Development Of An Informal Land Use Register; Capture And Update The Rural Settlements Within Region 1 | Region 2 | Region 3

RDLR0030 | RDLR0031 | RDLR0032

Region 1: Eastern Cape | Western Cape | Northern Cape Provinces
Region 2: Limpopo | Gauteng | North West Provinces
Region 3: KwaZulu-Natal | Free State | Mpumalanga Provinces
• Project Objectives

**WHY**

- **Temporal Analysis**
  - Spatial growth of rural settlements

- **Informal Land Use Register**
  - Rural areas to enable wall-to-wall schemes in munics
  - Spatially enabled database
  - SPLUMA compliant and aligned

- **Rural Settlements**
  - Identification and delineation
  - Settlement survey and information collection
  - Service Delivery assessment

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Department: Rural Development and Land Reform
Republic of South Africa

DataWorld

think • innovate • create
• Project Timelines

• 18 Months
• February 2017 – August 2018
• Alignment, Integration and rationalization of 3 contracts
• Parallel Phases
  1) Start Up,
  2) Data Collation/ Literature Review
  5) Finalization
• Phased Approach for Fieldwork and Desktop Collection
  3) Settlement/Informal Land Use Register
  4) Rural Settlement Survey
**WHAT**

• Project Phases

Start Up

- Inception Report
- Project Plan
- Project Charter
- Resource Plan
- Communication Plan

Data Collation | Literature Review

- Data Collation Existing Data
- Literature Review
- Definition Of Rural Settlements
- Defined Area for Informal Land Use Register
- Defined Land Use Classifications

Desktop Mapping

- Rural settlement database
- Digitize Settlement Boundaries
- Points of Interest
- Compilation of Land Use Register
- Informal land use register
- Farm Classification

Field Survey

- Settlement Information
- Land Use Verification
- Survey

Finalization

- Spatial Temporal Analysis
- Final Report
- Database creation
- Hardcopy DM Maps
- Softcopy LM Maps

1 Month

4 Months

12 Months

1 Month

February 2017

August 2018

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REPUBLIC OF SOUTH AFRICA

DATAWORLD

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Phase 2: Data Collation

High Level Stakeholder Consultation
- CSIR/ NGI
- DRDLR
- DWAF
- ESKOM
- Stats SA
- DoT/ DBE/ DOH
- SAPS

Collation of Existing Data
1) Acquire Relevant Datasets
2) High Level Analysis

Analysis and Alignment
- Analysis
  - Coverage
  - Accuracy/ Suitability
- Alignment of Data
- Migration

Base Data Geo Database
### Phase 2: Indicative Data Sources

<table>
<thead>
<tr>
<th>Dataset</th>
<th>Source</th>
<th>Status/Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Satellite Imagery/Aerial Photographs</td>
<td>CSIR/NGI</td>
<td>For delineating settlement boundaries</td>
</tr>
<tr>
<td>Existing village boundaries/ Rural Settlements</td>
<td>DWAF/ESKOM/Stats SA</td>
<td>Spatial data in shape file format- will be used for delineating settlement boundaries and temporal analysis</td>
</tr>
<tr>
<td>Dwelling data</td>
<td>Stats SA/ESKOM</td>
<td>Spatial data (point) on location of dwellings- will be used for delineating settlement boundaries and temporal analysis</td>
</tr>
<tr>
<td>Drainage, Rivers, Dams, Pipelines, Reservoirs, Boreholes</td>
<td>DWAF</td>
<td>All relevant data pertaining to Water sources</td>
</tr>
<tr>
<td>Water Quality and Health of Catchment Areas</td>
<td>Dept. of Water Affairs</td>
<td>All relevant data pertaining to Water quality, catchment areas etc.</td>
</tr>
<tr>
<td>Crime, Police Stations</td>
<td>SAPS</td>
<td>Location of Police stations and Crime Statistics</td>
</tr>
<tr>
<td>Cadastral Data and other base layers (traditional authorities, admin areas, township boundaries)</td>
<td>DRDLR</td>
<td>Spatial data from SG office</td>
</tr>
<tr>
<td>1996 / 2001 /2011 Census Data</td>
<td>Stats SA</td>
<td>Demographic and service delivery data and Spatial data such as EAs, SAL etc.,</td>
</tr>
<tr>
<td>Transport Network Data including road network, surface type</td>
<td>Dept. of Transport</td>
<td>Data can be sourced from the department with the assistance of DRDLR</td>
</tr>
<tr>
<td>Bulk Water/Sewerage Information</td>
<td>Municipalities and Water Boards/DWAF</td>
<td>All available data pertaining to municipal services both in spatial and non-spatial formats</td>
</tr>
<tr>
<td>Electricity Network</td>
<td>Eskom</td>
<td>Data can be sourced from the department with the assistance of DRDLR</td>
</tr>
<tr>
<td>Valuation Rolls</td>
<td>Municipalities</td>
<td>Will help identifying formal and informal land uses for Farms</td>
</tr>
<tr>
<td>Land Use Schemes/ Spatial Plans</td>
<td>Municipalities</td>
<td>Will help identifying existing and proposed land uses and coverage and gaps in existing plans</td>
</tr>
<tr>
<td>Location of Schools, Colleges, TVET etc.</td>
<td>Department of Basic Education, Department of Higher Education and Training</td>
<td>Will help understand where the educational facilities are located</td>
</tr>
<tr>
<td>Location of Clinics, Hospitals etc.</td>
<td>Department of Health</td>
<td>To ascertain where health facilities are located</td>
</tr>
</tbody>
</table>
• Phase 2: Literature Review

Review Existing Literature

Rural Settlements
- International Definitions
- Local Definitions
- Context

Informal Land Use
- Context
- SPLUMA Compliant categories

Literature Review Report

Composite Definitions:
1) Rural Settlement
2) Informal Geography
3) Land Use Classifications

“A rural area in this project context refers to the area outside of a formally registered township”
**Phase 2: Draft Classification**

- **Residential**
  - Formal
  - RDP
  - Traditional
  - Farm housing
  - Informal
    - Unusable

- **Agricultural**
  - Farming
  - Smallholdings
  - Mixed use
  - Open Space
  - Conservation

- **Non residential**
  - Business
  - Commercial
  - Industrial
  - Mining
  - State

- **Infrastructure**
  - Road
  - Railway
  - Services (pipelines, transmission lines etc)

- **Social**
  - Community
  - Educational
  - Public
  - Recreational
  - Health
  - Administration
Phase 3: Rural Settlements

Existing Information
- Base Data Geodatabase
- Definition of Rural and Study Area
- Definition of Rural Settlement

Settlements
- Existing Boundary Information
- Review with Imagery
- Digitize Settlement Boundaries
- Settlement Classification

Land Use
- Classify and map land uses within settlements
- Existing Infrastructure
- Social Services and Institutional Info

- Mapped Settlements
- Land Use Classification
Phase 3: Farm and Other Rural Land

**Existing Information**
- Base Data Geodatabase
- Defined Study Area
- Land Use Classifications

**Desktop Review**
- Classify each farm and parcel
- Identify GAP areas and classify

**Additional Info**
- Broad ownership
- Mixed Use

**Output Dataset**
- Polygon Dataset
- Coded as Farm/Within Settlement/Other
- Key Attribute: Collected Land Use

Spatial Informal Land Use Dataset
• Phase 4: Rural Settlement Fieldwork

Rural Settlement Survey - Data Collection Process

- Data Collection - Field Teams
  - Android Tablet
- Quality Assurance
  - Field Team
  - Android Tablet
  - QA Application
  - Desk Review
  - NGI Imagery
  - Verify POI Data collected

Internet

Settlement Boundaries

Insert into Final Settlement Data Database

Staging / Capture Database

Data Collection - Field Teams

Android Tablet
### Phase 4: Rural Settlement Survey

#### Administrative
- Name of settlement
- Alternative names
- GPS location
- Photographs
- Addressing methods used

#### Service Delivery
- Available infrastructure/services
  - Water (including bulk, sources)
  - Electricity
  - Sanitation
  - Natural sources – springs, rivers etc
  - Transportation networks
  - Roads
  - Access features (bridges etc)
  - Transport modes
  - Housing available

#### Social
- Health
- Education
- Schools
- Creches
- Safety
- Police Statations
- Crime Perception
- Libraries
- Sporting facilities

#### Environmental
- Agric/Forestry
- Sensitivity

#### Economic
- Markets/shops in villages
- Activities
- Training centres
- Adverse conditions

#### Perception survey
- Quality of Life
- Quality of Service
• **Phase 5: Finalization**

**Temporal Analysis**
- Existing Settlement Boundaries
- Revised 2016 Digitization
- Compare geographic location and change in land extent

**Final Datasets**
- Tabular Attribute Data
  - Land Use
  - Rural Settlements
  - Spatial Boundary and POI data
  - Photographs

**Final Reports**
- Provincial Reports
  - Rural Mapping
  - Rural Settlements
  - Temporal Analysis
  - POI
  - Informal Land Use
  - Service Delivery

**Data Upload**
- Spatial Data To Client
  - Upload of data onto RIO System
  - Attribute Data
  - GIS Data
  - Photographs

**Final Presentation**
- Final Steering Committee
- Approval of final deliverables

**Closeout**
- Signoff of final report
- Delivery of requisite copies of reports/maps
## Project Communication: Meetings

- **22 Meetings proposed – 17 National Level, 5 Regional Level**

<table>
<thead>
<tr>
<th>Meeting Type</th>
<th>Participants</th>
<th>Expected meetings</th>
<th>Purpose</th>
</tr>
</thead>
</table>
| **Project Progress Meeting - National Level**     | • Client Project Manager  
• Data World Project Manager                                                   | 9- at every two months              | • Discuss project progress  
• Discuss risk and issue log  
• Discuss and approve deliverables |
| **Project Steering Committee Meeting - National Level** | • Client Project Manager  
• Data World Project Manager and Team Leader  
• Relevant Project Team Members* | 5 – one per phase                  | • Discuss project progress  
• Gather feedback  
• Formulate way forward |
| **Regional Technical Meeting at DRDLR’s regional project manager’s office** | • Client Project Manager  
• Data World Team Leader  
• Relevant Project Team Members* | 5- one in phase 2, two in phase 3 and two in phase 4 | • Discuss technical issues pertaining to the project  
• Find solutions |
| **National Technical Meeting**                    | • Client Project Manager  
• Data World Project Manager and Team Leader  
• Relevant Project Team Members* | 3- one in phase 2, one in phase 3, and one in phase 4 | • Discuss technical issues pertaining to the project  
• Find solutions |
Questions