

Livelihood mapping - RWANDA

1. Methodology

The livelihood mapping divides the country into areas where the rural population shares relatively homogeneous living conditions. The livelihood zone areas describe the agro-ecological and the socio-economic characteristics of the rural population, including the main livelihoods, the natural resources available, the potential constraints and priorities for development. The livelihood map is used to identify priority areas for investment in agricultural water management (AWM) according to the demand of the population and the biophysical potential. The approach focuses on four main elements:

- ❖ The link between access, water use and livelihoods.
- ❖ The definition of areas where AWM can provide sustainable livelihoods.
- ❖ The identification of the most promising technologies and the determination of the conditions for their adoption.
- ❖ The identification of potential users.

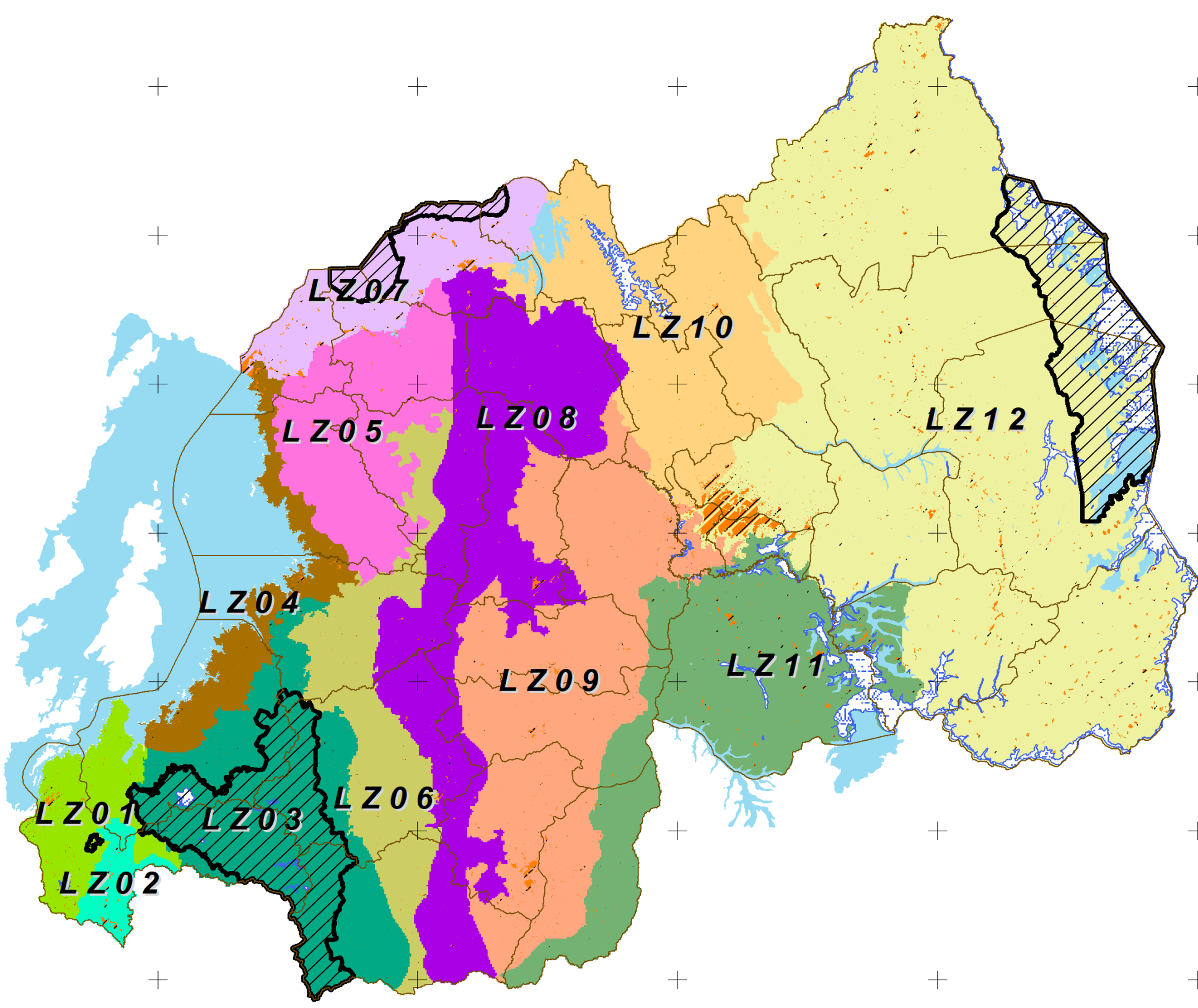
2. Livelihood mapping

a) Farm typology

The classification of farms is based on the farm main features (land tenure, self-consumption, crops, inputs, labour available), farm assets, main water management solutions and mean plot size (ha).

It is identified that the largest share of producers in Rwanda are smallholder farmers (<5 ha) producing for self-consumption. Agricultural producers mainly use traditional irrigation systems and, apart from land, they own low-value assets.

b) Livelihood zones



- LZ01-Rusizi Highlands
- LZ02-Bugarama Plain
- LZ03-Western Nile Crest
- LZ04-Lake Kivu Belt
- LZ05-North Western Congo Nile
- LZ06-Congo Nile Highlands
- LZ07-North Western Volcanic
- LZ08-Central Plateau Highlands
- LZ09-Central Plateau Lowlands
- LZ10-Northern Highlands
- LZ11-Mayaga-Bugesera drylands
- LZ12-Eastern Plain
- Districts
- Natural_parks
- Built up areas
- Lakes

Figure 1. Livelihood zones map

Twelve different zones have been identified in Rwanda.

3. Potential beneficiaries

The map of potential beneficiaries has been developed considering the following criteria: water availability, population density, poverty and the perception of water as a limiting factor.

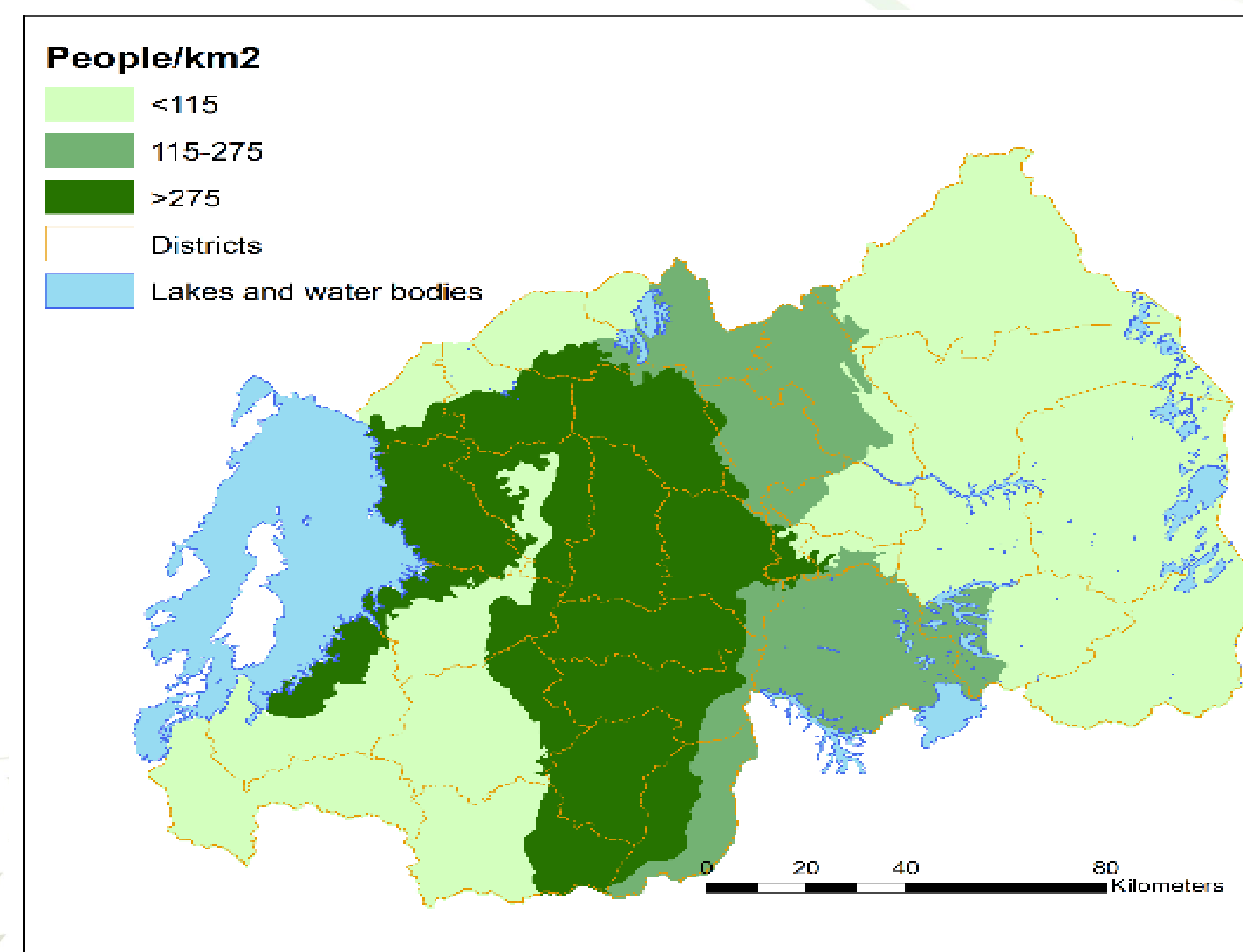
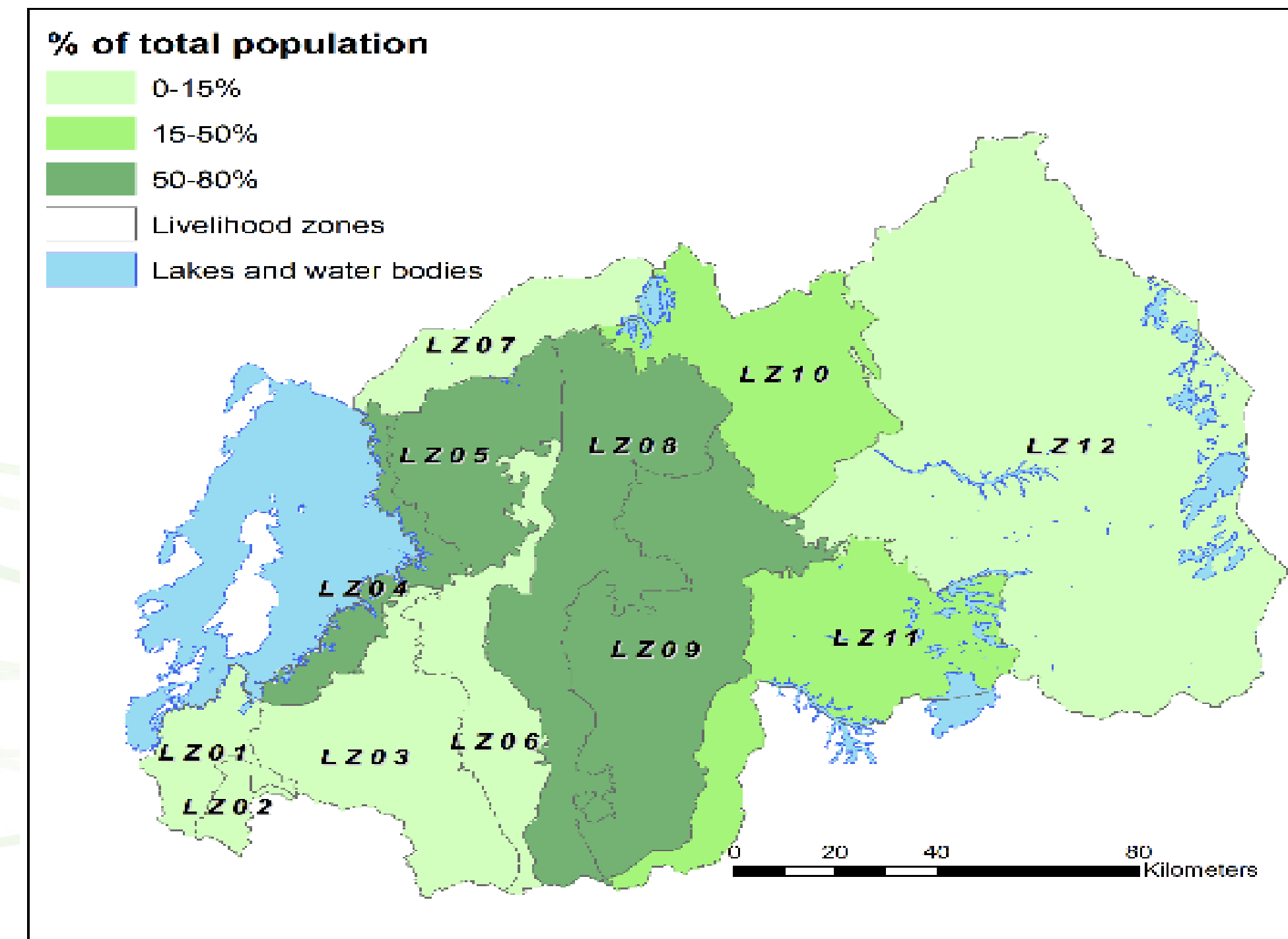


Figure 2. Potential beneficiaries by livelihood zone (percentage and number)

4. Suitability mapping of AWM Solutions

Solution 1: Diversion schemes

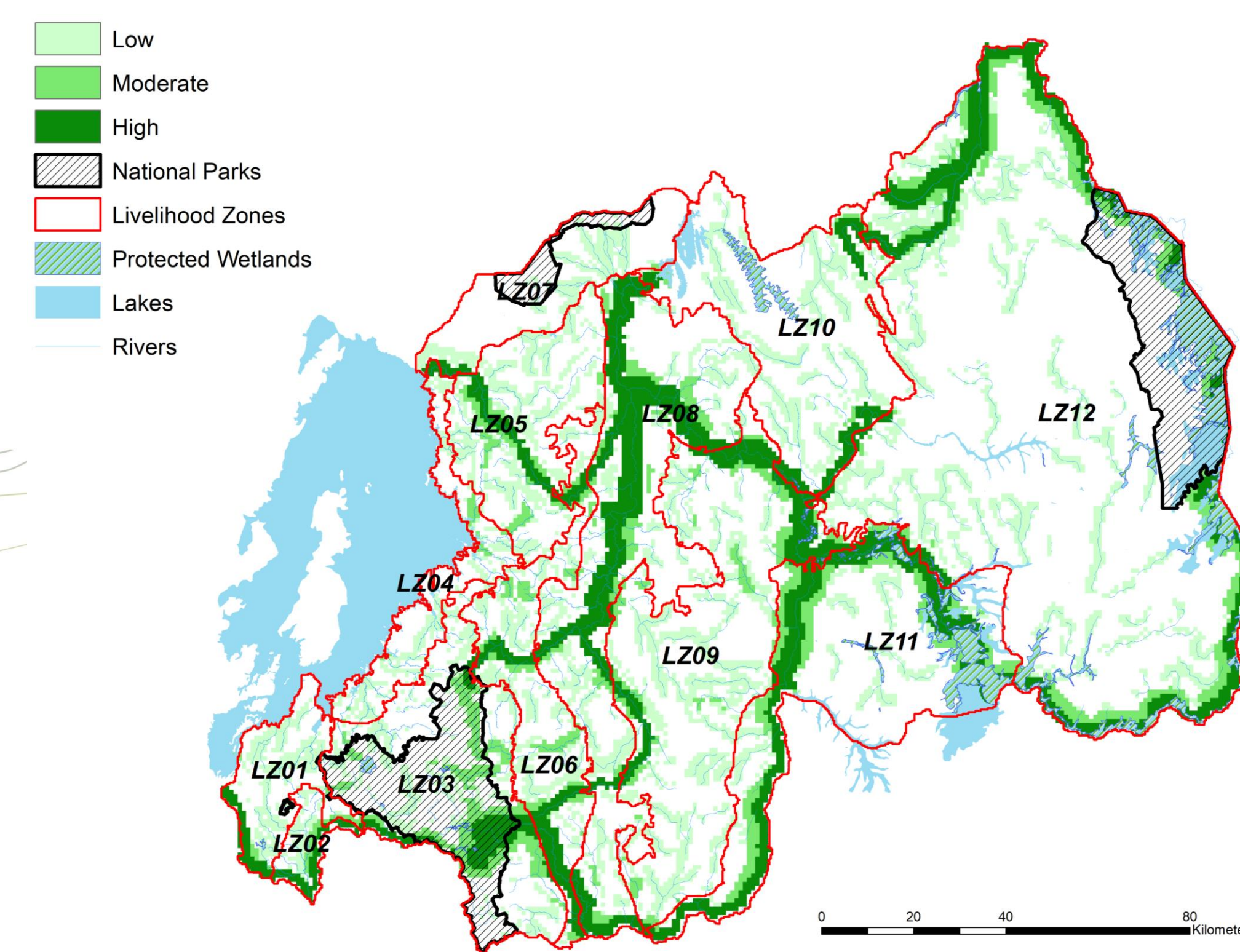


Figure 3. Suitability map for the diversion schemes. The criteria used are: the slope, the distance to markets, the distance to rivers and the potential beneficiaries.



Solution 2. Soil and water conservation

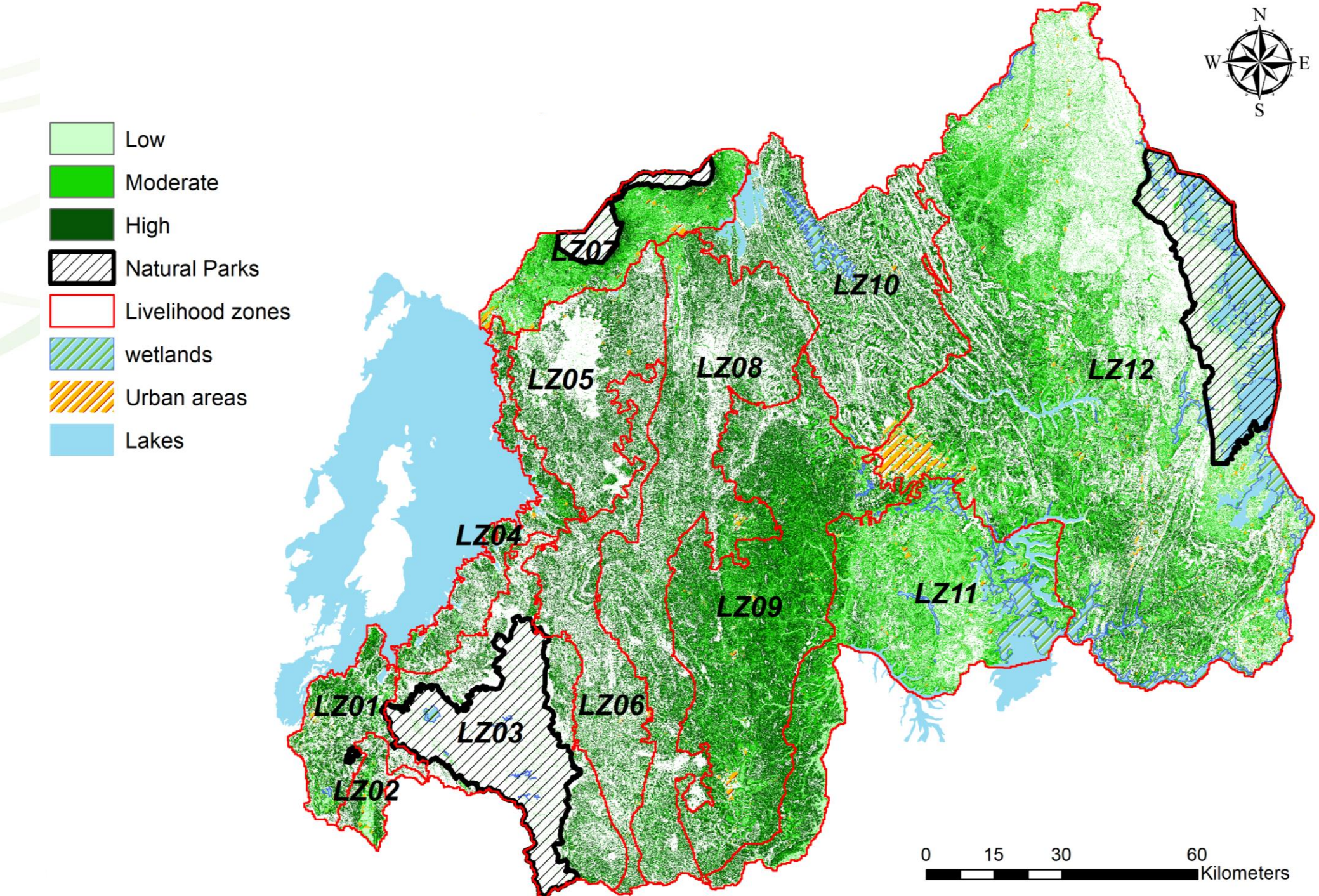


Figure 4. Suitability map for soil and water conservation techniques and technologies. The criteria used are: the slope, the rainfall, the land use and the potential beneficiaries.

Solution 3: Pumping technologies

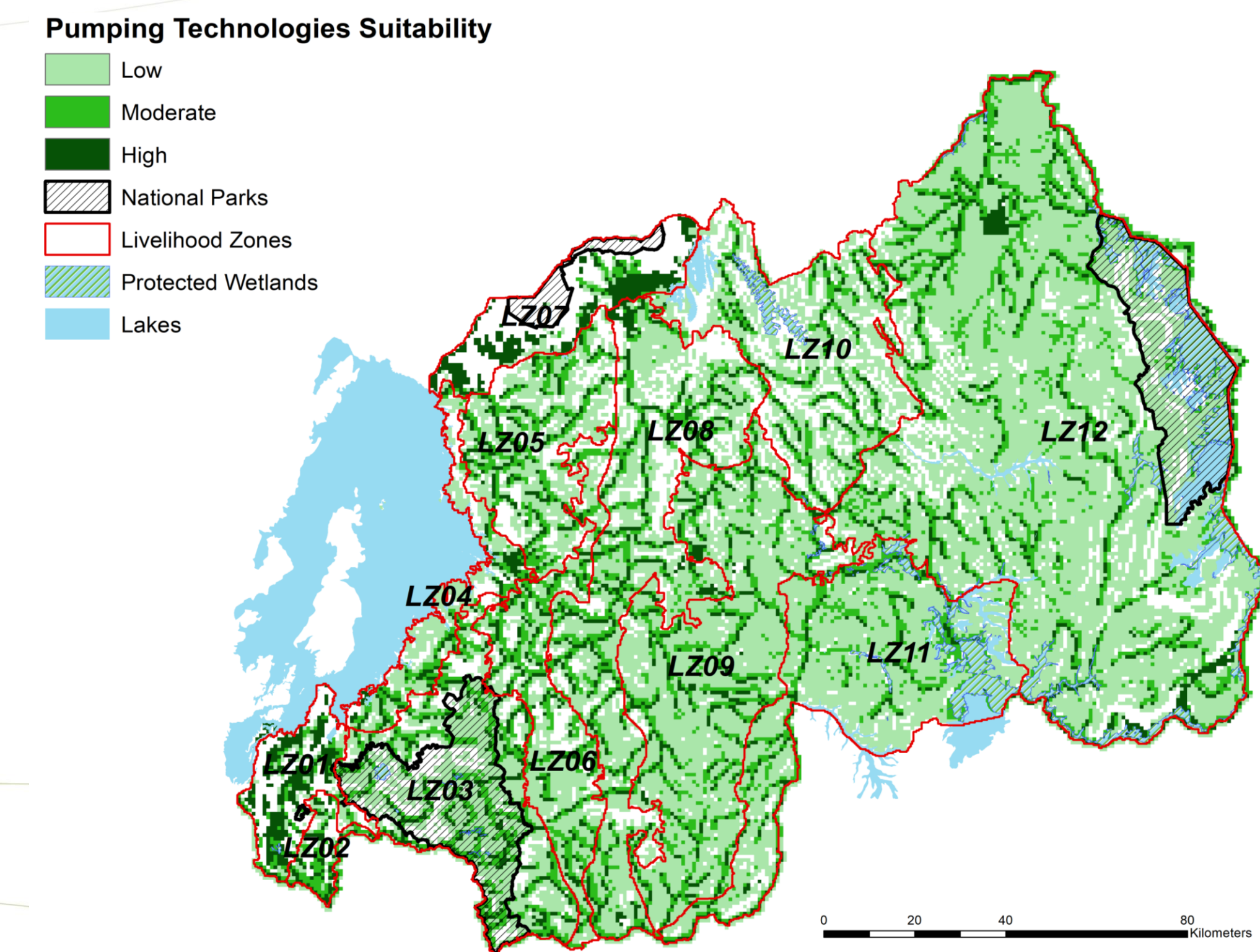


Figure 5. Suitability map for the pumping technologies, including solar-powered pumps. The criteria used are: the slope, the access to groundwater and the potential beneficiaries.

5. Conclusions

- ❖ This methodology provided stakeholders a rapid assessment on the potential and suitability of water investments.
- ❖ During the validation workshop, stakeholders identified solar powered irrigation technologies as a potential innovation for smallholders.