



NORAD supported project in MRRD covering
Capacity Building and Institutional Cooperation in the
field of Hydrogeology for Faryab Province
Afghanistan

GIS Course 4.10

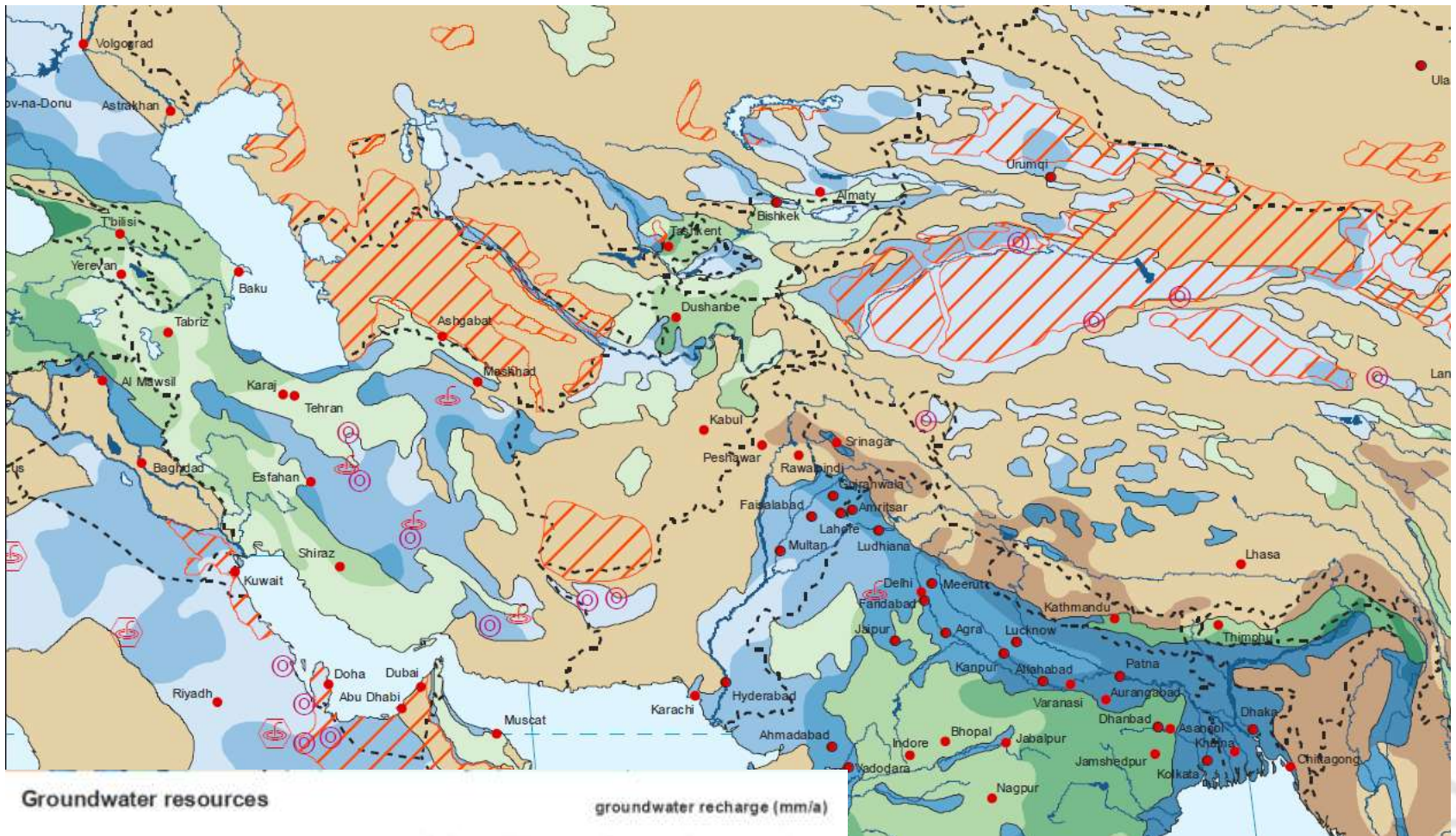
Application of GIS to Hydrogeological Mapping

By Andreas de Jong
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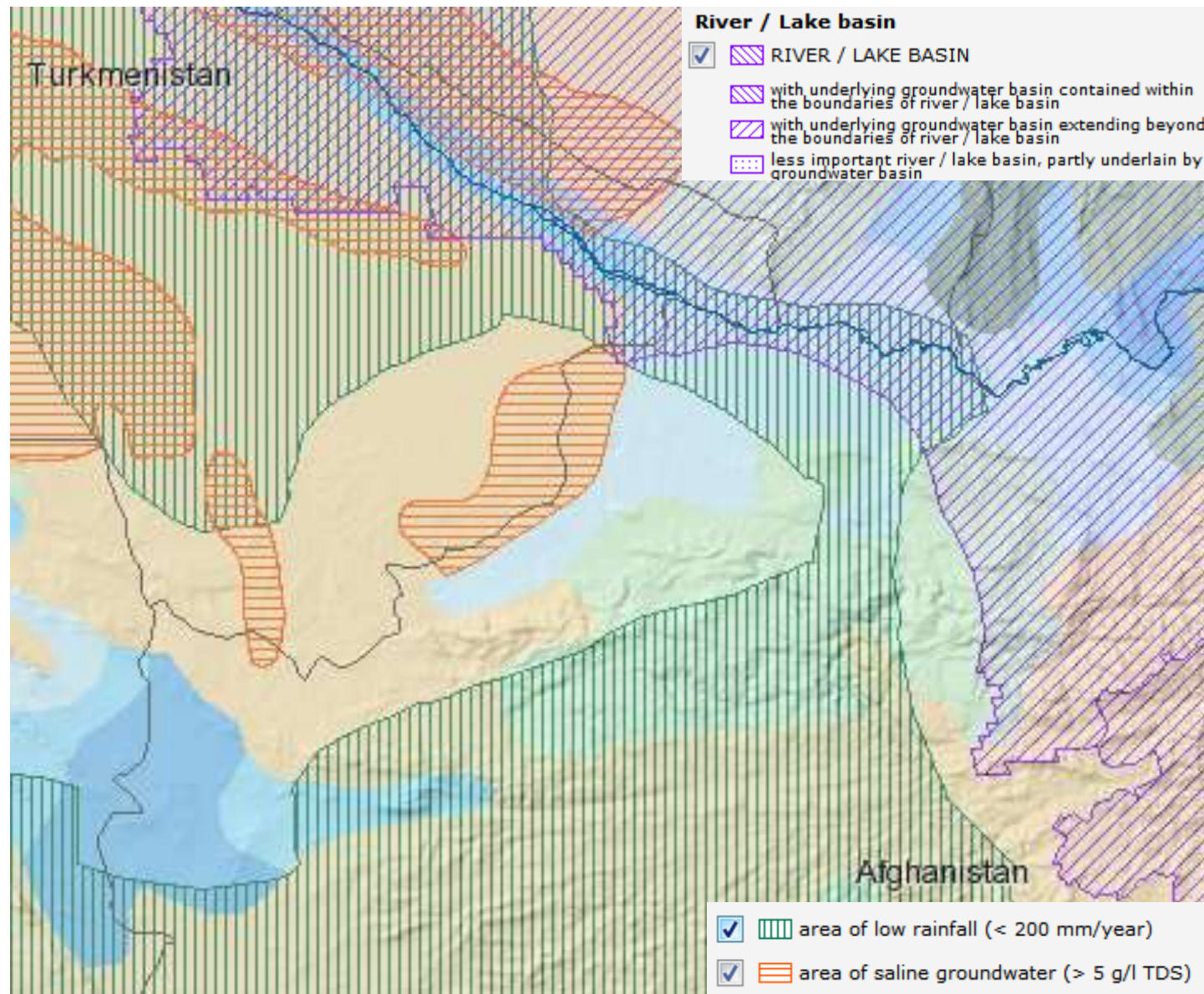
TOPICS TO BE COVERED

1. Hydrogeological Map of the World
2. Examples of Hydrogeological Maps:
 - Uganda Groundwater Mapping
 - LBDC/Pakistan Groundwater Mapping
 - Moldova Groundwater Mapping

WHYMAP - <http://www.whymap.org>



WHYMAP – Web Application





Uganda



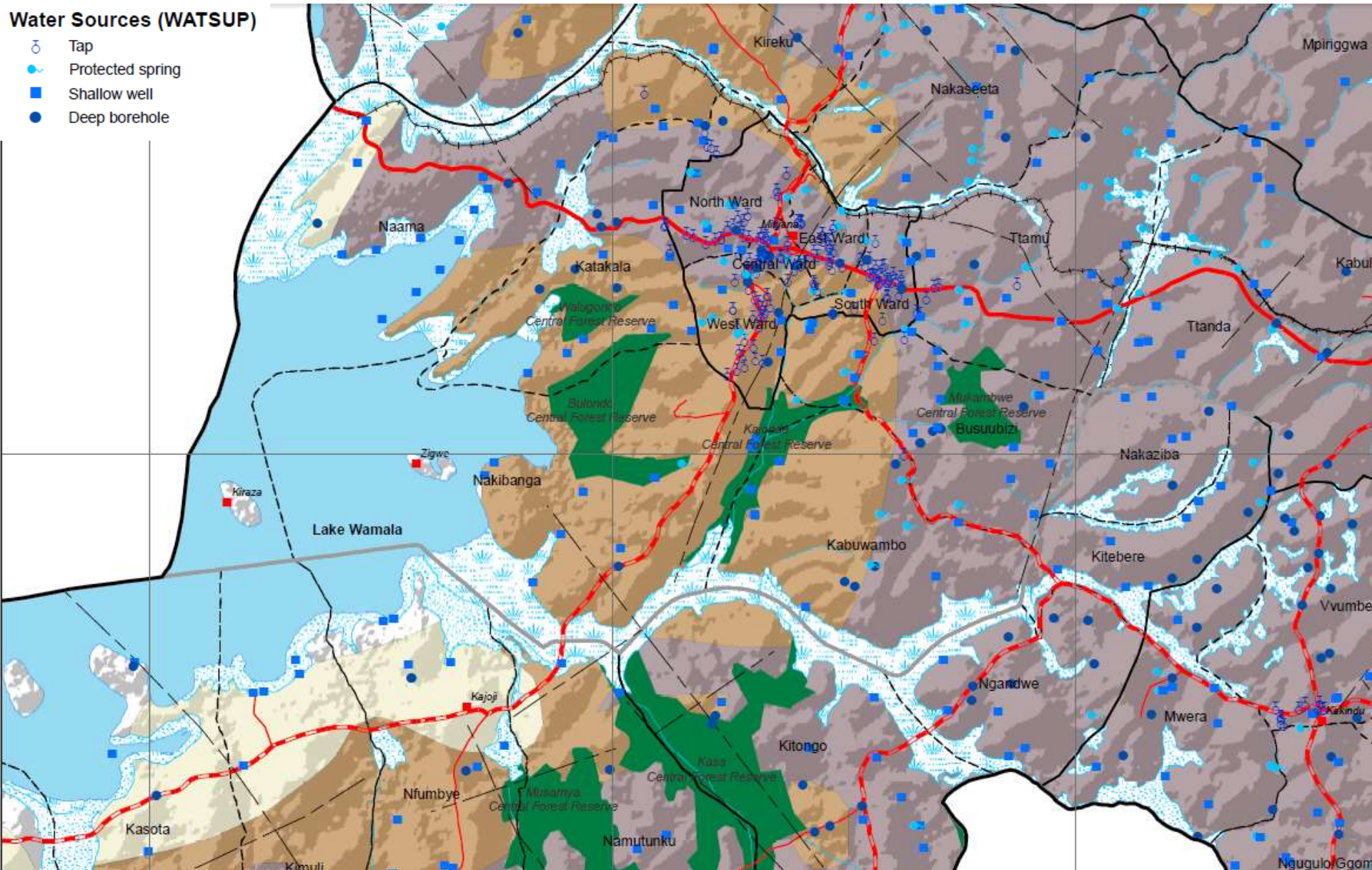
Uganda Groundwater Mapping

1. EU Funded project – 2010 to 2012.
2. Aim: *“To support the Government of Uganda to produce groundwater maps to guide efficient and cost-effective groundwater resources planning and development at both national and district levels.”*
3. Outputs: 590 Hydrogeological Maps produced at District, Regional & National scale.
4. 10 maps produced for each District at A1 & A0 scale on high quality laminated HP paper.
5. Consultant: Lahmeyer International (Germany)

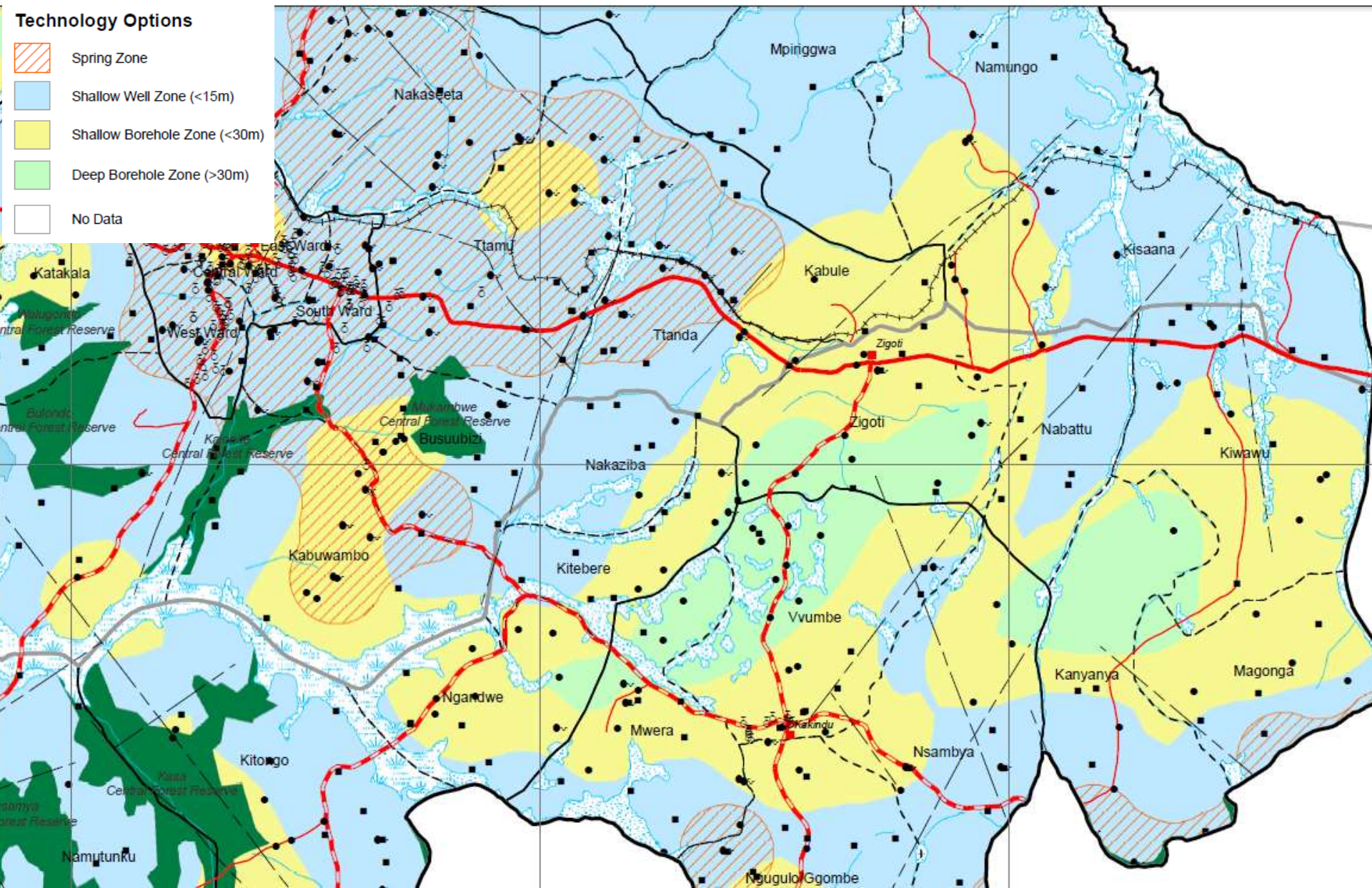
Map 1: Water Resources Location

Water Sources (WATSUP)

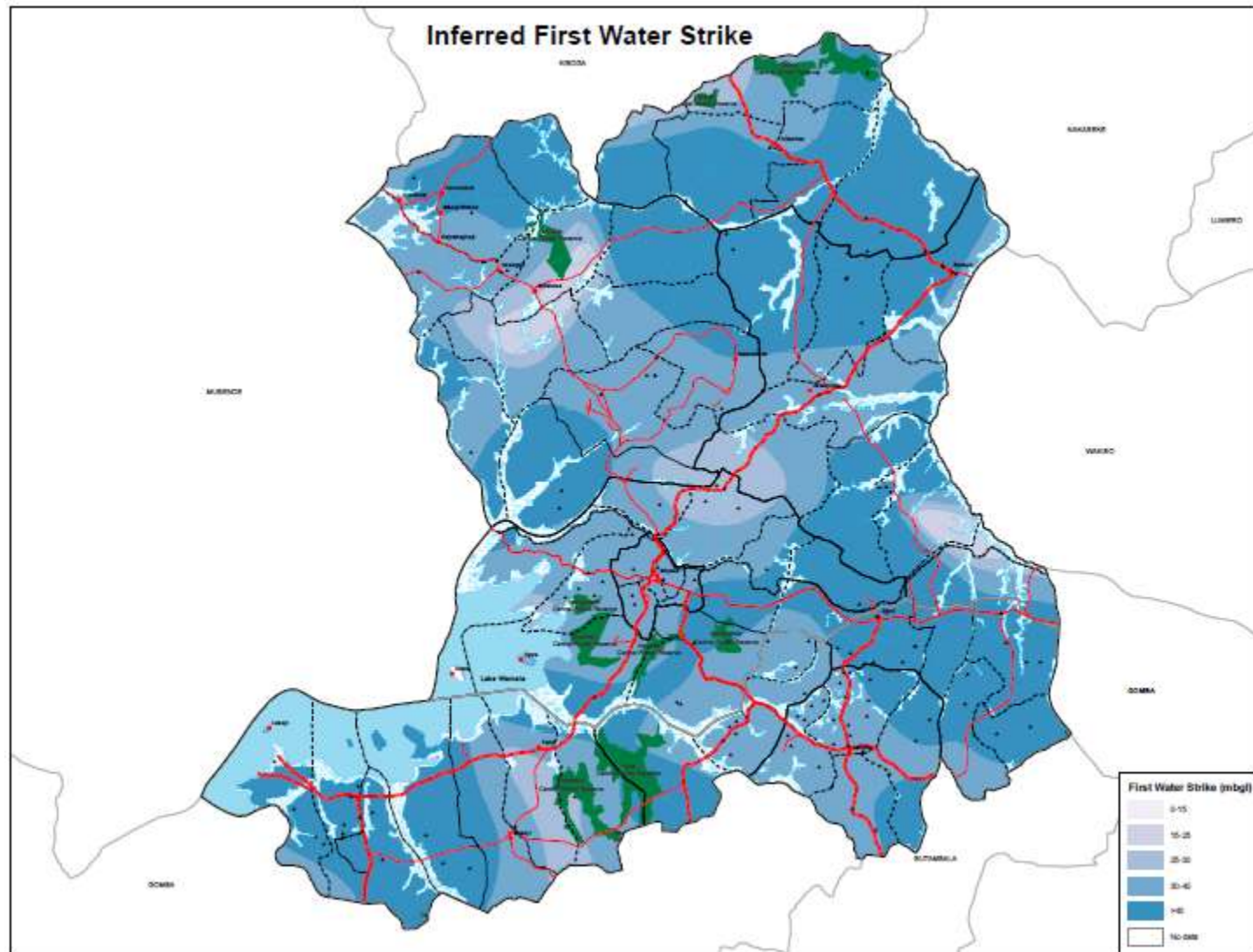
- Tap
- Protected spring
- Shallow well
- Deep borehole



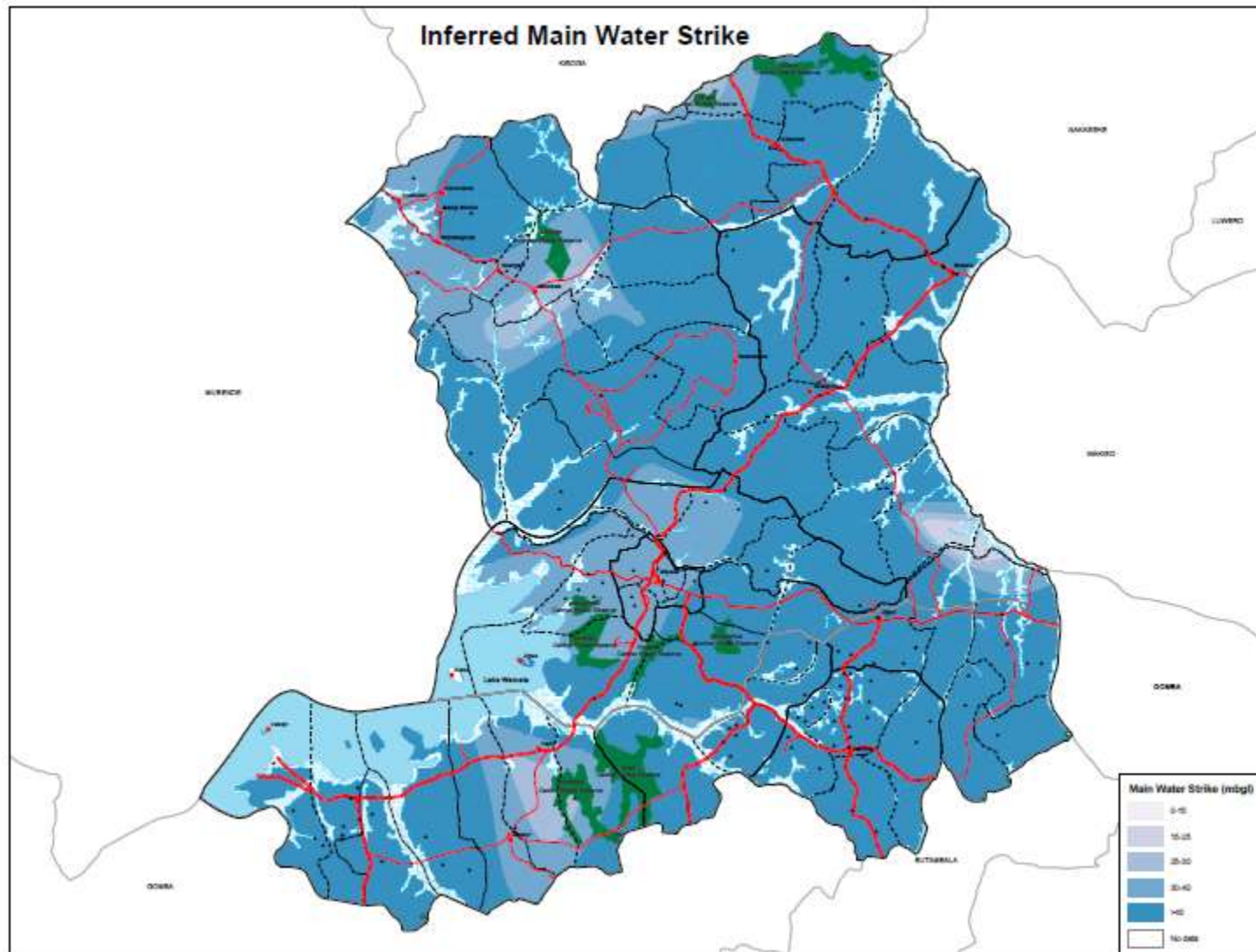
Map 2: Water Supply Technology Options



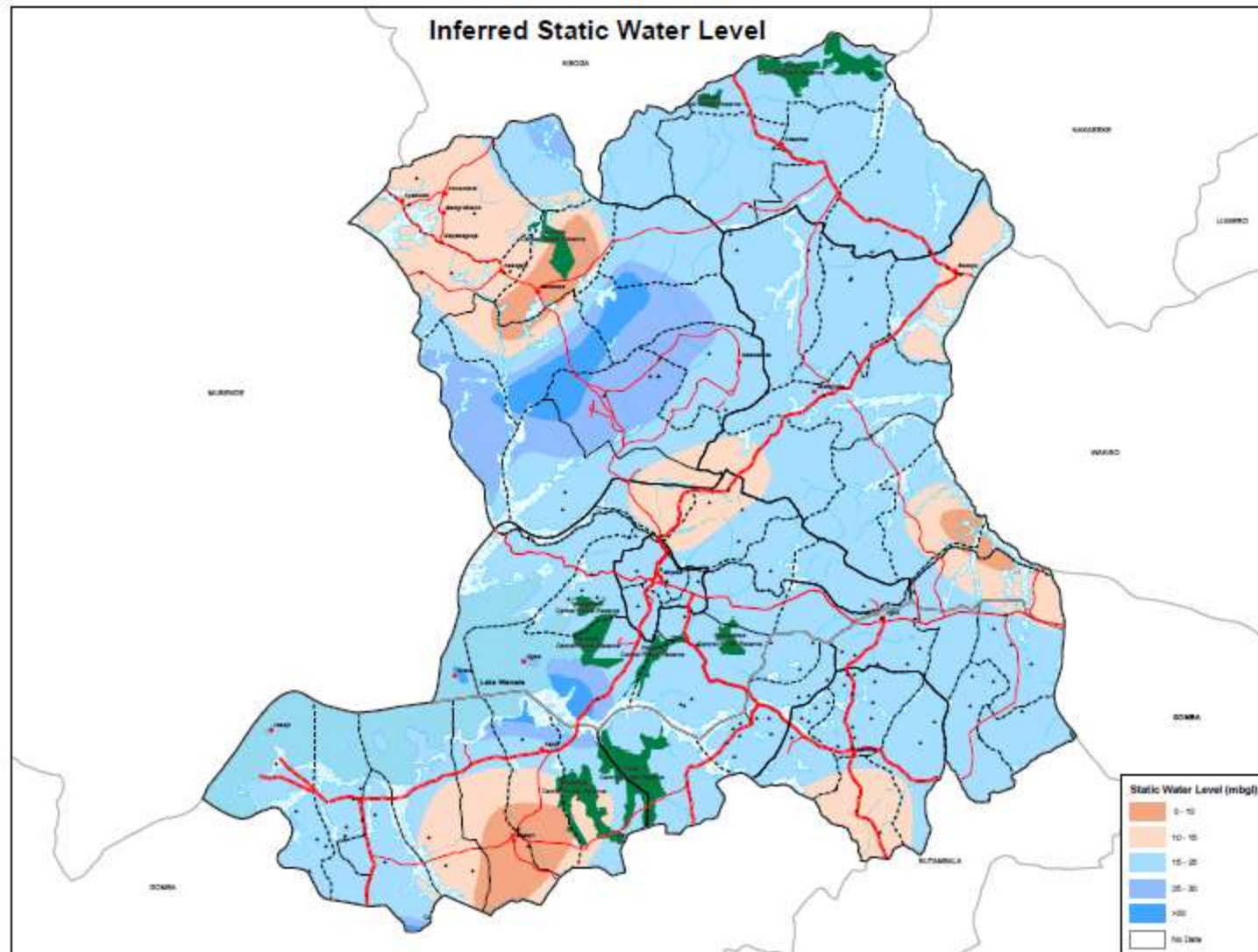
Map 3: Hydrogeological Characteristics (i)



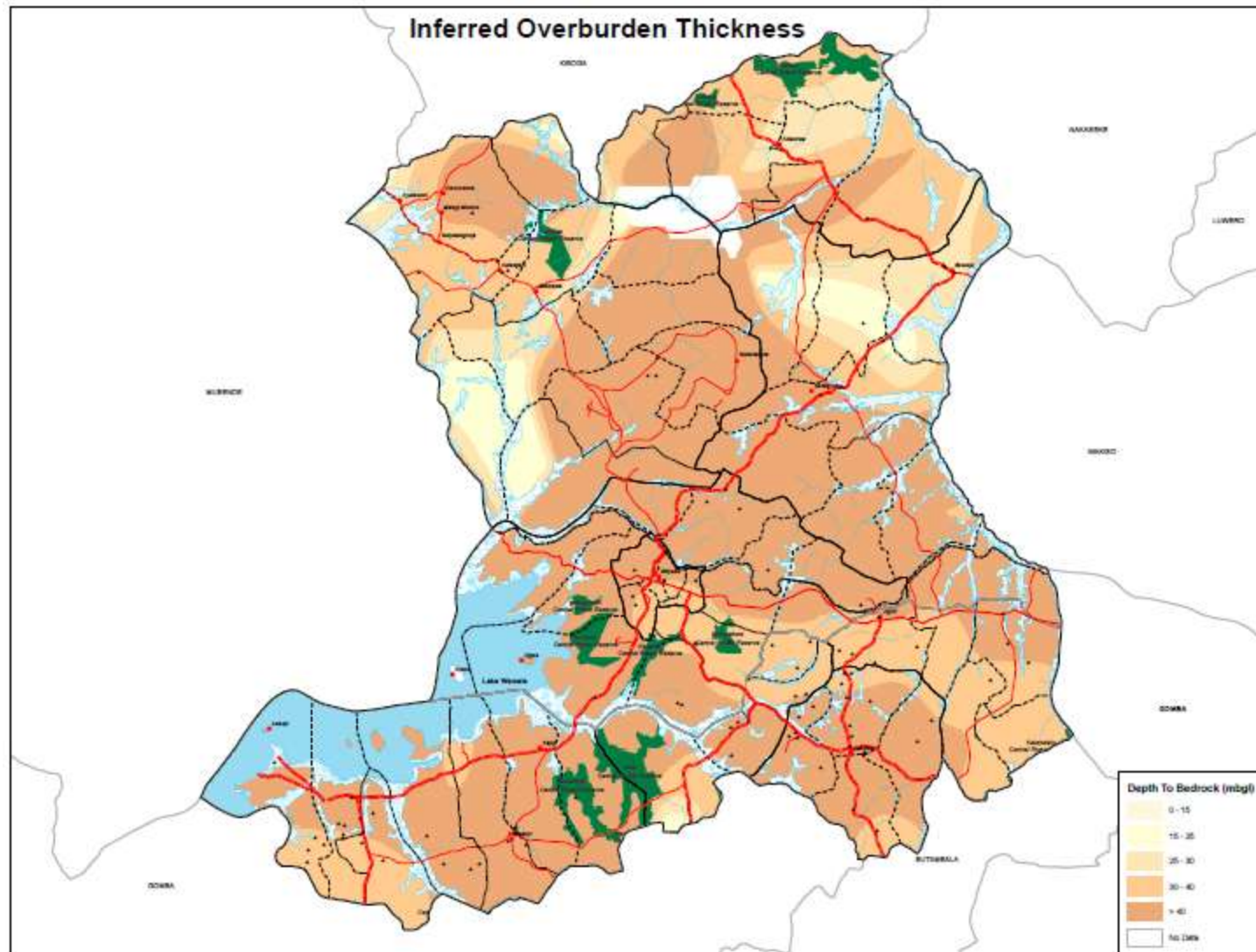
Map 3: Hydrogeological Characteristics (ii)



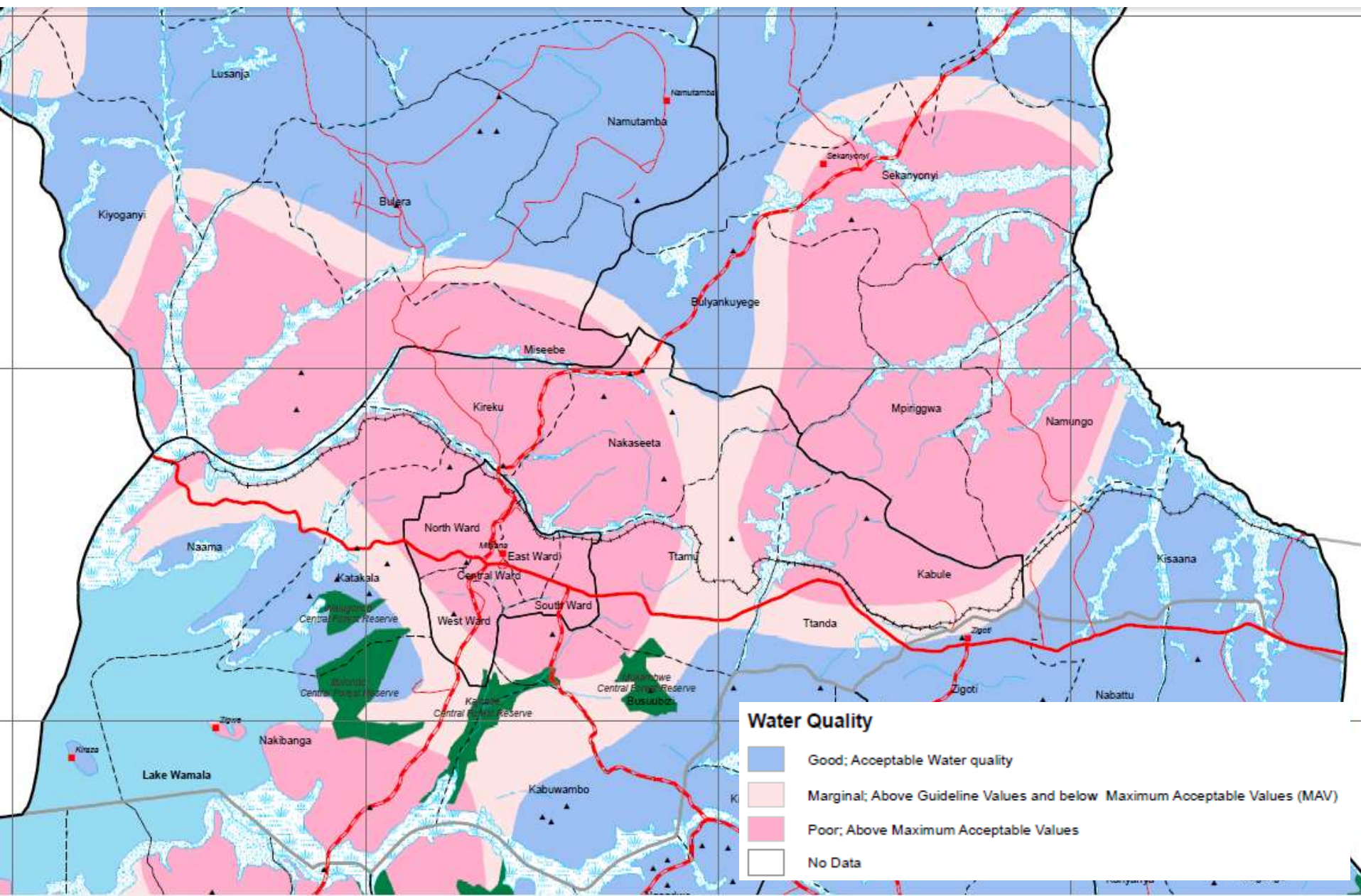
Map 3: Hydrogeological Characteristics (iii)



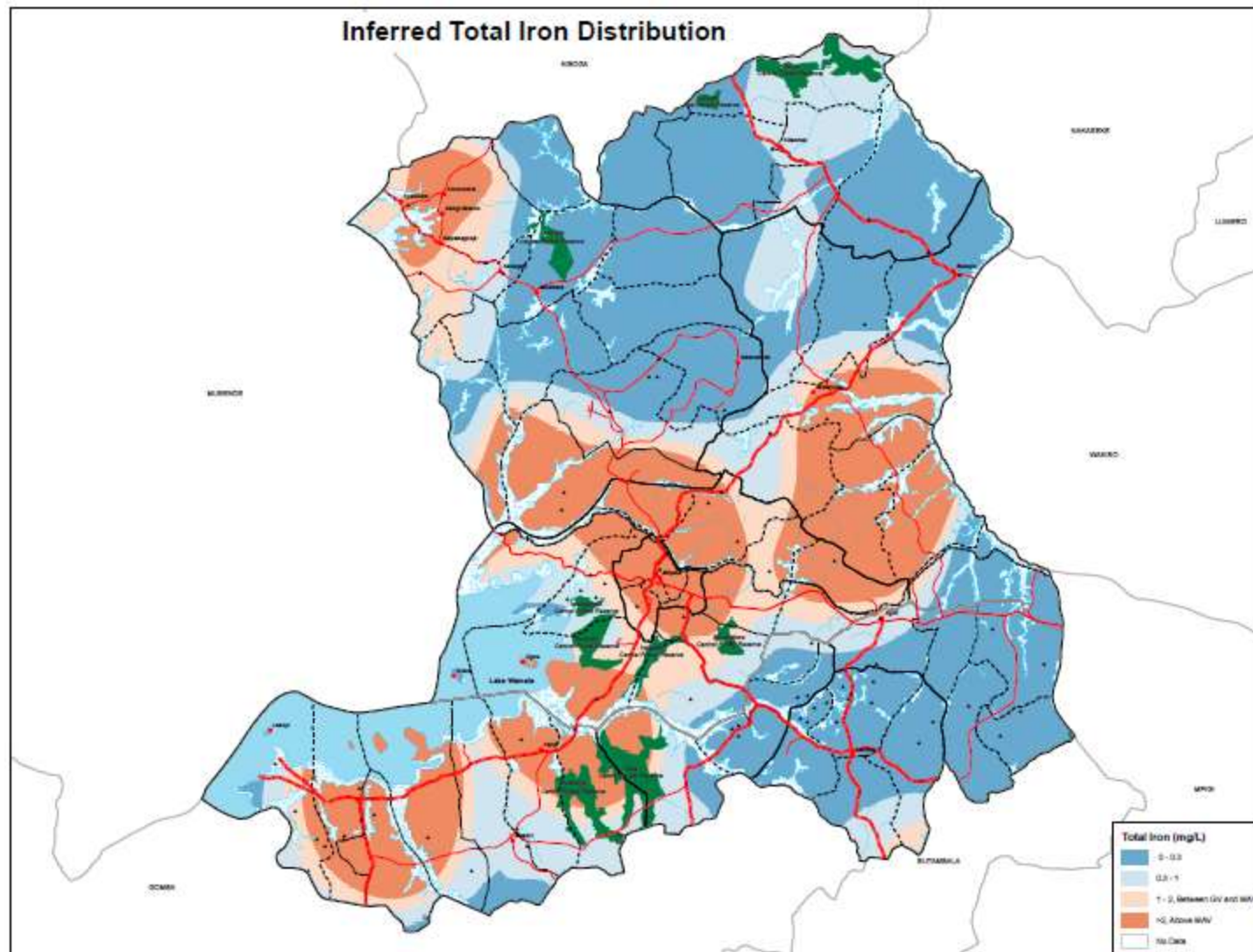
Map 3: Hydrogeological Characteristics (iv)



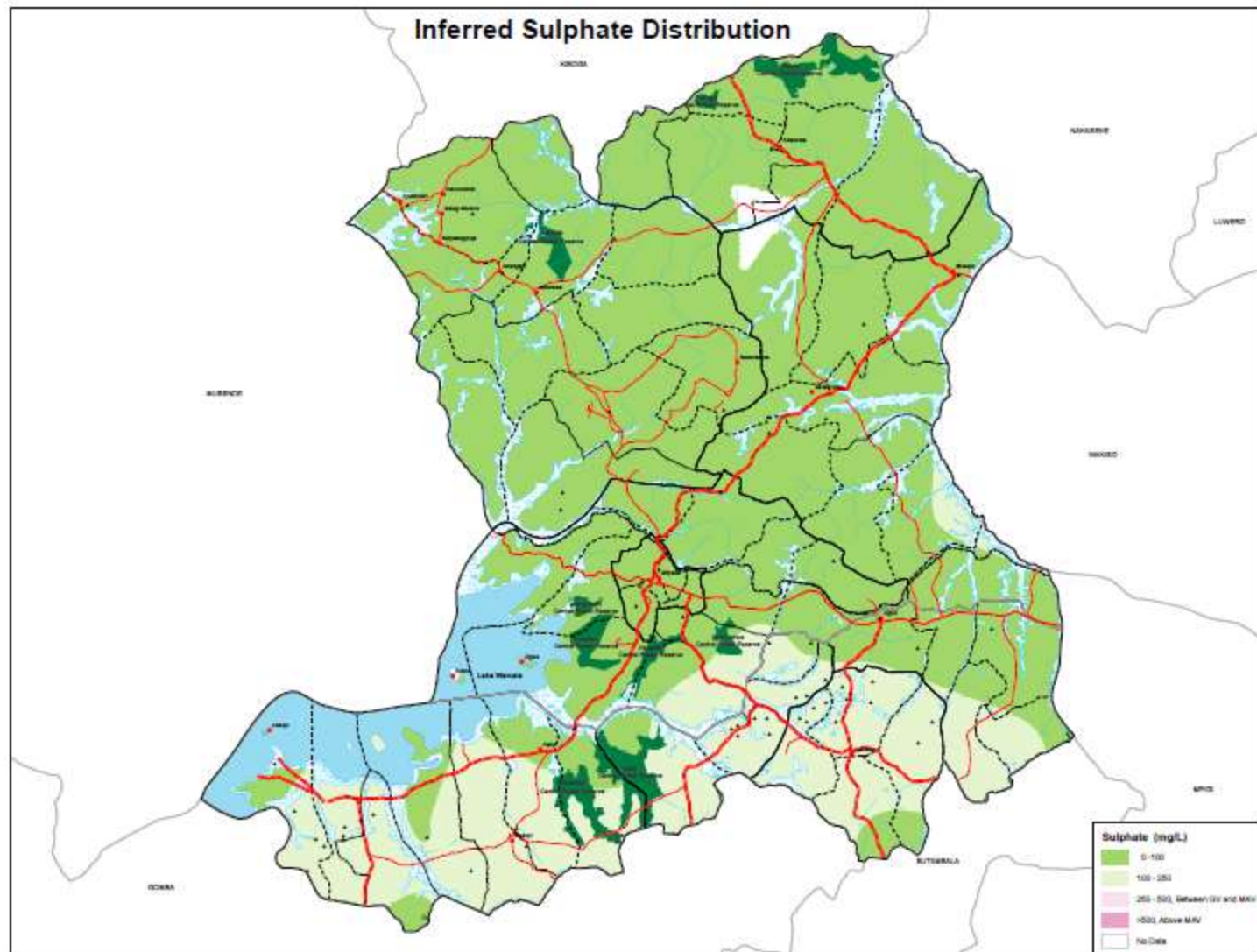
Map 4: Groundwater Quality



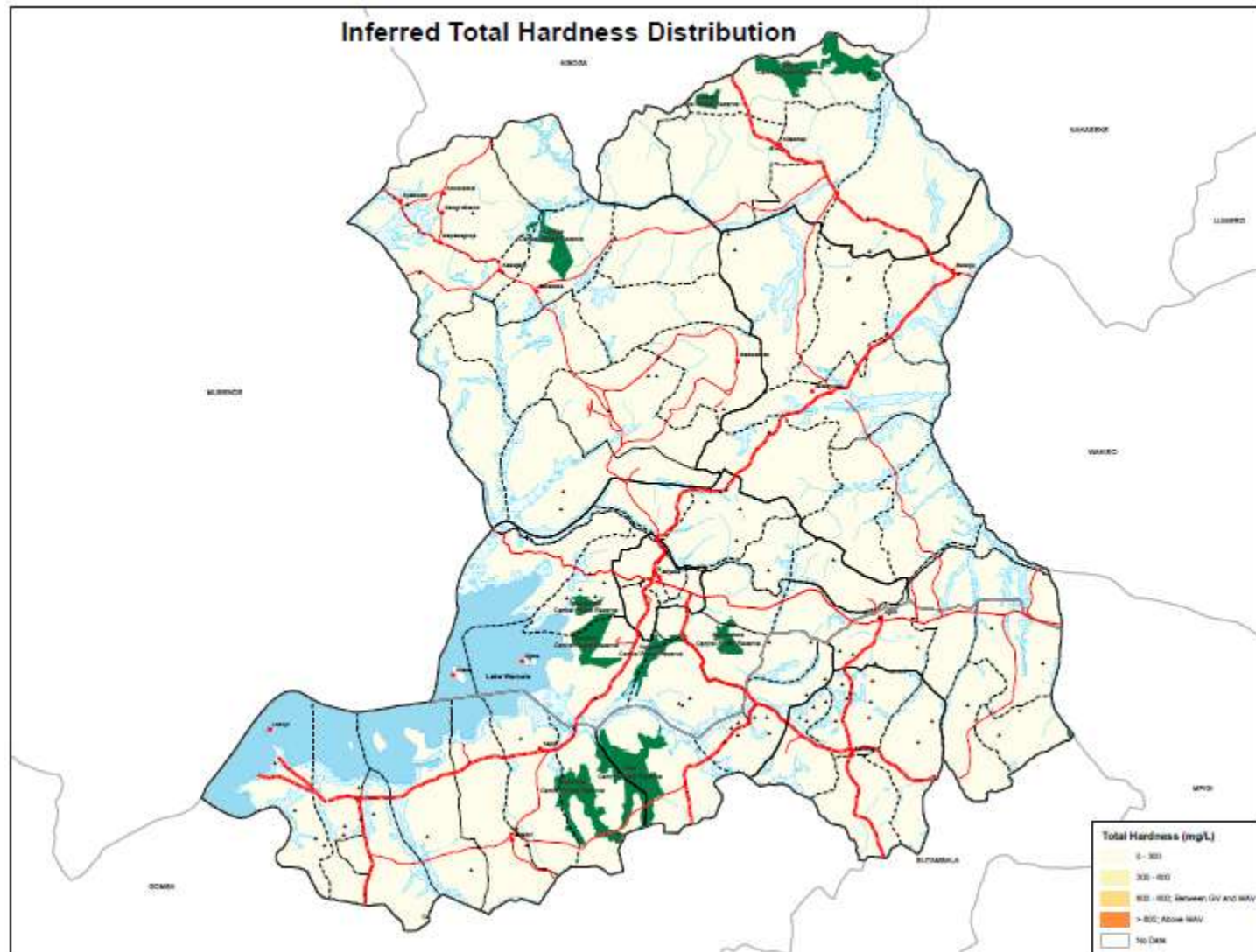
Map 5: Hydrochemical Characteristics (i)



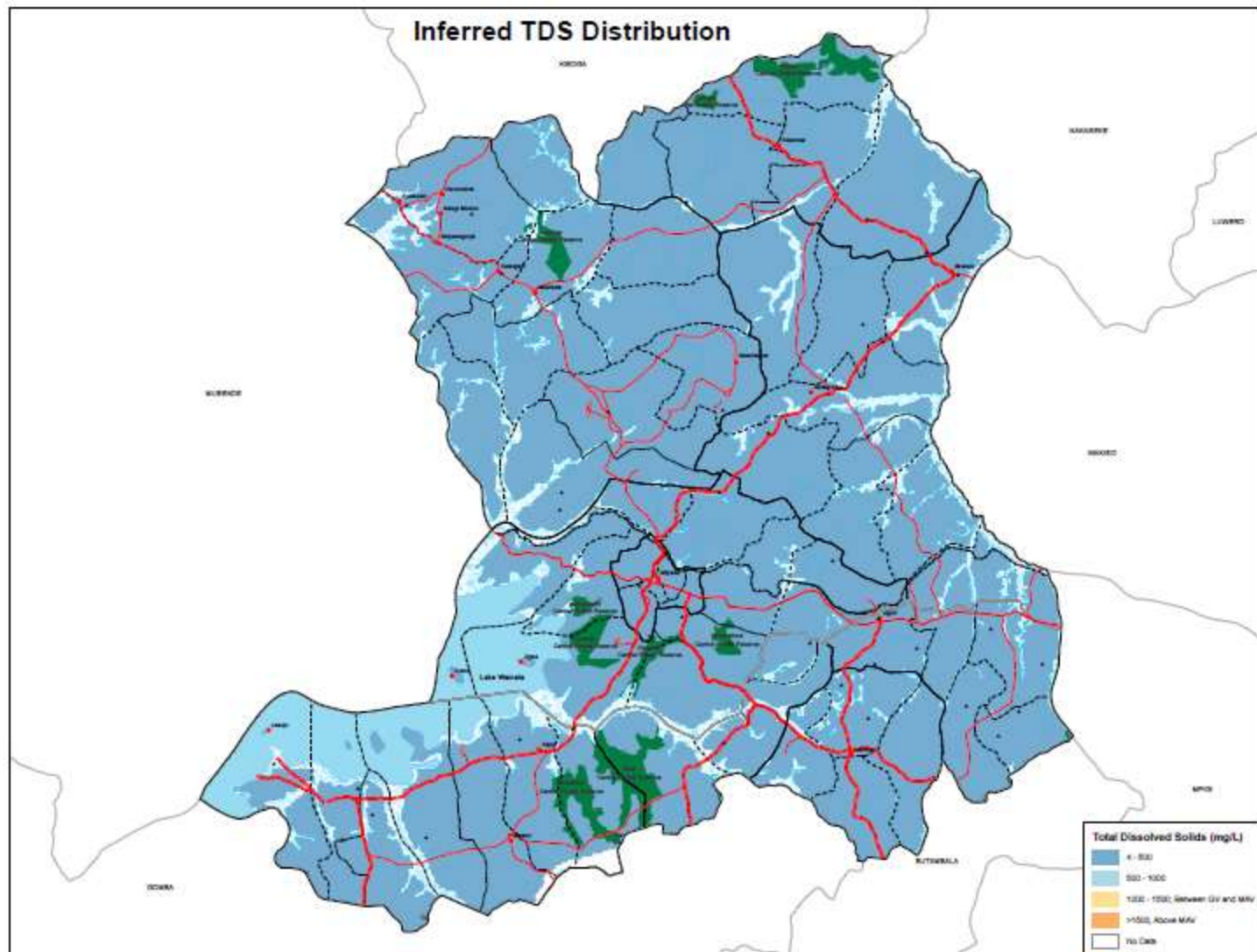
Map 5: Hydrochemical Characteristics (ii)



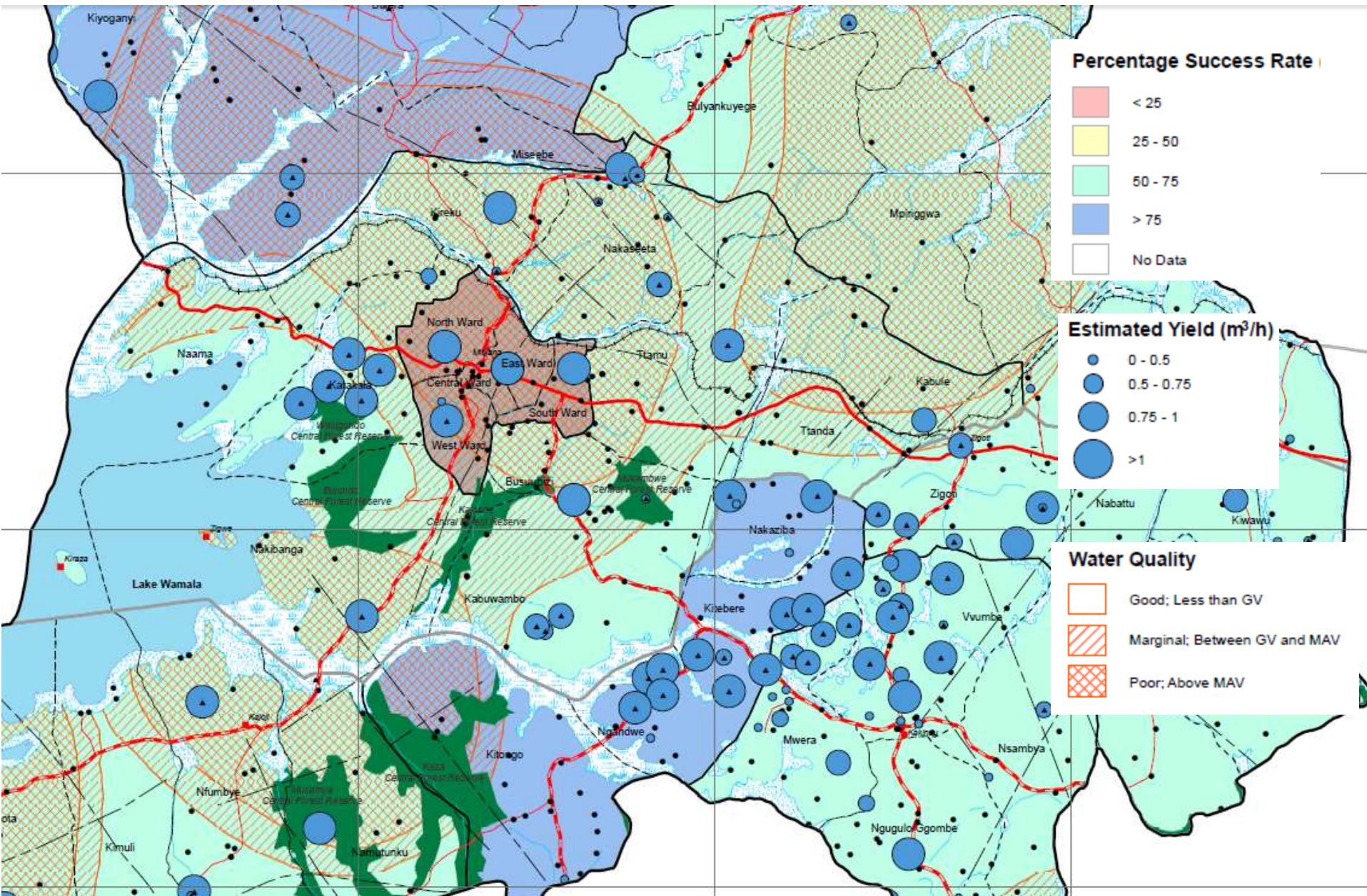
Map 5: Hydrochemical Characteristics (iii)



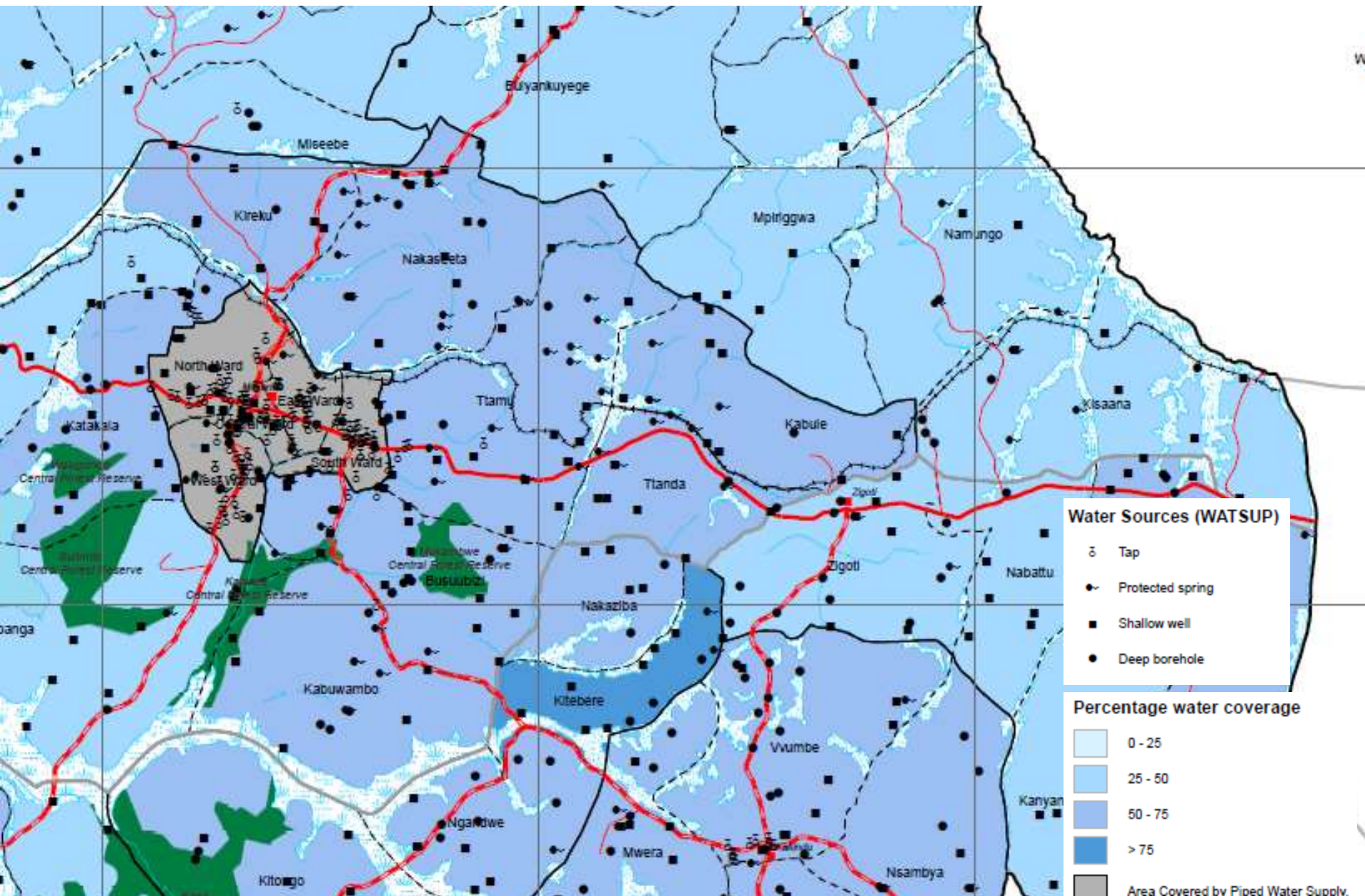
Map 5: Hydrochemical Characteristics (iv)



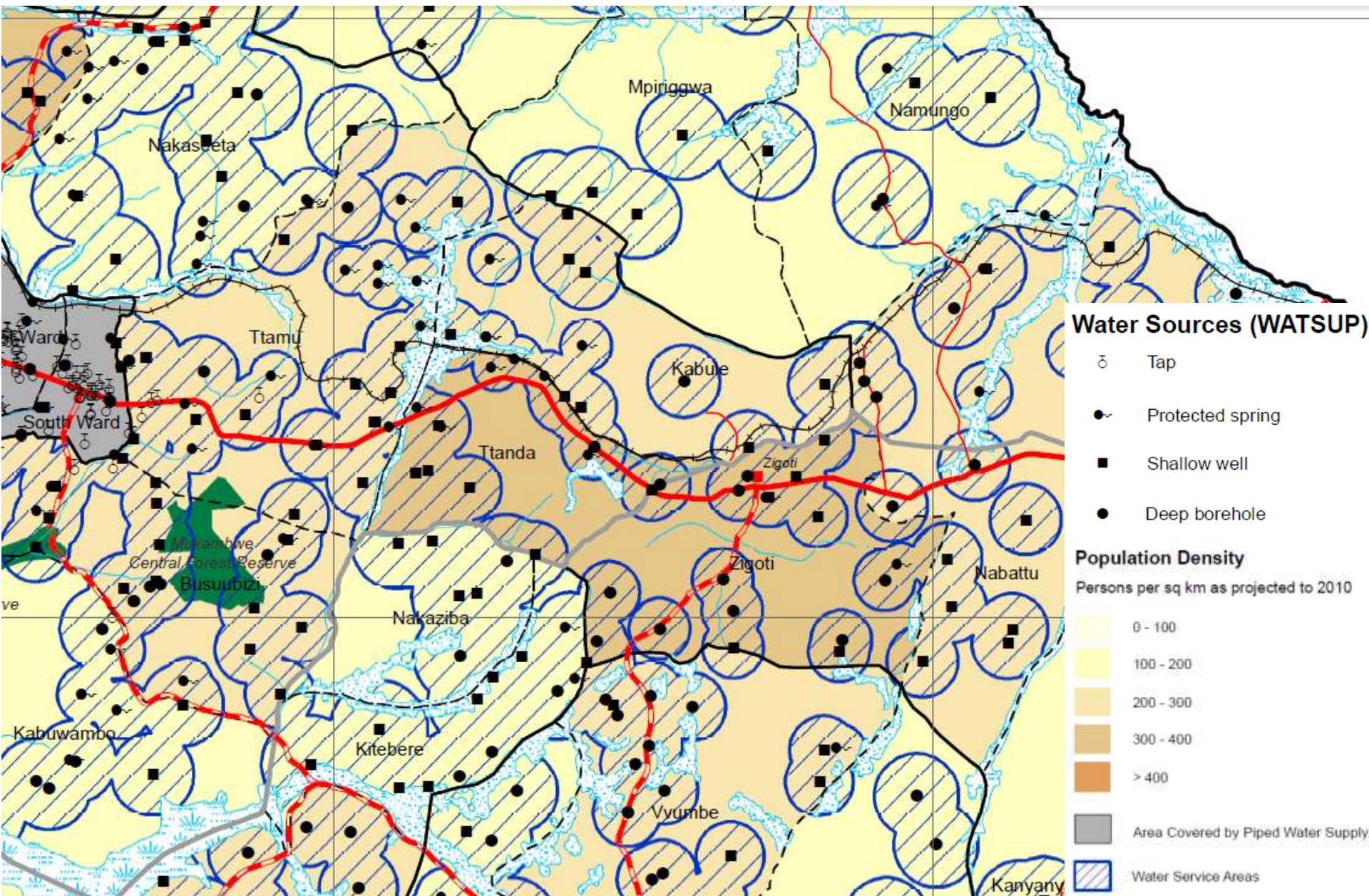
Map 6: Drilling Success Rate



Map 7: Water Supply Coverage (Parish)



Map 8: Water Service Area & Population Density



Map 9: Distance to Water Source & Population

