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Title	Perceptions and Acceptability of Urine-Diverting Toilets in Low Income Urban Community in Ghana
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Perceptions and Acceptability of Urine-Diverting Toilets in Low Income Urban Community in Ghana

1. Introduction and Justification:

The rapid development and urbanization of the metropolitan areas in Ghana in recent years have accelerated problems of overcrowding, inadequate water supply and waste disposal services and a general deterioration of environmental quality. Most urban centers in Ghana have characteristically inadequate waste management systems and policies. As a result, water courses, invariably become conduits for the disposal of sullage and solid waste thereby putting the fragile aquatic and terrestrial ecosystems under severe pressure.

Many projects for improving sanitation involve a degree of planning that considers the local situation leading to the selection of suitable types of sanitation options. The initial demand for provision or improvement of sanitation in a particular area may come from the local people themselves or from a small group of active leaders in the community. Alternatively, the initial demand may come from health officials, a government department, the organization responsible for water and sanitation, a bilateral aid agency, national or international voluntary organizations.

Virtually every environmental sanitation issue is at base, a value-conflict. People's self-concepts or perceptions are central to the things that they believe in and value. The quality of understanding of any person determines his perceptions on environmental issues and hence sanitation. Perceptions have an extensive influence on values of people. Therefore perceptions and values of individuals about the environment account for the behaviour and actions of people towards environmental sanitation.

The purpose of the study was to assess the perceptions of urban residents concerning the acceptance of urine diverting toilets in low income urban areas in Ghana where sanitation is a major health problem. The study is being carried out as one of the strategies towards promoting and popularizing ecological sanitation systems as preferred environmental sanitation solutions in peri (-urban) areas of Ghana. The study also supports the 2003 recommendation of the 2nd International Symposium on ecosan, in Lubeck, Germany to raise awareness and create demand for ecosan systems.

The paper specifically focuses on how to generate understanding of, and appreciation for ecosystem approaches that links sanitation, agriculture, nutrition and health and to create awareness on environmental sanitation using the urine-diverting toilets in the urban areas. In addition the paper presents the results on residents' perceptions on environmental sanitation issues and explored participatory sustainability indicators for maintenance of urine-diverting toilets.

2. Study Area and Methodology:

The study was carried out in a low-income urban area-Nima, a suburb of the capital city of Ghana- Accra. The area falls into semi-arid coastal savanna climate of Ghana which has two rainfall maxima with the mean annual rainfall of about 900mm. The dry seasons are quite pronounced with mean monthly temperatures of between 26.1 and 27.7°C

The study used both quantitative and qualitative data collected from households in the low income urban area of Accra. The data were collected through individual interviews using questionnaires, participatory rural appraisal methods including focus group and community discussions were employed as well. Analysis of the data was used to make informed decision on the understanding of the community about urine-diverting toilet systems that is suitable and beneficial to their agriculture and health issues. A total of 60 households were interviewed. Key informants were also interviewed to seek their views and appreciation of urine-diverting ecosan system interventions.

3. Results and Discussions.

The study created awareness of the community residents on what environmental sanitation means. Also views of the residents were gathered and collated on the use of urine-diverting toilet and the need to protect the environment via community awareness programs with focus on ecosan approaches.

The data shows various forms of environmental pollution/sanitation issues in the community. The issues identified in the study area- Nima- include unplanned settlement, poor sanitation, stream, and river and drain pollution, and lack or inadequate toilet facilities. The analysis shows that the poor sanitation found in the study area is mainly due to indiscriminate defecation, improper refuse management, stray animals, unauthorized washing of cars, dumping of liquid and solid waste into the nearby Nima Creek. Until recently the pan latrine system was not common in Nima and facilities in place for the evacuation of solid waste were grossly inadequate. As a result, human wastes were disposed of in the few inadequate drains in the area. Characteristically the area is grossly unplanned and is one of the biggest squatter areas in the Accra Metropolis.

The analysis shows that most of the residents perceived the causes of the various forms of pollution in their community as inadequate toilets, lack of education on hygienic practices, extreme poverty, limited water supply to the community and the high population density in the area. Information on residents understanding of sustainability of the environment revealed that the majority of the people think that the environment needs to sustain them rather than they the humans need to sustain the environment. However, a small percentage

of the people are of the opinion that both the humans and the environment need to support each other. The study also found out that the attitudes/habits of community residents in the urban area does not support the sustenance of the environment. Most of the people perceived urine-diverting toilets as good systems and seems to be economically efficient in terms of water use and cost to the city authorities in disposing/dissludging human excreta and liquid waste.

The paper concludes that, the use of the urine-diverting systems has a potential to influence the attitudes and habits of the community residents with regards to sustenance of the environment. However, detailed stakeholder analysis is needed before any successful urine-diverting system implementation.