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## PRODUCT SHOWCASE





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# Towards flawless property records management

The state government of Karnataka has initiated the UPOR project for digitising, updating and maintaining a flawless land records database. It will also aid the civil authorities in making planned expansion of city, tax collection and clamping on encroachments

Just like the UID project that gives every citizen a unique identification number linked to their demographic and biometric information, which they can use to identify themselves anywhere in India, there should also be a UID for properties, since this is a permanent and valuable asset. Proper documentation of land ownership will avoid the issues of fraud and duplicate ownership in property related transactions. This can be done by mapping and developing a proper updated digital database of properties. Urban/rural area surveys can be done for ground verification and validation to enhance the authenticity of property ownership and also to rectify errors in property boundaries. In urban areas land is very costly and so the error tolerance in property boundary marking should be <10 cm per property corner. Customised maps and GIS software can be created to retrieve information from the database and to rapidly and accurately distribute it to the public and government authorities. The

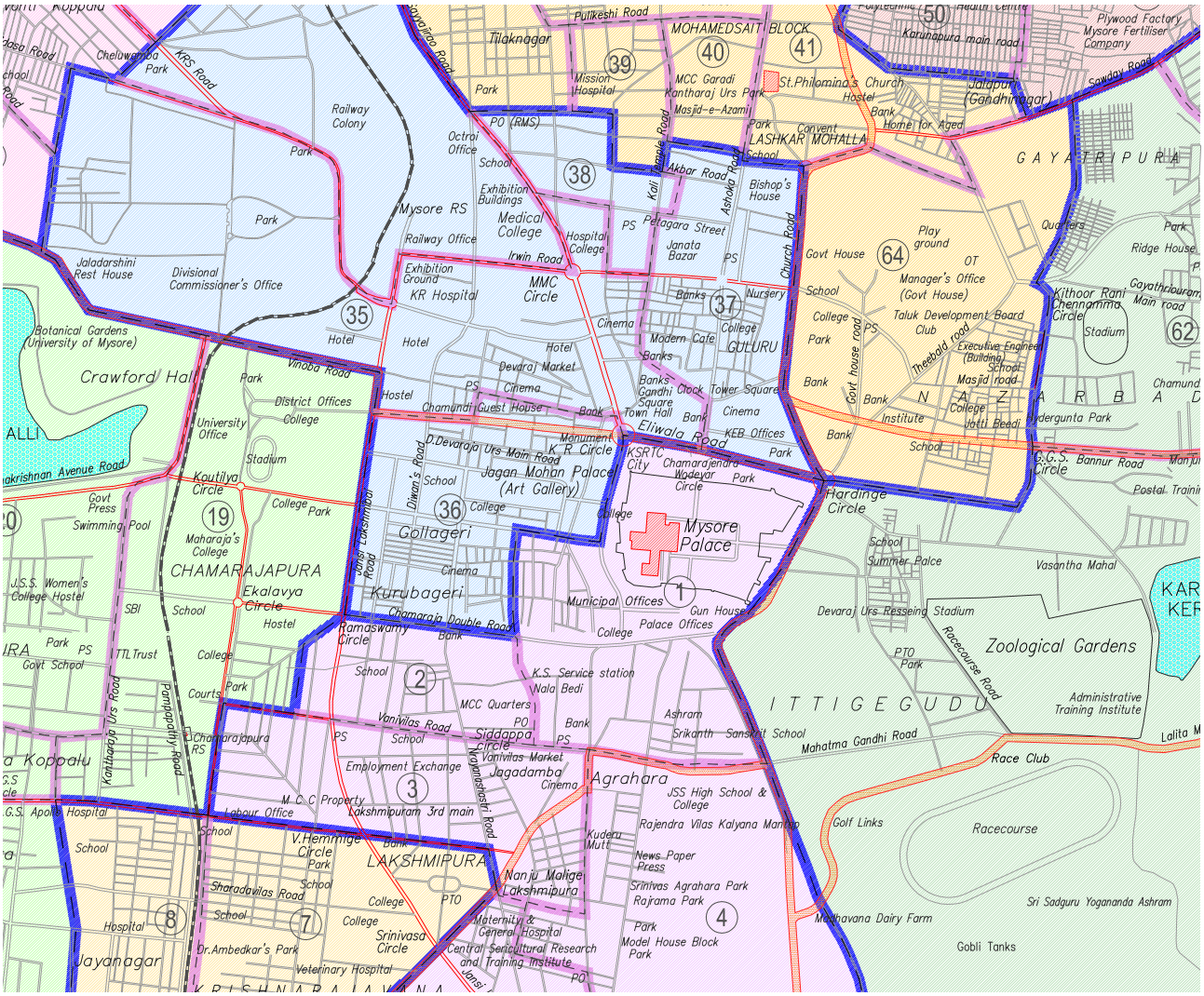
property database will have multiple benefits: It will greatly enhance the tax revenue of the government, since all properties will be mapped and recorded; tax defaulters can easily be identified; It also helps in checking on encroachments and issuing of construction licences. For instance, as per the old records there are 2 lakh properties in Mysore, but the UPOR project has revealed the existence of 2.75 lakh properties, which means around 75,000 property owners have not been paying tax.

The Department of Survey, Settlement and Land Records (SS & LR) in Karnataka envisaged the urgent need for updated urban property ownership records for preparing, maintaining and preserving spatial and non-spatial data relating to ownership of properties in the urban area of Mysore. Hence, the Karnataka Government initiated the Urban Property Ownership Records (UPOR) project, which is one of the first programmes of its kind in India. It is being implemented on pilot basis in five large cities of Karnataka including Mysore, Shimoga, Hubli-Dharwad, Bellary and Mangalore, and will subsequently be extended to other parts of the state. The project was inaugurated on December 17, 2011, by the Chief Minister of Karnataka. Upon the completion of the project, the state government will issue a Property Record card (PR card) for each property in all the cities. This PR card will be the only authentic identifying document for all the property owned and only this identification will be accepted for property transactions, securing bank loans etc.

**Upon the completion of the project, the state government will issue a Property Record card (PR card) for each property in all the cities**

The Government of Karnataka has tied up with Bangalore-based SECON Pvt Ltd, on a PPP basis for undertaking survey, property measurement, data collection and database creation for Mysore city. The city has a population of over 10 lakhs with over 2,75,000 properties in an area of around 200 sq km. SECON is a GIS-driven multidiscipline engineering consultant with domain expertise in large-scale surveying and mapping in India. The project for Mysore City is almost complete and will be the first project to be completed under this programme. The city area as specified by the Mysore Municipal Corporation has been mapped on 1:1,000 scale under the project. Layouts formed by the urban development agencies have also been covered even if such layouts are outside the Municipal Corporation limits.

An additional area equivalent to 20 per cent of the area of the municipal corporation to




*Mysore Ward Map*

cover adjacent villages where significant urbanisation has taken place, has also been covered. Fory-two villages were covered under the area of interest. SECON has also established a Citizen Facilitation Centre (CFC), which will be operational for the entire duration till property records are created.

### Methodology

**Preparation of Base Map:** Base map on scale of 1:20,000 has been compiled from Mysore city maps, topographical maps and is updated using satellite images.

**Establishment of high-precision survey control network:** This consists of the establishment of primary and secondary control points. The primary and secondary control points were further extended to establish tertiary control points to monitor the survey process and check the authenticity of survey data collected.

**The Government of Karnataka has tied up with Bangalore-based SECON Pvt Ltd, on a PPP basis for undertaking survey, property measurement, data collection and database creation for Mysore city**

### Preparation of index map

The index map facilitates monitoring and controlling the field activities of the project. The comprehensive index map contains the following features:

- Control points location (primary, secondary and tertiary)
- Geo-referenced village maps with survey numbers
- Layout and town maps from the municipal, MUDA and urban local bodies

- Road network maps from local authorities
- Zones, sectors and blocks demarcated in consultation with department for easy guidance and monitoring the field activities of the project

### Preparation of sector map

In the sector map, all properties in Mysore have been divided into 20 phases of 10,000 properties each. Each phase is further sub-divided into two sectors of 5,000 properties each. Total 48 sectors are covered under the project, and each sector is further sub-divided into blocks, enclosed by roads on all sides.

### Serving notices

Serving notices is an important activity preceding the measurement of property. The printed notice, signed by the authorised official of SS&LR, is served to each property owner at his door step by SECON, at least three days prior to measurement date.

### Data collection and incorporation into property records database

SECON collected the following documents from the owner, scanned them, and incorporated them into a property records database that managed both the spatial and non-spatial data:

- Sale deed executed by the owner
- Possession certificate issued by the concerned department
- Encumbrance certificate
- Tax paid receipts and Khata certificate
- Approved layout plan (if applicable)
- Conversion certificate (if applicable)

According to Rajeev Chawla, Secretary, state revenue department, of the total properties, documents for 47,660 properties have been collected. Survey of 1,87,820 properties has been completed.

### Identification and marking of property boundary corners

This critical and important activity is done by the SS&LR surveyor. The departmental surveyor identifies the corner point of each property and physically indicates to SECON for marking each corner.

### Measurement of property boundary corner points

Measurement of co-ordinates of each plot boundary corner point was completed within 1-2 days after serving notice. All the accessible plot boundary corner points were measured using Electronic Total Stations (ETS). Corner points which could not be physically accessed for mounting the ETS or the prism were measured manually using measurement tapes. The location co-ordinates of each point on the boundary facilitate fixing the exact shape of the plot polygon, facilitating in deriving exact area of plot polygon.

### Photographs

A minimum of 2-4 photographs are taken for each property, from a distance of not more than 25 feet away from the building. The photographs are taken on as-is where-is condition and no modifications, such as digital or optical zoom, have been done.

### Map digitisation and creation of GIS database

The following layers were created in a GIS database:

- Ward maps

**The UPOR project will be a continuous process and property records database will be updated as and when new localities come up**

- Layout maps
- KIADB maps
- Forest maps
- MUDA maps
- Road maps
- Railway maps
- Corporation CDP plan
- Government land details
- Existing city survey records
- Revenue department details (Tippans)
- KHB details
- Collection of alienation data from DC/AC
- Wakf board and religious institutions details
- Khata details

The UPOR project will be a continuous process and property records database will be updated as and when new localities come up. The verification and updation can be done from UPOR centres across the state. Spatial data such as extract or sketches of property to a given scale can be obtained by the citizens from the UPOR centres. Any mutations in urban property records will be reflected in the database automatically and the property owners will not have to apply for mutation separately. Other details provided by the database include encumbrances of properties, easementary rights, restrictions, details of common boundaries and demarcation of government properties. To ensure consistency in data collection, SECON Pvt Ltd has been roped in for six years for conducting surveys. The distribution of ownership records will start from April 1, 2012, and objections will be invited, if any, after the issue of records.