



Safe Water Gardens

Clean. Affordable. Essential.

Be part of a US\$ 5B plan
to bring

Safe Water & Sanitation

to all Indonesian villages by 2027

(and to villages worldwide by 2030)

Developing Asia –viewed through tourists' eyes





village
sanitation
reality,
seen
through
locals'
eyes



Safe Water Gardens
Clean. Affordable. Essential.



Leading to the
**death of
370
Indonesian children
every day**




and almost 1 million children worldwide, every year ...

Your involvement will put a stop to this

The issue – in global context

- 949 million people in rural areas practice open defecation¹ ; more than 1 in 3 people worldwide lack sanitation, and even more lack *good quality* sanitation²
- Village domestic wastewater is typically discharged untreated in the environment

Consequences

- **Medical impact:** 50% of death for children <5 years are sanitation-related illnesses: diarrhoea & typhoid
 - 1 million children die every year from diarrhoea alone; 370 children every day in Indonesia
 - 25% of children worldwide <5yrs suffer *stunted growth* (connected to diarrhoea), 37% in Indonesia
 - **Social impact:** Lack of WASH (Water, Sanitation, Hygiene) in villages is the key source of rural-urban inequality, and a key driver behind the ongoing exodus to the cities
- 
- Profound suppression of self-esteem
 - **Economic impact:** In Indonesia, the cost of inadequate sanitation is estimated at US\$6.3bn or 2.4% of GDP
 - **Global environment impact,** as a result of nutrient release into rivers and oceans



Central to the (national) SDGs

Food security & sanitation are Indonesia's 1st & 3rd national priority

in recognition of their profound
impact on society and sustainability
(housing is the 2nd national priority)

The **Safe Water Garden** addresses
both head-on.

More generally, it supports 11 UN
SDGs, and it critically supports
UN SDG #2, #3, #6, #10, #12



Why we care

- Two teachers –Marc van **Loo** and Isabelle **La**coste– fell in love with Indonesia and created **LooLa** Adventure Resort, in the year 2000.
- Self-funded, LooLa is fully run by local village people, **who made LooLa the world's most highly awarded eco resort.**
- LooLa educates and entertains its guests through adventure, ecology and community programs.

A call to sanitation action

- In 2014, the 1-year old daughter of LooLa's cook died. The reason: inadequate sanitation at her home.
- This tragic event propelled us into action: LooLa's school guests started building sanitation systems; company and family guests joined in.



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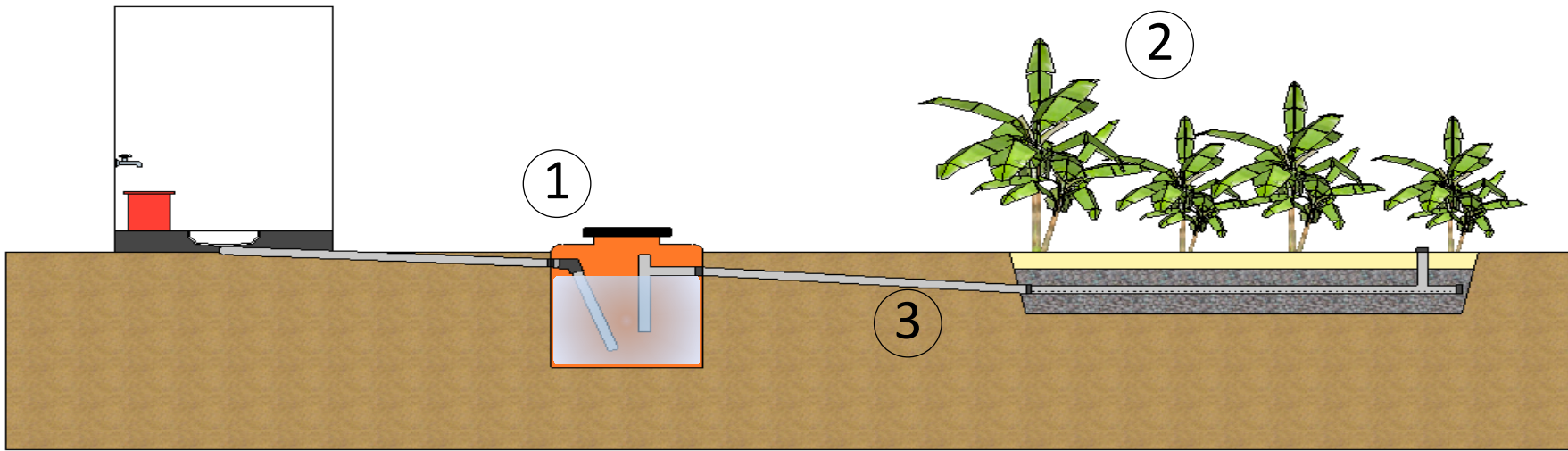
- Hundreds of systems were built; world-class scientists and passionate individuals added their expertise.
- Governments and MNCs joined in with funding.
- So this is us now: heading a big and growing energetic coalition united by a common aim: **a safe sanitation system for every home**

The solution: Safe Water Gardens

A **Safe Water Garden (SWG)** is a simple scalable sewage treatment system developed from an original UNICEF concept. It suits individual households and community centers like rural schools.

Main components per SWG:

1. A closed plastic 500 ltr tank (the liquefier) connected to the toilet & the shower/laundry (filled up with water to overflow point)
2. A 2 x 3 x 0.5 m leach field (garden) (where the fully liquefied wastewater is safely released underground)
3. A system of pipes connecting the parts
4. A separate kitchen sink with a separate small leach field ⁽¹⁾



⁽¹⁾ Without a kitchen sink, many villagers do their dishes in the toilet/shower room. But oily kitchen wastewater would lead to worms & maggots in the tank – which seize up the system. To avoid this, a separate kitchen sink is a key component of the SWG



Part 4 of the SWG: a **kitchen sink** ... so that villagers no longer (need to) do dishes in the toilet

Designed through Research

Built on well-established science promoted by UNICEF, the Safe Water Garden's design and social engagement model is the result of a 2-year research programme, carried out collaboratively by the partners below and funded by a research grant from the Dutch government (Nuffic).



Indonesia's oldest and largest institution of higher education, comprising 18 faculties, 27 research centers, 55,000 students and 2,500 faculty members



A top-ranked European research university, the TU/e received a research grant from the Dutch government to support the SWG project



Leading University in Singapore, its Environmental Research Institute (NERI) conducts R&D on (waste)water infrastructure needs in Singapore and the region

- The research covered :**
- Water quality, soil fertility, biological and botanical performance
 - Design alternatives and cost optimisation
 - Social engagement, user behaviour & user satisfaction

Government-approved

making the SWG officially the world's most cost-efficient sanitation system

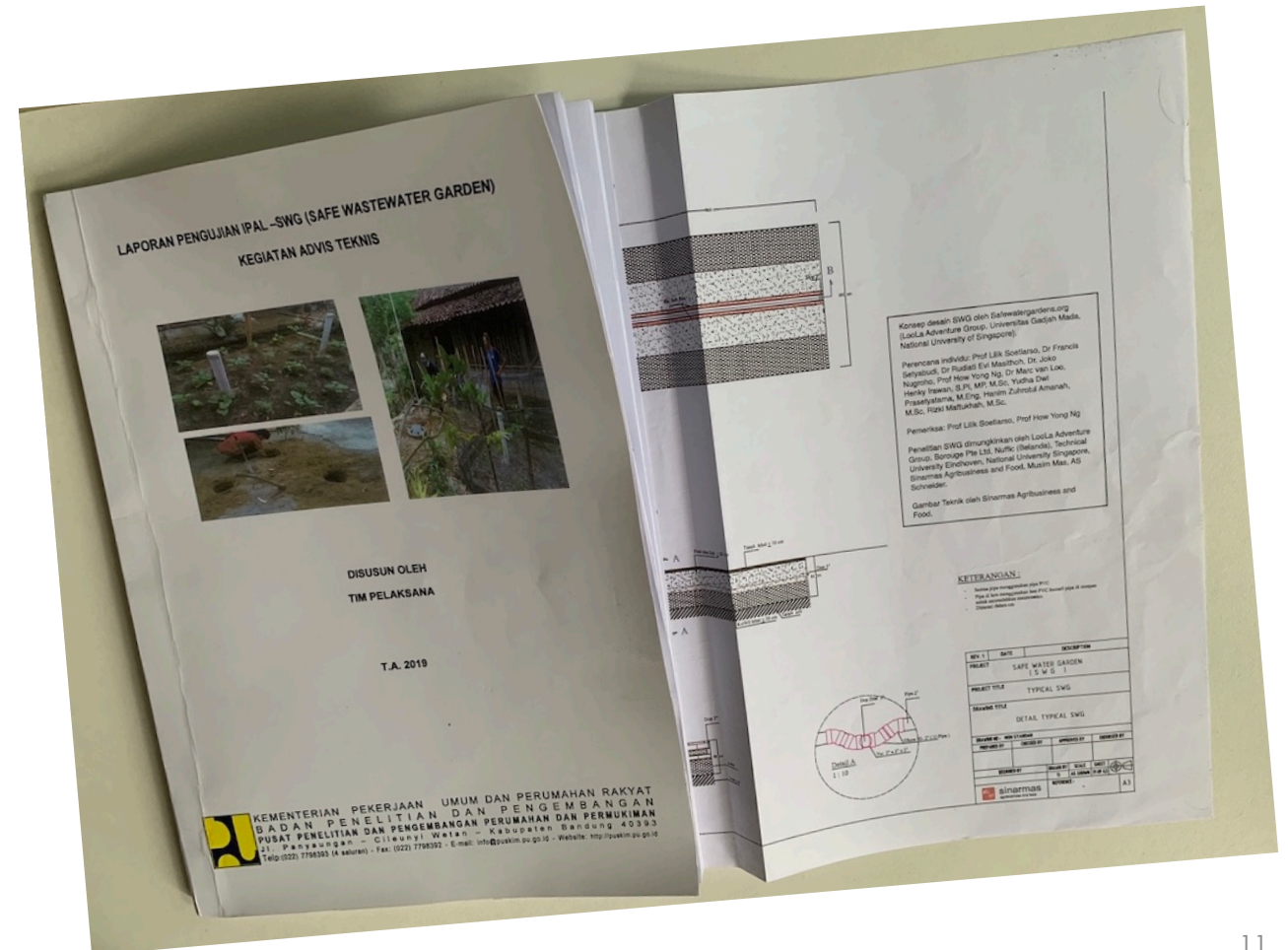
In 2019, the Indonesian Standards Board officially designated the Safe Water Garden fit for use for up to 10 households (per SWG).

<https://safewatergardens.org/cost-efficiency>

How do we know the SWG is the world's most cost-efficient sanitation system?

It is generally accepted in global sanitation science that a good autonomous sanitation system must feature at least a 2-stage process (a tank and a leach field).

The SWG was the result of research efforts to minimize the cost of such a 2-stage system while delivering all desired outcomes.



Already successful in many places



in collaboration with Partners

MNC Supporters



Deployment



Government: standards board

R&D partners

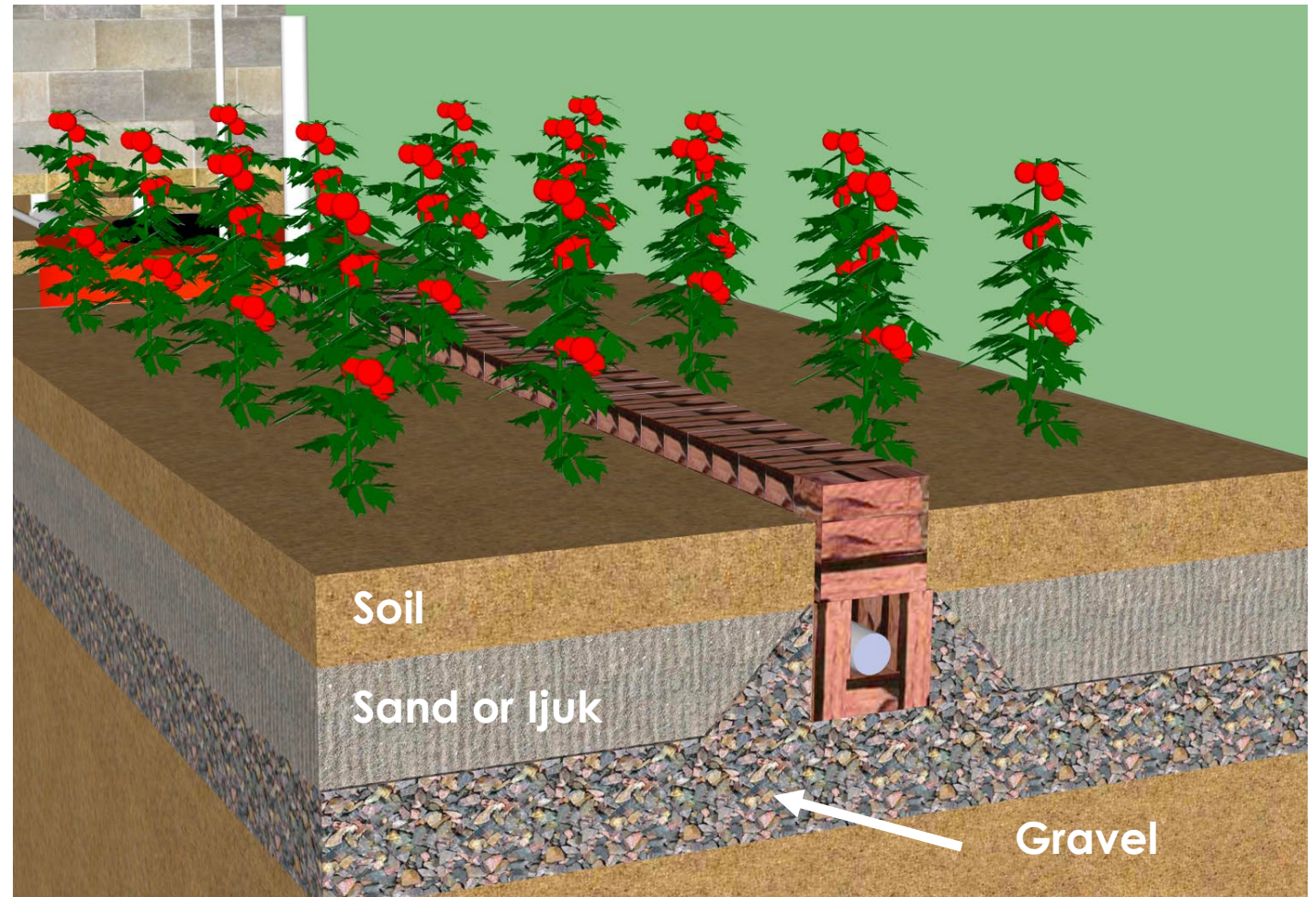
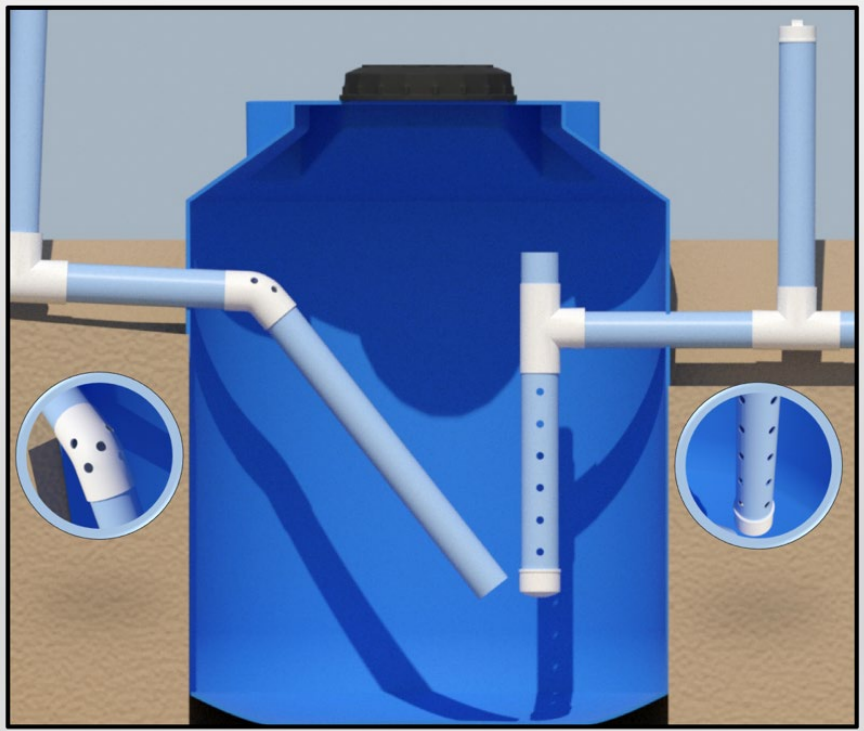


Early supporters



SWG in AutoCAD & Sketchup

With thanks to Shell Better World and our university partners, we have detailed and easy-to-read 3D drawings and animations



Key Benefits of Safe Water Gardens

Prevents diseases that originate from polluted surface water

- Direct prevention: children are no longer in contact with polluted surface water
- Indirect prevention: fewer flies and rodents carry diseases near households

Improves social status

- The houses no longer smell, have fewer insect and they feature a beautiful garden

Improves life quality

- When used properly, the system is entirely maintenance-free
- With the lethal water puddles of slide 3 gone, children can now safely play outside the house
- Enhances spiritual well-being since a clean environment speaks to religious beliefs

Contributes to food production and to the household/national economy

- Year-round growth of crop or spices in the gardens, which can be sold or consumed
- Fewer sick days, leading to lower medical bills and increased number of working days
- 10-15% household annual income saved through the above

Positive impact on the environment

- Fully water-circular; recycles pre-existing village plastic waste into sanitation parts (see next page); nutrients no longer pollute rivers and seas

Highly affordable and promotes local ownership

- The SWG is the world's cheapest sanitation system, with further savings possible if construction takes place at scale
- Fully affordable to local communities, and local people can assume full ownership
- The SWG is very easy & fast to build and requires no special construction skills

Supports 11 United Nations



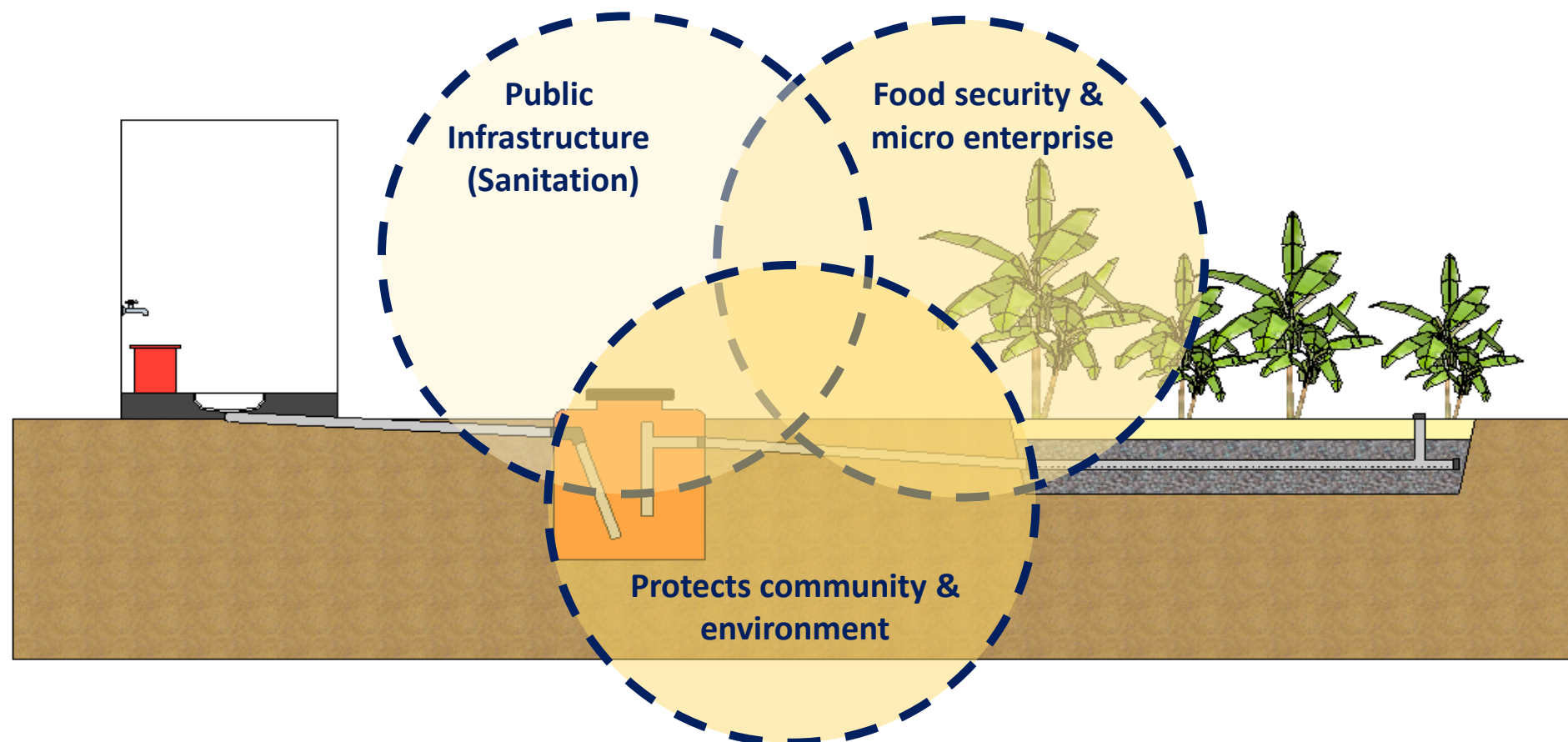
thus illustrating the key role of sanitation⁽¹⁾

⁽¹⁾ Sanitation is Indonesia's third national priority –right after food security and housing– in recognition of its profound impact on society and sustainability



a sanitation system – and more

- The SWG recycles pre-existing village waste plastic into sanitation parts
- It is fully water-circular: well water is recycled clean back into the soil, feeding crops in the process
- It is a catalyst for micro-farming and carbon absorption



Safe Water Bricks – turning waste to sanitation



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The SWG recycles all village (plastic) waste while boosting the local economy:
Villagers can monetize the communal waste by storing it in **Safe Water Bricks (SWBs)**, providing a superb avenue to recycle village waste into sanitation systems.

The SWG uses around 200 stone bricks to protect the leach pipe → We can use **Safe Water Bricks (SWB)** instead!

The **SWBs** used in the leach field must not float, so they're weighed down with sand ←



a Food Engine & a catalyst for Food Security

The SWG addresses two key national priorities

Indonesia's top 3 national priorities are:

- 1) Food security ☒ (see details below)
- 2) Housing
- 3) Sanitation ☒ (the SWG is a sanitation system)

The SWG provides families with chilli

Next to rice, chilli is Indonesia's second most important food ingredient, as it is needed to give flavour to rice. But unlike rice, the price of chili is not controlled by the government, and the fluctuations (between US\$ 2 – 7 per kilo) can lead to despair for poor families. Village families can use their SWG to produce chilli and become self-sufficient for chilli consumption.

The SWG is a catalyst towards further micro-farming

The success with chilli inspires families to try extended micro-farming.





Villagers can achieve food independence through their new (waste)water systems:

Chili (in the SWG alone) can lead to 20% savings on household costs ...

while crops in the rest of the garden could increase household income by > 50% !

Promoting Climate change

Save > 50 mtn CO2 annually

As villagers start organic micro-farming to secure healthy food for themselves, they will absorb over 30 Mega tonnes (mtn) carbon every year.

Another 30 mtn of carbon will be saved because there is no longer any need to rebuild the traditional dysfunctional concrete septic tanks every 10 years.



Building it is easy



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Starting with discussions with local home-owners, even school children can build a SWG!



Photo by Rabobank

Students & companies off the first SWGs, and we continue ...



... empowering local families to build their own SWGs

Extending the project to WaSH

WaSH (Water, Sanitation, Hygiene)

It is easy to widen the project to include all of WaSH

The presence of water is not an issue in tropical villages; *good sanitation is the problem*. Doing the SWG projects, we discovered that it is easy and cheap to provide running water + clean drinking water at the same time – and thus complete the WaSH revolution for families: villagers need a bit of assistance to build an SWG, but they all know how to build a water tower.

Running water

All you need for running water is a simple water tower (see next page), a small pump and some pipes to the water source. Every Indonesian family knows how to build such systems themselves, and the systems lend themselves very well to sharing, which make them highly affordable.

Having a running water system saves the average family around 2 hours of work every day (taking water manually from the well); it enables them to start growing crops (using a garden hose that can be attached to the tower); and it enables hand-washing and COVID hygiene!

Nazava clean water filter

This ceramic filter delivers W.H.O approved quality water (from *any* input source), and it is so simple and so affordable that it makes complete sense to add it in.

When people receive training to build their own SWGs, for typically less than 50% additional material costs one can *also* deliver complete WaSH systems.



Our WaSH projects include a Nazava water filter – delivering the cleanest drinking water in Indonesia.

They also deliver running water via simple water towers – which enables crop growing and COVID hygiene.

Sustainable rural communities



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With WaSH facilities comes healthy food and local agri-tourism

WaSH facilities boost self esteem, environmental awareness, village beautification (regular re-paint and flowers) and healthy home-grown food. This, in turn, fuels a national target: Local agri-tourism, featuring beautiful homestays and delicious home-cooking based on local food, providing a high-quality sustainable future for village communities.



Vision and mission

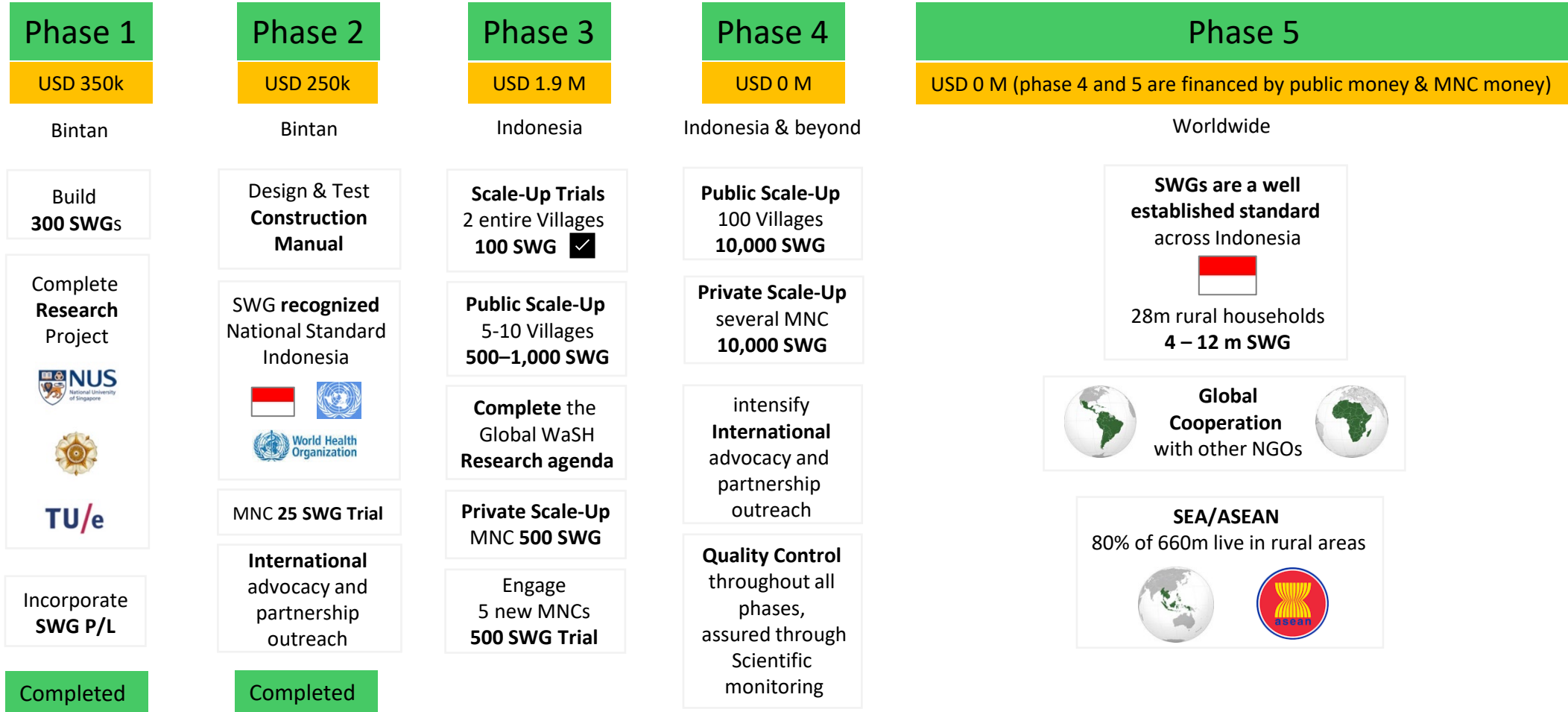
Safe WaSH for every village home by 2030

With your US\$2m support, you will ignite a US\$5B rural revolution

- WaSH is what village people want and need
- Pilot villages will demo local capacity & financial feasibility
 - igniting an organic national and then a global rollout,
 - lifting up 120 million, then 2.3 billion people

Vision Timeline & funding

Funds already raised/still needed



Note: COVID delayed phase 3 - 5 by 1.5 years

Vision Timeline – the stage is set ...



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key initiatives

Phase 1

USD 350k

Bintan

Build
300 SWGs

Complete
Research Project

NUS
National University of Singapore

Incorporate
SWG P/L

Completed

Phase 2

USD 250k

Bintan

Design & Test
Construction Manual

SWG recognized
National Standard
Indonesia

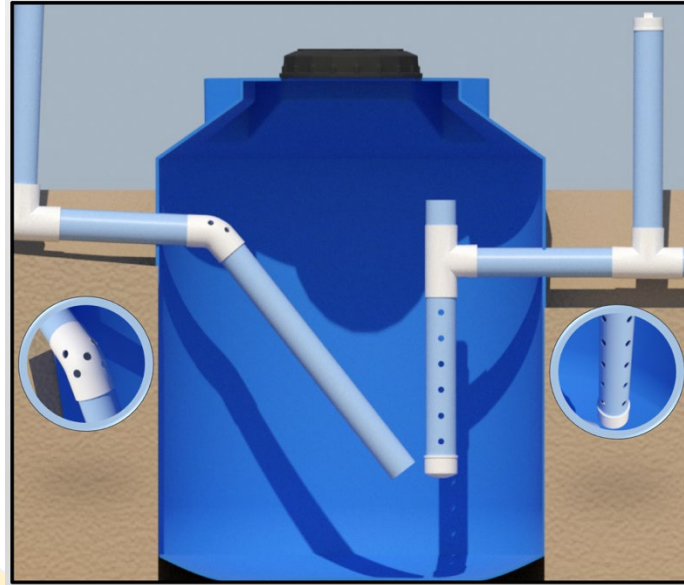
World Health Organization

MNC 25 SWG Trial

International advocacy and partnership outreach

Completed

The engineering drawing was completed in Oct 2019, and Shell and Accenture have completed the first “Lego-like” construction manual



Indonesia’s National Standards Board certified the SWG in Dec 2019, authorizing its use for up to 10 households

Sinarmas is leading the way for MNCs

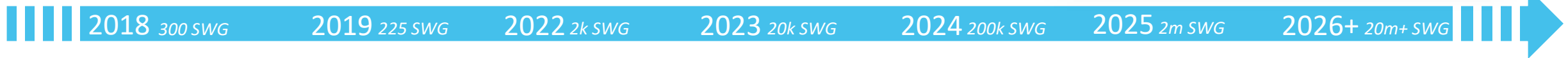
Golden Agri-Resources (GAR)
47,090 followers
8mo

It is alarming that 2.3 billion people around the world lack basic sanitation, and that causes the spread of disease.

The 'Safe Water Gardens' programme introduces life-saving sanitation for villagers, and we're working with LooLa Adventure Resort to implement this in communities near our estates in Indonesia. Through the programme we will reduce the spread of disease and improve quality of lives
https://lnkd.in/dT_QHfP
@UnitedNations #SDG6

38 · 2 Comments

Reactions



Vision Timeline –





let the sanitation
revolution begin ...



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key initiatives

Phase 1	Phase 2	Phase 3		
USD 350k	USD 250k	USD 1.9 m		
Bintan	Bintan	Indonesia & beyond		
Build 300 SWGs	Design & Test Construction Manual	Scale-Up Trials 2 entire Villages 100 SWG ✓	Completed, which shows that our model – <i>empowering villagers to make their owns systems</i> – works	
Complete Research Project	SWG recognized National Standard Indonesia	Public Scale-Up 5-10 Villages 500 – 1,000 SWG	Calling on companies/investors to adopt one or several villages to show that the public rollout can be replicated throughout Indonesia with the help of local academic support & local village empowerment	Funding phase 3.1 1.5 M
 	 	Complete the Gov't-backed Research agenda	Power research that will impact billions SWG calls on additional funding for R&D to drive world-changing research in water and sanitation (cementing global legitimacy & brand-awareness)	Funding phase 3.2 450 K
Incorporate SWG P/L	MNC 25 SWG Trial	Private Scale-Up MNC 500 SWG	Leveraging on successes with early adopters such as palm companies Expand into large on-site CSR programs for companies engaged with local communities in their daily operations.	Scaling-up phase 3.3 (paid service)
Completed	International advocacy and partnership outreach	Engage 5 new MNCs 500 SWG Trial	Expanding reach into the wider corporate world Teaming up with companies with or without operations on the ground willing to engage into large national or pan-national CSR programs as part of their wider CSR ambitions.	Scaling-up phase 3.4 (paid service)
Completed	Completed			



A \$3–6B business plan

Phase 3 needs some seed funding (1.9m)
but phase 4 and 5 are self-financing

The basic numbers

Indonesia will need 6 – 12 million SWGs.
Cost (including training/labour) ≈ \$500/SWG

The money for village WaSH is there ✓

- It's less than 15% of the annual national \$10b village budget for the next 5 years (*ref next slide*)
- Large private rural employers can roll out complete WaSH systems for less than a monthly wage package per family

The will and mechanism is there ✓

The people want it, the government wants it, and companies have no choice but to follow suit (*see next pages for details*)

Phase 4

Indonesia & beyond

Public Scale-Up
100 Villages
10,000 SWG

Private Scale-Up
several MNC
10,000 SWG

intensify
International
advocacy and
partnership
outreach

Quality Control
throughout all
phases,
assured through
Scientific
monitoring

Phase 5

Worldwide

**SWGs are a well
established standard**
across Indonesia



28m rural households
4 – 12 m SWG

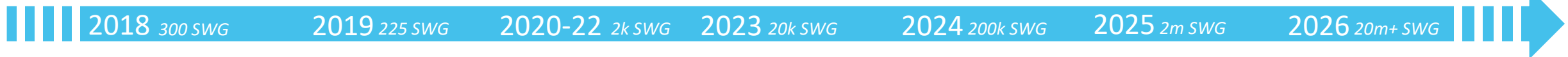


**Global
Cooperation**
with other NGOs



SEA/ASEAN

80% of 660m live in rural areas



The gov't & the public want it

Summary of the key data showing public demand

Indonesia's government wants WASH ✓

WaSH (Water, Sanitation, Hygiene) was already the country's 3rd national priority, and COVID has only further emphasized the importance of WaSH.

The public wants it ✓

The 2020 World Bank report (*refer to column on the right*) affirms that villagers want WaSH more than anything else and that they want to install, understand and maintain their own infrastructure.

The gov't and the people are aligned ✓

The gov't wants public services to be locally powered and locally produced, with new technology preferably promoted by local universities. This is exactly what we offer, as we aim to enable the training of (around) one million villagers to become SWG experts.

Report No: AUS0001377



Indonesian Village Governance under the new Village Law (2015-2018)

Findings of May 2020 World Bank report (above)

- Since 2015, Indonesia gives money directly to the villages
- Initially at \$5B/year, village funding has steadily increased to \$10B/year
- The process is successful and largely corruption-free
- 50% goes to wages, 35% goes to roads and bridges, 15% goes to WASH, Education and Health
- Villagers, however, request that money be chiefly allocated towards training and WASH (as WASH is the main expression of rural-urban inequality)

Companies (will) want it

Summary of the key data showing company demand

Indonesia's government is pressuring companies ✓

The Indonesian government is pressuring companies hard to do CSR and to help improve the lives of the communities they work with.

The public pressures companies ✓

Indonesian village communities demand contributions from large employers; and they are exacting increasingly high costs against companies that are lagging.

Investors want it ✓

Increasingly, investment money goes to ESG (Environment, Social, Governance). There is simply no more visible and tangible CSR contribution than WaSH: WaSH delivers the most bang for the development buck and it keeps the government, public & investors happy.

Peer pressure works ✓

If one company gives WaSH facilities to its communities, other companies have no choice but to follow

A chance for all companies to gain “green PR”

A chance for plastic to shine

This is why *Rucika*, Indonesia's biggest pipe maker, signed on.



Plantations and mines can shine,

keep their workforce happy, and repair relations with big markets such as the EU. This is why *Sinarmas*, world leader in palm oil, signed on.



Packaging and food companies can shine, as they can help recycle all the village plastic they helped produce and help power a national micro-farming revolution.

Projected financials (for fin-techs)



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	PHASE 1 2018A	PHASE 2 2019A	2020A	PHASE 3 2021F	2022F	PHASE 4 2023F	2024F	PHASE 5 2025F	2026F	2027F
Key Assumptions:										
# of Installed SWG System per Year	#			-	-	20,000	200,000	2,000,000	6,000,000	15,000,000
Annual # of Public Project Training	#			1	10	15	15	15	15	15
Annual # of Private Project Training	#			-	15	30	30	30	30	30
Annual # of Internatinal Project Trainin	#			-	-	4	6	6	6	6
GROSS REVENUE										
Royalties/License Fee per SWG	10			-	-	200,000	2,000,000	20,000,000	60,000,000	150,000,000
Training Fee at Village Site	40k			40,000	400,000	600,000	600,000	600,000	600,000	600,000
Training Fee at Company Site	70k			-	1,050,000	2,100,000	2,100,000	2,100,000	2,100,000	2,100,000
Consultancy Fee for Global Rollout	40k			-	-	160,000	240,000	240,000	240,000	240,000
Potential Gross Revenue				40,000	1,450,000	3,060,000	4,940,000	22,940,000	62,940,000	152,940,000
Growth Rate					3525.0%	111.0%	61.4%	364.4%	174.4%	143.0%
OPERATIONAL COST										
Office Rental & Salaries	USD			(66,000)	(264,000)	(264,000)	(264,000)	(264,000)	(264,000)	(264,000)
Executive Pay	USD			-	(240,000)	(360,000)	(360,000)	(480,000)	(480,000)	(480,000)
Total Operational Cost				(66,000)	(504,000)	(624,000)	(624,000)	(744,000)	(744,000)	(744,000)
OPERATING PROFIT	USD			(26,000)	946,000	2,436,000	4,316,000	22,196,000	62,196,000	152,196,000
Taxes	17% %			-	(160,820)	(414,120)	(733,720)	(3,773,320)	(10,573,320)	(25,873,320)
NET PROFIT	USD			(26,000)	785,180	2,021,880	3,582,280	18,422,680	51,622,680	126,322,680
<div><div><div>COMPLETED:</div><div>1) Raised US\$350k</div><div>2) Location: Bintan</div><div>3) Installed 300 SWGs</div><div>4) Completed Research</div></div><div><div>COMPLETED:</div><div>1) Raised US\$250k</div><div>2) Location: across ID</div><div>3) Installed 200 SWGs</div><div>4) Construction manual</div><div>5) National certification</div><div>6) MNC's SWG Trials</div></div><div><div>COMPLETED (COVID era):</div><div>1) Scale-Up Trials (two whole villages)</div><div>2) Proved sharing and training model</div><div>3) Installed 100 SWGs</div></div></div> <div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div><div><div></div><div></div><div></div></div></div> <div><div>TO BE COMPLETED:</div><div>1) To raise US\$2mn</div><div>2) Public Projects (1,000 SWG)</div><div>3) Private Projects (2,000 SWG)</div></div>										

Projected financials (for non-fin-techs)



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Phase 3

Indonesia

Scale-Up Trials
2 entire Villages
100 SWG ✓

Public Scale-Up
5-10 Villages
500–1,000 SWG

Complete the
Global WaSH
Research agenda

Private Scale-Up
MNC 500 SWG

Engage
5 new MNCs
500 SWG Trial

Public Trials
500 SWG



\$1.9m



\$2.2m



Demand = self-driven
by popular demand; one village
will have to follow its neighbor,
one region will have to follow the
other, companies will have to
follow their peers



Public training projects
• 30k gross profit each
• 10→20 projects/year

\$0.8 → 2.6m / year



MNC training projects
• 50k gross profit each
• 10→40 projects/year



Trainer license fees (\$50)
SWG license fee (\$10)
International consultancy
on rollout and scale-up

Cost is ≈ constant \$0.4→1m/yr
1 – 4 execs + office rent + 10 staff

Phase 4

Indonesia & beyond

Public Scale-Up
100 Villages
10,000 SWG

Private Scale-Up
several MNC
10,000 SWG

intensify
International
advocacy and
partnership
outreach

Quality Control
throughout all
phases,
assured through
Scientific
monitoring

Training fees remain constant
License fees become dominant;
end-user continues to receive
SWG/WaSH at lowest rates



Public training projects +
MNC training projects

\$2.6m / year



Trainer license fee
• \$50 net profit each
• 1→200k/year

→ \$1m / year



SWG license fee
• \$10 net profit each
• 10k→4m/year

\$1 → 40m / year

Cost is ≈ constant \$0.4→1m/yr
1 – 4 execs + office rent + 10 staff

Phase 5

Worldwide

SWGs are a well
established standard
across Indonesia



28m rural households
4 – 12 m SWG



Global
Cooperation
with other NGOs



SEA/ASEAN
80% of 660m live in rural areas



2020-22 2k SWG

2023 20k SWG

2024 200k SWG

2025 2m SWG

2026 20m+ SWG

All challenges can be met

FAQ: challenges/risks for the scale-up vision

How long does it take to train one village community?

Two people with the requisite technical and social skills can teach a village within a week, and train two new SWG trainers. All systems can then be built within 3 weeks.

How can you train & certify one million people in 5 years?

There are ~ 0.5 million villages with ~ 250 people on average per village ("RT community" for Indonesia experts). Each half year, each trainer can train 10 new trainers (and do 5 new villages), so each year, the number of trainers can grow exponentially by 25. But even at slower exponential growth of 10, it only takes 5 years (starting with 20 SWG experts).

Why don't you allocate revenue for this national training?

WaSH is a project of national importance, so we assume the government will take charge of the national training. On our part, we want to stay small and nimble and focus on quality control (and profitable quality training programs).

Why would the gov't pay you for 10-20 projects/year?

Indonesia is highly federalised, and each district will want to run its own first pilot. WaSH is highly sensitive, so they will go to the source of the national SWG standard (which is us), especially since we engage with the local universities.

Why would companies pay you for 20 – 40 projects/year?

Companies can't afford the legal risk of messing up WaSH, so they will come to us, esp. since we have the connections with the standards board and the universities, and because even with our training fees, the cost per SWG is 20% of the price companies are used to pay for a domestic sanitation system.

How is your \$10 license fee protected against copycats?

As per request of the government, we would license a few national or regional plastic producers (like *Rucika*) to produce certified "plug-n-play" SWG sets. These companies won't take the risk of losing a major customer just to gain \$ 10 per system.

All challenges can be met - 2

FAQ: challenges/risks for the scale-up vision?

Is corruption an issue?

We refer to the World Bank report: village projects are already remarkably clean – and getting cleaner every year.

But village heads need help to distribute the WaSH systems across households. An independent outsider (someone who's known not to have personal contacts in the village) will solve the conundrum. Therefore, a typical contractor won't do; you need a "village planner", a trainable skill.

How long does it take to finish one village?

About a month. Financially, it may be better for village chiefs to spread it over two years, helping the neediest families first.

Is the SWG only for villages?

The SWG could also be a great solution for poor urban neighborhoods (2 toilets/washroom + SWG for up to 10 households), but in that case, we'd need the help of experts in city planning.

Are you charging extra for WaSH beyond SWG?

No. The trainers are there to teach villagers how to build SWGs and how to plan for a fair WaSH distribution (a social skill). Villagers know how to build additional WaSH components themselves once the village planning is done.

Can villages pay for such complete WaSH upgrades?

Yes. Annually, the public village funds amount to \$400/family, half of which goes to paying salaries, leaving \$200/family. An SWG split by 3 families is < \$ 150/family, and other WaSH components cost on average under \$ 50/family. Spread over 2 or 3 years this is fully feasible, and socially desirable.

Do you have cashflow issues once you enter phase 4?

No. We charge our training projects inclusive material cost, and ask all direct project costs upfront as deposits.

What is your biggest challenge?

Securing the necessary seed funding for phase 3 in a timely manner (COVID has not helped).

Integrity Safeguarded by our Board



Dr. Marc VAN LOO

Dutch by birth, cosmologist by training, educator and international educational author by profession, Marc opened LooLa Adventure Resort in 2000 – which went on to become the world's most highly decorated eco resort. Spurred on by the preventable death of the daughter of LooLa's cook, LooLa's team – together with LooLa's guests – has built (and continues to build) 500 SWGs in Bintan since 2014 for households and schools. These SWGs formed the main base of our research.



Mike FLACHE

Mike Flache is an entrepreneur, business angel and philanthropist. Together with talented teams, he builds digital businesses worldwide. Mike spends much of his time helping build high-tech start-ups in Silicon Valley, Europe and Asia. As a recognized thought leader, he collaborates with Fortune 500 companies, innovators and technology vendors. The analysts of Onalytica voted him as one of the top-10 global thought leaders in the field of digital transformation.



Tim-Frederik KOHLER

Frequent Traveller & Global CSO. Connecting different worlds.

Tim has comprehensive global background in global business administration, sales, marketing and business development. He is acting Managing Director of multiple entities, where he is building high-performing regional and cross-functional teams. Helping people and driving and leading change is his passion.



Prof. Dr. How Yong NG

How Yong has over 20 years of experience in wastewater treatment. He is: a Provost's Chair Professor in NUS's Department of Civil and Environmental Engineering; Director of the NUS Environmental Research Institute; Director of the Sembcorp-NUS Corporate Laboratory; Fellow of the International Water Association (IWA); Fellow of the Academy of Engineering Singapore, Vice-Chair of the Management Committee of the IWA Specialist Group on Membrane Technology; and President of the Environmental Engineering Society of Singapore.



Rik SNEEP

Rik is Shell's Country Chair for Bolivia and Paraguay and has worked in various leadership roles in six countries. He is the founder of TOPAZ Transformations, a niche consultancy focused on educating executive leadership in how to make profit through purpose. With a passion for sustainable business and geopolitics, Rik is a member of the Baker Institute Roundtable for Emerging Leaders and advises non-profit organizations on energy market development.



Frédéric GIRAUDET

Frédéric spent most of his 25 years banking career in commodity & structured trade finance, leading regional teams across Asia Pacific. At the start of the business for 2 large global banks in Asia Pacific, he set up business units and teams in several countries in the region. He has been a member of various senior internal working groups on sustainable palm oil. A firm believer in the importance of well-being and mental health – especially for young people – he initiated talks on this topic at the workplace.

Passion and drive assured by Founder

Dr Marc van Loo has a history of success in sustainability and in coalition building

Marc built the world's #1 ecotourism company

Together with his wife, Isabelle Lacoste (the “La” in LooLa), using the money they made as teachers, they built LooLa Eco Resort from scratch in the year 2000. Manned by exclusively local staff, LooLa went on to win the awards of #1 eco resort in Asia, #1 ecotourism operator in the world, #1 TripAdvisor resort in Bintan, and #1 sustainable SME in Singapore.

Marc is a proven expert in coalition building

Once again starting from scratch, the death of the baby of our cook's daughter prompted Marc to start the Safe Water Gardens, and build a rapidly expanding coalition of world-class universities, companies, bankers, and company execs who signed up to the vision.



What we ask from you

**As a social enterprise, we aim to show that
we can deliver amazing social value at very healthy profits**

We need around US\$2M (phase 3) to fund a US\$5B vision (phase 4 and 5). The key phase 3 items:

- About 10 pilot villages @ US\$150K each to ignite a public/private organic revolution
- R&D funds to revolutionize global sanitation science & further bolster our credibility (see Appendix)

Opportunity: claim your place in history by starting a global WaSH revolution

Opportunity for companies:

Adopt one or several villages @ 150K and/or fund global sanitation science (includes green bragging rights)

Opportunities for investors:

Adopt a village (in your name) @ 200K – and gain 1% ownership of the company.

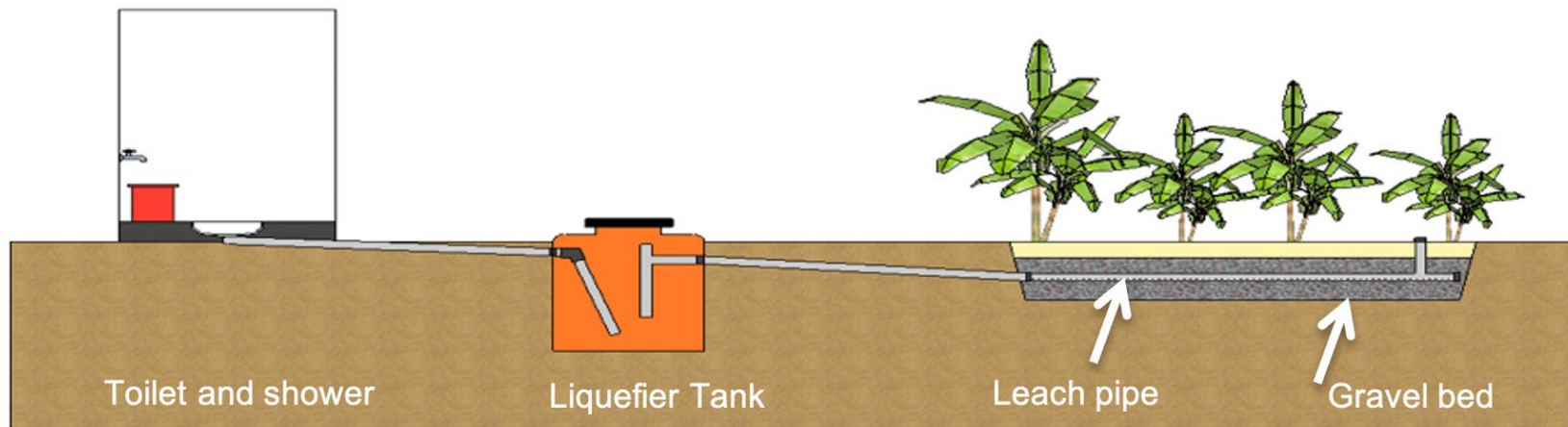
The investment is expected to have a 42% IRR and 6.7 x MoM in 6 years from annual dividend distribution¹.

1. Based on current assumptions and expectations of the founder.

In summary

What's not to like about ...

- solving one of the world's biggest problems – WaSH
- helping villagers worldwide – who take full ownership
- profoundly addressing food-security & the plastic waste problem, too



- the world's most cost-efficient sanitation system, with no competitors and a global reach
- abundant funding for a national (even a global) rollout, from both the public and the private sector

#ChangingLives





Be part of it



Safe Water Gardens

Clean. Affordable. Essential.

Safe Water Gardens Pte Ltd.

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Singapore 598324

www.safewatergardens.org

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BUSINESS FOR GOOD

.....
Social Enterprise Member of **raiSE**
SINGAPORE

A happy SWG owner, Ibu Iswinarti,
dresses up to pose.

Courtesy: Musim Mas, whose
donation changed her life





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Appendix

Advancing global sanitation science
in the current phase 3 of our vision

Find out, below, how you can support
global sanitation science that
impacts the whole world

R1: sponsor safe water wells research

USD 250K

Summary

Establish global guidelines on the minimal distance between sanitation systems and wells, and develop a \$10 solution to prevent village chicken from polluting wells with lethal E-coli.

Set worldwide standards for safe well placement

Worldwide guidelines state that wells must be situated at least 10 meters away from the sanitation system. This is often neither feasible nor practical, and our research indicates that in many circumstances, a distance of 2 meter could be sufficient. To formally establish this, we need research of the highest academic calibre.

Neutralize the health dangers of village chicken

Village chicken are vital to village survival, but our research strongly indicated that, by defecating into village wells, chicken could be the key cause of potentially lethal E-coli pollution in the wells.

Our research to date has strongly indicated that a \$ 10 lid on top of the well will completely eliminate this problem. Establishing this hypothesis could be the single best health benefit per dollar the world has ever seen.



Advancing sanitation science

R2: establish maximum capacity

Part of the pilot villages

Summary

The SWG is licensed for 10 households, thus lowering the cost to within the means of even the poorest global communities. We wish to establish a practical upper bound

Making the SWG so cheap that everyone can afford it

We have successfully introduced the SWG to 14 rural schools, where it has performed flawlessly for the last 5 years. We will scientifically establish the upper bounds for high user volume in diverse environments while keeping soil conditions safe, and we expect to demonstrate that we can reduce the one-off cost of a maintenance-free sanitation solution to well under \$ 30 per person!

The SWG: solution for village schools and households

De Green school (below, thanking one of our corporate sponsors) has used 1 SWG successfully for 200 kids since 2015



Advancing sanitation science

R3: adapt to challenging conditions

USD 200K

Summary

Ensuring the SWG also works in flood-prone or dry areas

Establishing that the SWG works in all conditions

There is every indication that the SWG is also the best system (short of highly expensive complex engineered solutions) in flood-prone areas (refer to photo), and we have good indications that –perhaps with minor adaptations– the SWG could also perform in dry areas, even if people would use toilet paper (instead of using water as is customary in SE Asia).

This rigorous research project will turn the SWG into the truly global solution we believe it is.



Indonesia is doing well in sustainability, but it struggles with WaSH, nutrition and health.



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INDONESIA

BASIC HUMAN NEEDS

	Score/Value	Rank	Strength/Weakness
	79.79	96	
Nutrition & Basic Medical Care	80.38	117	
Undernourishment (% of pop.)	9.00	104	
Child mortality rate (deaths/1,000 live births)	24.98	115	
Maternal mortality rate (deaths/100,000 live births)	159.54	133	
Child stunting (% of children)	33.37	152	
Deaths from infectious diseases (deaths/100,000)	112.19	126	
Water & Sanitation	75.16	116	
Deaths attributable to unsafe water, sanitation and hygiene (per 100,000 pop.)	37.53	137	
Populations using unsafe or unimproved water sources (%)	35.48	109	
Populations using unsafe or unimproved sanitation (%)	18.57	89	
Shelter	85.91	99	
Access to electricity (% of pop.)	98.51	117	
Household air pollution attributable deaths (deaths/100,000)	53.82	107	
Usage of clean fuels and technology for cooking (% of pop.)	80.00	99	
Personal Safety	77.73	41	
Homicide rate (deaths/100,000)	0.43	10	
Perceived criminality (1=low; 5=high)	3.00	37	
Political killings and torture (0=low freedom; 1=high freedom)	0.75	88	
Traffic deaths (deaths/100,000)	13.32	84	

Notes

- On some components and indicators, there are more ranked countries than the number of countries for which a full index score could be calculated.
- Overall index, component and dimension scores are on a 0-100 scale; indicators scores are raw values.

Comparing Countries

Over and underperformance is relative to 16 countries of similar GDP per capita: Egypt, Algeria, Bhutan, Ecuador, Mongolia, Iraq, Tunisia, Ukraine, Moldova, South Africa, Paraguay, Peru, Armenia, Sri Lanka, Namibia.

Social Progress Index
GDP per Capita PPP

FOUNDATIONS OF WELLBEING

	Score/Value	Rank	Strength/Weakness
	68.76	101	
Access to Basic Knowledge	74.50	112	
Women with no schooling	0.01	79	
Primary school enrollment (% of children)	94.38	109	
Secondary school attainment (% of population)	48.80	109	
Gender parity in secondary attainment (distance from parity)	0.16	110	
Access to quality education (0=unequal; 4=equal)	1.16	127	
Access to Information & Communications	71.58	83	
Mobile telephone subscriptions (subscriptions/100 people)	119.34	1	
Access to online governance (0=low; 1=high)	0.75	57	
Media censorship (0=frequent; 4=rare)	2.70	80	
Internet users (% of pop)	39.90	126	
Health and Wellness	52.74	122	
Life expectancy at 60 (years)	18.30	124	
Premature deaths from non-communicable diseases (deaths/100,000)	486.97	112	
Access to essential services (0=none; 100=full coverage)	62.66	115	
Access to quality healthcare (0=unequal; 4=equal)	1.49	116	
Environmental Quality	76.21	101	
Outdoor air pollution attributable deaths (deaths/100,000)	27.46	88	
Greenhouse gas emissions (total CO2 equivalents)	889.00	183	
Particulate matter	16.37	59	
Biome protection	11.26	106	

- Key
- Overperforming by 1 or more pts
 - Overperforming by less than 1 pt
 - Performing within the expected range
 - Underperforming by less than 1 pt
 - Underperforming by 1 or more pts
 - No data available

Score/Value
69.49/100
\$ 11,812

Rank
84/163
89/163

Strength/Weakness

OPPORTUNITY

	Score/Value	Rank	Strength/Weakness
	59.92	68	
Personal Rights	72.31	88	
Political rights (0=no rights; 40=full rights)	30.00	79	
Freedom of expression (0=no freedom; 1=full freedom)	0.75	85	
Freedom of religion (0=no freedom; 4=full freedom)	2.38	110	
Access to justice (0=non-existent; 1=observed)	0.70	90	
Property rights for women (0=no right; 5=full rights)	4.05	99	
Personal Freedom & Choice	65.35	85	
Vulnerable employment (% of employees)	47.90	111	
Early marriage (% of women)	8.86	98	
Satisfied demand for contraception (% of women)	80.70	43	
Corruption (0=high; 100=low)	40.00	84	
Inclusiveness	42.98	102	
Acceptance of gays and lesbians (0=low; 100=high)	0.11	107	
Discrimination and violence against minorities (0=low; 10=high)	7.40	122	
Equality of political power by gender (0=unequal power; 4=equal power)	2.27	56	
Equality of political power by socioeconomic position (0=unequal power; 4=equal power)	2.05	95	
Equality of political power by social group (0=unequal power; 4=equal power)	2.22	99	
Access to Advanced Education	59.05	69	
Expected years of tertiary education	189	76	
Women with advanced education (%)	0.57	97	
Quality weighted universities (points)	60.40	22	
Citable documents	0.16	104	

SOCIAL
PROGRESS
IMPERATIVE