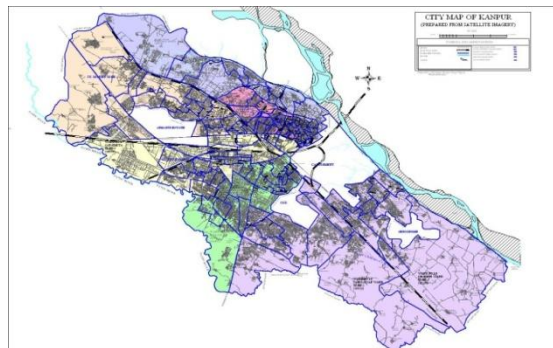# Kanpur Municipal Corporation

Motijheel, Kanpur

Web-site: http://kmc.up.nic.in

E-mail: kanpur_nagar.nigam@yahoo.co.in

Welcome

Kanpur Municipal Corporation

Motijheel, Kanpur

Web-site: http://kmc.up.nic.in
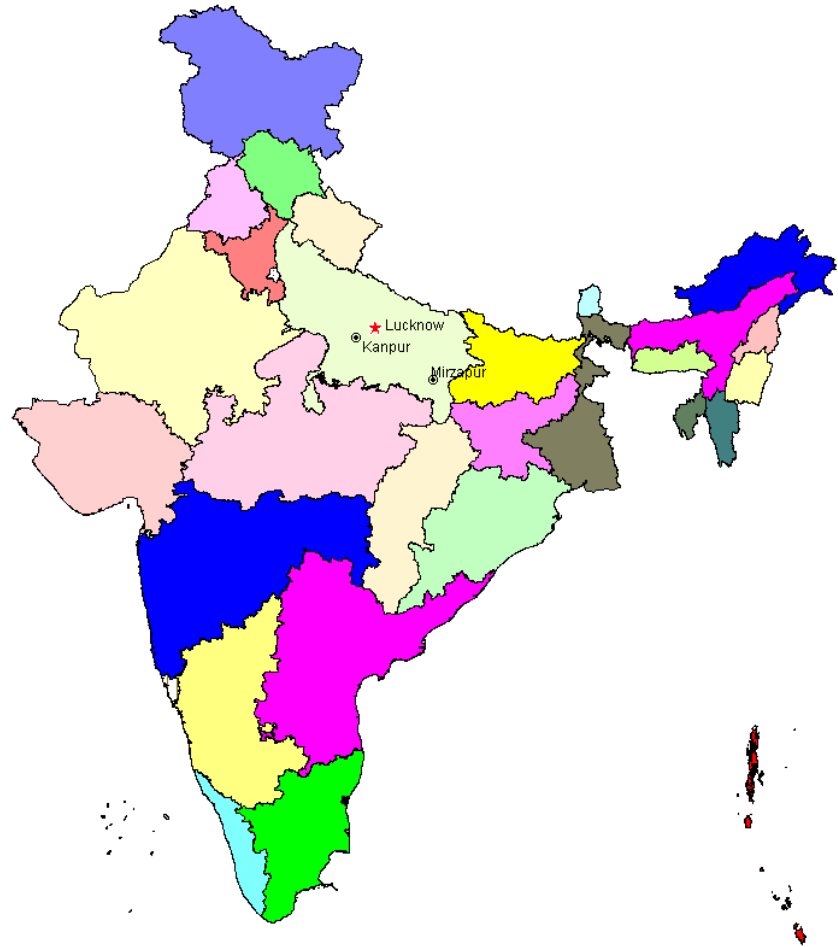
E-mail: kanpur_nagar.nigam@yahoo.co.in

KMC GOVERNMENT PROCESS RE-ENGINEERING

Through the project–

KMC On-line Property Tax Management System Using Geospatial Technology

ABOUT KANPUR

- Located in the State of Uttar Pradesh.
- Situated along the River Ganga.
- Leather Capital of India

About Kanpur Municipal Corporation

Administrative Divisions

Up Nagar   -   6
(with 18/19 wards)

Wards   -   110

Population   -   27.98 Lakhs.
(2011 census)

Area   -   260 Sq.K.m

Land use Pattern of Kanpur

Land Use Type	Area (Sq.Km)	% of Total Area
Residential	150	48%
Commercial	7	2.3%
Industrial	50	16.3%
Park and Open space	35	11.4%
Roads and Railways	2500 Km.	
Rivers/Water Bodies	Ganga, Pandu	
Agriculture	43	14%
Forests	4.5	1.5%
Vacant Land	17.5	5.6%

Kanpur Railway Station

J.K.Temple

Japanees Garden

Mega Mall

Kanpur- at a Glance

I.I.T.Kanpur

Ganga Barrage

Green Park Stadium

Kanpur University

Objective of the
## KMC On-line Property Tax Management System Using Geospatial Technology

To develop required infrastucture, software, Property tax Assessment List, online property tax calculation, information & payment system based on Geographical Information System (GIS)

An Over View of The Project

1. For the first time the e-governance is GIS enabled and forms a Spatial decision support system in a local government.

2. The system has resulted in enhancing the coverage by more than 50% & property based tax revenue to two times as compared to the system that existed prior to the introduction of the GIS based application.

3. The other positive fallouts of this Endeavour have been:

- *Transparency in governance*
- *Reduction in delays in government processing of grievances*
- *Online tax payment and status verification facility removes intermediary agents facilitating the same.*
- *Better revenues for investments into civic facilities*

GIS based spatial searching and identification of properties
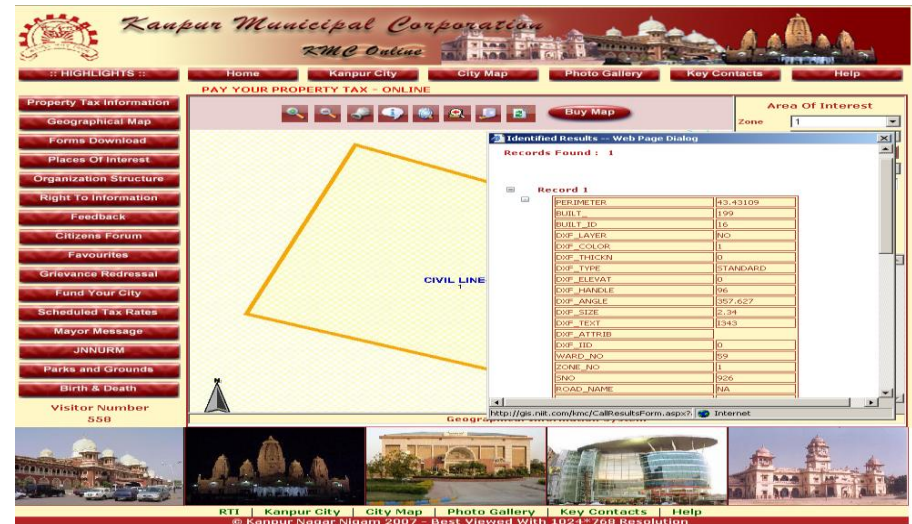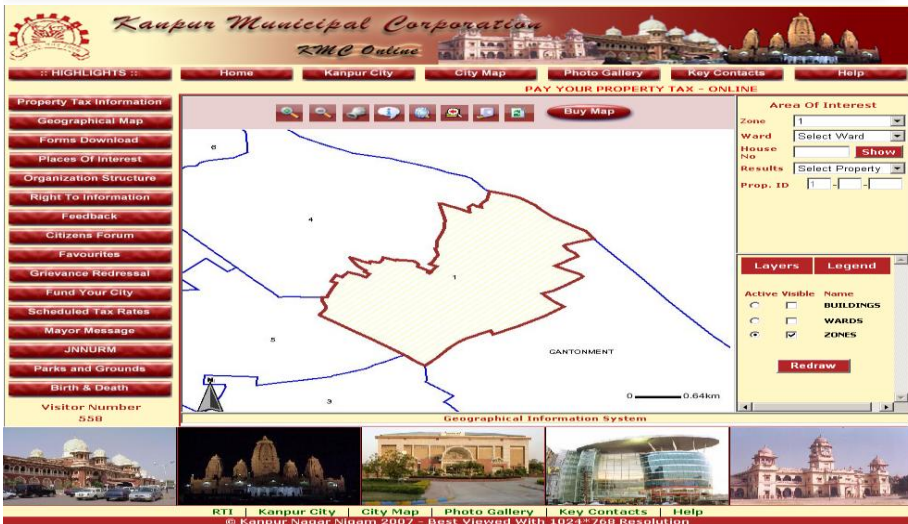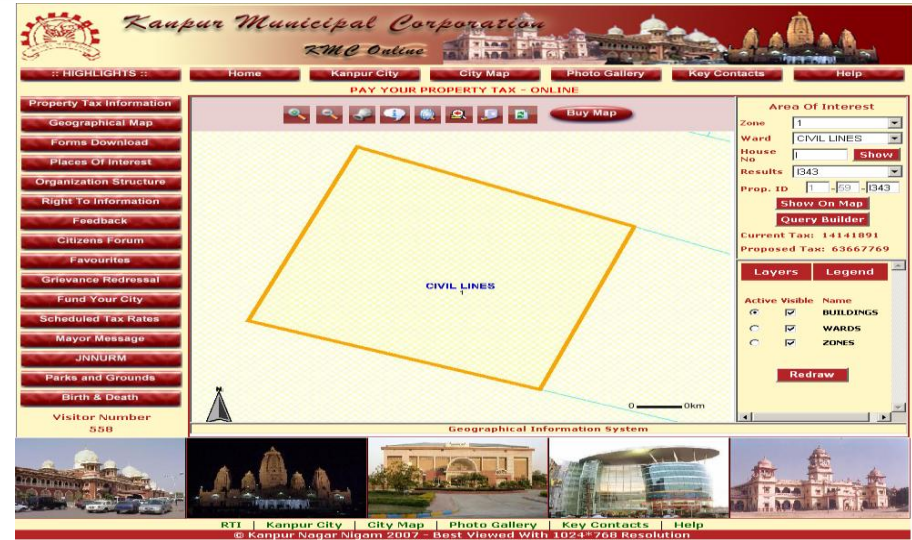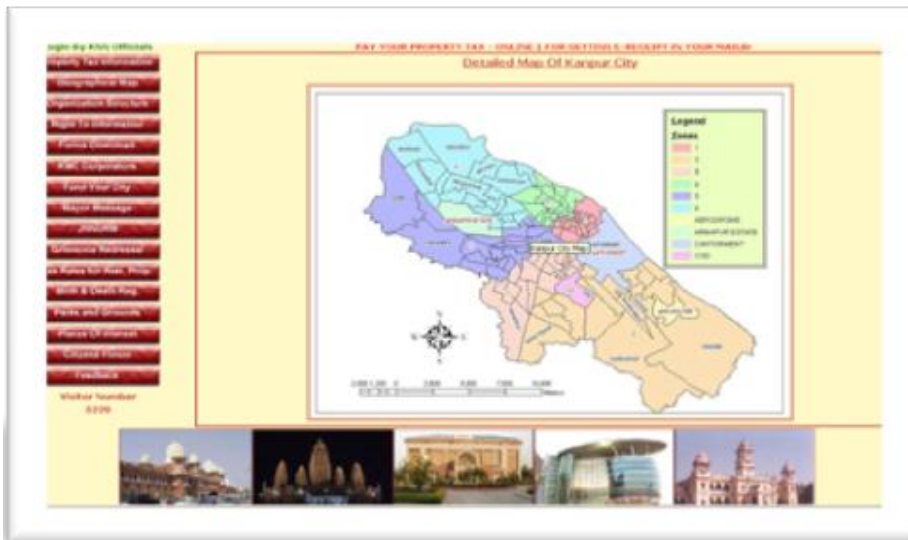
On-Line Tax Calculation System

Kanpur Municipal Corporation

Self Assessment Of Property Tax For Residential Buildings

As Stated In Section-207

Form A & B

Close

Name Of Owner	Parvez Khan
Name Of Occupant	Parvez Khan
Plot Number & Address	116/64, Basheer Estate
Select Zone	6
Select Ward	Naveen Nagar Kakadeo
Total Area in Sq.Ft. :	1800
Total Covered Area in Sq.Ft. :	2400
Year Of Construction	1999

Location

O < 12m Road   O > 12m & < 24m Road   O > 24m Road

Type Of Construction :

O Pakka (*A Grade)   O Pakka (*B Grade)   O Kachha   O Plot Area / Open Land

Occupation in the Building:

O Self Occupied   O Rented/Tenanted Property   O Mixed   O Otherwise Occupied

Annual Rateable Value Of Structure/Building in Rs.	1686
Tax Of The Structure/Building in Rs.	253

[Calculate Tax]   [View Tax Calculation]

Owner/Occupier Signature

Important Information Related To Self Assessment Of Property Tax

1. Proposed Property Tax Assessment process is applicable only to residential land or   buildings.
2. At present there are two tax rates based on annual rental value. For Annual Rental Value (ARV) upto Rs. 1200/- it is @10% and for ARV more than Rs 1200/- it is @15%.
3. Owner / Occupiers of buildings which are under construction should submit 'Saral Form' (Self Assessment Form) and the due tax as soon as the building is completed or occupied whichever is earlier, or else a penalty as specified in the Penalty Provisions will be imposed.
4. Yearly rent will be assessed based on the total area of rooms & vehrandas. Partial   rebate will be applicable as specified in Partial Rebate section.

5.(1) Where the owner or occupier primarily liable for payment of tax in respect of any premises has not paid by the date fixed by the Corporation in this behalf the tax or a part of the tax payable by him under this Act, simple interest at the rate of twelve percent per annum from the date fixed for payment of tax upto the date of payment shall be payable by him upon the amount that has remained unpaid.

View Stepwise On-Line Tax Calculation System

कानपुर नगर निगम
Kanpur Municipal Corporation
KMC online

Tax Calculation Process

Owner's Name:	Parvez Khan
Occupant's Name:	Parvez Khan
Occupation in the Building:	Self Occupied
Plot No & Address:	116/64, Basheer Estate
Zone Number:	6
Ward Name:	Naveen Nagar Kakadeo
Ward No. :	57.00000000
Total Area in Sq.Ft.:	1800
Covered Area in Sq.Ft.:	2400
Year Of Construction:	1999
Age in Years:	10
Type Of Construction:	Pakka (*A Grade)
Road Width:	< 12m Road
Rate of monthly rent(Rs./Sq.Ft.):	1.05

(Note : Monthly Rent is based on the Ward Number,Construction type and Road Width.)

Steps Of Tax Calculation :

Step1:   ARV = 80% of Covered Area * Residential Factor * 12
              ARV = 80 *2400 * 1.05 * 12 / 100
              ARV = Rs. 2248

Step2:   For Self Occupied Properties :
1. If the age of residential building is <=10 years, then ARV to be reduced by 25%.
2. If the age of residential building is >10 and <=20 years, then ARV to be reduced by 32.5%.
3. If the age of residential building is >20 years, then ARV to be reduced by 40%.
   Here the building age is 10 years, therefore the ARV is : Rs. 1686

Step3:
1. If Proposed ARV <=1200 then Annual Tax Rate = 10% of ARV.

On-Line Tax Payment System

Ward-wise rates for Residential/Non-Residential Properties

Kanpur Municipal Corporation

KMC Online

Maximum Monthly Rent rates(Rs./ Sq. Ft/ Month)-2006 for Tax Assesment of all the Residential buildings/plots of 110 wards of KMC. These rates will be effective since 01/04/2006 to 31/03/2008 or till the date revised tax rates are made effective.

S.No	Ward Name	Pakka Bhawan RCC or RBC			Other Pakka Bhawan			Kacha Bhawan			Residential Plot In Which Building is Not Constructed		
		>24m road	12 to 24m road	<12m road	>24m road	12 to 24m road	<12m road	>24m road	12 to 24m road	<12m road	>24m road	12 to 24m road	<12m road
1	Old Kanpur	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
2	Laxmi Purwa	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
3	Govind Nagar Harijan Basti	1.05	0.85	0.60	0.85	0.60	0.50	0.60	0.50	0.45	0.15	0.15	0.15
4	Gwaltoli	1.30	1.05	0.85	1.05	0.85	0.60	0.85	0.60	0.50	0.15	0.15	0.15
5	Chhuni Ganj	1.75	1.45	1.35	1.45	1.35	1.30	1.35	1.30	1.05	0.25	0.20	0.15
6	Mecrobert Ganj	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
7	Nirala Nagar	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
8	Maswanpur	1.05	0.85	0.60	0.85	0.60	0.50	0.60	0.50	0.45	0.15	0.15	0.15
9	Vishnupuri	1.45	1.35	1.30	1.35	1.30	1.05	1.30	1.05	0.85	0.25	0.20	0.15
10	Chkeri	1.05	0.85	0.60	0.85	0.60	0.50	0.60	0.50	0.45	0.15	0.15	0.15
11	Jawahar Nagar	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
12	Transport Nagar	1.75	1.45	1.35	1.45	1.35	1.30	1.35	1.30	1.05	0.25	0.20	0.15
13	Khalasi Line	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
14	Ambedkar Nagar	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
15	Permat	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
16	Khyora	1.30	1.05	0.85	1.05	0.85	0.60	0.85	0.60	0.50	0.15	0.15	0.15
17	Saraimita	0.85	0.60	0.50	0.60	0.50	0.45	0.50	0.45	0.40	0.15	0.15	0.15
18	Kalyanpur	1.30	1.05	0.85	1.05	0.85	0.60	0.85	0.60	0.50	0.15	0.15	0.15
19	Sanigawan	1.05	0.85	0.60	0.85	0.60	0.50	0.60	0.50	0.45	0.15	0.15	0.15
20	Naramau	1.05	0.85	0.60	0.85	0.60	0.50	0.60	0.50	0.45	0.15	0.15	0.15
21	Raipurwa	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
22	Behna jhabhar	1.45	1.35	1.30	1.35	1.30	1.05	1.30	1.05	0.85	0.25	0.20	0.15
23	Sabzi Mandi Kidwai Nagar	1.75	1.45	1.35	1.45	1.35	1.30	1.35	1.30	1.05	0.25	0.20	0.15
24	Usmanpur	1.35	1.30	1.05	1.30	1.05	0.85	1.05	0.85	0.60	0.20	0.15	0.15
25	Juhi Hamirpur Road	1.05	0.85	0.60	0.85	0.60	0.50	0.60	0.50	0.45	0.15	0.15	0.15

Done | Internet

start | T.S.4 [Compatibility ... | Kanpur Nagar Nigam ... | Login For Registrar - ... | ScheduleTaxRates - ... | 3:30 PM

Information Availability

❑An overview of the City

❑**On-line property tax calculation**

❑Hassle free online property tax payment facilities

❑A facility to access different maps based on Zones, Wards and Property

❑GIS based spatial searching and identification of properties

❑**Monthly per sq. feet rates used for calculation of property tax.**

❑**Circle rates of property used for the calculation of property tax for non-residential properties.**

❑Ward wise/Property wise maps with civic infrastructure details like roads, lanes, by lanes, parks, electric poles, telephone poles, railway lines, hotels, hospitals, police stations, schools, cinema hall etc.

Property tax

- Total population – 2551337 (as per census 2001) ,27.74 Lac as per provisional report census 2011
- Total population in slums – 4.90 Lac
- Total no. of assessed holdings – 450764
- Total no. of un-assessed holdings – Our General Survey is recent and day to day updation is being made.
- Numbers of exempted properties – 3692
- Breakdown of properties category wise- (in U.P. their are only two categories for all properties:

  Total No of Residential Properties :- 367362

  Total No. of Non Residential Properties:- 83402

Year	Demand			Collection			Balance			Total Percentage of Collection
	Arrear	Current	Total	Arrear	Current	Total	Arrear	Current	Total	
2012-13 till July-12	3.92	64.80	68.72	1.72	18.68	20.40	2.20	46.12	48.32	29.68%
2011-12	3.34	62.79	66.13	3.11	59.10	62.21	0.23	3.69	3.92	94.06%
2010-11	8.14	56.93	65.07	7.35	54.38	61.73	0.79	2.55	3.34	94.87%
2009-10	12.11	52.48	64.59	6.15	50.3	57.05	5.96	2.18	8.14	88.33%
2008-09	7.22	52.93	60.15	4.39	43.65	48.04	2.83	9.28	12.11	79.87%

Kanpur Nagar Nigam

Collection Efficiency Graph
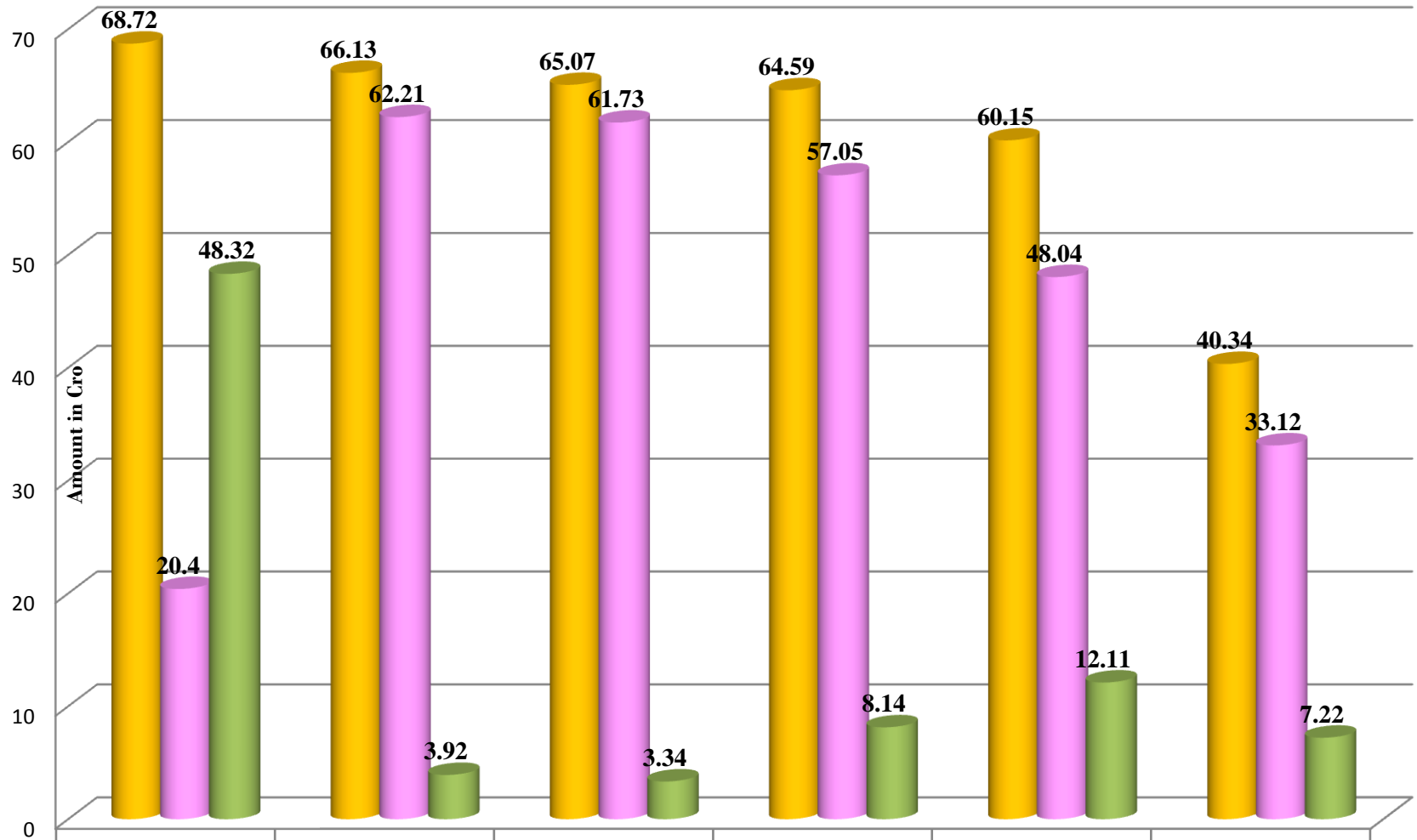
	2012-13 till July, 2012	2011-12	2010-11	2009-10	2008-09	2007-08
■ Demand	68.72	66.13	65.07	64.59	60.15	40.34
■ Collection	20.4	62.21	61.73	57.05	48.04	33.12
■ Balance	48.32	3.92	3.34	8.14	12.11	7.22

Kanpur Nagar Nigam Collection Efficiency Graph

	2012-13 till July, 12	2011-12	2011-10	2010-09	2009-08	2008-07
Collection %	29.68	94.07	94.87	88.33	79.87	82.10
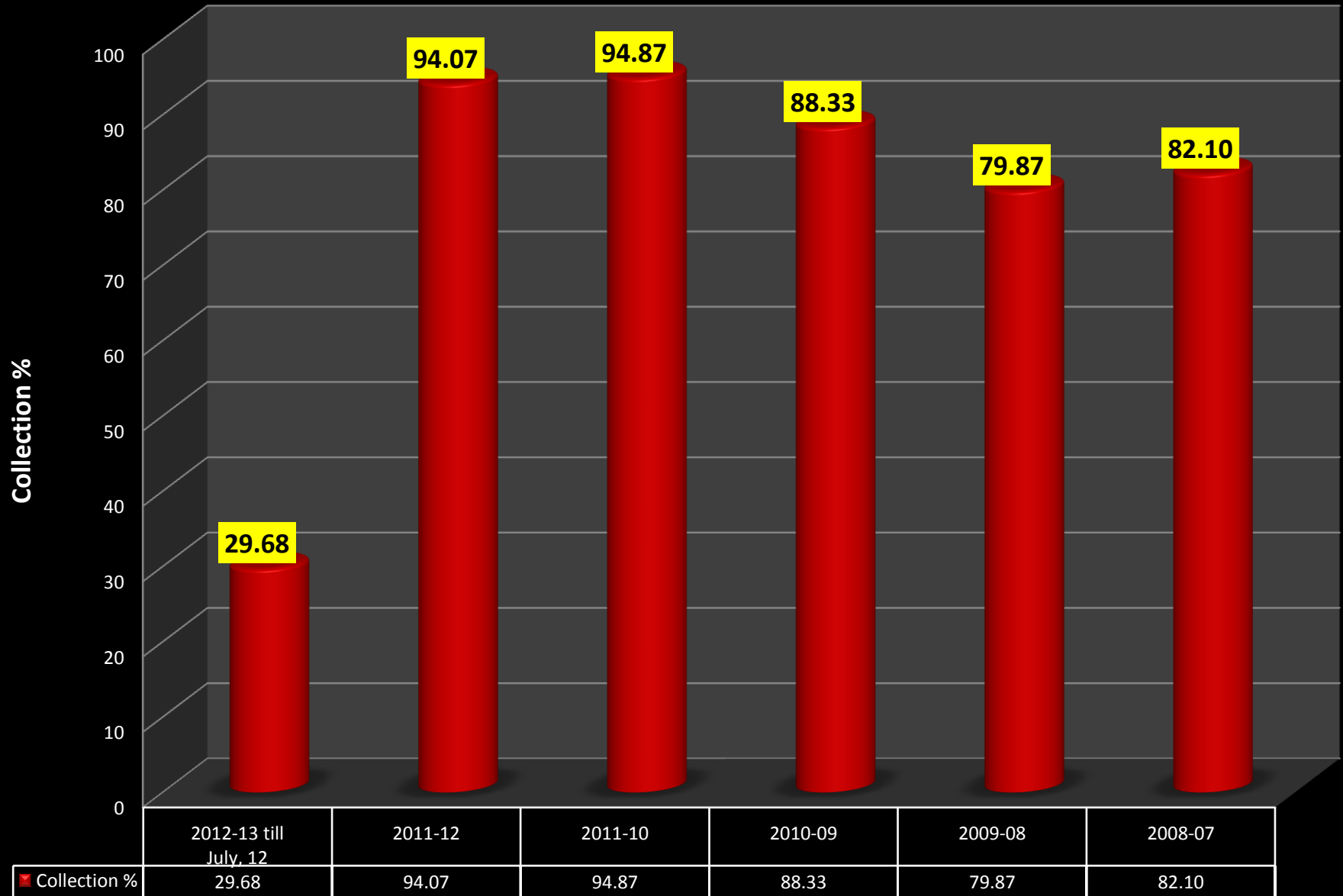
AWARDS

- **International SAG Award-2012**

  Project has been awarded Special Achievement in GIS (SAG Award) to recognize the outstanding works with GIS technology among 1,00,000 others all over the world. The Award will be presented during the 2012 ESRI International User Conference at San Diego, USA. This year the ESRI International User Conference is being organized on July 23-27, 2012.

- **Special Achievement in GIS in India (SAG Award) Award**

  Project has been awarded Special Achievement in GIS in India (SAG Award) Award delivered by Sri Sailesh Nayar, Secretary Science & Earth, Govt. of India dated 08.12.2011 at 12th ESRI India User's Conference, New Delhi.

- **U.P. State e-Governance Awards-2009-10**

  Project has been awarded U.P. State e-Governance Awards-2009-10 in the project category "Government Process Re-engineering" delivered by Sri Anoop Mishra, Chief Secretary Govt. of Uttar Pradesh dated 07.12.2011 at Lucknow.

- **CSI-Nihilent Award-2011**

  Project has been awarded CSI-Nihilent Award-2011 in the project category G2C, delivered by Computer Society of India dated 02.12.2011 at Ahmedabad.

AWARDS

- *The Top-100 ICT Projects in INDIA during 2011 &* Awarded certificate of Merit

  For Unique Property Numbering System delivered by Sri Montek Singh Ahluwaliya, Vice-Chairman, Planning Commission, Govt. of India, dated 1st Sept., 2011 at SKOCH ICT India Award 2011, New Delhi.

- SKOCH "ICT INDIA AWARD-2010"

  For Property Tax Management System, delivered by Sri Jaipal Reddy, Minister of Urban Development, Govt. of India dated 01.09.2010 at SKOCH ICT India Award 2010, New Delhi.

- Indian Geospatial Award-2009

  For utilizing geo-spatial technologies as part of e-governance initiative in 2010 delivered by Sri T. Ramaswamy, Secretary Information & Technology, Govt. of India, at New Delhi.

- Geo-spatial excellence award-2009

  For best decision support system in local Government in 2009 delivered by Sri Saurabh Gupta, Editor GIS Development Magazine, dated 12.02.2009 at Map World Forum, Hyderabad.

ACHIEVEMENTS

- **Project has been published as one of the best practice by:- PEARL (An initiative under JNNURM) volume -2.**

- **Project has been published as one of the best practice by ASCI, Hyderabad.**

- **Project has been published as one of the best practice by Computer Society of India, 2011.**

- **A paper based on this project has been published in the Arc India News magazine January-March 2009 edition volume-3.**

Geospatial Excellence Award 2009

A paper was presented at *"Map World Forum 2009"*, organized at Hyderabad in which the project was awarded *Geospatial Excellence Award 2009 for " Geospatial Application for Decision Support System in Local Government."*

KANPUR MUNICIPAL CORPORATION

AWARDS

GIS enabled and forms a Spatial decision support system in a local government. The system has resulted in enhancing the property based tax revenues by three times as compared to the system that existed prior to the introduction of the GIS based application. The other positive fallouts of this Endeavour have been:
- Transparency in governance
- Reduction in delays in government processing of grievances
- Online tax payment and status verification facility removes intermediary agents facilitating the same.
- Better revenues for investments into civic facilities

Property Survey & GIS database Creation
Quickbird satellite data was procured and geo-referenced based on the Ground survey conducted to collect the GCP's through DGPS. Base data of 1:1000 scale was created through digitization of satellite imagery and supplemented with secondary ground survey to capture information on covered / carpet area, land use, occupant's details, condition of structure, etc. The mapping done using the Quick bird Satellite data was used for conducting the primary contact property survey.

Introduction:
Kanpur Municipal Corporation (KMC), is one of the largest commercial and industrial Municipal Corporation in Uttar Pradesh, India extended to a total area of about 260 Sq. KM with a population of about 2.5 Million people 2001 census).
KMC is using ESRI software ArcSDE, ArcView since year2002. We had a (total station) digital map of Kanpur City and the map was integrated with other property tax related attribute data in the desktop platform.
In year 2006 the KMC decided to update the digital maps with the help of Quick Bird imagery, updation of different ESRI soft wares along with development of a GIS based interactive website and on-line property tax information and tax payment system

An Over View of the Project:
As a part of the e-governance initiatives, KMC envisaged development of an online web & GIS based property tax calculation information & payment system as a pioneering effort in the country. The job was formally tendered and the work was awarded to ESRI India on basis of best technical cum financial performance. The scope of this work covered the following are the major activities:-
- Creation of a GIS based spatial property database involving:
  - Procurement a (0.6m resolution KMC jurisdiction
  - Geo-rectification the GCPs collec
  - Updation of d the help of geo preparation of d
- Conduct a property unit
- Development of In GIS system for onli payment
- Development of de database repository
- Supply and Installa networking with ser
- Training of KMC
- Renumbering of pr no. and fixing of hoThe Scope of work categorized into two requirements of the
- Property Survey &
- Application Develop Development

A property tax application has been developed providing a GIS interface to perform conditional queries on database such as 'Tax collected by Zone' or 'Tax collected in a financial year for a selected ward', etc. The database is linked to spatial layers to display results of analysis and queries on GIS maps. The application also enables the KMC staff to calculate tax based on digitized areas taking into account the **Unit Area Method** and generate various kinds of MIS reports required in the day to day operations of KMC. Primary focus of the application was to provide a server based Geographical Information System with key spatial layers and links to the relevant textual / graphical information available in the database.

management system, a proper addressing system is a prerequisite for efficient management of many of the public services, considering the complexity of the Indian metropolitan house pattern it is very difficult to find out full proof numbering system. However with application of modern tools like GIS it has become easy to design a logical and consistent numbering system.
Considering the actual scenarios in Kanpur, the numbering system which is practical for Kanpur will be a administrative boundary based numbering system. In this system, the house number or premise number is unique within the smallest administrative boundary that is Chak/block in the case of Kanpur.

Property Tax Application and Web site Development
The software development effort for the Kanpur Municipal Corporation included development of KMC portal and property tax application

KMC GIS Based Website
An interactive GIS based website was developed for KMC to provide on-line information to citizens on
- Property Tax Details
  a. Property Tax liabilities
  b. Existing status of paid taxes
  c. Annual taxes due to be paid,
- On-line Property tax calculation based on the **Unit Area Method and On-line tax payment**
A facility to access maps based on Zones, Wards, Blocks and Chaks will be provided. In case an individual or an organization wishes to buy relevant maps, the site also provides for visualization of maps and placing an on-line purchase request by the individual or organization.

Online tax payment
Some special feature of the website to provide on-line information to citizens on
- Transaction failure redressal.
- Automatic receipt generation
- Automatic data updation based on time specific scheduler

Software & Methodology Followed by KMC
KMC application uses the three-tier architecture based on ESRI technology. An ArcSDE service conveys spatial data between Geographic Information System (GIS) applications and a database. The system architecture uses database management systems (RDBMSs) = SQL Server with ArcSDE. It is a registered collection of ArcGIS feature classes. The application that can connect to and access spatial data from an ArcSDE service will be automatically designed in the application. The solution component for KMC application development and deployment follows three-tiered system architecture as given below:
- **Presentation Tier** or Client Tier where the users access the KMC application through internet browser
  - **Application Tier** where the KMC application business logic resides
  - **Data Tier** where the KMC application databases reside

Time Frame:
Initially it was one year but it was extended twice i.e. it took 3 years to complete.

Property Numbering
Property addressing is one of the most important components in property management system; a proper addressing system is a prerequisite for efficient management of many of the public services, considering the complexity of the Indian metropolitan house pattern it will be very difficult to find out full proof numbering system. However with application of modern tools like GIS it has become easy to design a logical and consistent numbering system.
Considering the actual scenarios in Kanpur, the numbering system which is practical for Kanpur is a administrative boundary based numbering system. In this system, the house number or premise number is unique within the smallest administrative boundary that is Chak/block in the case of Kanpur

Structure of the property number
The unique property number has 6 components i.e. Zone No., Ward No., Chak No., Premise No., Floor & parts and will have 17 digits in total.

Parameter	Number of Digit	Description
Zone Number	1	Zone Number, a number in between 1 and 6
Ward Number	2	Ward Number, a number in between 001 and 110
Chak Number	3	Chak Number, a number in between 001 and 999
Premise Number	4	Premise number will be the number of the plots at the lowest, this number would actively increase
Floor	2	Code for floor, E.g. 00 for ground floor, 01 for First floor etc
Parts	3	Individual units inside a single premise. E.g. 000

The Tax Payers consultation/participation
- One month time was given for self-assessment by fixing date to property owners.
- Objections were invited by property owners after publishing data. Objections were disposed off.

Experience of KMC GIS Project

During the Project:
- The project faced strong opposition from the grass root level worker's to senior officer's of the corporation itself, as it exposed the gap's and revenue sharing holes.
- The change in the tax level directly affected the property owners weather Government or private which led to many litigations in the local court as well as Honorable High Court.
- The issue of tax revision was grabbed by the political parties and a big hue and cry was made in the parliament elections till it was viewed by the State Government.
- The details of the whole project, need of the project, modality, transparency in the system, use of GIS and other techniques, its public interface, revenue generation details and the grievance redressal system to be applied in the project was explained to the Government and Government vacated its stay. It was discussed in details at every level to clarify the confusion created about the project.
- To ensure the quality of the data three times filtration/field verification was done.
- This tax revision was made after 21 year's, it resulted into many fold increase in the tax amount (from three times to ten times). The major increase was because of the increase in land cost rates and addition/alterations of the building or the change of the use of the property (from residential to non-residential or industry).
- Visualizing the acceptability factor the land cost based rates were substantially reduced. The grievance redressal system was decentralized to six Zonal officers under the supervision of Deputy Municipal Commissioner to cater fast decision. This system worked actively throughout the year.

After the Project:
- System has been enforced completely.
- Litigation in the courts have been decided in favor.
- Everyone is happy because the collection is three times than the previous year.

THE PROJECT ADMINISTRATORS ARE CONFIDENT HURDLE RACERS
DEGREE OF THE SUCCESS OF THE PROJECT IS ...

- State government
- Continuous stepwise
- awareness of Taxpayers
- Hon. Courts
- **Intensity of The Various stakeholders consultation /participation**
- Political leaders
- Corporation Board
- Ward members
- Revenue inspectors and municipal officers

USE OF KMC GIS –MAPS
Digital Map uses in –
- By Kanpur Municipal Corporation (KMC) for planning and revenue generation.
- Delimitation of KMC Wards
- Ward wise Backword Population Survey
- BPL (Below Poverty Line) Survey
- For planning, design/implementation of water supply & sewerage projects under JNNURM.
- By Kanpur Electric supply Company (KESCO) for power distribution planning and revenue generation.

WE REMEMBER THEM & ARE THANK FULL TO
- The TRAINING faculty of IIPA New Delhi and specially Mr G.Sriramam initiate the concept.
- Ex Municipal commissioners:-
  Mr.Arvind Singh for conceptualization ,
  Mr Badal Chatterji for selecting a confident partner, Mr.M.P. Mishra & Mr. P.K.Pandey
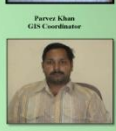- Mr. Mukund Rao, President, NIIT-GIS for successful execution.

Financial Benefits Acc
Property Tax Enhancement After GIS Phase

Properties Added to Tax net After GIS Enro

Promotional Experiences of KMC GIS Project
Public Awareness Campaign to Educate the Tax payer

Property Tax Reform
Intense Discussion in the Kanpur Municipal Corporation Board

Property Tax Reform
Talk of the City

KMC Core GIS Team

U.N.Tiwari
Additional Municipal Commissioner & Team Leader

Parvez Khan
GIS Coordinator

Krishna Bihari Mishra
GIS Assistant

With technical support of our partner NIIT-GIS Ltd. New Delhi Consultant & Developer

Project Implementation was A hurdle race
As usual change is always painful till it is accepted, else till it becomes a habit. A strong management support from KMC and ESRI has been proved to be the key to win this hurdle race.

We have learnt that
- Continuous stepwise consultation/participation with various stakeholders
- Awareness of Taxpayers
- Political/Administrative will
- Media Support
.... is very much needed for successful implementation of this Project.

AWARDS

"*The Indian Geospatial Award 2009*", delivered by Sri T.Ramaswamy, Secretary Department of Science & Technology, Govt. of India, New Delhi.Kanpur Municipal Corporation has been awarded *for Utilizing Geospatial Technologies as part of e-Governance initiatives. The Award recognizes the effort in Successful Implementation of Technology, resulting in better revenue. generation..*

AWARDS

A paper based on this project has been submitted **at "ICT for INDIA Award"** organized by **SKOCH Group** which the project was awarded for **"ICT for INDIA Award, 2010"** for **enhancing the property tax based tax revenue by three times by providing for transparency in governance, on-line tax payment. By Honorable Minister of Urban Development, Govt. of India Sri. Jaipal Reddy,** dated 22th September, 2010 at New Delhi.

KANPUR MUNICIPAL CORPORATION

SKOCH "ICT FOR INDIA AWARDS 2010"

KANPUR MUNICIPAL CORPORATION

KNN has been selected under *The Top-100 ICT Projects in INDIA during 2011 &* Awarded certificate of Merit for Unique Property Numbering System dated 1st Sept., 2011

CSI-Nihilent Award-2011

Project has been awarded CSI-Nihilent Award-2011 in the project category G2C, delivered by Computer Society of India dated 02.12.2011 at Ahmedabad.

U.P. State e-Governance Awards-2009-10

Project has been awarded U.P. State e-Governance Awards-2009-10 in the project category "Government Process Re-engineering" delivered by Sri Anoop Mishra, Chief Secretary Govt. of Uttar Pradesh dated 07.12.2011 at Lucknow.

Special Achievement in GIS in India (SAG Award) Award

Project has been awarded Special Achievement in GIS in India (SAG Award) Award delivered by Sri Sailesh Nayar, Secretary Science & Earth, Govt. of India dated 08.12.2011 at 12th ESRI India User's Conference, New Delhi.

Scope of Work

KMC envisaged development of an interactive website &

❑ Creation of a GIS based spatial property database involving:

➢Procurement and supply of Quick bird Image (0.6m resolution) for the entire area under the KMC jurisdiction.

➢Georectification of the satellite image form the Ground control Points (GCPs) collected from Differential GPS survey.

➢Updating of digital GIS maps of KMC with the help of geocorrected Quick bird data and preparation of data for assessment list.

❑Conduct a property level survey for every property unit

❑Development of Informative and Interactive website for online property tax calculation and payment

❑Development of server based desktop application for property database repository management and tax assessment.

❑Supply and Installation of software's, hardware and networking with server and additional peripherals

❑Training of KMC Personnel

❑Renumbering of properties with unique premises no. and fixing of house number plates.

The Scope of work mentioned above could be categorized into two broad components based on requirements of the KMC project as –
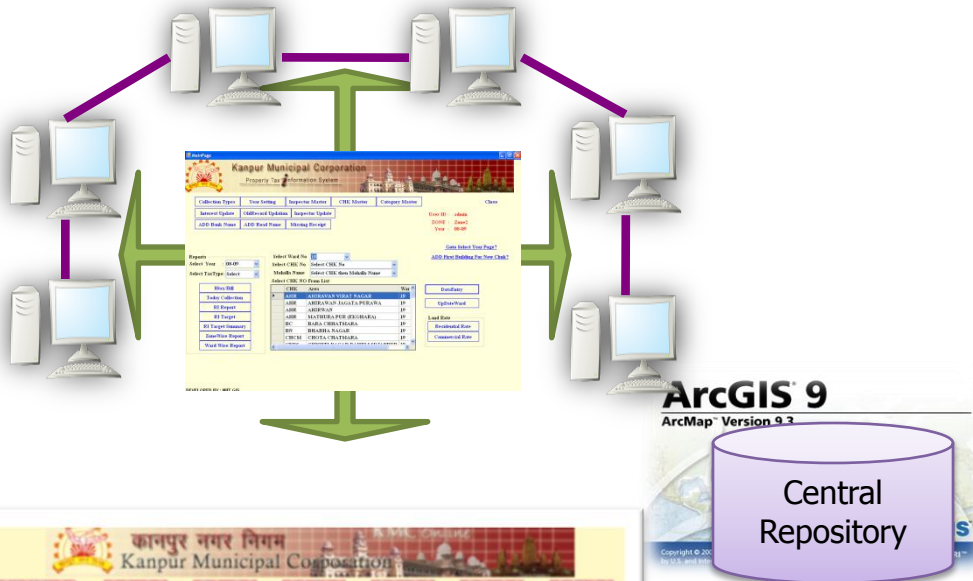   ❑Property Survey & GIS database Creation
   ❑Application Development and Website Development

Major Components of the Project

Desk Top Application

GIS Based Property Survey

ArcGIS 9
ArcMap™ Version 9.3

Central Repository

Web Site

GIS dataset

THE SUCCESS OF THE THIS PROJECT IS BECAUSE OF ...

Continuous stepwise consultation With Various stakeholders

- State Government
- Taxpayers Ward-wise
- Hon. Courts
- Political leaders
- Corporation Board
- Ward members
- Revenue inspectors and municipal officers
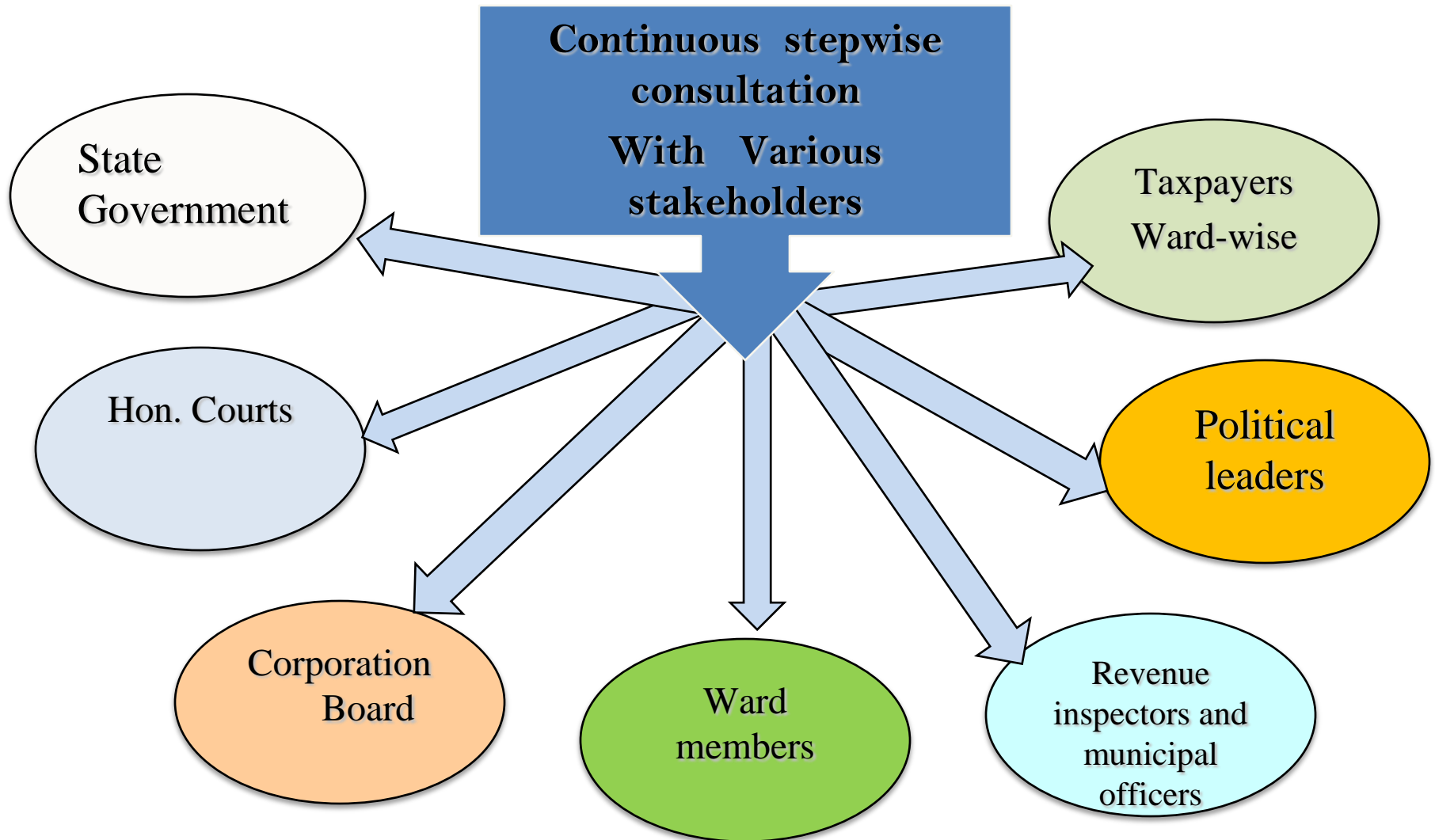
GIS-BASED PROPERTY MAPPING
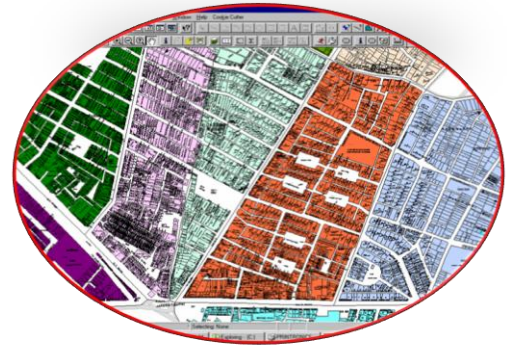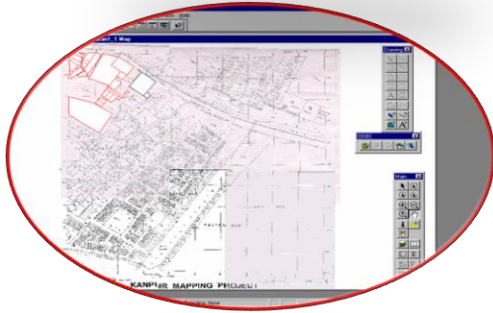
ABOUT GIS DATA SET

Details of Layers

Commercial

Name
Bank
CommercialLawn
Factory
GuestHouse
Hostel
Hotel
KNN
MarriageHall_BanquetHall
NursingHomes_Clinic
Office
PetrolPump
Restaurant
Shop
ShoppingComplex
Tower

Public facility

Name
BusStation
Hospitals
Policestation
Postoffice
Railwaystation
SWMdumpingsites

Recreational

Name
Auditorium_Club
CinemaHall
Parks

Property

Name
Plot_Boundaries

Educational

Name
DegreeCollege
PrivateCoachings
School_Institute
TechnicalInstitute

KMC Geodatabase
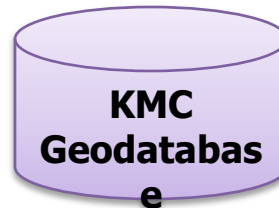
Transportation

Name
Bridge_Flyover
RailwayTrack
Road

Utility

Name
ElectricPole
Handpump
Manhole
OverHeadtank
PumpingStation
Sub_station
TelephonePole
Transformer

Religious

Name
Church
Graveyard
Gurudwara
Mosque
Temple

Landuse

Name
Builtup
Canal
Cultivation
Footpath
Open
Opendrains
River
Tree
WaterBodies

BASE MAP

With Property Details

Roads

Building cover

Non-Spatial Linking

Field	Value
Accomodation Description (No of Rooms, kitchen, etc)	GF
ARV	3000
Assessed in Saral Kar or Not	NO
Mohalla Name	RATAN LAL NAGAR
Owner Name	PREM KUMAR
Property Use	RESIDENTIAL
Proposed ARV	20217.6
Proposed House Tax	3032.64
SRN	2555
TAX	450
Tenant / Agent	SELF
Type Of Construction	PAKKA A

Public Awareness Campaign to Educate the Tax payer

सरल कर, चौ कर (नगर निगम टैक्स)
जमा एवं गलत बिल संशोधन शिविर
श्री प्रमोद पाण्डेय श्री खुर्शीद आलम फरीदी नवीन पण्डित
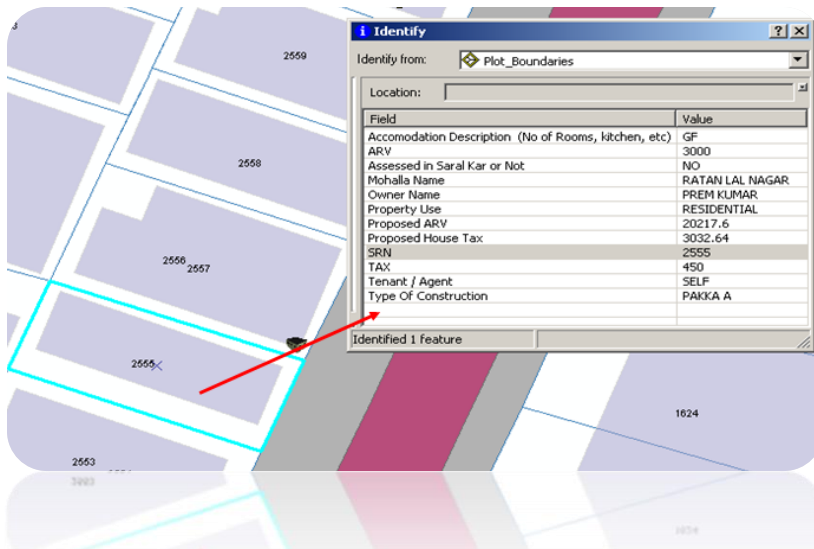
Public Awareness

कानपुर नगर निगम
कर संग्रह केन्द्र
Email at : kanpur_nagar.nigam@yahoo.co.in

कानपुर नगर निगम

सामान्य कर निर्धारण–2008
कानपुर नगर निगम सीमान्तर्गत स्थित समस्त
आवासीय/अनावासीय भवन/भूखण्ड के
स्वामियों/अध्यासियों के लिये
आवश्यक सूचना
अपनी सम्पत्ति का कर निर्धारण स्वयं करने का सुनहरा अवसर

आवासीय भवन/भवन के भाग हेतु सरल कर प्रपत्र (प्रपत्र 'ख') एवं अनावासीय
भवन/भवन के भाग हेतु निर्धारित प्रपत्र (धारा 222 के अन्तर्गत) भरकर जमा
करने व वर्तमान वर्ष के देय कर में 10 प्रतिशत छूट प्राप्त करने की
अन्तिम तिथि 31 जुलाई 2008

उदय नारायण तिवारी   पी0 के0 पाण्डेय
अपर नगर आयुक्त   नगर आयुक्त

सामान्य कर (गृहकर) जमा करके कानपुर महानगर व अपने वार्ड के विकास हेतु अपने दायित्व का निर्वहन करें ।

New House Numbering Building ID Generation
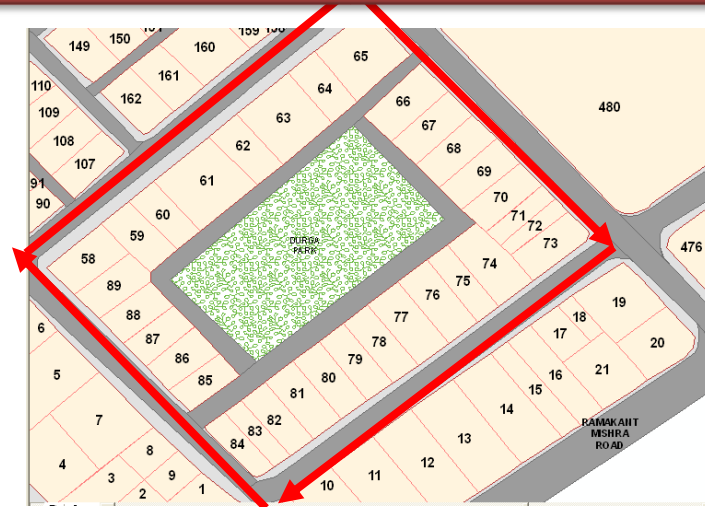
Transparency in Government Process:

❑ Almost 100% property tax coverage in the KMC area.

❑ Transparency & Speed in working.

- Online tax payment and status verification facility removes intermediary agents
- Better revenues for investments into civic facilities
- Property details (attribute data) and GIS database (spatial data) available at the

  click of mouse.

❑ Use of GIS map in the planning of the City.

   Digital map already used in:
   - Planning and revenue generation.
   - Delimitation of KMC Wards
   - Ward wise Backward Population Survey
   - BPL (Below Poverty Line) Survey
   - For planning, design/implementation of water supply & sewerage projects under JNNURM / NGBRA
   - Development of Comprehensive Mobility Plan (CMP) of the city by UMTC
   - Map is being used by students of IIT and other institutions for R&D and project work

Sustainability

Data Updation:

❑ The data is being captured from the building plans received from Kanpur Development Authority for NOC.

❑ Through a defined format; ward wise Identified new properties are being regularly linked with GIS database.

Capacity Building & Organizational Sustainability

Financial model :

It is a revenue generating project so it is sustaining by the revenue generated on its own from property tax and other sources tapped through the map.

Technology transfer :

The project covered the technology support for one year and transfer of technology by three level training of staff.

Accountability:

Project Management team is accountable for regular operation and management of the system.

Project Management team (full time department officials/consultants)

Full time:

❑Team Leader/Nodal Officer Additional Municipal Commissioner,
❑ I.T.Officer:
❑GIS Coordinator:
❑20Computer Operators.
❑Consultant support for trouble shooting.

Innovation :

Innovation:

- ❑ Property tax calculation system in Hindi.
- ❑ Tax calculation step by step.
- ❑ View your tax calculation.
- ❑ Ward wise monthly rental rates per sq. feet rates used for calculation of property tax.
- ❑ Ward wise/ area wise circle rates of property used for the calculation of property tax for non-residential properties is available on-line.
- ❑ GIS based spatial searching and identification of properties
- ❑ Ward wise/Property wise maps with civic infrastructure details like roads, lanes, by lanes, parks, electric poles, telephone poles, railway lines, hotels, hospitals, police stations, schools, cinema hall etc.
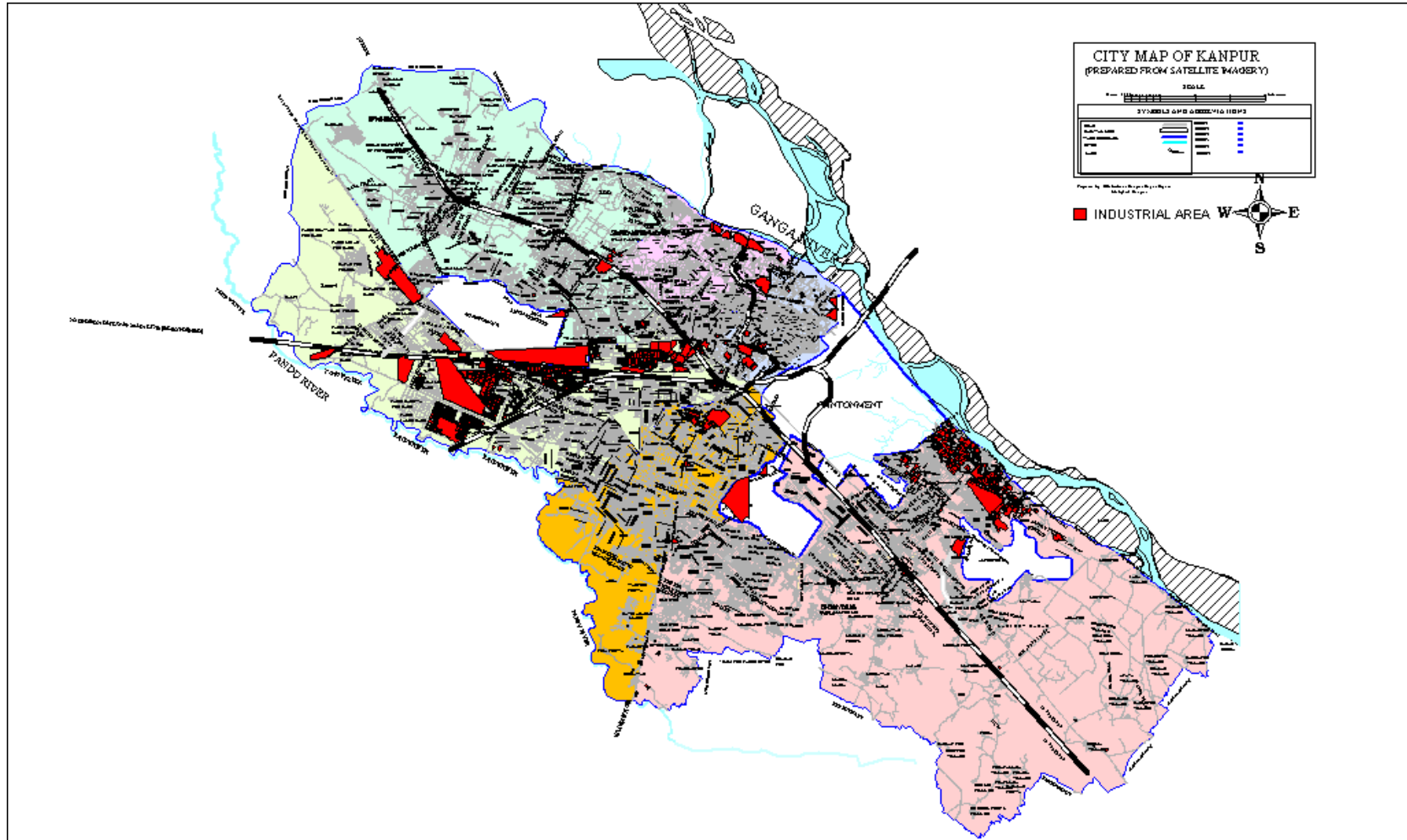- ❑ Property Tax information system.

Appropriate Delegation

❑The whole system is based on login/password.

❑Provision for power delegation at each level e.g. add, edit, delete etc. is there.

❑Provision for maintaining log book for every transaction in the property tax application is there.

City Map with Road & Rail Network
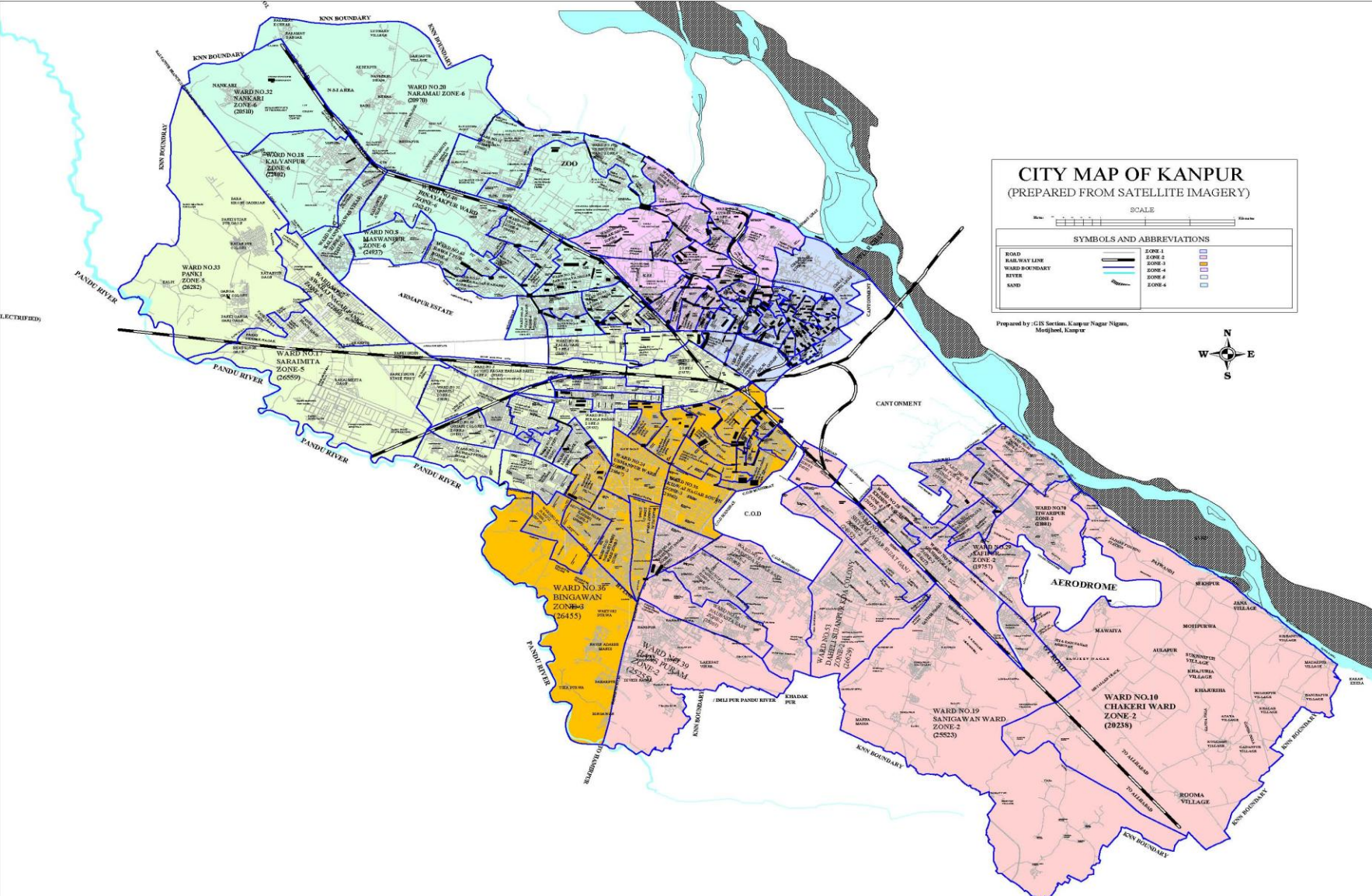
Industrial Area Of Kanpur

GIS mapping for Disaster Management

Four maps have been prepared in following each area namely

○ Social map (to understand the social status),

○ Hazard identification map (to identify the possible hazards),

○ Vulnerability map (to identify the vulnerable sections of the community)

and

○ Resource Inventory map (to inventories the resources available within the ward or around

Social Map of Kanpur
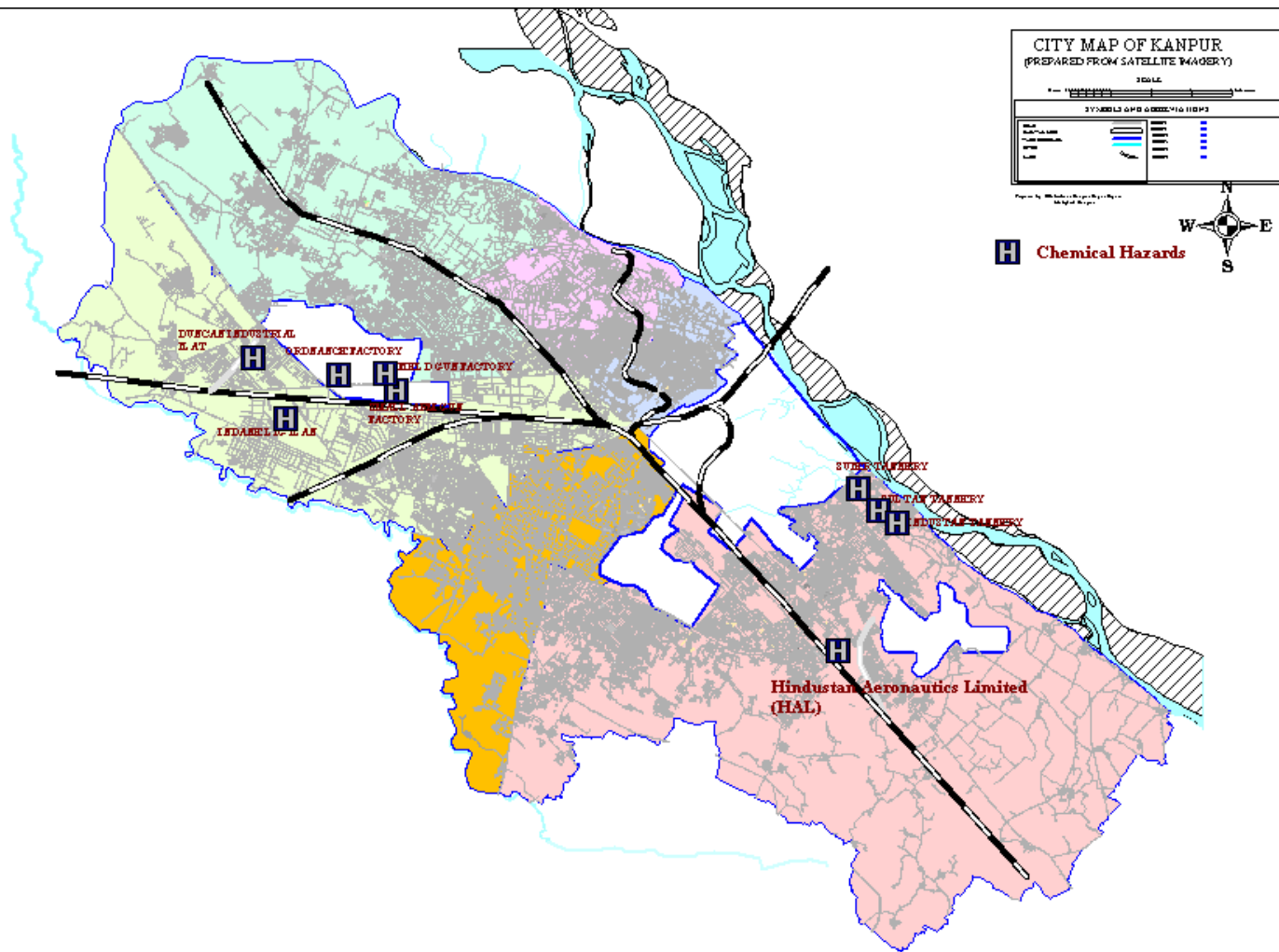
- MIG Group
- LIG Group
- HIG Group
- EWS Group
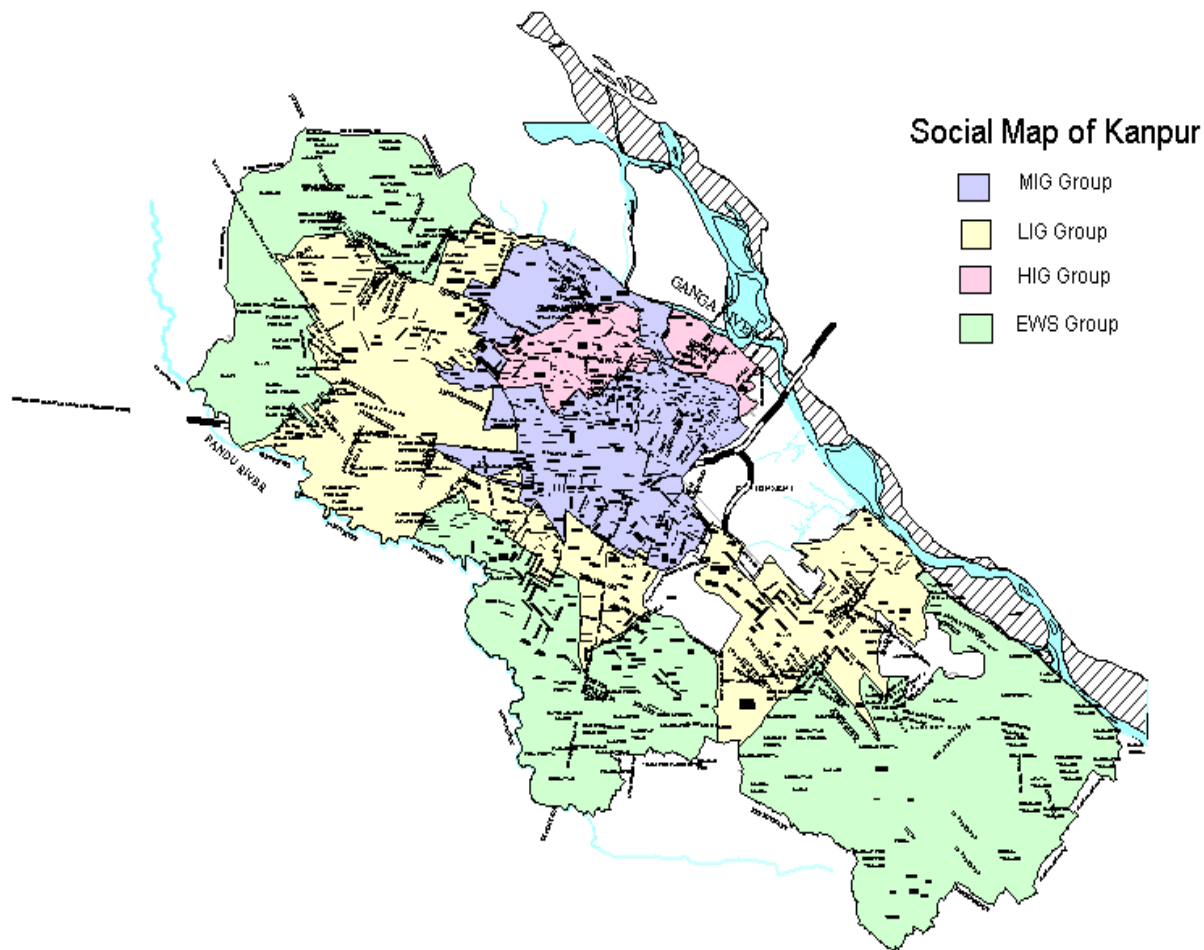
Vulnerability map (to identify the vulnerable sections of the community)

- MAPPING OF VURBAN POOR AREAS IN KANPUR CITY
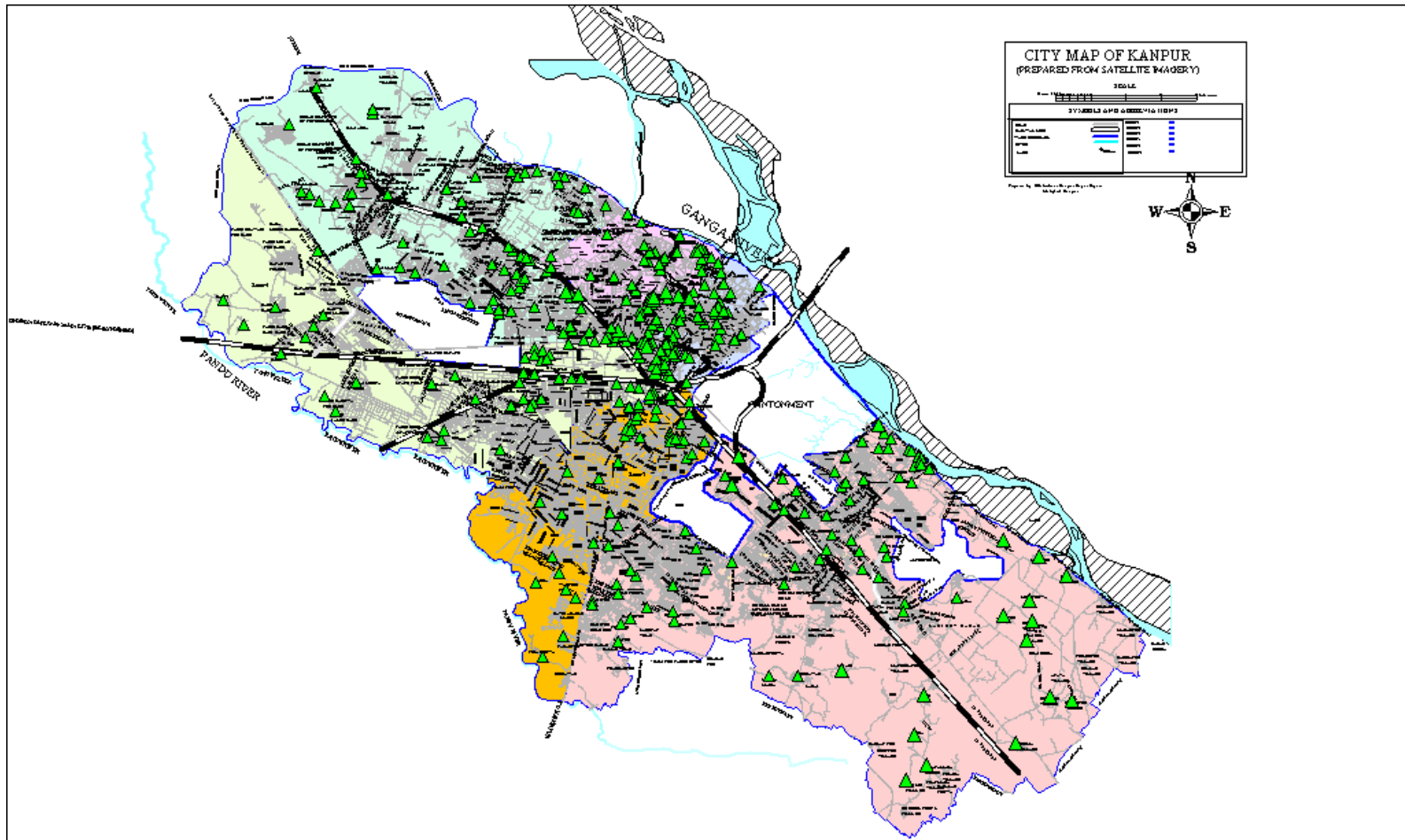
Hazard identification map (to identify the possible hazards)

Major Departments (Partner Departments)

tHank you . . .