

Introduction of the TAISEI Soil System (TSS)

OEC Original Engineering Consultants Co., Ltd.

1. Background



【Figure: Leakage of untreated wastewater from Septic Tank and Soak Pit】

【Table : Causes of death in India】

Rank	Cause of Death	Male	Female	All person
1	Perinatal conditions	36.9	29.2	33.1
2	Respiratory infections	20.7	23.3	22.0
3	Diarrheal diseases	12.3	15.3	13.8
4	Other infectious and parasitic disease	9.8	11.2	10.5
5	Symptoms signs and ill-defined conditions	3.5	3.4	3.4
6	Unintentional injuries	3.4	2.9	3.2
7	Nutritional deficiency	2.4	3.2	2.8
8	Malaria	2.4	3.0	2.7
9	Congenital anomalies	3.0	2.3	2.7
10	Fever of unknown origin	1.5	1.6	1.5

2. Proposed technology

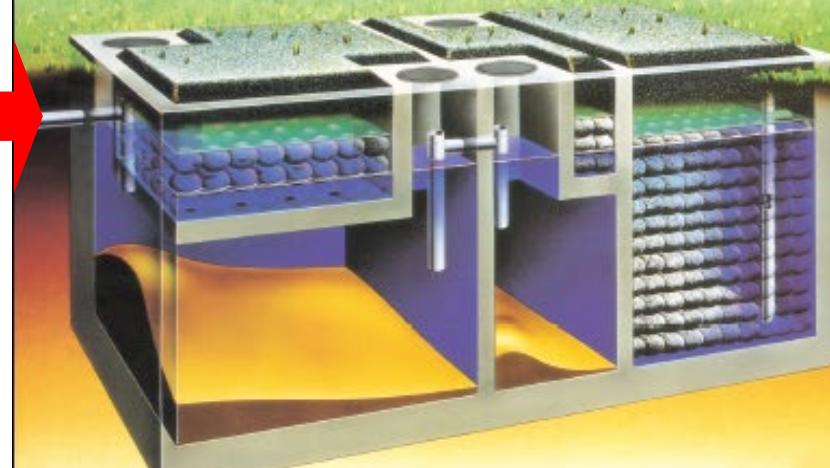
Toilet

Septic tank

Soil Absorption Field

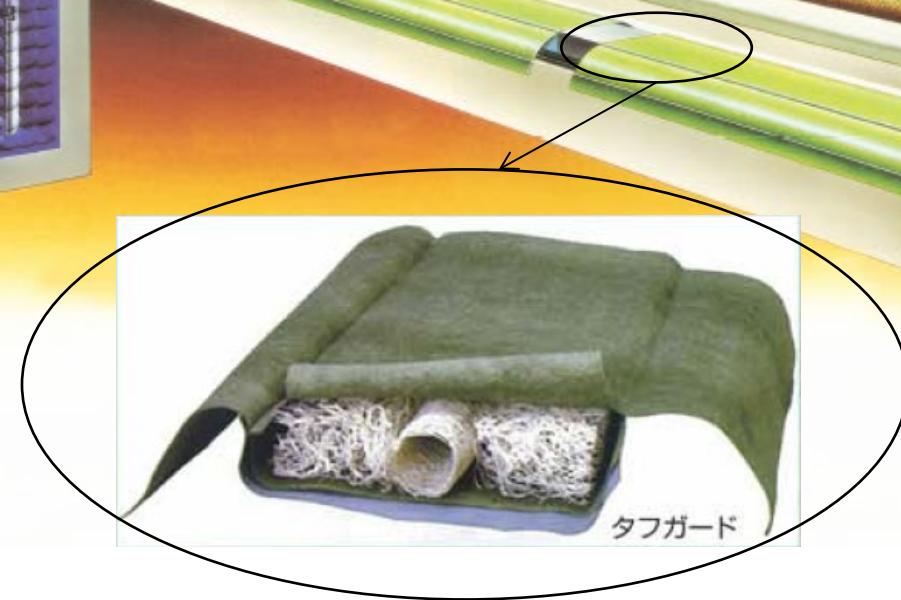
Vegetable and flower bed

Inspection tank



Features of the system

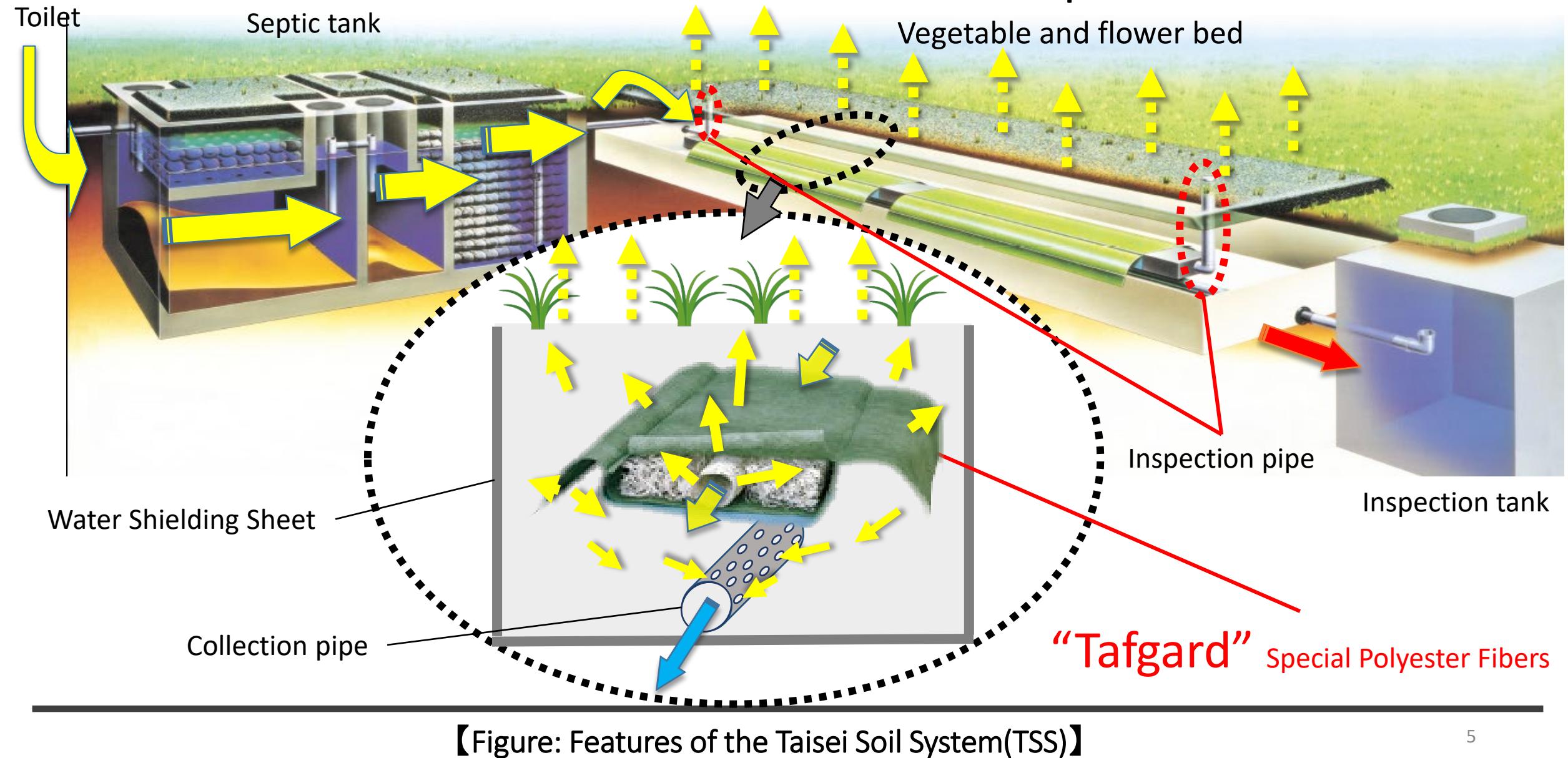
- 1) Little to no discharge
- 2) Little to no electricity use
- 3) High treatment capacity
- 4) Low cost and easy maintenance
- 5) Flower planting space available
- 6) Certified by the Japanese MOE



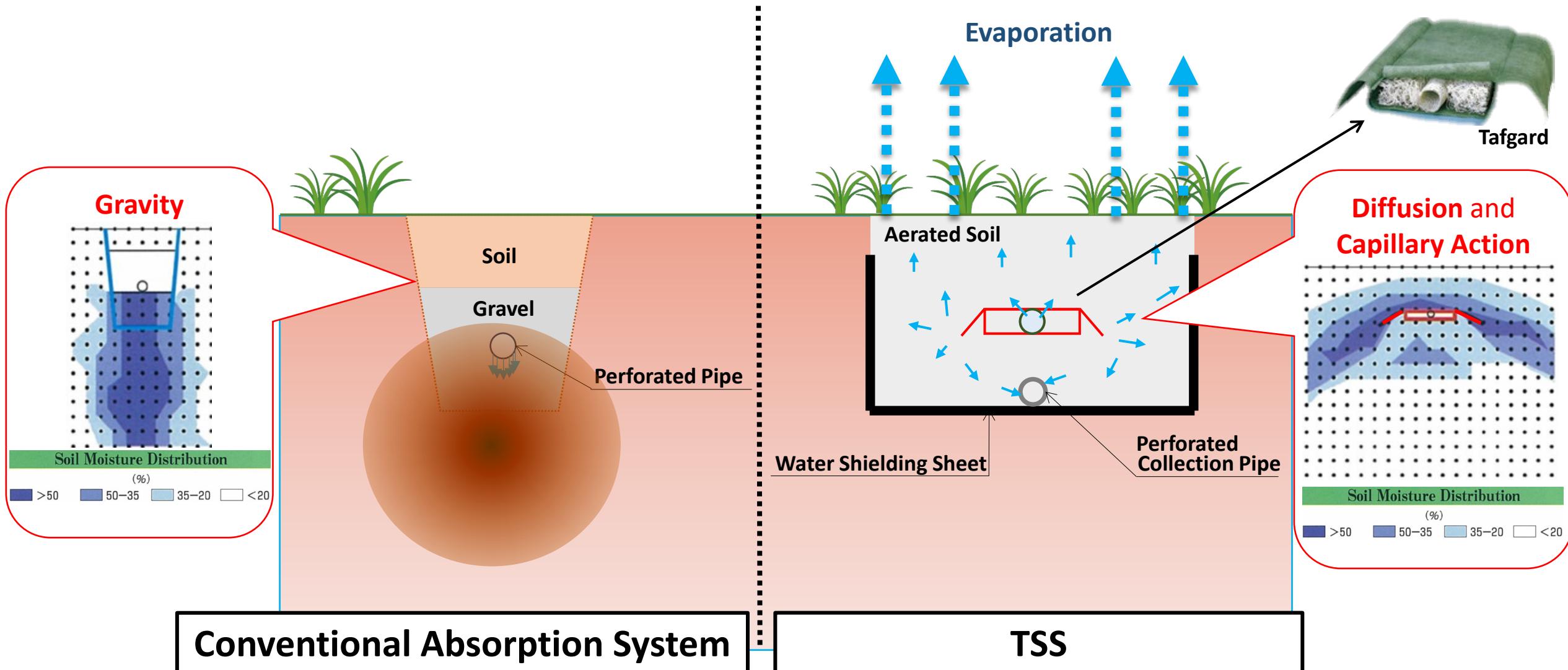
“Tafgard” Special Polyester Fibers

【Figure: Features of the Taisei Soil System (TSS)】

2. Proposed technology

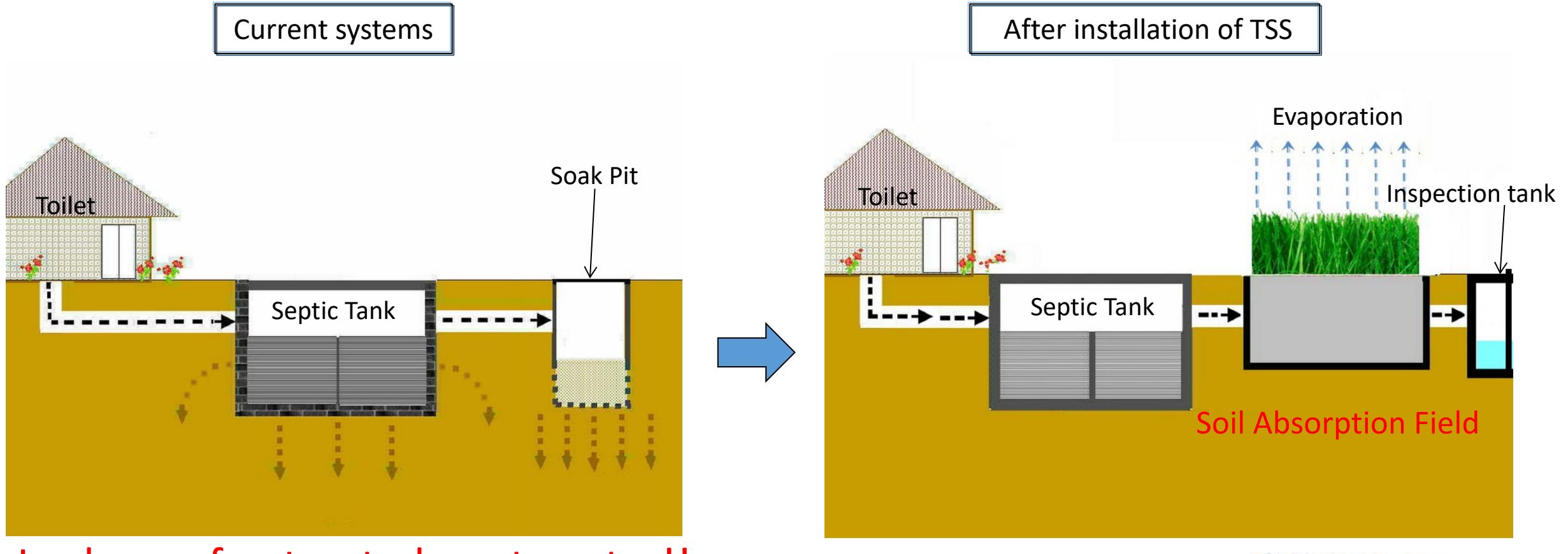


2. Proposed technology



【Figure: Comparison of a conventional absorption system and TSS】

2. Proposed technology



Leakage of untreated wastewater!!

【Figure: Effects of TSS】



2. Proposed technology

【Table: Comparative analysis of various treatment methods】

	Best condition	Pit Latrine	Septic tank and soak pit	Taisei Soil System	Joukasou	Pipe line and waste water treatment plant
		Conventional Technology			Contemporary Technology	
Initial cost	Low cost is best	◎	○	○	△	×
Maintenance cost	Low cost is best	◎	○	○	△	×
Treatment capacity	High capacity is best	×	×	◎	◎	◎
Evaluation		×	×	◎	○	△

◎Best ○Good △No Good ×Bad



3. Case Study

- Primary School Toilet



- Public Toilet



7. Case Study: Pay-for-use Public Toilets in Solomon Islands

Sunday Star, Sunday 18 December 2016

【Local newspaper】

www.star Solomon Islands.com

news

The cleanest public toilet

URLEY SIMUA

The public toilet built and opened last year by the Honiara City Council in the capital Honiara is now a public building of choice where it comes to nature's call.

Built by the Honiara City Council, the user-fee toilet is open from Monday to Friday, 7am to 6pm, and costs 50 cents each visit.

Mary Ombala, who looks after the toilet, has seen the increasing number of people using the facilities since it was opened to the public.

"We saw more people coming to use the facility since it was opened last year," Ombala said.

"In a day, we would record

up to 60 people," she added.

The facility also includes water and shower facilities.

Those who use the facilities are charged 50 cents which contributes an additional 50 cents.

There have been mixed feelings about the new toilet.

As part of the campaign to ensure customers use the facility, Ombala and her team cleaned up the toilet and shower facilities daily.

Cleanliness and hygiene are very much part of the service we provide here," she said.

To ensure customers enjoy the service, we clean the facility at least three times daily, and open water is available 24 hours a day.

"This is why we need to let our users pay for the service to work well for them," Ombala said.

"The more people we have to charge their outlays will need to

Guarantee more clean facilities for Honiara residents to service people."

Ombala said that daily income varies but on average they receive 50 cents.

She said that the majority of users are tourists from other islands.

There are 6000 who used the facility recently.

A toilet is a place that you go in, sit down and do your business. When it is clean and hygienic, you'll naturally want to use it more often.

"But when it is dirty and in a mess, you would not like to sit down in there."

"This is why we need to let our users pay for the service to work well for them," Ombala said.

A view of the Honiara City Council's new toilet site.

Guarantees clean facilities for Honiara residents to service people."

A toilet is a place that you go in, sit down and do your business. When it is clean and hygienic, you'll naturally want to use it more often without hesitating and hesitating.

It does not discharge any water from the system, so it will not contaminate the environment.

There is also a unique feature about the toilet.

It features a waste treatment system called T300.

Unlocked and turned by the respective governments.

T300 (Treated Solid System) turning dirty water into clean.

The T300 tank system

once installed.



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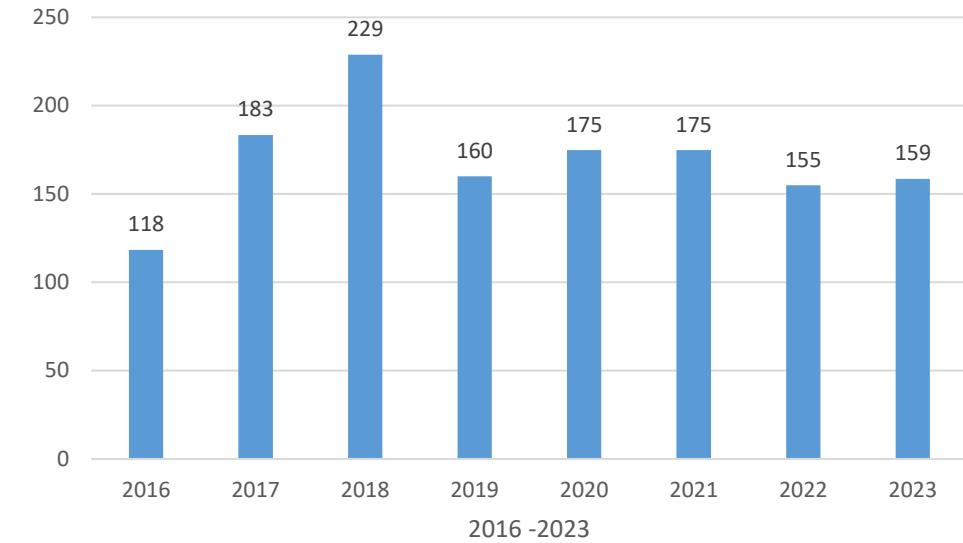
T300 (Treated Solid System) turning dirty water into clean.

The T300 tank system

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Average Number of Daily Users



For more information, please contact:

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