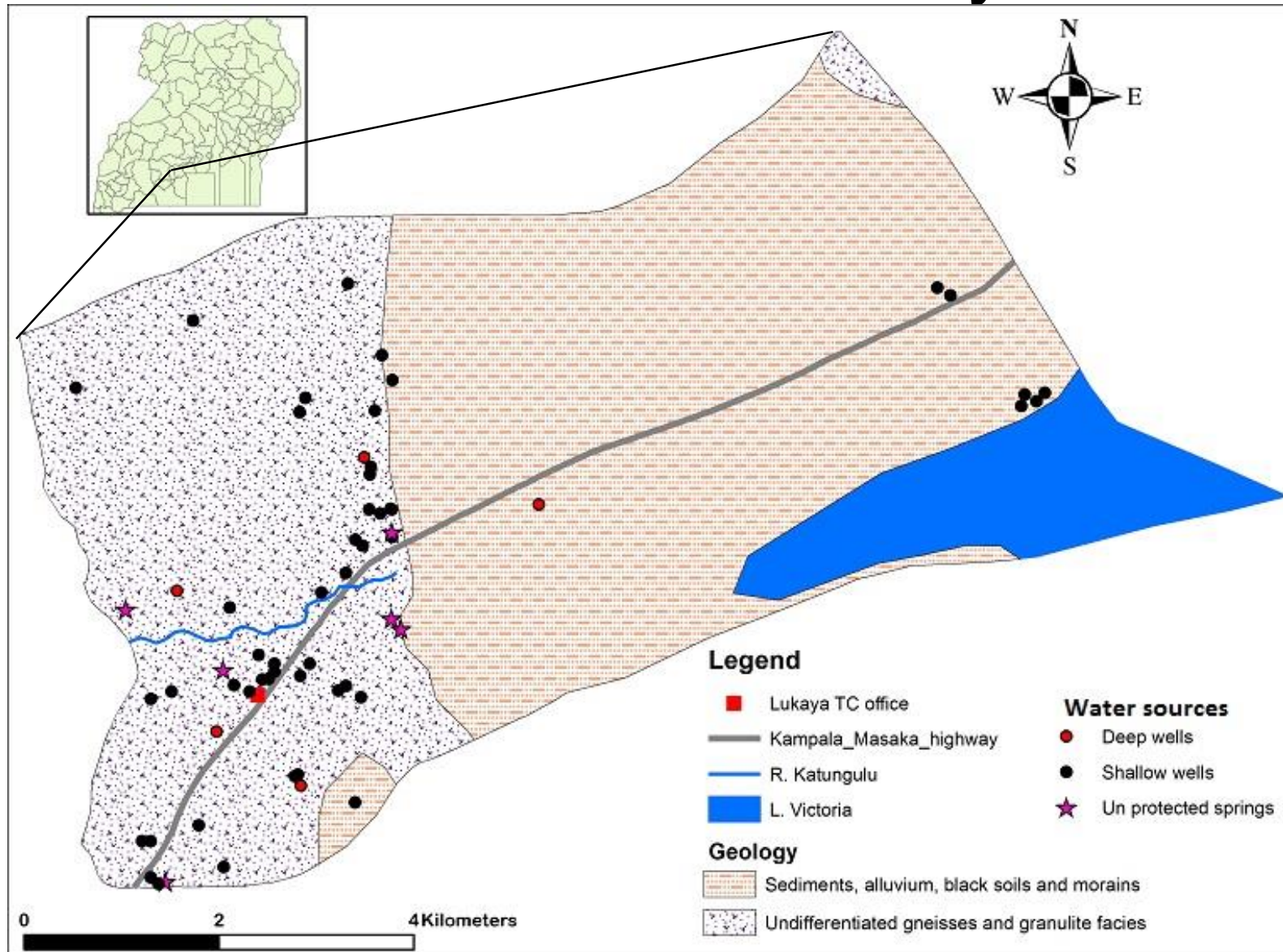


Loading and mobility of faecal and chemical contaminants in shallow groundwater systems in Lukaya Town Council, Kalungu district, central Uganda



Water sources in Lukaya TC



- A total of 62 water sources have been mapped
- About 82% of the water sources are hand-dug shallow wells

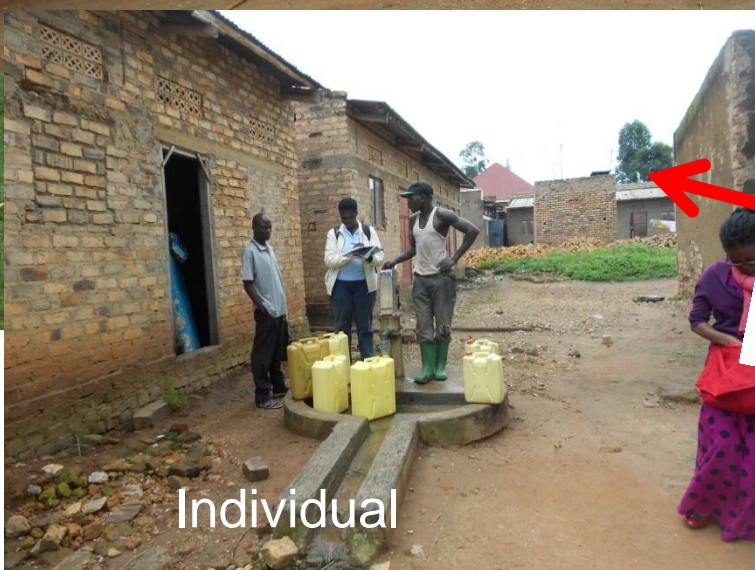
Water source users



Individual



Communal



Individual



Institution

Water sources and users

Type	Deep wells(>30m bgl)	Shallow wells (<30m bgl)	Springs
No.	5	51	6 (unprotected)
Users	23, institutions (37%), 25 communal (40%) & 14 individual (23%)		

Water source and sanitation facility sanitary inspection

- Reasons for the presence of sanitary-risk factors at a source/facility



- structural deterioration or damage
- lack of hygiene knowledge/education of users

Water source and sanitation facility sanitary inspection

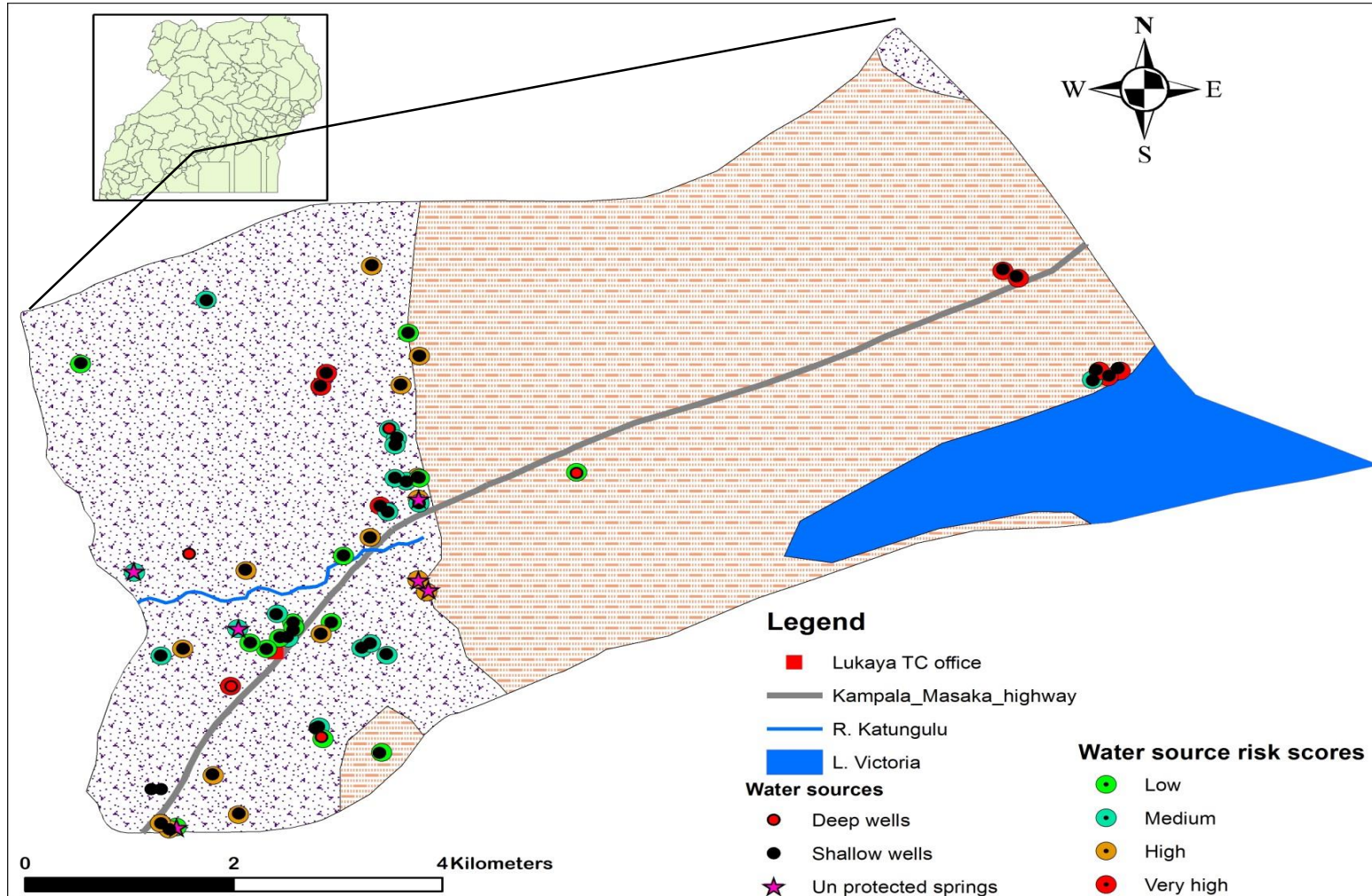
- **Sanitary inspection** of both water sources and latrines were carried out using modified WHO, 1985 sanitary inspection form
- It involves **observation questions** in which the responses are either Yes or No
- **Yes/No** responses indicate **presence/absence** of risk respectively
- The responses are awarded **1/0** for **presence/absence** of risk respectively
- The **total score** is calculated to provide a measure of overall vulnerability of the source to contamination

$$\text{Contamination risk score} = \frac{\text{No. of yeses}}{\text{Total score of contamination risks}}$$

- Risk scores are ranked from **low to very high** depending on the numbers of yeses obtained to the total score of the contamination risks

Water source sanitary inspection results

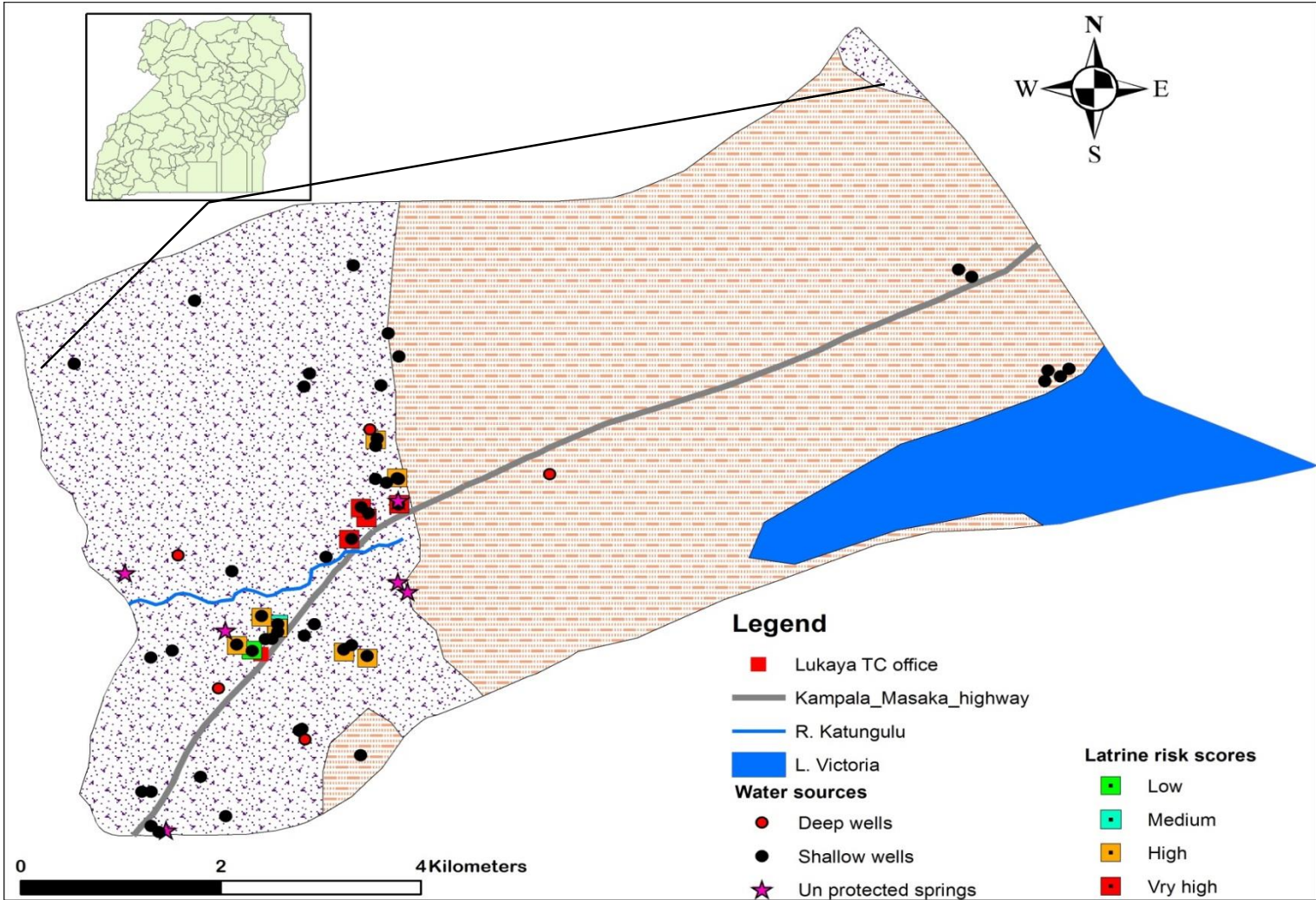
- Only functional water sources (93.9%) at the time of the visit were considered



- Ranks included; 0-2 (25.9%) Low, 3-4 (27.6%) medium, 5-7 (19.0%) High and 8-10 (15.5%) very high (WHO, 1985)
- High to very high are related to high population density and flooding

Latrine sanitary inspection results

- Only latrines within 30 m distance from the water source were considered



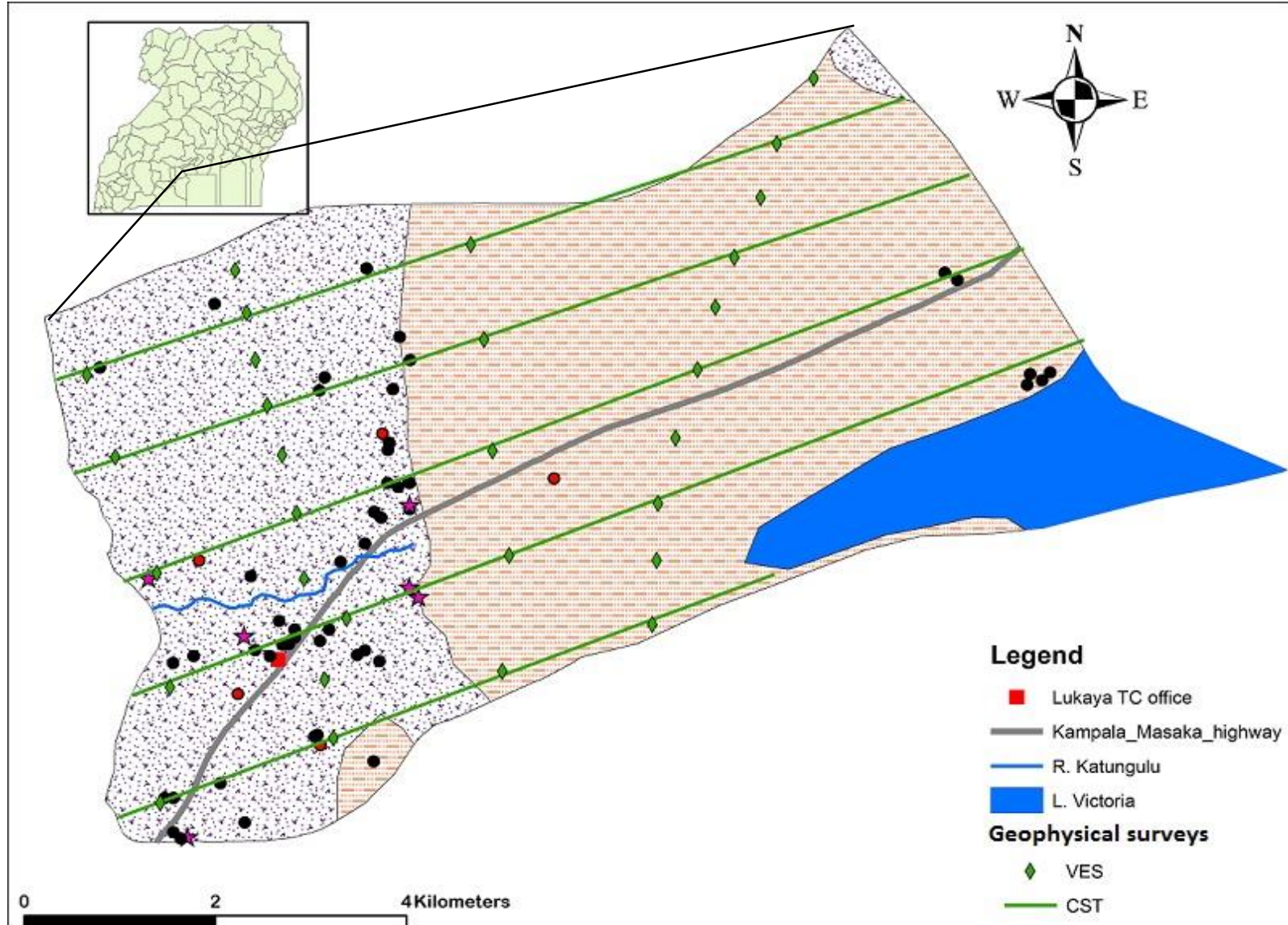
- Ranked as 1-3 (7.7%) Low, 4-5 (7.7%) medium, 6-8 (53.8%) High and 9-10 (30.8%) very high (WHO, 1985)
- High to very high risks are related to high population density

Survey tools

- The study will involve the use of RPSSRA (Campos et al, 2015), household and health unit surveys
 - Two parishes
 - One public health centre
- Household and health unit surveys questionnaires have been tested
 - Hazard, Exposure & Vulnerability
- RPSSRA includes involvement of stakeholders to score the risks
 - Hazard, Exposure & Vulnerability

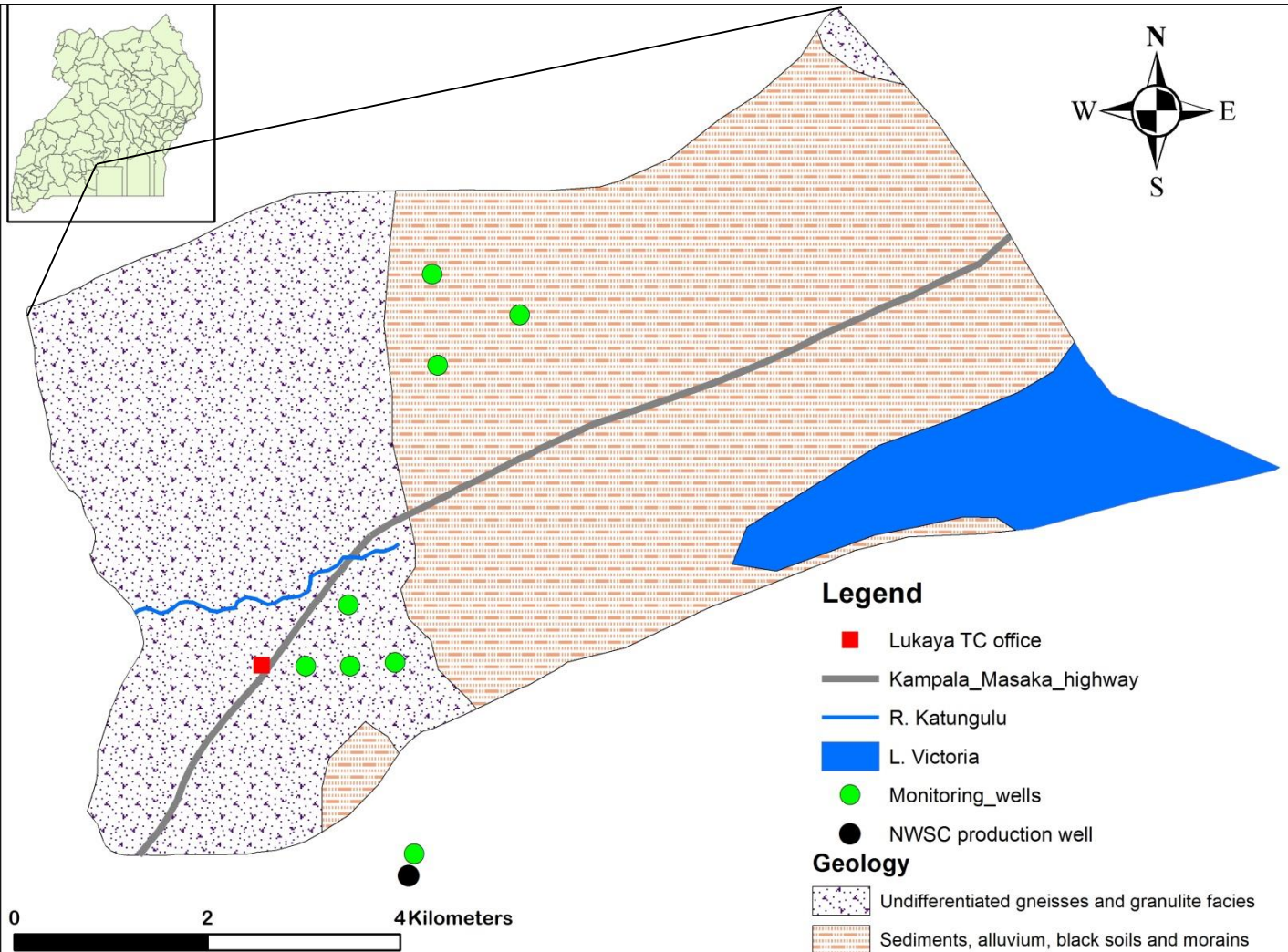
Up coming activities

- Geophysical surveys
- Constant separation traversing & Vertical electrical sounding



Construction of the monitoring stations

- 7 monitoring wells will be set up within the study area
- 1 monitoring well will be in the neighbouring sub-county
- Rain gauge stations



- Site selection depends on;
 - geology
 - population density
 - impact of pumping
 - security

A photograph showing a large, messy pile of trash, including plastic bottles and other debris, scattered across a grassy area. In the background, there are several buildings, including a brick structure on the right and a wooden fence. A small pond or stream is visible in the foreground, partially obscured by the trash. The scene appears to be a rural or semi-rural area with significant waste management issues.

THANK YOU