



excreta and anal-cleansing materials are added much faster than the decomposition rate, therefore the 'normal' accumulation rates can increase by 50 percent ⁹.

The volume of the pit should be designed to contain at least 1,000L. Typically, the pit is at least 3m deep and around 1m in diameter. If the pit diameter exceeds 1.5m, there is an increased risk of collapse. Depending on usage and how deep they are dug, some pits may last 20 or more years without emptying, but shallow pits that are used by many people every day may require emptying once or twice a year. As a general rule, a pit 3m deep and 1.5m wide that is used by a family of six, will require emptying after about 15 years ³.

As the pit will be reused, it should be lined. Pit lining materials can include brick, rot-resistant timber, concrete, stones, or mortar plastered onto the soil. If the soil is stable (i.e., no presence of sand or gravel deposits or loose organic materials), the whole pit need not be lined. The bottom of the pit should remain unlined to allow for the infiltration of liquids out of the pit.

The water table level and groundwater use should be taken into consideration in order to avoid contaminating drinking water. If groundwater is not used for drinking or alternative cost effective sources can be used, then these options should be explored before assuming that groundwater contamination by pit latrines is a problem.

Where groundwater is used for drinking and to prevent its contamination, the bottom of the pit should be at least 1.5m above the water table ³. In addition, the pit should be installed in areas located down gradient of drinking water sources, and at a minimum horizontal distance of 15m ⁴.

Excreta, cleansing water, flushwater and dry cleansing materials should be the only inputs to this system; other inputs such as menstrual hygiene products and other solid wastes are common and may contribute significantly to pit contents. As this will result in pits filling up more rapidly and make it more difficult to empty, an appropriate container for disposal of these wastes should be provided in the toilet cubicle. (Some greywater in the pit may help degradation, but excessive amounts of greywater may lead to quick filling of the pit and/or excessive leaching.)

Conveyance: As the untreated faecal sludge is full of pathogens, human contact and direct agricultural application should be avoided. Instead, the emptied sludge should be transported to a faecal sludge treat

surface water bodies, while squat-hole covers or lids can reduce disease transmission by preventing disease carrying vectors from entering and leaving the pit ^{2,3}.

Any leachate permeates from the pit into the surrounding soil and pathogens contained in the liquid are filtered out, adsorbed onto particles, or die off during their slow travel through soil ^{2,3}.

Conveyance: The conveyance step removes the pathogen hazard from the neighbourhood or local community. To do this safely, emptying and transport workers require personal protective equipment as well as standard operating procedures. For instance, the wearing of boots, gloves, masks and clothing that cover the whole body is essential, as well as washing facilities and good hygiene practices. The emptiers should not enter a pit but use long handled shovels to remove