DHAKA METROPOLITAN DEVELOPMENT PLAN (DMDP) 1995-2015

DETAILED AREA PLAN (DAP)

PART - I

JUNE 2010

RAJDHANI UNNAYAN KARTRIPAKKHA (RAJUK)
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বাংলাদেশ গেজেট

অতিরিক্ত সংখ্যা

কর্তৃপক্ষ কর্তৃক প্রকাশিত

মঙ্গলবার, জুন ২২, ২০১০

গণপ্রজাতন্ত্রী বাংলাদেশ সরকার

গৃহায়ন ও গণপূর্ত মন্ত্রণালয়

পরিকল্পনা শাখা-৩

প্রজ্ঞাপন

তারিখ, ০৮ আষাঢ় ১৪১৭ বঙ্গাব্দ/২২ জুন ২০১০ খ্রিস্টাব্দ

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Dhaka Metropolitan Development Plan (DMDP) 1995-2015: Detailed Area Plan (DAP)

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Dhaka Metropolitan Development Plan (DMDP) 1995-2015 : Detailed Area Plan (DAP) prepared by the Rajdhani Unnayan Katripakkha (RAJUK) under the Ministry of Housing and Public Works, Government of the People's Republic of Bangladesh.

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ABBREVIATION AND ACRONYMS

ACTP	Assistant Chief Town Planner
ATP	Assistant Town Planner
BAPA	Bangladesh Poribesh Andolon
BBS	Bangladesh Bureau of Statistics
BDC	Bangladesh Development Company
BELA	Bangladesh Environmental Lawyers Association
BIP	Bangladesh Institute of Planners
BIWTA	Bangladesh Inland Water Transport Authority
BIWTC	Bangladesh Inland Water Transport Corporation
BMD	Bangladesh Meteorological Department
BOT	Build Operate Transfer
BPDB	Bangladesh Power Development Board
BRAC	Bangladesh Rural Advancement Committee
BSCIC	Bangladesh Small and Cottage Industries Corporation
BTCL	Bangladesh Telecommunication Company Limited
BUET	Bangladesh University of Engineering and Technology
CBO	Community Based Organization
CTP	Chief Town Planner
DCC	Dhaka City Corporation
DIT	Dacca Improvement Trust
DND	Dhaka-Narayanganj-Demra
DoE	Department of Environment
DPDCL	Dhaka Power Distribution Company Limited
DPHE	Department of Public Health and Engineering
DPZ	Detailed Planning Zone
FAR	Floor Area Ratio
FFZ	Flood Flow Zone
GIS	Geographic Information System
IAB	Institute of Architects, Bangladesh
JICA	Japan International Cooperation Agency
LGED	Local Government and Engineering Department
LPC	Landuse Permit Committee
LPP	Landuse Permit Planner
MoHPW	Ministry of Housing and Public Works
NGO	Non Government Organization
NUC	Nagar Unnayan Committee
REB	Rural Electrification Board
REHAB	Real Estate & Housing Association of Bangladesh
RHD	Roads and Highways Department
RMG	Ready Made Garments
SoB	Survey of Bangladesh
SP	Structure Plan
SPZ	Strategic Planning Zone
STP	Strategic Transport Plan
TGTDC	TITAS Gas Transmission & Distribution Company
TWG	Technical Working Group
UNCHS	United Nations Centre for Human Settlement (Habitat)
UNDP	United Nations Development Programme
WASA	Water Supply and Sewerage Authority
WDB	Water Development Board

PREFACE

Detailed Area Plan (DAP) is the third and final tier of DMDP (Dhaka Metropolitan Development Plan) 1995-2015. DMDP is a three tier plan package, viz. the Structure Plan, the Urban Area Plan and the Detailed Area Plan. The first two tiers of DMDP i.e. the Structure Plan (1995-2015) and the Urban Area Plan (1995-2009) were prepared in 1995 under the Project 'Preparation of Structure Plan (SP), Master Plan and Detailed Area Plan (DAP) - Metropolitan Development Plan Preparation and Management in Dhaka' under UNDP project No. BGD/88/052 and TAPP No. TA/ BGD/ 88 /052 with the technical assistance of UNCHS. The third tier of DMDP i.e. the Detailed Area Plan has been prepared by RAJUK under a separate project named "Preparation of Detailed Area Plan (DAP) for Dhaka Metropolitan Development Plan" following the strategies and guidelines mentioned in the Structure Plan and the Urban Area Plan. This is almost a six and a half year project launched in August, 2004 and completed in December, 2010. The total project cost is BDT 2494.66 Lac. The project was financed by RAJUK's own source.

The project was managed by a Inter-Ministerial Steering committee, a Technical Management Committee and a Technical Management Sub-Committee. One project director, four project managers, five assistant town planners, one GIS expert, one survey expert and other supporting staffs were the project personnel.

The DAP is prepared for RAJUK jurisdiction or DMDP area of 590 sq.mile (1528 sq. km.). In order to complete the task efficiently, RAJUK divided its control area into five groups and eleven locations and awarded five local consulting firms with the work. The contract was awarded to DDC Ltd. for Group A, Group A Ext. (Part D), Location 3,4 and 15; EPC Ltd. for Group B and Group B Ext. (Part-D); Gani Bangla Ltd. for Group C, Group C Ext. (Part-D), Location 9,11,16; Sheltech (Pvt.) Ltd. for Group E, Group E Ext. (Part-D), Location 1,2,10; BETS Ltd. for Location 5,6. For ease of work, the task of Group D was awarded to DDC Ltd., EPC Ltd., Gani Bangla Ltd. and Sheltech (pvt.) Ltd.

Group A covers three Paurashavas including Tongi, Gazipur and Kaliganj together with surrounding rural settlement and flood Plain areas of Balu, Sitalakkhya and Brahmaputra river. Group B covers Narayanganj, Kadam Rasul Paurashava and its surrounding areas including Dhaka- Narayanganj- Demra (DND) flood protected areas. Group C (Central Part) is surrounded by the river Buriganga, Sitalakkhya, Balu, Turag and Tongi Khal. Dhaka City Corporation (DCC) jurisdiction area is within Group C. Group C covers important establishments of capital Dhaka like Bangladesh Secretariat, Motijheel, Kawran Bazar commercial areas, International Airport, Old Dhaka etc. Group D covers Keranigonj and Zinjira. Rest of the area of this Group is mainly Dhaleswari flood plain. Group E covers Savar Pourashava, Export Processing Zone (EPZ), Turag flood plain. Location 9,11,16 covers the eastern fringe areas of Dhaka. Other locations are in different parts of Dhaka.

DAP projects population for the year 2015 as 18.43 Million on the basis of data generated from the population census 2001, which was 10.24 Million. The overall Annual Growth Rate is considered as 4.29%. The stages of DAP preparation included geo-referencing of mouza maps, different types of surveys, consultation with stakeholders, draft plan preparation, public hearing and final plan preparation. Socio-economic survey, physical feature survey, topographic survey and land use surveyes were done during the period of 2005-2006. The high tech digital GIS (Geographic Information System) data base was prepared for the very first time for Dhaka under the project. Quality checking of survey activities was done by Survey of Bangladesh (SOB). A series of consultation meeting was held with local government authorities (Wards & Pourashavas), Honorable Members of the Parliament of the RAJUK jurisdiction, concerned development agencies (RHD, LGED, WASA, WDB etc.), academics, professionals, socially concerned groups, study groups, business groups, etc.

Following this, draft final plan was prepared. As per section 74 of Town Improvement (TI) Act 1953, RAJUK carried out a two month long Public Hearing on the draft plan from October 3, 2008 to December 4, 2008. The Public Hearing was carried out through media coverage, press conference, web based publication and displaying of maps in RAJUK auditorium, PD (DAP) office and three other zonal offices of RAJUK. The comments given by general people and different organizations were documented in the prescribed format and these were addressed. A national seminar was held with academics, different professionals, BAPA, BELA, REHAB. Round Table Conferences were held in three daily newspaper offices.

A Review Committee to review the Draft Final Plan submitted by the Consultants was formed by the Ministry of Housing & Public Works (MoHPW) with Prof. Dr. Jamilur Reza Chowdhury, Vice Chancellor, BRAC University as convener. In order to assist the Review Committee in the task, a 16 member Technical Working Group (TWG) was formed with members from Urban and Regional Planning Department of BUET, Urban and Regional Planning Department of JU, Bangladesh Institute of Planners (BIP), Institute of Architects, Bangladesh (IAB), Urban Study Group and RAJUK.

A series of consultation meetings was held with the Honorable Members of the Parliament of RAJUK jurisdiction area to apprise them of the draft final DAP and obtain their valuable suggestions and recommendations. Almost whole of August and half of September, 2009 were spent on this consultation.

Ministry of Housing and Public Works constituted a DAP Review Committee with Prof. Dr. Jamilur Reza Chowdhury, former Vice Chancellor, BRAC University as convener to verify the compliance status of the recommendations made by the previous Review Committee. The committee reviewed the status of the Draft DAP in view of the recommendations of the previous Review Committee in four separate meetings held on 16-03-2010, 25-03-2010, 01-04-2010 and 11-04-2010 in RAJUK Board Room. The committee ultimately made 36 point recommendations to be followed by the consultants. Following the recommendations, consultants prepared final plans (maps and reports) and submitted to RAJUK. After approval in the Technical Management Sub-Committee, Technical Management Committee, Steering Committee of DAP and RAJUK'S board, the final plan was submitted to Ministry of Housing and Public Works for final approval. Ministry of Housing and Public Works sent the final plan to Ministry of Law for vetting and placed it in the Cabinet. The cabinet approved final DAP. Finally, Ministry of Housing and Public Works notified gazette of DAP under the SRO No. 232-law/2010 on 22 June 2010. The Reports and the Maps of DAP has been published on the website of RAJUK (www.rajukdhaka.gov.bd).

Eng. Md. Nurul Huda
Chairman, RAJUK.

EXECUTIVE SUMMARY

The Detailed Area Plan is the outcome of last several years of extensive activities related to the preparation of physical plan of Dhaka and marks the completion of the process undertaken in early nineties by Rajdhani Unnayan Kartripakkha with the assistance of UNDP and UNCHS. Preparation of Dhaka Metropolitan Development Plan (DMDP) under the project 'Preparation of Structure Plan (SP), Urban Area Plan (UAP) and Detailed Area Plan (DAP)-Metropolitan Development Plan Preparation and Management in Dhaka' (UNDP No. BGD/88/052 and TAPP No. TA/BGD/88-052) was started in 1992. DMDP is a three-tier plan package of which first two tiers (Structure Plan and Urban Area Plan) were completed during 1992-1995 by the joint team of Consultants from home and abroad and counterpart experts employed by RAJUK.

RAJUK's jurisdiction covers an area of approximately 590 sq. miles comprising of 26 Strategic Planning Zones (SPZ). which were demarcated in the structure plan. For the preparation of Detailed Area Plan (DAP), the total area of RAJUK jurisdiction has been divided into five separate Groups and several locations. Group-A is a part of that distribution. The Planning area of Group-A is situated on the north east part of the Dhaka City with a gross area of 1,04,000 acres excepting Purbachal (6000 acres) area, consisting of four SPZs (SPZ 14, SPZ 14.5, SPZ 15, SPZ 19) including two Pourashavas named Tongi and Gazipur and surrounding rural settlements including flood plain areas of *Balu, Sitalakkhya and Brahmaputra* Rivers. A planned neighbourhood named Purbachal New Town is being established by RAJUK which is also located within Group-A.

The Report contains seven Chapters describing sequentially the Background of the Project, Critical Planning Issues which influence the plan preparation process, Development Plan Proposals, Plan Implementation procedures, Project Plan and Follow-up Actions required for the implementation of the plan, and lastly, Conclusion. The Background section (Chapter-1) presents a brief description of the project objectives, background and purpose of the project as per the prescribed Terms of Reference. It may be stated that the Plan has been prepared on the basis of Section 73 of the Town Improvement Act (TI Act), 1953 which empowers RAJUK to prepare Landuse Plan for areas within its jurisdictions and it also designates RAJUK as the custodian of the Plan. Chapter-1 also describes the salient features of the higher level plans: Dacca Master Plan of 1959, Dhaka Metropolitan Area Integrated Urban Development Project, (DMAIUDP) and DMDP Structure Plan and Urban Area Plan. It also presents a brief description of the study area. The 1st chapter ends with an analysis of the outcome of the Public Hearing on the Draft Final Plan. From the analysis, it has been observed that most of the respondents are against wider roads. It has been observed that the affected people do not want to be evicted even against compensation but prefers resettlement.

Chapter-2 describes critical issues that have direct bearing on the plan preparation process. It provides an analysis of the existing urbanization process and its in-built problems, utility provisions, description of infrastructure, geo-physical condition and the problems of the area. This chapter ends with a list of projects undertaken for the study area by different line agencies of the government as well as those wished by the stakeholders.

Development Plan Proposals are explained in Chapter-3 and describes the policy framework as provided in the higher level plans. Again, the chapter deals with the planning principles, standards and general development strategies adopted in the plan. Strategies are described under broad heads like drainage, residential development, industrial development, mixed use development, transport and connectivity, flood flow zone, water body and open spaces, amenities and community facilities, environmental management and support to hinterland. Infrastructure proposals are grouped into proposals for Transport facilities, Utility Services and Drainage. Transportation proposals provide a network of road system ensuring sustainable development for the plan period and beyond. About 215 new roads are proposed so that they will be able to adequately handle the trips projected to be generated in the study area. The roads of various widths were proposed to maintain hierarchy and corresponding road sections are also provided. Road section includes adequate space for pedestrian use and utility provision. For convenience of description, the study area has been divided into ten Detailed Planning Zones (DPZ), each of which has been elaborated with a map. According to Detailed Planning Zone, landuse has been proposed in Cpater-3. At the end of this chapter, an Integrated Plan has been presented.

Chapter-4 deals with priorities and phasing of the plan implementation. DMDP Structure Plan phasing was adopted for such design. The DMDP phases are: (i) Short-term, (ii) Medium-term and (iii) Long-term. In DAP, short-term is considered as Phase-I, likewise Medium-term as Phase-II and Long-term as Phase-III. As such the Phase-I covers 2010-2012 period, Phase-II covers 2013-2015 and Phase-III extends beyond the plan period. In prioritizing various uses, stakeholders' desire has been taken into account. Road priority has been fixed on the basis of need. Then landuse classification, their special functions, principal use and accessory uses have been defined in this chapter. The proposed Landuse Zones are: Urban Residential Zone, Rural Settlement Zone, Commercial Zone, Industrial Zone, Mixed use Zone, Flood Flow Zone, etc. This chapter also describes the landuse control procedures. Three-tier permit procedure has been proposed in this chapter. In the first tier, it will be the function of Landuse Permit Planner (LPP), at the mid level Landuse Permit Committee (LPC) and at the top level Nagar Unnayan Committee. Landuse permit procedure has been explained through a flow diagram. For each category of landuse zone, there are certain uses which are their permitted uses and clearance for those uses can be obtained at the first-tier. For uses under conditional use, it will be the function of second-tier. If anyone wants approval for new use or conditional use of that zone, it will be the function of third-tier. However, if anyone is not satisfied with the decision of any tier, he can approach to the next tier for mitigation and finally up to the Court.

Chapter-5 deals with the project plan. The specific projects needed as an Action Area plan and prescribed by the Consultants are incorporated here. Approximate project cost has been calculated according to the project.

Chapter-6 deals with Follow-up Actions to be undertaken by RAJUK in future. The foremost of the actions is strengthening of RAJUK's capacity to perform its development control functions properly all over its jurisdiction. Plan implementation needs people's participation, especially in land development projects. The Consultants strongly feel that successful implementation of the DAP depends on the Action Area Plans to be undertaken by RAJUK after the Detailed Area Plan comes in force. Chapter-7 contains the Concluding Remarks.

In the Detailed Area Plan, Group-A area was considered as the extension of Dhaka's core area within the year 2015. The outlined area has been planned as Growth Center concept prescribed in the DMDP Structure Plan. Those Growth Centers are Tongi, Gazipur, Kaliganj, Rupganj, Pubail, Purbachal and Sitalakkhya. It is considered that, within the year 2015, some of those Growth Centers will be developed as industrial center. At present, the Rupganj, part of Kaliganj and Pubail are agriculturally developed and industrial developments are concentrated in Tongi, centre of Kaliganj and eastern part of Sitalakkhya River. The part of Gazipur is considered as a restricted area and educational centers. The concept presented in the DMDP Structure Plan is also considered for the preparation of Detailed Area Plan.

Chapter-1

BACKGROUND

Chapter - 1
BACKGROUND

1.1 Introduction

The Dhaka Metropolitan Development Plan (DMDP) is a three-tier plan package, such as the Structure Plan, Urban Area Plan and Detailed Area Plan (DAP). The Dhaka Structure Plan (1995-2015) and the Urban Area Plan (1995-2005) were completed under DMDP package during 1992-1995, which was approved and published in the Bangladesh Gazette in 1997. Detailed Area Plan is prepared following the policies and guidelines made in the Structure Plan and Urban Area Plan. This Detailed Area Plan has provided more detailed planning proposals for specific sub-areas of Dhaka Metropolitan areas. The Detailed Area Plan prepared by the local consultants with experienced professionals from different fields viz. urban planning, architecture, engineering, social science, geophysical and environmental science, is expected to sufficiently serve the purpose of the Structure Plan and Urban Area Plan (UAP). The Structure Plan identified 26 Strategic Planning Zones (SPZ) for Urban Area Plan with recommendation for preparation of Detailed Area Plan, gradually covering all the SPZs in succession in conformity to the policies and guidelines contained in Structure Plan and Urban Area Plan.

This Final Plan Report is the 6th of the series of the reports submitted under the tasks of DAP assigned to Group-A area. The first report of the project was the Inception Report that primarily dealt with the approach and methodology of the work highlighting the present scenario of the study area. The second report was study area report (called Report-1) which was about the collection and authentication of Mauza maps, fixation of study area boundary and geo-referencing of maps. The next report was survey report (Report-2) that contained the survey findings and the base maps prepared on the basis of physical survey and also the findings of sample household survey of the study area. Interim Report (Report-3) was the third report that contained description about previous higher level plans, stakeholder consultations, the broad land use plan and policies and the integrated plan. The Draft Plan Report (Report-4) contained the draft plan proposals. The current report is the Final Plan Report that illustrates the detailed area plan proposals, the projects prepared based on the plan, priority and phasing of project implementation and other details of institutional issues. The final report has been prepared incorporating the acceptable amendments receive during public consultations.

1.2 Background

The major factor behind rapid urbanization in Bangladesh has been the rural-urban migration. This phenomenon was little known prior to the partition in 1947. The pace of urbanization slowly picked up speed and reached an unimaginable peak after the War of Independence. This unprecedented growth coupled with the unplanned growth of settlements made the preparation of new urban plan an imperative for fast growing towns. Plans were previously prepared for Dhaka and Chittagong by a British firm of Consultants in 1959. However, this plan though proved useful initially for the purpose of guided development of the cities was soon overtaken by events that could not be foreseen by anybody at the time of their preparation in the fifties of the last century. Dhaka became many times larger than the size visualized earlier and consequently the plans failed in use as the instrument of development control. Necessity of preparation of an up-to-date urban plan became obvious even to the ordinary citizens. However, the bureaucratic red-tapism and a general lack of comprehension regarding plan preparation and implementation caused loss of valuable time. Finally in early 1990s, a new plan was prepared by RAJUK with the assistance of UNDP/UNCHS. Dhaka Metropolitan Development Plan (DMDP) was finally prepared during 1992-95.

The DMDP is a plan, based on modern concepts which differ fundamentally from earlier practice of preparing end-state plans which becomes out-dated in a dynamic growth situation. The DMDP is a three tier plan package namely Structure Plan providing longer time guidance for growth of the cities followed by the Urban Area Plan with shorter time frame providing direction for implementation of the existing urban areas and their immediate surroundings

exhibiting some development pressure. Due to technical reasons the project had to be closed down in 1985 without preparing the Detailed Area Plan component. The Detailed Area Plan was supposed to be based on actual surveys and studies and cover individual parts of town where immediate intervention is needed.

The DMDP Structure Plan sets a 20 year (1995-2015) long term development strategy for metro-Dhaka sub-region of 1525 sq.km. of RAJUK area. The DMDP Structure Plan report identifies the order of magnitude and the direction of anticipated urban growth and sets forth a series of policy guidelines for achieving oveall plan objectives.

As discussed earlier, the DMDP Urban Area Plan (UAP) provides an interim mid-term strategy for 10 years (1995-2005) for the development of urban area within the RAJUK administrative boundary. Detailed Area Plan (DAP), the lowest tier in the three level planning exercise, is basically a local level plan which provides the proposed land use zoning infrastructure and utility services.

The DMDP Consultants prepared the 1st two tiers in considerable details but did not prepare any DAP. However, though late, RAJUK took up the preparation of Detailed Area Plan in one go, although initially the idea was to precede selectively taking the high pressure zones first and then gradually taking up lesser priority zones. This strategy was adapted as Structure Plan accepts and recognizes the uncertainty of future and leaves more detailed problems for resolution nearer the time they occur. This is more applicable for areas where growth of population and economic development cannot be determined with any degree of precision. But events in metro-Dhaka overtook this assumption and it is observed that in reality development has been initiated by private and individual developers in areas designated as low priority, flood flow zones and retention pond reserves. Naturally, it has become an imperative to prepare Detailed Area Plan for whole of metro-Dhaka and this bold decision by RAJUK may prove to be beneficial for the city in the long run.

Dividing the total area under RAJUK jurisdiction into five groups and several locations on the basis of geographical location and settlement pattern, preparation of Detailed Area Plan has been done. This is the culmination of the "three-tier plans" (1995-2015) of Dhaka Metropolitan Area as was originally envisaged.

1.3 Purpose of the Detailed Area Plan

The present status of the planning process demands a detailed analysis of the Strategic Planning Zone (SPZ) areas identified in the Structure Plan and Urban Area Plan. The policies on which the Detailed Area Plan was prepared, are the recommendations made in the Structure Plan as policies and Urban Area Plan as guidelines. These Detailed Area Plans provided more detailed planning proposals for specific sub-areas of Dhaka Metropolitan areas. Objectives of the DAP can be visualized through the following points:

The provision of DAP is inherent in the Structure Plan with some specific purposes. These are:

a. Provide basic infrastructure and services in the study area through systematic planning
b. Create congenial environment to promote economic activities
c. Improve drainage system and protect flood flow zones from encroachment
d. Create service centres to enable growth
e. Serve as a reference document for land clearance and building permission
f. Provide guidelines for public and private investment priorities
g. Provide relevant planning policies for sustainable development
h. Serve as a document for land use and development control

1.4 Objective of the Project

The main objectives of the Detailed Area Plan (DAP) are as follows:

a. To provide a quality urban design having aesthetic, functional and flexible characteristics
b. To develop a programme for public sector action aiming at the implementation of the plan
c. To prepare database and disseminate it in professional manner
d. To provide and guide private sector development
e. To provide clarity and security to future inhabitants and investors
f. To prepare guidelines for future infrastructure development

1.4.1 General Objectives

The general objectives of Detailed Area Plan are envisaged as:

- To implement Structure Plan and Urban Area Plan policies.
- To guide and control urban development in an orderly manner in preferred areas of urban expansion.
- To create an urban environment enabling citizens enjoy the services that suit urban living.

1.4.2 Specific Project Objectives

The objectives specified in the proposal to prepare the Detailed Area Plan are as follows:

- Implementation of Dhaka Metropolitan Development Plan 1995-2015.
- Data Management and Dissemination.
- Preparation of Multi-sector Investment Plan.
- Ensuring Clarity and Security of Investment.
- Providing Guideline for Development.
- Ensuring Sustainable Environment.

1.5 Custodian of the Detailed Area Plan

Rajdhani Unnayan Kartipakkha (RAJUK) is the custodian of the Detailed Area Plan. Duration prescribed in the Structure Plan for the implementation of this Detailed Area Plan is up to the year 2015. RAJUK will guide other authorities to implement their projects according to the Detailed Area Plan and all the physical development activities will follow the proposals prescribed in it. RAJUK may make changes, amendments and alterations of this Detailed Area Plan as and when necessary.

Section 73(1) of the Town Improvement Act, 1953 empowers RAJUK to 'Prepare a Master Plan for the Area within its jurisdiction indicating the manner in which it proposes the land should be used (whether by carrying out thereon development or otherwise) and the stages by which any such development should be carried out. Based on the above empowerment, preparation of three-tier development plans named Structure Plan, Urban Area Plan and Detailed Area Plan projects were prepared by RAJUK and approved by the Government. The Structure Plan and Urban Area Plan were prepared under the guidance of RAJUK and published in the Official Gazette on August 4, 1997 (SRO N.1834-law/97). As the custodian of the three-tier plans including the Detailed Area Plan prepared under the present project, RAJUK has the sole responsibility of development control of its jurisdiction either by itself or with the co-operation of other authorities of the government responsible for carrying out development activities.

1.6 Duration of the Detailed Area Plan (DAP) and Amendment

Usually a plan is prepared for a period of 20 to 25 years. DMDP has been prepared for 20 years covering period spanning 1995-2015. As such, the Detailed Area Plan prepared under this project extends upto 2015. However, every plan requires periodic review and updating which is usually done every five years. The consultants propose that the plan should be reviewed at the end of 2015. At the same time initiative should be taken for review and updating of the plan accordingly at the end of 2015, so that it can be extended for further periods. Section 74(2) of the Town Improvement Act, 1953 also empowers RAJUK to amend its plan time to time. If development trend deserves for preparation of a fresh three-tier development plan, RAJUK may take initiative to prepare a new plan for its jurisdiction and it is in conformity of section 73(1) of the Town Improvement Act, 1953.

1.7 Format of Detailed Area Plan

The format of Detailed Area Plan consists of:

a) Explanatory Report

b) Integrated Planning Map

a. Explanatory Report

The Explanatory Report provides an account of the design process, demographic and socio-economic data, sector-wise and thematic maps, information on higher level planning context and a description of the Integrated Planning Map. The Report contains maps on a scale that is appropriate to the information they carry and convenient for inclusion in a Report (A4 and A3 size).

b. Integrated Planning Map

The Integrated Planning Map shows different layers of information like the cadastral base, administrative boundaries, geo-physical features (contour line, water bodies), infrastructures and existing/proposed land use.

Maps of following description form the component of Integrated Planning Map for the Detailed Area Plan:

Table- 1.1: Required Maps with corresponding Scale

1	a) Base Map (Study Area Map): C.S. Mauza	Scale 1:1980
	b) Base Map (Study Area Map): R.S. Mauza	Scale 1:1980
2	a) Physical Feature Survey (Road+Water Bodies+Floor Heights):	Scale 1:1980
	b) Physical Feature Survey (Road+Water Bodies+Structure Type):	Scale 1:1980
	c) Physical Feature Survey (Road+Water Bodies+ Structure Use):	Scale 1:1980
3	Land Use Survey Map	Scale 1:1980
4	Topographic Survey Map	Scale 1:1980
5	Utility Services Map (Thematic)	
	a) Road Network	Scale 1:990
	b) River / Khal / Drainage (with Road Network)	Scale 1:1980
	c) Gas / Electricity / Water Supply (with Road Network)	Scale 1:1980
6	Comprehensive Detailed Area Plan	Scale 1:3960
7	Comprehensive Detailed Area Plan	Scale 1:1980
8	Project Maps (Identified Projects)	Scale 1:990

Source: Terms of Reference (ToR).DAP

1.8 Description of the Planning Area

RAJUK's jurisdiction extends over approximately 1528 sq. km. (590 sq. miles) comprising of 26 Strategic Planning Zones. For the purpose of preparation of Detailed Area Plan (DAP), the whole of RAJUK area has been divided into five groups and eleven locations. Initial demarcation of the study area is shown in the Study Area Map (Group-A) under Terms of Reference (page 6 of 48). The Terms of Reference further defined the Group-A area in terms of SPZs created under the Dhaka Metropolitan Development Plan and these SPZs are namely SPZ 14, SPZ 14.5, SPZ-15 and SPZ 19. SPZ wise explanation have already been stated in the previous reports (Inception Report and Report-1).The total area under these SPZs are 1,10,090 acres; however, the project area is 1,03,994 acres (less by the area of Purbachal = 6,058 acres). There are five (5) Thanas within this project area namely Rupganj and Sonargaon (Baidya Bazar) of Narayanganj district, Kaliganj, Joydevpur and Gazipur of Gazipur district and there are two recognized Pourashavas namely Gazipur and Tongi. Study Area map showing different administrative boundary is shown in **Map 1.2**. However, in this list the Mouzas under Purbachal project is included. The consultants have identified and separated these overlaying Mouzas and prepared the list of Mouzas which fall exactly within the project.

The study area of Group-A is divided into two regions due to the presence of the Purbachal New Town project in the middle of it. Now it appears to be two distinct areas, one to the north and the other to the south of Purbachal. The northern area includes Tongi Pourashava, Tongi Upazila, Gazipur Pourashava, Joydevpur, Kaliganj Upazila and part of Rupganj Upazila. The southern area is part of Sonargaon Upazila and Rupganj Upazila (Daudpur Union). In demarcating the project area, the Mouzas were not divided, the larger units like Thanas and Unions were divided. However, tendency of breaking the Mouzas in other boundaries was minimized.

1.8.1 Administrative and Cadastral Boundaries

The study area (Group-A) is situated on the north-east part of Dhaka City with the gross area of 1,10,091 acres, consisting of SPZ 14, 14.5, 15 and 19 wherein exists two Pourashavas namely Tongi, Gazipur surrounded by rural settlements and flood plain areas of Balu, Sitalakkhya and Brahmaputra Rivers. A planned neighbourhood named Purbachal (planned by the RAJUK) already exists within the area under study. SPZ 14 includes Tongi (7917 acre), SPZ 14.5 includes Tongi and Gazipur fringe (16500 acre), SPZ 15 includes Gazipur (10993 acre) and SPZ 19 includes Kaliganj, Rupganj and Baidyer Bazar (68583 acre). All SPZs have been divided into 10 Detailed Area Planning Zone (DPZ) for the preparation of an effective Detailed Area Plan. The Study Area and involved Population ins presented in Table-1.2.

Table-1.2: Study Area with involved population

SPZ	Pourashava / Thana	Population		Area in acre	River
		1991 (Total)	2001 (Involved)		
14	Tongi Pourashava	162227	270300	7917.22	Turag
14.5	Tongi-Gazipur Fringe (Pubail)	97599	124859	16500.00	Balu Sitalakkhya
15	Gazipur Pourashava	117129	153263	10993.30	Old
19	RAJUK East (Kaliganj, Rupganj, Baidyer Bazar)	345634	454219	68583.48	Brahmaputra
	Purbachal			6058	
	Total	**722589**	**1002641**	**110052.00**	

Source: Dhaka Metropolitan Development Plan (1995-2015) and Population Statistics, 2001.
Note: Area in acre (involved) is as per the figure presented in the TOR circulated by RAJUK.

In total, 17 Unions are performing their activities as rural Local Government units. There are 365 mouzas and some mouzas are contained in more than one sheets. Those mouza sheets are classified as C.S. and R.S mouza sheets. Total number of mouza sheets is 892 taking into account of both C.S and R.S mouzas.

1.8.2 Geo-physical Profile

a. Geology and Soil

Dhaka district conceives greater variety of soils than any other district of Bangladesh. This fortunate circumstance results from two major causes. First, the district lies at the hub of the Capital City where three major rivers of the territory come together, each depositing its characteristic alluvial sediments. Secondly, considerable areas of older sediments have been uplifted, tectonically, then cut by valleys and have become weathered to varying degrees resulting from improvements in drainage conditions. In general, the soils are young and closely reflect the properties of their parent materials. In the account which follows, the soils of the district are described under the headings of the six major hypsographic units within which the different parent material occur, viz.-i) Madhupur and Bhawal Jungle, ii) Arial Beel, iii) Ganges floodplain, iv) Old Brahmaputra floodplain, v) Jamuna floodplain, and vi) Middle Meghna floodplain.

The Madhupur and Bhawal Jungle tract is like a palimpsest on which is recorded the fascinating history of uplift and subsidence, erosion and deposition, of changes of sea-level and in climate and vegetation, and of man's changing patterns of occupation which have all affected this area over the past several thousand years and have contributed to provide the distinctive aspect it bears today. Not all the story is yet known but considerably more is now known than before as a result of the findings by soil survey of Bangladesh.

The exceptional uniformity of the clay sediments of this area, both laterally and vertically, suggests that they were laid down under tidal or marine conditions, which must have continued without tectonic or other disturbance over a long period of time. The geological age of these sediments is uncertain. On the Geological Map of Bangladesh it is conjectured that they may be of Dupi Tila (Miocene) age. They have generally been called the Pleistocene clays, however.

Following deposition, these sediments were uplifted; not all at once, apparently, but in several stages, and even in several pieces. Earthquakes occurring in Dhaka district in historic times show that this movement is still continuing. The tract now forms a terrace representing a fault block, or series of fault blocks, slightly tilted to the southeast so that the western edge generally stands 3-6 meter above the adjoining floodplains, and the southeastern part is low and has been encroached upon by Old Brahmaputra floodplain sediments.

After uplift there came dissection and the valleys cut into most parts known locally as *baids,* which add so much to the character and charm of the tract today. These valleys are of two kinds; deep and sometimes broad; and shallow, and usually narrow.

Those clays are quite different in appearance and characteristic from adjoining floodplain deposits and appear to be much older than they are. Between Dhaka and Narayanganj, these older deposits are overlaid by Old Brahmaputra alluvium. Characteristic of this soil is light grey, rather silty. Soils of these valleys have nowhere been found overlaying the buried clays and organic layers of the deeper valleys they sometimes run into. From this evidence, it seems probable that the shallow valleys may be older than the deeper ones.

With this chequered history, it is scarcely surprising that soil conditions in the Madhupur Jungle tract are varied and often complex. A surprising range of soils is found, from red lateritic soils at one extreme to almost undeveloped soils of raw Pleistocene clay at the other, with numerous intermediate stages developed between them and also with several kinds of soils occurring in the associated valleys.

The well-known Dhaka red clays are found in almost every Thanas under Group-A. They occupy flat highland areas where deep valleys have dissected the terrace. Because of good drainage, the parent materials have become deeply weathered and oxidized. (This deep weathering probably took place when sea level, and local base level were lower than today, before the valleys were partially filled in to their present level). The soils are relatively mature. In profile,

they consist of a thin brown loamy topsoil overlying a red, friable, clay loam to clay subsoil which at 0.7-1.5 meter grades into a strongly mottled friable to clay substratum with red, brown, drained, but acid in reaction and relatively low in plant nutrients. They are mainly used for jackfruit, mango and other fruit trees, together with *aus, mesta*, mustard, groundnuts and winter vegetables. A few areas remain under forest. Yields of annual crops are often low because of exhausted fertility on long cultivated sites and of doughtiness of the topsoil during dry periods. These soils have good potentiality for improvement, however. With irrigation (perhaps from deep tubewells) and use of fertilizers they could give high yields of crops such as sugarcane, dry-land cereals, fodder grasses and legumes, as well as fruits. Phosphorus fixation can be a problem on these soils, but is easily correctable by placement (instead of broad-casting) of suitable phosphoric fertilizers.

The deep valleys adjoining these red soils typically have very heavy dark grey clay soils, some of them containing buried organic or black clay layers. They are very acid in reaction, although topsoil becomes neutral when submerged. These soils are mainly flooded with 8-15 feet or more deep water during the monsoon season. Most are used for broadcast Aman, but Boro is preferred in the deepest *baids*. Fertilizers could increase yields and the use of better ploughs and heavier animals or tractors would improve seedbed preparation, but the narrowness of most valleys would make further improvement by flood protection and irrigation difficult to provide generally. These soils are only well suited for rice cultivation. Paler coloured soils occupying some deep valleys in various parts of the tract are similar to those to be described below for the shallow valleys.

The shallow *baids*, which occur among the latter group of soils, have light grey; very porous, silty clay loams which grade into grey heavy clay below 2-4 feet. Similar soils occur in deep baids amongst the red soils, too, in a few places. These soils are acidic in reaction, rather low in plant nutrients near the surface and very droughty in the dry season. Flooding depth is mainly 1-3 feet, but up to 8 feet in some larger baids. Transplanted Aman is the major crop, but broadcast Aman is grown in the somewhat deeper baids, sometimes mixed with Aus. Fertilizers could increase yields considerably on these soils. The narrow baids and porous soils would make it difficult to provide large-scale irrigation, but if irrigation could be provided from small tube-wells, a good Aus or jute crop could be grown in some areas, as well as dry season pulses, fodder, wheat, barley, millet or vegetable crops.

North of Tongi and Joydevpur Thana are extensive low-lying flat terrace areas which have olive-yellow heavy clays with thin, grey, silty clay loam topsoil. In the Tongi area, these soils are flooded 1-2 feet deep by rainwater during the monsoon season and are used for Aus and transplanted Aman. Near Dhaka, flooding is 8-12 feet deep and only broadcast Aman is grown. In both areas the soils become very dry in the dry season. Top soils are acidic when dry but neutral when flooded. Subsoil is mainly neutral to moderately alkaline and locally contains lime nodules. These soils are best suited for rice cultivation and are not well suited for dry land crops. Rice yields could be greatly increased by the use of fertilizers. Irrigation (by pumping from the Turag River) would greatly benefit the Tongi soils dry season irrigation (from the Sitalakhya River) would enable high yields of Boro to be obtained. With flood protection and irrigation within the Dhaka–Narayanganj–Demra Project Area, the possibility exists of growing rice at any season of the year on these soils together with jute in the early *kharif* season.

Rivers and Khals are the main hydrological components of the study area. These are found everywhere in the study area. Most of the rivers and khals have lost their flow and got silted up. They are also polluted by industrial waste. Rivers and khals are encroached by permanent and temporary structures at different points. Total length of drainage channel is about 313 km. In Tongi, Gazipur, Kaliganj, Rupganj and Sonargoan, there exist different types of channels of varying lengths of 43 km, 104 km, 53 km, 121 km and 15 km respectively. Only one sluice gate is found which regulate the water flow in the study area. Maximum length of khal (91 km) and river (25 km) is found in Rupganj Thana. There are many natural and artificial drains in the study area. Out of 53 km pucca drains, 17 km drains are in Gazipur Pourashava area and 31 km in Tongi Pourashava area. Others area are not mentioned because those are under semi urban and rural area. Total length of drainage channels of the study area is 313 km. From the survey results, it is clear that in urban area maximum stretches of drainage channel are encroached illegally by local people and these are used for different purposes.

About 200 years ago, main channel of the Brahmaputra River was flowing from eastern side of the Madhupur Jungle tract through Mymensingh and along the northeastern border of Dhaka district down to the junction with the Meghna

River at Bhairab Bazar. A number of distributaries took off from the right bank of the river and crossed Dhaka district, among them are the Bangsi, the Turag, the Balu and the Sitalakkhya.

Since the main flow of the Brahmaputra changed its present Jamuna channel (between 1780 and 1830 A.D), these rivers have become almost inactive. Flood flow from the Brahmaputra still pours down the old channel and through the Sitalakhya River, and these rivers together with the Balu take off local drainage during the monsoon season. The course of the Bangsi through Dhaka district has subsequently been overwhelmed by the Jamuna system, however, and the Turag has been invaded by this system although it has not yet been completely overwhelmed. Other small channels have almost disappeared along parts of their course.

The Sitalakkhya is no longer an active stream although it carries a considerable flow of floodwater during the monsoon season. It carries relatively little sediment, and their course is now stable. The river is tidal throughout the district. Large river steamers and small coastal vessels can reach Narayanganj throughout the year, but the mouth of the river where it joins the Dhaleswari is tending to silt up, and dredging may shortly be required to keep the lower channel navigable.

The Balu runs mainly through the extensive swamps of Bilbelai and that east of Dhaka, joining the Sitalakkhya near Demra. It has a narrow connection through the Suti Nadi near Kapasia with the Sitalakkhya, and also by way of the Tongi River with the Turag; there is also a link with the Sitalakkhya near Kaliganj. Although it carries floodwater from the Sitalakkhya and the Turag at the height of the flood season, the Balu is mainly of importance for local drainage and accessible by small boats.

Drain is a structure that carries water from surrounding areas. A major part of the water is produced by the rainfall runoff and carried by the drain. Drains are classified as Primary, Secondary and Tertiary drain. Primary drains are large in size and may serve an extensive drainage area. A primary drain may connect several secondary drains. A municipal drain may be built of brickwork, RCC and mass concrete; and may be rectangular, triangular and trapezoidal in section. Secondary drain is smaller than primary drain and serves smaller area than main drain. Such drain is made of brick or re-inforced concrete. A secondary drain connects several tertiary drains. Tertiary drain is smaller than a secondary drain and normally smallest in a drainage system. Tertiary drains are normally built of brickwork.

b. Topography

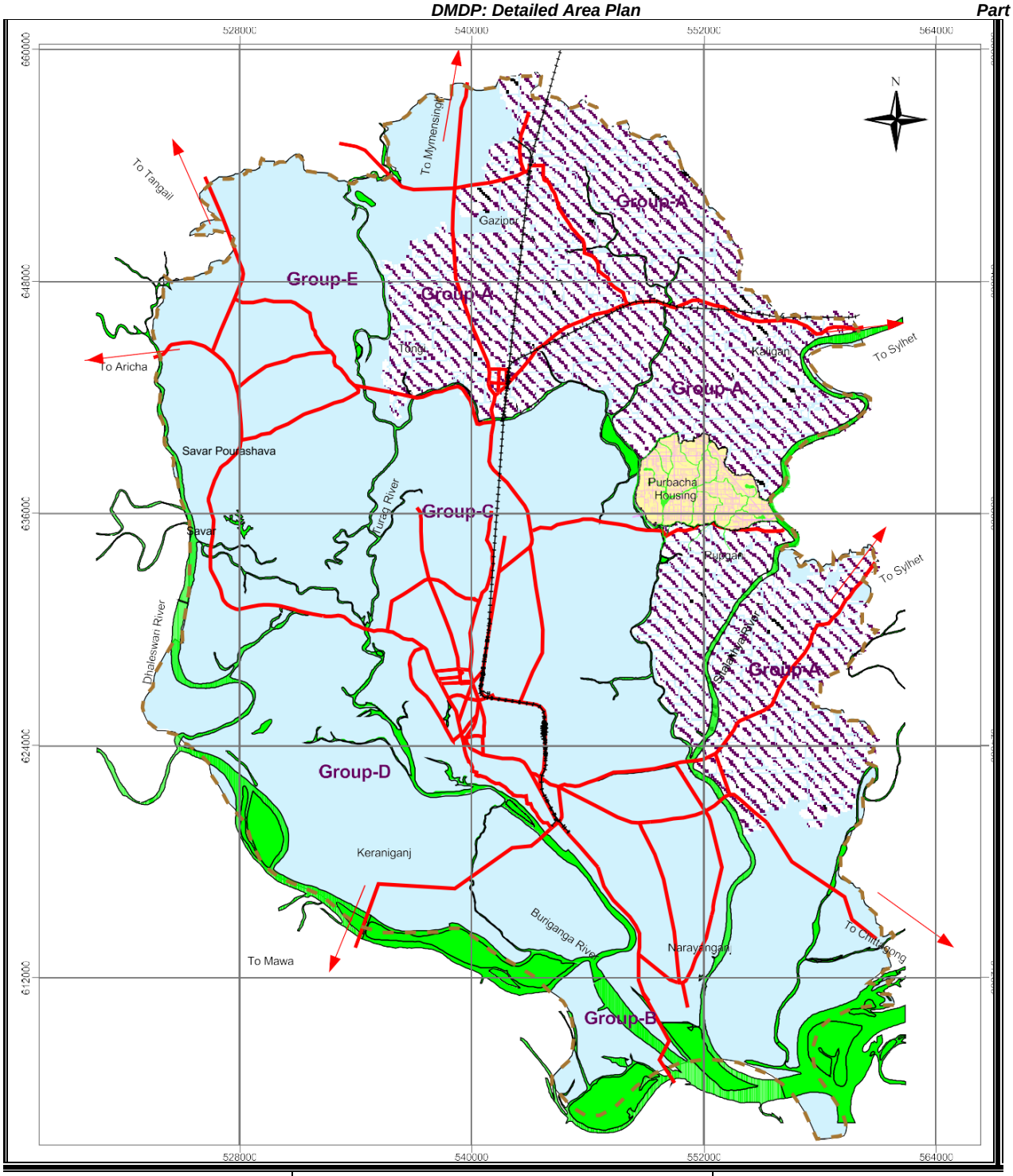
The study area was surveyed with RTK GPS instruments as per specification for spot interval. In total 452,655 spot values were collected. A contour map has been prepared from the spot level values (x, y and z) of the whole study area. In preparing the map, 0.5m vertical intervals of contours are considered. The highest value is 22.5m (Kamargaon mouza in Pubail Union) measured by the Public Works Department (PWD) and the lowest is around 0.5m. PWD (found despersely in the study area). The dense contour areas are generally high lands found in Gazipur, Baria union, some areas of Gachha union and southern part of Pubail Union. Medium dense contour areas have been observed in Pubail, Gachha, Tongi and Nagari union. Around 70% of the spot heights are between 1m to 7m and average height is 5.55m PWD. Details of land levels and spot levels are shown in the Table-1.3.

Table-1.3: Spot value and their unit

Sl. No.	Spot unit	Value
1.	Total spot number	4,52,655
2.	Mean (Meter PWD)	5.55284
3.	Maximum height (Meter PWD)	22.5
4.	Minimum height (Meter PWD)	0.5
5.	Range (m PWD)	0.5-22.5
6.	Variance	9.98762
7.	Standard deviation	3.16032

Source: Topographic Survey, 2005-2006.

MAP 1.1: LOCATION MAP OF PROJECT AREA IN CONTEXT OF DMDP



CLIENT

Government of the People's Republic of Bangladesh
Ministry of Housing and Public Works
Rajdhani Unnayan Kartripakkha (RAJUK)

Reference Bench Mark (BM)

* SOB (JICA)-3407 and SOB (JICA)-3468 for Latitude /Northing & Longitude/Easting
* SOB-542 and SOB-8039 for Reduce Level (RL) adjustment

Projection Parameters

Projection System	:	Bangladesh Transverse Mercator (BTM)
Spheroid	:	Everest 1830
Scale Factor	:	0.9996
Central Meridian	:	90 degree East
False Easting	:	500,000 Meter
False Northing	:	-2000,000 Meter
Latitude of Origion	:	0 degree (Equator)
Seven-parameters for User Defined Datum	:	283.729, 735.942, 261.143, 0.0, 0.0, 0.0, 1.0

LEGEND

- DMDP Boundary
- Main Road Network
- Rail line
- DMDP River
- Purbachal Housing (RAJUK)
- Project Area (Group -A)

NOTES

Data Source

GPS & Total Station based advanced topographic physical feature and landuse survey conducted by Development Design Consultants

The terrace topography of the study area is not flat but consists of ridges separated by a close pattern of shallow baids. Such areas occur extensively in Joydevpur and Kaliganj Thanas and locally in Rupganj Thana. Three main highland soils occur in such areas. The major one on stepping areas is a reddish brown to yellow-brown clay much less friable than the Dhaka red clays. This is usually intermixed with pale brown, very porous, silty clay loams. On small flat areas at the heads occur pale grey (almost white) very porous, silty clay loams, which, because of the bunds made by farmers are shallowly flooded with rainwater during the monsoon season. All these soils overlie grey, very heavy and impervious, unaltered Pleistocene clay at only 12-30 inches. All are rather acid and the paler coloured soils at least appear to be low in plant nutrients. The red and brown soil has mainly been left under gajari sal forest. This is their best use since these are poor agricultural soils. Where cultivation has been attempted, poor yields have been obtained and most such areas are now used as poor grazing land. The grey soils are used for Aus and transplanted Aman. Yields could be considerably improved by use of fertilizers, and, with irrigation (from tube wells), good crops could be produced throughout the year.

a. Climate

The climate of the project area is generally moderate. Maximum mean monthly temperature of 26.3^{0}c is found in the month of August while minimum mean temperature of 12.7^{0}c is found in the month of January. Summer begins from late March and continues till August. The monthly mean temperature and rainfall are presented in the Table-1.4

Table-1.4: Mean Monthly Rainfall and Temperature

Month	Rainfall (mm)	Temperature (^{0}c)
January	07	12.7
February	24	15.6
March	64	20.5
April	146	23.6
May	330	24.5
June	336	26.1
July	367	26.2
August	303	26.3
September	302	25.8
October	176	23.0
November	33	19.3
December	12	14.2

Source: Bangladesh Meteorological Department.

b. Geological Fault

From geological setting and topography, it is clear that Dhaka City and its surrounding area have experienced major and minor faulting at different times. During field investigations, a sharp lithological change has been observed in Dhaka City and its surroundings. There are many evidences of down-thrown blocks of the fault. Except for rapid subsidence there is also evidence of a sharp lateral contract between layers. Considering various facts, it may be inferred that there is a displacement due to faulting. The north-south trend is considered to be the probable alignment of this fault.

Tongi and Gazipur are more or less free from any fault line. The area lies between Banar fault (in the east) and Turag fault (in the west). However, the study area falls in the earthquake Zone-2 of the seismic map of Bangladesh. Besides main sediments in many parts, the study area is poorly compacted, highly plastic and with collapsible thick peat and organic clay layers. With the presence of organic layers and sediments with low compaction, the area is considered to be of a weaker foundation layer.

Any civil construction needs very careful attention and special foundation treatment as well as appropriate foundation design is recommended. Provisions of BC Rules 1996 and BNBC 1993 have to be strictly followed.

1.9 Review of Previous Plans and Proposals

Previous higher-level plans are Dacca Master Plan 1959 and Dhaka Metropolitan Development Plan 1995-2015. The Dacca Master Plan was prepared in 1959 under the supervision of Dhaka Improvement Trust (DIT). The area of that Master Plan was 220 sq. mile and its population was about 10,00,000. The Dhaka Metropolitan Area Integrated Urban Development Planning Study (DMAIUDP) was undertaken by the Government in 1981, which provides a useful summary of the nature of strategic planning and structure plans for Dhaka City. In 1995, RAJUK prepared a DMDP plan package and its area was 590 sq. miles. It is a long-term strategy for 20 years (1995-2015).

1.9.1 Dacca Master Plan, 1959

The Dacca Master Plan 1959 covered the then Dhaka Improvement Trust (DIT) area roughly 220 sq miles, with a population slightly exceeding 1 million. Of this population, approximately 575,000 were in Dhaka City Corporation Area. The Dacca Master Plan comprised of a a short report supplemented by a map of the DIT area at 1:3960 scale and a map of the Dhaka City Corporation Area to a scale of approximately 1:20,000.

a. Relevant Recommendations

A major part of the current study area was actually outside the Dacca Master Plan 1959. The Master Plan covered an area of 220 sq. mile including Dhaka, Narayanganj and Tongi Pourashava and their surroundings. The Tongi Municipality and some part of Rupganj Thana were under the Master Plan 1959 area. A proper review of those areas as prescribed in the Master plan of 1959 was not followed within the specific time frame. As a result, those areas, due to the closeness of Dhaka City, continued to be developed in an unplanned way. On the other hand, part of Keraniganj included in the Master Plan of 1959 developed as a mixed residential area though in the Master Plan it was proposed as a reclamation area. Due to shortfall of review in proper timeframe, the Master Plan of 1959 could not carry out proper planning and development control of the rapid development demand of Dhaka City.

b. Application of the Master Plan for Dhaka, 1959

Lack of importance to Urban Planning at policy level:

At policy level, less importance was laid on urban planning. This attitude was reflected in allocation of funds for urban planning and development and restructuring and strengthening of urban planning institutions. Due to weak institutional support, implementation of plans and their timely amendment were hampered. The Town Planning Department of RAJUK lacked manpower for undertaking plan based projects and other plan amendments activities. Failure to undertake these initiatives seriously affected plan implementation.

Rigidity of the Master Plan: It was considered for a long time that Master Plan is a rigid concept. Any modification of the plan proposal requires a lengthy process of project formulation-approval-fund allocation scenario. Though many initiatives were taken for amendment of the plan but at many stages continuity were lost, as a result project could not be approved for amendment and proposal implementation. Failure to amend the plan proposals caused many of the plan proposals to turn obsolete over the time.

Scarcity of resources: There has been acute shortage of resources for execution of development activities in various sectors of the economy. Agriculture and industrial development were priority sectors of development. So, government allocated meager funds for urban development projects. This policy of the government appeared to have hampered implementation of Dhaka Master Plan development proposals.

1.9.2 Dhaka Metropolitan Area Integrated Urban Development Project (DMAIUDP)

a. Relevant Recommendations

The DMAIUDP Study, prepared in 1981, evolved from a series of Report and Missions concerned with storm water drainage and flood protection. The Study was funded jointly by ADB and UNDP. ADB strongly recommended that further flood protection investment should await the outcome of a broad multi-sectoral strategic study to evaluate

metropolitan planning options.

b. Application of DMAIUDP

The DMAIUDP Study projects a coherent case for a strategy of long-term northern expansion, to accommodate an urbanized population of approximately 9 million by the year 2000. The strategy has partly been undertaken by events, however, a number of DMAIUDP Study assumptions have proved to be accurate and the Study still provides a comprehensive and widely used and useful database. It remains still to be a dependable statement of the urban development issues facing Dhaka.

1.9.3 DMDP Structure Plan and Urban Area Plan

a. Relevant Recommendations

The DMDP Structure Plan provides a long-term strategy for 20 years (1995 to 2015) for the development of the greater Dhaka sub-region. For the purposes of these plans and reports, the term “Metro Dhaka” refers to the 590 square mile area.

The DMDP Structure Plan consists of a written report and policy document with various support maps and a 1:50,000 or as appropriate scale composite map. The report identifies the order-of-magnitude and direction of anticipated urban growth and defines a broad set of policies considered necessary to achieve the overall plan objectives.

The DMDP Structure Plan, both in its preparatory and implementation stages, aims to provide a coordinated and consistent framework for the development of the plans and programs of all public and private sector agencies within the metropolitan area and to:

- Bring the main planning issues of the Metropolitan area to the attention of the Government, other public and private sector agencies, vested interest group and the public at large. The broad message and strategic intent of the Structure Plan needs wide dissemination.
- Provide the framework for local plans. The Structure Plan set the context for the preparation of Detailed Area Plans and Local Plans as appropriate, including the identification of development themes and specific areas in need of immediate/short term action.
- Provide guidance for development management. The Structure Plan provides the basis for development management at the broad metropolitan level, via management policies for items of strategic and structural importance. The DMDP Structure Plan does not include detailed development management policies of standards.

The DMDP Urban Area Plan (UAP) provides an interim mid-term strategy for 10 years (1995 to 2005) and covers for the development of urban areas within Metro Dhaka management area. The geographic boundaries of the Urban Area Plan are the areas within the proposed Flood Action Plan (FAP) components 8A and 8B as well as the Tongi-Gazipur and Savar-Dhamsona areas. The DMDP Urban Area Plan has several parts consisting of an Explanatory Report, Resource Maps, Interim Management Report, Interim Planning Rules, Urban Area Plan Map and a Multi-Sectoral Investment Program.

b. Application of Structure Plan and Urban Area Plan

A Structure plan differs from the older style master plan by concentrating only on the broad structure of the city. It is not considered as Master Plan with either the detail of the physical layout of the city or detail of individual development areas, which cannot be implemented until the later stages of the plan period.

Inappropriate and variance with the strategy and structure plan approach, it would not be possible to determine the detailed landuse and development implied by a master plan over such a long time scale, bearing in mind the uncertainties associated with economic and population growth. Its preparation would in addition be very time-consuming and would in the current situation be an irresponsible use of skilled manpower to little purpose. What is required the production of more limited area specific plans where action can be contemplated within a relatively short time when standards and available resources can be more readily foreseen.

The Structure Plan covers whole of RAJUK's development control area. The DMDP Structure Plan functions are as follows:

- Act on national policies;
- Establish aims, policies and general proposals to guide Metropolitan Dhaka's long term growth and development;
- Provide a framework and mechanisms necessary to ensure all public and private sector agencies coordinate and priorities their respective development planning and investment programs and decisions within the metropolitan area in particular, and appropriate phasing of development.

c. Flood Protection Embankments and Floodwalls

Urban areas need protection from flood from the neighboring and outside rivers. Unprecedented flood of 1988 in Dhaka city necessitates the study to protect urban area, and Flood Action Plan (FAP) study and findings recommended FAP-8A and FAP-8B embankments and major drainage related infrastructures. FAP-8B as immediate need to protect major urban areas of Dhaka city was implemented by constructing embankment from Tongi Bridge to Lalbag Thana with Pump stations, drainage sluices and gates, etc. The existing Buckland Bundh and the Pragati Sarani from Buriganga 1st Bridge to Tongi creates natural barrier of flood from Sitalakkhya River. However, FAP-8A has proposed embankment to protect new areas (SPZ 13, 12 and 11 areas).

1.10 Public Consultation

Public consultation is an essential element of modern planning. Public consultation helps to get the pulse about the aspirations of the stakeholders regarding spatial development. In order to prepare the plan in line with the desire of the people several formal and informal meetings were arranged with the stakeholders. In the initial stage stakeholders were appraised about the techniques of the plan preparation process and in the later stage the discussions were made on the draft plan. A brief description of such meetings are as follows.

1.10.1 Consultation with Local Government Authorities

Local Government Authorities namely Dhaka City Corporation, Gazipur Pourashava, Tongi Pourashava, Kaliganj Thana, Rupganj Thana, concerned Union Parishads were involved in the consultation with the consultants.

1.10.2 Consultation with Different Communities

Besides Public Hearing, consultation with different communities was held, The following organizations were consulted:

1. Academics: Department of Urban and Regional Planning of BUET, JU and Department of Urban and rural Planning of KU
2. Professional body: Bangladesh Institute of Planners, Institute of Architects Bangladesh
3. Study groups: Center for Urban Studies (CUS).
4. Business group: FBCCI, DCCI, REHAB, BLDA, Dhaka Mohanagar Somitee
5. Media: The Daily Inqilab, The Daily Naya Diganta, The Daily Sambad

Outcome of such consultation was as follows:

1. DCC Mayor desires Plans to be prepared for 50-100 years
2. Academics want protection of Flood Flow Zones at any cost, protection of agriculture area, separation of Rural Settlement from agriculture
3. DCCI appreciated the treatment of industrial use
4. Pourashavas: Retain their development control right in the form of issuance of Planning Permit
5. Affected People: Don't want wider roads and civic facilities which will evict them from their land without resettlement.

1.10.3 Public Hearing

As per section 73(4) of Town Improvement (TI) Act 1953, RAJUK carried out a two month long Public Hearing on the Detailed Area Plan from October 5, 2008 to December 4, 2008. The Public Hearing was carried out through:

- Media Coverage
  - Print
  - Electronic
- Press Conference
- Web based Publication
- Display of Maps (Hard Copy) at various strategic locations viz.
  - RAJUK Auditorium
  - DAP, PD Office, RAJUK
  - RAJUK Zonal Office at Dhanmandi
  - RAJUK Zonal Office at Mohakhali
  - RAJUK Zonal Office at Uttara
- Explain different aspects of the Plan to the stakeholders by experts
- Digital Display upto individual Mauza Plot level in GIS Platform
- Collection of Complaints in prescribed format and preparation of checklist
- Collection of Complaints in the form of letter to Chairman/P.D.

A total of 5,326 complaints / comments were made on the plans of Group-A area by individuals, groups, institutions / organizations, local co-operatives and Private Developers. Most of the complaints were related to proposed road network. For fear of eviction, the land owners of the plots over which new roads have been proposed have made complaints in very large numbers. However, quite a good number of people also appreciated the plan and wanted its early implementation.

1.10.4 Consultation with Public Representatives

A large number of Public Representatives have provided their suggestions during last six months. Those representatives are Honourable Members of Parliament and Ministers. Most of those representatives suggested to

complete the DAP within stipulated time period and advised RAJUK to save Dhaka from unplanned trend of development. Excepting this, the representatives made valuable suggestions on environment pollution, indiscriminate land filling, expansion of central area of Dhaka City towards north and south in a planned manner, improvement of drainage system of central Dhaka and at the same time fringe areas and industrial development in specific locations.

1.11 Draft DAP Review by Review Committee

To give utmost priority to environmental issues and also to ensure meaningful civil society participation in plan making process, RAJUK formed a 13-member Technical Working Group (TWG) Committee representing various professional groups and environmental activists. The TWG diligently examined the various aspects of the plan proposals including the environmental issues. In the meantime, a 2-month long public hearing was going on the plan to seek public opinion as per binding provision. A series of tripartite meetings were held with representatives from RAJUK, Consultants and the TWG. The major observation of the TWG covered the following issues:

i. Population projection issue
ii. Conformity of the proposed landuse of DAP with DMDP and planning principles and norms
iii. Standards for amenities
iv. Issue of transportation
v. Development management tools/strategies
iv. Issue of Data discrepancy

On the recommendation of TWG, the Review Committee (RC) finalized their report on March 30, 2009. But the consultants were of different opinion about it and it was decided to resolve the issue through discussion among the RC, RAJUK and the Consultants. Accordingly a series of tripartite meetings were arranged and finally the matter was resolved through consensus reached by all the three parties. According to such consensus, following decision were made.

- **Population** : Population for 2015 shall be projected on the basis of:
  - Population of 2001 considered as 10.24 Million.
  - Population for 2015 accepted as 18.43 Million.
  - Overall Annual Growth Rate shall be considered as 4.29 %.
- **Rural Homestead Zone**: A new zone named Rural Homestead Zone shall be created to accommodate and confine traditional rural settlements*.

  (Later to include Growth Centers it was renamed as Rural Settlement Zone)*
- **Flood Flow Zone** : Since all the structures have been contained within newly created Rural Homestead Zone, the remaining parts of Main Flood Flow and Sub Flood Flow zone become one and therefore merged into one unified zone namely Flood Flow Zone.

- **Agricultural Zone**
  - High value Agricultural Zone and Agricultural Zone shall be merged into one zone namely Agricultural Zone due to their uniform and similar landuse control requirement.
  - Any further use that does not conform to the Agricultural Zones shall be strictly prohibited.
- **Retention Ponds & Canals**
  - Retention Pond as provided by the consultants in the form of canals at DND and the Eastern Fringe may be maintained as they comply with the Structure Plan & Urban Area Plan.
  - Retention Pond as provided by the consultants at the outskirts of the Eastern Fringe alongside the embankment to ease pumping out of water may be maintained.
  - Canal Network at the Eastern Fringe may be improved by creating inter- links among them.
  - Canals for drainage of Eastern Fringe as per Halcrow Study will work but FAP 8A proposed Retention Area may be kept as a further caution.

- **Road Network**
  - Grid Iron pattern for main roads (down to secondary roads) as proposed by the Consultantsmay be provided.
  - Crossing the canals by main roads (down to secondary roads) as proposed by the Consultants may be provided.
  - Regional Road over Retention Pond on viaduct may be provided.
- **Urban Deferred** : Since DAP projected population for 2015 is more than the estimated populationof the Structure Plan, no part of the area designated as urban in the Structure Plan is required to beshown as urban deferred.
- **Standards**
  - Amenity Standards as set by the DAP Consultants are acceptable.
  - Standard of Regional Parks and Open Spaces within DMDP will be 0.28 acres /1,000 people.
  - Spaces for the Universities to be earmarked in suitable locations within DMDP jurisdiction.
- **Existing Non Complied Uses**
  - The use/function that do not comply with the designated landuse category shall be either of the following types:
    - **Overlay Zone:** Non-complied use/function that DAP allows to continue in its present use.
    - **Non-conforming Use/Site**: Non-complied use/function that DAP does not allow to continue in its present use and fixes time frame for its discontinuation based on the nature and extent of its potential adverse effect on the underlying land use.
  - Non-conforming uses/functions may be described as follows:
    - RAJUK's Own Project
    - Facilities Owned by Government/ Semi-government and/or Autonomous Body.
    - Private Projects.

1.12 Draft DAP Review by DAP PORJALOCHANA Committee

Ministry of Housing and Public Works vide a notice No. Gri o pu ma/Pari-3/1(5)/2001(Part-3)43 dated 7-3-2010 constituted a DAP PORJALOCHANA Committee with the following members to verify the compliance status of the recommendations made by the previous Review Committee according to a ToR.

a.	Prof. Dr. Jamilur Reza Chowdhury	: ConvenerFormer VC, BRAC University
b.	Prof. Nazrul Islam, Chairman	: MemberUniversity Grants Commission
c.	Prof. Sarwar Jahan, President	: MemberBangladesh Institute of Planners
d.	Ms. Rezwana Hasan	: MemberChief Executive Director, BELA
e.	Architect Iqbal Habib	: MemberJt.Secretary, BAPA
f.	Project Director, Detailed Area Plan Member SecretaryRAJUK, Dhaka.	:

The committee reviewed the status of the Draft DAP in view of the recommendations of the previous Review Committee in four separate meetings held on 16-03-2010, 25-03-2010, 01-04-2010 and 11-04-2010 in the RAJUK Board Room. The committee ultimately made 36 point recommendations to be followed by the consultants. The committee also recommended that on compliance of these recommendations made by the PORJALOCHANA Committee, the Draft DAP may be accepted by the Ministry.