

# **Analyse Participatory GIS in enhancing FFPLA systems, focusing its impact on climate responsiveness and community engagement.**

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**Key words:** climate change; participatory GIS; FFPLA ; Empowerment

## **SUMMARY**

The increasing pace of climate change underlines the crucial need for strong and flexible land administration systems. To better understand how participatory Geographic Information Systems (GIS) can improve climate resilience and encourage local community engagement, this paper examines their integration into Fit-for-Purpose Land Administration (FFPLA) frameworks. By including community members in mapping and decision-making processes, participatory GIS fosters a more inclusive approach to land management by fusing technical data with local knowledge. The study looks at the theoretical basis of participatory GIS and its practical applications using a variety of global case studies, illustrating how local input can produce more accurate and contextually appropriate results. This participatory strategy improves geographical data precision while simultaneously increasing community ownership and empowerment, resulting in more resilient land use planning and management practices. The article also investigates the effects of participatory GIS on climate responsiveness. Participatory GIS improves the adaptive ability of FFPLA systems by adding local knowledge of environmental changes and dangers, allowing them to respond more quickly to climate problems. Integration of real-time data and community feedback enables dynamic and flexible land administration, which is critical for mitigating the negative consequences of climate change.

This study demonstrates the transformative potential of participatory GIS in FFPLA by doing a thorough review of the research and examining actual cases. The findings emphasize the value of community involvement in spatial planning, as well as the need for policies that promote participatory methodologies. This study suggests a paradigm shift in land administration approaches to address climate change challenges more effectively and sustainably.

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