ACHIEVING SAFE ON-SITE SANITATION IN RURAL AREAS

DISCUSSION CARDS

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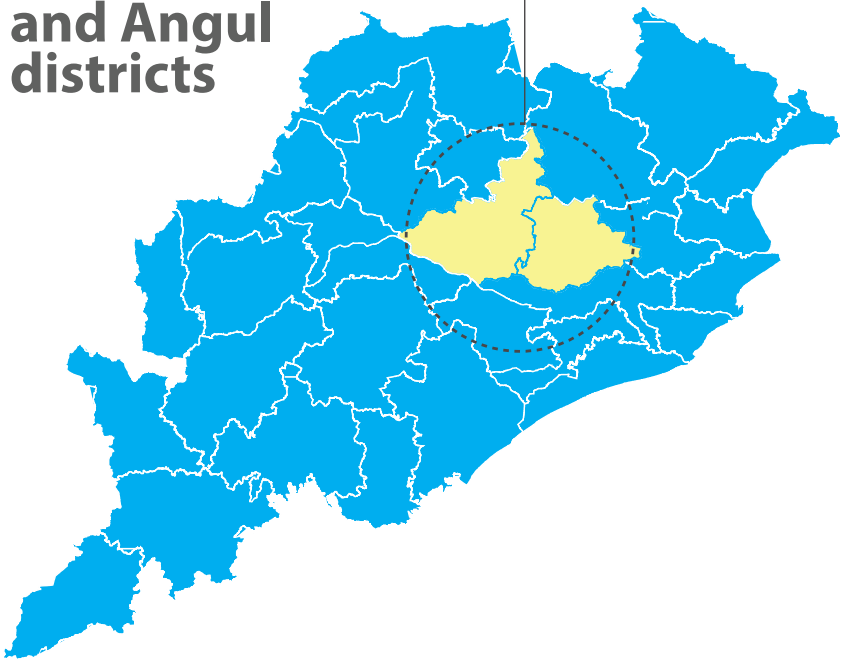
Dhenkanal and Angul districts



Dhenkanal and Angul districts in Odisha have made tremendous progress in eliminating open defecation under the first phase of the Swachh Bharat Mission – Gramin (SBM-G). Rural households in Dhenkanal and Angul districts primarily depend on on-site sanitation systems like septic tanks and leaching pits to manage household wastewater. Proper design and maintenance of these systems that account for context-specific challenges, such as high groundwater table, is fundamental to achieving safe sanitation. Accordingly, this set of Discussion Cards has been designed as a handy aid for Swacchagrahis, community leaders and mobilisers, and Gram Panchayat (GP) representatives in educating households about the proper design and maintenance of on-site sanitation systems for achieving a Swaccha Odisha, Sustha Odisha.

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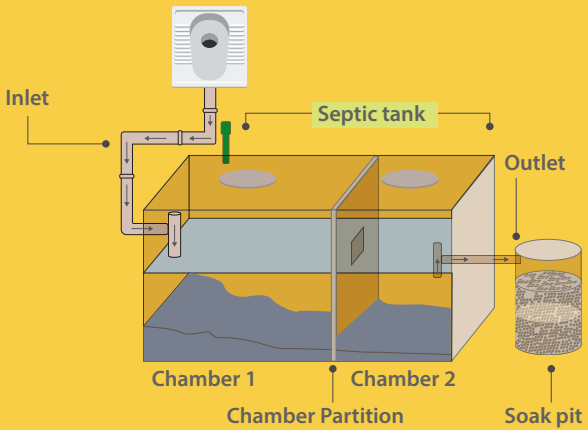
INTRODUCTION TO ON-SITE SANITATION SYSTEMS

On–Site System: A sanitation system in which excreta and wastewater are collected, stored and/or treated on the plot where they are generated. On-site sanitation systems are adopted in the areas that are not served by piped sewer systems. Septic tanks and Leaching pits are common types of on-site sanitation systems.

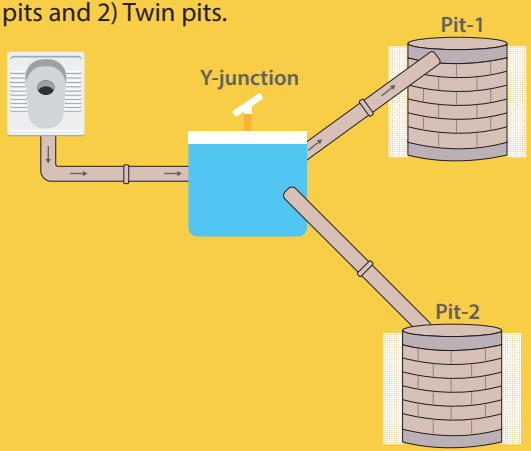
a) Septic Tank

A septic tank system is a typical on-site sanitation system that consists of a septic tank and a soak pit and employs two processes: the first is anaerobic treatment and the second is naturally-occuring remediation of effluent in the subsurface.

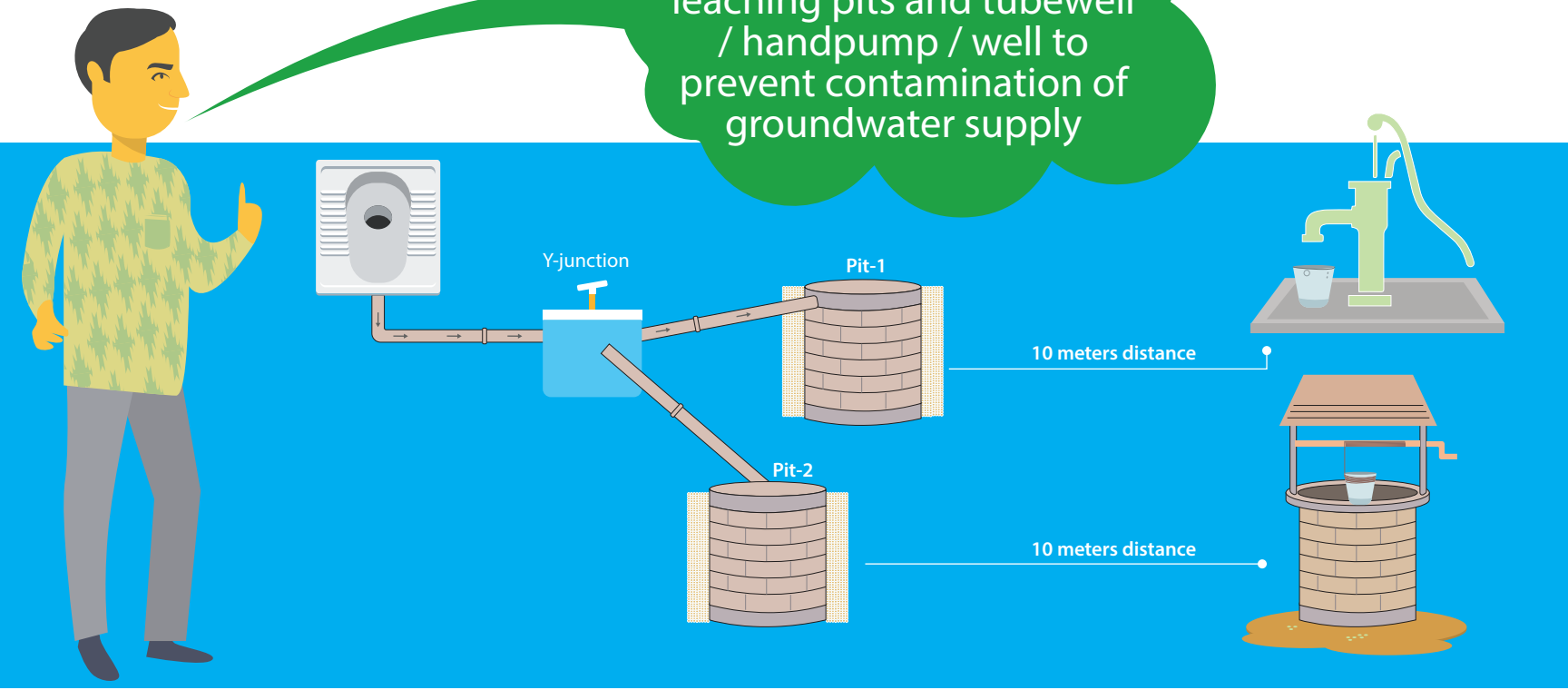


b) Leaching pits

An on-site sanitation system that consists of underground pits into which excreta and wastewater will be discharged. Leach pits serve a dual function of (a) storage and digestion of excreted solids and b) infiltration of the waste liquids. There are two kinds of leaching pits: 1) Single pits and 2) Twin pits.



Maintain the appropriate distance between the leaching pits and tubewell / handpump / well to prevent contamination of groundwater supply



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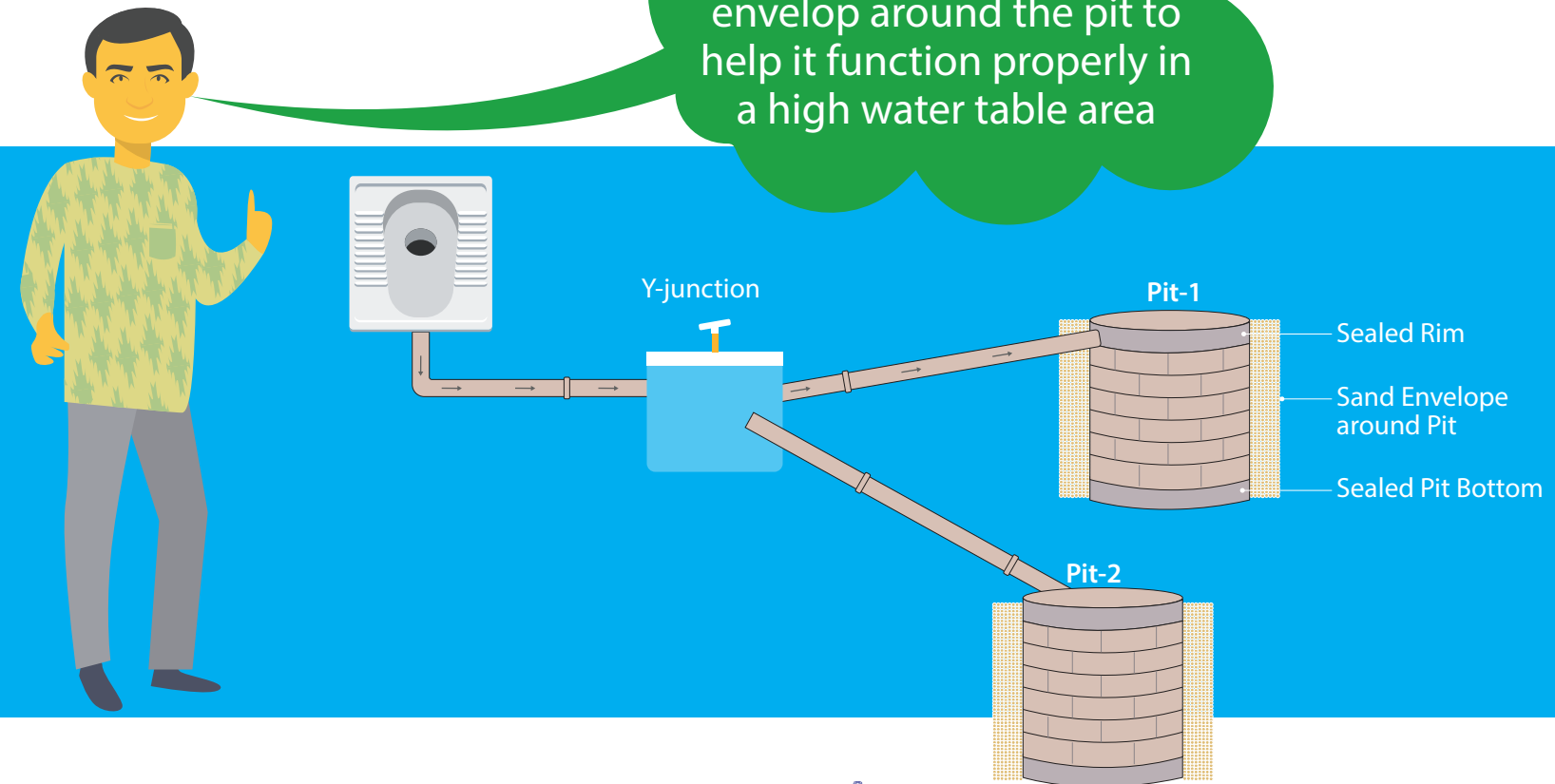
Seal the pit bottom and rims and build a sand envelop around the pit to help it function properly in a high water table area



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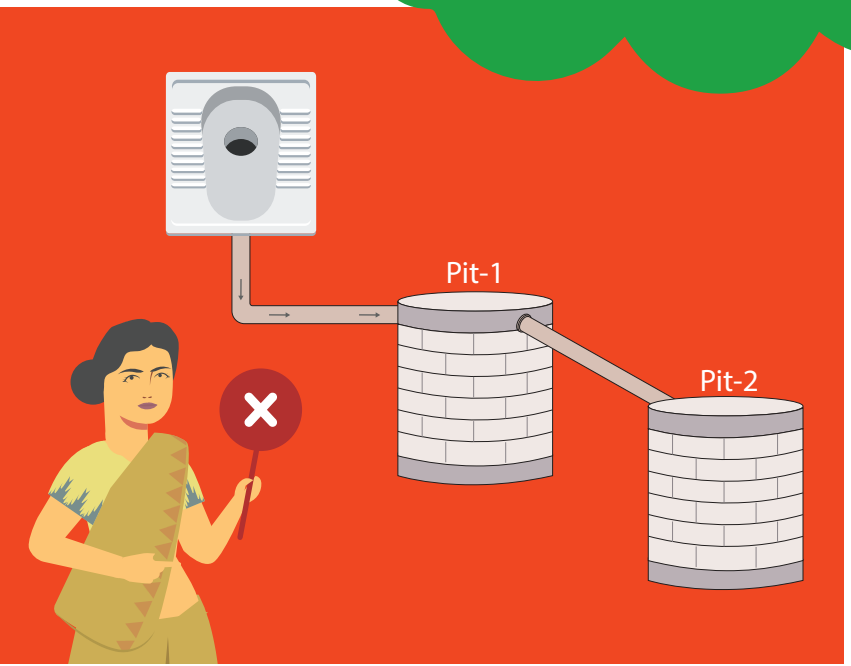
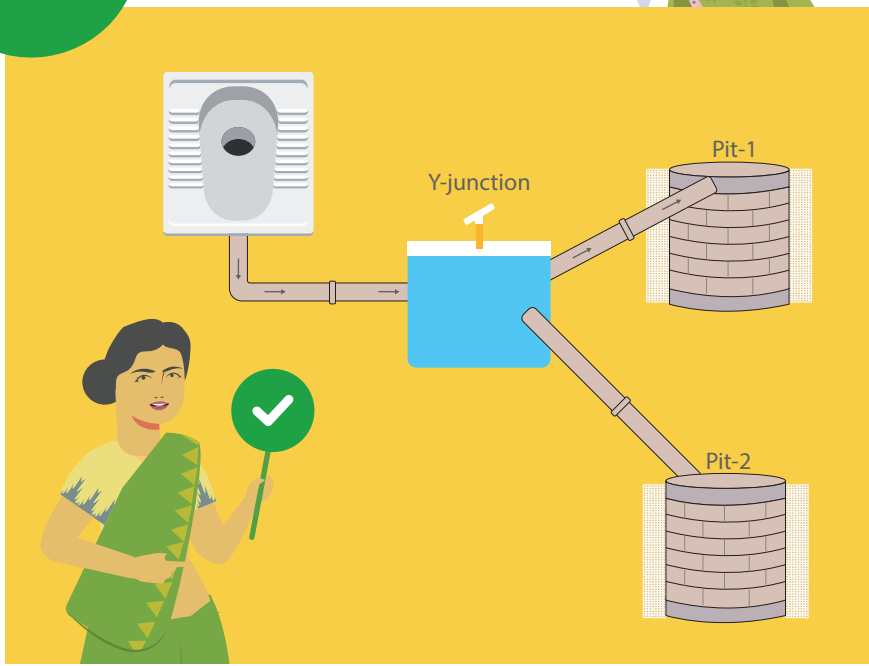
A Y-junction allows switching between the two pits and is very important for proper functioning of twin pits





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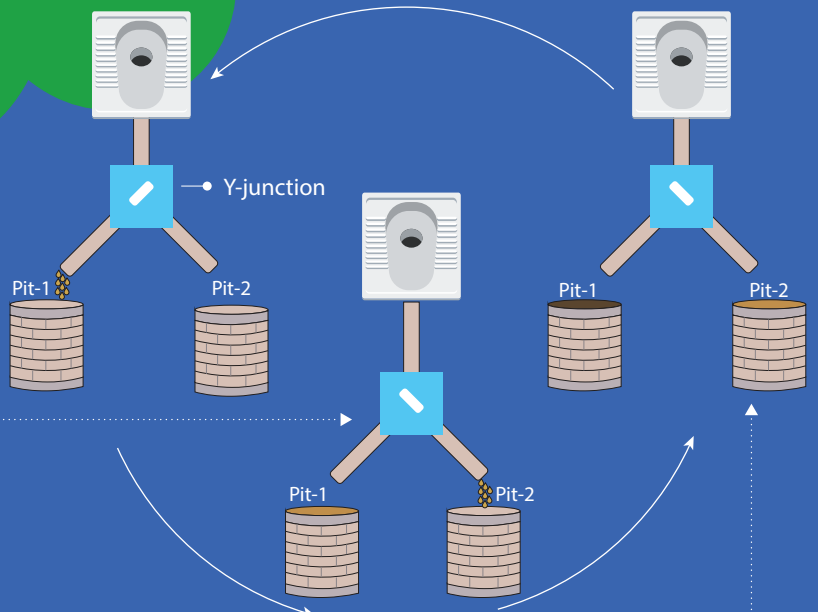
Once one of the pits has filled up, allow the sludge to dry for two or more years and use the Y-junction to switch to the second pit

1. At the beginning, wastewater goes into the first pit

2. Leave the first pit undisturbed when it fills up and use Y-junction to switch to second pit

3. Once second pit fills up too, empty first pit and switch back to it. Dried sludge emptied from first pit can be used as soil conditioner



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Single pits which have not been converted to twin pit need to be mechanicallly desludged once in three years or as they fill up.

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Decomposed matter from the twin pits can be used as manure

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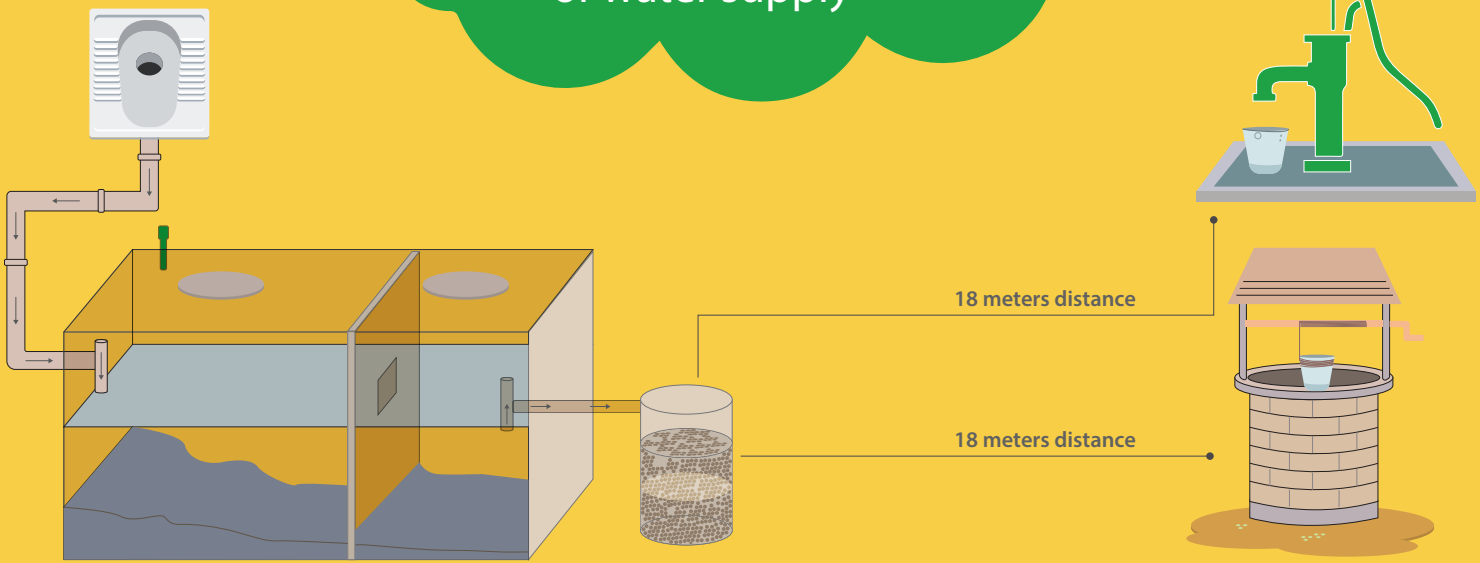
Maintain a distance of 18 metres between the septic tank system and any groundwater sources to prevent contamination of water supply



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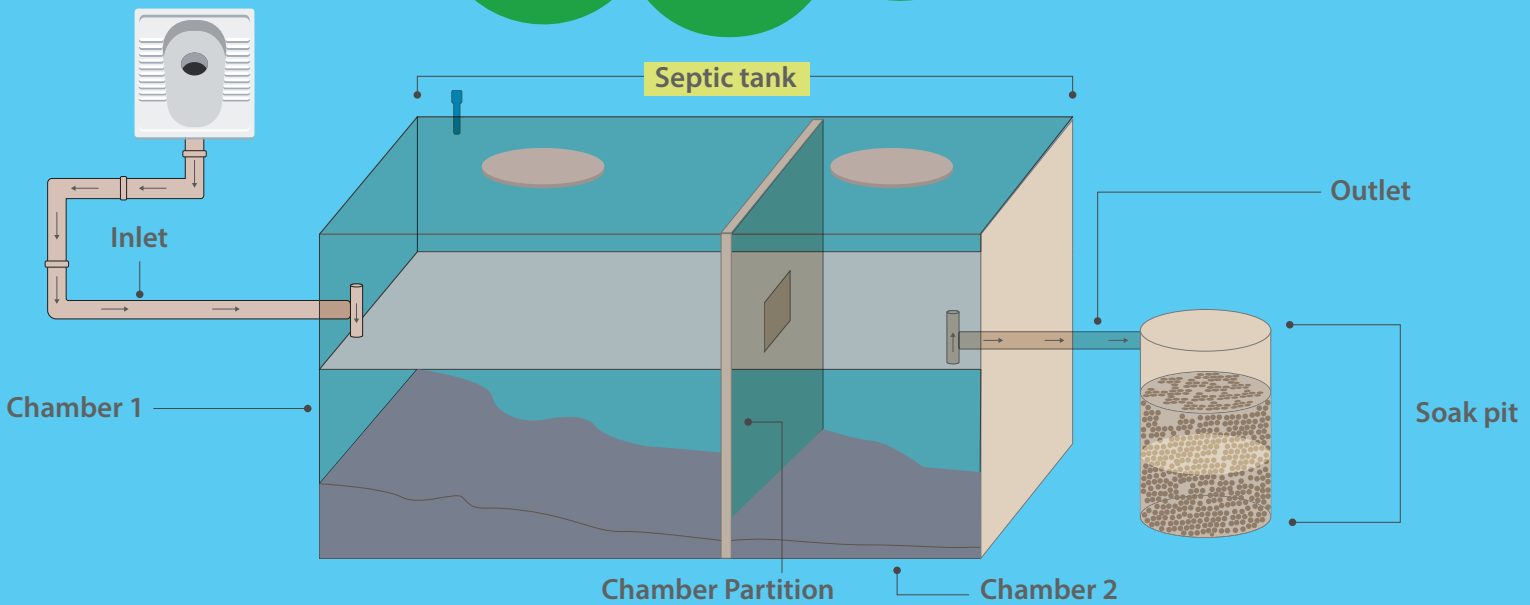
Construct two or more chambers for septic tanks larger than 2,000 liters to ensure proper wastewater treatment



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Providing proper access lids for pits and each chamber of septic tank allows for smooth and hygenic desludging operations

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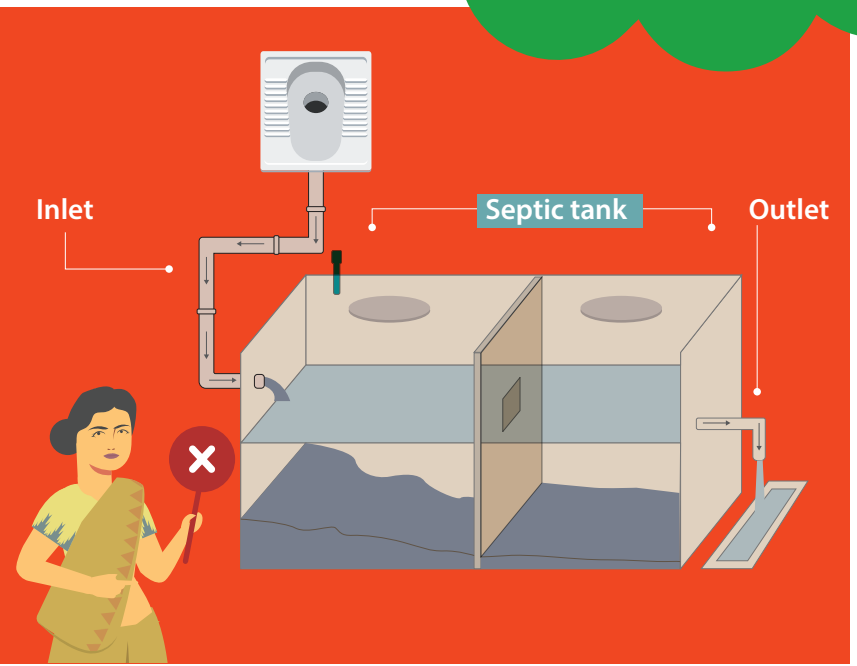
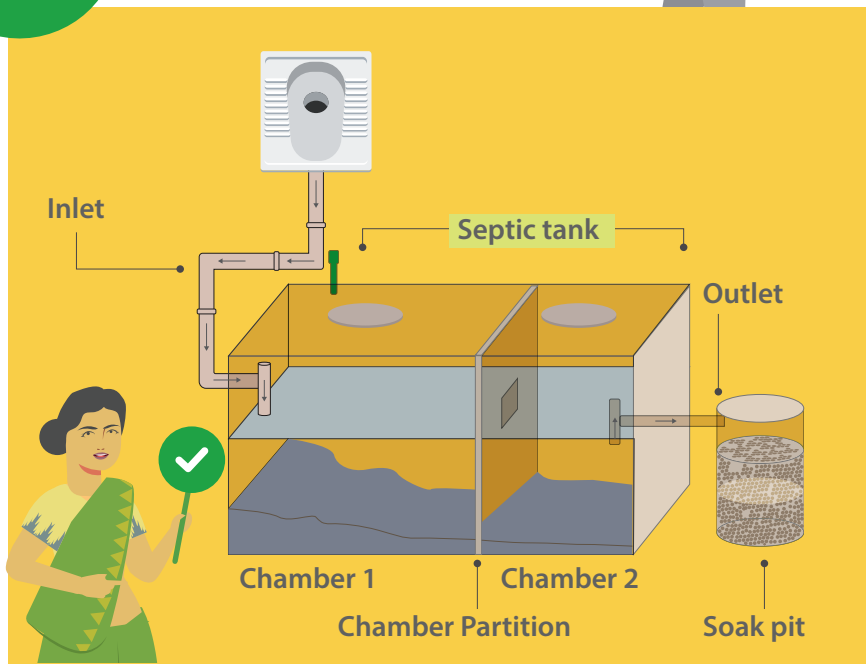
Do not discharge effluent from septic tank into the open - use a soak pit for disposing it safely





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Call the Public/Private desludging operators to safely and mechanically empty your septic tanks and leaching pits

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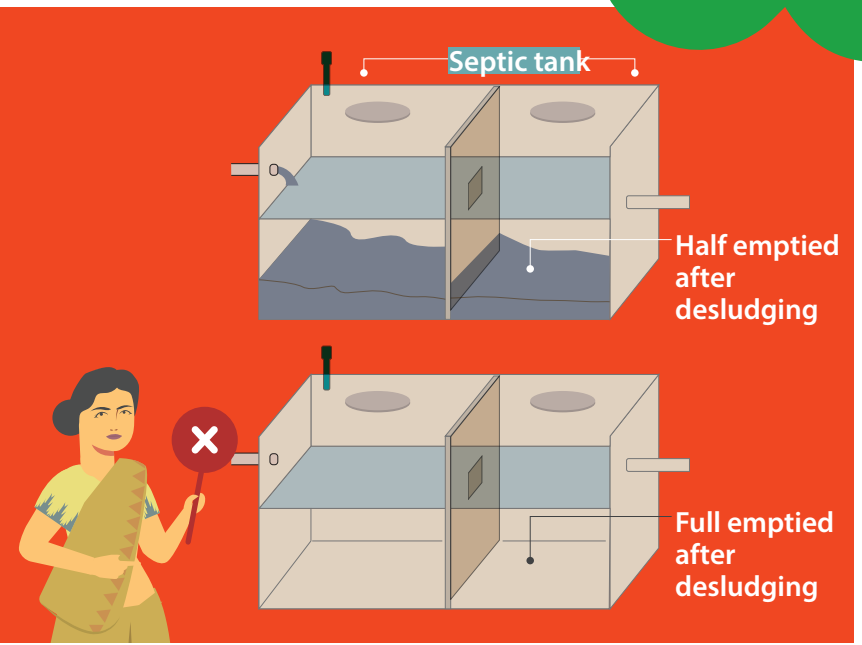
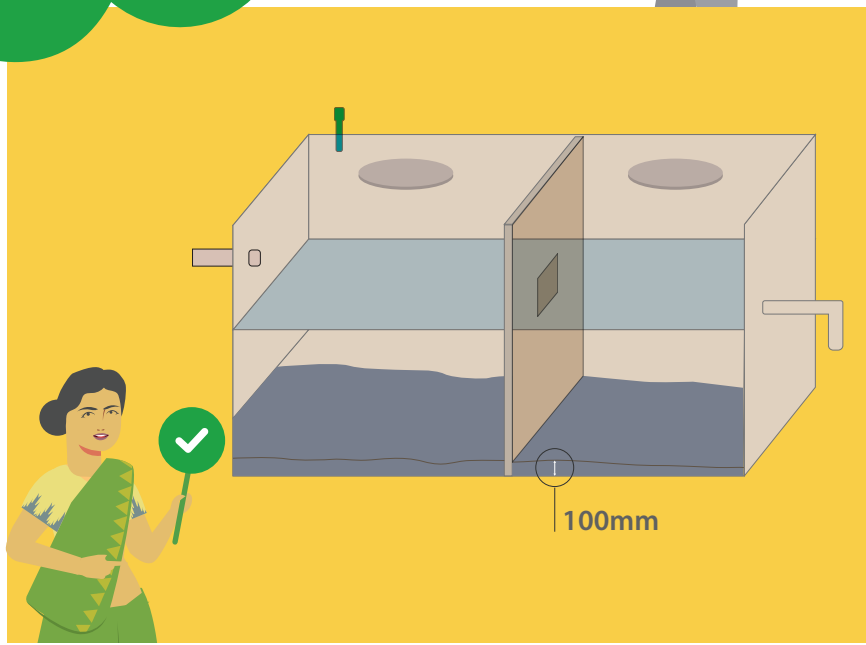
Septic tanks post desludging should have 100 mm sludge left behind to act as decomposition seed for next batch





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Faecal sludge collected from on-site sanitation systems needs to be disposed at the proper treatment facility

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The Solid and Liquid Waste Management Project aims to achieve district-wide sanitation through leveraging the available urban Faecal Sludge Treatment Plant (FSTP) for safely managing faecal sludge generated in the neighbouring Gram Panchayats (GPs) and demonstrating a greenfield solid and liquid waste management system for a cluster of Gram Panchayats in the district.

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