Sanitation Systems and Strategies in Ghana: Cultural Assessments and Policy Recommendations
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Project Partners
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Study Population

The sanitation landscape varied a great deal in and around Accra including homes with little or no sanitation (open defection of the pew [see picture] and on the beach) to houses with flushing toilets.

Two urban communities were chosen within Accra, Ghana for a variety of reasons. Both of these communities had no wastewater treatment, low-level sanitation and open drain systems[see picture].

- James Town
James Town was chosen as an observation area because of its relevance to work already completed on the microbiological assessment of open drain sites and recreational water sites in the area. It is an area of interest because of its high population density, poor sanitation, and lower income level.

- New Town
New Town neighborhood in Accra was chosen as an observation area because of its demographics, dense population and urban sprawl. New Town was chosen because of the religious dichotomies that exist among Muslims and Christians in these two locations, and it was used only for focus group and interview purposes.

Project Goal and Objectives
The overarching goal of this project was to utilize a mixed-methods approach to assess the multitude of factors that contribute to wastewater exposure in peri-urban neighborhoods surrounding Accra, Ghana.

Specific Aims:
- Identify the ways in which social factors, such as religion, gender, and location (peri-urban versus urban) influence individual and community perceptions and beliefs regarding sanitation systems, toilet facilities, and hygiene practices.
- Identify the activities around open drain and coastal sites that expose individuals to pathogens in an urban setting.
- Collect information on beach use and recreational exposure to coastal water that contains waste.
- Identify key stakeholders and policy makers in sanitation collection and disposal.

Project Timeline

Progress to Date

Expected Outcomes of the Mix-Methods Approach
Evaluate Fecal Exposure Pathways by:
- Describing activities that occur in coastal areas and their relative frequency through structured observations
- Analyzing the religious, social class and gender disparities among residents of New Town and James Town through interviews and focus group discussions
- Developing a network of policy and sanitation stakeholders for future studies.
- Medical meetings with key policy makers and business professionals.
- Profiling the use of beaches and recreational exposure to coastal water containing waste through surveys and structured observations
- Identifying high-risk behaviors of coastal households and understanding risk perceptions of ocean water through household surveys.

Exposure to open drains and gray water:
- The residential and coastal sites have a greater risk of exposure compared to the business sites due to the higher number of pathogen exposure pathways.

Exposure to wastewater at the beach:
- Beaches that are closer to the urban center and easily accessible by local transportation are the most populated independent of cost of entry.
- Most Ghanaians visit the beach to socialize, not necessarily to swim. However, adolescents are more likely to swim than adult visitors.
- Many visitors are aware of wastewater dumping into the ocean, but they do not believe it increases their pathogen exposure while swimming.

Exposure disparities by religious, social and gender groups:
- There is no preference for either open or closed drains.
- Religious affiliation yields the starkest differences in sanitation.
- Sanitation practices and understanding of exposure varies by education and social class.

Household exposure to wastewater:
- Awareness of the health outcomes including diarrhea and "stomach upset" associated with wastewater and contaminated seawater is high.
- Vegetables irrigated with wastewater are rarely eaten uncooked.
- Children are most likely to eat raw vegetables.
- Seawater contaminated with waste is commonly used to purge the system/induce diarrhea and vomiting for medicinal purposes.

Sanitation collection and disposal:
- Increased coordination of cleanup efforts is needed.
- The potential for collaboration on a national level between the Ministry of Local Government, Ministry of Health and ZoomLion is high.
- Centralized training for workers has the potential to increase accountability and efficiency.

Next Steps

- Continue analysis of interviews and focus group data
- Share information with CGSW and the Bill & Melinda Gates Foundation
- Send reports to The Environmental Health Platform

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