Spatial marginalization heterogeneity of bordering area in Republic of Croatia – GIS multicriteria decision analysis approach

The specific territorial shape and geographic position of the Republic of Croatia (RH) which is a result of dynamic historical-geographical development, has resulted in a very complex land border in a European comparative sense. The RH has a land border with Slovenia, Hungary, Serbia, Bosnia and Herzegovina (BiH), and Montenegro with a total length of over 2,300 km. Borders between the RH, BiH, Serbia, and Montenegro are at the same time state borders and the external border of the European Union (EU). In contemporary border studies, border areas are treated as national but also functional periphery, development margin and areas of pronounced polarization effect. The aim of this research is to determine whether the border areas of the RH fit into the classic centre-periphery development paradigm. Special emphasis of research is placed on the analysis of the spatial heterogeneity of the marginalization in the context of observing the RH borders with other EU members (Slovenia and Hungary) and with Serbia, BiH and Montenegro. In this paper, the GIS-Multicriteria Decision Analysis Method (MCDA) is used to derive the composite marginalization index (GMAR) in five classes (from 1 - extremely non marginalized to 5 - extremely marginalized areas).

Due to pronounced processes of centralization driven by urbanization and economic transition, larger urban centres are singled out as non-marginalized (prosperous) areas, while moving away from them the degree of marginalization increases. Such a development pattern points to pronounced relations between the centre and the periphery, which are further deepened due to various factors of an historical, economic, demographic and functional nature. In general, bordering areas in the RH are classified as extremely marginalized and marginalized. The final GMAR model indicates the existence of spatial inequalities between areas near the EU borders and areas outside the EU borders. The latter are recognized as the most marginalized areas in the RH. Future research on the marginalization of border areas will also include qualitative research methods with the aim of increasing and verifying the accuracy of the model.

Keywords: Heterogeneity, marginalization, GIS-MCDA, bordering area.