90. The technologies used in sanitation delivery in Mukuru Kwa Reuben, Kenya

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Abstract

The Sustainable Development Goals agenda 6.2 aims to improve access to safely managed sanitation by 2030. However, the sewer system serves only 17 % of the Sub-Saharan African population in informal settlements. Possible interventions and options to address sanitation issues in informal settlements have been advanced through research. However, upscaling and improving sanitation in informal settlements has been a challenge. The study investigated the technologies used in sanitation delivery in Mukuru Kwa Reuben. The study employed a convergent research design and a mixed method approach. Cluster and simple random sampling technique enrolled 100 household heads from 10 clustered administrative units. The quantitative data from questionnaires and structured observations were analyzed descriptively and inferentially at 5% level of significance in SPSS version 25. The sanitation technologies for containment and storage of excreta/sludge included pit latrine, fresh life toilet, pour flush, cistern flush and composting toilet. In emptying and transportation, eco bags, washing machines, transfer station, buckets, urine container, hand cart, trucks and sewers were used. The excreta/sludge treatment/disposal options available encompassed treatment plants, septic tanks, open grounds, rivers, and landfills. There was a moderate positive correlation between accessibility and construction/installation process of the toilet with ($r = .546$, $p < .05$). There was a significant difference in the accessibility ($p=0.013$), availability ($p=0.047$), and accountability ($p=0.000$) in the provision of sanitation technologies for emptying and transportation of sludge/excreta. Type of sanitation technology ($F (3, 96) = 8.497$, $p < .05$), and the construction and installation process ($F (3, 96) = 20.379$, $p < .05$) significantly influenced accessibility, availability, affordability and accessibility. This study concludes the type of sanitation technology and the construction/installation process are important factors in predicting affordability, accessibility and availability. The study recommends an innovative and context-appropriate sanitation technologies.

Keywords: *Sanitation, Technology, Mukuru Kwa Reuben*