Local Knowledge and Climate Change Adaptation Project (LKCCAP): Issues in Geographic Representation

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This presentation on LKCCAP will focus on geographic information management and representation challenges. LKCCAP is about local knowledge and institutions and how they affect climate change adaptation strategies in Tanzania. The project has a strong grounding in participatory research for local knowledge elicitation and employs a mixed-methods approach for data collection and analysis. Questionnaires, participatory workshops, community driven sketch and GPS mapping activities, and personal interviews are the primary sources of data being collected from several rural communities along four altitudinal gradients in Kilimanjaro region, Tanzania. Thus, we have the challenge of combining datasets collected via different methodologies and characterized by varying levels of spatial accuracy. We also have access to rainfall predictions about temperature, rainfall, and crop yields from global climate change simulation models. However, climate change modeling is practically useful only for postulating future climatic trends at a continental or at best regional scale; inadvertently using such data for local scale predictions is scientifically untenable. LKCCAP is also committed to a GIS based multimedia geovisualization platform for communicating all LKCCAP research findings. This creates another set of theoretical challenges since most of the data about livelihoods and adaptation is not explicitly spatial, and mostly qualitative. Thus, while LKCCAP remains primarily about studying local knowledge and climate change adaptation, we choose to instead take this opportunity to discuss the aforementioned issues and highlight how LKCCAP is a perfect springboard for breaking new theoretical ground in several areas of GIScience (e.g., cartography, ontology, PGIS, and critical GIS).