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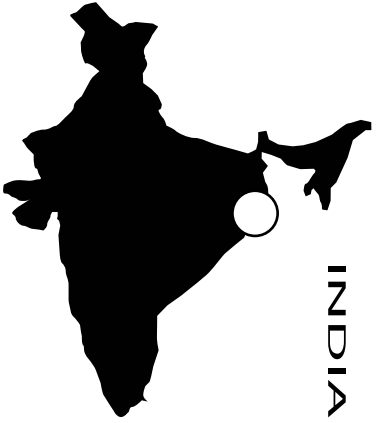
THE KOLKATA STUDIO

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Contemporary City Institute

A PLAN FOR 15 MILLION



INDIA



WEST BENGAL



KMA
Kolkata Metropolitan Area

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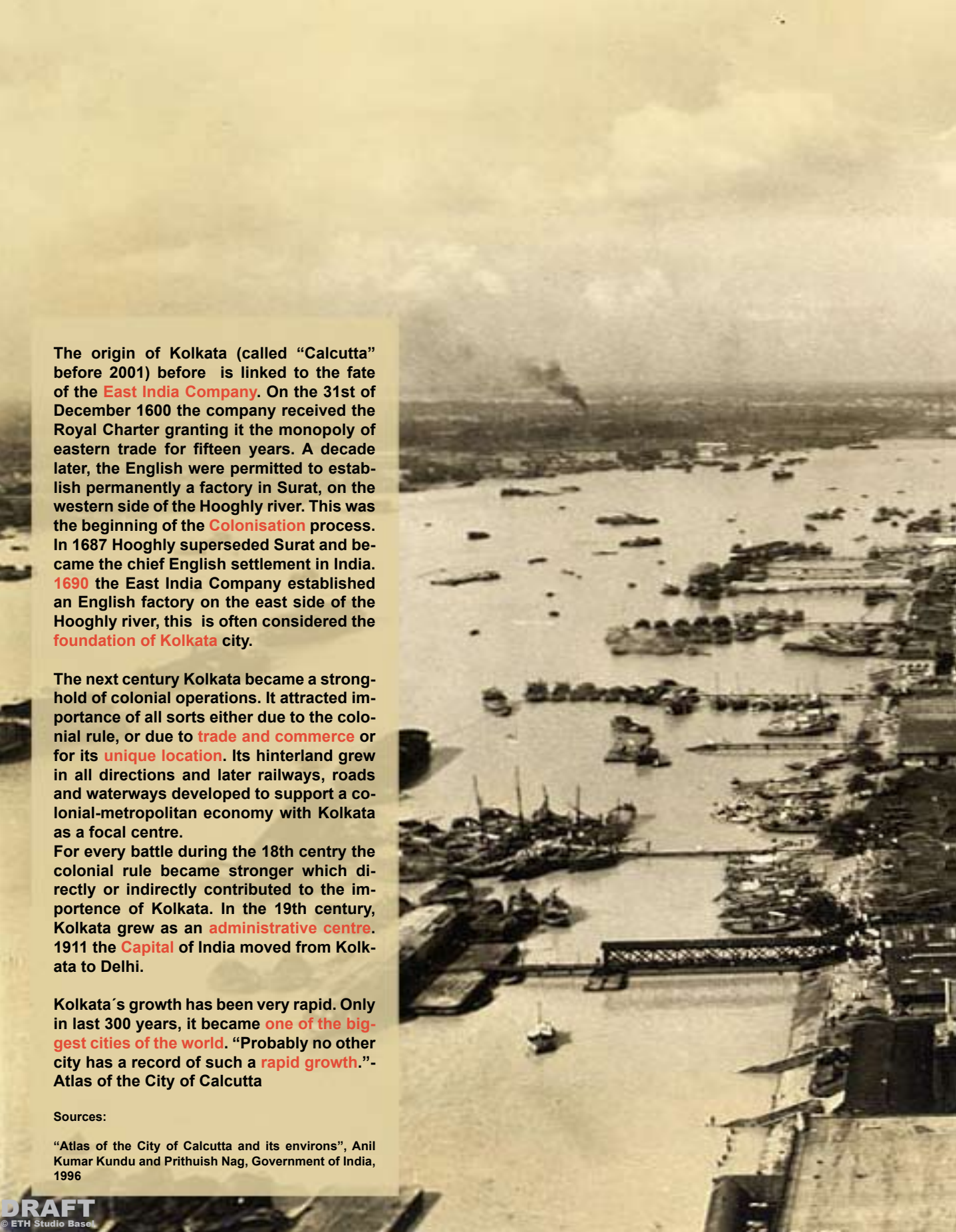
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HISTORY

An aerial photograph of a large harbor, likely the Hooghly River in Kolkata. The water is filled with numerous boats of various sizes, including sailing vessels and larger steamships. A prominent bridge with a lattice structure spans across the river in the lower right quadrant. The background shows a hazy cityscape under a cloudy sky.

The origin of Kolkata (called “Calcutta” before 2001) before is linked to the fate of the **East India Company**. On the 31st of December 1600 the company received the Royal Charter granting it the monopoly of eastern trade for fifteen years. A decade later, the English were permitted to establish permanently a factory in Surat, on the western side of the Hooghly river. This was the beginning of the **Colonisation** process. In 1687 Hooghly superseded Surat and became the chief English settlement in India. **1690** the East India Company established an English factory on the east side of the Hooghly river, this is often considered the **foundation of Kolkata** city.

The next century Kolkata became a stronghold of colonial operations. It attracted importance of all sorts either due to the colonial rule, or due to **trade and commerce** or for its **unique location**. Its hinterland grew in all directions and later railways, roads and waterways developed to support a colonial-metropolitan economy with Kolkata as a focal centre.

For every battle during the 18th century the colonial rule became stronger which directly or indirectly contributed to the importance of Kolkata. In the 19th century, Kolkata grew as an **administrative centre**. **1911** the **Capital** of India moved from Kolkata to Delhi.

Kolkata’s growth has been very rapid. Only in last 300 years, it became **one of the biggest cities of the world**. “Probably no other city has a record of such a **rapid growth**.”- Atlas of the City of Calcutta

Sources:

“Atlas of the City of Calcutta and its environs”, Anil Kumar Kundu and Prithuish Nag, Government of India, 1996



Hooghly river and part of Calcutta's East Bank

Source: www.flickr.com

ORIGIN

In August 1690, when Job Charnock was looking for a good landing place on the Hooghly to set up an outpost of the East India Company, the present site of Kolkata was possibly the best available. Thus Kolkata started to grow around the harbour and fort and the three **existing villages of Sutani, Kalikata and Gobindapur**.

STRATEGIC SITE AND DEFENCE

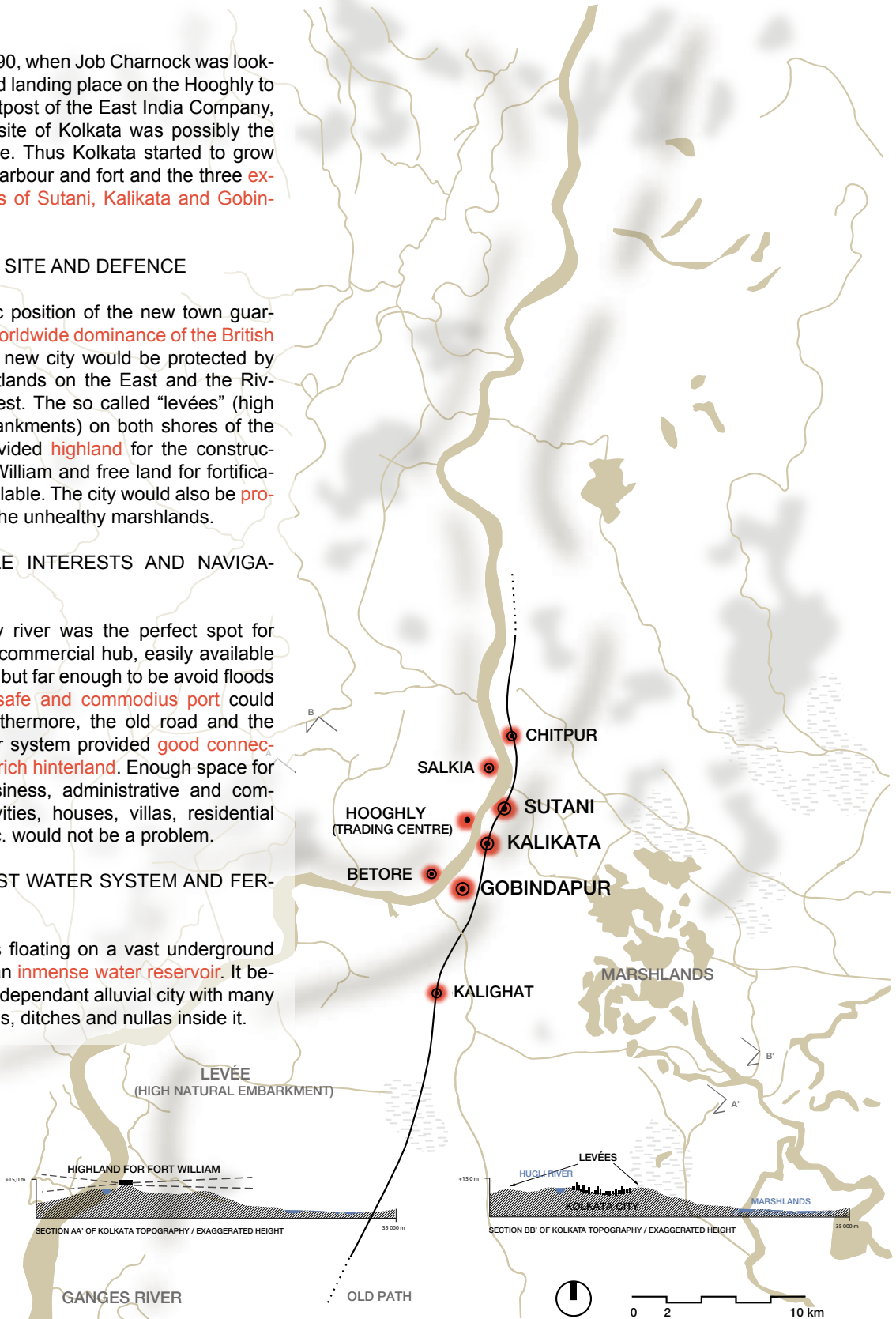
The strategic position of the new town guaranteed the **worldwide dominance of the British Empire**. The new city would be protected by both the wetlands on the East and the River on the West. The so called "levées" (high natural embankments) on both shores of the Hooghly provided **highland** for the construction of Fort William and free land for fortification was available. The city would also be **protected** from the unhealthy marshlands.

MERCANTILE INTERESTS AND NAVIGATION

The Hooghly river was the perfect spot for setting up a commercial hub, easily available from the sea but far enough to be avoid floods (130km). A **safe and commodious port** could be built. Furthermore, the old road and the natural water system provided **good connection with the rich hinterland**. Enough space for massive business, administrative and commercial activities, houses, villas, residential quarters, etc. would not be a problem.

THE RICHEST WATER SYSTEM AND FERTILE LAND

The city was floating on a vast underground sea, above an **immense water reservoir**. It became a river dependant alluvial city with many creeks, ponds, ditches and nullas inside it.

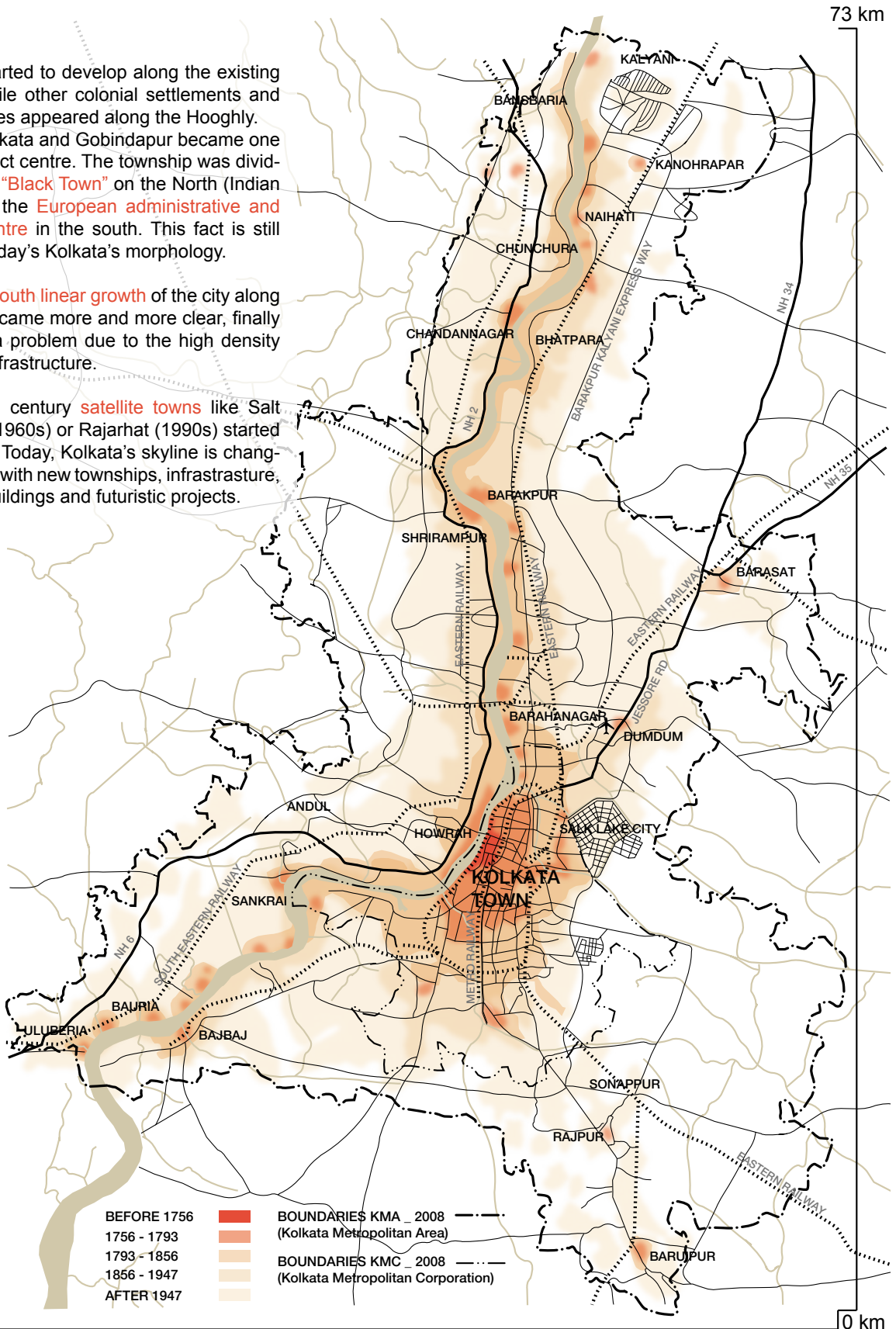


GROWTH

The city started to develop along the existing villages while other colonial settlements and small villages appeared along the Hooghly. Sutani, Kalikata and Gobindapur became one only compact centre. The township was divided with the “Black Town” on the North (Indian Town) and the European administrative and colonial centre in the south. This fact is still visible in today’s Kolkata’s morphology.

The north-south linear growth of the city along the river became more and more clear, finally becoming a problem due to the high density and poor infrastructure.

In the 20th century satellite towns like Salt Lake City (1960s) or Rajarhat (1990s) started to develop. Today, Kolkata’s skyline is changing steadily with new townships, infrastructure, high-rise buildings and futuristic projects.



55 km

0 km



1730_Fort William



Fort William, built in 1698



1756_East Tank Square



General Post Office, built in 1868



18th century_early view of Kolkata



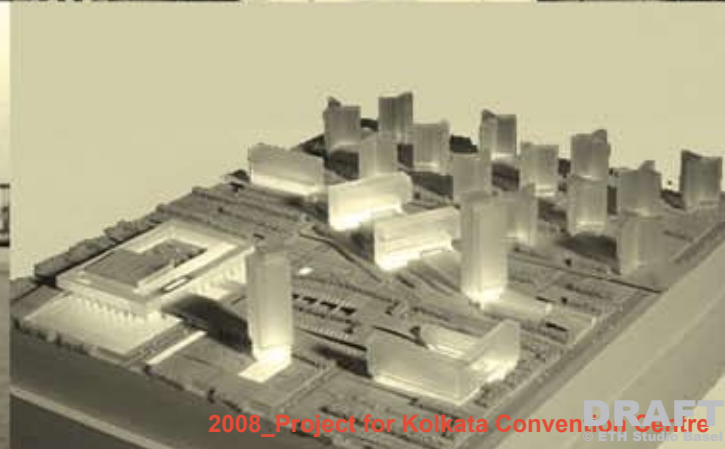
Writer's Building, 1780



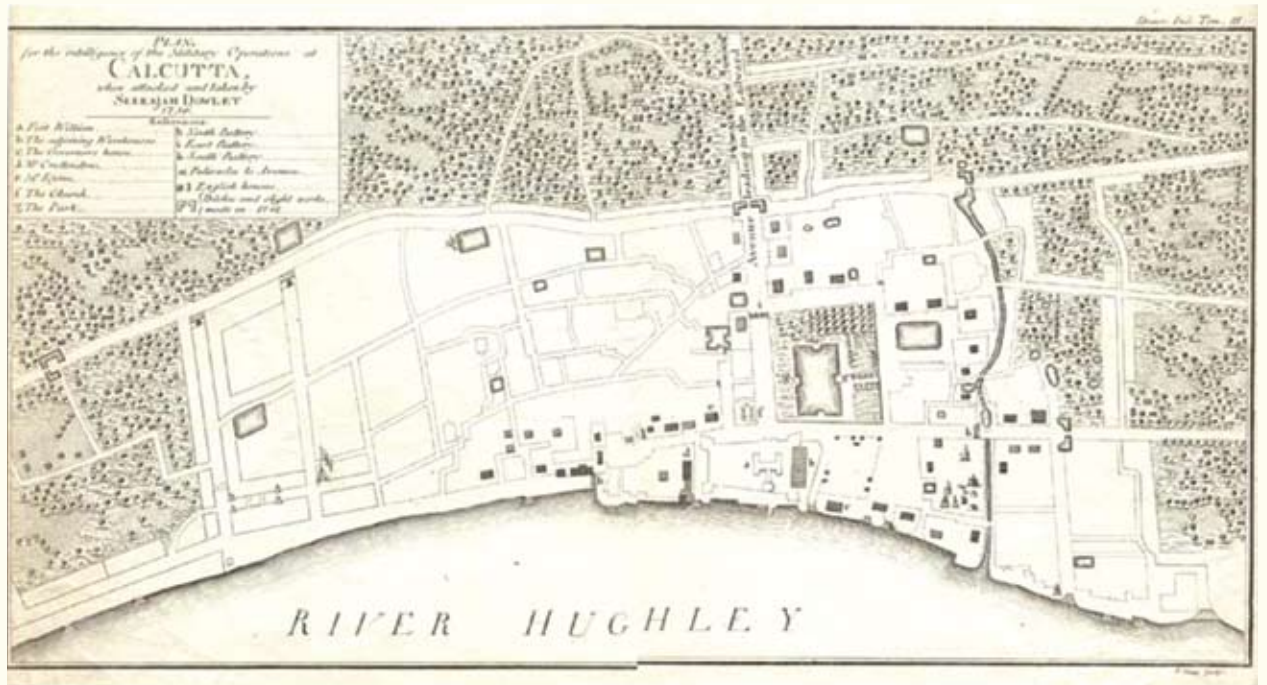
1788_Calcutta Institutional Centre



1788_Old Court House



1756



1756 _ Map of Calcutta

Colonial centre with administrative buildings. Open spaces were planned according to British urban planning.

1839



1839 _ Map of Calcutta

The city started to grow over the historical centre and developing along the western side of the Hooghly river.

1940s



Esplanade (BBD Bagh, former Dalhousie Square), built in 1839

This BBD.Bagh (Benoy, Badal and Dinesh) esplanade is located in the heart of the city and is one of the busiest portions. It is the frame for many famous buildings, important businesses and banks, for example the Writer's Building, the Royal Exchange offices, the General Post Office or St. John's Church.

1940s



Chowringhee Street (today: Jawaharlal Nehru Road), built in 1760s

1762 Clearance of the jungle to build the Chowringhee road, which has today become an inner circular road around the colonial centre. The arterial road running from the eastern fringes of Esplanade southwards up to the crossing with Lower Circular Road is historically the single most important road of the metropolis.

1940s



Source: www.flickr.com

New Howrah Station, built in 1905

1954 the first station opened only for goods transportation. 1980s the station took in also people transport. 1905 the Government decided to build the current large building which is still today Kolkata's most important transportation hub.

1940s



Source: www.flickr.com

Opening of the Howrah Bridge (Rabindra Setu), built in 1941

The bridge was during long time the only link with the other side of the river. In spite of the construction of a new bridge further south, Howrah Bridge continues to be the most affluent with around 4,000,000 pedestrians and over 150,000 vehicles crossing it daily. This fact can be explained with its direct connection to Howrah station. The bridge has become a symbol for the city.

THE GROWTH PARADOX

Exodus

An Amputated City

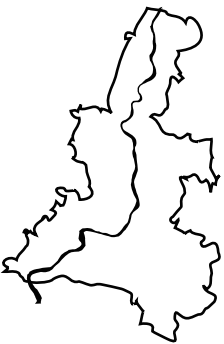
Towards East



INDIA



WEST BENGAL



KMA
Kolkata Metropolitan Area

THE GROWTH PARADOX

Exodus

An Amputated City

Towards East



Kolkata will have **21 million** den
inhabitants in 20
“ a true **metropolis**” the **city** centre with 11% of the
among the **highest densities** in the world
a metropolitan area of 1851.41 sq.km
ities in the world **second largest** metropolitan area in India





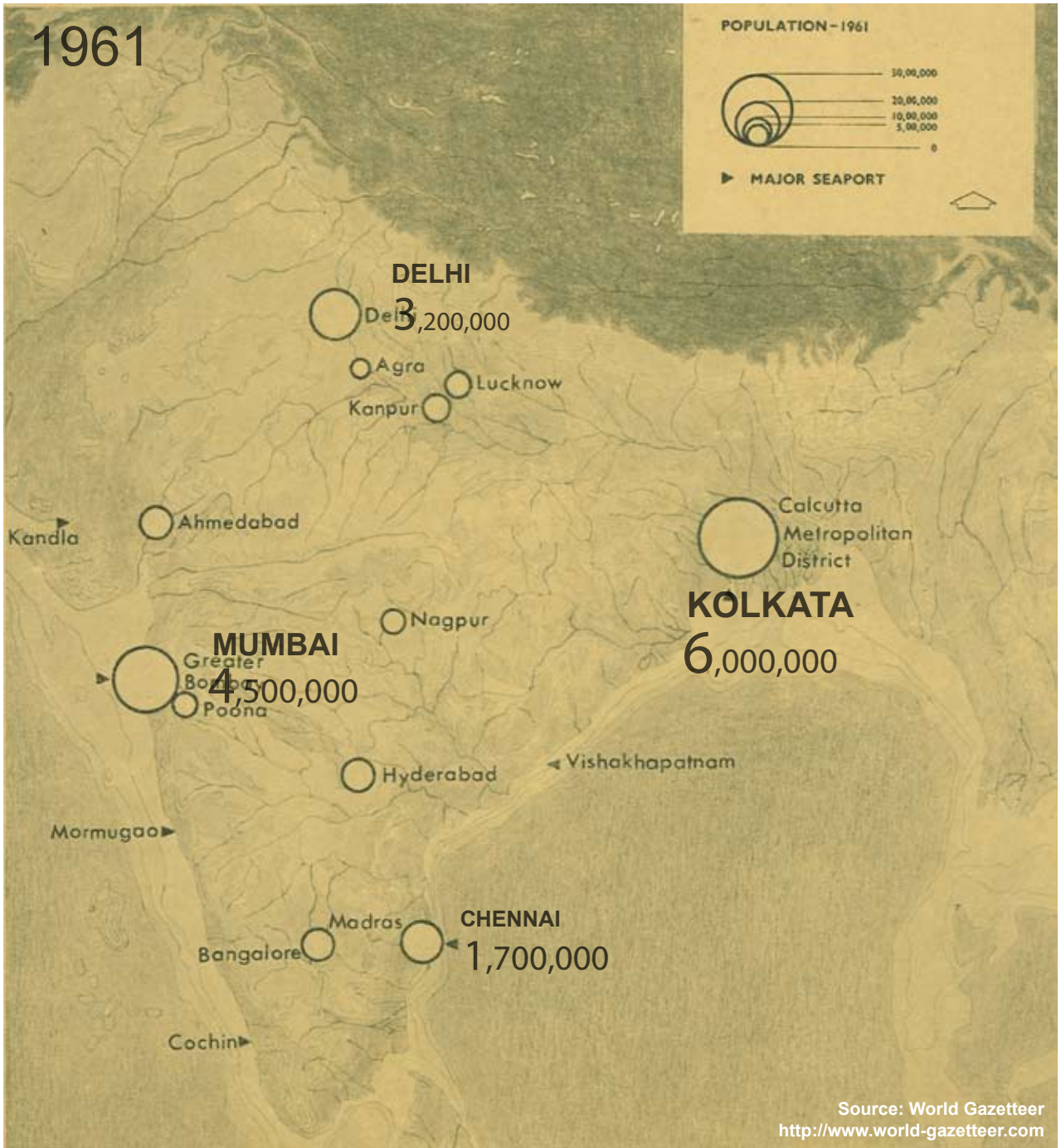
density of 25,000 persons per sq.km. “mammoth **growth**”
2025 the **population** of KMA has risen 16.46% over the last decade

metropolitan area has over 33% of its **population** **kolk**

14.7 tenth largest metropolitan area in the world
million in 2001 census



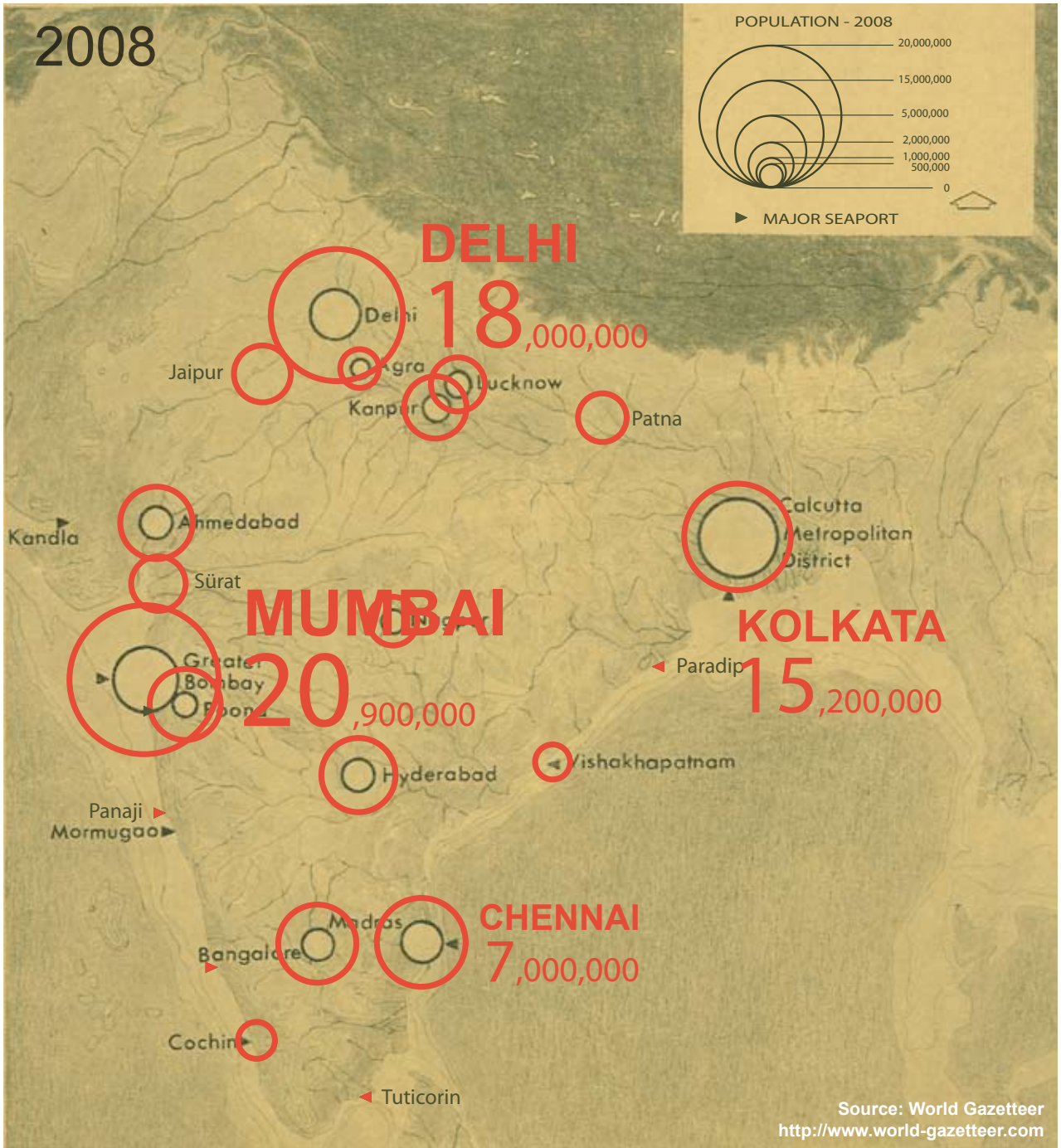
1961



Population in India _ census 1961

Kolkata **used to be India's largest city**. In 1912 India's capital was shifted from Kolkata to New Dehli due to high political tensions in the north-eastern city. The shift meant for Kolkata the loss of political and financial power. The city was pushed to India's background scene.

2008



Source: World Gazetteer
<http://www.world-gazetteer.com>

Population in India _ estimation 2008

Kolkata has the **slowest growth rate amongst all major cities of India**. However, **population growth** is always referred to as **Kolkata's main issue**. This apparent contradiction needs to be answered by taking in consideration the **time factor**. In Kolkata's case, population growth cannot be analysed as an absolute value.

1947 _ PARTITION AND INDEPENDENCE OF INDIA

The Partition of India was the partition of the British Indian Empire which led to the creation in 1947 of **Pakistan** and the Union of India (later **Republic of India**).

The same year, India won its freedom from colonial rule, ending nearly **350 years of British presence** in India. The British left India divided in two. The two countries were founded on the basis of **religion**, with Pakistan as an Islamic state and India as a secular one.

Boundary issues, left unresolved by the British, have caused two wars and continuing strife between India and Pakistan.

1971 _ LIBERATION OF BANGLADESH

March 1971, the Independence of Bangladesh was declared. This started the Bangladesh Liberation War. The Indian army supported the Independence movement and soon the Pakistani army had to surrender. The Secession was accompanied by one of the **largest and most rapid population transfers in history**, with 17.9 million people leaving their homes. Of these, only 14.5 million arrived, suggesting that 3.4 million went “missing”. The Province of Bengal was split between both countries. The western part of the province became the West Bengal state of India and the eastern part became the East Bengal province of Pakistan, with an overwhelming Muslim majority and a large Hindu minority.

HUGE REFUGEE INFLUX

In 1947, with the Partition of India, around 1 million refugees arrived to Kolkata. Later, in 1971, the largest refugee influx in West Bengal took place, with around **7,5 million people coming into the region in only eight months**. The first refugee settlements were located on the border to Bangladesh, but naturally all these people slowly moved into the country. **Kolkata, only 62km away from the border with Bangladesh, was the main destination**. Living conditions in the city were of extreme poverty, infrastructure collapsed and Kolkata ran out of resources. It was in this period when Kolkata became known as the “**City of misery**”. One can hardly imagine how much the city suffered during this period, having to cope with a completely unsustainable situation.





**EAST PAKISTAN /
BANGLADESH**

West Bengal

1971 **7,500,000**
refugees flee into West Bengal

Kolkata

62 km
to border

Location of main refugee camps
in India, November 1971
Source: UNHCR

Main Refugee Camp ●

1971 _ Refugee Camps in West Bengal

POPULATION GROWTH AND REFUGEE MIGRATION

Kolkata's slowest population growth must be analysed in more detail. As already mentioned, the real problem was the **short period** of this increase due to refugee migration. The **official census data does not reflect these peaks** because, naturally, at first **it was impossible to keep record of the new incomers**. Therefore, the official curves can take to misinterpretation. To try to understand the real impact of refugee migration one must consider the short period of time in which this growth of population took place and the poverty of the people coming from Bangladesh.

The damage that these events had on the city is barely conceivable. Millions of refugees flooding streets and paralysing infrastructure brought the city to a complete **collapse**. Understanding the 1947 and 1971 drama is crucial for understanding Kolkata's history and Kolkata itself as metropolis.

The echo of the wars still resounds in the metropolis. The **density** of KMA is amongst the highest in the world and the resources are far too scant. A major part of the Development Authorities' efforts have been directed towards coping with refugee migration and easing the pressure on the city by improving its infrastructure.

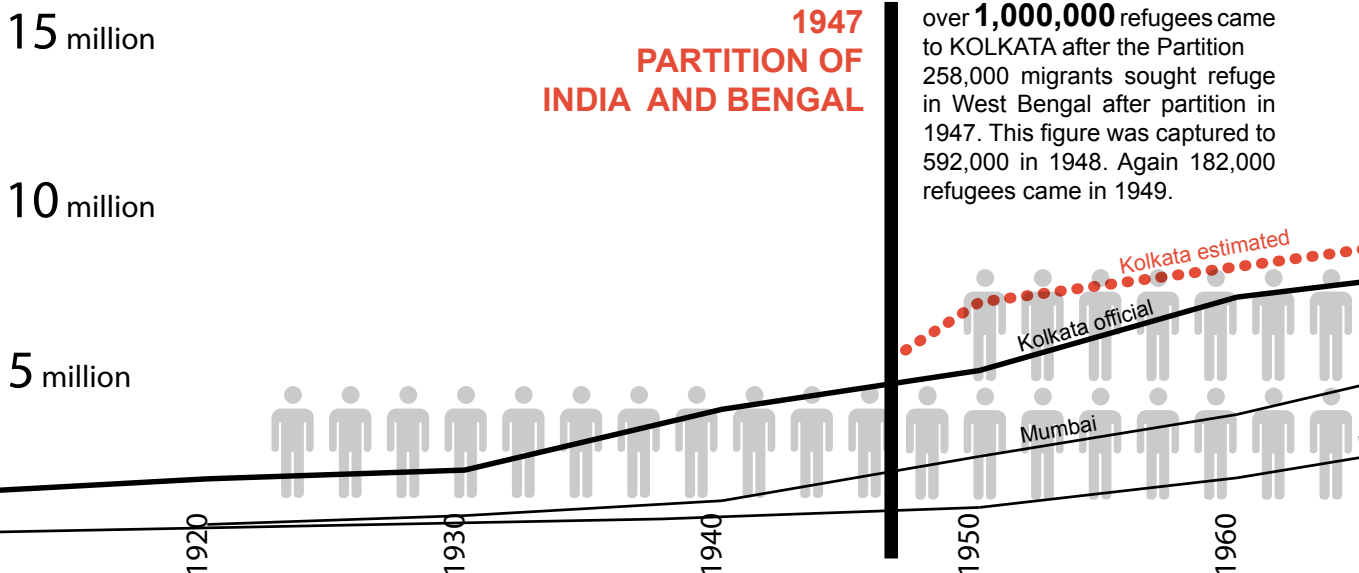
THE DEVELOPMENT AUTHORITIES'S EFFORTS

Already in the 1960s when the Basic Development Plan 1966-86 (BDP) was being projected and the disaster of 1971 had still to come, the planning authorities expressed their concern for Kolkata's high density. Refugee migration from 1947 had special consideration in the BDP. Desperation and urgency could already be perceived in the 1966 plan and the worst had still to arrive.

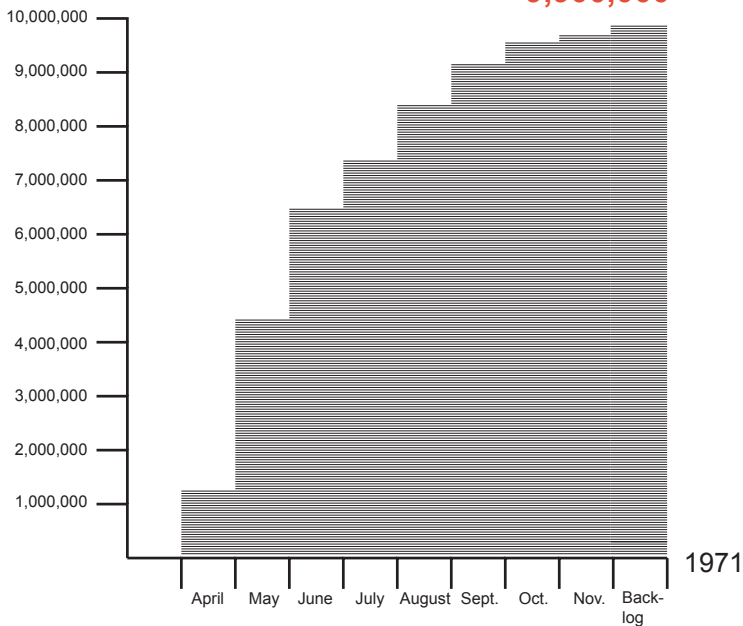
“ (...) **dense, overburdened, congested** city of Calcutta (...) Calcutta and Howrah – have demonstrably reached what might be called a saturation point (...) So long as marked disparity continues, migration into the CMD from the areas of relative and **absolute poverty** is likely to remain one of the dominant factors in the metropolitan population growth (...) densities in Metropolitan Calcutta are **amongst the highest in the world**; and congestion in some parts of the CMD is **so extreme as to be judged intolerable by any standards**. (...) West Bengal need a “balanced” regional growth, where refugees and rural population more effectly could be incorporated in the new industrial economy. And also release the high pressure on CMD. The essential tasks that must be tackled in renewing and developing the CMD (...) provision for **massive** new growth (...) ”

1947 PARTITION OF INDIA AND BENGAL

over **1,000,000** refugees came to KOLKATA after the Partition 258,000 migrants sought refuge in West Bengal after partition in 1947. This figure was captured to 592,000 in 1948. Again 182,000 refugees came in 1949.



Refugees to INDIA



INFLUX REFUGEES from April to November 1971

Name of State	Total Influx
West Bengal	7,500,000
Tripura	1,400,000
Meghalaya	670,000
Assam	310,000
Bihar	9000
Total	9,900,000

Source: Bangladesh Documents, vol – 81 - 82

Source: Bangladesh Documents, vol – 81 - 82

1971 BANGLADESH LIBERATION WAR

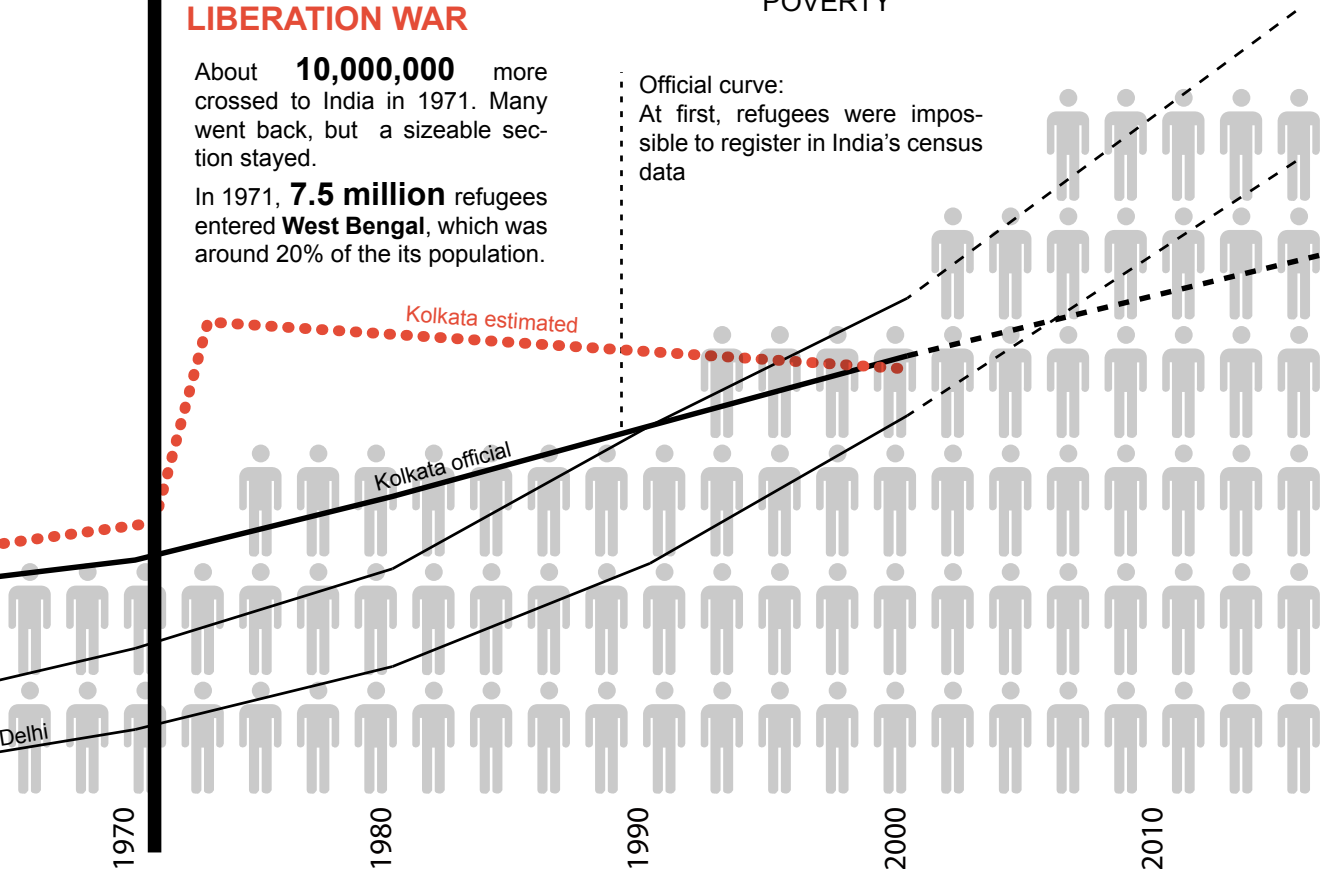
1971 BANGLADESH LIBERATION WAR

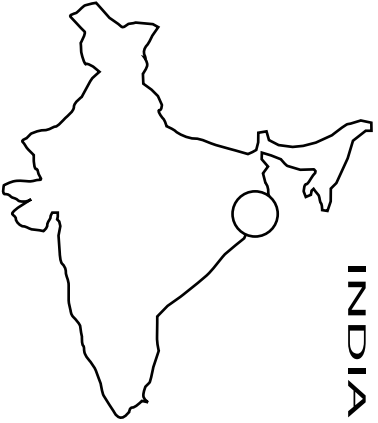
About **10,000,000** more crossed to India in 1971. Many went back, but a sizeable section stayed.

In 1971, **7.5 million** refugees entered **West Bengal**, which was around 20% of its population.

1990s Migration from Bangladesh due to POVERTY

Official curve:
At first, refugees were impossible to register in India's census data





INDIA



WEST BENGAL



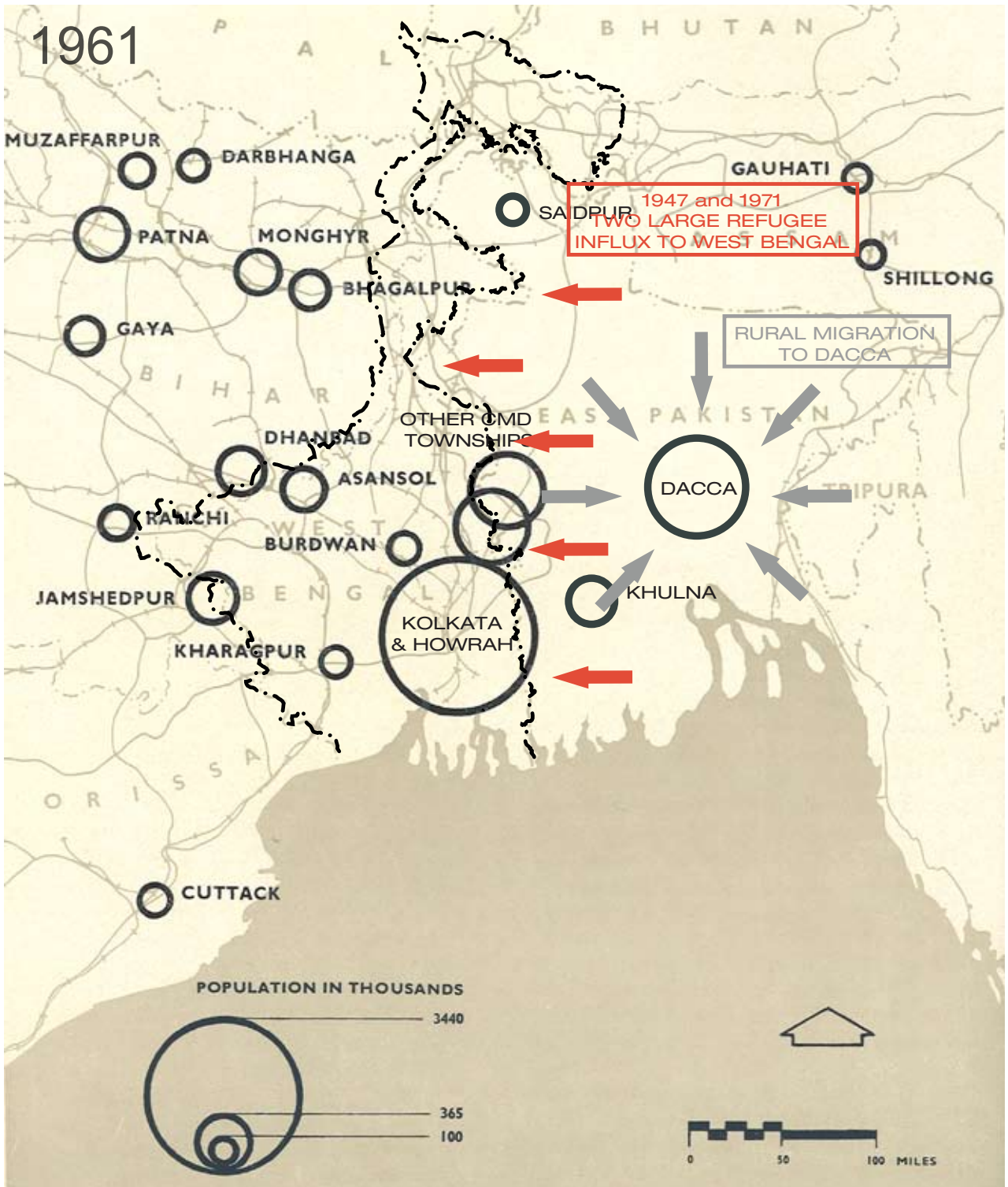
KMA
Kolkata Metropolitan Area

THE GROWTH PARADOX

Exodus

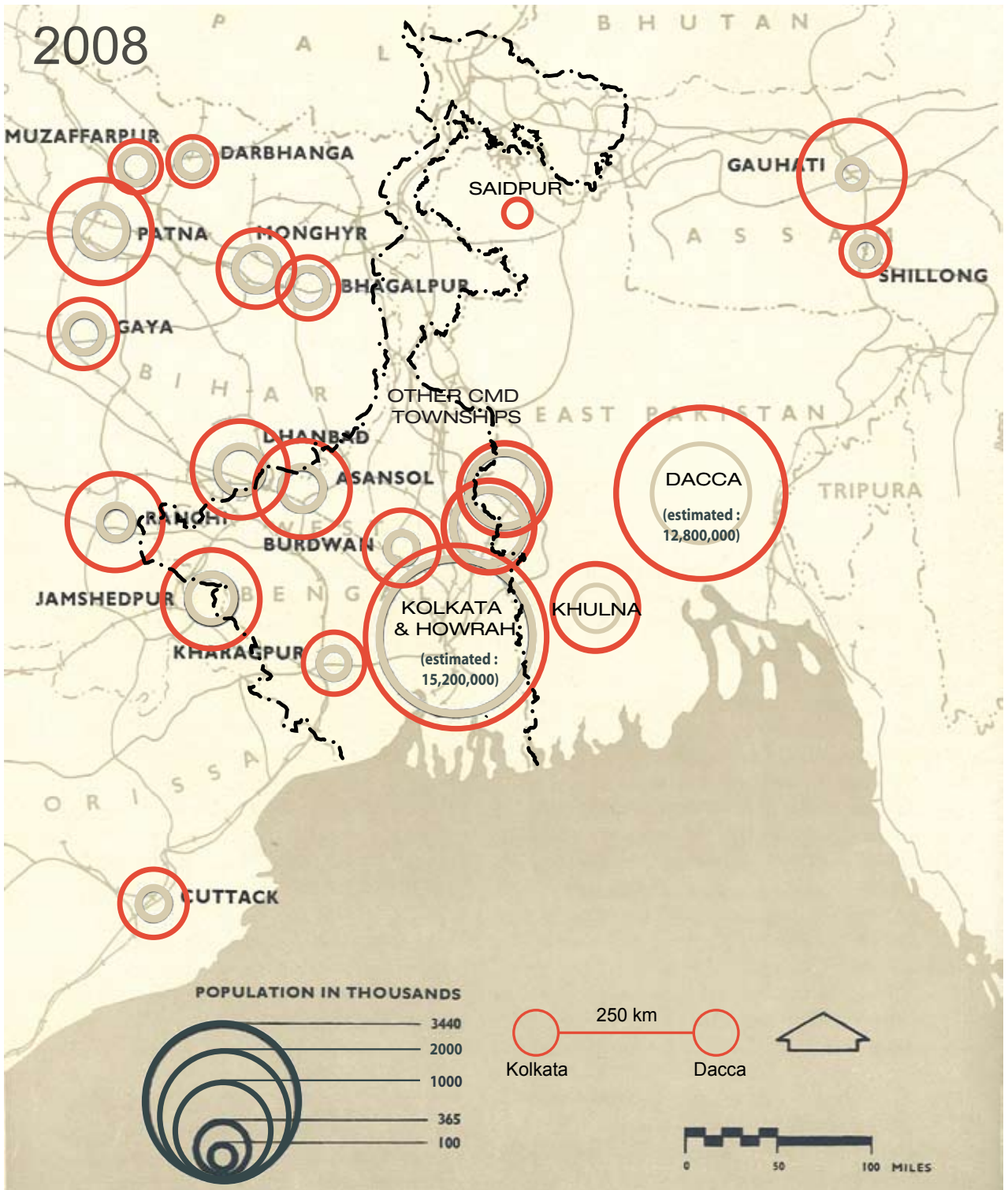
An Amputated City

Towards East



Major Cities in the Region _ census 1961

The map shows that the **centralisation** in the metropolitan area of Kolkata in comparison to the rest of the West Bengal region, was extremely high during the 1960s.



Decentralization in West Bengal is noticeable. Industrial townships like Asansol-Durgapur in the west have experienced a rapid growth in the last decades, becoming small counter-magnets to the KMA. However, centralization is still very important around the city. In the last decade there has been a declining trend in migration. The city has probably arrived to a saturation point. Kolkata is often wrongly referred to as the only metropolis in the area. It is true that the city's size is not comparable to any other in West Bengal, but **only 250km away** from Kolkata is **Dacca**, almost as large as Kolkata today and with a higher growth rate. The strong border between India and Bangladesh explains the **isolation** between both cities, which lie very close from each other if we consider their dimensions.



Refugees _ Partition of India 1947

Millions of Bengalis left from Pakistan to India fleeing from religious repression.



Refugees _ Partiton of India 1947
Refugees flood the transportation system and collapse West Bengal's infrastructure.

KOLKATA LOSES ITS HINTERLAND 1947 _ Partition of India

The Partition of India had terrible consequences in all levels. The loss of Kolkata's area of **influence and mutual dependance** was a **hard knock for its economy**.

ECONOMY_ Agriculture and Industry

Agriculture used to be the basis of West Bengal's economy. Before Partition in 1947 the region used to have the monopoly of the **jute production**. The loss of the rich agricultural hinterland affected severely West Bengal's economy.

The primary sector experienced a declining trend, while the secondary rised rapidly. However agriculture was still one of the pillars of the region's economy, since a large part of the industry sector was agriculture-based.

The **new impassable boundary** involved also the loss of agriculture-based industry on which Kolkata depended and urged the city to search for **new economy strategies**. The proposed solution consisted on developing new industrial townships on the Indian side of the border in order to compensate the broken connections.

“ Cities are no longer defined by population size but rather are defined by the operation of their extremely linked functions and contiguous territory. ”

- Basic Development Plan 1966-86 (BDP)



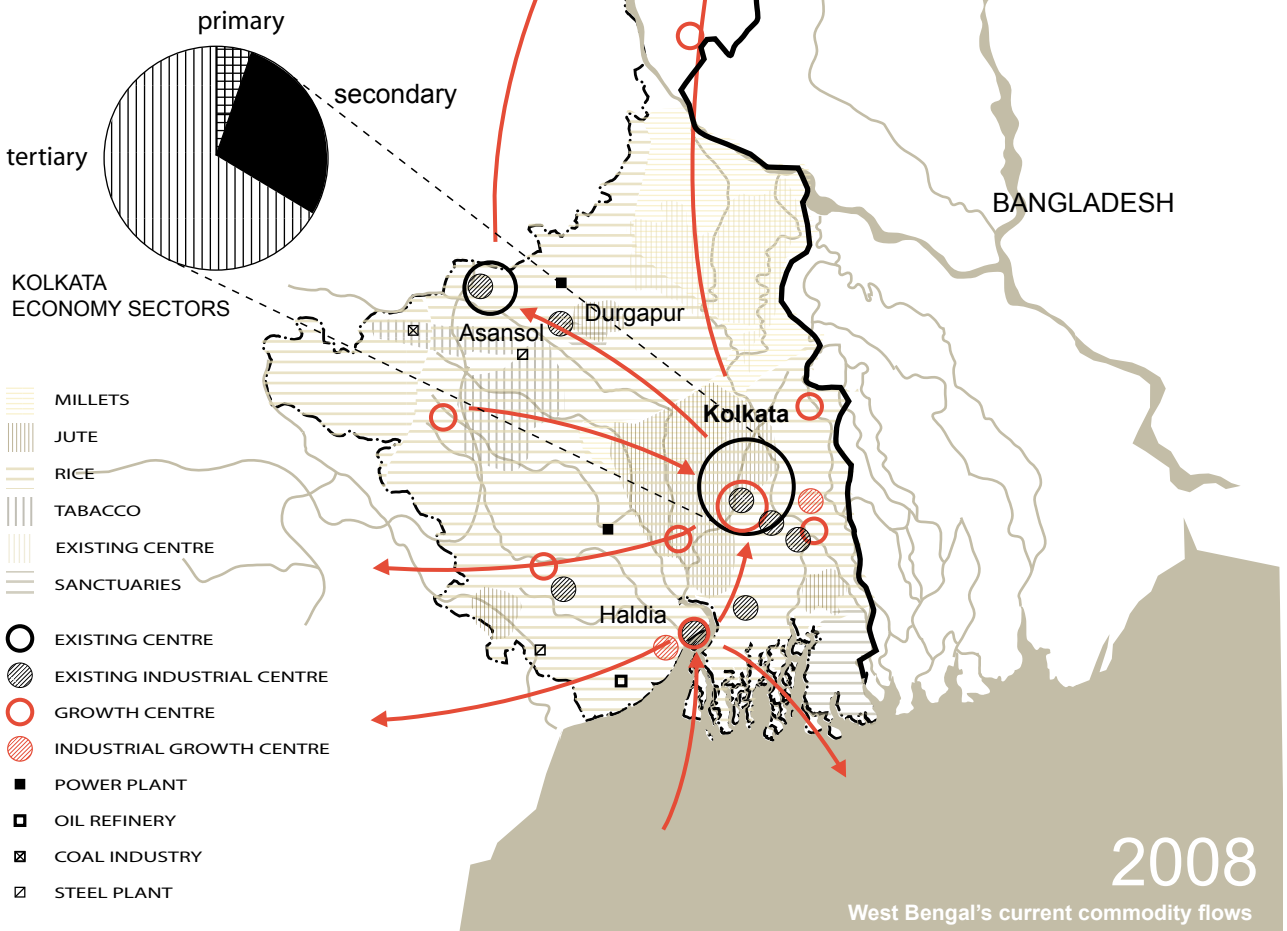
COMMODITY FLOWS

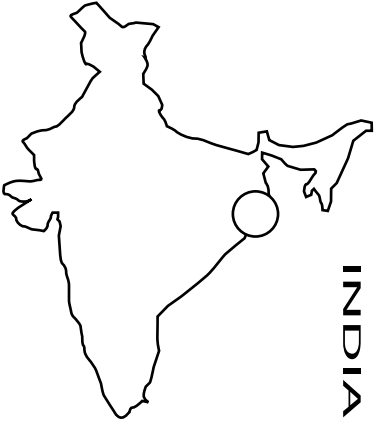
It is important to notice that although the border between **Bangladesh and India** is no longer as strong as it used to be, **trade between both countries is still today almost nonexistent.**

ECONOMY SECTORS

Nowadays, Kolkata's economy no longer depends on the primary sector. As an emerging city it is still in a transition period between secondary and tertiary sector. Industries are moving from the urban centre towards the periphery or hinterland searching for big extensions of free land. Infrastructure connections are decisive for promoting this movement.

In West Bengal however, agriculture is today still very important. One of the major successes of the Left Front Government during the last 30 years are land reforms. Due to them, three quarters of the total cultivable land in West Bengal now belongs to marginal, small and middle farmers.





INDIA



WEST BENGAL



KMA
Kolkata Metropolitan Area

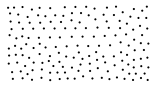
THE GROWTH PARADOX

Exodus

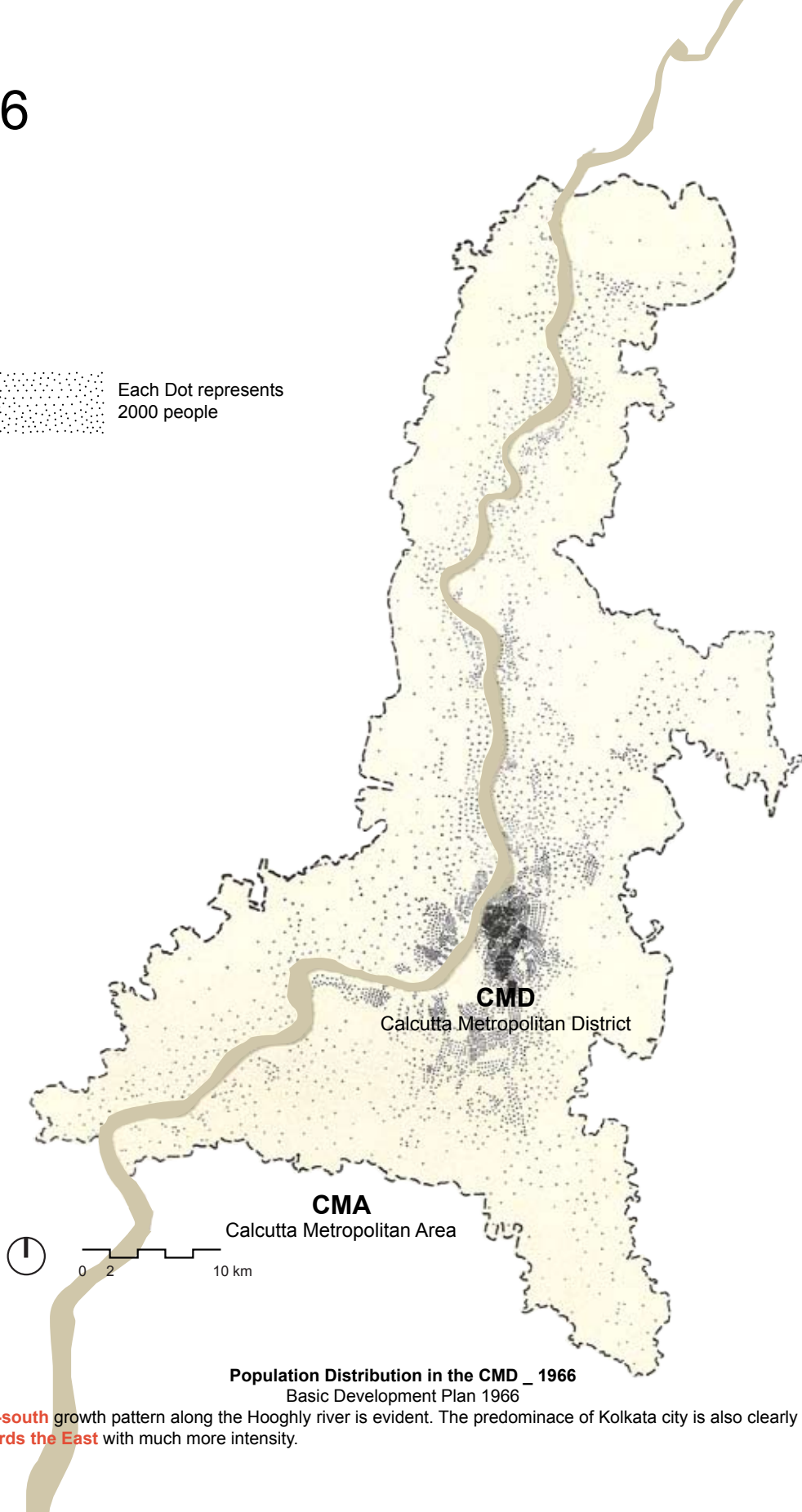
An Amputated City

Towards East

1966



Each Dot represents
2000 people



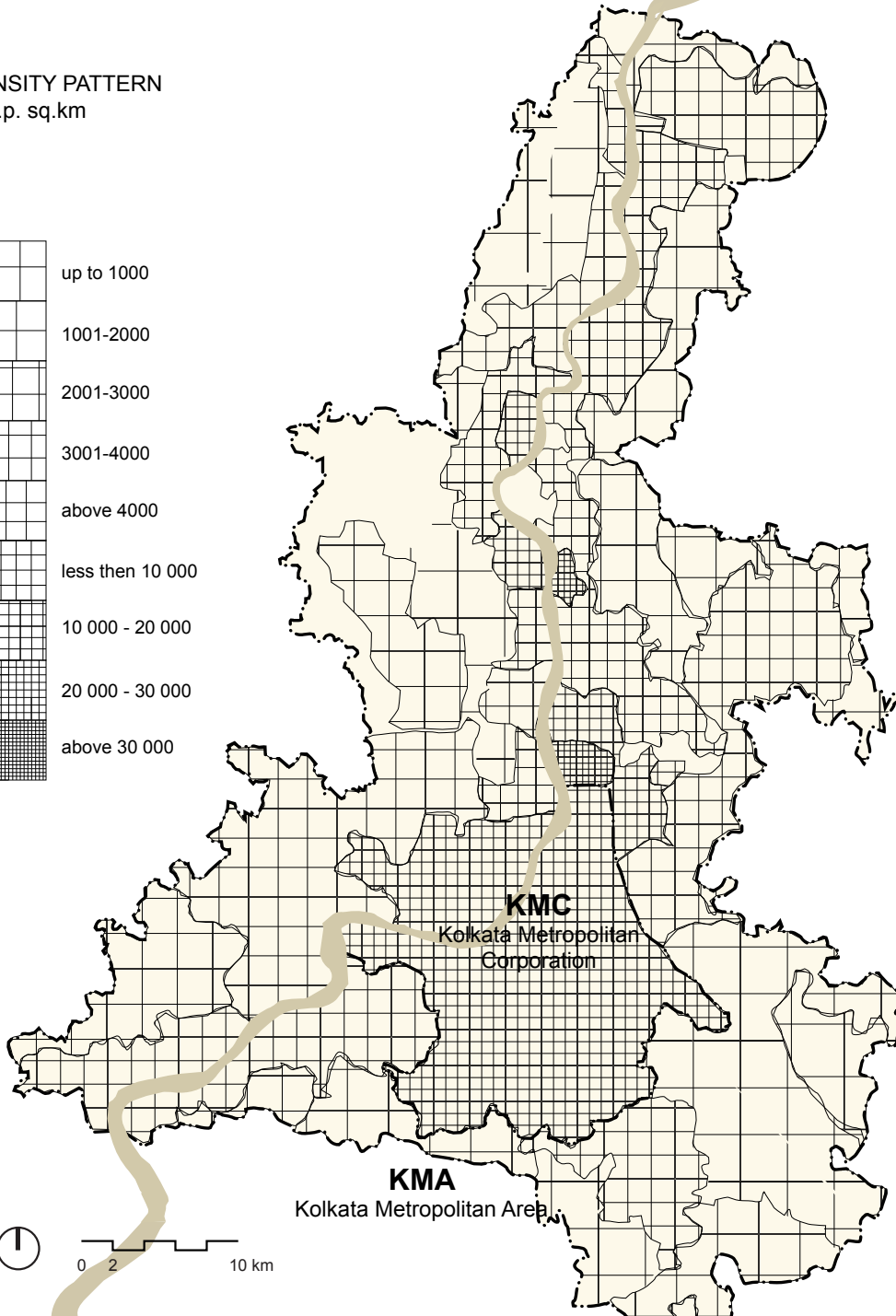
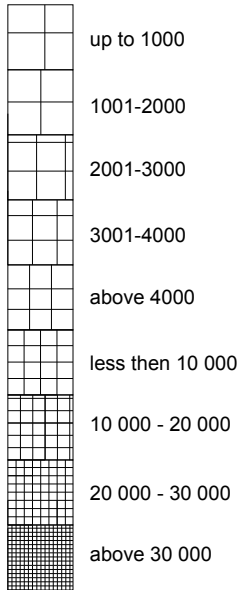
Population Distribution in the CMD _ 1966

Basic Development Plan 1966

A **linear north-south** growth pattern along the Hooghly river is evident. The predominance of Kolkata city is also clearly visible. The city develops **towards the East** with much more intensity.

2001

DENSITY PATTERN
in p.p. sq.km








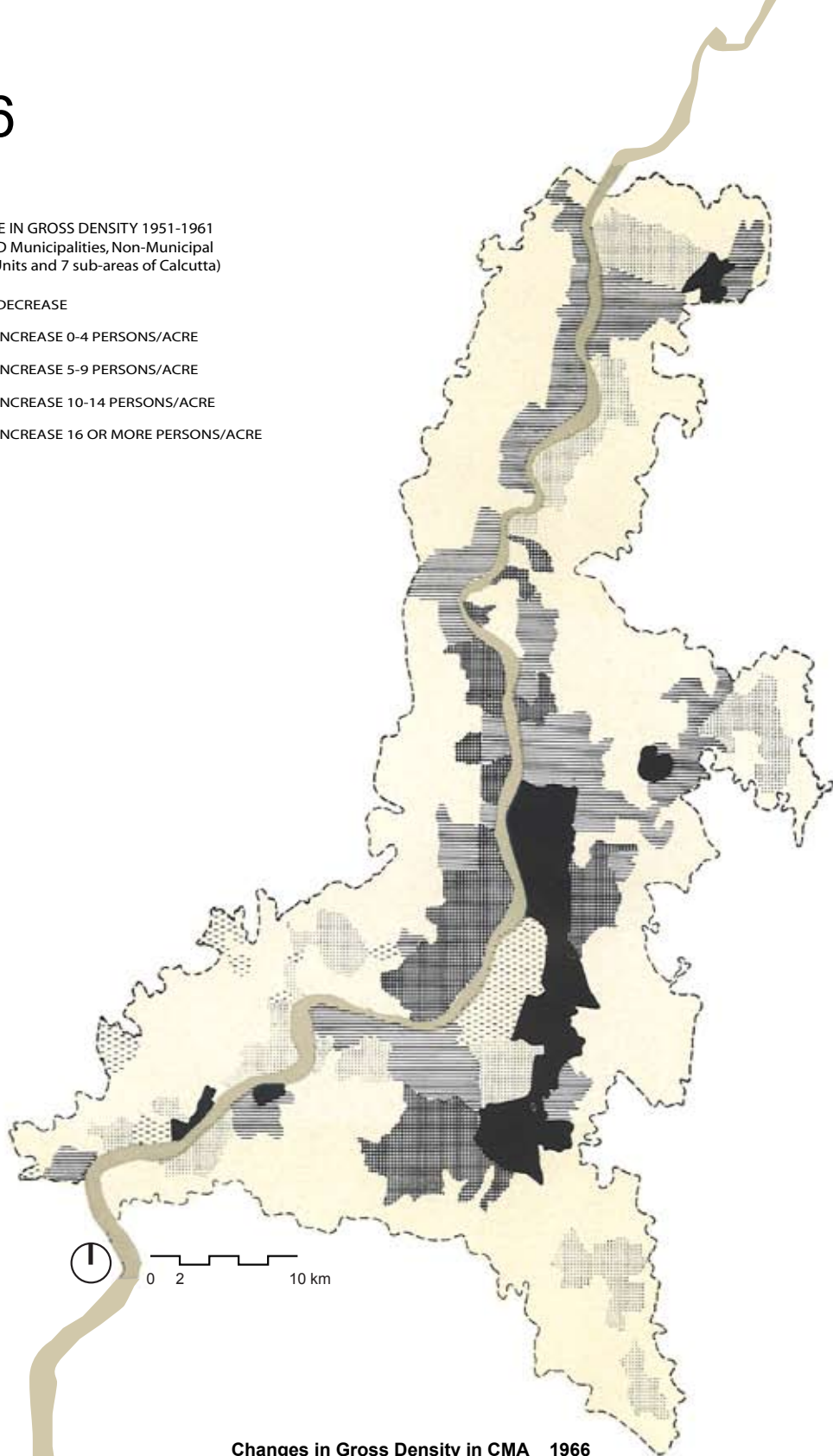
Density Pattern in KMA _ 2001

In 2001 the linear growth of the city is still noticeable. Kolkata has continued on growing towards the East not bothering too much about the difficulty that involves building on the marshy area of the **Kolkata Eastern Wetlands**. The density in the Kolkata Municipal Corporation (KMC) is around **25,000 p.p. sq.km.**, more than five times the density of London city (4,500 p.p. sq.km.) and more than Mumbai (23,000 p.p. sq.km.).

1966

CHANGE IN GROSS DENSITY 1951-1961
(for CMD Municipalities, Non-Municipal
Urban Units and 7 sub-areas of Calcutta)

-  DECREASE
-  INCREASE 0-4 PERSONS/ACRE
-  INCREASE 5-9 PERSONS/ACRE
-  INCREASE 10-14 PERSONS/ACRE
-  INCREASE 16 OR MORE PERSONS/ACRE








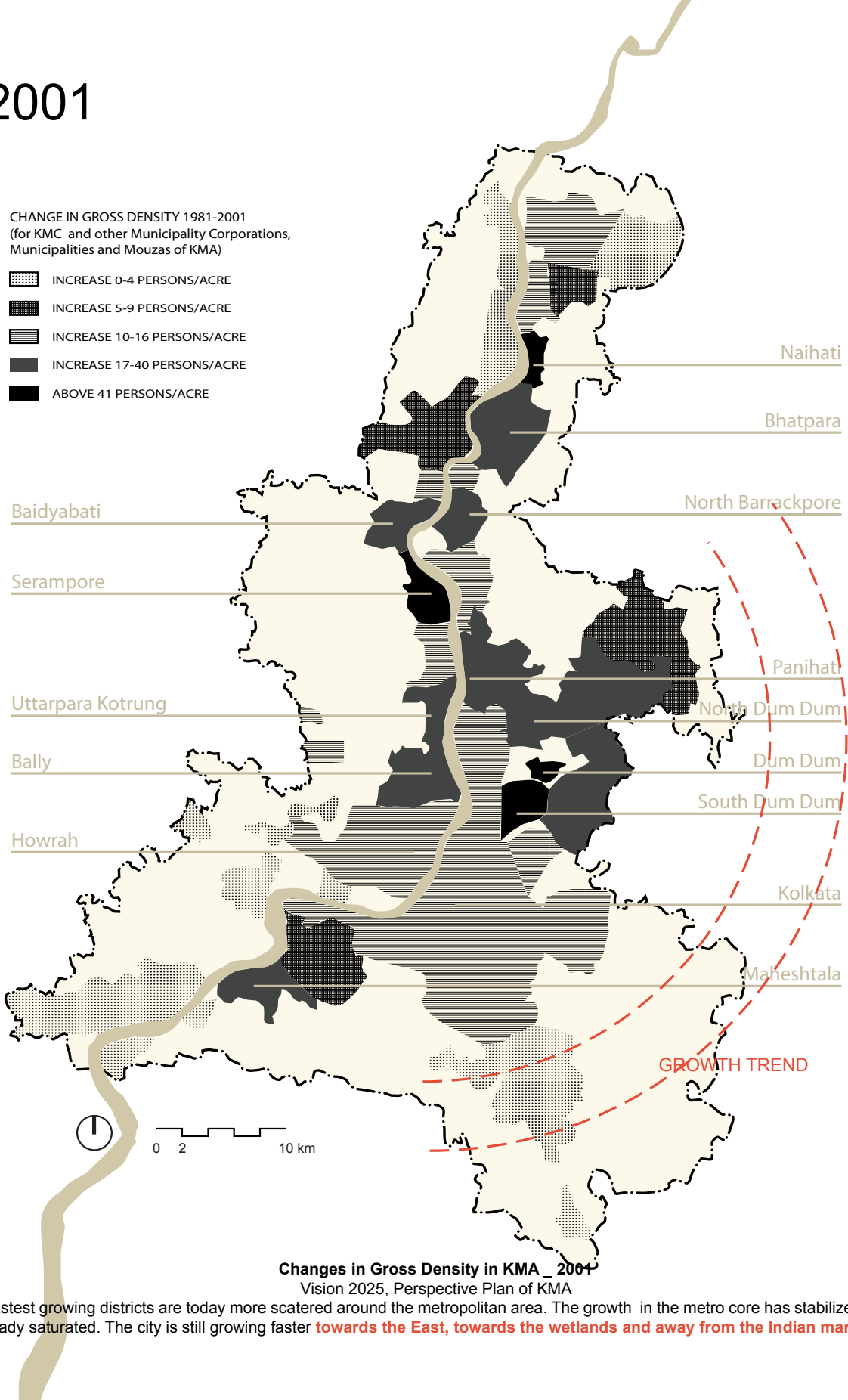
Changes in Gross Density in CMA _ 1966
Basic Development Plan 1966

Historically, the growth trend has been towards the East. The fastest growing districts are mostly on the Eastern side of the Hooghly and predominantly on the outskirts of Kolkata metro core.

2001

CHANGE IN GROSS DENSITY 1981-2001
(for KMC and other Municipality Corporations,
Municipalities and Mouzas of KMA)

-  INCREASE 0-4 PERSONS/ACRE
-  INCREASE 5-9 PERSONS/ACRE
-  INCREASE 10-16 PERSONS/ACRE
-  INCREASE 17-40 PERSONS/ACRE
-  ABOVE 41 PERSONS/ACRE



Changes in Gross Density in KMA _ 2001

Vision 2025, Perspective Plan of KMA

The fastest growing districts are today more scattered around the metropolitan area. The growth in the metro core has stabilized since it is already saturated. The city is still growing faster **towards the East, towards the wetlands and away from the Indian market.**

2008

“ I'd like them to show me how they are going to map the road without flouting the Ramsar convention. ”

- Dhruvajyoti Ghosh, former chief environment officer of the state

CONNECTION TO THE INDIAN MARKET



Salt Lake

Kolkata city

E.M Bypass

KOLKATA EASTERN WETLANDS

GROWTH TREND



62 KM TO BANGLADESH BORDER



Ramsar site Boundary "Protected wetlands"

Proposed Ring Road

Proposed arterial roads

Proposed arterial roads

Proposed arterial roads

- Proposed Arterial Roads
- Proposed Ring Road



0 2 10 km

AGAINST NATURE

Kolkata's predominant growth trend **towards East** sets up a new challenge for the city. **Construction on the wetlands is complicated and expensive**. The land needs to be filled up before any foundation can be built. The rather **unhealthy** site, which serves as natural purification plant for the whole city and holds several garbage dumps is being invaded by the urban growth.

Furthermore, the area is **protected** since 2002 by the Ramsar Convention as a **unique eco-system** in the world.

All these drawbacks don't seem to be enough for stopping the metropolis's advance, threatening the worldwide largest waterlands to disappear under the city's new high-rise buildings. The **Government** has even started plans for **reinforcing the growth trend towards East** by, for example, proposing a new Ring Road around the Wetlands. Three new arterial roads, connecting the city centre to the new expressway cross the protected Ramsar area.

AWAY FROM THE MARKET

Another counter-factor to the present growth trend of Kolkata is the less economical possibilities on the East. The city is barely 60km away from the strong border with Bangladesh. Its **largest hinterland** is therefore **on the Western side** of the Hooghly river, where new townships could develop without space restrictions. In the 1960s, the Basic Development Plan proposed the growth of Kolkata towards the West side by promoting industrial townships like Asansol or Durgapur which have become important hubs for the secondary sector. Their proximity to West Bengal's largest market force, India, is crucial for its success. KMA, contrarily, continues on **isolating itself from the national economy** increasing the distance of goods transportation and consequently rising its costs.

To conclude, it is important to notice that the Government still supports this growth trend towards the East in spite of the apparent disadvantages.



2008

“The **political clash** between the Howrah and Kolkata Districts leads to a strong **unwillingness to collaborate.**”

- Partha Das, Private Town Planner



KMA in total 5 bridges along its 100km riverside



0 2 10 km

“It has nothing to do with politics; building bridges is **very expensive.**”

- Dwaipayan Bhattacharyya, Centre for Study of Social Sciences

There are two main reasons, which explain the apparent contradiction of promoting the trend towards the East: infrastructure and politics.

SCANT INFRASTRUCTURE

Why Kolkata has historically developed on one side of the river is not difficult to understand if one imagines what it represents for a 15 million inhabitants city to only have five bridges in a stretch of over 100km (KMA). The comparison with London makes the situation clear. London has in its metropolitan area 34 bridges in 90km, where Kolkata has 5. In other words, **for every bridge Kolkata has, London has 4**. This fact reflects clearly the poor situation of Kolkata's infrastructure, obviously insufficient.

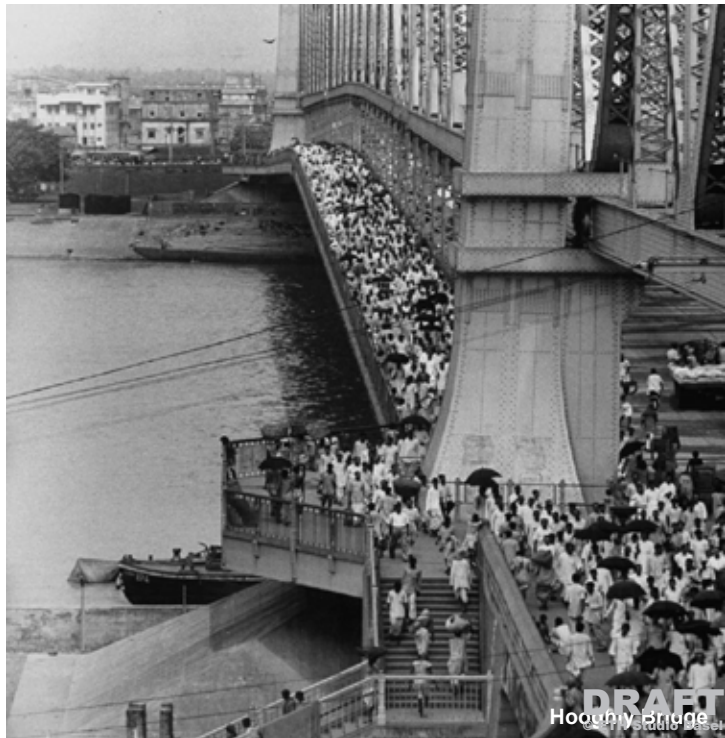
“ The development of urban infrastructure in KMA has not been able to keep pace with the growth of population and economic activities. ”

- Basic Development Plan 1966-1986 (BDP)

POLITICAL ISSUES

The Communist Party of India has been in power in Kolkata city for the last thirty years. No other democratic elected Communist Party has been in the Government for so many years. The central-winged Congress Party is today in the State Government. Kolkata's Communist Party has established strong links with the Communist Party in China following their paces very closely. This fact is not well seen by the Central Government, which has difficult relations with West Bengal's and KMC's Communist parties.

In the Howrah district, the Congress Party is nowadays in power, leaving the **metro core** of KMA - KMC and Howrah District - **divided in two different main political positions**. The clash between both political parties is probably making collaboration between them difficult for building common infrastructure. Kolkata is for example promoting new larger train stations on the Eastern side of the river to compete with the overburned Howrah Station. A bridge linking both cities implies a financing plan between the two different Governments. This collaboration is in Kolkata, as in any other city, complicated.



**PLANNING OF A “METROPOLITAN CITY
IN CRISIS”**

**From the Basic Development Plan to the
Vision 2025**

Development Authorities

Decentralization Strategies

Flexible Boundaries

Planning & Infrastructure Timeline

Vision 2025



“ It is necessary that something special should be done.
If the whole city went to pieces it would be a tremendous tragedy. ”

1961_Prime Minister of India, Jawaharlal Nehru



“ Calcutta cannot wait for a perfect plan. ”

1966_S.B.Ray_Commissioner Town and Country Planning
Government of West Bengal

“ A METROPOLITAN CITY IN CRISIS

(...) administrative delays and confusions of responsibility for corrective action (...) absence of clear development objectives over a longer perspective (...) over the past 200 years (...) the improvements that were subsequently made, if indeed any action was taken, were invariable piecemeal, sporadic, and inadequate to meet the needs on the rapidly increasing population of Kolkata. This has continued to be the case (...) haphazardly, unsystematically, without a suitable structure or coordination of the forces of growth ”

- Basic Development Plan 1966-1986 (BDP), Introduction

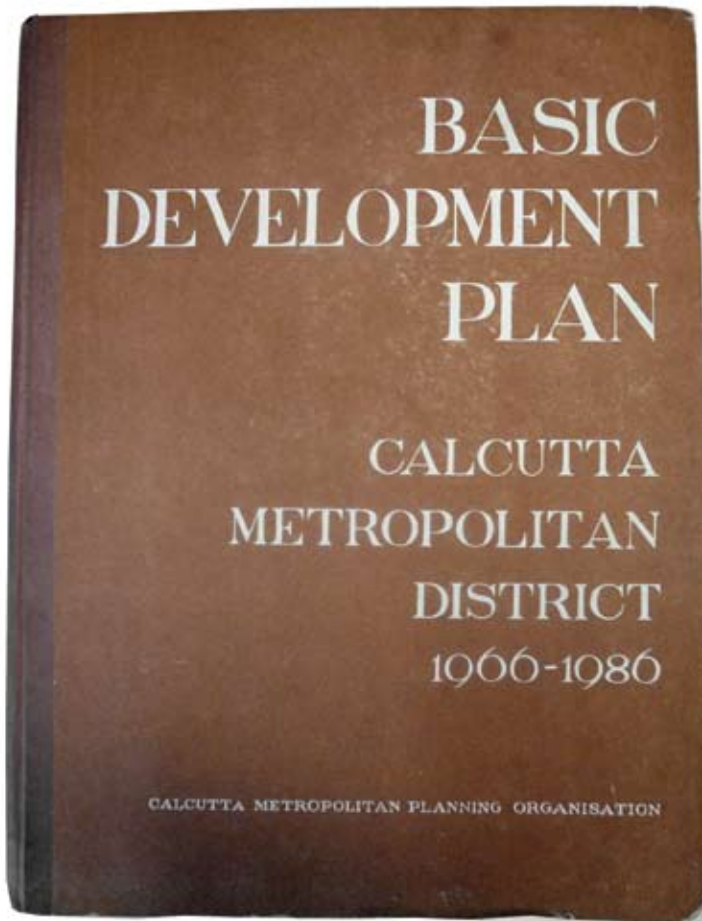


“Being the oldest metropolis in India and one of the largest in the world, the city is beset with unparalleled magnitudes of problems and challenges. It is the metropolis which has had the pioneering experience in urban planning dating back to the early sixties.”

- Vision 2025, Perspective Plan for KMA, Dec.2005, “Introducing the Vision for KMA”

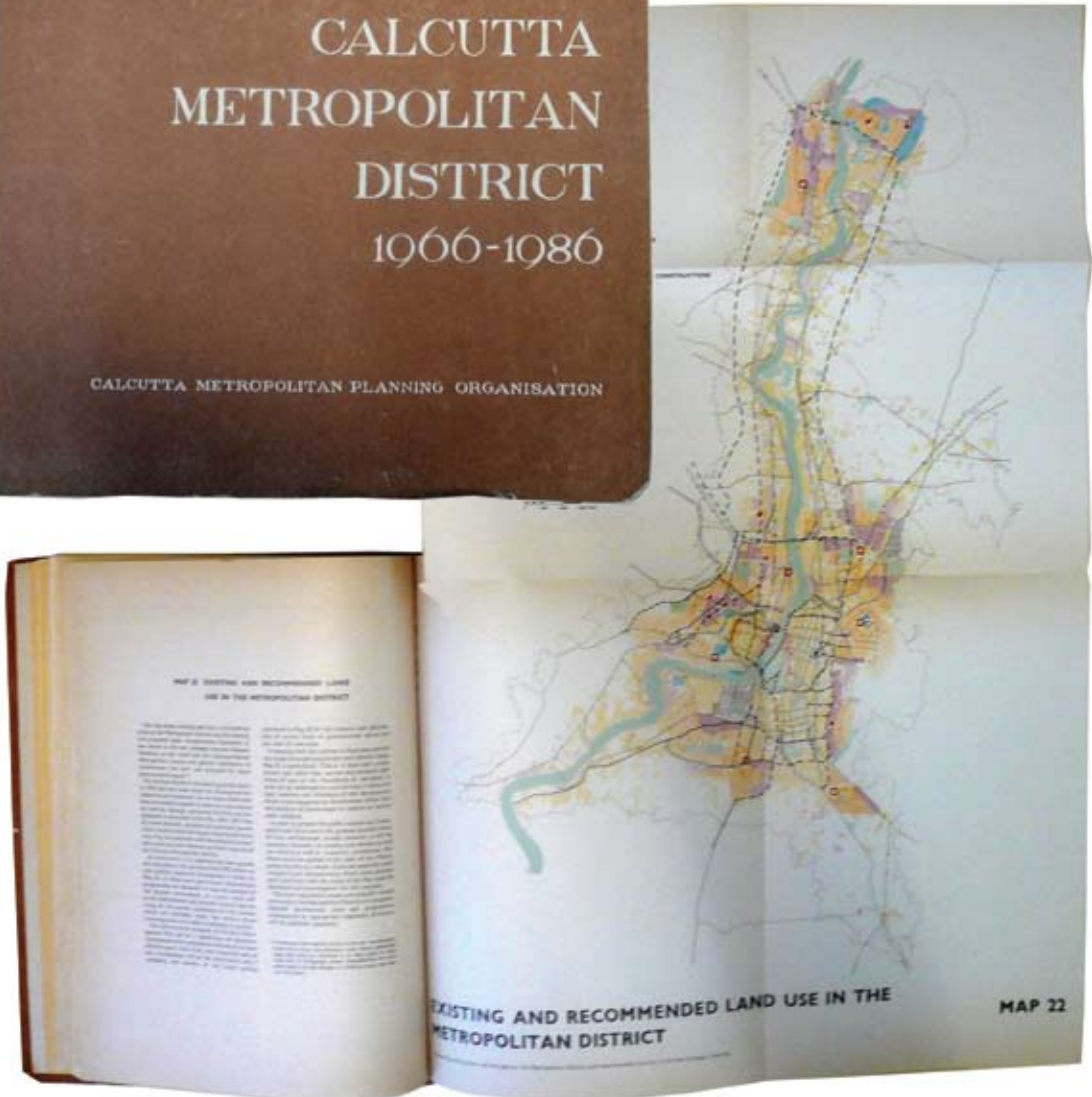


KMDA headquarters,
Salt Lake City, Oct. 2008



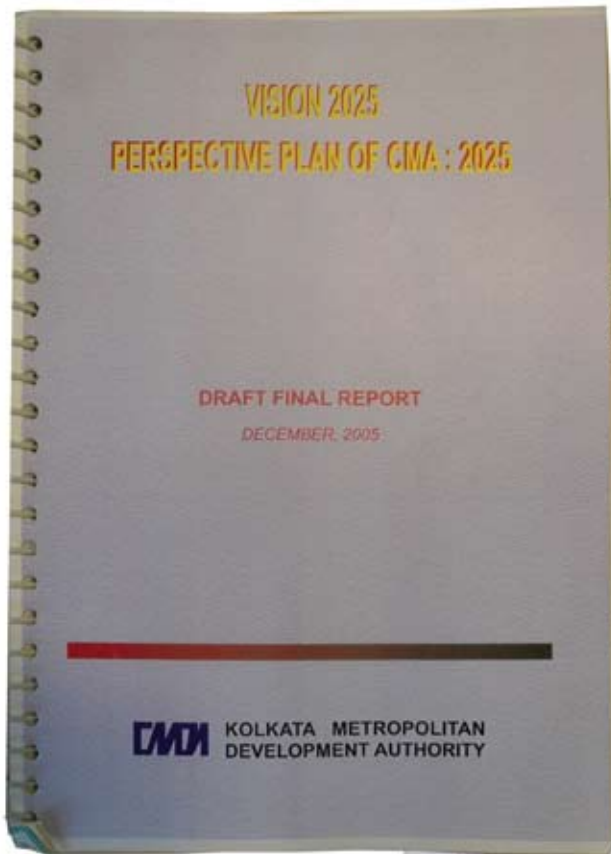
“The BDP will be reviewed in response to changing conditions and new thinking.”

- Basic Development Plan 1966-1986



Basic Development Plan 1966-1986 (BDP)

The BDP is the **first official development plan** in Kolkata. It was published in 1966 and elaborated in cooperation with the American Ford Foundation. It was conceived as a **basis for all further perspective plans**. It set the main pillars of Kolkata's urban planning and was written foreseeing future modifications. It's main statement was the urge to bring some order into the city's planning after the chaos that reigned after the huge refugee influx of 1947. The **high quality** of the information, graphics and even poetic writing of this document is truly admirable.



Vision 2025 Metropolitan Region 2025 Area under Plan		Area under Plan	
Area	Area (sq. km)	Area (sq. km)	Area (sq. km)
Urban Core	1,71,000	Urban Core	1,71,000
Urban Fringe	1,71,000	Urban Fringe	1,71,000
Suburban	1,71,000	Suburban	1,71,000
Rural	1,71,000	Rural	1,71,000
Total	6,84,000	Total	6,84,000

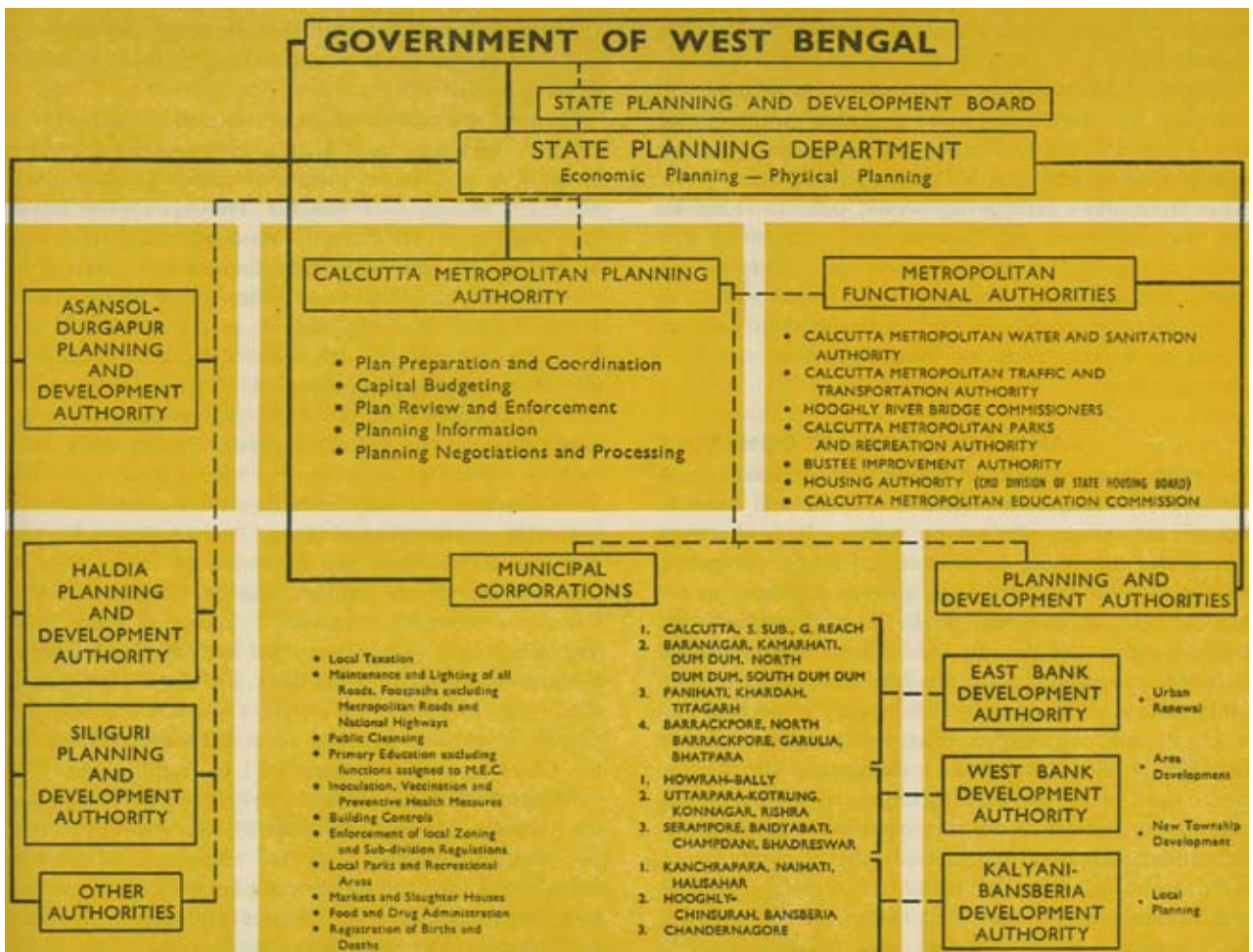


“ The Basic Development Plan has always constituted the benchmark for subsequent planning exercises. ”

- Vision 2025, Perspective Plan of CMA

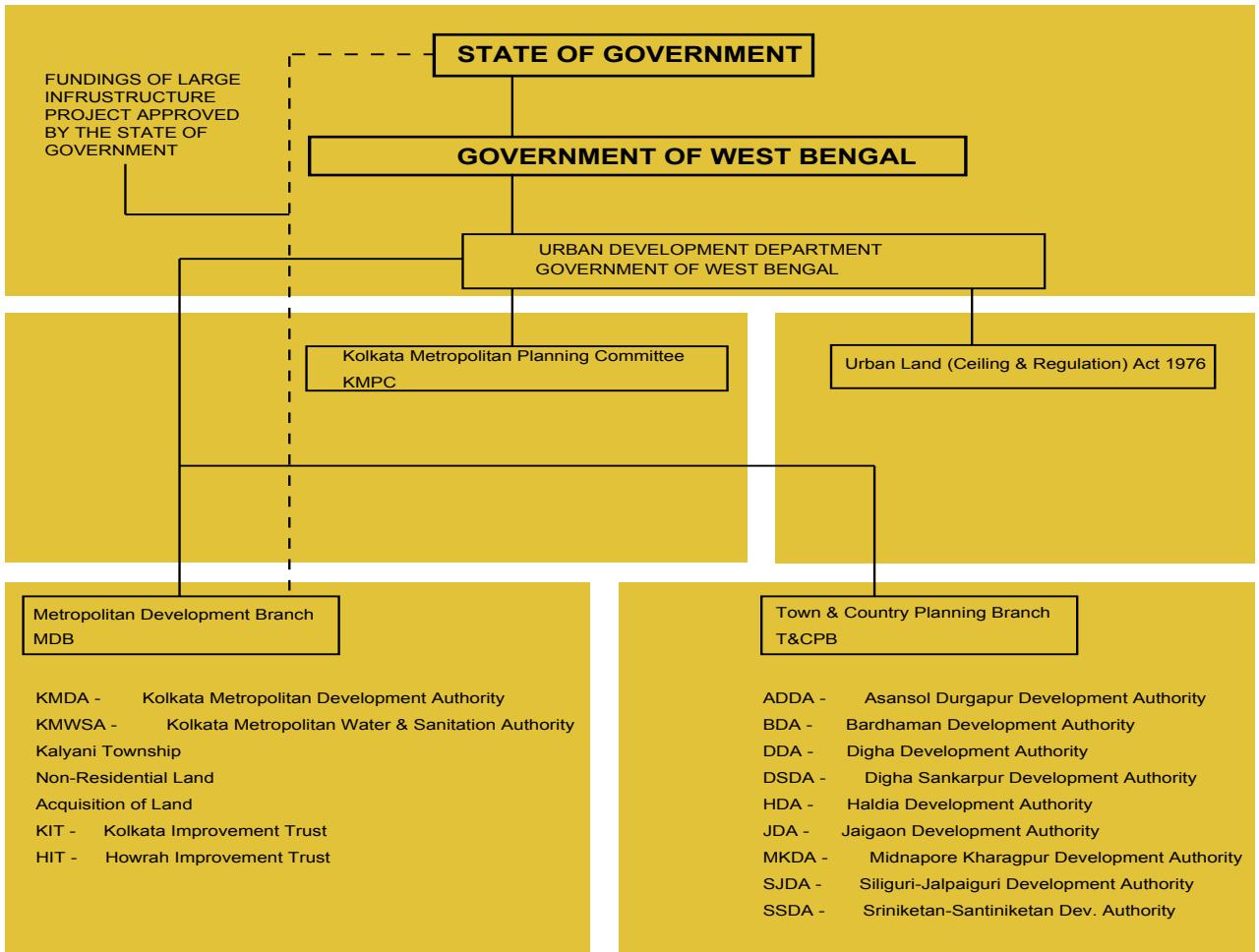
Vision 2025, Perspective Plan of KMA
Draft Final Report, December 2005, KMDA

This is the third revision of the Basic Development Plan. The first draft was published in 2001. It has a more **pragmatical** character and provides the reader with very complete data and statistics. The amount of maps is rather scant. The Plan seems not to please most of the private town planners, who often criticize it arguing that it is too abstract and tedious. All the maps are on the KMA scale, and never zoom in or out to a more detailed or general area respectively. The Plan gives a conceptual "strategy overview". The local bodies are responsible for developing specific plans.



Former Planning Organisations Basic Development Plan 1966-1986

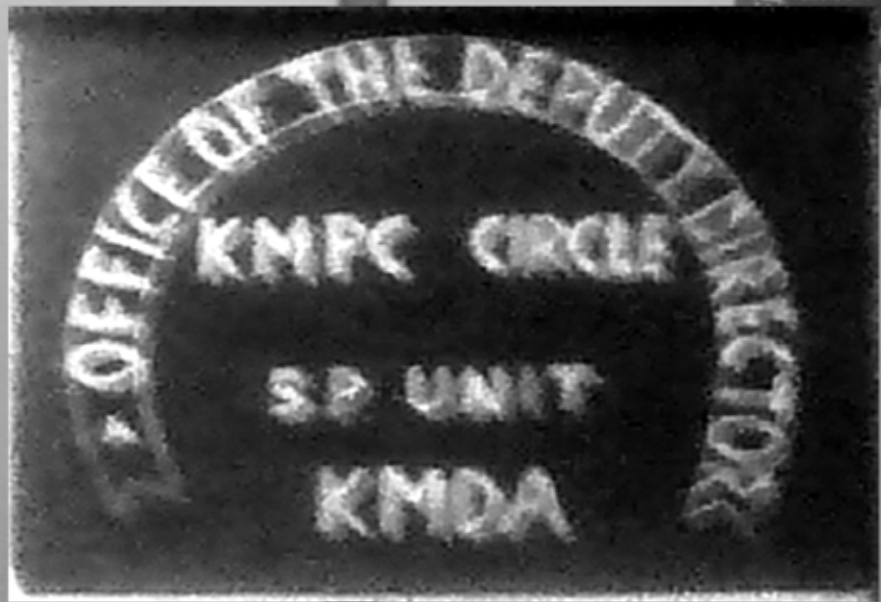
Planning organisations in the sixties were set up to correspond with the problems analyzed in the Basic Development Plan. It was a **hierarchical** organisation with much power concentrate to the Calcutta Metropolitan Planning Authority.



Current Planning Organisations

Vision 2025, Perspective Plan of KMA

The current organisation has gone through a **decentralisation** and **democratisation** process. Now, the different branches are more involved in the preparation of plans, whereas before they were merely implementing and maintenance organisations. One example are the different Town and Country planning branches, which have increased in number since 1966. New branches are created to deal with the executing process of new important townships.

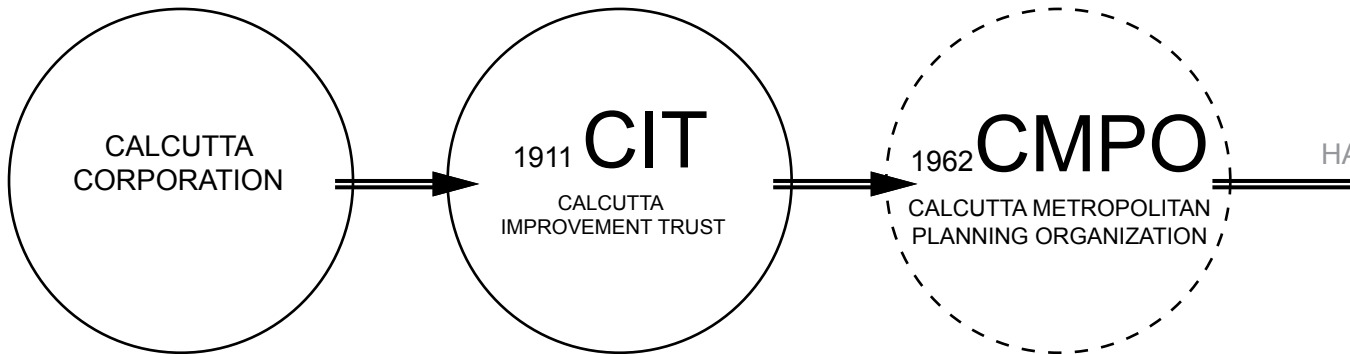


“ It is worth noting that this is the first time that the perspective planning exercise is scanned by elected people’s representatives constituting the Kolkata Metropolitan Planning Committee (KMPC). ”

“Introducing the Vision for KMA” _ Vision 2025, Perspective Plan for KMA, Dec.2005

KMDA headquarters, KMPC Circle
Salt Lake City, Oct. 2008

DRAFT
© ETH Studio Base



BASIC DEVELOPMENT PLAN 1966-86

“ (...) full-fledged planning machinery
 (...) complex, extremely complicated
 task (...) good progress towards the
 organisation of urban planning on a
 State-wide basis in West Bengal (...)
 work is being energetically undertaken ”

- Basic Development Plan, 1966

Planning Organisations

The first planning organisations in Kolkata were the so called Calcutta Corporation and Calcutta Improvement Trust (CIT). Until the 1960s the planning activities had all been led by British town planners. After Independence, the local planners had to come up with a new organisation structure. The population growth and the lack of development action had led the city to a chaotic situation. The CMPO was created and they published the Basic Development Plan with the collaboration of the Ford Foundation. This planning authority was rapidly substituted by the CMDA, today called KMDA.

PARTITION

REFUGEE INFLUX AREA
OUTSIDE CIT'S JURISDICTION

POWER
HAND-OVER



DEVELOPMENT PERSPECTIVE
PLAN _1 976

PERSPECTIVE PLAN AND
DEVELOPMENT ACTION
PROGRAMME FOR CMD _ 1981

NO NATIONAL POLICY TO GUIDE URBANIZATION
URBAN <-> RURAL
COMMERCIAL AND INDUSTRY INTERESTS
NO SOCIAL OBJECTIVES
REMOVAL OF SLUMS

INDEPENDANCE



Development Consultants House, Salt Lake City

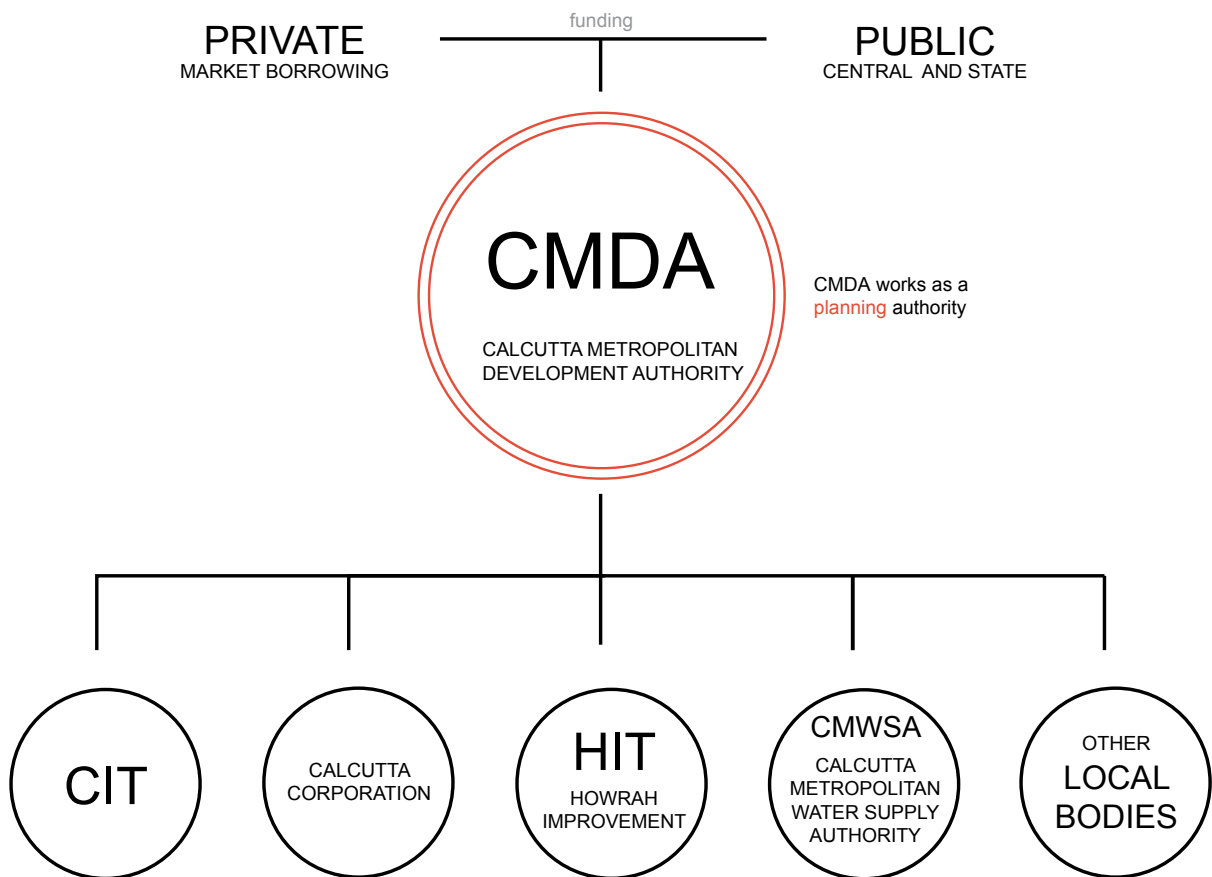


KMDA office building, Salt Lake City



KMDA headquarters, Salt Lake City

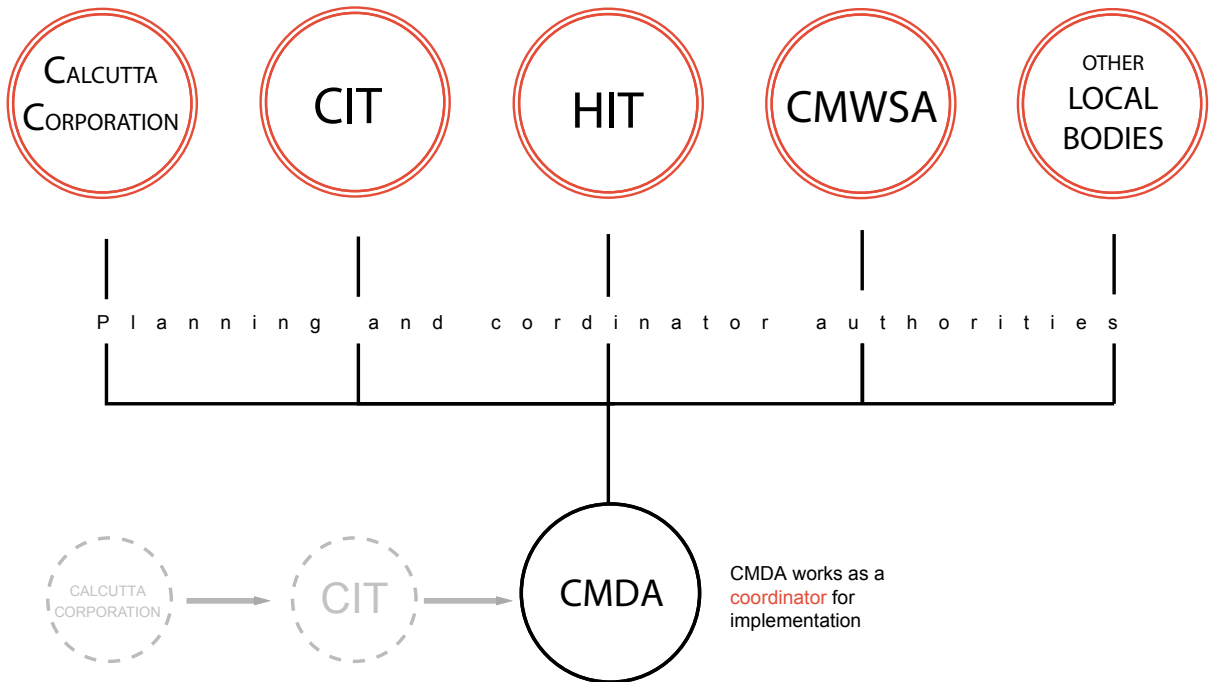
1960s



Planning Organisations in the 1960s

Basic Development Plan 1966-1986

When the CMDA was first created it worked as a **hierarchical** organisation. The planning Authorities responsible for the whole KMA were in charge of the **planning and financing** of the subordinated bodies, which were merely implementing organisations. The CIT and the Calcutta Corporation conserved their name but became branches of the CMDA, losing great part of their power. The CMPO disappeared when CMDA was founded.



Decentralization and Democratization of Power _ Planning Organisations today

Vision 2025, Perspective Plan of KMA

CMDA, today known as KMDA, is still the planning authority of the KMA region. However, its functions and competences have changed considerably since its foundation in 1970. It is now a **coordinating organisation**, which partially collaborates in projects which extend over Municipality borders. The **main planning, implementation and financing is now led by the local bodies**, which are partially elected. This change to a more horizontal system was introduced in order to improve the involvement of local people in the urban planning of the city. However, it has also been criticized because of its difficult coordination. Proposals which involve many different Municipalities can be complicated, specially if their governments correspond to different political orientations. This is the current case of Kolkata and Howrah.



KMDA headquarters in Salt Lake City
Oct. 2008

SCANT FACILITIES

The economical resources of the Planning Organisations are often quite restricted. The offices are not always in desirable conditions making work harder. Usually installations and furniture are in a rather bad state. No air conditioned is usually provided.



KMDA headquarters in Salt Lake City
Oct. 2008

WORKING CONDITIONS

In spite of the hard efforts of the Development Authorities to push forward planning programmes, the poor conditions in their offices slow down the whole process. The means are restricted. We must remember India is an emerging country, where a lot of new resources are still coming.



10:00h _ KMDA headquarters, Salt lake City



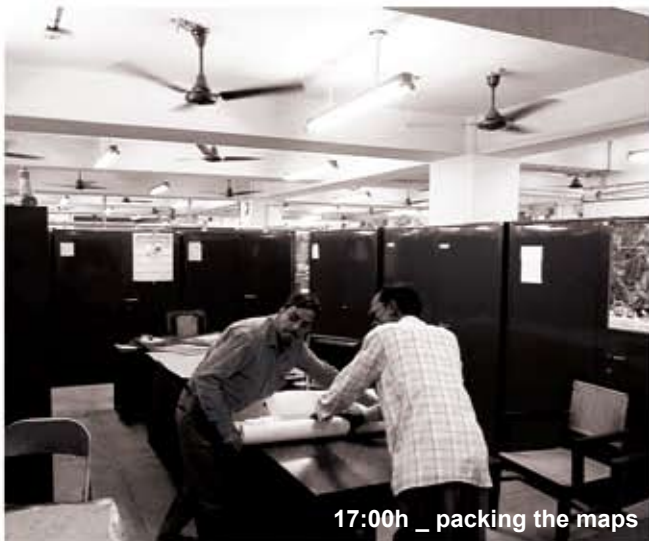
10:45h _ finding your way is complicated



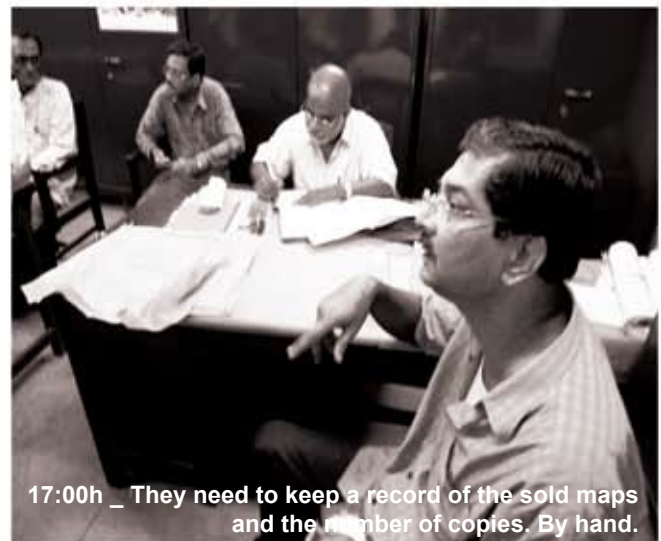
13:30h _ we are asked to wait for one and a half hours because it is lunch break



14:30h _ selecting the maps from a list. Not all are accessible.



17:00h _ packing the maps



17:00h _ They need to keep a record of the sold maps and the number of copies. By hand.



12:00h _ we arrive to the NATMO offices, accompanied by a KMDA townplanner to be able to access official information



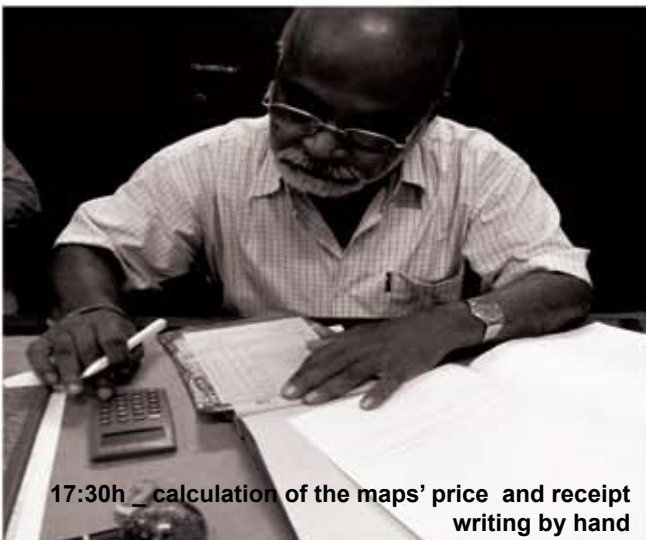
12:00h _ NATMO building



16:30h _ finding the maps



16:45h _ organising the maps



17:30h _ calculation of the maps' price and receipt writing by hand

SLOW BUROCRATIC PROCEDURES

NATMO Offices

(National Atlas and Thematic Mapping Organisation)

One cannot subestimate the time it takes to get an official map of the city or any official document in Kolkata. Procedures are slow and complicated. It might even be necessary to know somebody inside the governmental organisations to get access to some information. Many data is confidential or offices are not too willing to lend them.

Access to vectorised maps is almost impossible not only because of bureaucracy, but also because it is often inexistent.

Kolkata visitors will for sure have trouble finding detailed maps of the city. Drawings are imprecise and often confusing.

2008

DEHLI
23%

KOLKATA
6,5%

MUMBAI
16%

the POOREST road network

POOR INFRASTRUCTURE

Occupied Area by Roads as a percentage of total land

Master Plan for Traffic and Transportation Development in KMA, 2001-2025

Kolkata's road network is one of the poorest among India. This can be confirmed by comparing Kolkata with the other largest metropolises in the country with similar population. The **congestion** of traffic is therefore incredibly high. New infrastructure is one of the main goals of the current Development Authorities in order to ease the extreme concentration.

1966

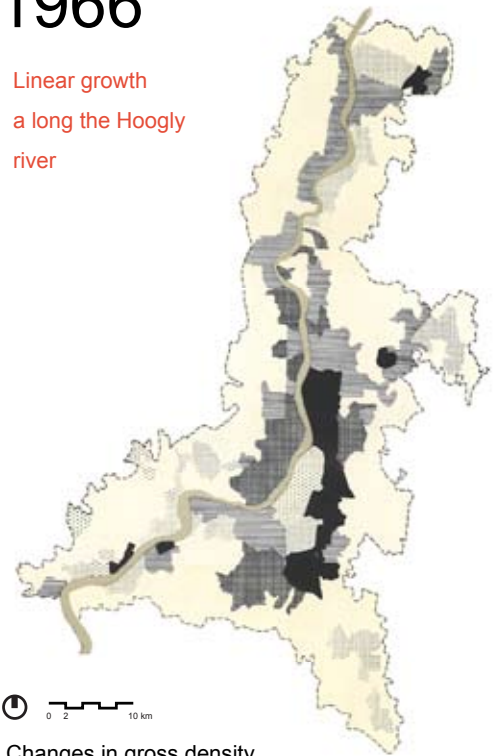
High traffic density
in Kolkata city



Motor vehicle traffic volumes

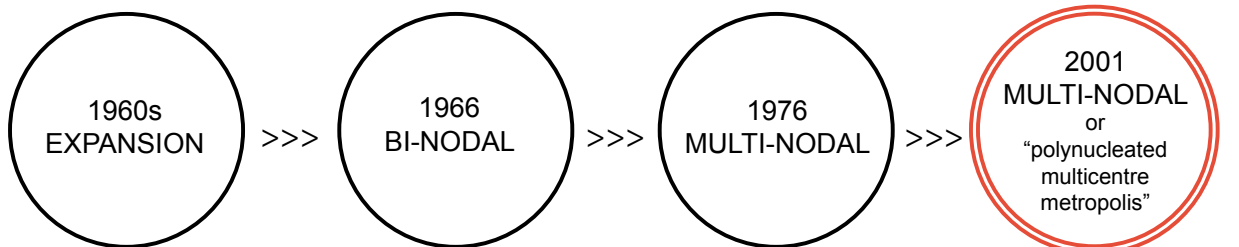
1966

Linear growth
along the Hooghly
river



Changes in gross density

DECENTRALIZATION STRATEGIES



CMPO (+ Ford Foundation)

Basic Development Plan 1966

KMDA

Development Perspective Plan 1976

Vision 2025

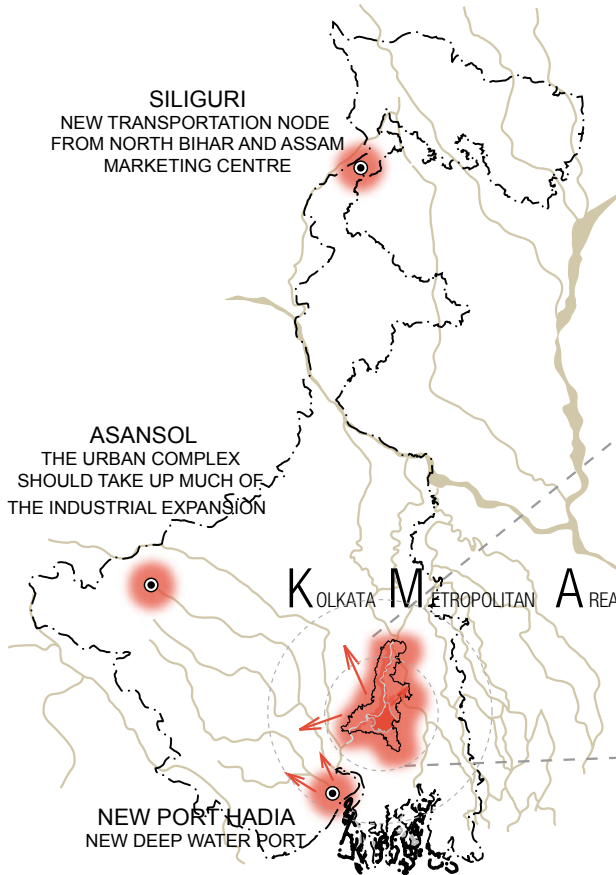
DECENTRALIZATION vs. HIGH DENSITY

Kolkata has historically been one of the densest cities in the world. It's linear growth along the Hooghly river shows a high concentration pattern. A linear growth of infrastructure always implies a higher traffic density than a scattered system, since the flow of traffic necessarily has to go through all the intermediate townships, overloading the movement lines with more users. To ease the high concentration in KMA, the respective Development Authorities have proposed different strategies throughout history. 2001 the Vision 2025 Plan dismissed the former bi-nodal and multi-nodal strategies and proposed instead the ambiguous term of a "polynucleated multicentre metropolis".

1960s

EXPANSION

Metropolitan Plan Expansion, Calcutta Metropolitan Planning Organization (Ford Fundation)
Basic Development Plan for the C.M.A. 1966-86



DECENTRALIZE INTO 4 CENTRES
Kolkata's planning is tied into the planning for the region or hinterland. Arrest of deterioration
Better use of existing capacity
Provision of massive new growth

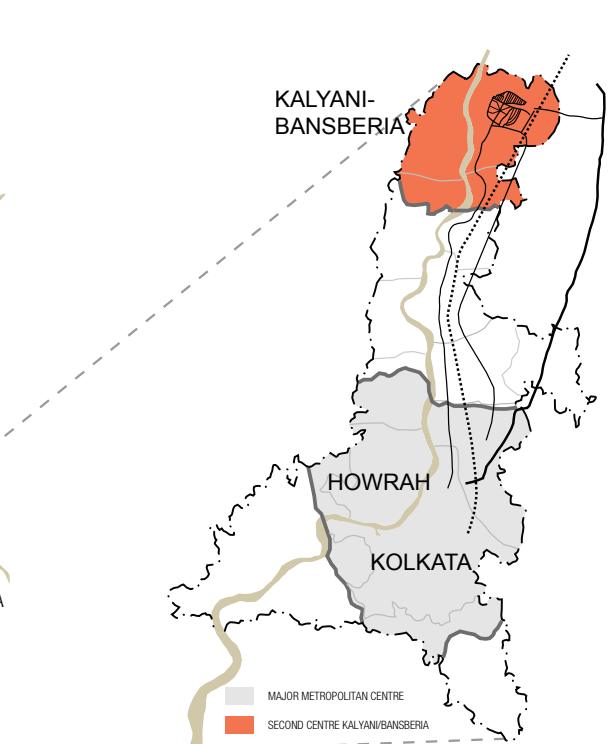
The development of the new cities failed because the planned area was not enough

WEST BENGAL

1966

BI-NODAL STRATEGY

Basic Development Plan for the C.M.A. 1966-86 (Ford Foundation)



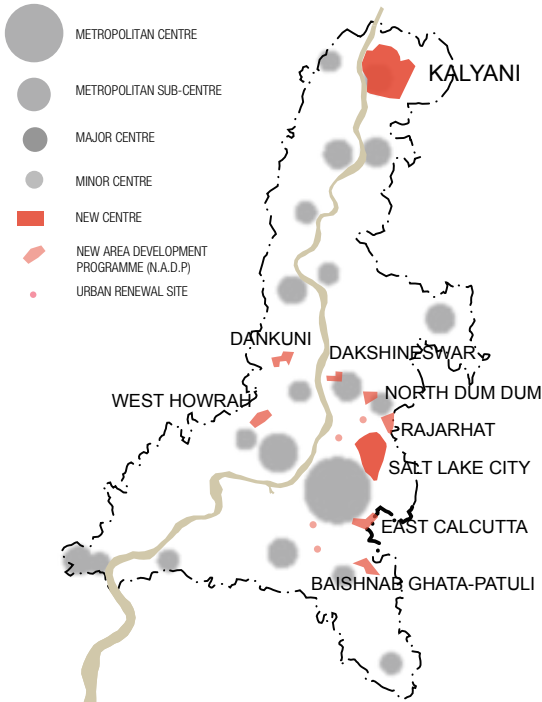
KALYANI-BANSBERIA AS A COUNTER-MAGNET TO KOLKATA-HOWRAH CORE CENTRE

KOL

1976

MULTI-NODAL STRATEGY

Development Perspective Plan 1976
C.M.D.A. Directorate of Planning 1983

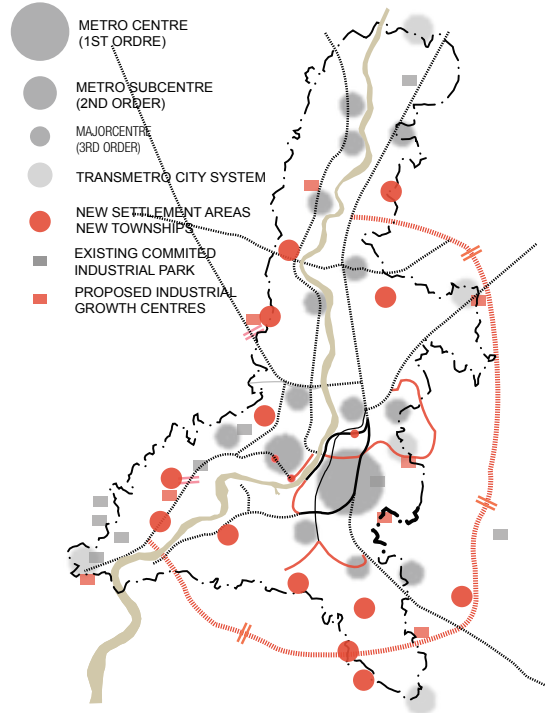


UPDATED PROPOSAL

2001

MULTI-NODAL STRATEGY

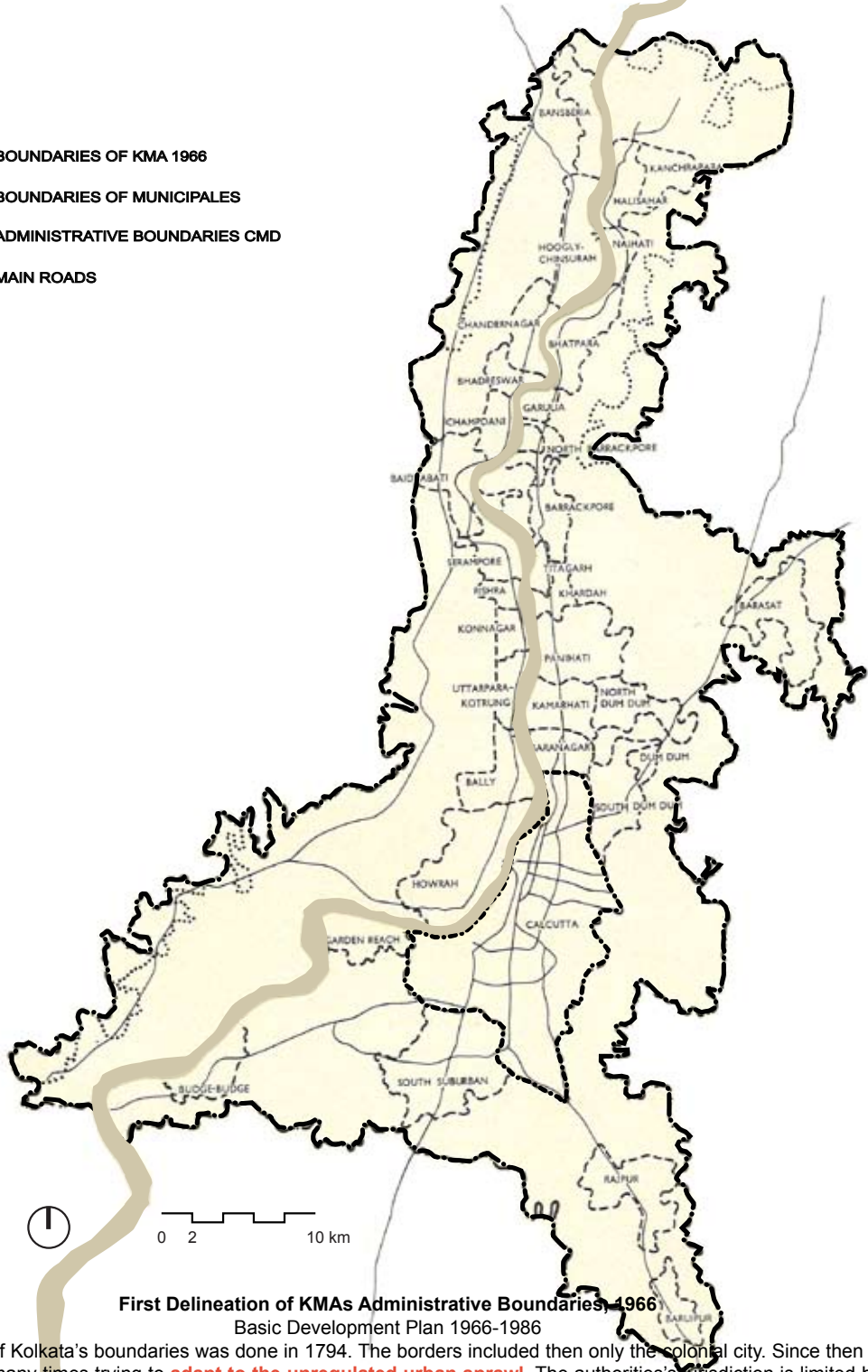
K.M.P.C. Perspective Vision Plan - 2025
Masterplan for Traffic and Transportation in
KMA 2001-2025



INFRASTRUCTURE LINKING
NEW CENTRES

1966






- · — · — · BOUNDARIES OF KMA 1966
- - - - BOUNDARIES OF MUNICIPALES
- · · · · ADMINISTRATIVE BOUNDARIES CMD
- MAIN ROADS

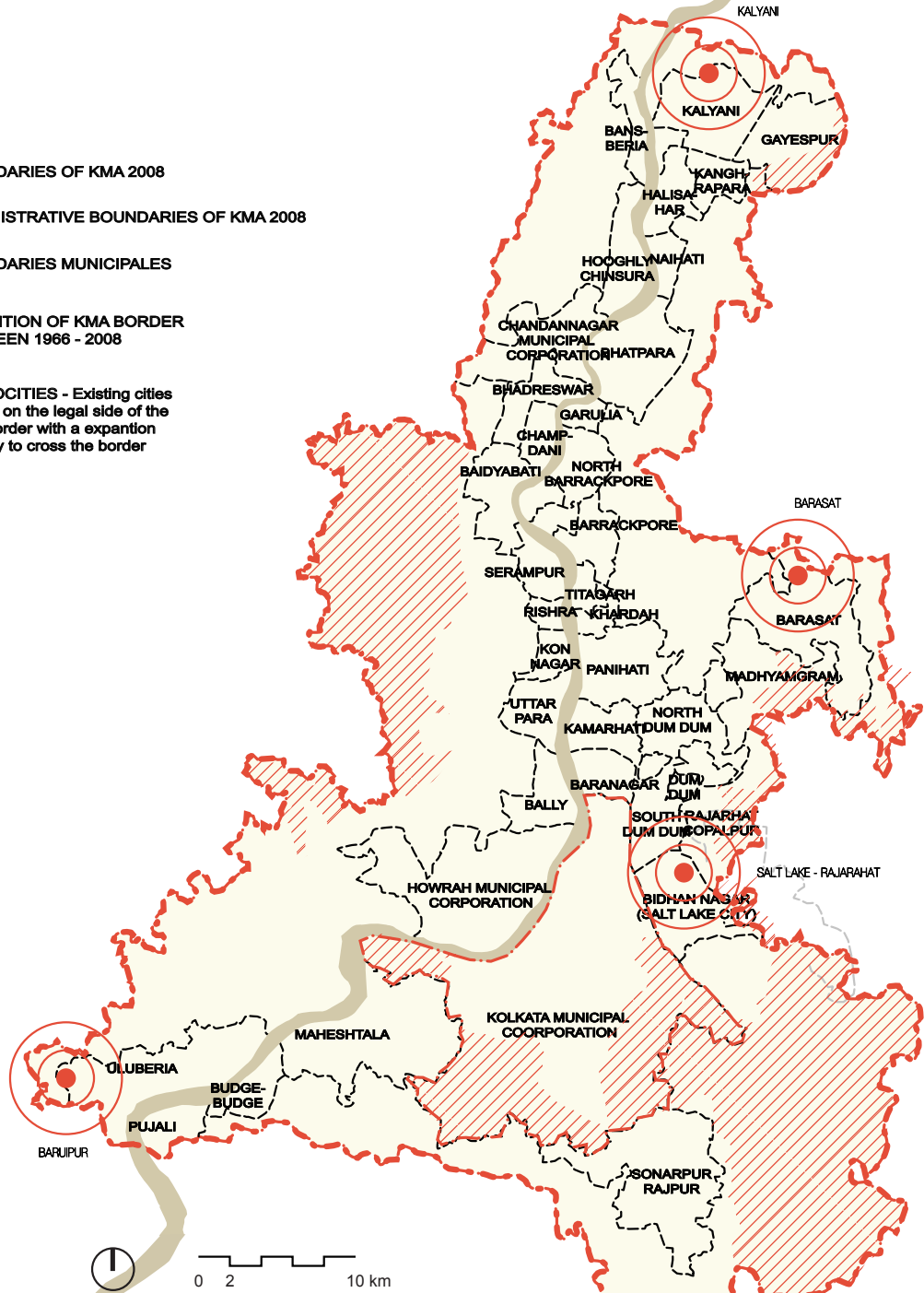


First Delineation of KMAs Administrative Boundaries, 1966
Basic Development Plan 1966-1986

The first delineation of Kolkata's boundaries was done in 1794. The borders included then only the colonial city. Since then the boundaries have changed many times trying to **adapt to the unregulated urban sprawl**. The authorities's jurisdiction is limited by the legal boundaries and stands therefore helpless for growth beyond the limits. In the BDP 1966 was the first time that KMA's borders were defined. This fact is not a merely bureaucratic process. Boundaries can have **physical repercussions** since they determinate budget, financing, plans and implementation.

2008

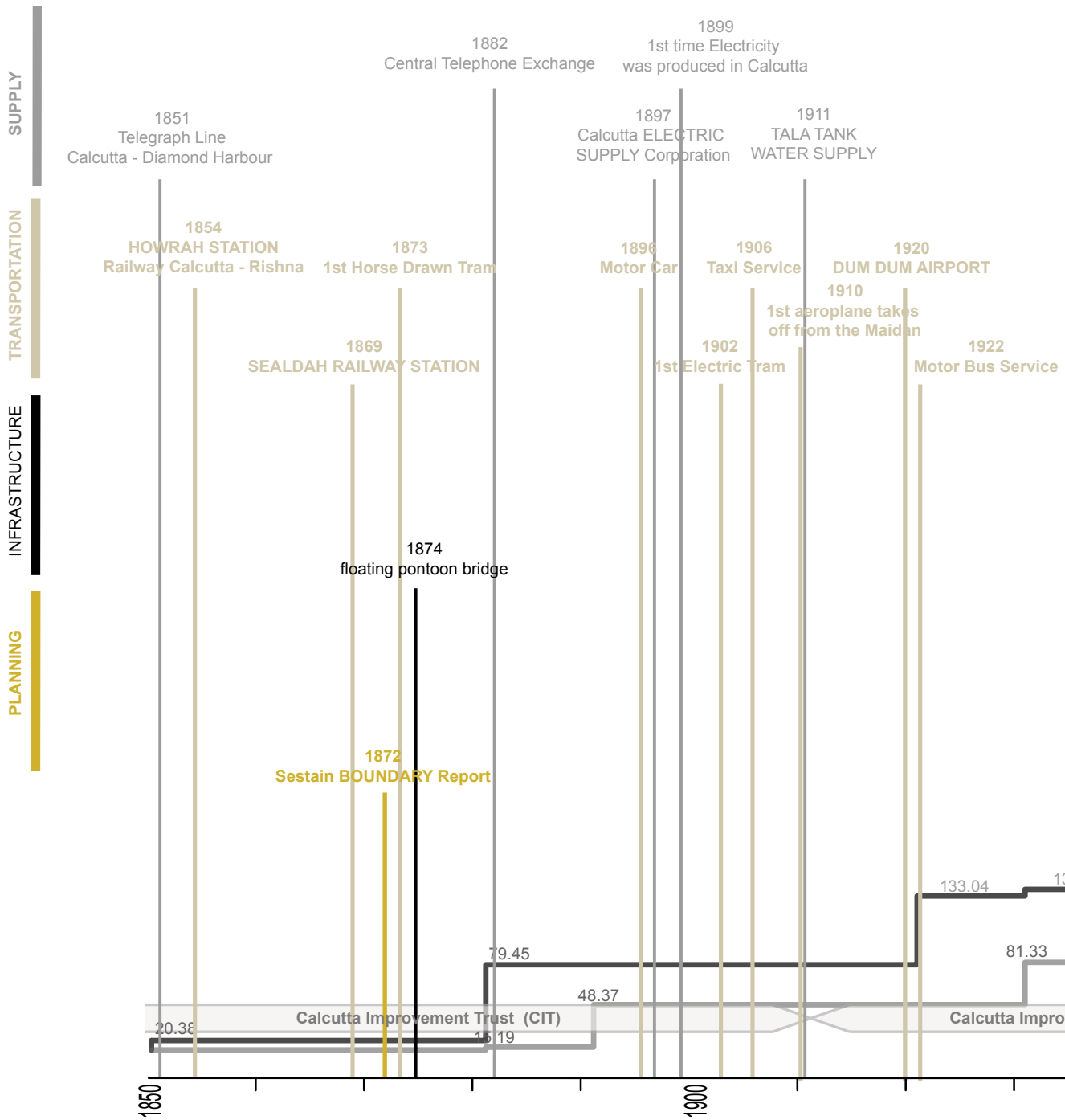
-  BOUNDARIES OF KMA 2008
-  ADMINISTRATIVE BOUNDARIES OF KMA 2008
-  BOUNDARIES MUNICIPALES
-  EXTENTION OF KMA BORDER BETWEEN 1966 - 2008
-  METROCITIES - Existing cities located on the legal side of the KMA border with a expansion strategy to cross the border



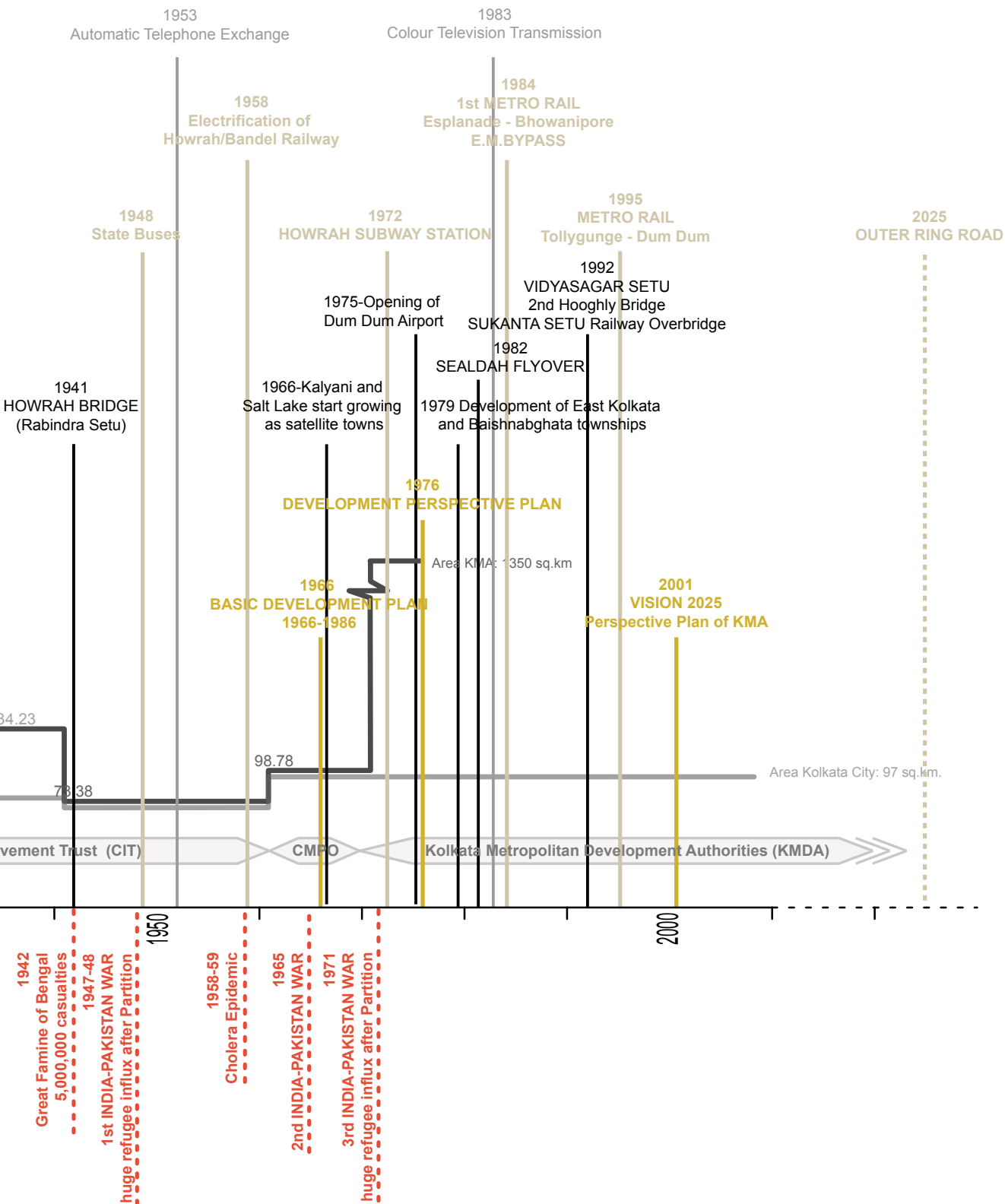
FLEXIBLE BORDERS - The Transmetro Cities Current Administrative Boundaries of KMA, 2008

Vision 2025, Perspective Plan of KMA, 2005

Transmetro Cities are existing townships of a population between 0.25 and 0.5 million inhabitants, located **on the legal border of the KMA**. There are currently five of them: Kalyani, Barasat, Salt Lake-Rajarhart, Baruipur and Uluberia-Bagnan. They are part of **KMDA's strategy to extend the borders of the KMA by promoting their growth over the present administrative boundaries** and finally absorbing new land. This plan is openly expressed by the Development Authorities in the "Vision 2025" document.



TIMELINE OF PLANNING AND INFRASTRUCTURE 1850-2008



- 1 Kalyani - Industrial Growth Center for chemical and pharmaceutical industries, plastic & toy manufacturing units
- 2 Barasat - Nabapalli, Flori culture, horticulture, metal based and engineering, agro and food processing
- 3 Salt Lake City - IT & ITes, plastic & toy manufacturing, gems and jewelry
- 4 East Kolkata Township - IT & ITe, garment manufacturing units
- 5 Bantala - Leather complex expansion
- 6 Sonarpur - Agro and food processing and florae culture and horticulture
- 7 Uluberia - Metal based and engineering, chemical and pharmaceutical industries, florae culture and horticulture
- 8 Sankrial - Chemical and pharmaceutical industries plastic products, metal based and engineering
- 9 Dankuni - Agro/food processing, leather processing products and chemical, pharmaceutical, and plastic products. IT & ITes, animal husbandry/goatery etc.
- 10 Chapmdani - Jute textile and diversified jute products
- 1 Bhatpara - Township to accommodate the over spill population of the Bhatpara Municipal area
- 2 Barrackpur - Township to accommodate the over spill population of the Barrackpur Municipal area
- 3 Natagachi - To accommodate the future increase in activities and population around the proposed district headquarters of South 24 Parganas
- 4 Bonhooghly - To accommodate the future increase in activities and population around the proposed district headquarters of South 24 Parganas
- 5 Jagdishpur - To accommodate the future increase in activities and population around the proposed district headquarters of South 24 Parganas
- 6 South Suburban - Accommodate 40 000-50 000 people with planned infrastructure facilities
- 7 Mahestala - 400-500 acres planned for housing for the future growth of population in this area
- 8 Bauria - Accommodate 40 000 - 50 000 people for the new industrial growth centers that are coming up in this area
- 9 Sankrial - Accommodate people for the new truck terminal and the proposed railway goods terminal in this area
- 10 West Howrah - New Township has been started with foreign direct investment. Accommodate 40 000 with commercial, institutional, and recreational facilities
- 11 Dankuni - Accommodate 500 000 people with commercial, institutional, and recreational facilities. Different categories of industries including IT & ITes
- 12 Baidyabati - The Municipal areas in west of Howrah are getting congested very fast. To stop urban sprawl a three new Townships are proposed
- 13 Chandannagar - The Municipal areas in west of Howrah are getting congested very fast. To stop urban sprawl a three new Townships are proposed
- 14 Bansberia - The Municipal areas in west of Howrah are getting congested very fast. To stop urban sprawl a three new Townships are proposed

THE MISSING TABLE OF CONTENTS _ a summary

I _ Demographic & Spatial Dynamics & Urbanization Pattern in KMA

Introduction to urban planning since 1960

Data, Statistics

In 2025 the city will have around 21 million inhabitants.

II _ Economic Profile of KMA

KMA is more dependent on secondary (falling) and tertiary (increasing) sectors. Rich agricultural hinterland.

With the liberalisation of the country's economy, KMA and its hinterland have become highly attractive to investors due to the large market, political stability, low competition and the Government's policy of decentralization. The strongest sectors for the future economical growth are among others IT&ITES, jute, leather, chemicals, etc.

III _ Policies & Strategies

Conservation of Environment and Heritage

KMA's goal is to achieve a well-dispersed urban growth and a spatially balanced economic development. Controlled urban sprawl.

PPP in Infrastructure

IV _ Future Spatial Structure

Development of new townships in a hierarchical system

Industrial growth centres

V _ Physical Infrastructure

Traffic & Transportation: Roads are the main mean of good transportation

Water Supply & Waste Management

Housing: slums and bustees (Poverty)

Environment (air pollution, noise pollution, river front as a holly place, incorporating the river in the city "Ganga Action Plan", Wetlands (they will map and divide the East Kolkata Wetland area into 5 different land use sectors: wetland, agriculture land, garbage farming, urban/rural settlements, added/ peripheral sectors)

VI _ Social Infrastructure

Education, Health, Slum improvement, Employment

VII _ Urban Governance, Management and Finance in KMA

VIII _ Short Term Investment Plan Financing

THE URGENCY FOR NEW INFRASTRUCTURE

“ The development of urban infrastructure in KMA has not been able to keep pace with the growth of population and economic activities.

It is imperative to provide adequate infrastructural support for realization of whatever economic growth potential.

The private sector needs to play a symbiotic role in infrastructure development, as without proper infrastructure development economic growth would be slowed down. ”

- Vision 2025, Perspective Plan of KMA, Draft Final Report 2005

INSTRUMENTALIZED INFRASTRUCTURE Case Studies

Eastern Metropolitan Bypass

On the Bypass

Infrastructure as a Border

Attracting Investment

Shrinking Wetlands

Proposed New Ring Road

On the Ring Road

Stretching the Borders

Trapped Wetlands

Financing Infrastructure

The Complexity of a Road (Conclusions)



INSTRUMENTALIZED INFRASTRUCTURE Case Studies

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The Complexity of a Road (Conclusions)

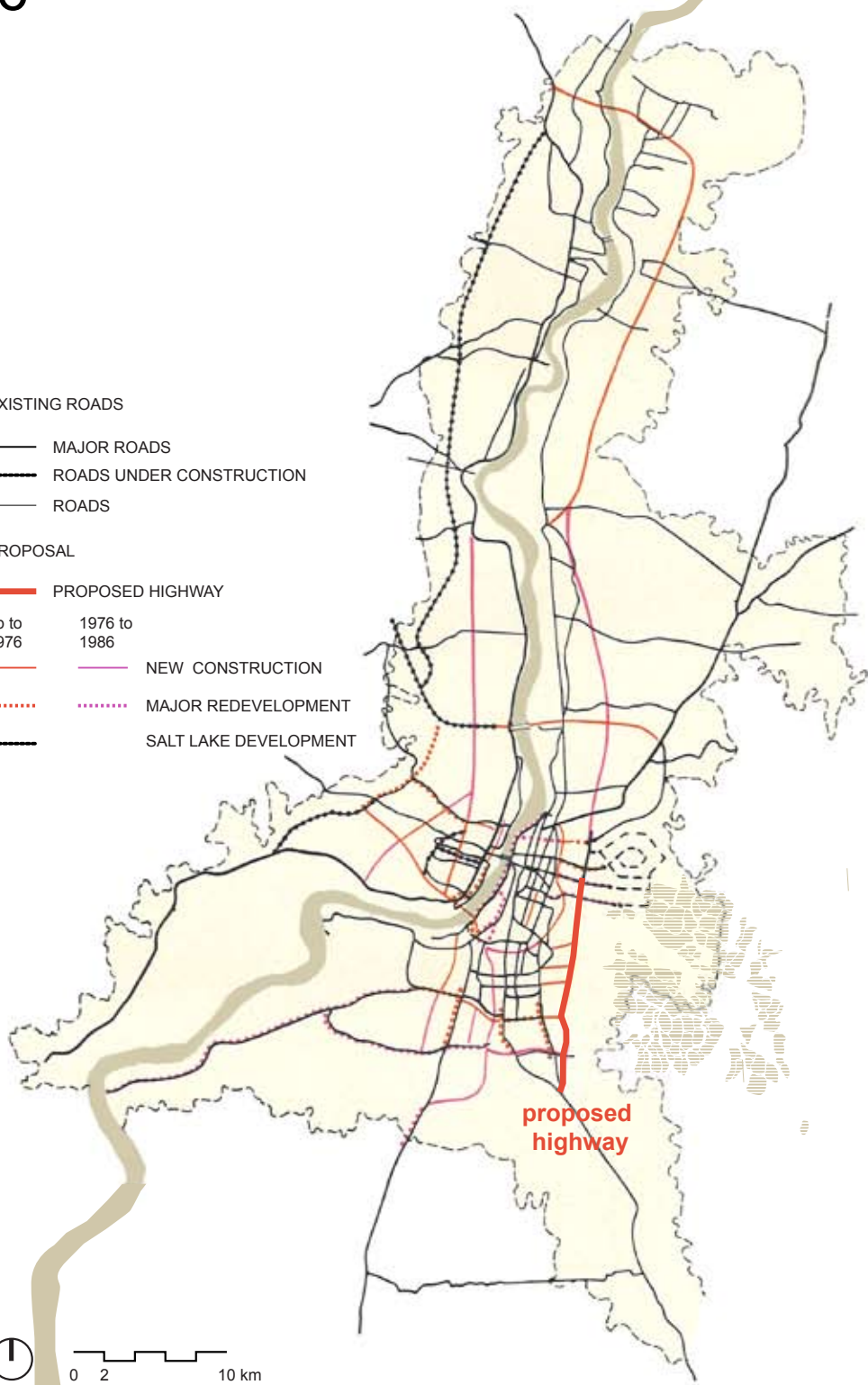
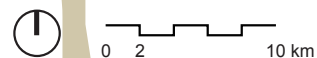
1966

EXISTING ROADS

- MAJOR ROADS
- ROADS UNDER CONSTRUCTION
- ROADS

PROPOSAL

- PROPOSED HIGHWAY
- up to 1976 1976 to 1986
- NEW CONSTRUCTION
- MAJOR REDEVELOPMENT
- SALT LAKE DEVELOPMENT

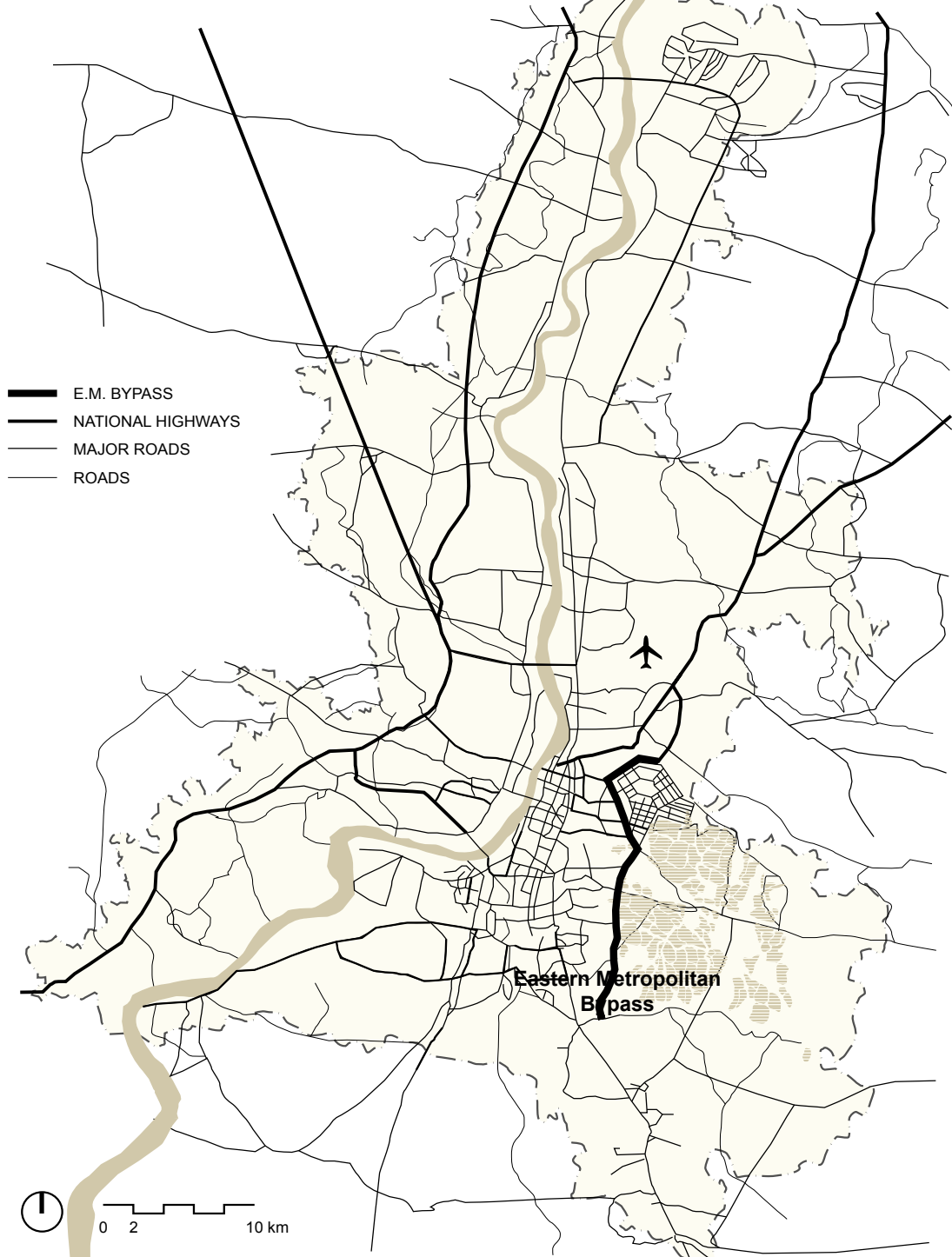


proposed
highway

Proposed new highway on the Eastern Fringe (Basic Development Plan 1966)

First official proposal of a highway on the eastern fringe of the city. The road was finally built further to the East, since the expansion of the city exceeded all predictions.

2008



Implemented Eastern Metropolitan Bypass (E.M. Bypass)

Final route. Beginning 1980s the road starts to be built. In 1984 the expressway becomes operational. The Bypass has today become a main artery of the city.

2008

7 KM TO THE AIRPORT

ULTADANGA 0 KM

W1. THE BYPASS STARTS IN ULTADANGA

E2. HYATT HOTEL

W3. SILVER SPRING

E4. DHAPA GREENERY

W5. THE NEWSPAPER BARTAMAN

W6. ITC SONAR HOTEL

W7. SCIENCE CITY

W8. CALCUTTA INTERNATIONAL SCHOOL

W9. RUCHIRA

W10. CORAL ISLE

E11. VIEW TOWARDS EAST WETLANDS

W12. AVISHIKTA 2

PLOT - "INDUSTRIAL COMPLEX"

E13. METRO CONSUMER MART

W14. UDITA

W15. HYLAND PARK

E16. ASHABARI

GARIA 21 KM

-  LANDSCAPE
-  HOTELS
-  RESIDENCES
-  COMMERCIAL



Case Study Plot _ industrial complex

The studied zone is located off the centre of the E.M. Bypass. By looking at its built-up area at three different stages (60s, 90s and 2008) we understand how the E.M. Bypass acts as a border for the city development. We finally discover how its current privileged situation and connectivity has attracted the growth of medium-size industries and enterprises looking for open land with good connection to the city, hinterland and international airport.

The industry on the chosen plot is an important german wholesale distributor (Metro Cash & Carry).



Road as a Market Road as an Exchange hub

The proximity of agriculture land to the city couldn't be larger. Peasants close to the Bypass don't even need to go to the market to sell their products, but instead they will just walk some few meters to meet the road and offer their goods on the busy highway, where the demand is beyond high.

In Kolkata the food is specially cheap because the distance between the fertile agricultural fields on the wetlands and the city is so close that the transportation costs are minimum.



Crossing the Border

In the last five years, the barrier to the wetlands, which used to be impervious, has become more and more penetrable to urban sprawl. Medium housing blocks, high office buildings, international industries or luxurious hotel complexes have started to mushroom on very fertile land.

Today the city is growing over the border that used to define it.

Economical interests strongly linked to the expressway and its repercussions threaten the affected area, theoretically under the Ramsar Convention protection.



W1. THE BYPASS STARTS IN ULTADANGA



E2. HYATT HOTEL



W3. SILVER SPRING



W5. THE NEWSPAPER BARTAMAN



W6. ITC SONAR HOTEL



W7. SCIENCE CITY



W9. RUCHIRA



W10. CORAL ISLE



E11. VIEW TOWARDS EAST WE



E13. METRO CONSUMER MART



W14. UDITA



W15. HYLAND PARK



E4. DHAPA GREENERY



W8. CALCUTTA INTERNATIONAL SCHOOL



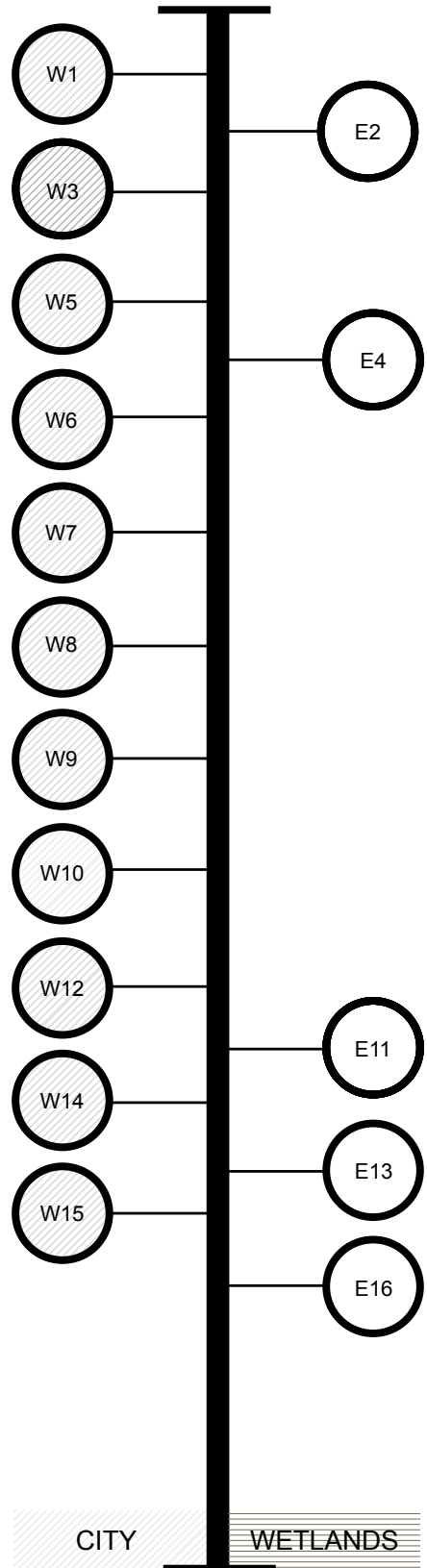
WETLANDS

W12. AVISHIKTA 2



E16. ASHABARI

ULTADANGA 0 KM

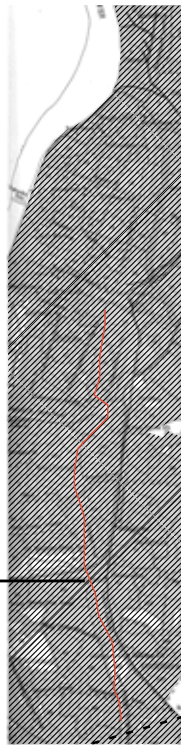


1960s



proposed highway

1990s

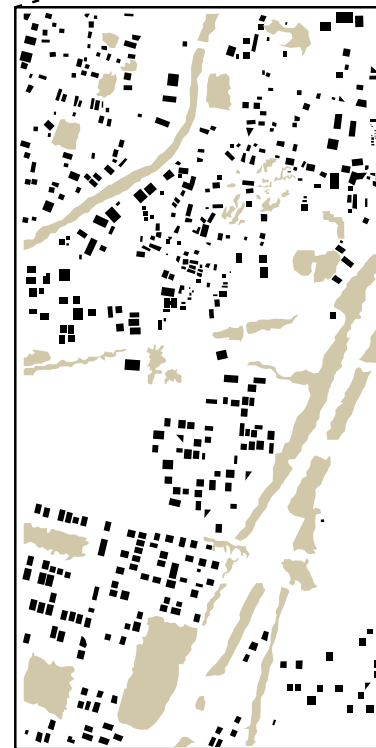


proposed highway



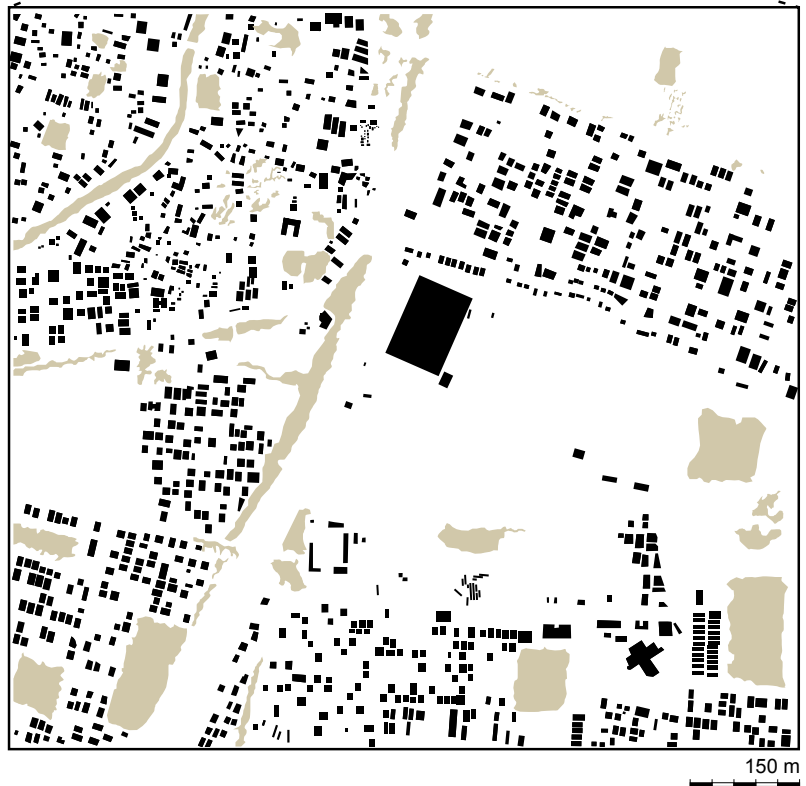
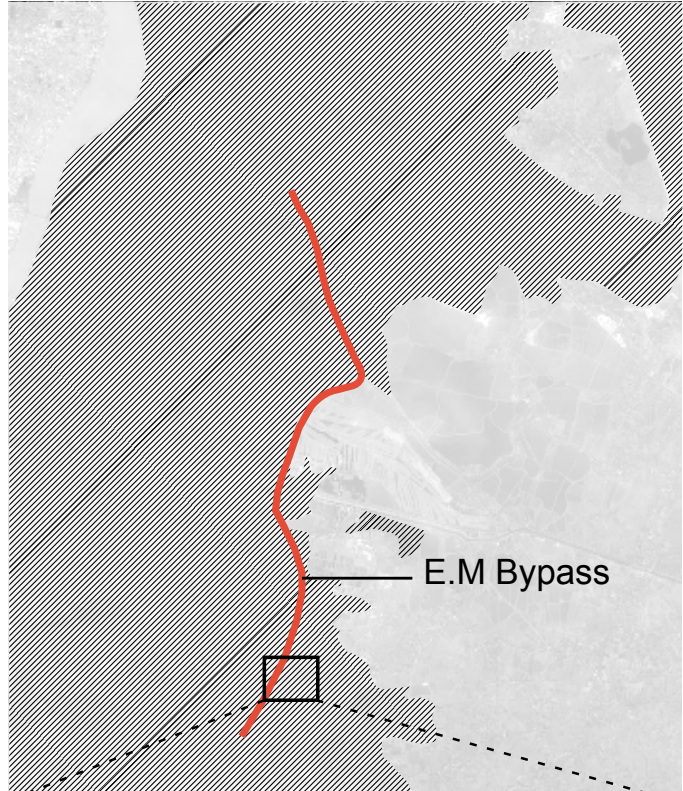
150 m

1960s_ The E.M. Bypass isn't yet built. The city is defined by former roads. The zoomed-in plot is rural and unbuilt (supposed map).



1990s_ The new E.M. Bypass defines the city. The city has grown towards east and the wetlands.

2008



es the border between the city, which
ands.

2008_ Today, the area on the western side of the highway is almost completely built up and the land on the eastern side has started to be occupied.



Infrastructure as a Border

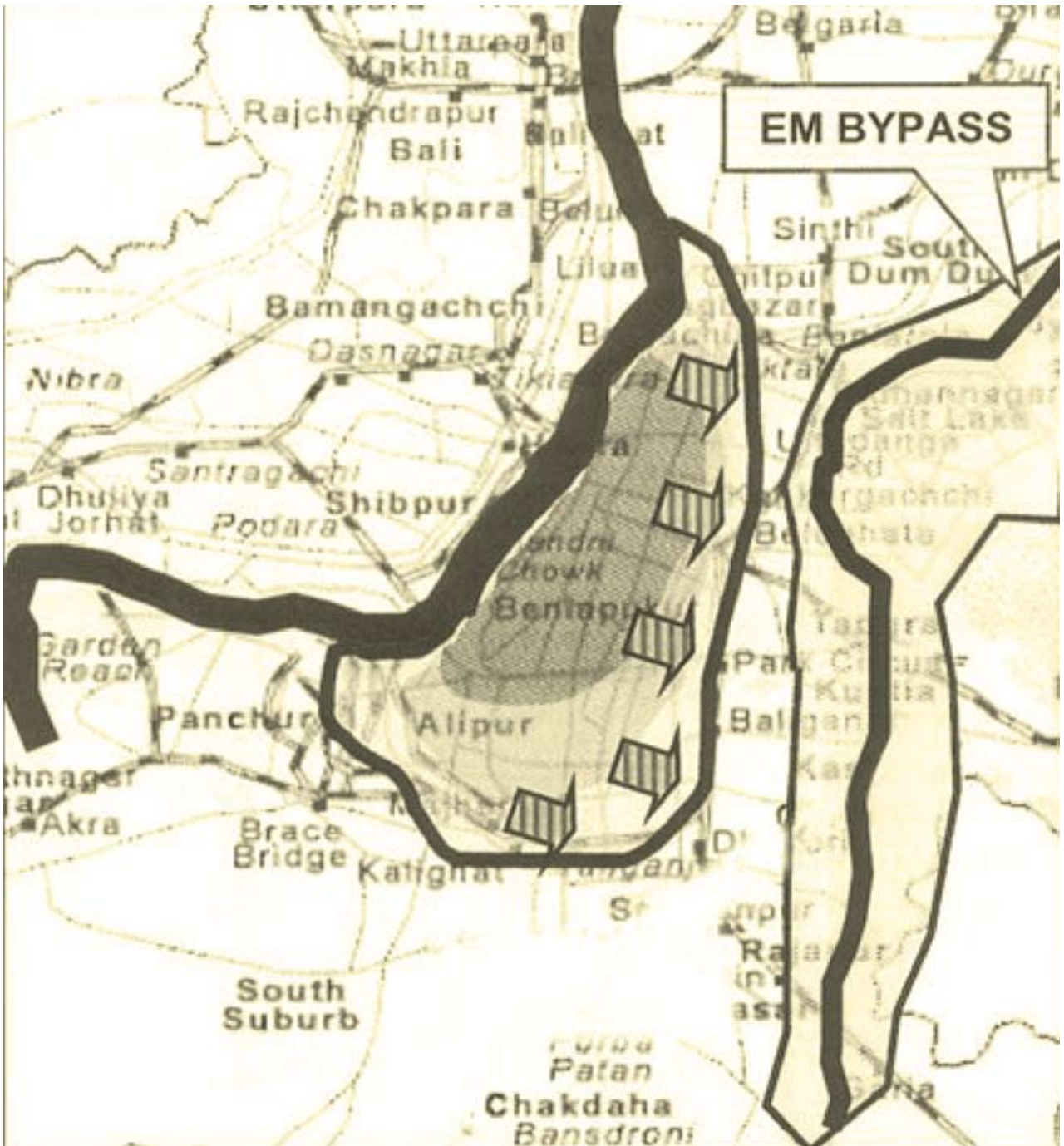
The E.M. Bypass cuts the landscape in two: the dense city on the west, the rural wetlands on the east



Infrastructure as a Border

Billboards along the road emphasize the presence of the highway by creating a visual “wall”

1960s



Infrastructure as a *Planned* Border

Source: Chronology Development KMPO, Emerging Trends, 1960s

In their maps, the Development Authorities drew the expressway as a clear border towards which the city was growing.

2008



Housing Complex on the western side of the E.M. Bypass



The E.M. Bypass acts as a border between the dense metro city and the wetlands



Eastern Kolkata Wetlands on the eastern side of the E.M. Bypass

KMC gets record price for plot off EM Bypass

Saikat Ray & Udit Prasanna Mukherji | TNN

Kolkata: KMC has fetched a record Rs 135 crore for a 3.35-acre plot off the Eastern Metropolitan Bypass.

Apeejay Group outbid 19 other competitors to win the prized plot meant to set up a five star hotel.

Last year, Kolkata Municipal Corporation had mopped up Rs 156 crore from realty major DLF for a five-acre land off the Bypass to construct a hotel.

The Apeejay deal, at Rs 70 lakh per cottah, marks a 27% rise in hotel land price since last year, when the DLF land went for Rs 55 lakh per cottah.

Others in the running for the KMC plot were known names in the hotel industry like the ITC group, Leela group, Orchid, Raheja group and Forum Projects (belonging to mall and IT park developer Rahul Saraf).

According to initial plans, a four star hotel was supposed to come up on the plot, but the Apeejay group has decided to build a five star deluxe hotel instead.

KMC had invited request for proposals (RfPs) for the plot in March.

When contacted, chairman of Apeejay Surendra Park Hotels Karan Paul confirmed the development. "Yes, we are the highest bidder for the plot," he said.

According to him, the group will invest Rs 450 crore to develop the hotel. "We are investing Rs 135 crore for the land, and another Rs 315 crore will be spent on

BOOST TO HOTEL SECTOR

the construction of the hotel. The funding will be done through a mix of internal accruals and debt. This will be one of the best five star deluxe property in the city," he said.

The proposed hotel, he said, will have 300 rooms. The group will use its existing brand — 'The Park' — for the new property. "The Park is a strong brand in this part of the country. So, we have decided to use that," he said.

In two years: Plenty of options to eat out on the EM Bypass



The E.M.Bypass is being incorporated in the city. What used to be the industrial and agricultural outskirts of Kolkata is now a busy “street” full of leisure activities. Malls, restaurants and hotels characterize the road today.

MALLS AND RETAIL

The **highest growth in mall rentals** was at E.M.Bypass area, increasing from Rs.160/sq.ft./month to Rs.200/sq.ft./month in a period of six months. In 2008 the new Mani Square mega mall opened along the E.M.Bypass with over 1.4million sq.foot (164,000 sq.m) of retail space.

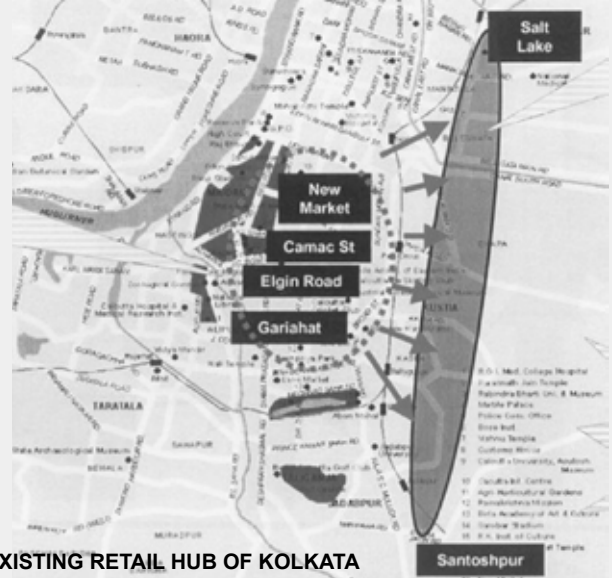
LUXURIOUS HOTELS

The areas around the E.M.Bypass have emerged as the best location for upcoming national and international hotel chains. The reasons are obvious: **proximity to the city centre, direct connection to the international airport and a wide range of shopping and leisure centres.**

Having tasted success with the auction of a 5-acre (20,235 m²) plot for the stunning quantity of Rs276.2 crore (5,524,000\$ or 273\$/ m²), in 2006 the Kolkata Municipal Corporation (KMC) gave *carte blanche* to the sale of land to international hotel companies. Two hotels - ITC Sonar Bangla and Hyatt Regency (W6 and E2 in map) - are already located on the stretch, three new five-star hotels are already being built - Hilton, JW Marriott and Holiday Inn-, and two more seven-star projects are in operation. In 2006 rates were Rs 3,000-3,400/ sq.ft or **645\$/sq.m** and **rised 15% in 2007.**

A. Bandopadhyay, commissioner of the KMC, says **“We own a few hundred acres of land in and around Kolkata, which we will sell over the next few years. The money we make will be ploughed back into civic infrastructure.”** KMC invited hotels’ bids.

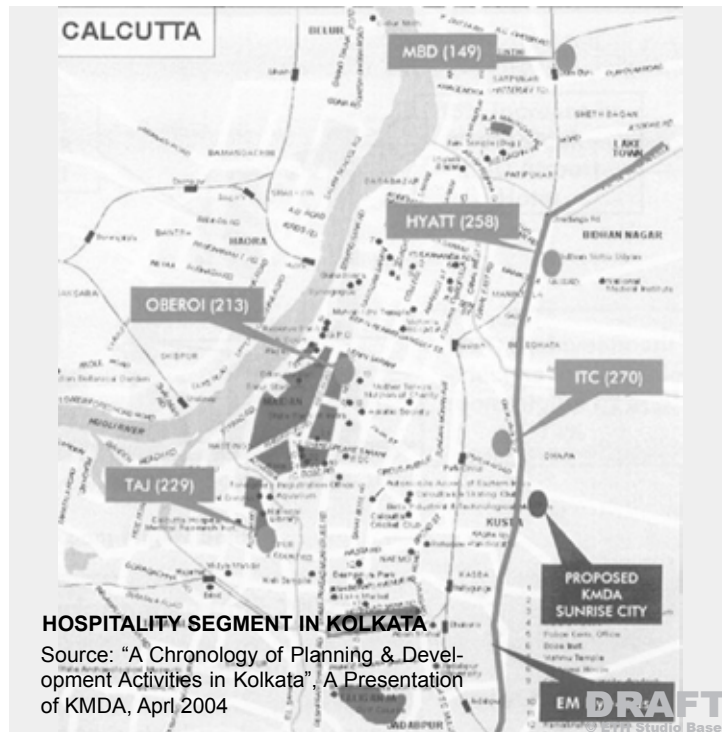
In April 2006, Emaar MGF was the first to raise the bar in Kolkata’s real estate market by buying a six-acre plot for Rs213 crore (4,260,000 \$). In October 2007, Life Insurance Corp. (LIC) set a new benchmark by paying Rs55.24 crore/acre (**1,104,800\$/acre**) for leasing a 5-acre property for building a hotel. Some 50 companies, had evinced interest in the property, but eventually backed out after hearing the **exorbitant** reserve **price**. Obviously enough, the hotel business is one of Kolkata’s most flourishing enterprises.



EXISTING RETAIL HUB OF KOLKATA



RETAIL MALLS - SUPPLY



HOSPITALITY SEGMENT IN KOLKATA

Source: “A Chronology of Planning & Development Activities in Kolkata”, A Presentation of KMDA, April 2004

LAND PRICES

In recent years, urban land has been the principal tool used by the **West Bengal government** to achieve its aim of **maximizing real estate activities** in Kolkata. Kolkata has been experiencing **soaring land prices** in the last few decades, in tandem with **sky-rocketing demand for buildable land**.

The privileged position of the areas along the E.M. Bypass, suddenly **attached to the metro core** due to the growth of the city towards the east, and its **high connectivity** has converted the land along the expressway into the most desired. Prices have risen dramatically. In 2008 land prices stabilized in all areas of Kolkata except in upcoming areas like E.M. Bypass where land sales continue to be competitive.

HOUSING

Bengal Shraci's exclusive mixed residential project, called URBANA and situated on the Bypass, is slated to be Kolkata's tallest and most **premium apartments** with premium bungalows.

OFFICES

Two new office complexes are proposed for 2011 on the E.M.Bypass, close to the Ruby Hospital, with 35,000 and 80,000 sq.ft. respectively.

Comparison Study

- 1_Salt Lake City
- 2_Park Street (centre)
- 3_E.M. Bypass

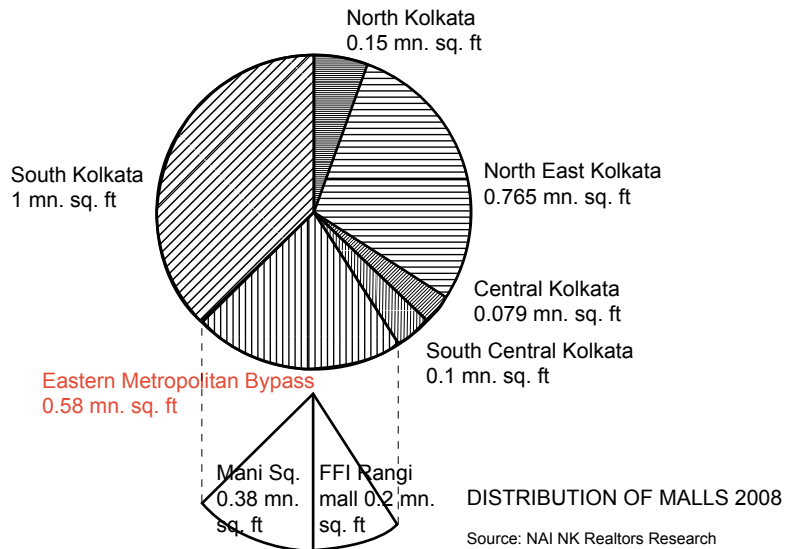
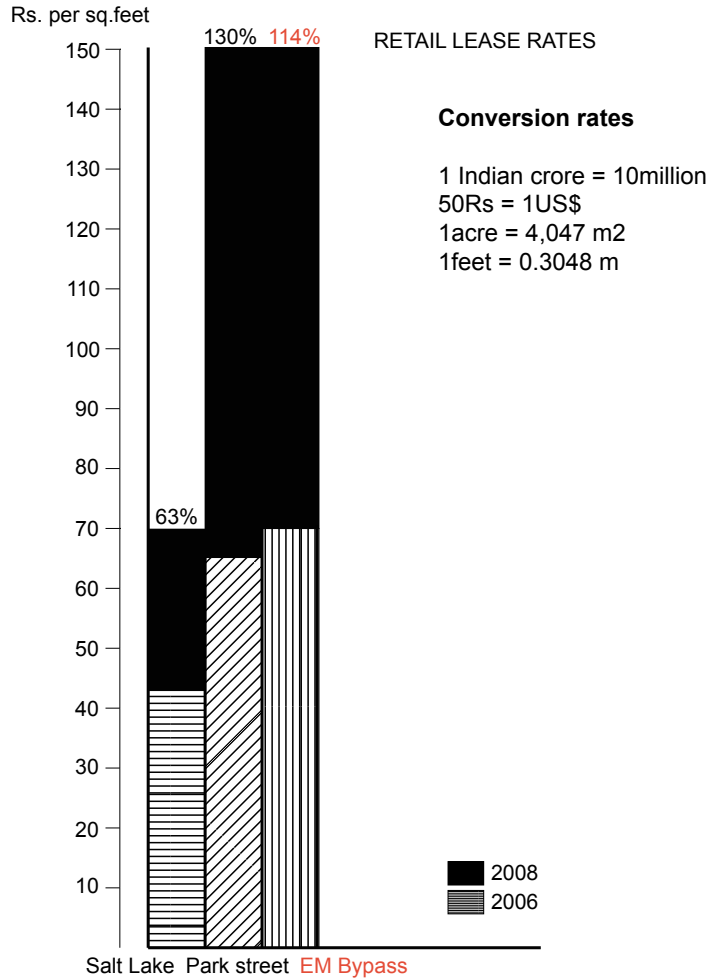
The retail lease rates have increased 114% in the last two years for E.M. Bypass, almost double as much as Salt Lake City.

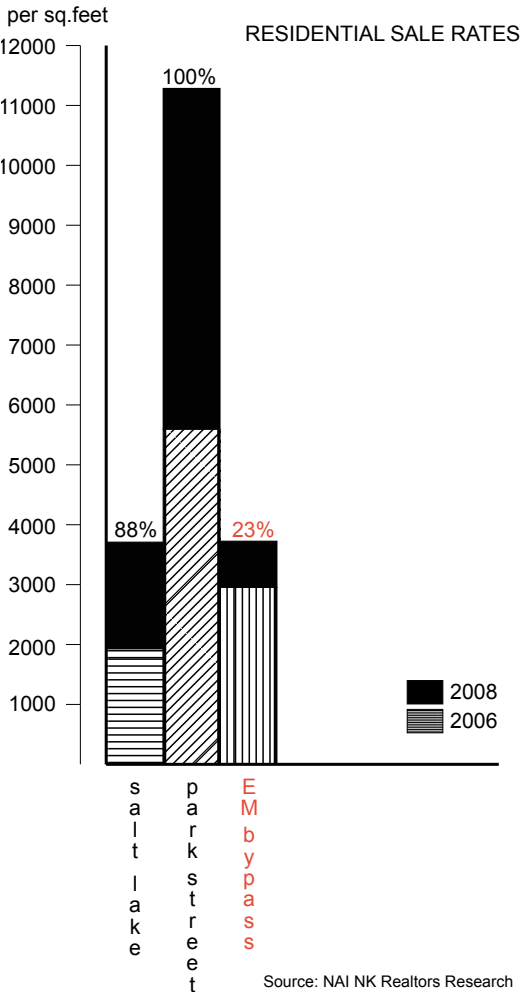
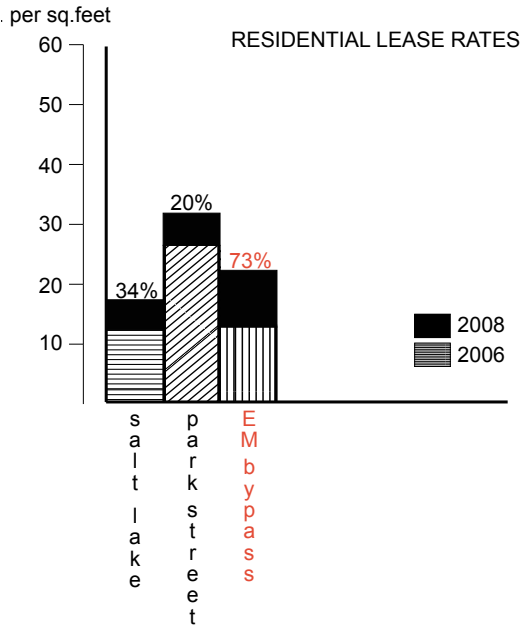
The diagram of the mall distribution in Kolkata shows that E.M. Bypass holds the second largest concentration of malls area in the city.

The residential lease rates along the E.M.Bypass have experienced an increase of 73%, far higher than the areas in Salt Lake City and the City Centre.

Sources:

<http://money.outlookindia.com/article.aspx?sid=10&cid=70&articleid=6330>
<http://in.biz.yahoo.com/080309/259/6rmvf.html>







SHRINKING WETLANDS

The **Eastern Kolkata Wetlands** are the largest ecosystem of this kind in the world. Nevertheless, it wasn't until 2002 that **12,500 ha** of this unique area were designated as a **protected Ramsar site** (the Ramsar list contains all internationally significant wetlands).

The immeasurable value of this site has not only to do with its rich ecosystem and biodiversity, but also because it functions as a natural purifying plant for the whole metropolis.

On these wetlands, multiple garbage dump areas are used to raise a variety of vegetables. The city receives about 150 tonnes of vegetables daily from these **"garbage farms"**. The resource recovery system developed by the local people over many years using wastewater from the city is the largest and the only one of its kind in the world. Professor Ghosh, director of the Centre for Environment and Development, estimates **the wetlands save the city about Rs 400 crore in capital expenditure**. Besides, agriculture and aquaculture in the wetlands provide significant income for sustaining livelihoods of thousands of families living in the area. The wetlands generate a value of Rs 92.45 crore per year and provide income (Rs 2,000-Rs 3,000 per household per month) to sustain livelihoods of poor residing in wetlands.

The wetlands are obviously **crucial to Kolkata's survival**. If they disappeared the consequences for the whole metropolitan area would be fatal. The water supply, sewerage and drainage **system would collapse**. Kolkata today has not the economical means to set artificial purifying plants for the whole city and therefore cannot afford to lose its most precious joy.



Eastern Kolkata Wetlands, off the Bypass, southern stretch, Oct. 2008



Eastern Kolkata Wetlands

The expansion to the east, over the Ramsar border, is already noticeable
photo: off the E.M. Bypass, central stretch



Eastern Kolkata Wetlands

There is repeated advertisement by real estate promoters who want to sell land east of the E.M. Bypass
photo: off the E.M. Bypass, central stretch



Eastern Kolkata Wetlands

Informal constructions are popping up in the Ramsar area. The site is hidden by building a wall around the plot.



Eastern Kolkata Wetlands

They will now proceed to fill up the land and start with the construction.

E.M. Bypass _ 2008

wetlands

landprices are rising

An aerial photograph of a cityscape. A wide, multi-lane road, identified as E.M Bypass, runs diagonally from the bottom left towards the top right. To the left of the road, there are several tall, modern apartment buildings and some lower-rise commercial structures. To the right of the road, there is a mix of greenery, including trees and grassy areas, and some smaller, older buildings. The background shows a hazy city skyline under a bright sky. Red text annotations are overlaid on the image.

strategic location for hotels

buildings start crossing the road

old border defined by the road

E.M Bypass



INSTRUMENTALIZED INFRASTRUCTURE Case Studies

Eastern Metropolitan Bypass

On the Bypass

Infrastructure as a Border

Attracting Investment

Shrinking Wetlands

Proposed New Ring Road

On the Ring Road

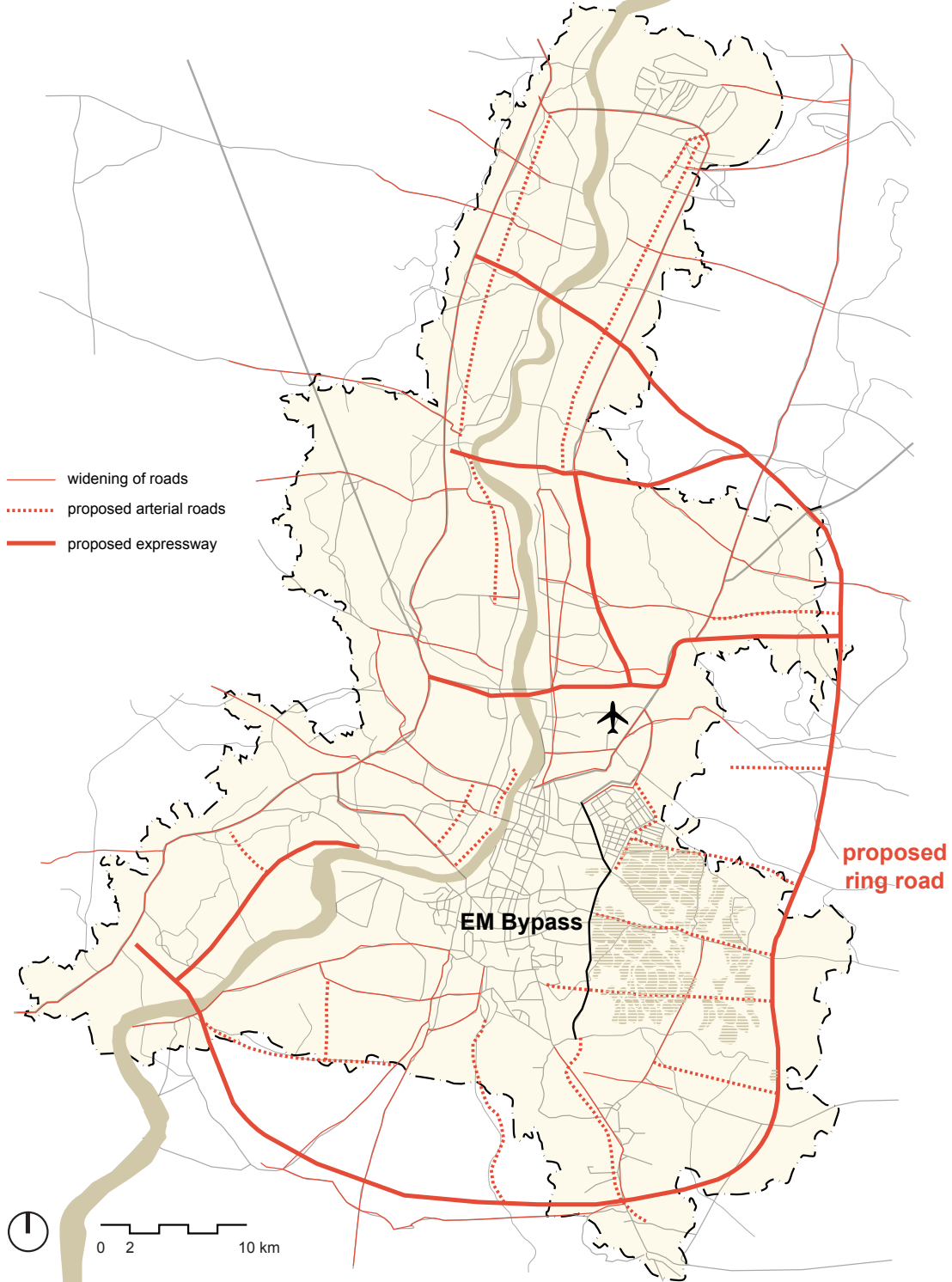
Stretching the Borders

Trapped Wetlands

Financing Infrastructure

The Complexity of a Road (Conclusions)

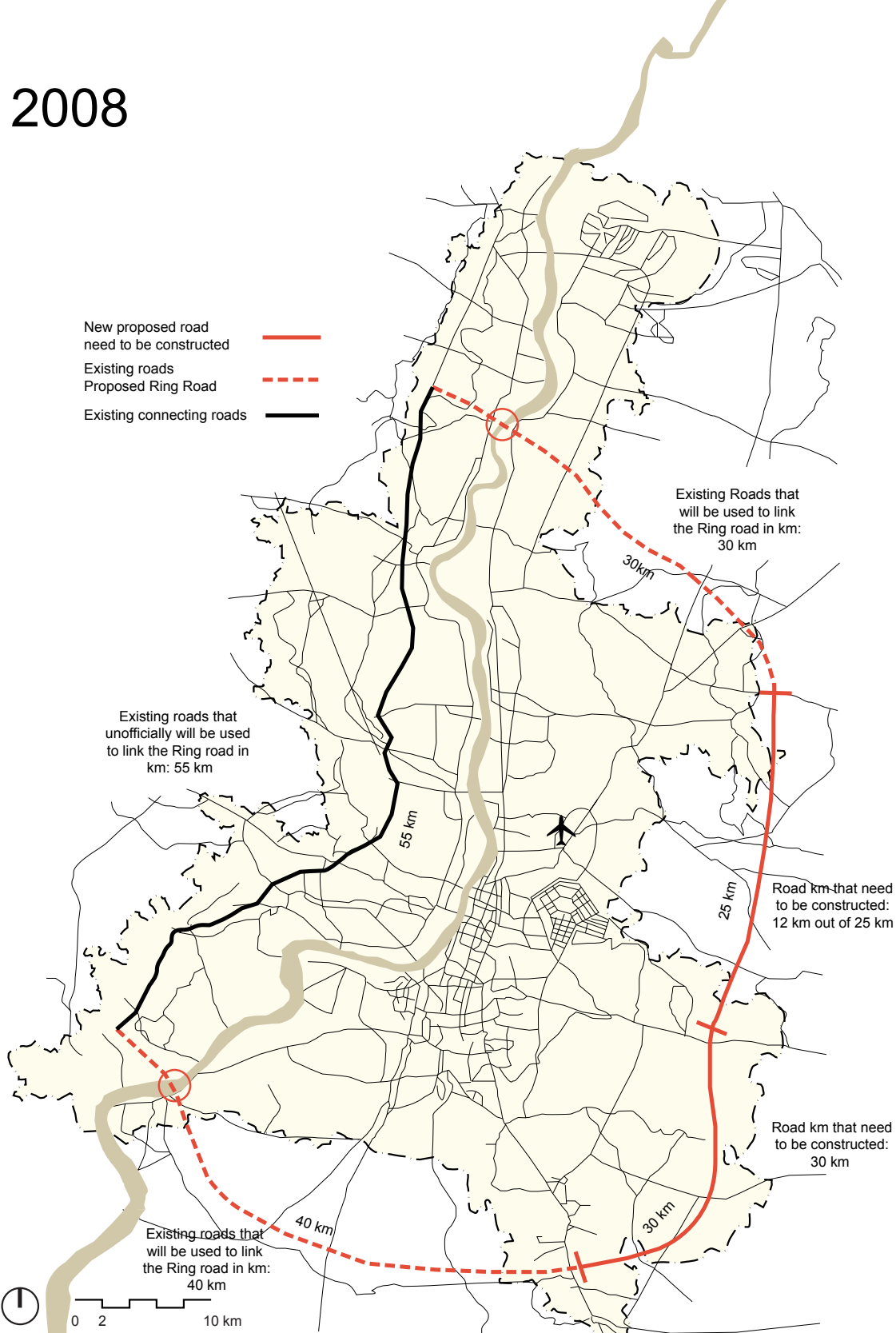
2008



Proposed new Outer Ring Road

Vision 2025_Perspective Plan of KMA, 2005 Draft

The proposed Ring Road will be accompanied by a parallel new Railway Ring.









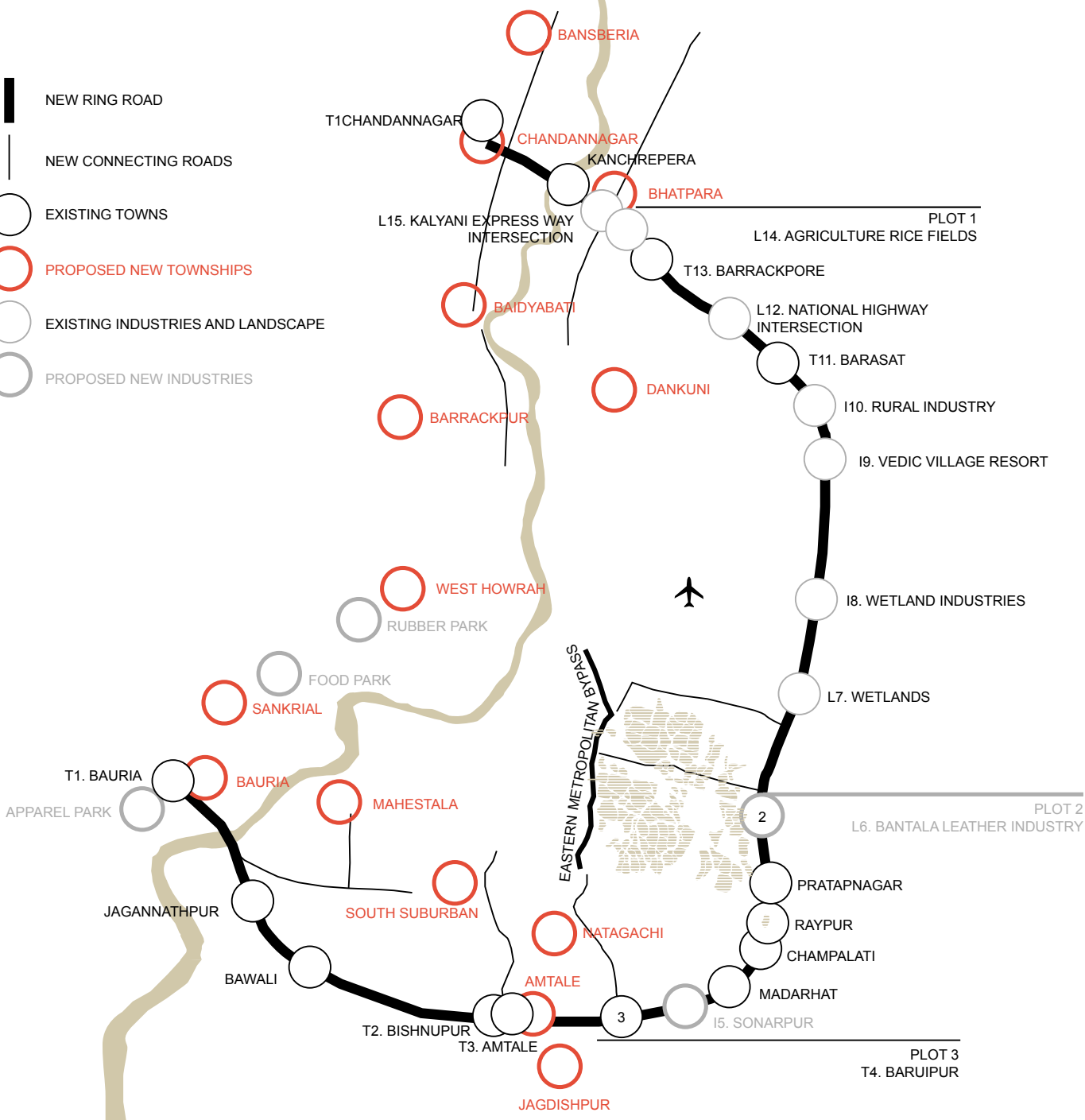
Proposed new Outer Ring Road

Vision 2025_Perspective Plan of KMA, 2005 Draft

An expressway of about 135km length (including links) can be made operational by constructing only about 55km of new road in rural area. All roads will be owned by the State Government. The private sector developer's role is only to construct the roads.

2008

-  NEW RING ROAD
-  NEW CONNECTING ROADS
-  EXISTING TOWNS
-  PROPOSED NEW TOWNSHIPS
-  EXISTING INDUSTRIES AND LANDSCAPE
-  PROPOSED NEW INDUSTRIES



Proposed New Townships along New Ring Road _ 2025
 Vision 2025 Perspective Plan of KMA (Draft Final Report 2005)

EXISTING AND PROPOSED NEW GROWTH CENTRES _ 2025

The governmental Development Authorities claim that the proposed Outer Ring Road will serve all the existing centres and the rural catchment areas and will ensure **balanced development in the Region**.

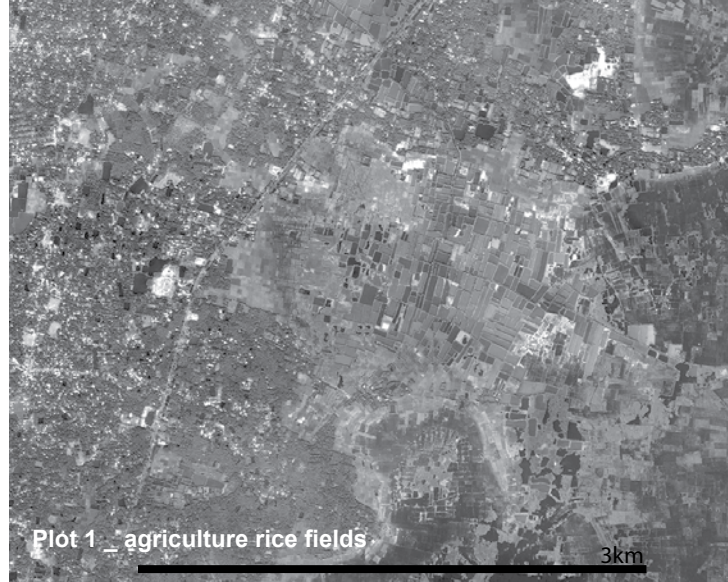
The proposed growth centres will be about **50km from Kolkata** and may be developed to function as **Satellite** growth centres of Kolkata.

KMDA'S CONSIDERATIONS FOR THE LOCATION OF NEW TOWNSHIPS

- _Balanced distribution of urban centres
- _The present trend of growth
- _The larger regional scale
- _Geoenvironmental factors
- _Priorization of favourable land for infrastructure
- _Development Programmes of the State and Central Governments
- _Water bodies and wetlands' conservation
- _Control of unplanned urban sprawl in the fringe areas upon the agricultural land and wetlands
- _Generation of self-sufficient townships
- _Interests of the private sector as a investor in infrastructure

Sources:

Master Plan for Traffic and Transportation in Calcutta Metropolitan Area 2001-2025, Draft July 2001
Vision 2025, Perspective Plan in KMA, Draft Final Report, December 2005, KMDA



Plot 1 _ agriculture rice fields

3km



Plot 2 _ Bantala Leather Complex

3km



Plot 3 _ Baruipur township

DRAFT
© ETH Studio, Basel



T1. BAURIA
POPULATION:



T2. BISHNUPUR
POPULATION: 4500



T3. AMTALA
POPULATION: 8500



I5. SONARPUR



I6. BANTALA
LEATHER FACTORY
PLOT 2



L7. EAST KOLKATA WETLANDS



I9. VEDIC VILLAGE RESORT



I10. RURAL INDUSTRY



T11. BARASAT
POPULATION: 230 000



T13. BARRACKPORE



L14. AGRICULTURE
PLOT 1



L15. KALYANI EXPRESS WAY
INTERSECTION



T4. BARUIPUR
POPULATION: 44 000
PLOT 3



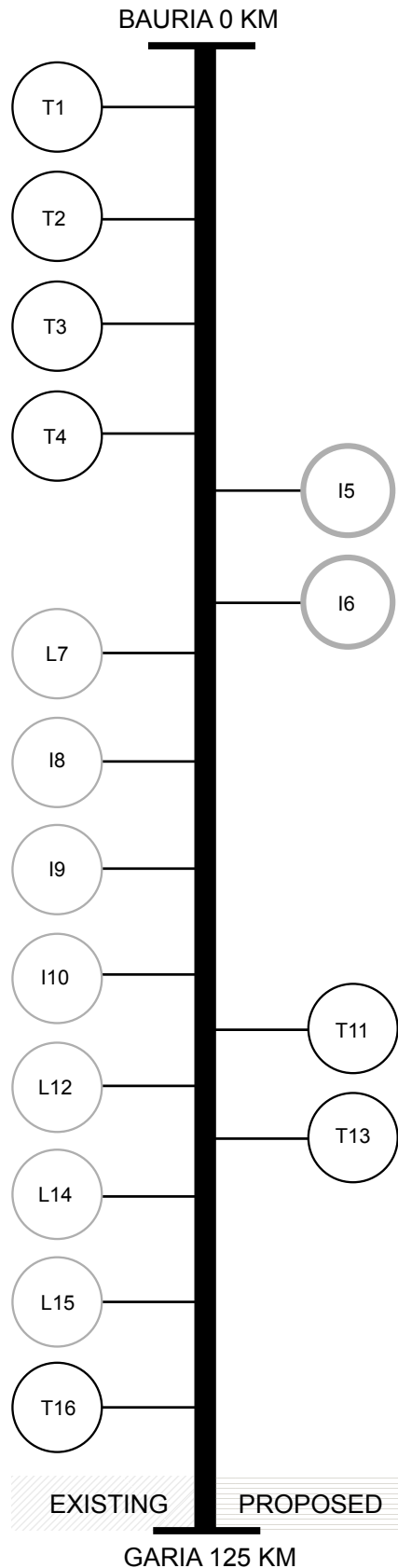
I8 AGRICULTURE INDUSTRIES



L12. NH 34 INTERSECTION

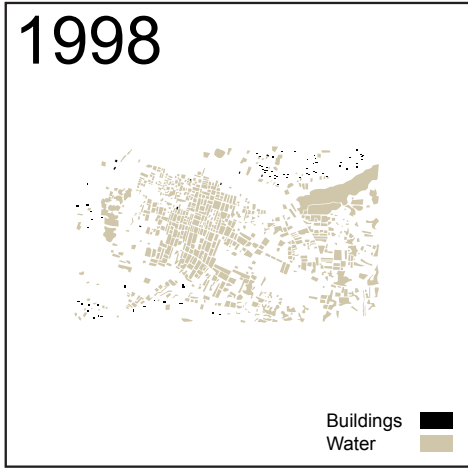


T16. CHANDANNAGAR
POPULATION: 160 000



1998

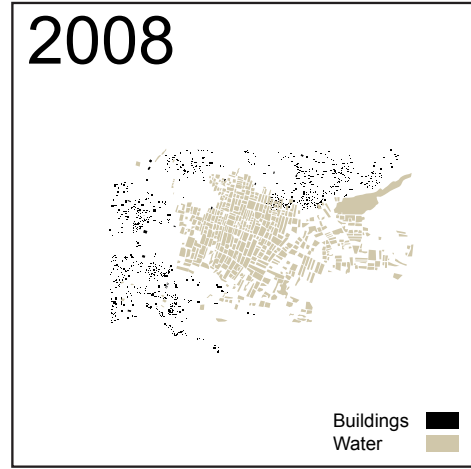
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Agriculture - Rice fields 1998

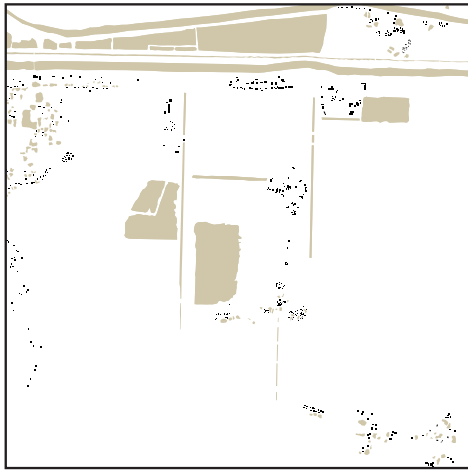
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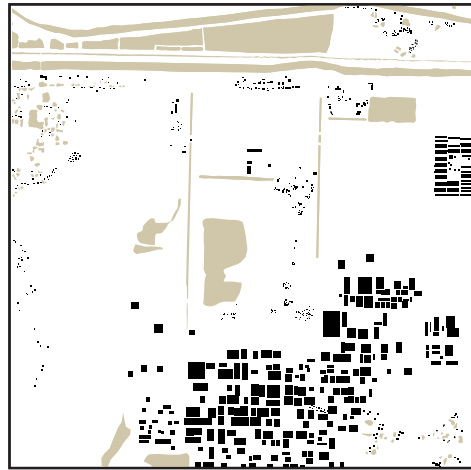
Agriculture - Rice fields 2008

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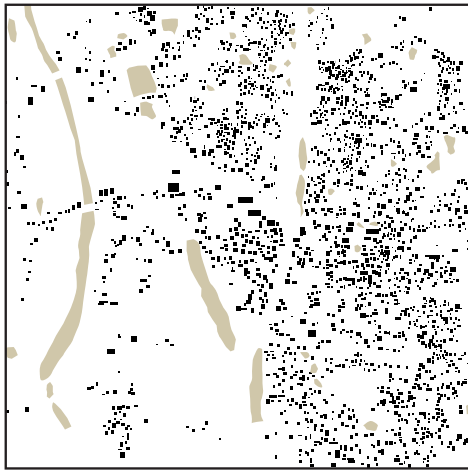
Bantala Leather complex 1999

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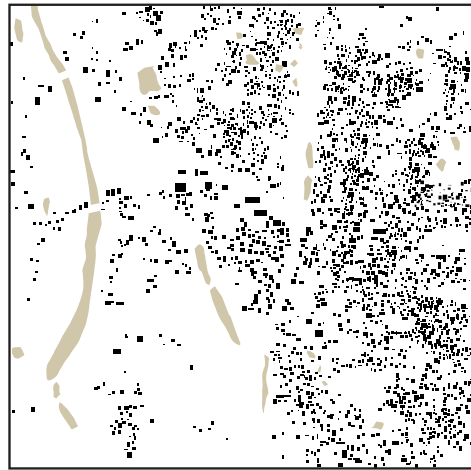
Bantala Leather complex 2008

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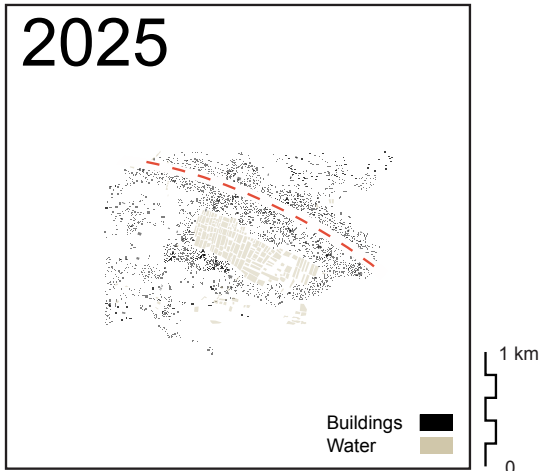


Baruipur- Town ship 1999

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Baruipur- Town ship 2008



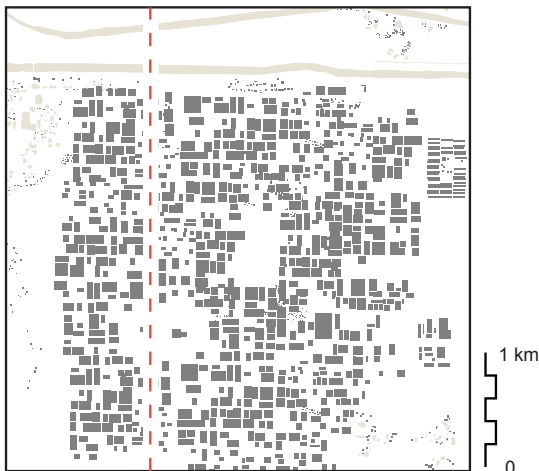
Agriculture - Rice fields 2025 - *VISION*

PLOT 1_ Rice Fields Agriculture

1998_ The area used to be a mixed site of natural an agriculture exploited waterbodies. There were only very few rural houses.

2008_ The concentration of waterbodies can be explained by the intensification of agriculture exploitation. The spreaded ponds disappear by the urbanisation pressure.

Vision 2025_ The new Ring Road will attract high intensity of urbanization. The agriculture will be pushed into the background or even disappear by the economical pressure.



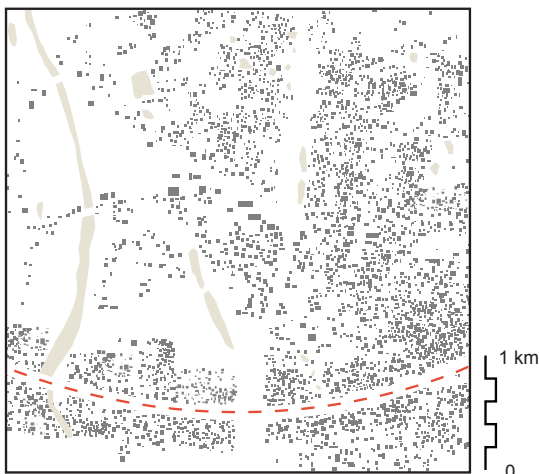
Bantala Leather complex 2025 - *VISION*

PLOT 2_ Bantala Leather Complex Industry

1998_ This industrial complex started to be built in 1994 hanging from an important canal paralleled by a narrow road.

2008_ The tanneries are already active and the empty plots will soon be filled by further companies of the IT sector among others, offices, open areas, housing, etc.

Vision 2025_ Bantala Complex is one of the most important hubs along the proposed Ring Road and the strongest lobbyist group for the construction of the highway.



Baruipur- Town ship 2025 - *VISION*

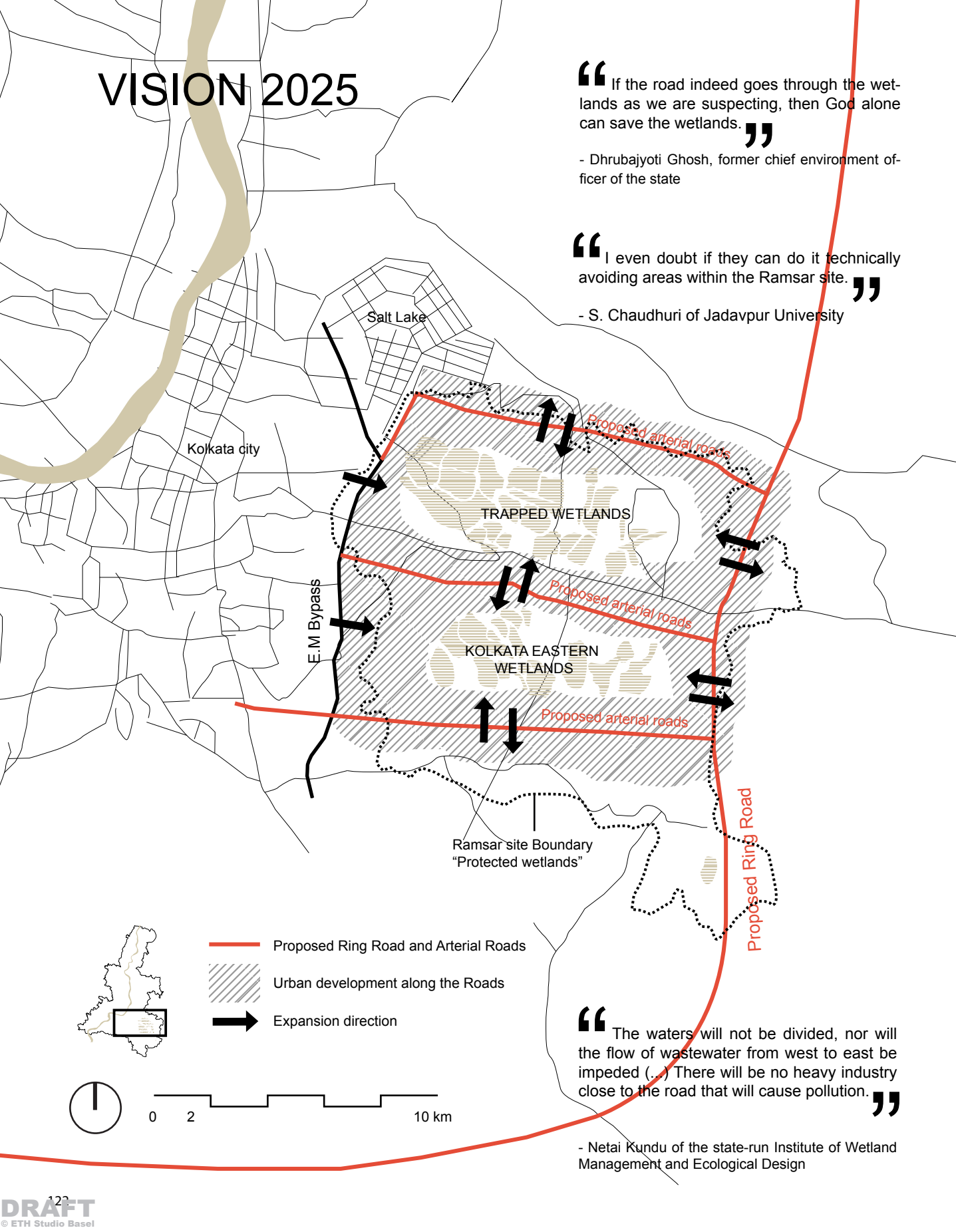
PLOT 3_ Rice Fields Township

1998_ Small township of 45,000 inhabitants close to the KMA border

2008_ Growing urban centre which will help expand the KMA area

Vision 2025_ The highway will represent a rapid growth for the town as well as a new distribution structure. Medium and large commercial centres will probably relocate along the road in order to take profit of the high connectivity and flow of potential clients.

VISION 2025



“ If the road indeed goes through the wetlands as we are suspecting, then God alone can save the wetlands. ”

- Dhruvajyoti Ghosh, former chief environment officer of the state

“ I even doubt if they can do it technically avoiding areas within the Ramsar site. ”

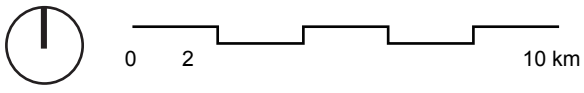
- S. Chaudhuri of Jadavpur University

“ The waters will not be divided, nor will the flow of wastewater from west to east be impeded (.) There will be no heavy industry close to the road that will cause pollution. ”

- Netai Kundu of the state-run Institute of Wetland Management and Ecological Design



- Proposed Ring Road and Arterial Roads
- Urban development along the Roads
- ➔ Expansion direction



TRAPPED WETLANDS

The Government officials assure that the new highway route hasn't been definitely mapped yet. However, ecologists claim that it is highly unlikely such a road can be built without cutting through the Wetlands, which are a protected Ramsar site. It is also feared that the road, which will pass through much undeveloped open land, will spur **rampant unplanned growth** along its route, **as already happened along the E.M. Bypass.**

West Bengal chief minister B. Bhattacharjee signed a much-hyped deal for investments up to Rs 20,000 crore in infrastructure development. The project includes expressways, bridges, special economic zones, industrial hubs, etc. Ten mini-townships comprising commercial complexes with resorts, shops, motels, food courts and gas stations, are proposed along the route. Building the road, will require the **acquisition of roughly 1,000 hectares (ha).**

State leaders see the road as **an immediate requirement**, given the city's recent phenomenal growth along its eastern fringes. The **magnet-effect** that this road will have, is of course, not the result of a naive decision. The city will now foreseeably continue to grow towards the East, now with more reasons or advantages than before. The E.M. Bypass is evidence enough.

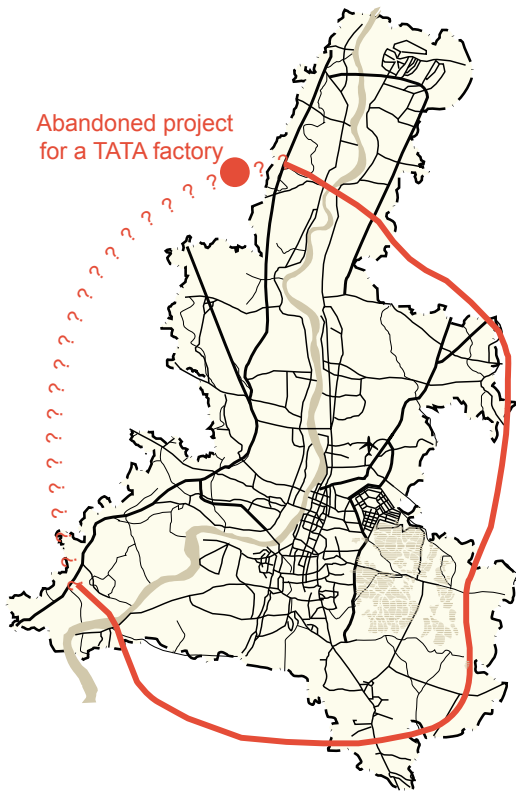
If the wetlands' ecological balance is affected, **the city would lose its natural, and only, sewage treatment plant.** There is no environmental impact assessment of the highway.

The idea behind the highway proposal is to **connect special economic zones** and ports by avoiding traffic congestion and to increase sensibly the speed of goods traffic.

S. Chaudhuri of Jadavpur University, says it is inevitable that the highway splits the wetlands ecosystem into disparate fragments and that it won't be long before the unviable bits disappear.

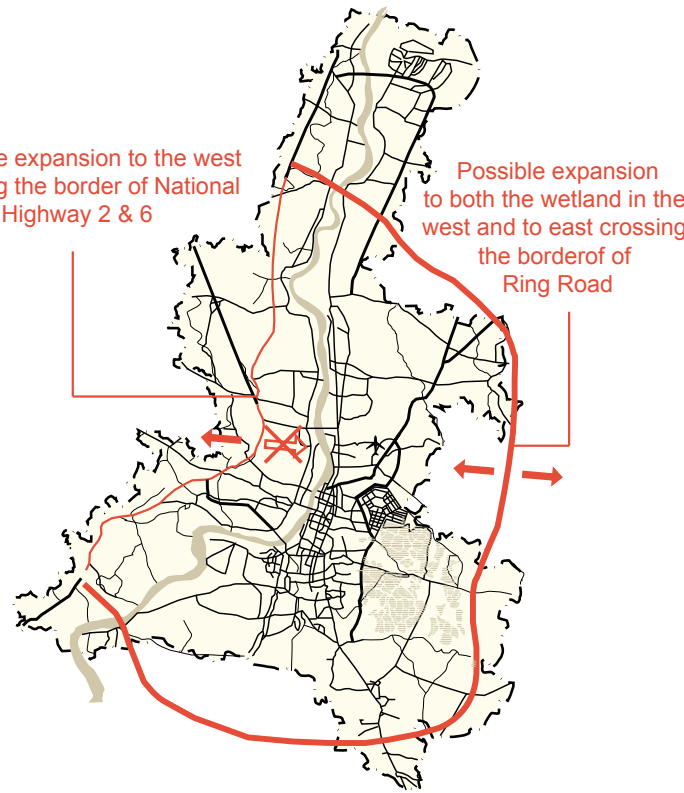
However, state officials insist the proposed highway will not harm the wetlands. They say it will skirt the wetlands by 2-3 km. They also claim that there will be no polluting industry on it. Suspiciously, the Bantala Leather Complex, which has been pointed out as a chemical effluent pollutant, is one of the most influential hubs on the road.





Abandoned project
for a TATA factory

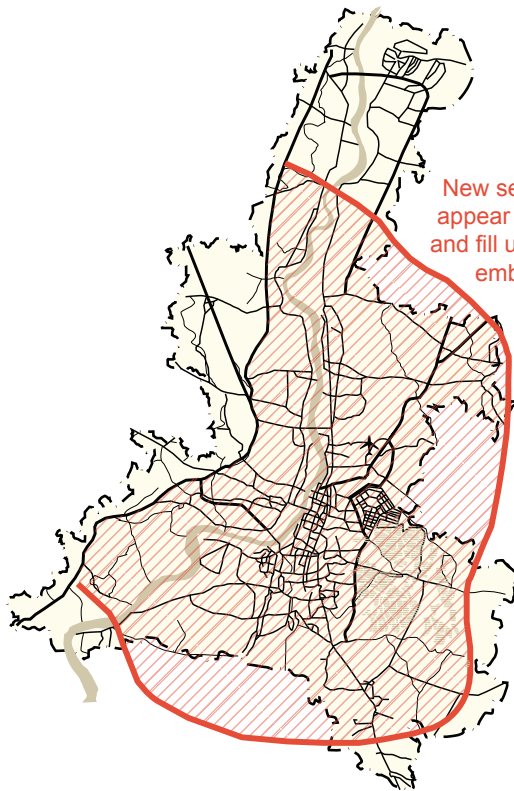
1. The Political Conflict



Possible expansion to the west
crossing the border of National
Highway 2 & 6

Possible expansion
to both the wetland in the
west and to east crossing
the border of
Ring Road

2. Real connection and
expansion possibilities



New settlements will
appear along the road
and fill up the free land
embraced by it

1. New Border

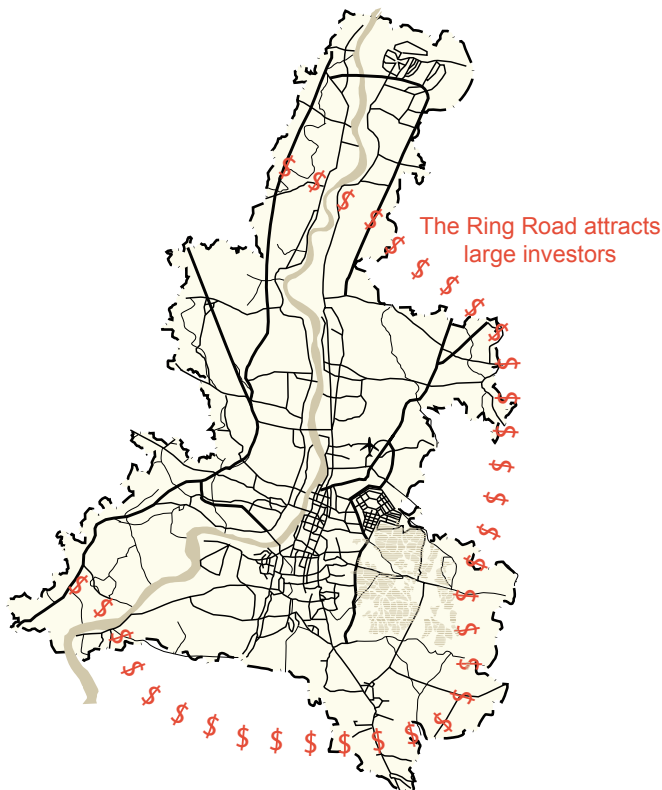


New development
along the road
expanding the
border

5. Stretching the Borders



3. Trapped wetlands between E.M. Bypass and proposed Ring Road



6. New Economic Spine

1) POLITICAL CONFLICT

Legal and political **boundaries** often make difficult the coordination and implementation of plans. Financing agreements and different interests have physical repercussions.

2) REAL CONNECTION AND EXPANSION

On the left side of the river no extension has been proposed. Instead existing roads will be connected to close the Ring Road. Because the existing roads are less than 10 km from the river the already dense city will be cut off making difficult its expansion towards the west. On the east side of Kolkata the new proposed Ring Roads will be able to attract and expand settlements on both sides. NH-2 and NH-6 (west side) will be overburdened by the traffic of the new Ring Road.

3) TRAPPED WETLANDS

The wetland will be trapped between the growing E.M Bypass in the west and the new Ring Road in the east. If the Ring Road goes through the same transformation as the Bypass, the wetland is condemned to disappear.

4) NEW BORDER

The city border which before was defined by the E.M Bypass will move out to the new Ring Road. This will make the city grow towards and along the road, converting the road into a stronger border of the city than the legal boundaries of KMA. The flexible border of KMA will perhaps once again need to be rewritten.

STRETCHING THE BORDERS

The new road crosses the borders of the KMA several times. It sets up a future **physical border** to the city. The Outer Ring Road will push the existing border further to the east. The KMDA probably looks forward to **absorb the non-KMA land embraced by the new road** amongst other interest.

6) NEW ECONOMIC SPINE

The new Road will be a strategic road through new important townships and industries. This will attract **large investments**. The free tax zones (e.g. Bantala complex) will promote **foreign capital**.

Ring Road _ vision 2025

shrinking wetland

expanding the city

rising land prices



crossing the border

trapped wetland

new economical spine

new border

new ring road

modified photo of E.M.Bypass
Source: www.flickr.com

DRAFT
© ETH Studio Base

CONCLUSIONS



Rajarhat New Township, Oct. 2008

The **colonial** origin of Kolkata determined much of the present city's character. Although small and with some difficulties, the first planning efforts were led by the British. Consequently, today the historical centre's physical expression reflects the initial conflict between two opposite growth patterns. On the one hand, the orthogonal grid and majestic frontal perspectives of the Institutional core developed according to British urban planning models, and on the other hand, the random urban sprawl.

The **hand over of power** from the British Empire, left the country divided in two: Pakistan and India. The new Government had to be reconstructed and reorganised in the middle of the conflict. Scant means, pressured time and rapidly organized Authorities made it almost impossible to deal with the **sudden influx of refugees** and led to a chaotic and miserable situation in the mid 20th century. The city's economy suffered badly under the **loss of its hinterland** due to the new drawn up border only worsening the already worrying state.

Kolkata has historically had a very high density due to its limited expansion possibilities with the Hooghly river on the west side and the largest worldwide wetlands on the east. The resulting **linear and extremely dense** development of the metropolis became almost unbearable after the huge immigration. Unplanned urban growth and missing infrastructure brought up the need of a fast reaction. Something had to be done.

A PLAN FOR 15 MILLION

Under these harsh conditions, the first own planning organisations saw the light. The basis was set up for modern planning.

Kolkata's planning and implementation can still today barely keep up with the city's huge requirements due to lack of means and poor facilities among others. The powerful **Communist Government** of West Bengal restructured the administrative bodies into a more horizontal system, where **local bodies** widened their jurisdiction. The difficult coordination of different Municipalities and political clashes often lead to slowness in the planning process.

To deal with the problems of the overburdened city, the Planning Authorities have come up with several plans. **Decentralization** has been the main strategy for easing the population pressure.

The key tool for promoting a balanced growth in the metropolitan area and still linking the different scattered proposals is **infrastructure**. Roads can be understood as conductors of flows, but also as magnets for investment and development of new townships and hubs.

The Eastern Metropolitan Bypass is a palpable example of this phenomenon. Firstly built as an expressway surrounding the city, it has now become one of the most happening places in Kolkata, where powerful companies buy price-rising land to guarantee their strategically location. This **hotbed for economical investment** goes one step further by attracting the whole city towards it, becoming first a **border** and finally **integrating** the road in it and transforming its initial outskirt character into a more urban one.

Both the Government and the private sector use the construction of **roads as an instrument to promote their own interests**. Real estate companies and the different economical sectors together with the public organisations struggle for their piece of the cake. Even the drawing of the path is discussed and strongly influenced by the different players.

Lucrative purposes also come into conflict with many other factors. Kolkata's unique **Waterlands** are threatened by the advance of the city towards East.

The **boundaries** of KMA restrict proposals to its limits. This is the case of the new proposed Ring Road which becomes a semi-circle because of political and legal borders. The Government is very interested in expanding its power and therefore its borders.

The physical and economical repercussions of urban planning cannot be underestimated. Thin lines on paper become **complex realities** impossible to cover and reflect in the official documents.

Even though Kolkata is nowadays going through a **globalisation** and modernisation process, its colonial origin, its location on the border with Bangladesh, the refugee influxes, the high density, the Communist government, its unique eco-system, etc. characterize the city differentiating it from other metropolises.

Urban planning must have a very **specific** approach to problems. Each city's issues are very particular and complex. Concrete political, ecological, economical, historical and social factors play a deciding role in urban planning decisions and an even stronger one in their results.

Our thanks go to
Probhas Ch. Kumar, Associate Town Planner,
Partha Ranjan Das, Architect,
Prof. Asish Ghosh, Director of the Centre for Environment and De-
velopment,
Prof. Santosh Ghosh, President of the CTR for Built Environment,
National Atlas & Thematic Mapping Organisation (NATMO),
Dwaipayan Bhattacharyya, Centre for Study of Social Sciences
and everyone that made this project possible.

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