

# Experimental project for improving useability of KPGIS and related documents

Proposed KNSDI product specification  
(draft) Ver. 2

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# Outline

1. Introduction
2. Purpose
3. KNSDI fundamental features
4. Procedure
5. Conclusion

# Purpose

- ❖ Disclose the results of the experimental project production on small dataset fully based on KPGIS to verify **technical** :
  - ✓ availability of dataset
  - ✓ product specification
  - ✓ Metadata and
  - ✓ Quality evaluation
- ❖ Revision based on experimental project and today's comments

# The drafts Standards documents

1. The Kenya Profile for Geographic Information Standards (**KPGIS**) Ver 2
  - ✓ '*Standards*': regulations that provide frameworks for all purposes (extremely abstract)
  - ✓ '*Profile*': rules for realistic purposes extracted from standards
  - ✓ Extraction from KSISO19100
2. Manual for spatial data product specification
  - ✓ defines concrete product
  - ✓ contents are really draft
3. Specification for the production of 1:50,000 scale topo-maps

# KNSDI fundamental features

❖ KNSDI committee already specified number of features as fundamental items in their resolution, 5<sup>th</sup> KNSDI workshop (14<sup>th</sup> Mar 2006):

1. Geodetic control
2. Hydrology
3. Vegetation
4. Utilities
5. Geographic names
6. Elevation
7. Transportation
8. Administrative boundaries
9. Parcel boundaries
10. Digital imagery

# Procedure

1. Defining user requirements (simulated)
2. Complete product specification document
3. Digitization work covering small area
4. Quality evaluation
5. Gather information for improvement of the manual

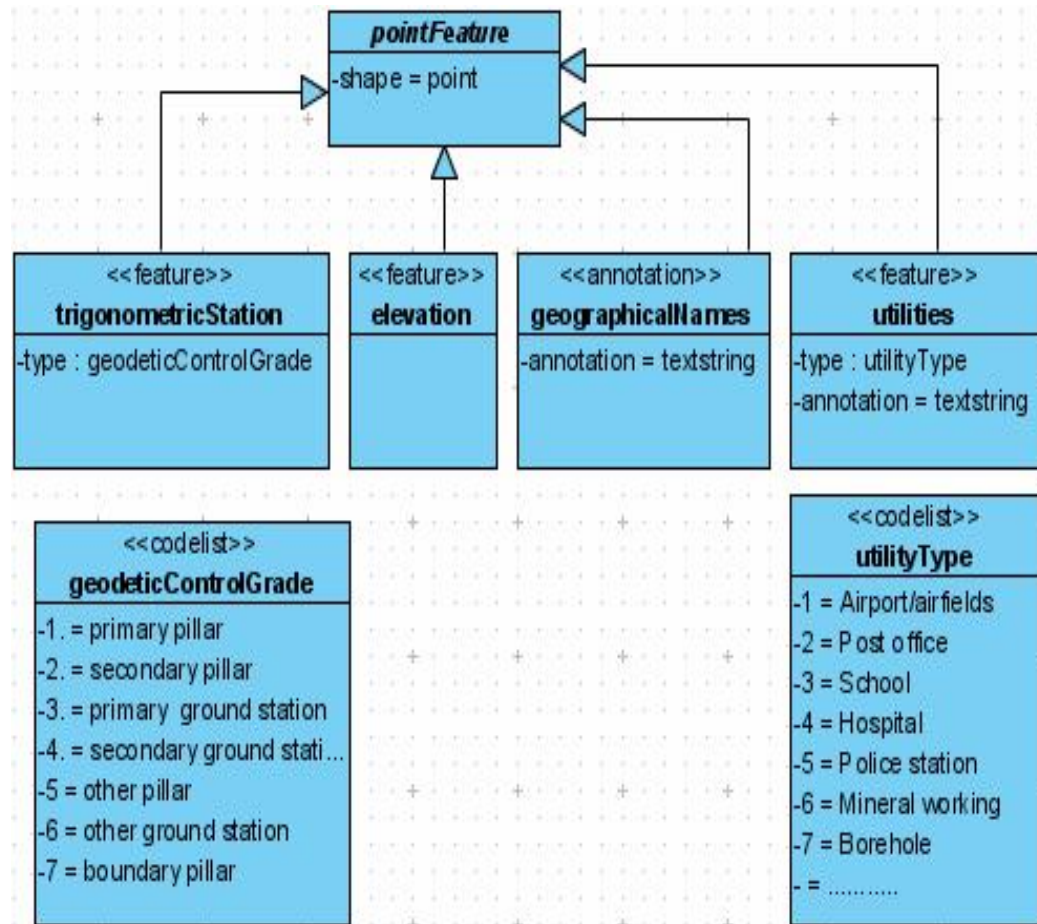
# 1. Defining user requirements

- ❖ User requirements **simulated**
- ❖ Name of the product: *KNSDI fundamental features*
- ❖ Spatial extent: *5 km x 5 km*
- ❖ Temporal extent: *as original topo sheet*
- ❖ Data format: *ESRI shape file*
- ❖ Contents: *as on legend of 1:50 000 topo map*
- ❖ Reference system: *as original topo-map*
- ❖ Quality requirement: *domain and formal consistency error of 0%*
- ❖ Metadata: *KMP2.0*

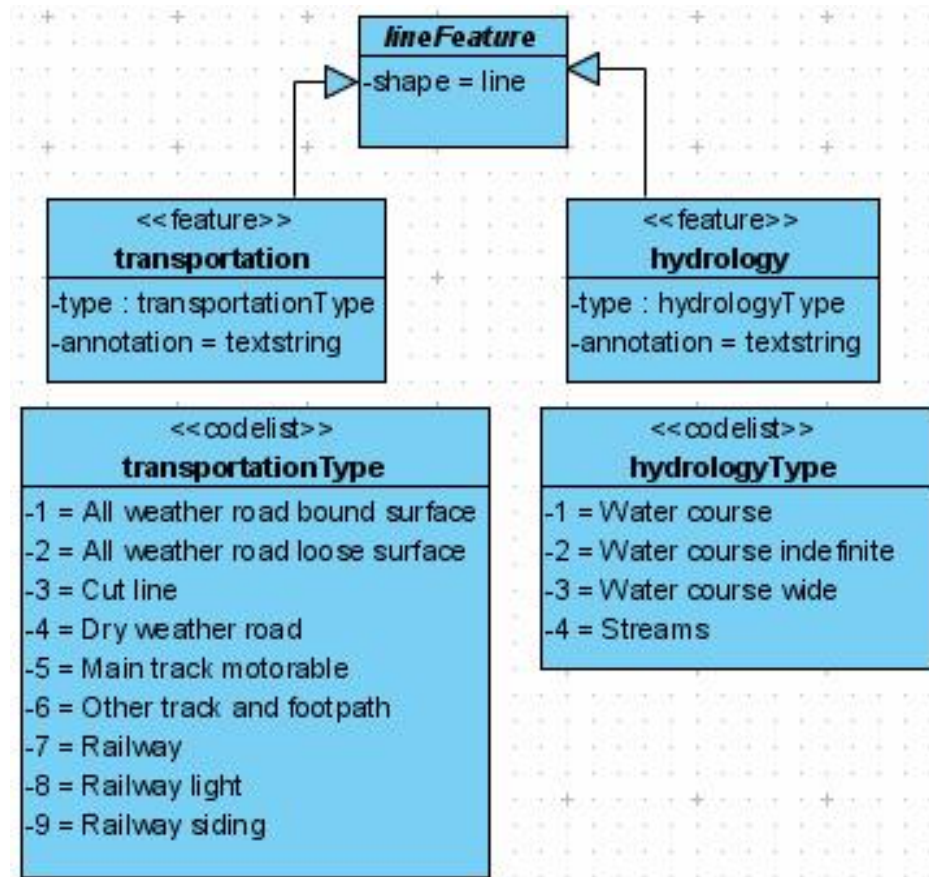
## 2. Product specification

- ❖ Contents are really draft
- ❖ Based on the contents of the 1:50,000 topo map
- ❖ Legend items categorized as per the 10 KNSDI committee fundamental items
- ❖ UML static class diagram and the documents for application schema

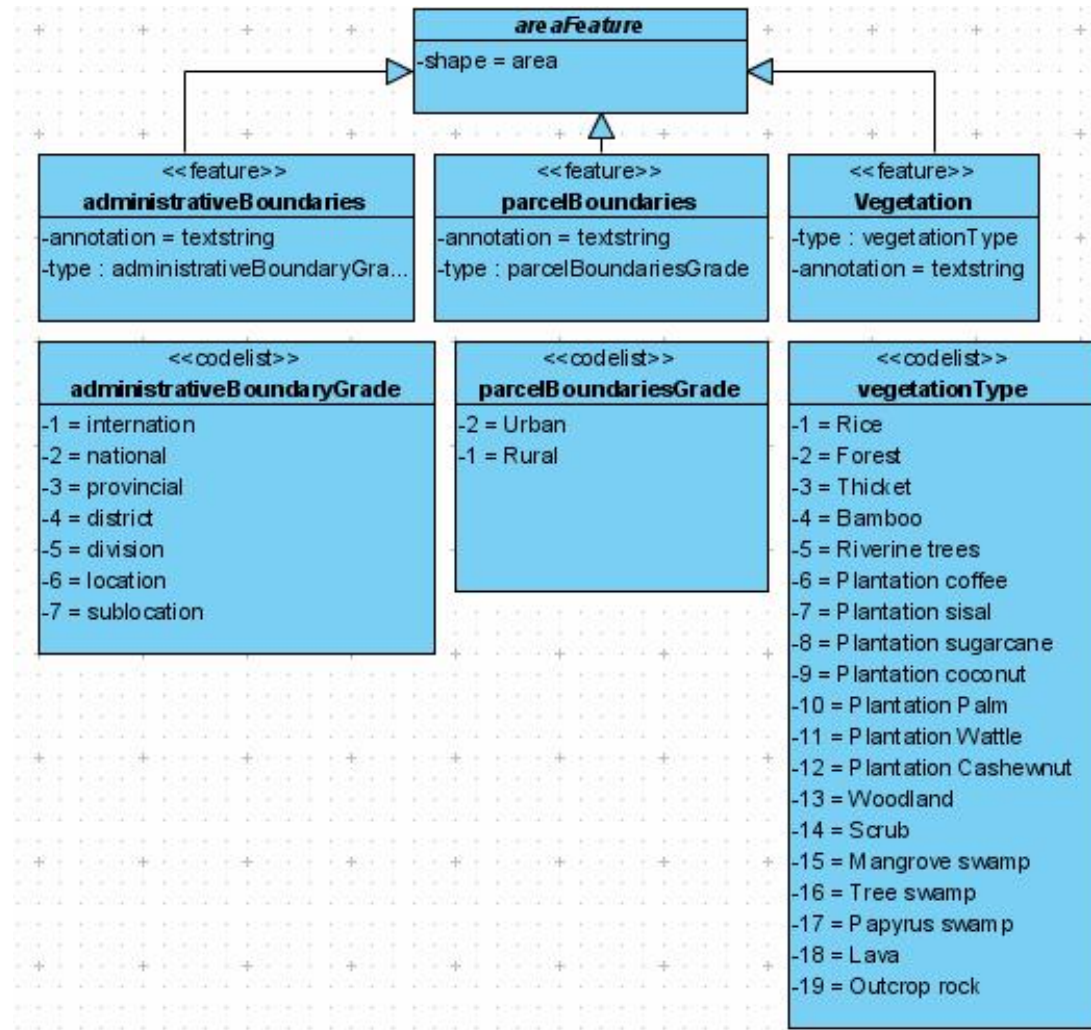
# UML Diagram : Point features



# UML Diagram : Line features

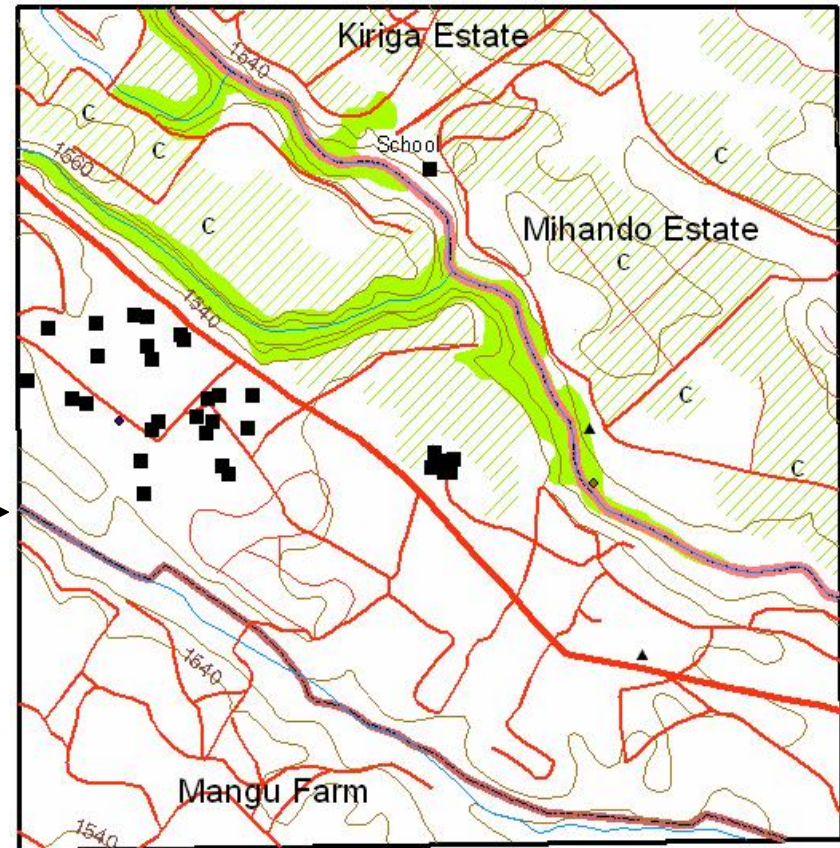
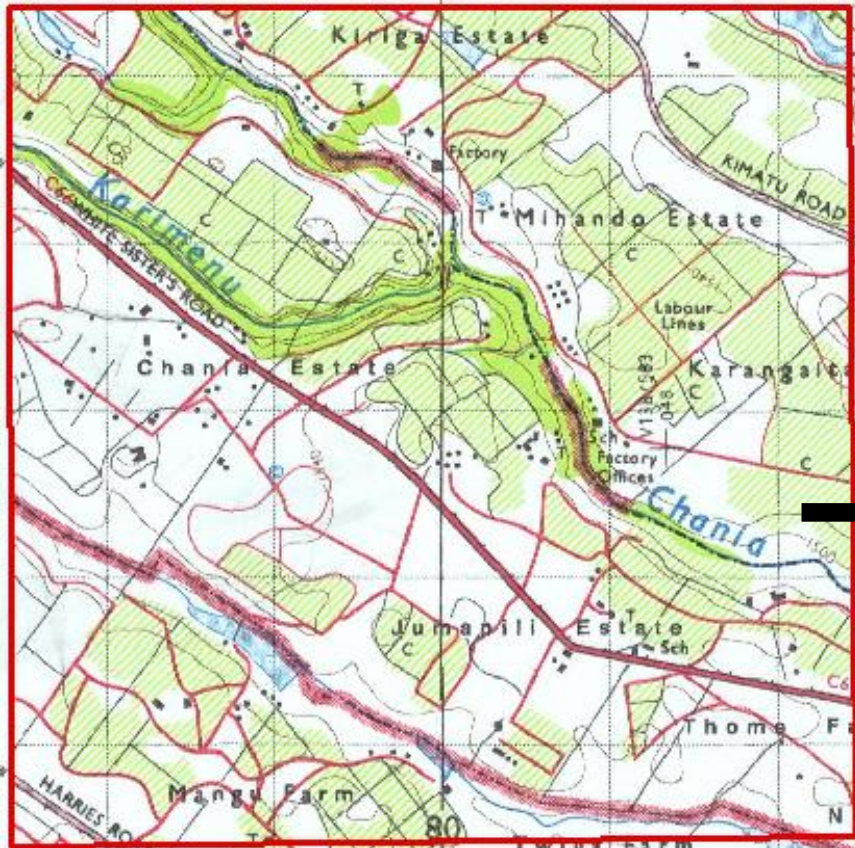


# UML Diagram: Area features



# 3. Digitization

- ❖ Covering small area; 5km x 5km
- ❖ Based on the product spec. using ArcGIS

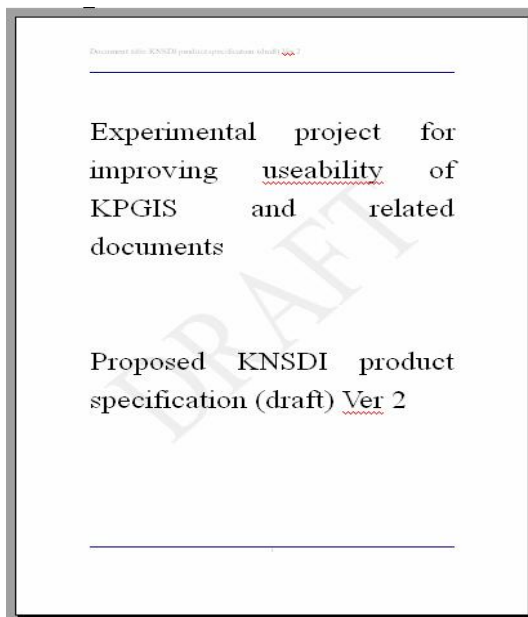


# 4. Quality evaluation

- ❖ Automated error check for quality evaluation
- ❖ Domain consistency- 0% error
  - ✓ examine field name, field type, field size, multiplicity, record valid range
- ❖ Formal Consistency – 0% error
  - ✓ data can be opened by ArcGIS as shape file with no opening error

## 5. Improvement of the manuals

- ❖ Improvement based on gathered information on the experimental project and comments gathered today
- ❖ Document will be posted and can be accessed free on KNSDI website ([www.knsdi.go.ke](http://www.knsdi.go.ke) )



# Conclusion

- ❖ The documents are applicable
  - ✓ Practically works, not *'legal standard'*, but *'practical guidelines'*
- ❖ The documents can be improved;
  - ✓ Manual for spatial data spec: Some UML static diagrams are not clearly understandable: Additional information may be needed
  - ✓ 1:50,000 topo-map product spec: Physical data structure not clearly defined; UML class diagram should have additional information using notes
- ❖ The document can be a *'communication guide'*



END

Thank you for your attention