

## The Changing Face of a Metropolis

Kolkata (Calcutta) Metropolitan Area is an agglomeration of municipalities and non municipal urban and rural areas with a little more than 15 million population in an area of about 1850 sq km, developed on both sides of the river Hooghly (a tributary of the Ganges) in eastern India.

At one time it became the second capital the of British empire. But the glamour and grandeur were gradually replaced by squalor and decay. The second world war, Bengal famine, partition of Bengal and influx of refugees, industrial decline and deterioration of urban services - all contributed to this. There were two cities, one legal and another was illegal - the shadow city of slums and squatters. Yet Kolkata harbours diversity and is cultural capital of India.

A Basic Development Plan was prepared in 1966 by Calcutta Metropolitan Planning Organisation with the help of the Ford Foundation, This was a departure from conventional townplan and objectives were : to arrest deterioration, to utilise existing facilities and to provide for new growth. The basic strategy was to provide an effective infrastructure before major rejuvenation projects could begin with a task of rebuilding.

During the past, for more than three decades, Calcutta (Kolkata) Metropolitan Development Authority and its agencies made massive investments for slum improvement, water supply sewerage and drainage, traffic and transportation, some housing and land development projects, there were other developments - construction of a metrorailway, a highlevel new river crossing etc. The plan also emphasized regional planning in agriculture and rural development and development of other centres and small towns. The strategy paid dividends. The impact of globalisation and economic growth has resulted a realestate boom at the periphery with housing estate and new towns. With high rise apartment blocks, shopping malls, office and housing, new highways and flyovers are being built but the ecology is damaged and Kolkata already has long laundry list of environmental problems. Now Kolkata is at a point of profound change. There are new innovative and projects. Recycling of waste, preservation of historic building, riverfront development, revitalisation of canals, creating new urban space etc. The river Hooghly has long riverfronts, dotted with religious and historical places, bathing pavilions, open space and lush green landscape. A millennium park has been established.

arts, bookfair and literature and religious festivals with ethnic diversity. The festivals make the city unique with a human face.

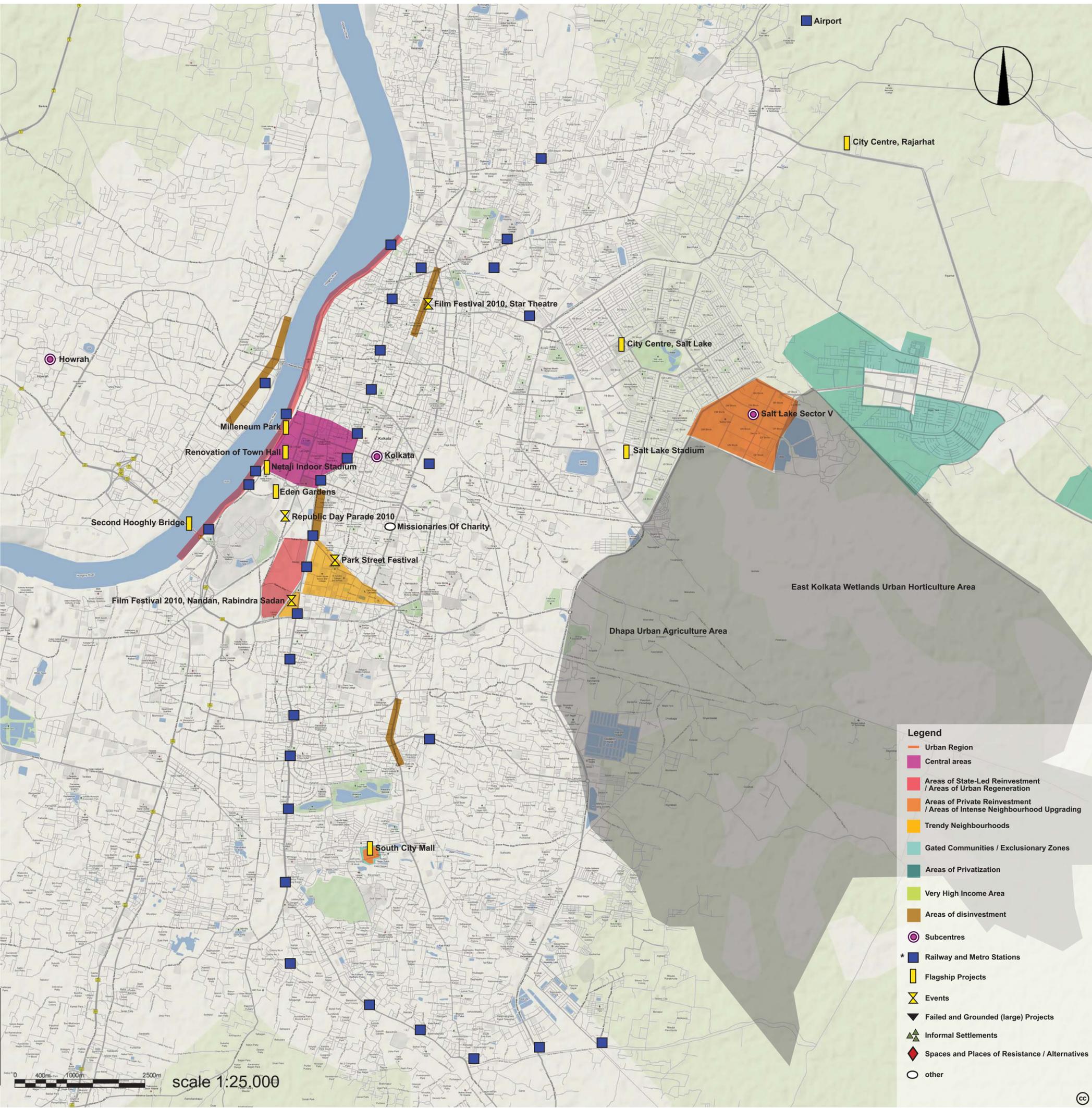
Many new projects will come up in near future. There is increasing amount of liquid and solid waste and this is a resource. In age old indigenous practice in the wetlands at the periphery waste water is recycled with photosynthesis process which generates fish production. Solid waste is naturally composted in near by area which is used to produce green vegetables. The urban agriaquaculture is providing food, generating oxygen and creating a blue and green buffer. One such area has become a nature park.

There is need for inclusive growth, and a vision for sustainable development. The reinventing of urban environmental design has begun with promise and boldness. But various engineering projects are yet to be within an overall urban design structures. Kolkata has tremendous possibilities of designing and redesigning.

Santosh Ghosh

Kolkata is the cultural capital of India with music, dance, theatre,

India 3'288'000Km2 \* Inhabitants 1'166 Mio.  
Urban Region 1'850Km2 \* Inhabitants 15 Mio.



# KOLKATA METROPOLITAN AREA

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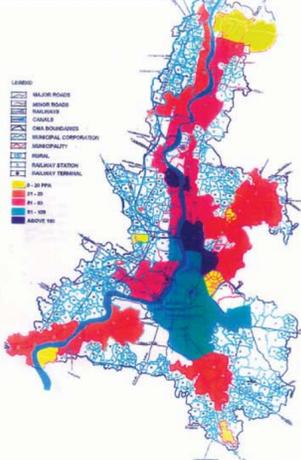
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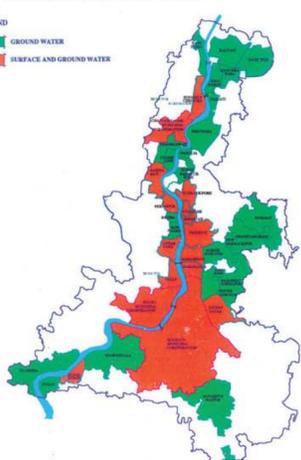
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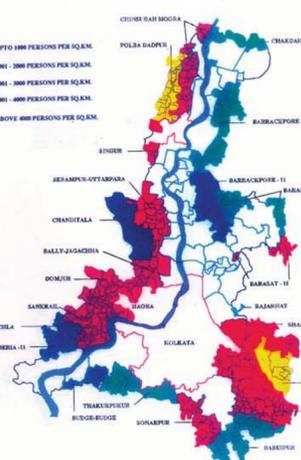
## KOLKATA METROPOLITAN AREA POPULATION DENSITY 2001



## TYPE OF WATER SUPPLY IN DIFFERENT MUNICIPALITIES OF KMA



## DENSITY PATTERN : 2001 PANCHAYAT SAMITY AREA



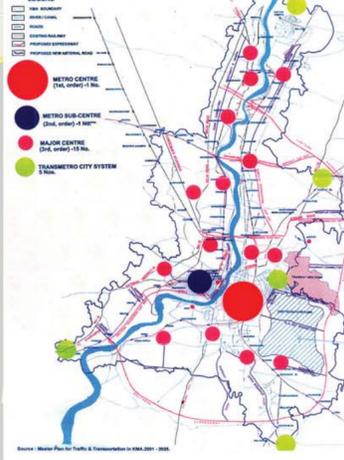
## PROPOSED SOLID WASTE DISPOSAL SITES IN KMA



## PROPOSED DRAINAGE BASINS IN KMA



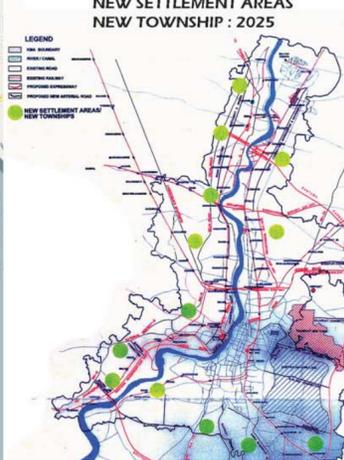
## METROPOLITAN STRUCTURE SPATIAL DISTRIBUTION OF CENTRES 2025



## INDUSTRIAL GROWTH CENTRES IN KMA



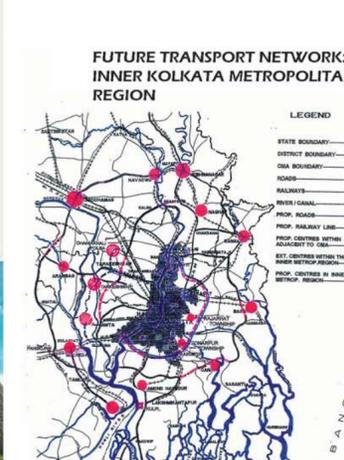
## NEW SETTLEMENT AREAS NEW TOWNSHIP : 2025



## PROPOSED INTEGRATED TRANSPORT NETWORK IN KMA



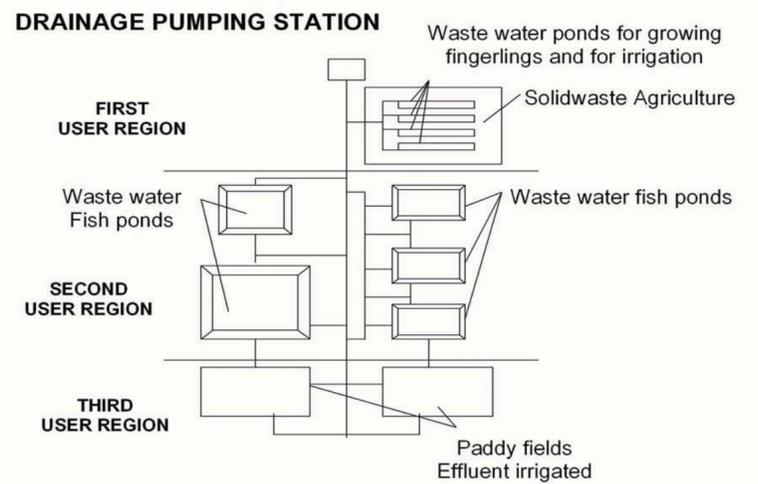
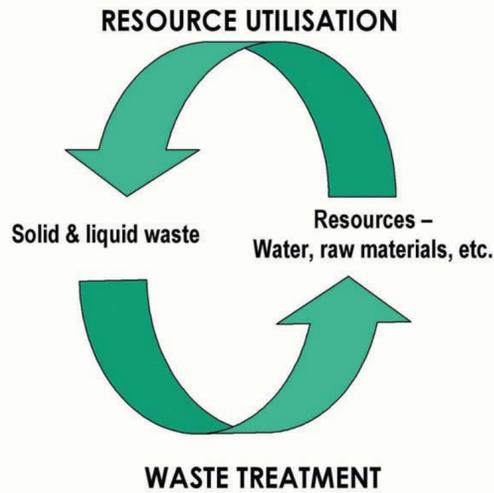
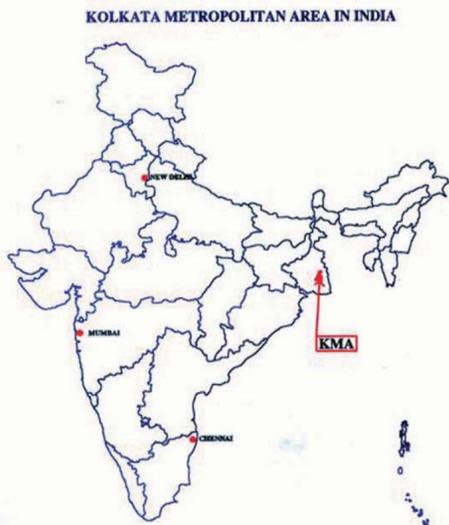
## FUTURE TRANSPORT NETWORK: INNER KOLKATA METROPOLITAN REGION



CENTRE FOR BUILT ENVIRONMENT KOLKATA (CBE)

# INDIGENOUS TECHNOLOGY IN URBAN WASTEWATER MANAGEMENT AND FOOD PRODUCTION

With rapid urbanisation and growth of cities, there is increasing amount of waste, both solid and liquid. In many Asian countries wastewater is used for aquaculture for fish and vegetable production. The WHO and World Bank also recommend this. Waste must be a resource for sustainable development. In the ecological system - waste and resource are the same.

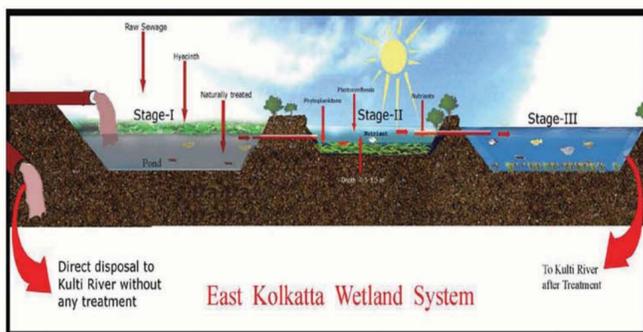


Source: USAID

This indigenous process is less expensive. The process is to utilise sunlight in shallow ponds for photosynthesis and algal growth by phytoplankton. Aquatic weed (water hyacinth or duckweed) is used to clean the water.

Kolkata, in India, has the largest recycling area in the world. 3 cases are given:

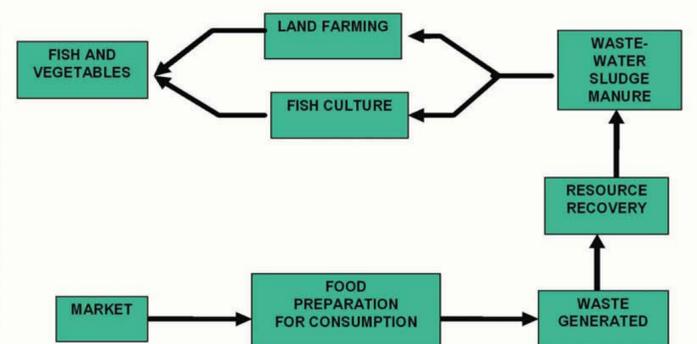
**EAST KOLKATA WETLAND SYSTEM :** 2500 ha , 154 ponds , fish production 15000 tons pa, vegetables 150 tons per day



**MUDIALY FISHERMEN'S COOPERATIVE SOCIETY AREA:** 50 ha , decaered nature park



**COMMUNITY BASED WETLAND ECOSYSTEM : TITAGARH -BANDIPUR** Fish produce 7 tons per ha pa, Vegetables 3000 tons



The indigenous system with sewage fed fisheries and urban agriculture provides employment, improve environment, provide nutrition etc. It gives blue and green buffer between urban and rural area.