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## Creating value from waste: Consumer acceptance of pig manure fertilisers in sub-Saharan Africa urban agriculture

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### Abstract

Urban pig farming is increasingly common in sub-Saharan Africa, given the continent's rapid urbanisation, with 58 % of its population expected to live in cities by 2050. Such growth poses significant challenges for sustainable waste management, particularly concerning pig manure, which is often left untreated and contributes to environmental pollution. The rapid growth of urban populations also drives an increased demand for food, particularly fresh vegetables. To meet this rising demand, many farmers resort to the excessive use of chemical fertilisers, raising concerns about environmental sustainability and food safety. In this context, recycling pig manure into organic fertiliser presents a promising strategy for promoting sustainable urban food systems. This study aimed to assess consumer perceptions and acceptance of vegetables produced using pig manure-based fertilisers in urban areas of Benin. A face-to-face survey using a semi-structured questionnaire was conducted among 397 consumers in major urban areas of Benin, with 90.4 % of responses collected in the cities of Cotonou, Porto-Novo, and Abomey-Calavi. The findings revealed that 76.1 % of participants were willing to consume vegetables fertilised with processed pig manure, while an additional 14.9 % expressed conditional acceptance, contingent on certification of the fertiliser's safety. The main concerns raised included potential health risks (76.4 %), religious or cultural beliefs (32.9 %), and perceived effects on taste and quality (27.9 %). Additionally, 74.5 % believed that these fertilisers could be harmful to the environment, and 39.8 % associated them with unpleasant odors. Knowledge, education level, and awareness of environmental benefits were significantly associated with more favourable attitudes. Notably, consumers became more receptive when informed about the potential of manure recycling to improve soil health, reduce chemical input, and minimise environmental harm. Certification schemes, public awareness campaigns, and transparent communication about processing methods were identified as crucial mechanisms to foster consumer trust. These findings highlight the importance of integrating consumer education and regulatory support into agroecological strategies. Promoting the safe use of pig manure-based fertilisers could contribute to more resilient, inclusive, and sustainable urban agri-food systems in sub-Saharan Africa.

**Keywords:** Consumer perception, organic fertiliser, pig manure, sub-Saharan Africa, urban agriculture, waste valorisation