

## 52. **Artificial Intelligence (AI) for climate action: bridging Kenya's digital divide for a greener future**

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### **Abstract**

This paper explores the innovative use of Artificial Intelligence (AI) in promoting climate action and bridging the digital divide in Kenya, under the theme "Science in the Service of Climate Action." Our research utilizes a mix of qualitative and quantitative methods to examine the current state of digital access and infrastructure, identifying key socioeconomic barriers to digital inclusion. We highlight novel AI-driven solutions that mitigate climate change impacts, focusing on applications in climate monitoring, agriculture, and renewable energy. Case studies and policy analysis reveal the transformative impact of successful AI initiatives on environmental sustainability and digital equity. We offer specific policy recommendations to support AI implementation, advocating for a collaborative framework involving government, private sector, and civil involvement. This paper concludes by discussing the limitations of current initiatives and proposing directions for future research. Through these insights, we underscore AI's potential to foster community resilience and enhance environmental health, ensuring equitable digital opportunities for all Kenyans

**Key words:** *Artificial Intelligence, Climate Change, Climate Action*