

Safe Sanitation for all

a story that began with the death of a baby





Safe Water Gardens

Clean. Affordable. Essential.

Empowering rural communities to bring

Safe Water & Sanitation

to all Indonesian villages by 2029

and to villages worldwide by 2030

SAFE SANITATION for < \$ 200 per FAMILY

for all village families in (sub)tropical countries
by 2030

THE PROBLEM for (sub)tropical village communities :

While there is typically enough water, sanitation is sub-standard, and is the key driver behind an unsustainable exodus to the cities.

THE SOLUTION :

Developed in an ongoing broad public-private partnership, the **Safe Water Garden** is a single-sized sanitation system suitable for small schools & groups of families.



THE SAFE WATER GARDEN ...

- can be installed in 1 day
- transfers full ownership to end-user
- is maintenance-free
- is 3-6 times cheaper than alternatives
- acts as engine for a full micro-WASH solution incl. running & drinking water
- catalyzes micro-farming, healthy food habits & micro-businesses
- recycles pre-existing village waste
- can be produced from recycled plastic
- restores dignity & arrests rural exodus

DISTRIBUTION MODEL

- In each district, we turn one village into a *Model Village Program (MVP)* by "teaching the teachers". Each such MVP then powers a regional rollout.
- Companies pay MVP training, village funds pay for materials, end-users can access micro-loans for WASH add-ons
- Community-driven (census) data provide project transparency and QC
- **We can rapidly scale because all stakeholders manifestly benefit**



Above: a sample of our ever-growing partnerships with government, industry, academia, and NGOs.



JOIN US!

Our vision excites the UN,
so they invited us
to exhibit at the



UN
2023 WATER
CONFERENCE

NEW YORK
22-24
MARCH
2023

as one of (only!) 6 examples of a
scalable WASH solution

On the left: the poster we exhibited at the *UN Innovation Pavilion* @
UN Water Conference, New York, 22 – 24 March 2023



Safe Water Gardens

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Presenting the scale-up vehicle: **MVP = Model Village Program**

3 villages in Bintan showed that Indonesian villages –and villages around the world– can become centers of WASH excellence that can power a regional WASH⁺ rollout on their own. [The experience with them is listed here](#) because it provides the blueprint for any subsequent MVPs such as the proposal to CCEP in the preceding slides

Thanking the participants

With a very big thank you for the support from the Kepala Desa and the people of kampung Busung, Kuala Sempang, and Pengujan, for funding 50% of the material costs and for giving us such great local teams to work with, and to Governor Ansar Ahmad and his Riau & Bintan government for always supporting WASH projects.



Pak Rusli MH
Busung



Pak M. Hatta
Kuala Sempang



Pak Zulfritri
Pengujan



It's all about transferring knowledge



Photo: 2019 WASH project in Belitung



Safe Water Gardens

Clean. Affordable. Essential.

and
changing
lives

General notes on the WASH systems that power our vision



A quick summary of the type of WASH (*Water, Sanitation, Hygiene*) systems deployed in our projects



Safe Water Garden:

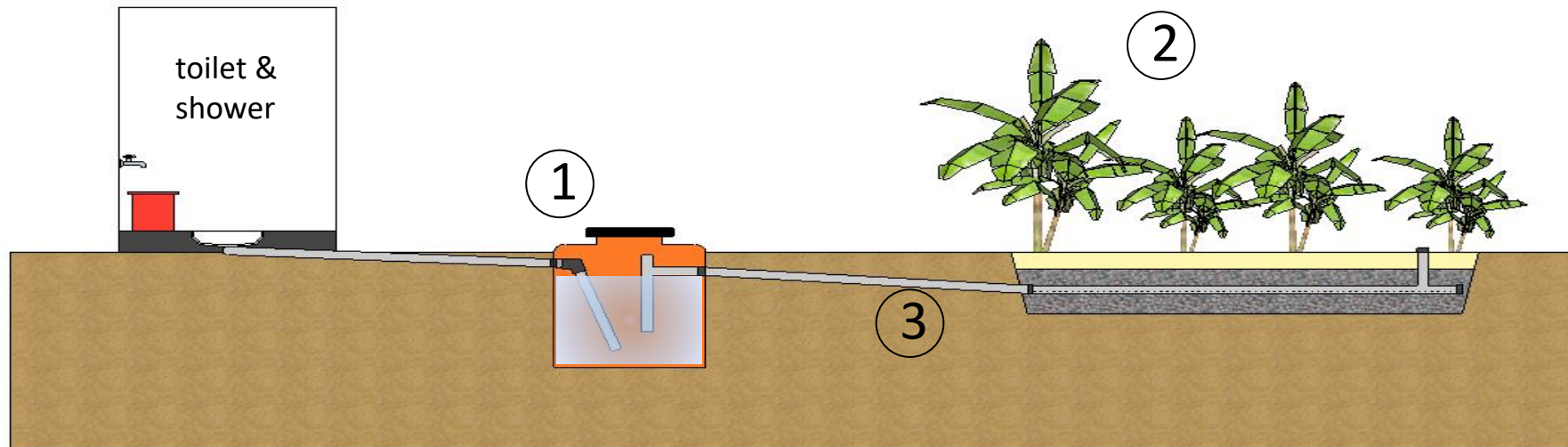
The technical innovation that drives the project

A **Safe Water Garden (SWG)** is modeled on a concept developed during the Aceh Tsunami.

Developed in partnership with academia, it suits individual households and community centers like rural schools.

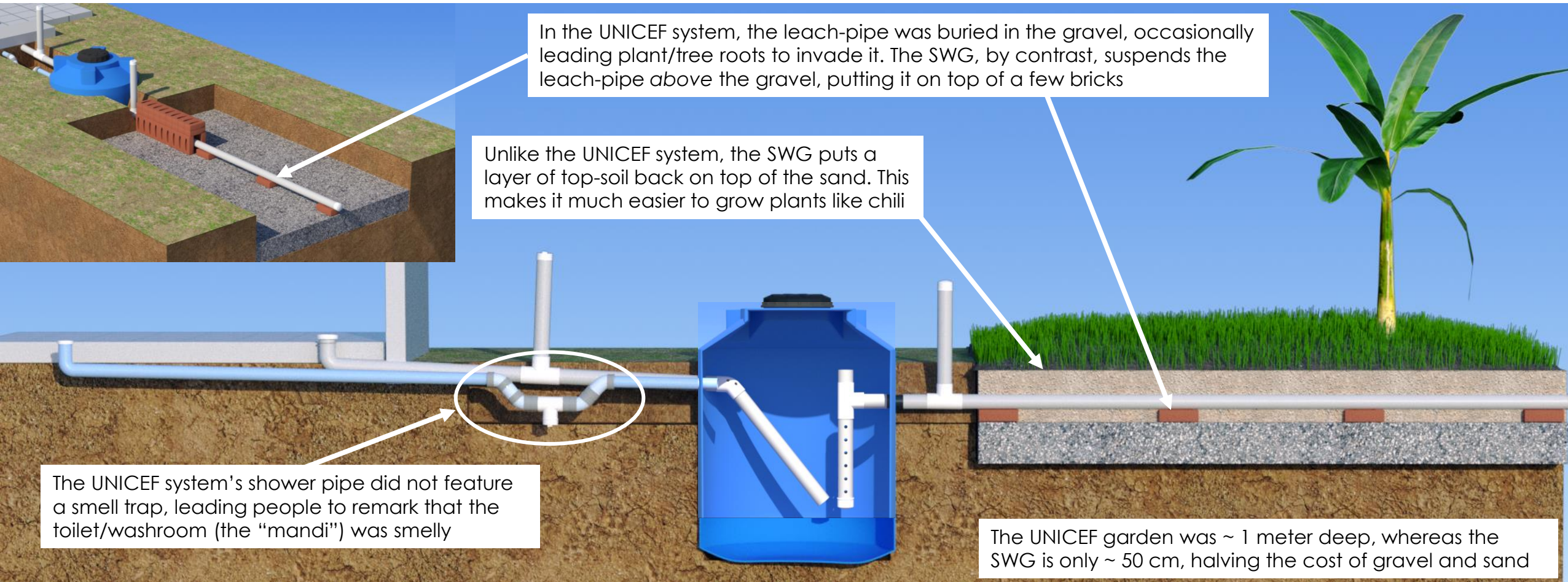
Main components per SWG:

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

Key differences SWG vs UNICEF

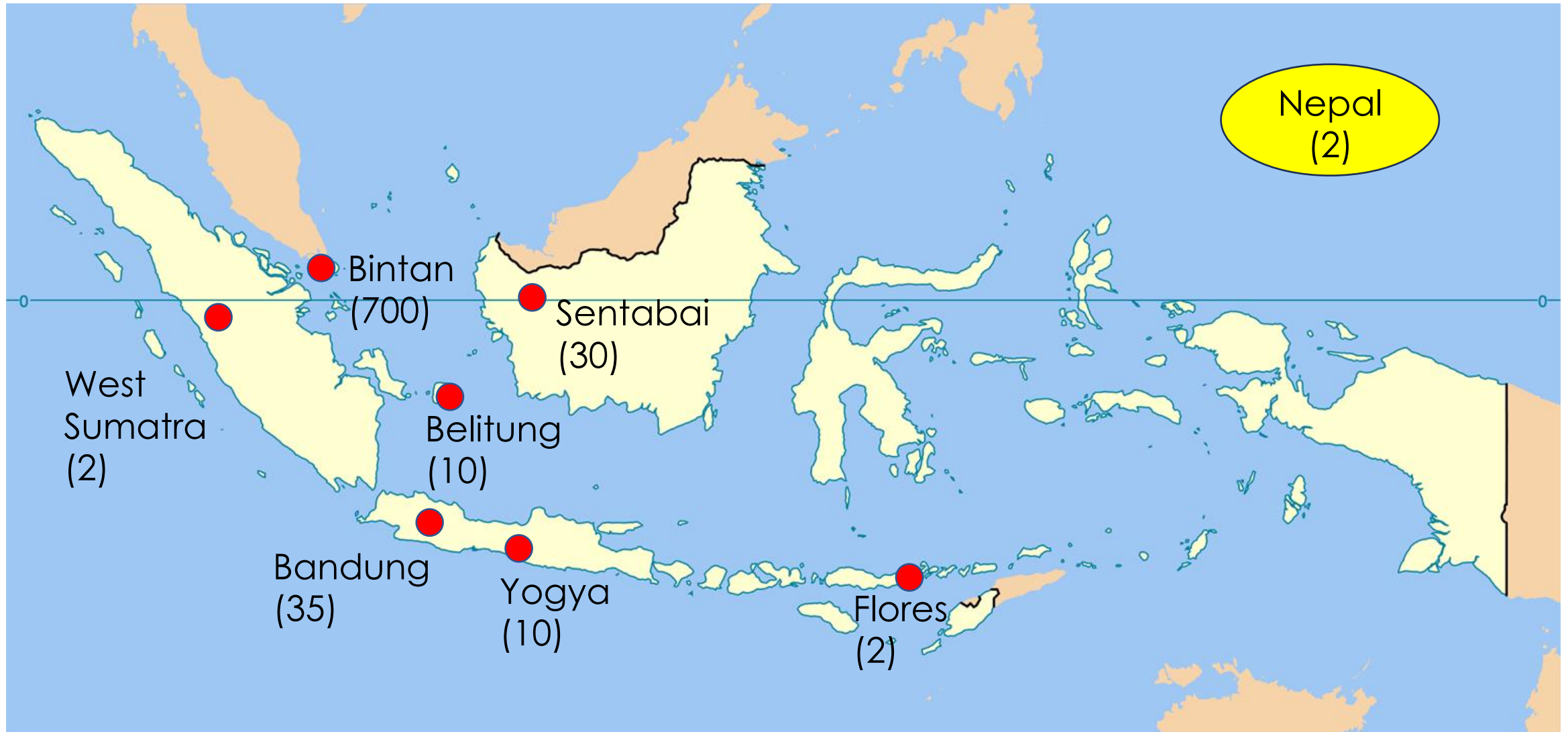


The UNICEF system recommended that the tank volume is around 150 liter per user. We discovered (by installing the SWG in schools) that the size of the tank can remain constant at 500 liter, even with many users. This dramatically reduces the cost of the system.

The UNICEF system did not make an explicit recommendation against dropping kitchen wastewater into the system, but we discovered that kitchen wastewater can really seize up the system, as it introduces worms into the tank

As is evident, these are simple changes, but we needed prestigious universities to validate these improvements ...

Already successful in many places

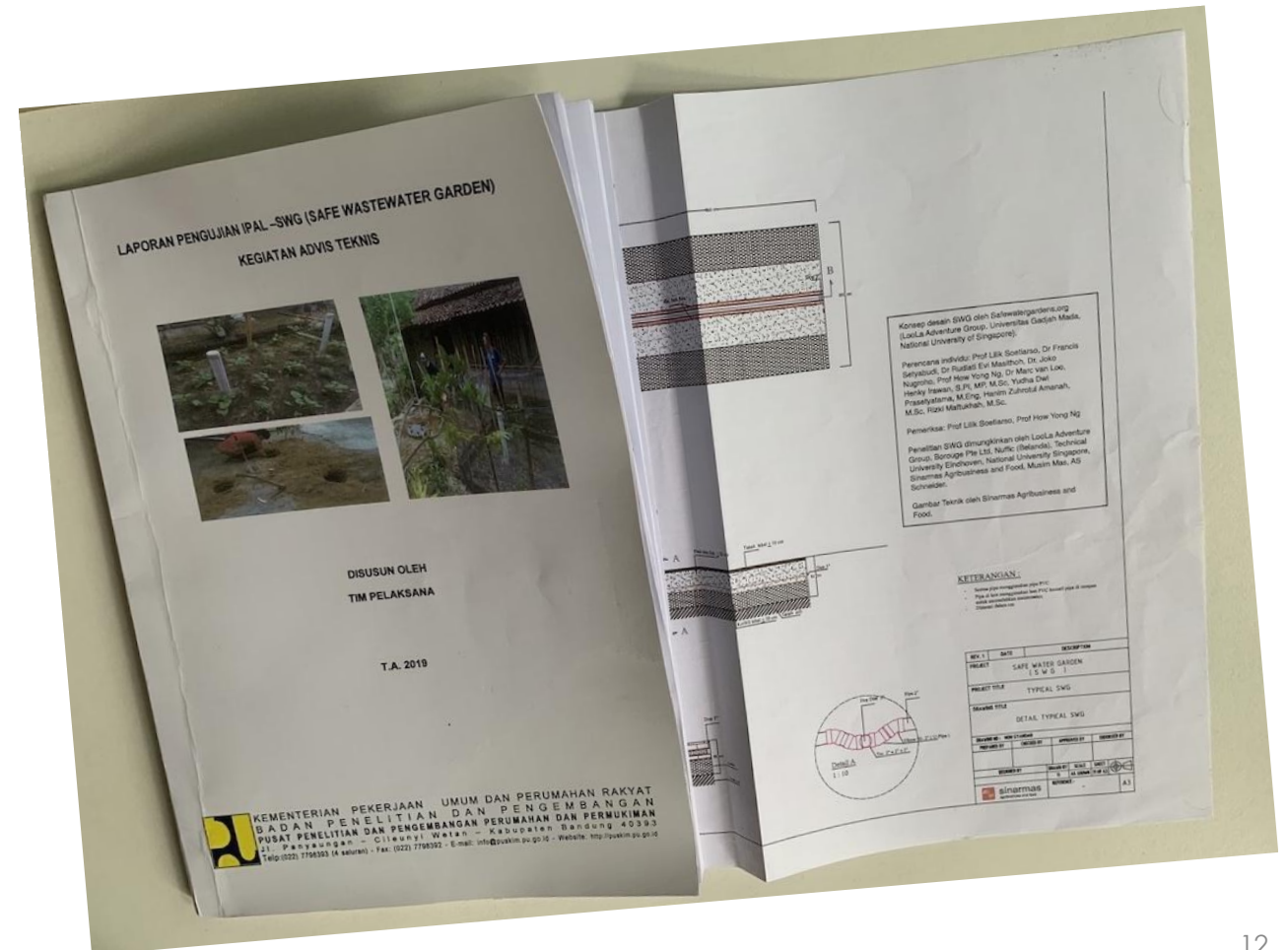


Government-approved

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

In 2019, the Ministry of Public Works and Housing officially designated the Safe Water Garden as an option for improved and safe sanitation, fit for use for up to 10 households (per SWG).

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



SWG installations < \$ 250/family

Teaching families and schools to install SWG
for < \$450 per SWG
(< \$250 per family if families share)





... local families can easily build their own SWGs



Safe Water Gardens

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Grow chili & save our climate

People can use the SWG garden to grow their own chili and then move to micro-farming.

The IPCC estimates that a family on safe sanitation is worth 10 - 15 carbon credits (worth ~ \$250, i.e equal to the installation cost). That means that safe sanitation is a climate project too!





Step 2:
Extending safe sanitation to
safe **WASH**
(Water, Sanitation, Hygiene)

Water Supply for < \$100/family

Possible if families can share a \$ 300 water tower!



Washrooms < \$180



Kitchen sinks < \$35/family



Nazava filters < \$45/family



Step 3: Extend to WASH⁺ – Sustainable villages

WASH facilities inspire people to adopt ...

- Micro-farming
- Healthy food habits to stop *stunted growth*
- Local agri-tourism, providing high-quality jobs (particularly for women)



Tofu with vegetable fillings

Ibu Kassikem – Bumi Indah, Bintan, Riau Island

Homemade Snacks: Cheap and easy.

“This is my favorite dish to serve to my guests”

Sample page of the national library of healthy village dishes (English)

Ingredient List

Spice Mix:

- 3 Shallots
- 2 Garlic cloves
- 1 tsp Salt
- stalks Celery leaf
- 10 White Pepper Seeds

Batter Mix:

- 6pc of Firm Tofu
- 100g Multi-Purpose Flour
- 1 cup Water
- 1 Egg
- 1 tsp Masako

Vegetable Filling:

- 200g Glass Noodles
- 50g Carrot, thinly sliced
- 2

Preparation Method

- Soak glass noodles in warm water till soft. Once soft, use a kitchen scissor and cut to short lengths. In a blender, blend all the spice mix ingredients (shallot, garlic, salt, white pepper seeds) into a smooth paste. You can also use a mortar and pestle if you have one.
- In a heated wok, add 1 tablespoon of oil and add in spice mix paste. Fry over medium heat until fragrant. Add vegetable fillings and stir fry until fragrant.
- Pat dry the firm tofu with a kitchen towel and cut each piece diagonally to form 2 triangles. Pan-fry or deep fry the tofu triangles until all edges are slightly golden brown. Set aside and allow the tofu to cool down. Once cool, create a pocket on the side of the triangle for the vegetable filling.
- Fill each tofu with 1 tablespoon of cooked vegetable filling. (Optional) You can remove some tofu from the pocket and mix with the vegetable filling before stuffing the tofu triangles.
- In a bowl, mix the batter. The mixture should have a pancake batter consistency to coat the tofu for frying.
- Dip the stuffed tofu triangles into the batter and in a heated wok of oil, fry the stuffed tofu till golden brown.

About Ibu Kassikem

I live in Kampung Bumi Indah, Bintan island, together with my husband.

We have a plantation where we grow vegetables to sell as well as use for our own consumption.

It's hard work to tend the farm but we enjoy it because we are in each other's company.

Despite the tough situation Covid has brought, we are still very happy looking after our farm together in each other's company.



Oseng Kacang Panjang

Ibu Sarinah – Kawal, Bintan Island

"Kami memasak terutama masakan sayuran di rumah karena mudah dimasak dan harganya murah, terutama karena kami mulai menanamnya sendiri. Kecuali cucu pertama saya Rino, semua anggota keluarga saya suka makan sayur."

Sample page of the national library of healthy village dishes (Bahasa Indonesia)

Bahan-Bahan

- 200g Kacang Panjang
- 10g Bawang Merah
- 10g Bawang Putih
- 10g Cabe Merah
- Garam secukupnya
- Micin secukupnya
- (Optional) Gula Pasir
- Minyak Goreng

Cara Memasak

- Potong kacang panjang dan iris cabai merah, bawang merah dan bawang putih.
- Dalam wajan yang sudah dipanaskan, tumis bawang merah, bawang putih, dan irisan cabai dengan 1 sdm minyak goreng hingga harum. Lakukan ini dengan api sedang.
- Masukkan kacang panjang dan tumis hingga kacang panjang berubah warna menjadi hijau tua.
- Masukkan kacang panjang dan tumis hingga kacang panjang berubah warna menjadi hijau tua.

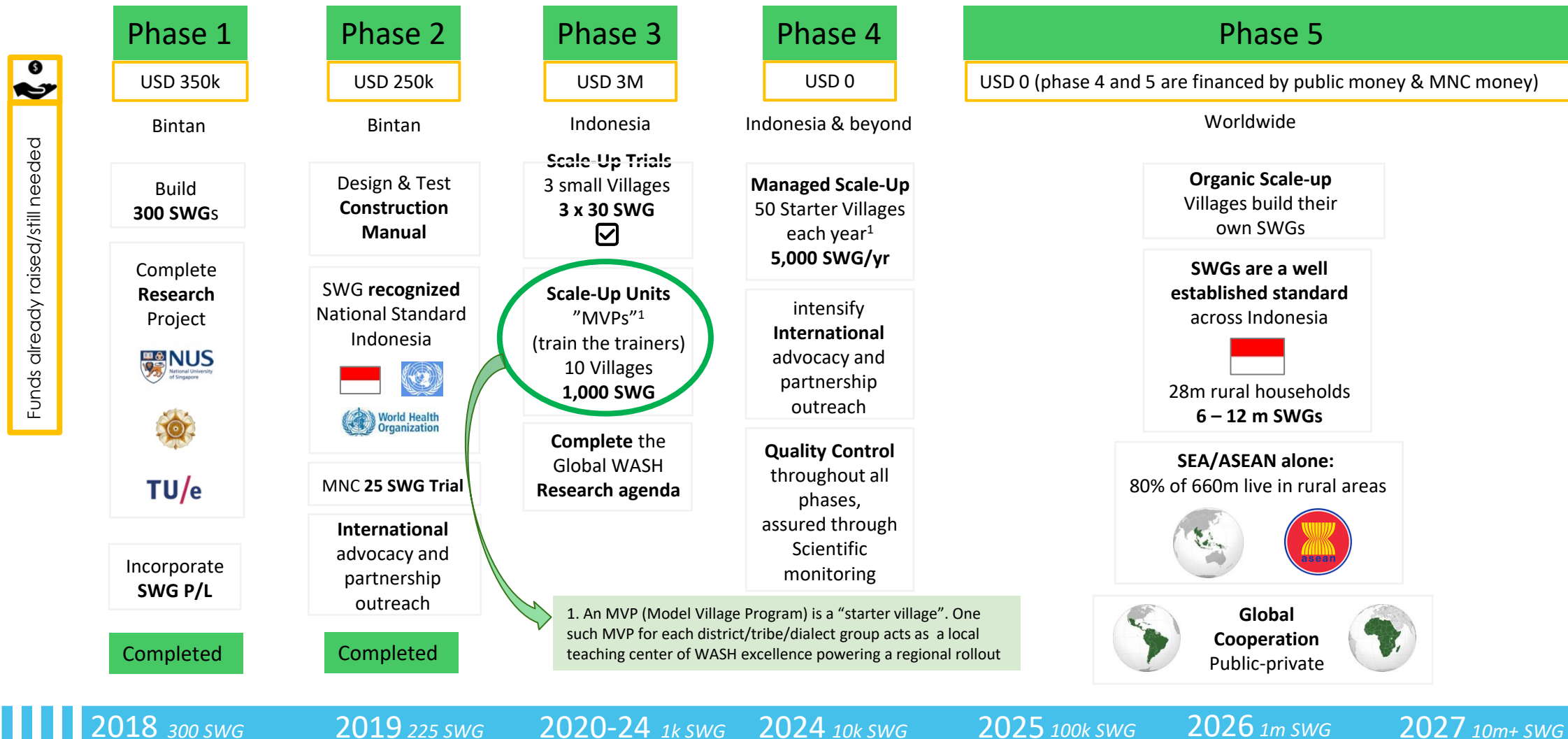
Tentang Ibu Ara

Keluarga dan teman-teman saya memanggil saya Ara. Saya lahir di sebuah desa kecil di tepi pantai di Bintan dan sekarang tinggal di sebuah desa tepi laut yang lebih besar di pesisir timur (Kawal) Bintan. Saya sudah menikah dan saya punya dua anak. Putri saya meninggal dalam kecelakaan sepeda motor ketika dia berusia 11 tahun, tetapi saya tinggal bersebelahan dengan putra saya, Romi, dan sekarang saya memiliki dua cucu yang cantik! Bersama dengan putra saya, saya memiliki pekerjaan di resor ramah lingkungan. Saya suka berolahraga: bermain bola voli dan bulu tangkis dengan tetangga dan teman membuat saya bahagia! Saya takut ular dan melihat darah membuat saya pusing.

Harapan saya ke depan cucu saya bisa kuliah dan bisa kembali bekerja di Bintan!



MVPs = the path to global scale-up



The Scale-up is driven by
the MVPs (the starter villages) ...

Our Bintan project was the very first one,
Next project with your company ?





Safe Water Gardens

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Clean up & recycle
all village waste into SWG parts (SWBs)



WASH

(Water, Sanitation, Hygiene)
powered by the world's most
compact sanitation system:
Safe Water Garden (SWG)

“Train the trainers”, thus
enabling the starter village to
power a regional rollout –
leading to flourishing, healthy
and sustainable village
communities



Leverage on WASH to promote micro-farming
and healthy living, enabling high-quality jobs
and micro-enterprises
(farming, agri-tourism, etc)

Education + stakeholder engagement is the key to a successful MVP*

The funders:

1. Companies/regional gov't (fund trainings)
2. Village (Desa) funds (co-fund materials)
3. MFI & villagers (to agree on microloans)

The actors:

1. SWG team
2. Universities (local and national)
3. Global Water Partnership (our data partner)
4. PUPR (sanitation authority)
5. Regent (Bupati) or Governor (both elected)
6. Village representatives:
 - a. Village chiefs: KD, RW, RT (elected)
 - b. Sekdes (permanent secretary)
 - c. Youth Organisation → WASH trainees
 - d. Women's Association → Diet trainees

(DETAILS OVERLEAF)	Week	1	2	3	4	5	6	7	8	9	10	11	12
Key steps in 3-month MVP project													
1. Lock in public (Desa) funds													
2. Intro to surveys + trainee concept													
3. Train for + conduct WASH survey													
4. Act on survey – identify recipients													
5. Train for + build WASH systems													
6. Run the microloan survey													
7. Discuss microloan terms													
8. Conduct endsurveys / start WASH+													
9. Certify WASH & WASH+ trainees													
10. Closing ceremony													
11. Regional rollout begins													

(*) The next 3 pages are a direct result of the work made possible by the Tauw Foundation grant. The grant enabled us to identify all the key stakeholders as well as the key MVP stages

Key stages of an MVP – 1

STEP 1

Lock in Public (Desa) Funds

WEEK 1

SWG team meet KD + Sekdes

Inform KD of his luck that his village has been suggested as a candidate for a MVP, and explain the entire scheme. During this meeting, a focus is to explain and obtain a contractual commitment to co-fund the material cost of the project. Co-funding allows us to jointly optimize the material costs and hence assure all stakeholders that the project is inherently corruption-free, which is a win for all parties.

STEP 2

Intro to surveys + trainee concept

WEEK 2

SWG + University teams meet all village chiefs

Explain the need for the village to appoint the future teachers, the WASH+ trainees (typically the young & brightest from stakeholder group 6c), who will start by learning how to conduct a WASH census survey, then conduct that survey and co-evaluate it and use it to identify the families most in need, and then learn how to install the SWG and the micro-WASH systems in an optimal sharing setting

STEP 3

Train for + conduct WASH survey

WEEK 3

SWG teams meets appointed WASH trainers (~ 10 pax)

- Within the WASH trainee team suggested by the village, appoint 2 or 3 coordinators, then *train* the whole team how to conduct a survey (this takes about 2 days).
- immediately after training, the new trainees will move on to *conduct* the WASH survey of all village families (typically between 400 - 1,000 families)

STEP 4

Act on survey – identify recipients

WEEK 5

SWG + University teams meets village chiefs and trainers

- Discuss the survey results (University professors to present)
- Village teams to identify, based on survey, the 50 families most in need *plus 50 groups* of families that will allow us to demonstrate the cost-benefits of WASH sharing
- Ask the local teams to identify the diggers and agree on the project fees for diggers (that's a fixed fee per WASH system) and on the daily trainee fees.
- Jointly identify the cheapest material sources to deliver the pre-agreed WASH installations

STEP 5

Train for + build WASH systems

WEEK 6

SWG teams meet with the WASH trainees

- SWG team explains to the trainees and diggers how to construct SWGs and builds a few sample systems to allow everyone to gain hands-on experience.
- Trainees & diggers then continue with their own construction, under supervision of the SWG teams

Key stages of an MVP – 2

STEP 6

Run the micro loan survey

WEEK 7

SWG + University teams meet whole village team

- Explain the purpose of the microloan survey: to (1) test the community's appetite for WASH micro loans and (2) why the outcome of this survey is beneficial knowledge for all involved. If there is appetite, the SWG team can then bring in the MFI
- Conduct the survey
- Invite PUPR to come and witness the project

STEP 7

Discuss micro loan terms

WEEK 8

SWG + MFI teams meet village chiefs

- SWG teams first discuss the micro loan survey results with the village chiefs and we will discuss possible loan terms
- SWG teams call in the MFI to meet with the village leadership teams to work out mutually beneficial agreements on the microloan terms

STEP 8

Run end surveys, start WASH+

WEEK 10

SWG + University teams meet all local stakeholders

- Since the WASH project is finished by now, the WASH trainees will conduct a user satisfaction survey amongst the WASH recipients (after receiving simple training on how to conduct this survey)
- We will do a joint financial reporting on the Public-Private material budget
- SWG + U teams start training Women Association in WASH+, i.e. microfarming, healthy diets + how to open & start a microbusiness

STEP 9

Certify WASH & WASH+ trainees

WEEK 11

SWG + University teams examine all trainees

- Both the WASH trainees & WASH+ trainees from the Women association will be examined by SWG + Uni teams
- With the help of SWG and Uni teams, the Women's association will help all interested villagers to register their new microbusiness online (the government offers this registration free of charge)

STEP 10

Closing ceremony

WEEK 12

All stakeholders + media

- SWG + Uni teams present surveys and results to regent/governor
- We ask the governor to ceremoniously hand over the certificates (signed by SWG and the Uni's) to the WASH & WASH+ trainees
- Publicity blitz (governor always brings in the media for such feel-good events) & all stakeholders can bask in the glory – everyone will come out looking a winner

STEP 11

Regional rollout begins

SWG teams + new WASH experts + region

- The publicity and comms channels between village heads will alert other KDs to the huge potential to deploy their village funds + MFI funds to deliver WASH. They can then arrange with the MVP WASH teams to receive training.
- MVP WASH teams will exercise quality control and continue running WASH+ surveys the next 9 months

Project Location – map the community



Safe Water Gardens

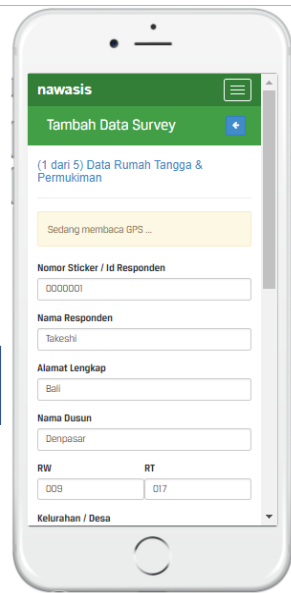
Clean. Affordable. Essential.



3 neighboring villages in Bintan –each with around 400 families– were chosen to be developed as a joint WASH knowledge center in the first MVP project:

- Busung,
- Kuala Sempang
- Pengujan

MVPs (starter villages) begin with actionable government-compliant data collection ...



A beautiful and simple app (which can be operated by the communities themselves) will be used to collect detailed individual household info

Collaboration Portal Collaboration Data Portal AMPL

Welcome, Pasaman District | Logout

Home Manage Modules Regional Profile Change Password Logout

Details of Respondents

Back to Data Survey

Data Information

Entry Date	October 08, 2017	Data Completeness Status	Complete
Name of Surveyor	Irfi Marnida, And Kab	Assessment of Survey Results	Approved
Supervisor Name	Artadila Idris, AMKL		

Household Data

Name of Respondent	Adi rahman	Number of Members of RT	1 Male, 2 Female
Respondent ID	201700102233	Number of HH	1
districts	Tigo Nagari	Land area	30 m ²
Village / Kelurahan	Bingai	Expenditure / Month	10,000,000
Address	Trenches rocks	Common Disease Sufferers Related to Drinking Water and Sanitation in the past 1 year	None
Name of Dusun	Trenches rocks	Government Assistance Ever Received by Households Related to Drinking Water and Sanitation	None
RT / RW	RT 00 / RW 00		
Name of Head of Household	Adi rahman		

The bilingual app compiles and analyses the data in a format required by the government

Halaman Administrasi Portal Kolaborasi Data AMPL

Selamat Datang, Kabupaten Pasaman | Logout

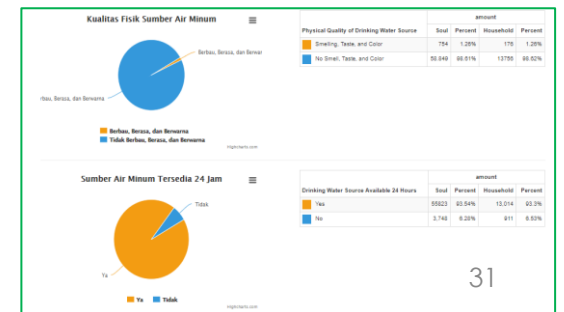
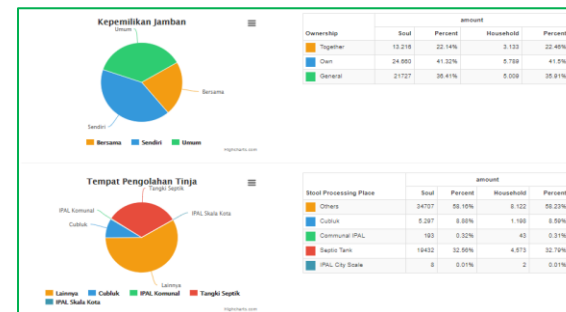
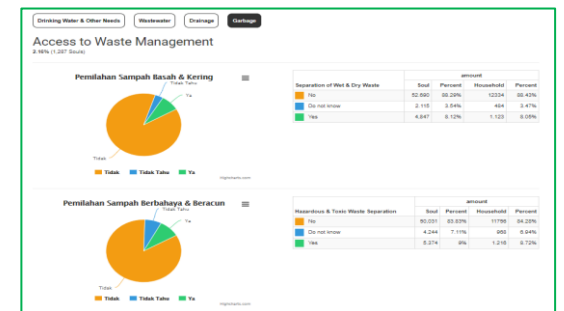
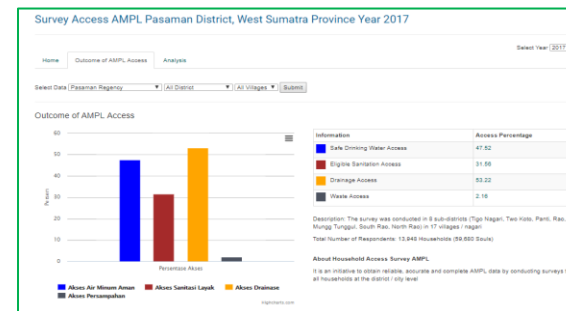
Home Kelola Modul Profil Wilayah Ganti Password Logout

Data Survey Tahun 2017

Tahun Survey: 2017 Enumerator: Semua Enumerator Submit Download Ke Excel

Show 10 entries Search:

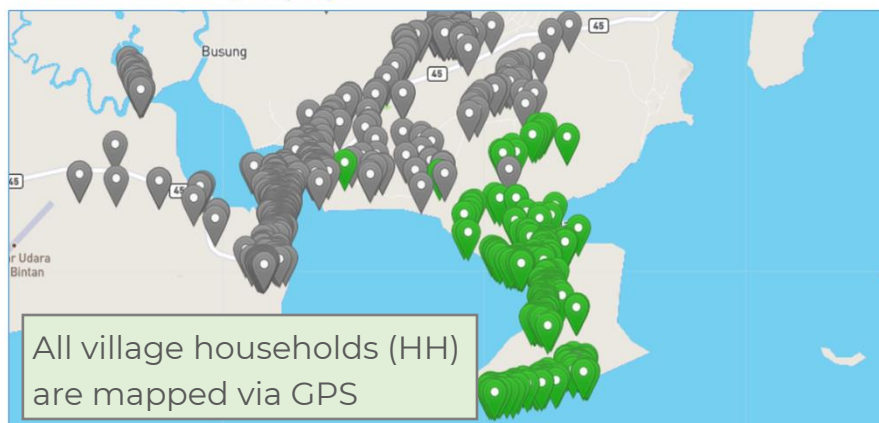
Record ID	Nama Responden	Kecamatan	Kelurahan	Enumerator	Status Data	Penilaian	Tanggal Input	Action
76440	marwita ID : 201700608519	Dua Koto	Simpang Tonang	Mila Ihsana	Lengkap	Belum Direview	27 November 2017	Detail Download
76439	yuniwar ID : 201700611697	Dua Koto	Simpang Tonang	Mila Ihsana	Lengkap	Belum Direview	27 November 2017	Detail Download
76438	nerplana ID : 201700611693	Dua Koto	Simpang Tonang	Mila Ihsana	Lengkap	Belum Direview	27 November 2017	Detail Download
76437	rewil aniani ID : 201700611692	Dua Koto	Cubadak	Mila Ihsana	Lengkap	Belum Direview	27 November 2017	Detail Download
76436	ifra yunice ID : 201700611694	Dua Koto	Simpang Tonang	Mila Ihsana	Lengkap	Belum Direview	27 November 2017	Detail Download
76435	marlina ID : 201700611696	Dua Koto	Simpang Tonang	Mila Ihsana	Lengkap	Belum Direview	27 November 2017	Detail Download
76434	nipres yanti ID : 201700611695	Dua Koto	Simpang Tonang	Mila Ihsana	Lengkap	Belum Direview	27 November 2017	Detail Download



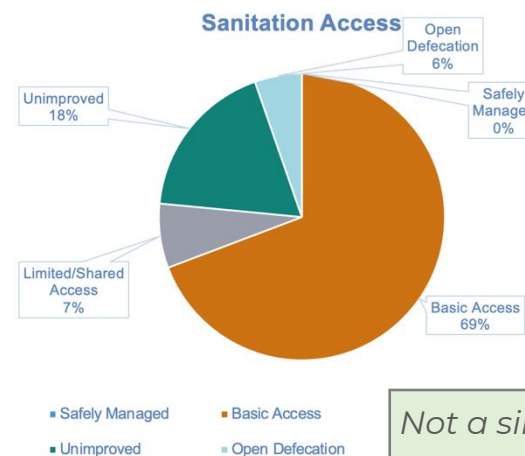
... revealing the national & local urgency

Distribution of households

383 households – 2,048 people



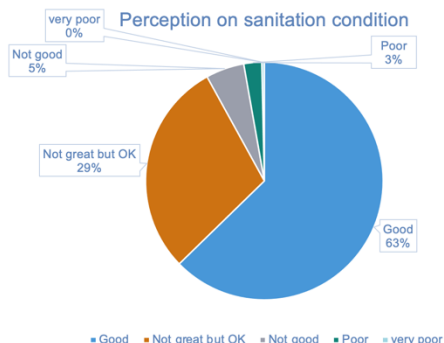
Sanitation Access (following Indonesia's definitions)



	Jumlah rumah
Safely managed	0
Basic access	288
Shared/Limited Access	30
Unimproved	75
Open Defecation	21
TOTAL	383

Not a single HH (!) satisfies the national definition of safe sanitation ...

Basic sanitation in detail



Perception	No. of Households
Good	180
Not great but OK	85
Not good	15
Poor	7
Very poor	1
TOTAL	288

A granular view reveals that even "basic sanitation" is often unacceptable



Rumah dengan Bau Tidak Sedap dari Toilet (Houses suffering from smelly sanitation: 70!)

Hasil Pencarian Data

Show 10 entries

No.	Nama Responden	Nama Kepala Rumah Tangga	Alamat
1	Percobaan	Ali	Selat bintang 1, Selat bintang 1, Pengujan, Teluk Bintang
2	Percobaan	Kamarudin	Selat Bintang 1, Selat Bintang 1, Pengujan, Teluk Bintang
3	Deby karisma	Asmawi	Selat Bintang 2, Selat Bintang 2, Pengujan, Teluk Bintang
4	Budiman	budiman	Selat Bintang2, Selamat Bintang2, Pengujan, Teluk Bintang
5	Alo	Alo	Selat Bintang 2, Selat Bintang 2, Pengujan, Teluk Bintang
6	Ainun	Ali	Selat bintang 1 no.11, Selat bintang 1 no.11, Pengujan, Teluk Bintang
7	Muhamad Nazar	Muhamad Nazar	MuHAMAD NAZAR, MuHAMAD NAZAR, Pengujan, Teluk Bintang
8	Zaidah	Mahadar	Selat bintang 1 no.26, Selat bintang 1 no.26, Pengujan, Teluk Bintang
9	Abdul rahman	Abdul Rahman	Selat bintang 1 no.23, Selat bintang 1 no.23, Pengujan, Teluk Bintang
10	Isa	Isa	Selat bintang 1 no.25, Selat bintang 1 no.25, Pengujan, Teluk Bintang

Showing 1 to 10 of 70 entries

Census Survey key findings + action

Total number of houses surveyed in all 3 villages:	1,234	(%)
Households on safe sanitation (using UN definition):	0	(0)
Households on OD (Open Defecation):	38	(3)
Households on substandard sanitation:	583	(47)
Households without running water:	350	(28)

Total number of houses surveyed in Busung:	400	
Households on safe sanitation (using UN definition):	0	
Households on OD (Open Defecation):	3	(1)
Households on substandard sanitation:	~197	(49)
Households without running water:	6	(2)

Total number of houses surveyed Kuala Sempang:	451	
Households on safe sanitation (using UN definition):	0	(0)
Households on OD (Open Defecation):	14	(3)
Households on substandard sanitation:	187	(41)
Households without running water:	288	(64)

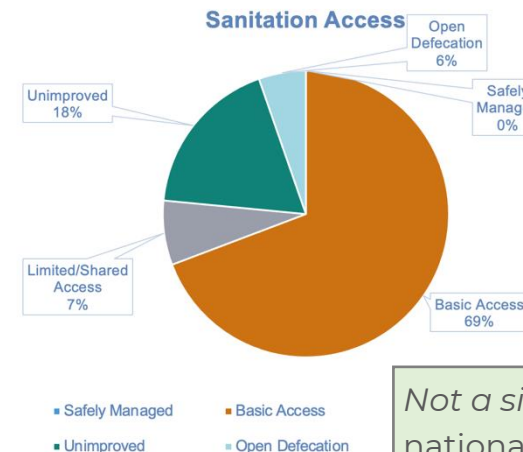
Total number of houses surveyed in Pengujan:	383	
Households on safe sanitation (using UN definition):	0	(0)
Households on OD (Open Defecation):	21	(5)
Households on substandard sanitation:	199	(52)
Households without running water:	92	(24)

This survey informed our decision-making as follows:

All village leaders agreed that we should help the families on **OD** (Open Defecation) first. Since the OD families tend to live in isolation, they cannot share the systems, so they got their own SWG. They all needed a washroom as well, which they received. The OD families who did not yet have running water yet received water access through public water meters or their own towers, so now all these OD families have complete safe WASH!

To demonstrate that the sharing system works and we can reduce the cost of safe sanitation to < 3 juta per family, each village chose 3 neighboring families to share one SWG. If you still have time after the ceremony, you can see the shared system and hear from them directly!

Sanitation Access (following Indonesia's definitions)



	Jumlah rumah
Safely managed	0
Basic access	288
Shared/Limited Access	30
Unimproved	75
Open Defecation	21
TOTAL	383

Not a single HH in Pengujan satisfies the national definition of safe sanitation ...

The WASH recipients

58 families (216 residents) received complete WASH.
18 residents gained access to running water.

Here you can see the locations of the WASH recipients.

Our organisation and the owner of the data (the government) can see these locations in the survey app itself and click on each flag to obtain the complete survey data for that household.



The WASH recipients

Nr	Family / org name	Location	SWG	Water Supply	Kitchen sink	Washroom	Nazava	# people impacted
1	Hamzah	Busung, RT 03 RW 02	SWG 1	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (New)	<input checked="" type="checkbox"/>	5
2	Rika Pernawati	Busung, RT 03 RW 02	SWG 2	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
3	Hamzah	Busung, RT 03 RW 01	SWG 3	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
4	Samsiah	Busung, RT 03 RW 01	SWG 4	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	2
5	Nur Samsidar	Busung RT 03 RW 01	SWG 5	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	4
6	Zahari / Zubaidah	Busung RT 03 RW 01	SWG 6	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	2
7	Jamaliah	Busung RT 03 RW 01	SWG 7	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	2
8	Rahimi	Busung RT 02 RW 02	SWG 8	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	2
9	Zainuddin	Busung, RT 02 RW 02	SWG 9	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
10	Abdillah	Busung, RT 02 RW 01	SWG 10	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	1
11	M Zahid / Ajarnah	Busung, RT 02 RW 01	SWG 11	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	5
12	Maryam / Kurniawan	Busung, RT 01 RW 02	SWG 12	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
13	Noni	Busung, RT 01 RW 02	SWG 13	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	5

The WASH recipients

Nr	Family / org name	Location	SWG	Water Supply	Kitchen sink	Washroom	Nazava	# people impacted
14	Afandi	Busung, RT 01 RW 01	SWG 14	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	4
15	Joni Irawan	Busung, RT 01 RW 01	SWG 15	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	1
16	Padi / Siti Fauziah	Busung, RT 01 RW 01	SWG 16	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	5
17	Abdul Qodir	Busung, RT02 RW 01	SWG 17	Government	<input checked="" type="checkbox"/>	(already had Washroom)	<input checked="" type="checkbox"/>	6
18	Abdul Samad	Busung, RT 01 RW 01	SWG 18 (2-share)	Government	<input checked="" type="checkbox"/>	(already had Washroom)	<input checked="" type="checkbox"/>	5
19	Arsyad	Busung, RT 01 RW 01	SWG 18 (2-share)	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (New)	<input checked="" type="checkbox"/>	7
20	Salamah	Busung, RT 01 RW 02	SWG 19 (3-share)	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	5
21	Nazaruddin	Busung, RT 01 RW 02	SWG 19 (3-share)	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	5
22	Heri	Busung, RT 01 RW 02	SWG 19 (3-share)	Government	(already had kitchen sink)	(already had Washroom)	<input checked="" type="checkbox"/>	4
23	Janiti	Kuala Sempang, RT 01 RW 02	SWG 20 (2-share)	Government	<input checked="" type="checkbox"/>	(already had Washroom)	<input checked="" type="checkbox"/>	2
24	Ahmadi	Kuala Sempang, RT 01 RW 02	SWG 20 (2-share)	Government	<input checked="" type="checkbox"/>	(already had Washroom)	<input checked="" type="checkbox"/>	5
25	Hasyim	Kuala Sempang, RT 01 RW 02	SWG 21	<input checked="" type="checkbox"/> (connect him via watermeter to grid)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	2
26	Kamis	Kuala Sempang RT 01 RW 02	SWG 22	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	1

The WASH recipients

Nr	Family / org name	Location	SWG	Water Supply	Kitchen sink	Washroom	Nazava	# people impacted
27	Saminah	Kuala Sempang RT 01 RW 02	SWG 23 (2-share)	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	2
28	Sunyoto / Sa Amah	Kuala Sempang RT 01 RW 02	SWG 23 (2-share)	Government	(already had kitchen sink)	(already had Washroom)	<input checked="" type="checkbox"/>	3
29	Ahmad	Kuala Sempang RT 01 RW 02	SWG 24	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	1
30	Tomi Pernande	Kuala Sempang RT 01 RW 02	SWG 25	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
31	Ismail	Kuala Sempang RT 01 RW 02	SWG 26	<input checked="" type="checkbox"/> (connect him via watermeter to grid)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	1
32	A Rahim	Kuala Sempang RT 01 RW 02	SWG 27	Government	(already had kitchen sink)	(already had Washroom)	<input checked="" type="checkbox"/>	5
33	Samsul Arifin	Kuala Sempang RT 01 RW 02	SWG 28	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
34	Andre Apriansah	Kuala Sempang RT 01 RW 02	SWG 29 (2-share)	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
35	Roni Saputra	Kuala Sempang RT 01 RW 02	SWG 29 (2-share)	Government	(already had kitchen sink)	(already had Washroom)	<input checked="" type="checkbox"/>	2
36	M Arifli Junaidi	Kuala Sempang RT 02 RW 01	SWG 30 (3-share)	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	1
37	Azim	Kuala Sempang RT 02 RW 01	SWG 30 (3-share)	Government	(already had kitchen sink)	(already had Washroom)	<input checked="" type="checkbox"/>	3
38	Rohmaniah	Kuala Sempang RT 02 RW 01	SWG 30 (3-share)	Government	(already had kitchen sink)	(already had Washroom)	<input checked="" type="checkbox"/>	1
39	Supoyo	Kuala Sempang RT 02 RW 05	SWG 31	<input checked="" type="checkbox"/> (new water tower)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	8

The WASH recipients

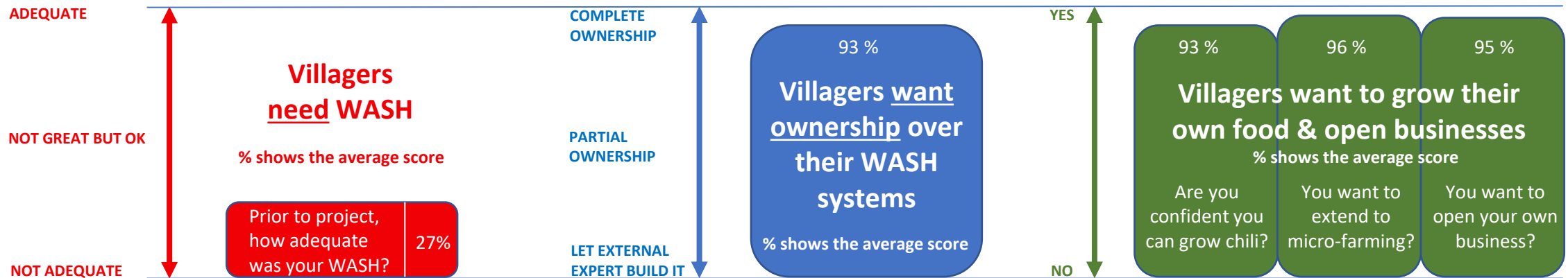
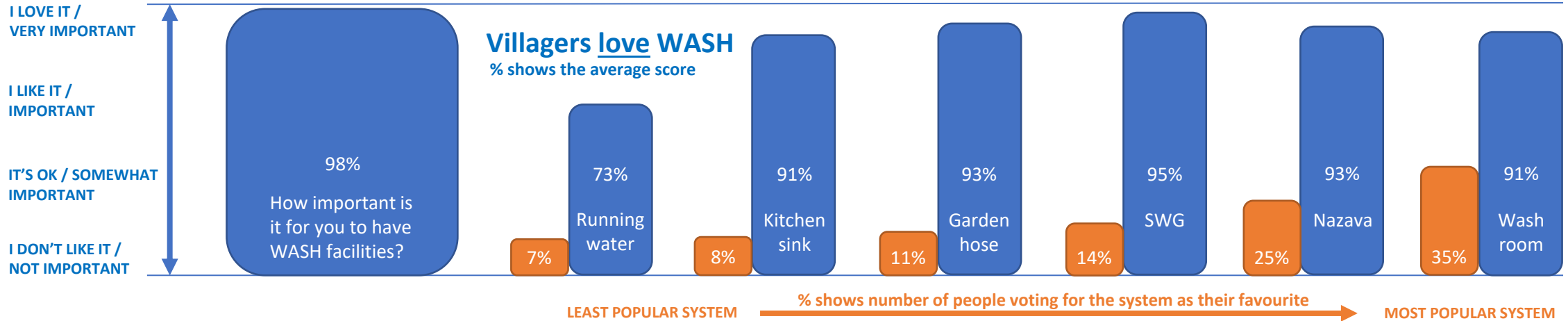
Nr	Family / org name	Location	SWG	Water Supply	Kitchen sink	Washroom	Nazava	# people impacted
40	M Yani	Kuala Sempang RT 02 RW 05	SWG 32	<input checked="" type="checkbox"/> (2-share, new water tower)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	4
41	Johari	Kuala Sempang RT 02 RW 05	SWG 33	<input checked="" type="checkbox"/> (2-share, new water tower)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	2
42	Parngat	Kuala Sempang RT 02 RW 05	SWG 34	<input checked="" type="checkbox"/> (new water tower)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	1
43	Kantor Desa	Kuala Simpang RT 01 RW 02	SWG 35	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	17
44	Hasnah	Pengujan Dusun 1 RT 08 RW 01	SWG 36	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	4
45	Johari	Pengujan Dusun 1 RT 08 RW 01	SWG 37	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
46	Sadri	Pengujan Dusun 1 RT 01 RW 01	SWG 38	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	2
47	Mastur H	Pengujan Dusun 1 RT 08 RW 01	SWG 39	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	4
48	Kasim	Pengujan Dusun 2 RT 03 RW 02	SWG 40	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	5
49	Muhammad Yaqob / Aini	Pengujan Dusun 2 RT 03 RW 02	SWG 41	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	5
50	Miah	Pengujan Dusun 2 RT 02 RW 1	SWG 42	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
51	Limah	Pengujan Dusun 2 RT 07 RW 02	SWG 43	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	2
52	Onah / Syafaruddin	Pengujan Dusun 3 RT 06 RW 03	SWG 44	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (upgrade)	<input checked="" type="checkbox"/>	3

The WASH recipients

Nr	Family / org name	Location	SWG	Water Supply	Kitchen sink	Washroom	Nazava	# people impacted
53	Alo	Pengujan Dusun 3 RT 05 RW 03	SWG 45	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	2
54	Rahman	Pengujan Dusun 3 RT 06 RW 03	SWG 46	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	5
55	Bungtong	Pengujan Dusun 3 RT 06 RW 03	SWG 47	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	3
56	TPQ (School)	Pengujan Dusun 1 RT 02 RW 01	SWG 48 (3-share)	Government	(already had kitchen sink)	(already had Washroom)	<input checked="" type="checkbox"/>	15
57	Ramlah	Pengujan Dusun 1 RT 02 RW 01	SWG 48 (3-share)	Government	<input checked="" type="checkbox"/>	(already had Washroom)	<input checked="" type="checkbox"/>	4
58	Okto Amran	Pengujan Dusun 1 RT 02 RW 01	SWG 48 (3-share)	Government	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/> (new)	<input checked="" type="checkbox"/>	4
	Total:		48	5	51	46	58	216

WASH User Feedback

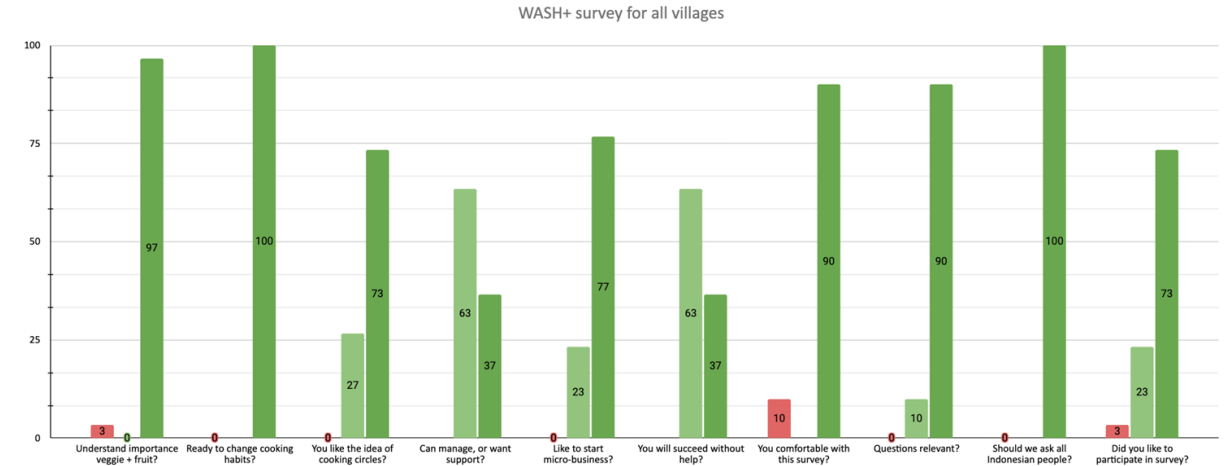
Demonstrating society's problems with WASH – and the project's success in addressing it



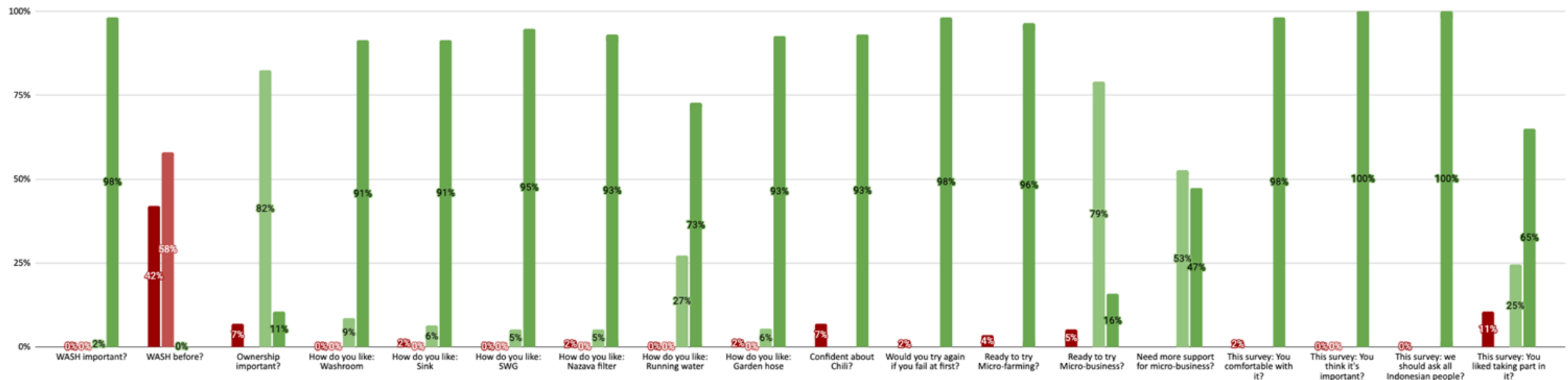
Feedback on our WASH curriculum

On the right, the results of the answers of the members of the women's associations (PKK) from the 3 villages in response to the WASH+ education. Taking the results from all 3 villages together:

- 97% now understood the importance of plant-based diets,
- 100% wanted to start a micro-business
- 100% felt that all Indonesian women should receive more of such education and such surveys! This is job for the PKK!
- 100% feels that all Indonesian people should receive such surveys
- > 60% of the women say that they would like to have a bit of help from the PKK to start their businesses and to learn how to start a micro-farm, especially when the soil is not so good



Overall all 3 villages combined WASH-user Satisfaction survey results (the greener the answer bar, the more positive the user is)



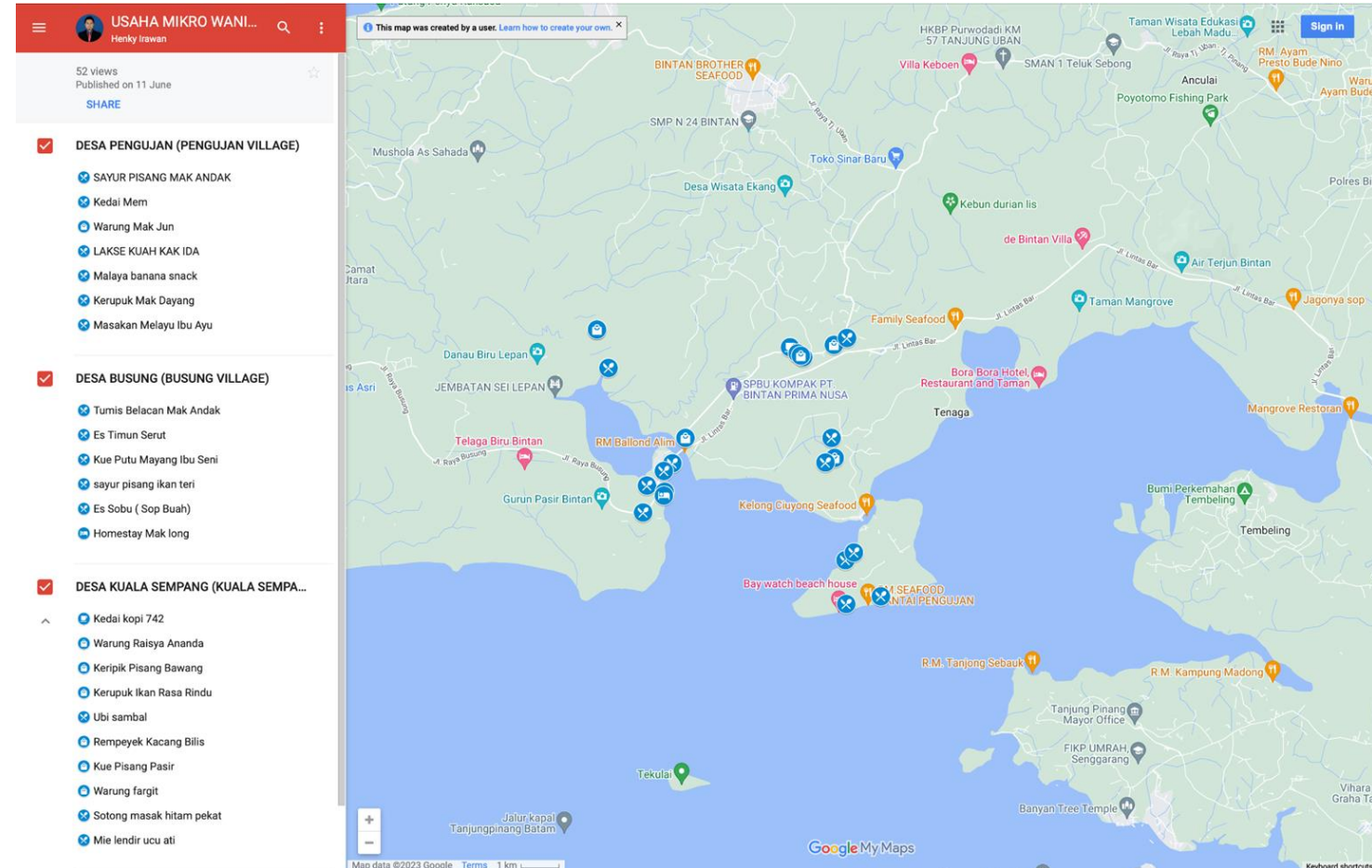
WASH+curriculum: starting a micro-business

Survey: after receiving our basic training, more than 80% of village families report they are interested in starting a micro-business,

Survey: Women want to own their own business, not a shared business!

We are doing the trainings together with the PKK (Women Association).

2 weeks after training, on 11 June, we already had 23 business registrations as per the screenshot !



WASH curriculum: power to the people



Certificate of Expertise

This is to certify that on this date **30 May 2023**

RIZA SAFRIYA HASTIKA

was certified as a Safe Water Garden Expert and has the authority
to teach other villages in the region of **Bintan**



Dr Marc van Loo
CEO SWG & LooLa



Jaya Putra
SWG Indonesia Chairman



Prof Lilik Soetiarso
Universitas Gadjah Mada



Henky Irawan
UMRAH university



Fany Wedahuditama
Director, GWP SEA



Elis Hastuti
Ministry Public Works & Housing

Supported/Sponsored by



Microloans: there is demand + supply!

Results from Pengujian survey all 383 families

- 50% the 92 families without access to running water want to borrow 2 - 5 juta loan to build a (shared) water tower
- > 10% want to borrow money to get Nazava filter
- > 10% want to borrow money to start a micro-business focusing on micro-farming and tourism services
- 10% want to borrow money to get a SWG
- Total value of loan request is Rp 400 juta (~ 1 juta per family)
- We expect interest to rise when more people are aware of the WASH assets we delivered

Supply

There are 3 MFI in Bintan ready to extend microloans, and we hope to work together with government to make such WASH micro-loans interest-free.



The rollout is beginning ...



Safe Water Gardens

Clean. Affordable. Essential.

Government follow-up

(which demonstrates the government belief in the project)

- Wet SWG trial in village → Wet SWG trial in city → Large project in Lingga island, equipping houses in the affordable housing program with wet SWGs
- Two new MVPs in Bintan, where regional officers will be trained as well
- WASH Census data survey for all of Bintan, powered by communities themselves
- In Pekanbaru city: a large project helping people living on the outskirts of the city (dependent on groundwater) to equip them with (fully circular) SWGs

Corporate follow-up

- Many companies operating in (sub)tropical villages (plantations, mining, food etc) already understand it will become necessary to put staff on safe WASH.
- With our systems, they can do so for less than a month salary per employee, gaining political capital in the process. The MVP is a great starting point.
- Sustainability reporting is easy with our projects, since the MVP squarely addresses 14 of the 17 SDGs and all progress can be measured.
- We are working with IPCC to quantify the carbon credits attached to a family on a SWG, but the expectation is it will be around 10 credits. With regional governments powering the regional rollouts following an MVP –addressing tens of thousands of families– it means that an MVP could well be worth hundreds of thousands of credits, creating an immediate financial incentive.
- Water.org, Waste.nl etc are keen to work with us to facilitate WASH microloans, and such loans could be supplied by companies as well, generating more win-win

Your company next? We hope so!



Phase 4: managed scale-up (starter villages)



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2023: the 10 starter village projects that will cause a chain reaction

2024: ~ 50 public / ESG projects initiated by provincial governments / companies

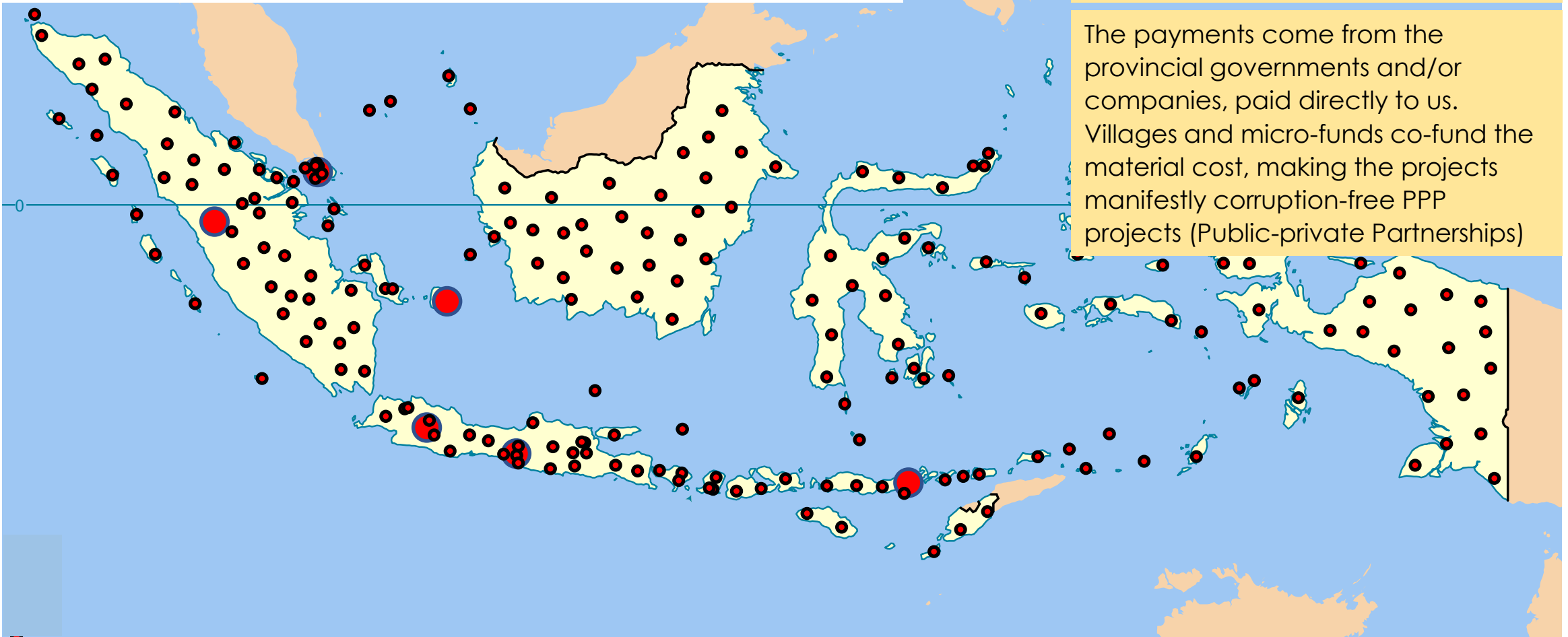
2025: public projects continue in more remote areas + ESG project demand builds up

2026: more remote areas, ESG continues, international projects will follow Indonesia

2027: last holdouts, while international and ESG projects will keep us busy

Note: each such starter village (where we train the community) only takes up a handful of staff for < 3 months. We keep our staff numbers and our admin light.

The payments come from the provincial governments and/or companies, paid directly to us. Villages and micro-funds co-fund the material cost, making the projects manifestly corruption-free PPP projects (Public-private Partnerships)



Phase 5: organic scale-up



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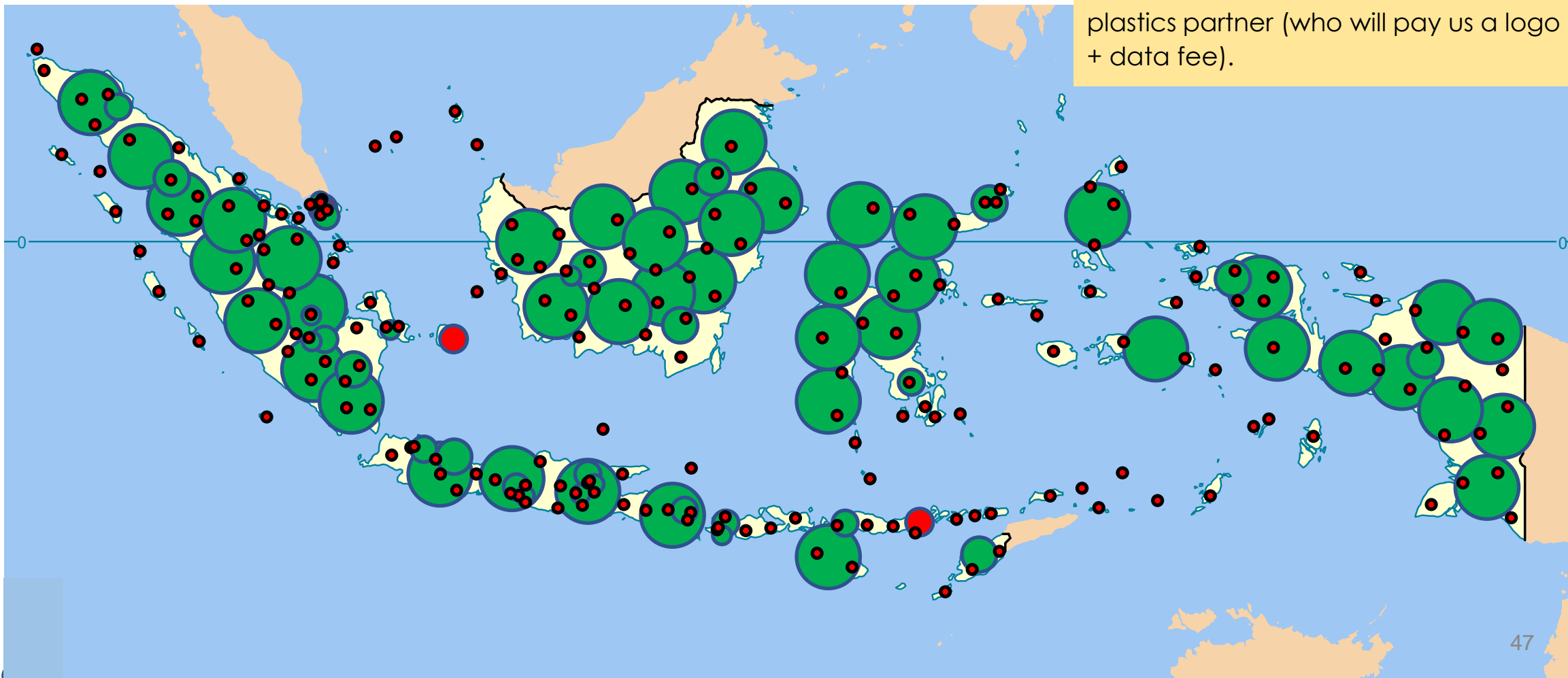
2024: the villages around the first 10 pilot projects start to build their own SWGs

2025: Widespread copying takes place, driven by popular demand

2026: by now the project is firmly in the national conscience & all villages will want it

2027: rollout is only constrained by ability of villages to train each other

Note: in this organic rollout, villages use their village funds plus micro-credit, learn from each other and simply buy the standard SWG sets from our plastics partner (who will pay us a logo + data fee).



#ChangingLives



Thank you all for being part of it !



Safe Water Gardens

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

Courtesy: Musim Mas, whose
donation changed her life

