for a total floor area not exceeding 1000 sqm. However, at least one car parking space is to be provided for such institution building.</p> <p>(ii) One car parking space for every 100 sqm. of floor area is to be provided for a total floor area not exceeding 1000 sqm. (subject to a maximum of 250 nos of car parking space).</p>
4	Assembly	<p>(a) For theaters, motion picture house, auditorium or similar other hall s-one car parking space for every 75 sqm of floor area shall be required. However, at one car parking space is to be provided for such buildings even having less than 75 sqm of floor area.</p> <p>(b) For Exhibition Halls, Town Hall or City Halls or similar other halls - one car parking space for every 200 sqm of floor area shall be required. However, at one car parking space is to be provided for such halls even having less than 200 sqm of floor area.</p> <p>(c) For restaurant, eating houses, bars, clubs, gymkhana, dance halls - one car parking space for every 75 sqm of floor area and/or part thereof (exceeding 50%). However, at one car parking space is to be provided for such buildings even having less than 75 sqm.</p> <p>(d) For hotels - one car parking space for every 250 sqm of floor area and/or part thereof (exceeding 50%). However, at least two car parking spaces are to be provided for such hotel buildings.</p> <p>Provided that for Hotels with Banquet Hall for other facilities like Conference, Marriage Ceremony and other public gatherings one car parking space for every 50 sqm of such floor area of banquet hall be required additionally:</p>

		<p>Provided further that while calculating the area of hotel to assess the requirement of car parking, area of banquet hall will not be considered.</p> <p>(e) For boarding house and guest house - one car parking space for every 500 sqm of floor area and/or part thereof (exceeding 50%). However, at least one car parking space is to be provided for such houses.</p> <p>For other assembly buildings like place of worship, gymnasium, sports stadium, railway or bus passenger station, airport terminal; or any other places where people congregate or gather – requirement of parking space shall be determined by the Haldia Development Authority.</p>
5	Business	One car parking space for every 100 sqm of floor area and/or part thereof (exceeding 50%). However, at least one car parking space is to be provided for such building.
6	Mercantile (retail)	<p>(a) For floor area up to 50 sqm. - no car parking space.</p> <p>(b) For floor area above 50 sqm. – one car parking space plus an additional car parking space for every 100 sqm. of the covered area.</p>
7	Industrial, Storage and Mercantile (wholesale)	<p>(a) For floor area up to 200 sqm. - no car parking space.</p> <p>(b) For floor area above 200 sqm. – one car parking space for every 200 sqm. and one truck parking space for every 1000 sqm. subject to a minimum of one truck parking space.</p> <p>(c) In no case the required car parking space shall exceed 50 and the required truck parking space shall exceed 50:</p>

Provided that while calculating the floor area for the purpose of car parking space required, covered areas for car parking are not to be considered.

10.6 Regulation for Tall Buildings (Exceeding Fourteen and half Meters in Height)

Within Nandigram I & II Blocks, in case of any building exceeding 14.50 meters in height needs to be constructed, permission should be taken from Haldia Development Authority.

10.6.1 No building exceeding 14.5 meters in height shall be allowed on private or public street having less than 10.00 meters width;

10.6.2 Open spaces;

- i. There shall be a minimum front open space for every category of tall building at its narrowest part, as per provisions laid down in [Section 10.4.2](#) of this Land use Development Control Plan.
- ii. There shall be a minimum rear open space for every category of tall building along the entire width of the building forming an integral part of the site, as per provisions laid down in [Section 10.4.2](#) of this Land use Development Control Plan.
- iii. There shall be minimum open spaces on both sides for every category of tall building at its narrowest part, as per provisions as per provisions laid down in [Section 10.4.2](#) of this Land use Development Control Plan.
 - a) In case the whole of one side or part of at least two sides of every room excepting bath, water-closets and store room, is not abutting either the front open space, rear open space or side open space, it shall abut an inner courtyard whose minimum width shall be 30% of the height of the building or 3 meters, whichever is more;
 - b) for ventilation of water closet in bathroom, kitchen or any room not intended for human habitation, if not opening on to front open space, rear open space, side open space or interior open space, such ventilation shall be opened up to a ventilation shaft, the size of which shall be as per provisions laid down in [Section 10.4.4](#) of the Land use Development Control Plan.

10.6.3 For every building exceeding 14.5 meters, the FAR shall be as specified in the table below:-

Table no. 10.10: Maximum permissible Floor Area Ratios

Width of Means of Access (meters)	Residential Building		Institutional/Business Buildings		Industrial Buildings
	Residential Use Zone	Other use zones	Residential Use Zone	Other use zones	
Above 15 to 20	1.5	1.00	1.00	1.5	1.0
Above 20 to 24	1.75	1.25	1.25	1.75	1.0
Above 24	2.0	1.50	1.50	2.0	1.5

Note; while calculating the floor area under this section, the following shall not be included:-

- a) Stair cover not exceeding 2.4 meters in height and staircase with landing up to the extent of the width of the stairway in each floor including ramp if there be any;
- b) Lift machine room as per latest edition of National Building Code. Lift landing lobby with a maximum area of 6 sqm. in all floors including roof, if any;
- c) Roof tank and their support, the height of support not exceeding 1 meter;
- d) Chimneys, ventilation, air conditioning and service equipment attached to the building;
- e) Provided that the aggregate area of these structures mentioned at (a) to (d) above shall not exceed one-third area of the roof upon which these are erected;
- f) The actual area under covered car-parking space and area of basement used for car-parking only in accordance with the rule provided in [Section 10.5](#) of this Land use and Development Control Plan subject to maximum permissible limit for one car parking space as 25 sqm. for ground floor and 35 sqm. other than ground floor inclusive of all circulation space and ramps. However, the area actually covered by the car parking space may be allowed even if the same is more than mandatory requirement. But the covered car parking shall be within the permissible ground coverage;
- g) Area of loft, ledge and areas of cupboards or wardrobes up to a maximum extent of 3% of total floor area but shall include the area of mezzanine floor;
- h) Area of service floor as permitted
- i) The areas for garden covered with permeable material, pergola, expanded or similar other material at the roof level, up to 5% of the total roof area or 10 sqm. which is more, subject to adoption of adequate structural safety measures;

10.6.4 All steel towers above 14.5 meters height should be ground based ones. Minimum access to such structure should not be less than 5.0 meters on any part. No such structure should be constructed on the mandatory open spaces of any existing building.

10.7 Regulation for Control of Development of Plot of Land Containing More Than One Building

10.7.1 General

- i. Every building on a plot containing more than one building shall abut an internal road connecting the means of access of the plot. The F.A.R. shall be calculated on the basis of the width of the means of access on which the plots abuts.
- ii. The minimum width of such internal roads shall not be less than 3.50 meters, where internal road of 3.50 meters in width is not possible to be provided due to an existing building constructed prior to the enforcement of this Land use and Development Control Plan, a building of not more than 7.0 meters in height may be allowed, provided that the width of the internal road shall not be less than 1.20 meters.
- iii. The maximum permissible height of any building on a plot shall be determined by the width of the means of access on which the plot abuts according to the [Table No. 10.2](#) given in [Section 10.3](#) of this Land use and Development Control Plan.
- iv. The minimum width and the maximum length of all such internal roads shall be as per [Table No. 10.11](#) below.

Table no. 10.11: Width and Length of Internal Roads

SI No	Minimum Width of Internal Roads	Maximum length of internal roads	
		For internal roads closed at one end	For internal roads open to street at both ends
1.	3.50 meters and above but not more than 7.00 meters	25.00 meters	75.00 meters
2.	Above 7.00 meters but not more than 10.00 meters	50.00 meters	150.00 meters
3.	Above 10.00 meters	No restriction	No restriction

- v. In case the buildings within a plot are not of the same occupancy, an individual building of any particular occupancy shall comply with the regulation governing such occupancy except the provisions regarding Ground Coverage which shall be in accordance with [Section 10.7.2](#) of this section.

10.7.2 Ground Coverage

- i. For plots measuring less than 5000 sqm. in area, the maximum Permissible ground coverage shall be the values prescribed in [Section 10.2](#) of this Land use and Development Control Plan if the buildings are of same occupancy. If the buildings are not of same occupancy then the ground coverage shall be 40%.

- ii. For plots measuring 5000 sqm. or more in area, the maximum permissible ground coverage shall be 40% for building with same occupancy and 35% for buildings with different occupancies including mixed use occupancy.

10.7.3 Open Spaces

- i. Every building shall have minimum external open space as prescribed in [Section 10.4](#), provided that on these open spaces internal roads may not be constructed.
- ii. Interspaces between two buildings, within a plot, shall be 40% of the average height of the buildings subject to a minimum of 4.0 meters even if the two buildings are inter connected by walkways, and other ornamental or structural elements say pergolas, radiating beams etc.

10.7.4 Parking:

The provision shall be the same as stipulated in [Section 10.5](#) of this Land use and Development Control Plan.

10.8 Regulation for Control of Development of Residential Building for Economically Weaker Section and Low Income Group Housing Scheme

10.8.1 In a scheme for Economically Weaker Section and Low Income group Housing approved by Haldia Development Authority the following regulations shall be applicable, provided that the size of the plot is not more than 65.00 sqm. in area.

- i. No building shall be allowed on a plot if the width of the means of access to the plot is less than 1.20 meters.
- ii. No building exceeding 8.00 meters in height shall be allowed on a plot if the width of means of access to the plot is less than 3.5 meters.
- iii. The maximum permissible ground coverage shall be 75% of the area of the plot;
- iv. The maximum permissible height of the building shall be 10.00 meters;
- v. The minimum front open space shall be 0.80 meter;
- vi. The minimum rear open space shall be 1.00 meter;
- vii. The maximum permissible Floor Area Ratio shall be 1.75
- viii. The buildings may be of row housing type with common wall and the maximum length of the building in a row shall be 50.00 meters and after every 50.00 meters of length of such buildings in a row, there shall be an open space of not less than 2.50 meters in width for the entire depth of the building, and that such open space shall not be necessary if there is a street or passage at such location the minimum width of which is not less than 2.50 meters;

- ix. There shall be no need to provide any car parking space within the plot;
- x. The size of rooms shall be as follows:
 - a. *Habitable Room*: The area of a habitable room shall not be less than 6.00 sqm. with a minimum width of 2.40 meters. The habitable room for this purpose would be any room to be used for human habitation other than a kitchen, both/water-closet, store/multi-purpose room;
 - b. *Kitchen*: The area of kitchen shall not be less than 3.00 sqm. with a minimum width of 1.50 meters;
 - c. *Water closet and bath room*: The area of an independent water closet shall not be less than 0.80 sqm. with a minimum width of 0.85 meter. The area of an independent bath room shall not be less than 0.80 sqm. with a minimum width of 0.85 meter. If water closet is combined with bath room its floor area shall not be less than 1.50 sqm. with a minimum width of 0.9 meter.
- xi. Minimum height of rooms: The height of all habitable and multi-purpose rooms shall not be less than 2.60 meters from the surface of the floor to the lowest point of the ceiling (bottom of the slab and/or beam). In the case of sloping roof, the average height of roof for habitable rooms shall not be less than 2.60 meters and the minimum height at caves shall be 2.10 meters. The height of kitchen, bath/water closet and corridor/passageway shall not be less than 2.10 meters measured from the surface of the floor to the lowest point of the ceiling (bottom of the slab and/or beam);
- xii. Excepting the provisions of clause (i) to (xi) all other provisions of these regulations shall be applicable.

10.9 Provisions regarding Existing buildings

10.9.1 The provisions of the following regulations shall apply only in the case of an existing building not complying with the regulations of the Land Use and Development Control Plan. Existing building, for this purpose, shall mean any building which was erected before the date of coming into force of these regulations in accordance with a building plan sanctioned by an authority competent to sanction such building plan under the West Bengal Panchayat (Gram Panchayat Administration) Rules, 2004 or any other law for the time being in force.

10.9.2 In the case of existing building:

- i. Excepting storage or hazardous buildings, where the open spaces required have not been left, and addition in the number of stories, if otherwise permissible, may be allowed with a set back provided such building continues with the same occupancy. Provided that no formal set

back may be necessary up to a height of eight meters for adding only one floor over an existing single storied residential building.

- ii. The extent of the set back from the property boundary shall be such as to make the addition to the building in conformity with the provisions of [Sections 10.2 and 10.4](#) of this Land Use and Development Control Plan.
- iii. If any car parking space is required to be provided under [Section 10.5](#) of this Land Use and Development Control Plan and no such car parking space can be provided in such existing building, the covered area allowable under the provisions of these regulations shall be reduced by the area required for such car parking space. For this calculation, the area required for one car parking space is to be taken as 20.0 sqm.
- iv. The height of the building shall conform to the provisions as indicated in [Section 10.3](#) of this Land Use and Development Control Plan and in no case the height shall exceed 14.50 meters after any addition to the number of stories;
- v. The addition to an existing building with residential occupancy shall not exceed 200.0 sqm. in covered area.
- vi. The addition to an existing building with educational occupancy shall not exceed the total covered area of the building.
- vii. The addition to an existing building with other occupancies including mixed uses excepting storage and hazardous building shall not exceed 100.00 sqm. in total covered area.
- viii. In case of partition of existing building common walls may be allowed as the partition line.

10.10 Regulation for Development of Building Site

No plot shall be used as site for erection or re-erection of any building:-

- i. If the level of the plot is lower than the level of the crown of the nearest public street, and
- ii. Unless the land is capable of being well- drained by, means of drainage facilities leading to the existing public drains or drainage channels.

10.11 Regulation for Sub - Division of Plots

10.11.1 Generally

- i. A plot to be sub-divided shall be termed as "mother plot".

- ii. Sub-division shall not be allowed if the "mother plot" abuts a means of access having width of less than 7.50 meters.
- iii. Every individual plot obtained by sub-division of the "mother plot" shall abut a means of access having a width of not less than 3.50 meters.
- iv. The junctions of means of access within the "mother plot" shall be provided with splayed corners measuring not less than 2.50 meters on each side and 3.5 meters if both roads are of 10.00 meters width or more.
- v. These regulations are not applicable in a scheme for Economically Weaker Section and Low Income Group housing approved by the Haldia Development Authority.
- vi. Sub-division may be allowed on condition that the following facilities shall be provided by the owner of the "mother plot" at his own cost, as may be directed by the Local Authority:
 - a) Drainage facilities ensuring drainage of each individual plot and of the means of access and passages leading to existing public drains or drainage channels.
 - b) Streets and passages along with street lighting.
 - c) Sanitary facilities including garbage disposal facilities.
 - d) Water supply facilities.
- vii. The minimum size of plot obtained by sub- division shall not be less than 100 sqm.
- viii. Plot sub-division will be guided by the width of the means of access as per [Table No. 10.12](#)

Table no. 10.12: *Plot sub division as per means of access*

Means of access	Area allowed for sub- division of plot
7.5m	Above 500 sqm. to 2000 sqm.
10.0 m	Above 200 sqm. to 5000 sqm.
20.0 m	Above 500 sqm. to 15000 sqm.
30.0 m	No restriction

10.11.2 Public open spaces

Sub division of mother plot measuring more than 500 sqm. in area shall only be allowed if a portion of the total area of the mother plot is developed as public open spaces or public amenities as follows:

- i. For mother plots above 2000.0 sqm. and below 5000.0 sqm.; 7.5% of the land (excluding roads) should be reserved for the above purpose.
- ii. For a mother plot measuring more than 5,000.00 sqm. in area and below 25000sqm, sub-division may be allowed, provided 8% of the total area of the mother plot is developed as public open space. The width of each such open space shall not be less than 10.00 meters

and each such open space shall about a street having a width of not less than 7.00 meters. The minimum area of each of such open space in one parcel shall be 400.0 sqm. This open space shall be in addition to the land required for providing the means of access to the individual plots obtained by sub-division of the mother plot and 2% of the land should be reserved for public amenities.

- iii. Land for facilities - For a mother plot measuring more than 25000.00 sqm. in area, apart from providing 8% of the land for public open spaces provision of 7% additional land of the total area of the plot shall be reserved for use for facilities like school, Health Centers, Market, Police Outpost with booth, Post Office, Power Sub-station, Transport Terminal, Water Treatment Plant, Sewerage Treatment Plant as well as the provision for Green cover and free gift of land for Economically Weaker Section housing and the like, such land shall about a means of access having a width of not less than 10.00 meters in addition to the land necessary for means of access and for open space mentioned in [Section 10.11.2 \(ii\)](#) of this Land Use and Development Control Plan.

10.12 Regulations for new Township Project

The specific regulations for new township project shall be guided by The West Bengal Town and Country Planning (Development of Township Projects) Rules, 2008 notified vide Notification No. 2255-T&CP/C-2/IC-3/2005(II) dated 27th October, 2008 ([Refer Annexure -VI](#)).

10.13 Regulation for Rain Water Harvesting, Tree Cover and Waste Water Recycling

10.13.1 Roof Top rain water harvesting and Tree Cover

- i. Roof Top rain water harvesting (RWH)
Roof Top RWH shall form a part of the building and shall have to be included in the plan either for direct use of rain water or for ground water recharging or both, applicable in case of
 - a) New building/buildings or any housing complex covering a total floor area of 6000 sqm. or more.
 - b) Expansion of any building/ buildings or housing complex, so as to cover 6000 sqm. of total floor area or more additionally.
- ii. Tree Cover
Provision of tree cover should be included in the plan for sites
 - a) For any housing construction projects covering a total floor area of 6000 sqm. or more, the applicant should arrange for raising and maintenance of tree cover at their own cost which should be at least 15% of the land area within the premises
 - b) For any other housing construction project, having lesser total floor area the tree cover should be reduced proportionately in the perspective of (a) above.

- c) The applicant shall make provision for drainage to raise and maintain the plantation at their own cost and submit such programme to the Local Authority before the plan is forwarded for sanction.

10.13.2 Waste Water Recycling

Waste water recycling system shall be incorporated in all buildings including group housing having a minimum discharge of 40,000 litres per day. Such recycled water shall be either for non-domestic purpose or for recharging of ground water.