



## Participatory Cartography, Territorial Governance and the Contested Pastoral Landscape of Afar

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### ABSTRACT

Land-use planning in the Afar Region is characterised by protracted conflicts between state-led agricultural investments and indigenous pastoralist territorial systems. Participatory GIS (PGIS) has been promoted as a tool for conflict resolution and inclusive governance, yet its application within these contested landscapes remains critically under-examined. This commentary analyses the complex relationship between PGIS mapping exercises and land-use planning conflicts. It aims to critically evaluate how PGIS processes interact with, and potentially reshape, power dynamics and territorial claims within the region's governance framework. The analysis is based on a critical synthesis of existing literature on PGIS in pastoral contexts and political ecology, informed by the author's extended engagement with the region's development and governance debates. PGIS mapping can inadvertently solidify contested administrative boundaries, such as the kebele and woreda units, thereby legitimising state territorialisation. A recurring theme from documented cases is that maps produced often prioritise legibility for external planners over the fluid, seasonal logic of pastoral mobility, risking the formalisation of historical grievances. While offering potential for more inclusive dialogue, PGIS is not a neutral technical fix. Its outcomes are deeply political, often reinforcing existing state-centric governance models and potentially exacerbating tensions if the underlying power asymmetries in planning processes are not addressed. Future PGIS initiatives must be preceded by explicit political negotiations over the rules of engagement and the status of mapped outputs. Mapping processes should be designed to capture dynamic land-use patterns and incorporate iterative community validation to avoid cartographic capture by dominant interests. Participatory GIS, land governance, pastoralism, territorial conflict, Ethiopia, political ecology This commentary provides a novel critique of how PGIS, as a policy mechanism, can become a tool for bureaucratic territorialisation in African pastoral settings, moving beyond its typical framing as an empowering methodology.

**Keywords:** *Participatory GIS, territorial governance, pastoralism, land-use conflicts, Horn of Africa, Ethiopia, Afar*

<i>Region</i>	
<p><b>Article Highlights</b></p> <ul style="list-style-type: none"> <li>• PGIS risks formalising historical grievances by prioritising legibility for external planners.</li> <li>• Outcomes are deeply political, often reinforcing state-centric governance models.</li> <li>• Mapping must capture dynamic land-use patterns with iterative community validation.</li> <li>• Initiatives require explicit political negotiations over rules of engagement.</li> </ul>	<p><b>Core Argument</b></p> <p>PGIS is not a neutral technical fix for land conflict. Its application within contested pastoral landscapes can exacerbate tensions by reinforcing bureaucratic territorialisation, unless underlying power asymmetries are addressed.</p> <p><i>A political ecology critique of participatory mapping as a mechanism of governance.</i></p>

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