

Citizen Science Engagement Initiatives in Kenya and Tanzania: Fostering Digital Transformation and Inclusive Knowledge Ecosystems

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Abstract

In a complex, rapidly changing global landscape, the traditional boundaries between academic research and societal needs are increasingly blurred. This paper presents the initial findings and strategic frameworks of the FOSTER Project (Fostering Digital Transformation of Science in Kenya and Tanzania), an EU-funded initiative (Erasmus+ CBHE) aimed at modernizing the research ecosystem in East Africa. Central to this project is the promotion of Citizen Science (CS) as a transformative tool for social and economic development. While Open Science (OS) has gained global momentum, its adoption in Sub-Saharan Africa remains uneven due to infrastructure gaps and limited community engagement. The FOSTER Project addresses these challenges by establishing Open Science Hubs and implementing the Science Shop 2.0 model across partner institutions in Kenya and Tanzania, including St. Paul's University. These initiatives serve as "Knowledge Management Hubs" where researchers and community members co-create solutions to local challenges, ranging from environmental sustainability to public health. The study explores the project's multi-dimensional approach to managing change in three key areas: capacity building, policy reform and technological innovation for citizen science practices. By analysing the pilot phase of these engagement initiatives, the paper demonstrates how Citizen Science fosters "Learning Beyond Boundaries." The findings suggest that inclusive research models not only enhance the societal impact of Higher Education Institutions (HEIs) but also build resilient, knowledge-based economies. The

FOSTER Project provides a scalable roadmap for international cooperation, illustrating how digital transformation can be leveraged to achieve global knowledge equity and sustainable development in the Global South.

Keywords: Citizen Science, Open Science, Digital Transformation, Kenya, Tanzania, Knowledge Management, FOSTER Project, Science Shops