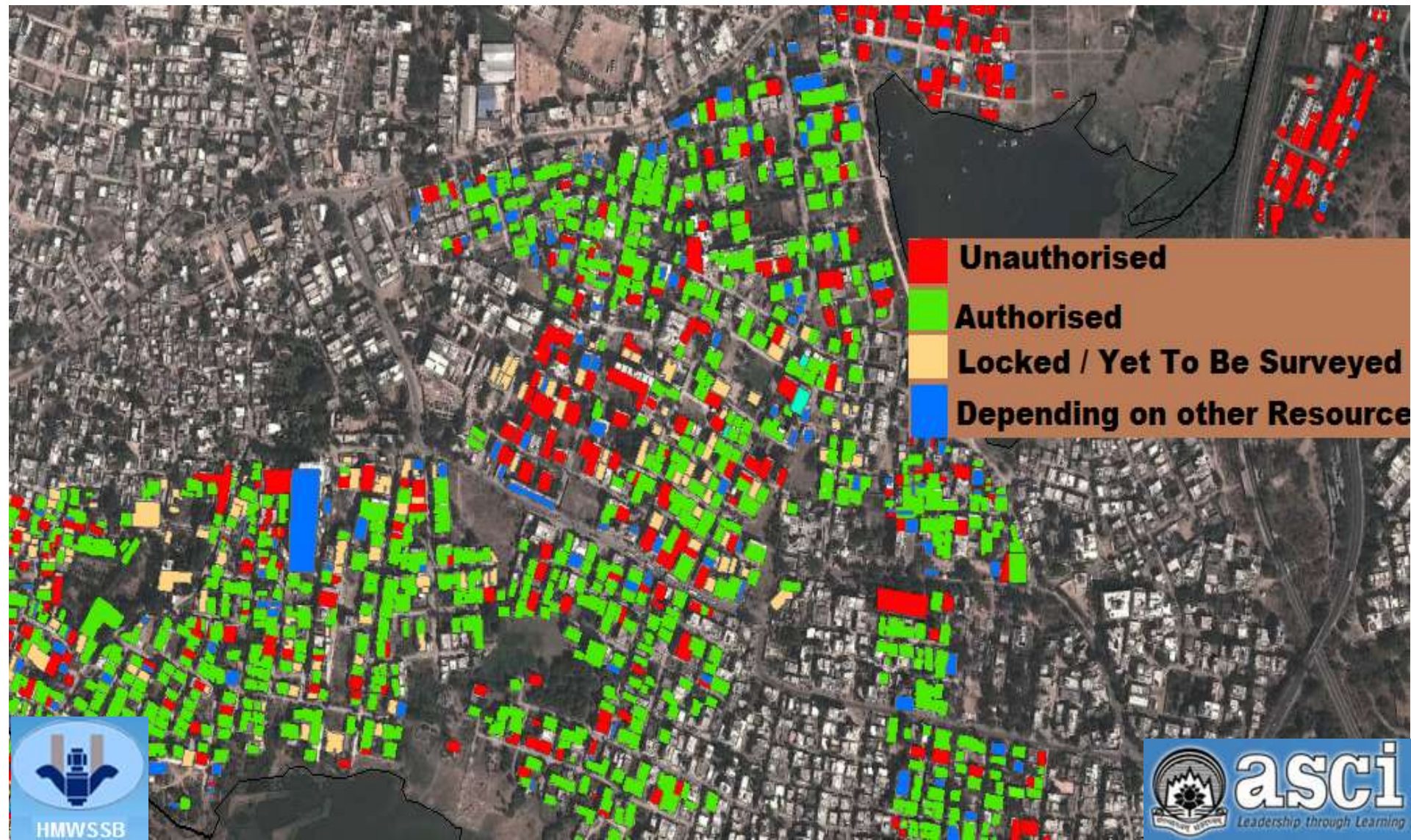


# Service Level Benchmarking & GIS Applications For Information System Improvement Plans (ISIP)



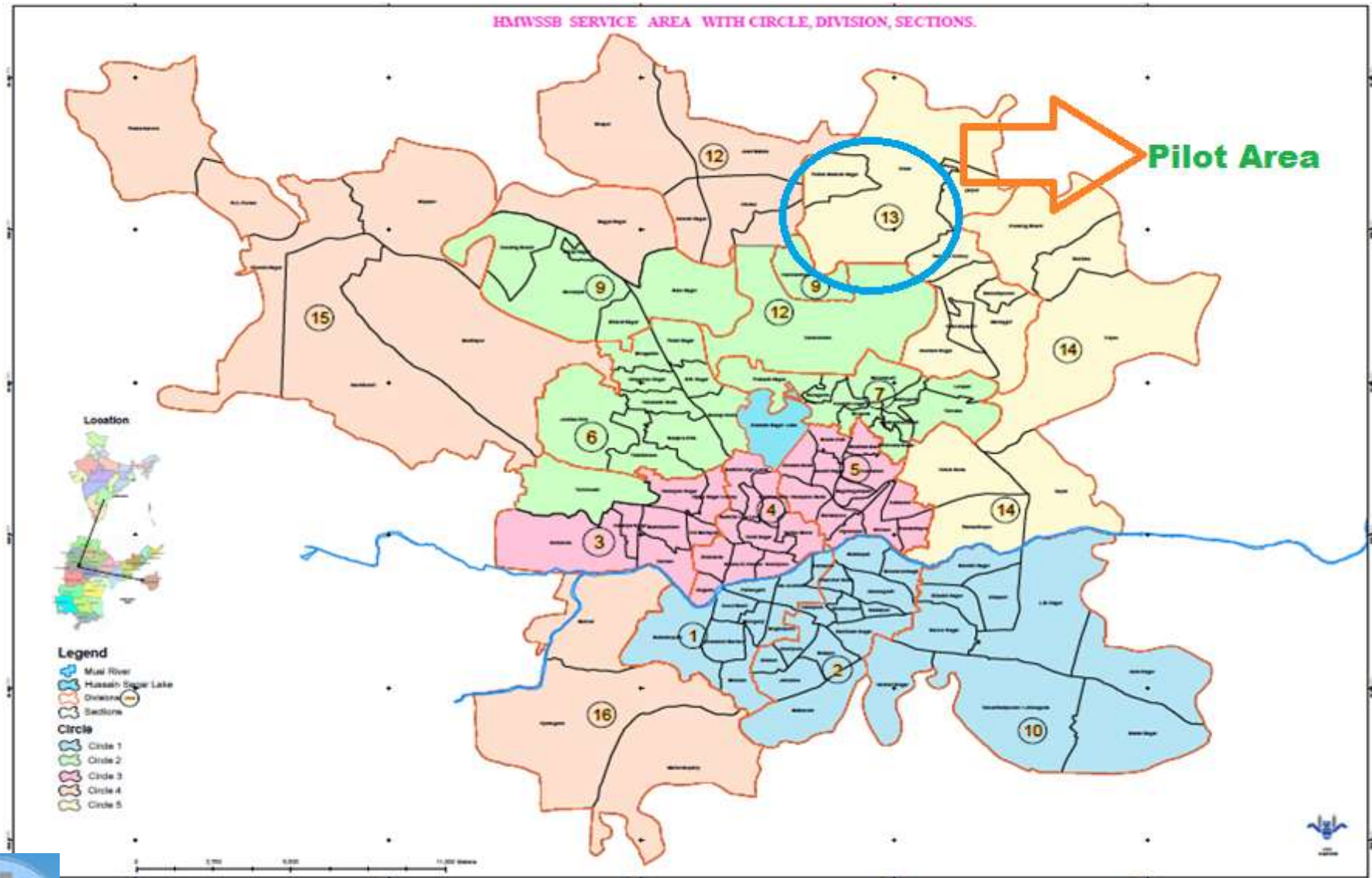
# **Comprehensive Households Pilot Survey, Hyderabad Municipal Water Supply & Sewerage Board (HMWSSB)**

**ALWAL Section,  
Hyderabad**





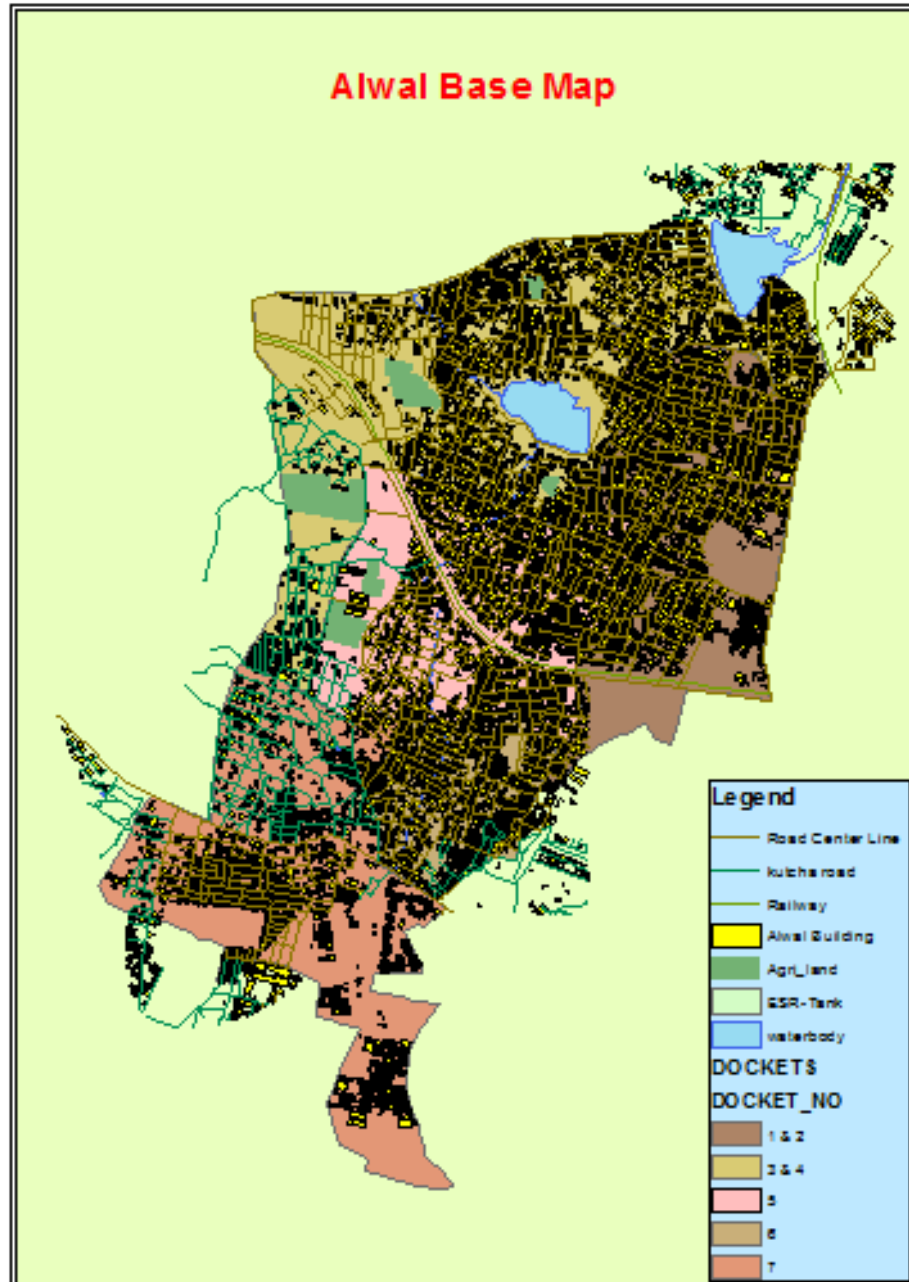
# HMWSSB Service Area



# **Scope of Pilot Survey**

- ☐ **Preparation of Geo-Referenced Alwal Section Grid / Base Map**
- ☐ **Spatial Coverage of HHs Survey**
- ☐ **Identification of Illegal Water Connections**
- ☐ **Integration of survey details on GIS mapping**
- ☐ **Analysis of HHs Survey Data**

# Alwal Base Map



# Technologies Used

- GPS
- GIS
- Tablet/Netbook
- Cloud Computing 'IaaS'
- Web 2
- 3G/GPRS

# Survey Methodology

Data Collection (Softcopy) for Area of Interest, CAN & Properties Tax Details



Property Tax /CAN Compilation & Matching



Geo referenced Satellite Image & Digitized Map Alwal Section  
Validation with GPS



Grid creation (250mX250m), Unique id generation - Shape files formation

# Survey Methodology

Printing & Plotting (A3 & AO Sizes)

Identification - Formation of Team & Providing Training

Preliminary Field Survey for Identification of Properties, Landmarks, Map Updation

Survey for CAN Details - Identifying CAN Properties

Actual Comprehensive Household Survey for all Households

Incorporating GIS id for existing baseline CAN Property data & comparing it with household survey data



# Survey Methodology

Quality Assurance & Quality Control -Matching & Comparison of Collected Field Data & Baseline Data



Resurvey of CAN Properties with Discrepancies/ Mismatching



Data Compilation and Data Analysis



Map updation based on Field Survey & CAN Survey



CAN Survey Data Integration with GIS



Thematic Maps along with Attributes with Different Colors and Symbols



Final Report along with GIS Maps

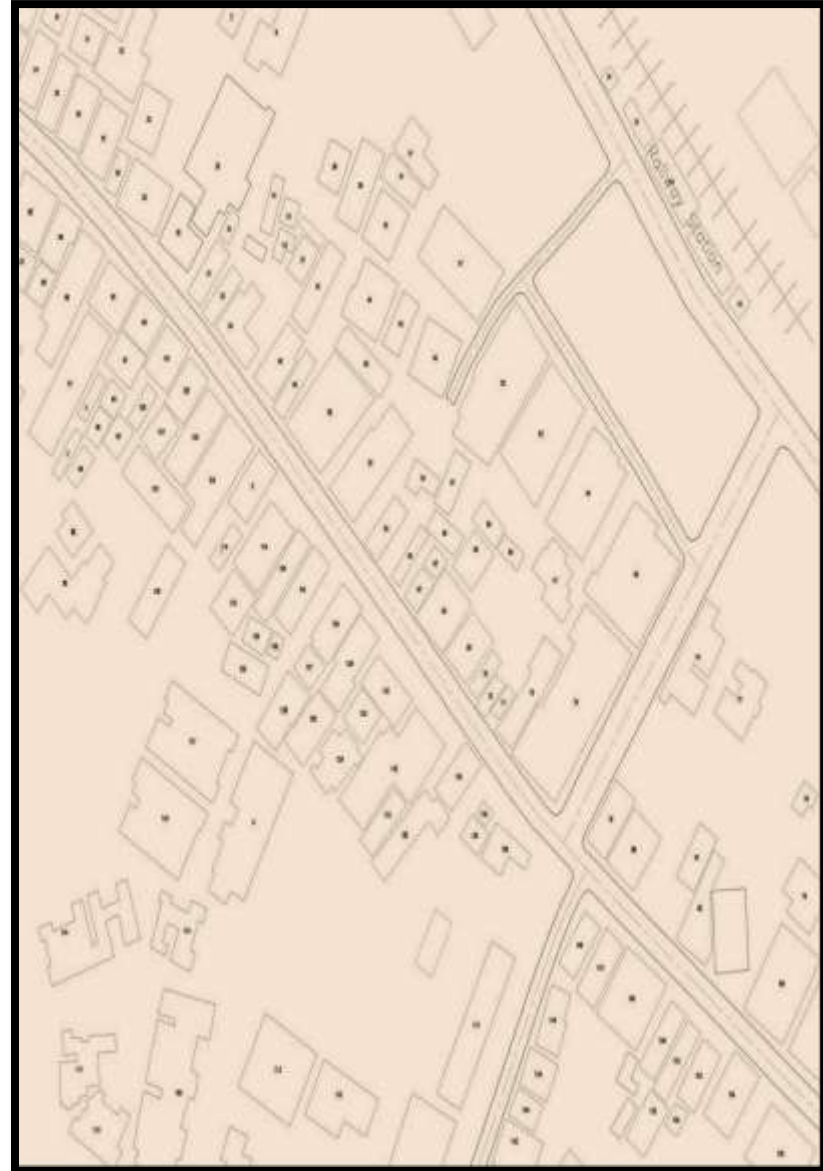
# GIS Mapping

## Satellite Image Digitization

Base map created in AUTO CAD by interpretation and rectified satellite image. All the attributes are captured

## QC/QA

Quality Checks/Quality assurance is useful for identifying the missing features, misinterpretation and error correction. Second step is to create topology for polygon features and road network. Thus, QA/QC was carried out followed by creation of topology.



# GIS Mapping



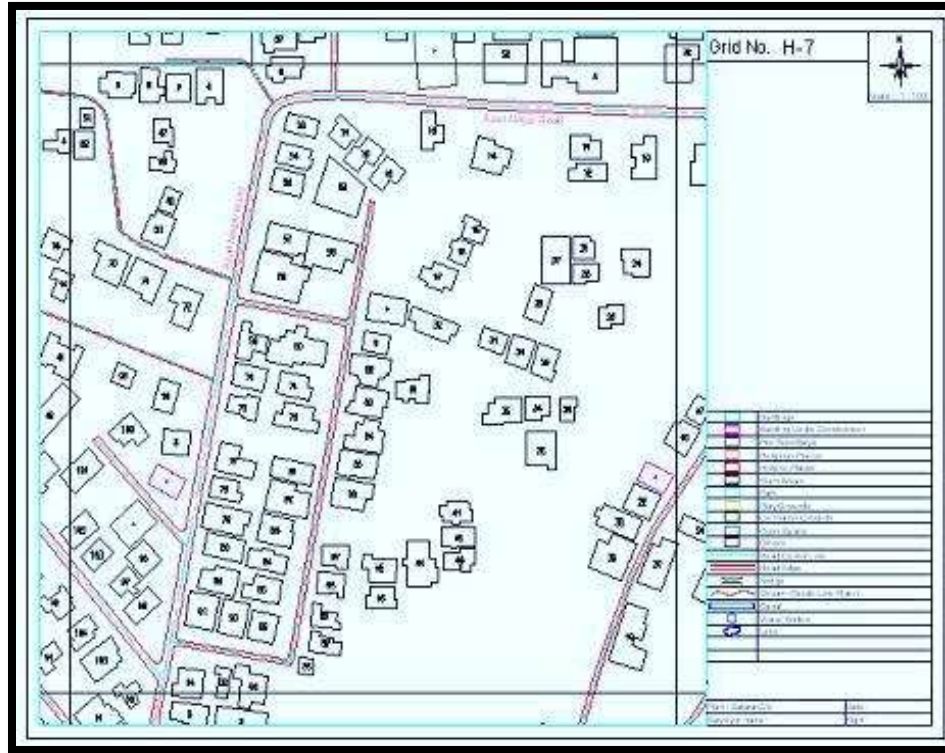
## Unique id generation and Plotting

Unique id was generated grid wise after carrying out QA/QC as

**Grid\_Id + Feature\_Id = Cad\_ID**

**Grid\_Id :- Grid number**

**Feature\_Id :- Number**



**Cad\_Id :- Unique id for each feature**

After the generation of cad\_id, plots were taken in 1:1000 scale/250\*250 ( A3 Paper size).

# HH Survey

HH Survey has been started on all the properties/buildings of the Alwal to collect information relevant for identification of the CAN Number.

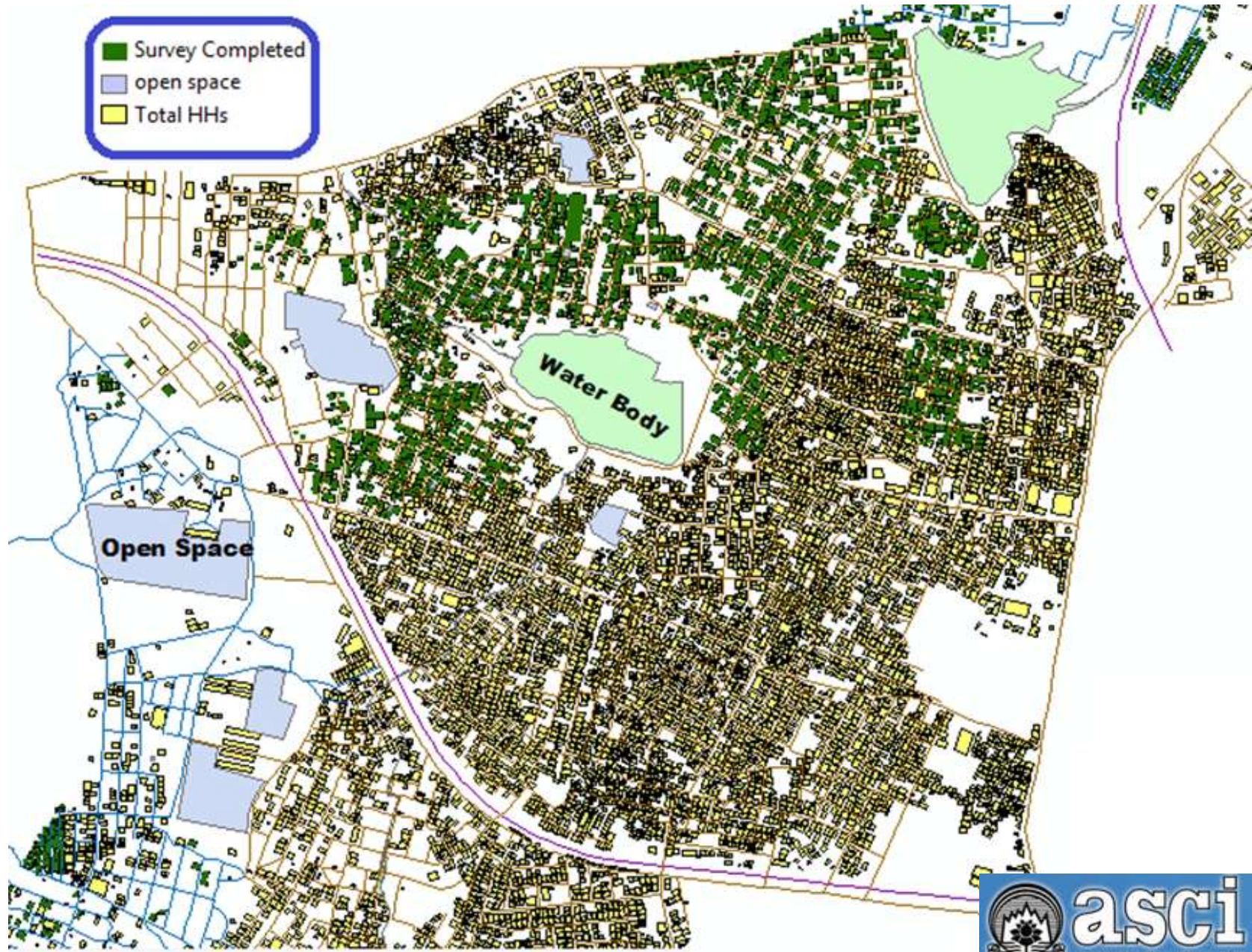
NetBooks or Tablets are being used for capturing the HH Information



# **GIS Mapping & HHs Data Compilation**

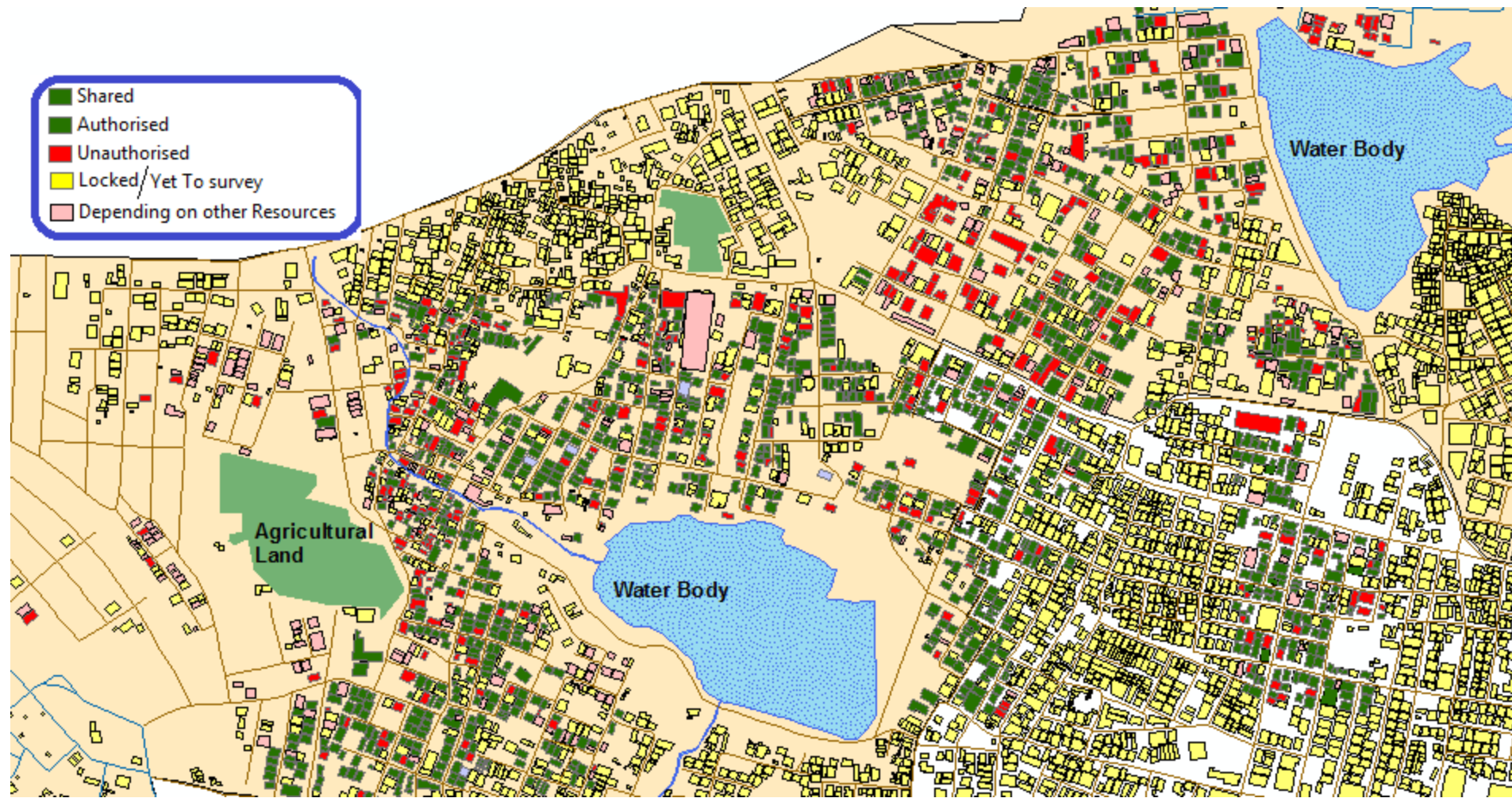
**All HHs data will be linked with GIS data for the spatial analysis.**

# Survey Status





# Connection Details



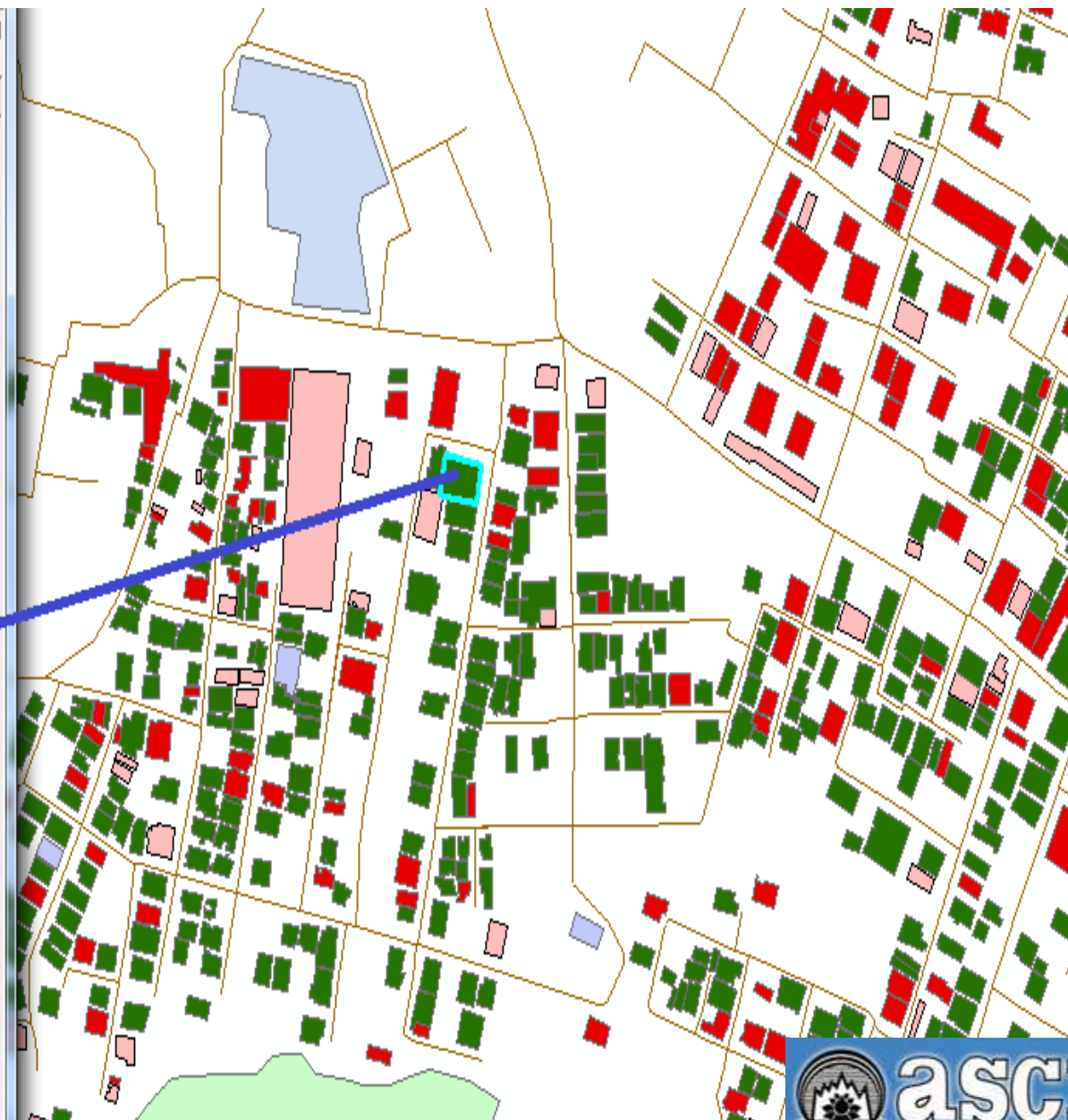


HMWSSB

# Consumer Details

Location: 78.504013 17.505614 Decimal Degrees

| Field      | Value                                       |
|------------|---|
| FID        | 1035  |
| Shape      | Polygon                                     |
| GIS_ID     | A-112-6                                     |
| Area_Name  | Alwal                                       |
| Locality_N | Prasanth Nagar                              |
| Locality_T | General                                     |
| Street_Nam | Old Alwal                                   |
| BLDG_NAME  |   |
| BLDG_TYPE  | Residential                                 |
| BLDG_SUTYP | Residential Apartment/Multistoried Building |
| NO_FLOOR   | >G+3  |
| NO_FLAT    | 30  |
| DOOR_OLD   |   |
| DOOR_NEW   | 1-4-1/61                                    |
| PLOT_NO    | 7   |
| CAN_DETAIL | Single                                      |
| CAN_TYPE   | Domestic (D)                                |
| CAN_NO     | 616338439                                   |
| CAN_NAME   | G Chalapathi Rao                            |
| SIZE_MM    | 15  |
| WS         | WS  |
| SHARD_FAMI | NA  |
| Docket     | 1301-D01                                    |
| Date_Conct | 1-Oct-09                                    |
| Date_DSCon |   |
| BILL_TYPE  | L   |
| Status_Con | Normal                                      |
| WIN_PREMIS | Yes   |
| MTR_INSTAL | No  |
| MTR_STATUS | NA  |
| MTR_WILL   | No  |
| DATE       | 20120830                                    |





# Data Analysis

