

Spatial Multi-Criteria Evaluation for Implementation of National Urbanization Policy in Rwanda

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Rwanda is among the densely populated and rapidly urbanizing countries in Africa. However, potential for economic benefits of urbanization are not spontaneously delivered. The urbanization should be supported by integrated spatial planning strategies and tools for achieving sustainable urbanization. With this regards, the National Urbanization Policy (NUP) in Rwanda intends to address all aspects of cross-sectoral actions to efficiently use natural resources, promote urban development based on local potentialities and balanced inter-linkages between cities and regions. In support of NUP, the Spatial Development Framework (SDF) for Rwanda serves as regional strategic planning instrument to identify a functional hierarchy of human settlements and territorially-balanced and interconnected human settlements; and to prioritise urban infrastructure development. This paper aims therefore to apply a spatial multi-criteria evaluation (SMCE) to model the suitable areas for human settlements in support NUP in order indicate where to prioritise urban infrastructure development. The SMCE is implemented in a free open source software ILWIS geographic information system. It frames how NUP objectives were translated into spatial information for guiding the spatial decision making. From NUP objectives, sub-objectives, performance criteria and spatial indicators have been formulated. These indicators have been standardized and weighted using pairwise weighting methods according to their importance in the urbanization and stockholder's judgments. The weighted indicators were aggregated in the final composite index showing relative levels of suitability for urbanization in Rwanda. The SMCE is presented as a prerequisite for the successful communication of the methodology in technical and political decision making processes. The results show the suitable areas for human settlements and thereby support the decision- and policy making process in prioritization of allocation of limited resources and investments for achieving the sustainable urban development in Rwanda.

Key words: *Urbanization, spatial development framework, spatial structures, multi-criteria evaluation.*