Faecal sludge management in low income areas: a case study of three districts in the Ashanti region of Ghana

Eugene Appiah-Effah, Kwabena Biritwum Nyarko, Samuel Fosu Gyasi and Esi Awuah

ABSTRACT

The challenge of faecal sludge management (FSM) in most developing countries is acute, particularly in low income areas. This study examined the management of faecal sludge (FS) from household latrines and public toilets in three districts in the Ashanti region of Ghana based on household surveys, key informant interviews and field observations. Communities did not have designated locations for the disposal and treatment of FS. For household toilets, about 31 and 42% of peri-urban and rural respondents, respectively, with their toilets full reported that they did not consider manual or mechanical desludging as an immediate remedy, although pits were accessible. Households rather preferred to close and abandon their toilets and use public toilets at a fee or practise open defecation. For the public toilets, desludging was manually carried out at a fee of GHC 800–1,800 and the process usually lasted 8–14 days per toilet facility. The study showed that FSM has not been adequately catered for in both peri-urban and rural areas. However, respondents from the peri-urban areas relatively manage their FS better than their rural counterparts. To address the poor FSM in the study communities, a decentralized FS composting is a potential technology that could be used.

Key words | desludging, faecal sludge management, peri-urban area, rural area

Eugene Appiah-Effah (corresponding author)
Civil Engineering Department,
Kwame Nkrumah University of Science and Technology,
Kumasi, Ghana
E-mail: *appiaheffah@yahoo.com*

Kwabena Biritwum Nyarko
Civil Engineering Department,
Kwame Nkrumah University of Science and Technology,
Kumasi, Ghana

Samuel Fosu Gyasi
Environmental Engineering Department,
University of Energy and Natural Resource,
Sunyani, Ghana

Esi Awuah
Office of the Vice-Chancellor,
University of Energy and Natural Resource,
Sunyani,
Ghana

INTRODUCTION

The challenge of faecal sludge management (FSM) in most developing countries is acute. A large proportion of the thousands of tons of sludge generated daily from onsite sanitation systems is not well managed. The faecal sludge (FS) from unsewered family and public toilets and septic tanks are disposed of untreated indiscriminately into lanes, drainage ditches, onto open urban spaces as well as into inland waters, estuaries and the sea (Montangero & Strauss 2004). This improper practice of FS disposal is a growing environmental and sanitary concern, since many waterborne diseases are transmitted from faeces to humans through water and soil pollution (Kengne *et al.* 2011).

About 85% of the Ghanaian population is served with onsite sanitation systems (EAWAG & SANDEC 2006), including latrines, non-sewered public toilets and septic tanks. The onsite systems accumulate sludge and therefore need regular desludging when full. However, faecal sludge treatment (FST) facilities are not adequate to deal with the large quantities of FS generated from these onsite sanitation systems. Thus, FS are not properly managed. FS from an onsite sanitation system (wet or dry) may be disposed of onsite or offsite (WHO 2006). In Ghana, as is typical of developing countries, the available sanitation facilities are overstretched and FSM is poor (Cofie *et al.* 2003). Only 14% of Ghana's population use improved sanitation facilities with 19% practicing open defecation and 58% using shared facilities (WHO/UNICEF 2012). Sewered excreta disposal systems are rare due to high costs and lack of adequate

doi: 10.2166/washdev.2014.126