61. The influence of sanitation facility design, social factors, and technological suitability on the promotion of safe fecal management in flood-prone areas: a case of Nyando Sub-County, Kenya

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Abstract

Safe fecal management refers to the containment, treatment, and reuse/disposal of human excreta safely into the environment. SDG No. 6 target 2 aims to provide universal access to sanitation by the year 2030, including ending all forms of open defecation. This study examined the people-centered theory and social cognitive theory to understand the influence of sanitation facility design, social factors and technological suitability on the promotion of safe fecal management in flood-prone with a specific focus on Nyando Sub-County, Kenya. The study employed a mixed methods approach that incorporated both quantitative and qualitative techniques. A representative sample of 100 residents from the five administrative wards that form Nyando Sub-County was chosen, and the participants were the heads of households. Data collection was by the use of structured questionnaires and focus group discussions with purposeful sampled experts in fecal management in the study area and community leaders and data analysis was by SPSS version 26. From the regression analysis results, sanitation facility design, social factors and technological suitability had significance levels of (β= 1.155, p=.028), (β=0.923, p<0.039) and (β=0.879, p<.018) respectively indicating significant influence of the variables on promotion of safe fecal management in Nyando Sub-County. However social factors and sanitation facility design had the strongest correlation with the promotion of safe fecal management with correlation factors of 0.519 and 0.507 respectively. Therefore, it was recommended that toilets should be design in a user-friendly manner to ensure consistent use, incorporating the local traditions, also suitable technologies should be adopted to ensure resilience during flooding. Future studies should focus other factors affecting the promotion of safe fecal management in Nyando Sub-County the ecological sanitation alternatives suitable for Nyando Sub-County to reduce the impact of flooding on sanitation facilities and public health.

Keywords: *Safe fecal Management, Open defacation, resilience, ecological sanitation, sanitation facilities*