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Disaggregated Assessment of the Risk of Resource-use Conflicts and Management: The Case of Oil Extractive Coastal Territories of Nigeria

This dissertation aims to address the question to what extent access to environmental resources such as farmland, forest, and water, which interrelate with the intervening vulnerability factors of socio-economic and political livelihoods, contributes to natural resource conflicts. The study develops and applies the methodology of the Spatially Explicit Information on the Likelihood of Natural Resource Conflict Management (SEIL-NRCM) as a spatial conflict management tool in peace-building process, using oil extractive coastal territories as case studies. Similar to many other traditional African communities, in the Niger Delta, land and rivers are central to all economic, social and domestic activities. Farming for instance is a main source of socio-economic livelihood. Studies on natural resource use conflicts show that they are inherently complex and multi-scalar in nature yet the approaches until recently have revolved around reductionist theoretical frameworks. A paradigm shift is required in the understanding of natural resources and conflicts, by combining the non-renewable (e.g. oil) and renewable resources, the intervening socio-economic and political process at a micro-scale where space is an important component. A methodological approach in GIScience is applied for natural resource management, a coupling of community-based knowledge into complex spatial decision-making processes in locations where both spatial infrastructure and geospatial technologies are accessible. Spatial-temporal insights are gained through a longitudinal field research with satellite and social economic data, from the 1980s till date. Critical features and metaphors drawn from complexity theory are applied into a fuzzy logic model, where fuzzy membership functions are derived from local stakeholders. The model will be an innovative approach for assessing and managing resource conflicts and supporting complex environmental problems at a micro scale.