



rise

REVITALISING INFORMAL
SETTLEMENTS AND
THEIR ENVIRONMENTS

Building global momentum

RISE ANNUAL ACTIVITY REPORT 2019

Contents

From the Director	04
Building global momentum	06
What is RISE?	08
Our approach – brought to life	10
2019 highlights	12
Our progress this year	14
Design & Engagement	18
Ecology	20
Environment	22
Human health	24
Wellbeing	26
Policy & Scaling up	28
Data management	30
Momentum across countries	32
Maintaining scientific excellence	38
Doctorates in the making	40
A connected global program	42
Reflections and lessons learned	44
Global partnerships	48



More than one billion people around the world live without basic sanitation. About 500,000 children under five die of diarrhoea each year.

RISE is on a mission to change this.

SOURCES

World Health Organization, 2017. | UNICEF, Estimates of child cause of death, Diarrhoea, 2018

From the Director

We find ourselves at an unprecedented time in climate policy and global affairs. People around the world, especially the youngest of us, are standing up and rejecting a world that mortgages the health of future generations for yesterday's economic growth models. We are rejecting a world that degrades natural systems, and demanding that the most vulnerable not be left behind as we continue to grow.

To solve the grand development challenges of growing sustainably and repairing the planet, we have to focus on the interactions between natural systems and human health.

Our purpose is to bring together leaders from across disciplines and across sectors to catalyse solutions to one of the greatest sustainable development challenges of our time: transforming the health and wellbeing of the urban poor.

We are on a mission to translate decades of water research into practice to benefit those most in need.

Our first year was spent finding our feet, finding our partners and our teams to lay the foundations of RISE. As you will read in this report, 2019 has seen us well and truly move from an 'inception' phase, to gathering steam and achieving remarkable project milestones.

Along the way, we have deliberately stuck to a model of having broad-based, multi-skilled teams in-country, with specialist research and delivery teams supporting from satellite hubs. While building in-coun-

try capacity takes time, we see this as a non-negotiable in making the RISE research systems and infrastructure have lasting impact.

None of our work would be realised without our amazing global team of researchers, our in-country teams and our partners. It is inspirational to watch everyone come together on such a complex, demanding and ambitious project.

Our achievements in RISE would not be possible without our funding partners: the Wellcome Trust, the Asian Development Bank (ADB) and most recently the Australian Department of Foreign Affairs and Trade, the Fiji Government, and the New Zealand Ministry of Foreign Affairs and Trade. We thank you for your trust in us, for your support, guidance and advice, and most importantly, your partnership.

We are on a mission to translate decades of water research into practice to benefit those most in need. ●



PROFESSOR REBEKAH BROWN
RISE PROGRAM DIRECTOR, AND SENIOR VICE-PROVOST
AND VICE PROVOST (RESEARCH), MONASH UNIVERSITY

“While building in-country capacity takes time, we see this as a non-negotiable in making the RISE research systems and infrastructure have lasting impact.”



Building global momentum

The 2019 RISE Annual Activity Report showcases the tangible advances the program has made over the past year, and particularly how we are advancing together – across disciplines, across teams and across countries.

ONGOING DATA COLLECTION IS FULLY OPERATIONAL ACROSS ALL SETTLEMENTS

Every quarter researchers and community fieldworkers have been deployed in to the field to monitor environmental, human health and wellbeing changes. Fresh soil, water and animal faeces are reviewed and analysed at local laboratories, and we now have a clear picture of residents' baseline health and wellbeing across all 24 informal settlements in the two countries, including a detailed picture of the health of children under five.

SUPPORT FROM OUR FIJIAN AND INDONESIAN GOVERNMENT PARTNERS HAS BEEN TREMENDOUS

Memorandums of Understanding have been signed, and we have collaborated on complex issues from land donation to water infrastructure maintenance responsibilities across diverse agencies and departments. The Mayor of Makassar officially opened our Indonesia demonstration site, showcasing how RISE's green infrastructure actually functions in informal settlements.

WE CONTINUE TO BE RESPONSIVE TO AND GUIDED BY COMMUNITIES

The 7,055 residents in the 24 RISE study settlements in Suva and Makassar have continued to guide all the work that we do. Our in-country teams have held regular meetings with Community Engagement Councils to keep them informed of progress, and also hear about their community's changing needs and expectations of how to be involved in RISE.

THE YEAR CONCLUDED BY LAUNCHING US INTO THE NEXT PHASE OF WORK

In early 2020 ADB will advance toward upgrading the first six settlements in Makassar, now that the residents have finished co-designing their water and sanitation infrastructure. And in Suva, the first six settlements to be upgraded have just been selected at a randomisation ceremony. Their infrastructure co-design process is soon to kick off thanks to funding from the Fiji and New Zealand Governments. ●



RISE is closely aligned with the Sustainable Development Goals

RISE is taking an integrated and holistic approach to achieving the Sustainable Development Goals, with a deep understanding of the inherent connections between each.

Program outcomes will have impact across the Global Goals, with particular focus on Good health and wellbeing (SDG 3); Clean water and sanitation (SDG6); and Sustainable cities and communities (SDG11).



Assistant Lecturer from the University of the South Pacific's School of Geography, Earth Science and Environment, Camari Koto, has been instrumental in mapping RISE settlements in 2019.

What is RISE?

THE CHALLENGE

Informal settlements are home to more than a billion people, mostly in rapidly growing urban areas of low- to middle-income countries. Those who live in informal settlements have poor health and wellbeing, inextricably linked to environmental exposure to pathogens, pollutants and disease vectors in water, food, air and soil. And with the acceleration of global urbanisation, it is expected that up to three billion people could be living in urban informal settlements by 2050.

The two main approaches for water and sanitation provision are failing to reach the urban poor. First, conventional ‘big pipes’ — relying on large, centralised, energy-intensive infrastructure to provide, capture, treat, and dispose of water and human waste — can take decades to reach informal settlements.

Second, household-scale water, sanitation and hygiene (WASH) interventions are not fit-for-purpose in high-density urban slums due to high population densities and the pervasive exposure to pathogens, pollutants and disease in the communal environment outside the home.

What is needed is an approach to revitalisation of informal settlements at the community scale that addresses these problems from a holistic perspective of overall environmental and human health, using cost-effective techniques that can bridge the gap between WASH and big pipes infrastructure.

THE RISE RESPONSE

Our vision

Our vision is to improve human, environmental, and ecological health in informal urban settlements across the developing world through a new approach to the provision and use of water, bridging the gap between WASH and big pipes infrastructure.

A nature-based, water-sensitive approach to the revitalisation of informal settlements at the community scale has enormous potential to improve the lives of women and men, girls and boys by strengthening access to essential water and sanitation services and creating a healthy environment.

RISE encapsulates this holistic, environmentally integrated approach to the revitalisation of urban informal settlements.

Our approach

To achieve our vision and establish RISE as an approach that can be used throughout the developing world, we need to do more than simply apply water-sensitive design principles to the revitalisation of a handful of settlements. Our aim is to collect the first-ever rigorous scientific evidence that a localised, water-sensitive approach to upgrading informal settlements can deliver sustainable, cost-effective improvements to health and the environment.

The RISE program aims to achieve this by conducting a randomised control trial involving 12 informal settlements in Suva, Fiji and 12 in Makassar, Indonesia.

In the first phase of the trial, six settlements in each country are undergoing a water and sanitation upgrade. The impacts of the upgrades on the health of the environment and the health of the communities will be monitored, and compared against the other six settlements in each country.

In the second phase of the trial, the other six settlements in each country will be upgraded.

Our objectives

RISE is generating new evidence across a range of distinct but highly interrelated disciplines. In RISE we call these disciplines ‘objectives’, and the evidence generated can ultimately lead to better policies and investments for people living in urban informal settlements around the world.

The bigger impact

RISE has the vast potential to improve the lives of the billion people currently living in urban informal settlements worldwide. With the first-ever rigorous evidence of effectiveness in hand, the long-term ambition of RISE is to expand the approach across the Asia-Pacific and the world, to give millions the opportunity to live healthier and safer lives. ●



Our approach – brought to life

In 2019, we completed a demonstration project in the Batua neighbourhood of Makassar, Indonesia, to showcase our water-sensitive approach to upgrading informal settlements.

RISE integrates 'green technologies', including wetlands, biofiltration gardens and 'smart' pressure sewers into buildings and landscapes.

Also known as 'nature-based solutions', this infrastructure mimics the earth's natural systems to treat and clean water, making it more ecologically and economically sustainable.

Co-design and community engagement

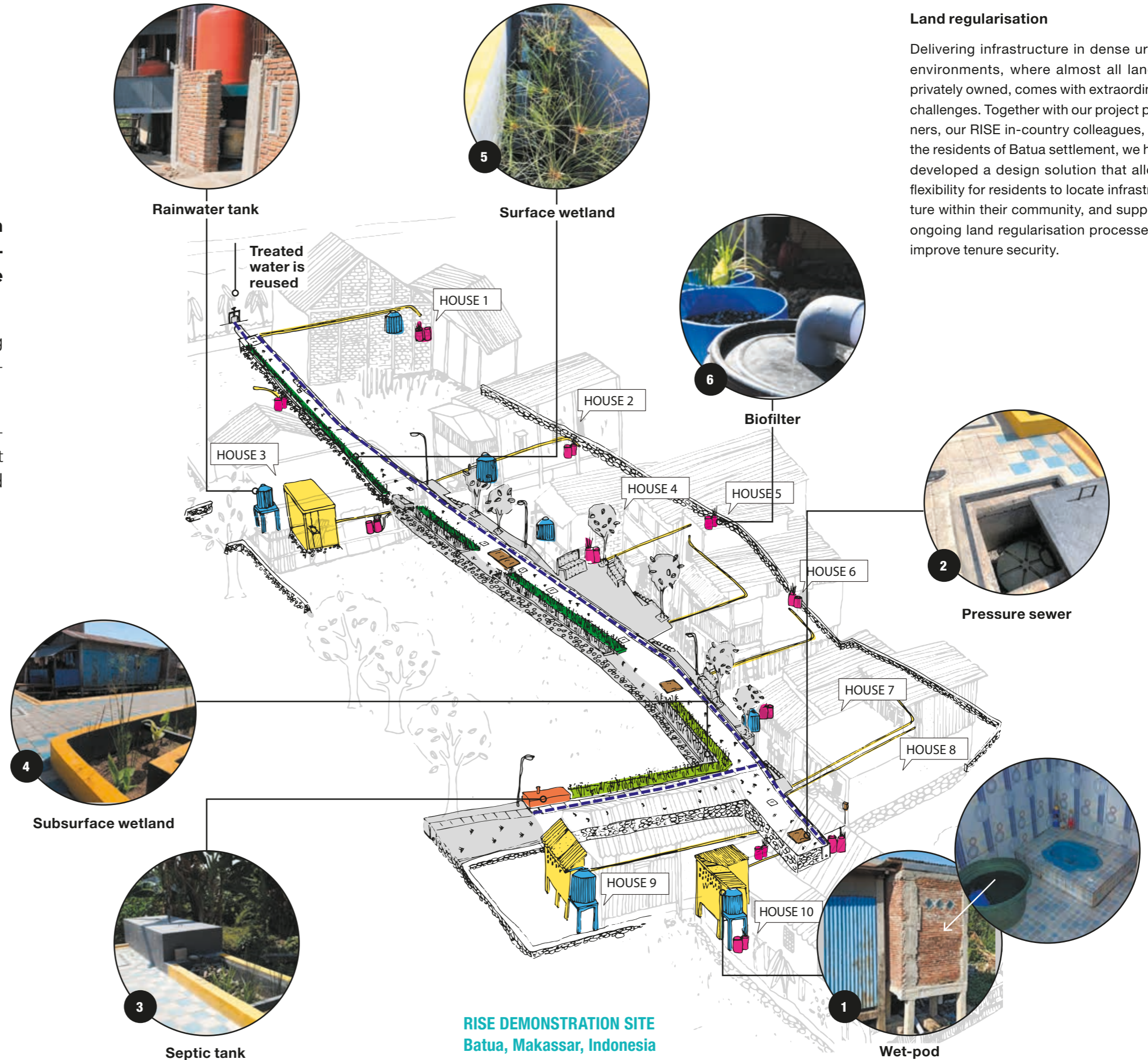
Community engagement and co-design is a fundamental pillar of the RISE approach.

The Batua demonstration project was implemented using the full community co-design process as planned for the larger-scale intervention sites.

The intensive co-design process took place in Batua settlement in September 2017, and involved the entire community and government partners.

Environmentally integrated wastewater treatment

1. Wet-pod (bathroom), 2. Pressure sewer, 3. Septic tank, 4. Subsurface wetland, 5. Surface wetland, 6. Biofilter for greywater (showers and sinks)



Land regularisation

Delivering infrastructure in dense urban environments, where almost all land is privately owned, comes with extraordinary challenges. Together with our project partners, our RISE in-country colleagues, and the residents of Batua settlement, we have developed a design solution that allows flexibility for residents to locate infrastructure within their community, and supports ongoing land regularisation processes to improve tenure security.

2019 highlights



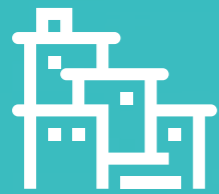
First demonstration site, Batua, completed showcasing RISE infrastructure in action

7,055 RESIDENTS



taking part in RISE across

26 ASIA-PACIFIC COMMUNITIES



supported by

A GLOBAL TEAM OF 170



3
new global partners
and collaboration across
9 countries

100%
communities successfully
randomised into earlier- and
later-phase intervention groups

24
settlements completed baseline
monitoring, comprising **7,055**
people and **1,411** houses

850
hours of bio-acoustic
data recorded to monitor
ecological soundscapes

1,587
child stools, bloods and
haemoglobin measurements taken

1,284
women and men, girls and boys
participated in infrastructure co-
design sessions in Makassar

3,393
surveys on children's health
and wellbeing

30,800+
mosquitos caught and identified

4,000,000
temperature and humidity data
points collected

2
International Scientific Advisory
Panel meetings held

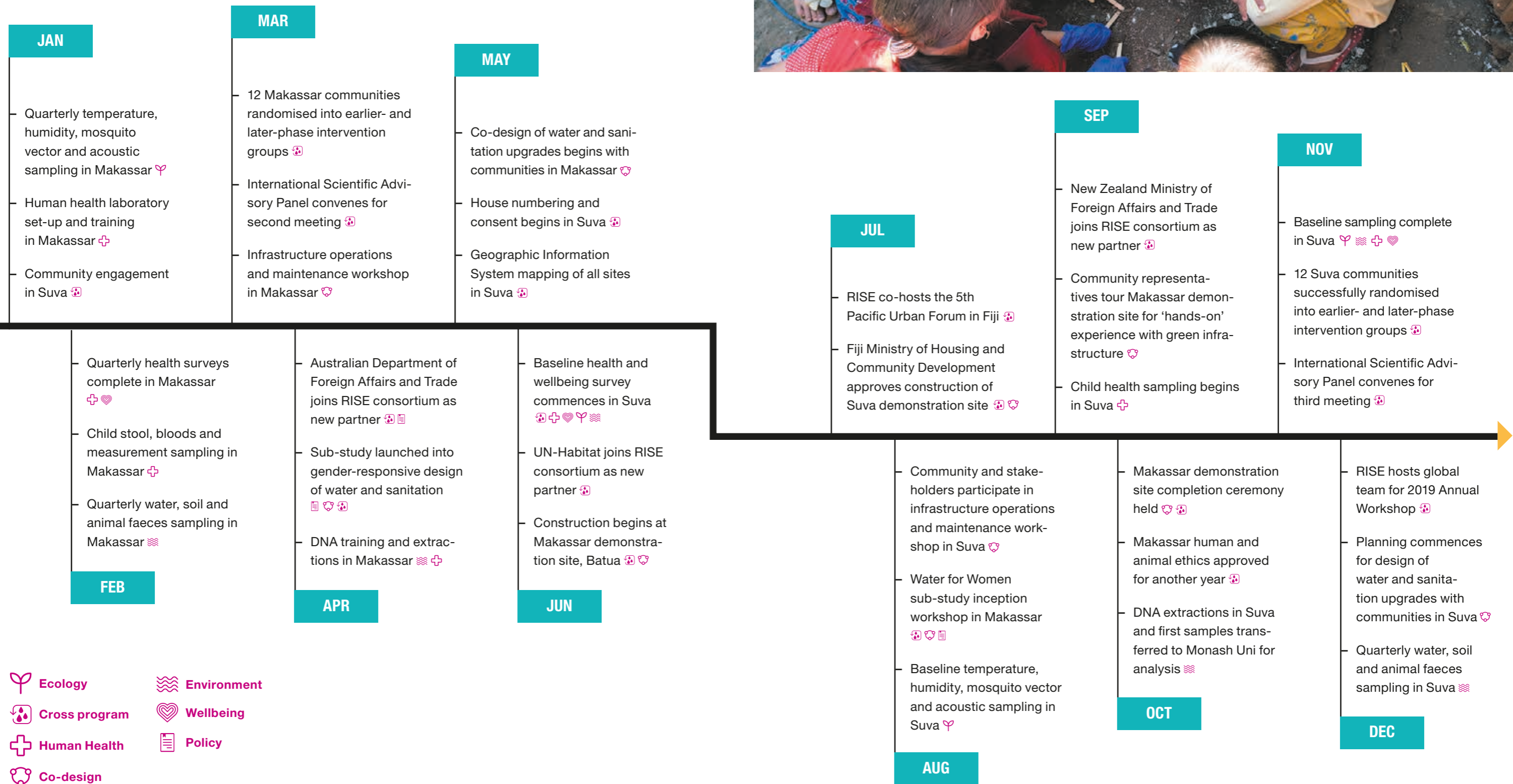
Pioneering
Water for Women sub-study
designed and initiated

\$9.3M
new funding secured in 2019

Our progress this year



RISE's littlest samplers: Makassar children see it's never too early to start learning about healthy environments.



- 🌿 Ecology
- 🌊 Environment
- 🗺️ Cross program
- 🗺️ Wellbeing
- + Human Health
- 📄 Policy
- 🗺️ Co-design



RISE is delivering water and sanitation solutions through an inclusive and gendered lens, ensuring equitable access to the benefits of the program so that **no one is left behind.**



Children are important contributors in design. They visualise their ideal environments through creative play, with their creations displayed prominently during RISE workshops.

Design & Engagement

Objective 1

Every resident across the 24 Makassar and Suva communities is invited – encouraged – to help design and make decisions around the RISE water and sanitation upgrades for their neighbourhood. Every community is engaged with tailored workshops to bring out diverse views on how infrastructure can improve their lives.

The Design & Engagement team set out in 2019 to deliver participatory design workshops (locally called *PANRITA*) with the first six intervention communities in Makassar. Over two weeks in each community, men, women, youth and children came together with RISE researchers to design water and sanitation interventions for their neighbourhood. This included marking future locations of pressure tanks, septic tanks, wetlands and pipes in unbuilt spaces and along roads and accessways.

The team also successfully launched the Indonesia demonstration site: Batua neighbourhood was fully upgraded for communities and stakeholders to see RISE's water-sensitive infrastructure in action.

In Suva, the team focused on building capacity and understanding the local context with in-country staff in preparation for participatory design activities to be undertaken after randomisation. A demonstration site is also being planned in Suva to showcase how water-sensitive infrastructure can be implemented in the Pacific context. The team successfully completed the detailed engineering drawings for this community, Tamavua-i-Wai, which clearly map out the requirements for infrastructure for the neighbourhood.

In both Makassar and Suva, the in-country teams have confidently taken ownership of engaging with communities and government in this important phase of the program.

DESIGN & ENGAGEMENT IN 2019

6 participatory design (*PANRITA*) intensives, with three weeks of vigorous engagement in each community with a total of 20 weeks of activities with communities

300+ households and 1,500+ people engaged

80+ wetlands and over 70 wet-pods located and designed across the six communities

60+ meetings with government (provincial, municipal, district and sub-district)



It has been challenging to balance the research components of RISE with the actual delivery of RISE infrastructure upgrades. It takes time to build consensus with stakeholders, balance plans with realities in the field and [manage] donor expectations.

– DR IHSAN LATIEF, INDONESIA BUILD TEAM LEADER



Through participatory workshops, the first six Makassar communities have successfully planned water and sanitation infrastructure to meet their unique needs.



Fiji's Build Team brainstorms how settlements can be serviced with appropriate systems.

What is *PANRITA*?



A shortening of '*Perencanaan RI kampung TA*', meaning 'planning in your neighbourhood'. The term comes from a local tradition where a craftsman works with a community to design and build in a holistic way with their environment.



In August the Fiji team successfully deployed ecological monitoring equipment in all 12 settlements that will continually monitor acoustics, temperature and humidity for the duration of the study.

Ecology

Objective 2A

RISE's ecology team monitors the changing ecological conditions of settlements to assess the health of the environment before and after RISE's interventions are installed. Researchers monitor rainfall, temperature and humidity, urban biodiversity, and prevalence of vectors of human disease such as mosquitos and rodents.

The ecology team has completed one full year of quarterly environmental monitoring across all 12 communities in Makassar. This includes a recent expansion of monitoring to capture data on seasonal and spatial variation in rainfall across the broader RISE study area following installation of rain gauges in five communities.

The team started similar environmental monitoring in Suva in August. Monash University researchers trained, then shadowed, the local field team as they installed temperature and humidity sensors and bio-acoustic recorders in all 12 communities in Suva. Fieldworkers also learned

how to set adult mosquito traps, while local laboratory staff learned how to sort and identify the adult mosquitos captured.

In both Makassar and Suva, training by international researchers in standard ecological field and laboratory techniques has empowered local staff to take the lead in collecting ecological data, and also broadened their understanding of the role of and need for ecological monitoring within RISE. At the same time, the local knowledge that continues to be shared with international researchers by the Indonesia and Fiji field teams gives invaluable context for interpreting and understanding ecological data.

ECOLOGY IN 2019

4 million+

temperature and humidity data points collected

30,800+

mosquitos caught and identified

850+

hours of acoustic data recorded

200+

rats (*Rattus norvegicus* and *R. exulans*) and shrews (*Suncus murinus*) captured in Makassar

3

months of local rainfall data collected in five RISE settlements



A highlight for me this year has been starting the Fiji chapter of RISE and working with another group of amazing people. Kicking off in Suva a few months after Makassar, many of us were waiting eagerly — finally getting to Suva and deploying our equipment has been so great!

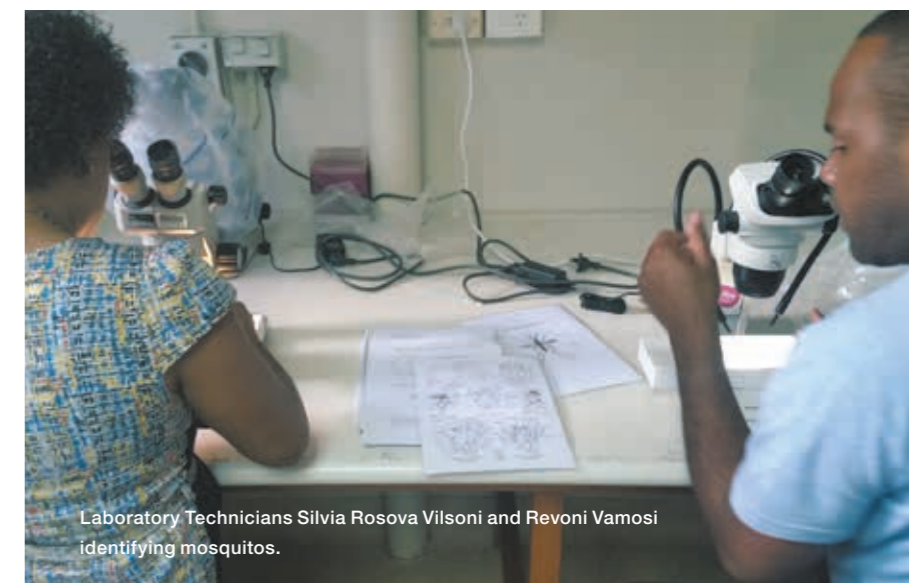
— DR PETER FABER, POSTDOCTORAL ASSOCIATE, RISE ECOLOGY TEAM, MONASH UNIVERSITY



RISE Microbiology Research Fellow Dr Rebekah Henry shows residents of Tallo settlement in Makassar how to extract DNA from water samples.

Bringing science to the field

This year, Science Days have been pivotal in bringing people and science together by bringing laboratory work outside and putting it into the hands of communities — literally. During these workshops, residents identified soil and water samples they wanted tested, to get a sense for themselves of the health of their environment. RISE researchers also taught sampling skills like DNA extraction and bacteria identification. Science Days have been just as valuable for improving community knowledge about healthy environments as they have been for researchers to get out of the lab and engage with residents.



Laboratory Technicians Silvia Rosova Vilsoni and Revoni Vamosi identifying mosquitos.



Senior Community Fieldworker Alex Wilson (bottom) and Community Fieldworker Ateca Sovanivalu (standing) training in the field with RISE Chief Investigator Associate Professor David McCarthy.



Testing for pathogens on samples from Suva settlements.

Environment

Objective 2B

The environment team is committed to answering the question, ‘how is RISE’s water and sanitation intervention improving the physical environment of informal settlements?’ Looking at changes in water, soil quality and biodiversity is key to finding the answers.

In 2019, the team focused on establishing a pre-intervention baseline picture of environmental health in the 12 Makassar settlements. Monash University researchers travelled to Makassar to collect and analyse samples. Indonesia team members were also trained in DNA extraction procedures essential for the next phase of analysis — looking for disease-causing bacteria in environmental samples.

Not only did residents get involved in collecting samples to get a sense for themselves of the health of their environment, but the local RISE Indonesia team is now fully trained and can independently run quarterly environmental sampling campaigns.

Researchers also worked side-by-side with the local RISE Fiji team to help set up the state-of-the-art RISE laboratory based at Fiji National University, and complete their first full sampling round of water, soil and animal faeces from all 12 settlements. Fiji staff will soon complete their DNA training, further empowering the local team to take the lead on environmental sampling and analysis work in 2020.

ENVIRONMENT IN 2019

791
water, soil, and animal faeces baseline samples collected in Makassar

274
water, soil, and animal faeces samples collected from the first round in Suva

2,000+
TaqMan qPCR assays conducted on DNA from Suva and test samples at Monash University lab

1
new qPCR machine donated in-kind from Monash University to RISE to analyse samples



We are doing some of the most advanced environmental monitoring and analysis in the Pacific in our new RISE laboratory. Each quarter we examine pathogen load in more than 100 water, soil, and animal faeces samples from the 12 RISE settlements.

— **REVONI VAMOSI, RISE LABORATORY TECHNICIAN, FIJI NATIONAL UNIVERSITY**



RISE Postdoctoral Researcher Dr Rachael Lappan analyses samples for the presence of gut microbes.

Detecting gut microbes

RISE is taking an ambitious approach to detect disease-causing microbes in communities, combining novel sequencing technologies with highly sensitive diagnostic techniques. Custom-designed TaqMan Array Cards (TAC) can simultaneously detect 33 important gut microbes, including disease-causing bacteria, viruses and parasites, as well as human faecal markers. TAC analysis will allow us to track these microbes in both faecal and environmental samples collected from RISE settlements, indicating which ones are most common and allowing us to measure the impact of RISE’s water and sanitation interventions on the diversity of microbes over time.



Senior Community Fieldworker Hamdan Habsji collects animal faeces samples in Makassar.



The RISE Indonesia team prepares to start the baseline health and wellbeing survey in Makassar.

Human health

Objective 3

In 2019, the human health team focused on achieving a baseline understanding of residents' health and wellbeing across both countries, and getting into a rhythm of collecting health samples each quarter.

The team successfully completed the baseline health and wellbeing survey in Makassar in January, which involved the full suite of sampling of children's stool, blood samples and anthropometric measurements. Since then, the team has collected quarterly children's stool and survey measurements from the more than 280 children under five years of age across all 12 Makassar communities.

The baseline health and wellbeing survey kicked off in Suva in June. Over six weeks, dedicated researchers, field teams, and volunteers successfully surveyed more than 4,200 residents across all 12 Suva communities, including more than 500 children under the age of five, 43 per cent of whom are girls. Children have started having their health measurements taken quarterly, with

residents set to become more familiar with the processes with each quarterly sampling campaign.

The momentum in health activities has been the direct result of international researchers leading extensive training campaigns, the team setting up standard operating procedures for the field, laboratories and for health referrals, and the diverse expertise and dedication displayed by the local teams.

With the second annual health and wellbeing survey already underway in Makassar, the global health team is in a strong position to continue monitoring changing health trends in partnership with the residents.

HUMAN HEALTH IN 2019

3,393
child health surveys

701
height and weight measurements taken for children under 5

1,078
stool samples collected from children and mothers

509
blood samples and haemoglobin measurements collected

755
faeces samples analysed for worms (soil-transmitted helminths)



MONASH University

In 2019, the human health team has shared knowledge of anthropometric measurement, sample collection and processing, and quality assurance with in-country partners. They have graciously shared their cultural insights with us.

— DR JO O'TOOLE, RESEARCH FELLOW, RISE HUMAN HEALTH TEAM, MONASH UNIVERSITY



(Left to right) Laboratory Lead Technician A Zulkifli AS, Laboratory Technician Maghfira Saifuddaolah and Assessment Team Leader Ruzka Taruc at RISE's laboratory at Hasanuddin University.



The Fiji team takes young Asaeli's measurements to see how well he is growing. Asaeli is the very first child in Fiji to bravely go through all the RISE stations of children's health testing.



The Fiji team about to kick off the baseline health and wellbeing survey.

Wellbeing

Objective 4

The physical environment is a structural determinant of a person and a community's wellbeing. In 2019, the wellbeing team set out to find out about the quality of peoples' lives, pre-intervention, in both Suva and Makassar.

Residents generously opened up their homes to talk through many aspects of their lives, including the state of their environment, their assets, their water and sanitation resources, and more. They provided community fieldworkers and volunteers with a crucial understanding of their wellbeing and that of their children.

The RISE Indonesia team visited all the settlements again for a six-monthly survey, with Fiji to follow suit in January 2020. The half-yearly and annual surveys will be ongoing as RISE progresses, giving residents the opportunity to share their changing life experiences as their environments change.

Colleagues across all of RISE's disciplines and country teams had a hand in creating the innovative household questionnaires, which have been delivered in-language solely by local teams.

The surveys have doubled as a platform for up-skilling local community fieldworkers and volunteers in best practice survey methods, and monitoring how changes to the environment are affecting how residents live, how safe they feel, and how they feel about themselves.

One PhD student has started building on this important body of work, with a second student set to start their research in early 2020.

WELLBEING IN 2019

570
households surveyed in Makassar

771
households surveyed in Suva

27
the average age of Makassar residents

44%
of the 539 children surveyed in Suva are girls

5.6 avg
residents live in Suva households

4.9 avg
residents live in Makassar households



MONASH University

Working directly with collaborators from many disciplines and countries this year has been very rewarding. Now I'm looking forward to bringing our different data and methods together to generate genuinely innovative and transformative research.

— DR ROHAN SWEENEY, RESEARCH FELLOW, RISE WELLBEING TEAM, MONASH UNIVERSITY



A Suva resident shares his views and experiences with the Fiji team during the baseline health and wellbeing survey.

A pioneering picture of health and wellbeing

In 2019 RISE successfully gathered a holistic picture of residents' health and wellbeing in the Suva and Makassar settlements by completing the biggest and broadest survey in the program. Over six weeks, community fieldworkers and volunteers in both countries visited every single household across the 24 settlements. Residents responded to questions on the state of their homes, assets, water and sanitation resources, wellbeing, and more. Residents' insights and experiences will provide a crucial point of reference as RISE progresses, as the program aims to improve peoples' lives by upgrading the physical environment.



Mid-interview in Cedde settlement, Makassar.



Water for Women project co-leads Dr Becky Batagol (front left) and Dr Sheela Sinharoy (far left) met with the RISE Indonesia team for a kick-off workshop in Makassar in August.

Policy & Scaling up

Objective 5

The Policy & Scaling up team is examining the pre-conditions needed to facilitate the scale-up of RISE's water-sensitive revitalisation interventions to informal settlements around the world.

In 2019, the team identified areas where RISE can deliver evidence that will be useful for policymakers and decision-makers.

Collective action:

The communities taking part in RISE are active participants in planning water and sanitation upgrades to suit their needs. This collective action to enhance their quality of life is a positive driver for inclusive water and sanitation policy.

Collective efficacy:

Collective efficacy, or perceptions about the ability and autonomy to pursue common goals, can influence the success of community-based interventions. We are investigating whether these perceptions influence the success of the RISE intervention, and are enhanced when communities engage with RISE.

Public good perceptions:

Community-based interventions requiring collective action, including co-design, operate under the assumption that communities perceive the interventions as public goods. To understand whether this is the case in RISE communities, we are investigating community perceptions about RISE infrastructure.

Household water insecurity:

RISE is addressing a range of water-related problems, from insufficient clean water at the household level to flooding at the community level. Measuring water insecurity will allow for impacts on these water-related issues to be documented and shared with key stakeholders.

POLICY & SCALING UP IN 2019

Peer-reviewed publication published in the academic journal *Utilities Policy*, titled 'Review of drivers and barriers of water and sanitation policies for urban informal settlements in low- and middle-income countries'.

Study results indicate:

- Drivers of inclusive water and sanitation policy for informal settlements in low- and middle-income countries include donor prioritisation and collective action
- Key barriers include social exclusion, lack of land or dwelling tenure status, the political economy of decision-making, and insufficient data

Visit the Resources tab on the RISE website to read the full study.



Early engagement and meaningful collaboration with the community, government, funders and implementers is essential for scaling an intervention like RISE. We are generating important science, but we are also focusing on generating evidence that policymakers find most compelling.

- PROFESSOR THOMAS CLASEN, RISE POLICY & SCALING UP LEAD, EMORY UNIVERSITY



A Pacific case study in sustainable urban development

RISE is committed to supporting sustainable urban development in the Pacific, beyond our 12 sites in Fiji, which is why we sponsored and co-organised the 2019 Pacific Urban Forum (PUF) in Nadi, Fiji. Over three days, more than 200 delegates from 25 countries debated and imagined what a sustainable urban future could look like in the region. Better evidence is needed of what works in affordable urban service delivery, and RISE presented as a research program capable of generating this evidence. The event, led by RISE partner UN-Habitat, generated global media attention, especially on the interlinkages between climate change and urbanisation.



Advancing gender-sensitive water research

Historically water, sanitation and hygiene (WASH) programs have been gender-blind, meaning that they largely ignore gender norms in favour of a one-size-fits-all approach for providing WASH facilities. In 2019, the Australian Government committed funding to a sub-study within RISE to generate evidence on how RISE meaningfully engages women, men and children when designing water and sanitation services. Evidence from the sub-study will ultimately promote more gender-sensitive approaches to designing these systems, based on different biological and social needs of women and men. One output of the sub-study will be a toolkit which will serve as a resource for civil society organisations, governments and others working on WASH projects.



Team effort: Monash University Research Fellow Dr Fiona Barker gave data training and support to the Indonesia team for the roll-out of the baseline health and wellbeing survey.

Data management

With a constant flow of information coming in from settlements, laboratories and researchers, the need to rigorously organise, manage and protect RISE's data is of paramount importance.

The data management team is a small team with mighty reach. They play an integral cross-cutting role and are responsible for health and wellbeing data, survey data, temperature and rain loggers, GPS data, acoustic data, and more.

In a major boost for transdisciplinary collaboration, this year international researchers have been able to access and interrogate RISE's data, in real-time, from anywhere around the world, thanks to the establishment of a Laboratory Information Management System. The central piece of infrastructure, developed and managed in-house by the Indonesia data team, allows the collection and storing of data from both of RISE's laboratories in Suva and Makassar.

Ensuring team members are trained and supported has contributed to the team's successes. Local Fiji and Indonesia team members have become better-equipped to manage surveys and settlement mapping, having been trained in mobile data collection platforms and mapping systems.

A Data Advisory Panel was also set up in September to oversee and provide strategic guidance to RISE. The Panel meets monthly and reviews the data landscape, including RISE compliance with data protection and privacy policies and program systems. In November, the Panel developed a Data Infrastructure Roadmap for the program, which sets a grand vision for an interdisciplinary data visualisation platform as a potential medium-term outcome to integrate various datasets in an interactive manner.

DATA MANAGEMENT IN 2019

- | Data Advisory Panel established to support and provide oversight of activities
- | Laboratories established in both countries with data collection systems and analytical equipment
- | TempTrack alarm system implemented to protect valuable frozen and biobank samples
- | Routine quality control reporting processes cemented
- | Tripling of Data Officer team members



MONASH University

A highlight for me has been being part of a team that works together across three countries — Australia, Indonesia and Fiji — sharing skills, offering support and technical expertise with each other.

— DR FIONA BARKER, RESEARCH FELLOW, RISE DATA MANAGEMENT TEAM, MONASH UNIVERSITY



UNHAS

I developed the Laboratory Information Management System because we recognised the need to ensure accuracy and efficiency in recording data from sampling. Being able to manage the system in-house means we can continually develop its functions as laboratory demands change.

— ZAINAL, DATA CLERK, RISE DATA MANAGEMENT TEAM



Data Officer Samuela Dau and Laboratory Technician Silvia Rosova Vilsoni prepare barcoded labels for samples in Fiji.



Training in QGIS (a geographic information system) to improve settlement maps and build capacity.



RISE is thinking globally and implementing locally. As the local experts, our in-country teams are empowered to take global processes and adapt them to Fijian and Indonesian contexts.



RISE Fiji

RISE's in-country activities are locally anchored and implemented. Our Fiji operations continue to be ably led by a dedicated team of 40, alongside our university partners Fiji National University (FNU) and the University of the South Pacific.

Community Engagement Councils (CEC) representing each of the 12 Suva communities are now well-established; they confidently represent the needs of their communities in all RISE planning, and remain a key mechanism for decision-making and community engagement. Regular workshops hosted by the RISE Fiji team have united CEC members across Suva to keep them informed of progress, and feeling connected to something bigger than the upgrading of their own neighbourhood.

Our local laboratory technicians have found their rhythm, processing human and environmental samples coming in from the settlements every quarter. The RISE laboratory based at FNU now has Standard Operating Procedures guiding the purchasing of consumables and equipment maintenance.

Training and capacity building has also extended to local students and passionate volunteers: volunteers were crucial supports for the RISE community fieldworkers in completing the baseline health and wellbeing survey, bringing fresh skills and perspectives.

Recognising that RISE strongly aligns with national development plans, the Fiji Government's support has been tremendous. The Ministry of Housing and Community Development has thrown its support behind the Suva demonstration project at Tamavua-i-Wai settlement, and the Ministry of Waterways & Environment and the Water Authority of Fiji have been active participants at training workshops on RISE's green infrastructure. ●



(Left to right) Laboratory Technicians Silvia Rosova Vilsoni, Christelle Schang and Revoni Vamosi at the RISE laboratory based at Fiji National University.



I am immensely proud of the team's efforts in 2019, for their flexibility, hard work, and commitment in coming together to support each other to produce the best outputs we possibly could within tight timeframes.

– **ISOA VAKAREWA, RISE FIJI COORDINATOR, LIVE & LEARN ENVIRONMENTAL EDUCATION**



What excites me about RISE is its attempts to marry our understandings of health with our understandings of the environment — a truly environmental health approach. I hope that policymakers see RISE's infrastructure as the start of bringing truly sustainable water and sanitation solutions to settlements across the Pacific.

– **DR AMELIA TURAGABECI, HEAD OF EPIDEMIOLOGY & ENVIRONMENTAL HEALTH, SCHOOL OF PUBLIC HEALTH & PRIMARY CARE, RISE FOCAL POINT, FIJI NATIONAL UNIVERSITY**



Community Engagement Council members from Nauluvatu settlement learn about RISE's health collection kits.



The Water Authority of Fiji, the Ministry of Housing and Community Development, and community representatives watch as Eamon Casey from South East Water demonstrates how RISE's water and sanitation technologies work, in an operations and maintenance workshop in August.



A young girl and boy from Tamavua-i-Wai, RISE's Fiji demonstration site, carry out the randomisation draw, blindfolded, using coded ping-pong balls in a sand-filled jar.



Ecstatic: the Indonesia team was thrilled to launch Makassar's demonstration site, Batua, in October.

RISE Indonesia

RISE Indonesia is an efficient operation, with the team always maintaining genuine connections with local communities and ensuring field research excellence. This was typified at the randomisation ceremony in March this year – a milestone event for the program, demonstrating how to involve a community in research randomisation – not as subjects, but as participants, and with full transparency as to the process involved.

The team produces in-language quarterly newsletters for communities and local partners to stay abreast of RISE progress. Community Engagement Councils (CEC) and partner organisations have also frequently been invited to sit in on community design workshops and tours of RISE's infrastructure to keep them engaged in the vision.

RISE has made it a priority to fully comply with the ethics requirements of Hasanuddin University (UNHAS). The university has approved human ethics applications and renewed animal ethics applications – critical for continued operations in Makassar.

Government meetings have been consistent and constructively critical: a Technical Coordination Committee has brought diverse stakeholders together for inter-disciplinary planning and to bring all parties on the path to scaling-up.

In-country capacity building has stretched across objectives and across work sites. At UNHAS lecture halls, Monash, Cambridge and Stanford University researchers have shared their expertise during guest lectures, and in the RISE laboratory students and volunteers have been trained in mosquito identification – an exciting opportunity for future planetary health scholars.



It takes a full spirit and energy to achieve what the team has achieved to this point. Everybody has played their role to reach the goals laid out in front of us.

– FITRIYANTY AWALUDDIN, INDONESIA COORDINATOR / ADMINISTRATION OFFICER



It has been a thrill to see the laboratory at Hasanuddin University buzzing with activity. The samples we are analysing could help improve water and sanitation for so many people.

– ASSOC. PROF. ANCHA ANSARIADI, HEAD OF DEPARTMENT OF EPIDEMIOLOGY, FACULTY OF PUBLIC HEALTH, RISE FOCAL POINT, HASANUDDIN UNIVERSITY

Tireless work has seen the team officially complete construction and open the Makassar demonstration site this year, with the Mayor of Makassar and Vice President of the Asian Development Bank (ADB) proudly cutting the ribbon. Through ADB funding, 2020 will see the commencement of construction of water and sanitation upgrades on the first six settlements in Makassar. The RISE Indonesia team will have crucially paved the way to start measuring the impacts of the intervention on the health of the environment and the communities. ●



Architect and Engineer Noor Ilhamsyah explains how RISE's infrastructure works to residents of Bonelengga settlement.



Laboratory Technician Maghfira Saifuddaolah (left) and Assessment Team Leader Ruzka Taruc (right) showing the community basic sampling techniques during Science Days.



A young girl and boy from Batua neighbourhood, RISE's demonstration site, carry out the randomisation draw, blindfolded, using coded ping-pong balls in a sand-filled jar.

Maintaining scientific excellence

RISE is guided by an International Scientific Advisory Panel (ISAP). The Panel comprises six distinguished experts from a range of fields and institutions, who provide independent advice to the RISE leadership on the scientific integrity of the program. Convening twice in 2019, in both Makassar and Suva, the Panel was on the ground to witness cutting-edge research and community-based anchoring of the program, the likes of which they had not seen before.

After a week in Makassar — meeting teams, visiting communities, and touring the laboratories — the Panel reflected on the ways RISE is operationalising novel approaches to achieve the Sustainable Development Goals. Clearly different to water, sanitation and hygiene (WASH) trials they have seen, the Panel was inspired by the ambitious multi-disciplinary research endeavour, and warmed by the genuine collaborative spirit bonding people on RISE.



Our visits to Makassar and Suva showed us the tremendous buy-in the team has achieved, and also the high expectations the program has evoked. Modelling how the intervention will achieve impact, and understanding what worked and what did not from an empirical perspective, is how an enduring legacy from this effort will ultimately be secured.

— ISAP CHAIR PROFESSOR TED BIANCO

The Suva visit saw the Panel reaffirm the value of the Fiji study arm. With different biophysical and socio-cultural characteristics to Indonesia, the Fiji research will help RISE's generalisability. The Panel saw value in potential additional research in the areas of wellbeing and implementation science, to help RISE capture benefits of the intervention beyond the primary environment and human health outcomes.

Experiencing the program on the ground gave the Panel a fuller appreciation for daily operational and logistical challenges, with RISE operating across so many sites. But it also revealed the potential for RISE to serve as a game-changing model for harnessing planetary health research to achieve real-world impact. ●

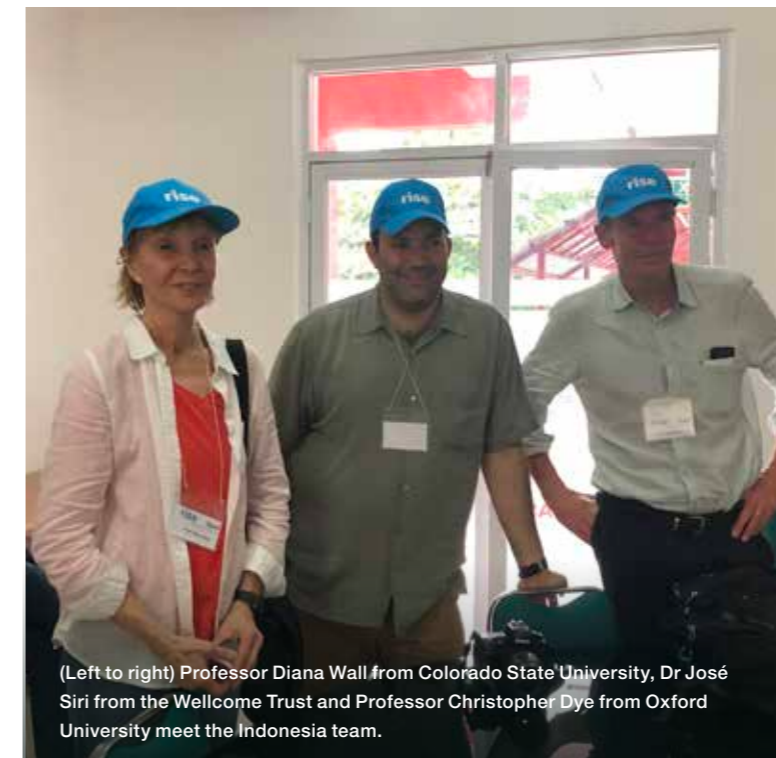


Professor Sarah Bell, University College London (centre), tours a Suva settlement.



One of the most striking aspects of RISE is the genuine warmth and engagement teams have inspired in their communities. Too often, potentially valuable interventions stumble and fail for a lack of local information and buy-in, especially in informal settlements. RISE's approach inspires hope that, in this instance, innovation will truly spark positive transformations for health, equity and environment.

— ISAP MEMBER DR JOSE SIRI, WELLCOME TRUST



(Left to right) Professor Diana Wall from Colorado State University, Dr José Siri from the Wellcome Trust and Professor Christopher Dye from Oxford University meet the Indonesia team.



Associate Professor Karen Coelho, Madras Institute of Development Studies, at the ISAP meeting in Makassar.



Professor Rebekah Brown, Professor Ted Bianco and Dr Jose Siri prepare for the ISAP meeting in Suva.



Professor Paul Hunter, University of East Anglia, tours the RISE laboratory at UNHAS in Makassar.

Doctorates in the making

RISE is helping to develop the next generation of interdisciplinary researchers to transform human and environmental health. Based at Monash University, a diverse cohort of 11 is leveraging the program for their ambitious PhD research.



LAMIYA BATA, ENGINEERING

Fiji and Indonesia

My research will focus on using novel sampling techniques to quantify soil pathogens and the risk of exposure to young children in high- and low-middle income countries.



MICHELLE ESCOBARCARIUS, BUSINESS AND ECONOMICS

Fiji and Indonesia

Using econometric techniques, my research tries to answer how environmental conditions affect the objective and subjective well-being of the urban poorest; and whether there are identifiable anticipation effects amongst the later-phase intervention group in RISE.



BRENDAN JOSEY, ART, DESIGN AND ARCHITECTURE

Indonesia

I am documenting changes to the built environment and household-led construction in informal settlements participating in RISE. My research seeks to understand how rapidly changing urban environments may affect the Water Sensitive approach to the revitalisation of vulnerable communities.



ROBYN MANSFIELD, MONASH SUSTAINABLE DEVELOPMENT INSTITUTE

Fiji

I am asking the question: what are the systemic conditions under which meaningful engagement of children can occur in the design and governance of infrastructure in informal settlement revitalisation?



MAHSA MESGAR, ART, DESIGN AND ARCHITECTURE

Fiji and Indonesia

My research is looking for urban planning and land governance strategies for scaling up city-wide slum upgrading programs in sanitation-deprived areas. I am exploring the complex interactions among spatial, institutional and other land-based dimensions of slum upgrading.



EMMA RAMSEY, SCIENCE

Fiji and Indonesia

I am focusing on the impact of a warming urban climate on human thermal stress and changing dynamics of vector-borne disease. I am using on-the-ground data in RISE and remote sensed data from satellites and drones.



DASHA SPASOJEVIC, ART, DESIGN AND ARCHITECTURE

Indonesia

Through my research, I have conceptualised and defined an Engagement Framework in relation to RISE's intervention design. I have focused the design research on the first six intervention communities in Makassar.



RORY TAYLOR, MONASH SUSTAINABLE DEVELOPMENT INSTITUTE

Fiji

I am examining how people from different spatial knowledge traditions engage effectively in participatory mapping in informal settlement upgrading in Fiji.



HANNAH TURNER, MONASH SUSTAINABLE DEVELOPMENT INSTITUTE

Fiji

My research focus is on climate adaptation in informal urban settlements. I am particularly interested in the influence of gender on water management, coping and planning for floods.



JANE WARDANI, MONASH SUSTAINABLE DEVELOPMENT INSTITUTE

Fiji and Indonesia

Drawing on the experiences of collaborators on RISE, I am looking at developing a practice framework for transdisciplinary research in planetary health.



ERICH WOLFF, ART, DESIGN AND ARCHITECTURE

Fiji and Indonesia

I am investigating strategies to support infrastructure provision in complex social-ecological systems. My PhD explores community-driven risk characterisation, ethnography and ecological assessment to facilitate the design of resilient infrastructure systems in informal settlements.

A connected global program

Program coordination, management, administration and communications are the often-silent mechanics propelling RISE.

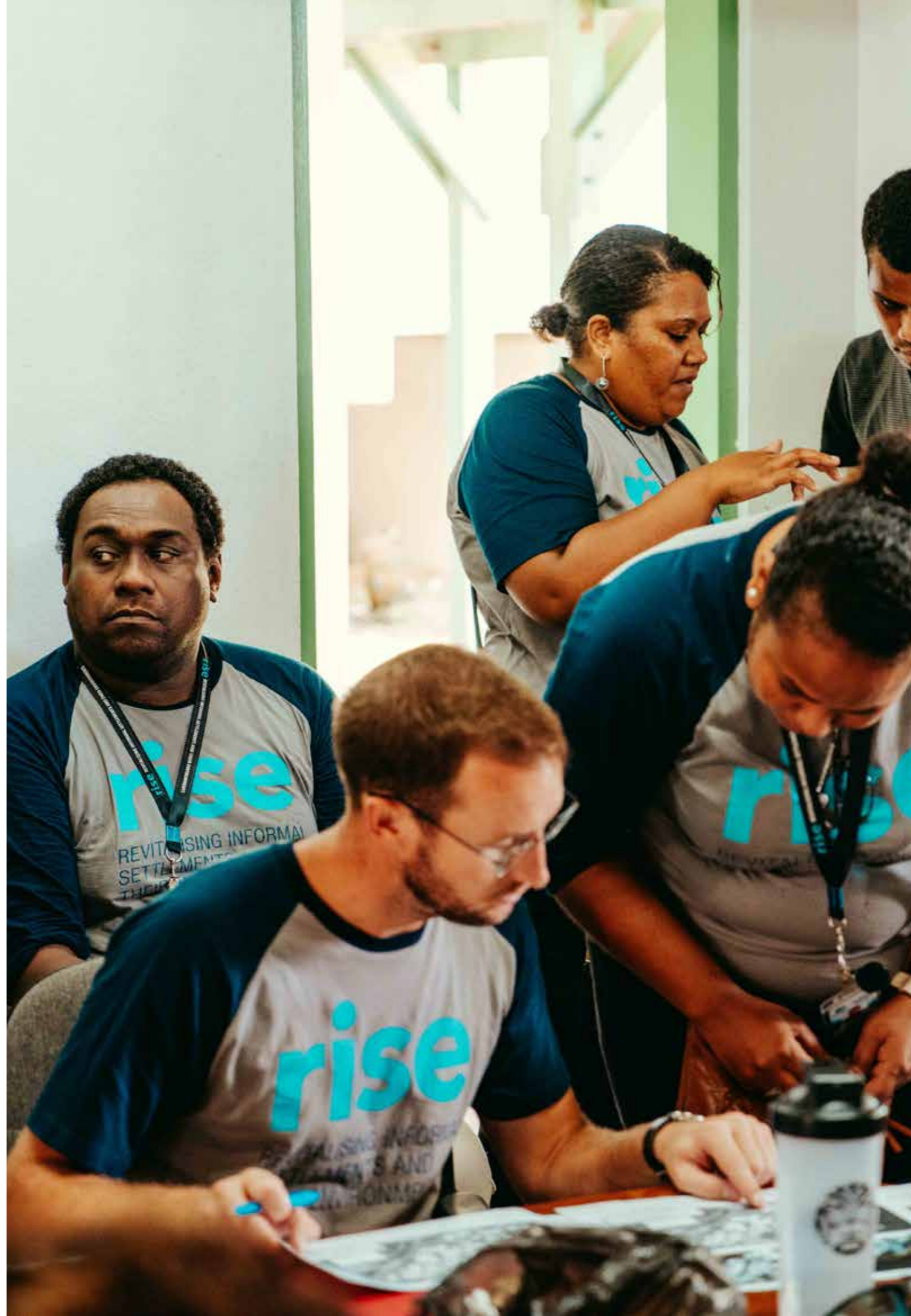
Our engagement ethos has always been that face-to-face meetings are the best way to establish and maintain personal and professional relationships. While we are often split along national boundaries, we have made it a priority in 2019 to better organise systems and communications across teams and across countries.

Coming in to 2019, regular meetings with consistent agendas have become institutionalised and greatly improved communications, coordination and work flows. Program staff and researchers around the world bring their discipline-specific knowledge to weekly and monthly 'snapshot' meetings; in-country teams share the latest hurdles and updates from the ground in weekly catch-up calls; and secure social media groups connect everyone with photo and video updates in real-time.

But RISE still demands in-person contact to bridge thinking across diverse academic disciplines and connect over varied cultures. Field trips throughout the year to Indonesia and Fiji have doubled as a platform to build local capacity, and have in-country teams share invaluable tacit knowledge.

At any one point in 2019, there was an average of four RISE team members travelling, with more than 200 trips undertaken to the field this year. Ensuring the safety of our staff while travelling has been the guiding factor in managing this massive operational endeavour.

The Annual Workshop has become a much-anticipated event to reflect honestly on the year that was and put practical plans in place for the year ahead. In December this year, every corner of the program was represented. Team members critically debated issues from research ethics to essential resourcing, putting the program in a stronger position to achieve its research and delivery agenda in 2020. ●



MONASH University

Leading our research across human and environmental health and wellbeing is an honour. RISE is a fabulous example of impact-driven research that builds on multiple disciplines and perspectives to improve the lives and livelihoods that are too often overlooked.

– PROFESSOR KARIN LEDER,
RISE ASSESSMENT LEAD



MONASH University

Completing the demonstration project in Makassar this year has shown us that the water-sensitive approach can bring tangible multiple co-benefits. The proven technology combined with strong community engagement are the foundations for impact-driven scale-up to the rest of our sites and beyond.

– PROFESSOR DIEGO RAMIREZ-LOVERING,
RISE INTERVENTION LEAD

Reflections and lessons learned



WE NOW HAVE A YEAR'S WORTH OF VALUABLE DATA FROM MAKASSAR

Professor Steven Chown, Ecology & Environment Lead, Monash University

The baseline environmental survey work for the Ecology & Environment teams is now well underway in both Makassar and Suva. We have a year's worth of data from Makassar, thanks to the dedication of the in-country RISE team and those based in Melbourne. We have a strong collaboration in Suva with the World Mosquito Program, and look forward to ongoing work with all RISE participants.



BEHIND EVERY DATA POINT COLLECTED IS A REAL-WORLD CHALLENGE SOLVED

Audrie Lin, Research Scientist/Lecturer, University of California, Berkeley

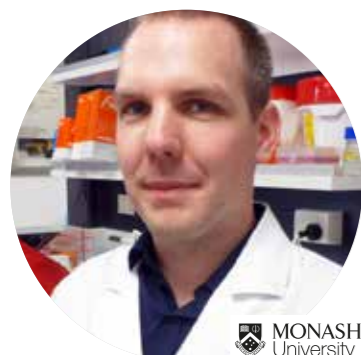
Every health data point reflects the hours of training and dedication of the team and the incredible generosity of the community members. With the launch of baseline and quarterly sampling this year, the in-country teams demonstrated one of their greatest strengths time and again: their impressive ability to overcome various data collection and lab analysis challenges by successfully brainstorming and implementing solutions.



COMMUNITY ENGAGEMENT COUNCILS ARE THE BRIDGE BETWEEN RISE AND COMMUNITIES

Hamdan Habsji, Senior Community Fieldworker, RISE Indonesia

Community Fieldworkers and the *KePoLink* (Community Engagement Councils) socialised the plans for the randomisation ceremony in the lead-up to the event. Thanks to this awareness raising, the randomisation results were accepted by the community because the process was open, honest and fair, and involved all stakeholders. The *KePoLink* have played a very important role in bridging RISE with communities and vice versa.



RISE IS PIONEERING COMPLEMENTARY ENVIRONMENTAL AND HUMAN PATHOGEN DETECTION ASSESSMENTS

Assoc. Prof. Chris Greening, Ecology & Environment Chief Investigator, Monash University

There has been an enormous amount of progress in developing the molecular methods for RISE's assessment over the past year. It has meant cultivating strong relationships within and across RISE's disciplines and aiming for common goals. For me, this has proven an exciting, rewarding, and enlightening process.



WE NOW HAVE STRONG FOUNDATIONS TO START MONITORING CHANGES IN PEOPLES' HEALTH

Professor Stephen Luby, RISE Human Health Lead, Stanford University

2019 has been an exciting year for RISE. The baseline assessments in Makassar and Suva, combined with the completion of the Batua demonstration site, provide the foundation for us to assess the impact of these interventions on the health of communities.



ESSENTIAL RESEARCH PROCESSES LIKE UNIVERSITY ETHICS CANNOT BE RUSHED

Ruzka Taruc, Assessment Team Leader, RISE Indonesia

It has been really great to see how the Indonesia team has adapted to the assessment cycle. Going through the process of having Hasanuddin University renew our ethics and our Materials Transfer Agreement was a steep learning curve — more than any of us had predicted. But we have a very supportive team and what we have learned will help us move forward in 2020.



MAKING DEFINITIVE CALLS ON WHAT TO PRIORITISE IS KEY TO ACHIEVING MULTIPLE GOALS

Autiko Tela, Assessment Team Leader, RISE Fiji

This year has been challenging and exciting as the Assessment Team Leader. The role comes with a lot of responsibility to ensure that different activities in each objective are met. As this is the first-ever rigorous evidence-base research, there have been challenges and setbacks in the field and in the laboratory, but the team has worked together to find solutions along the way.



STRONG PROCESSES IN LABORATORIES ARE JUST AS IMPORTANT AS THE RIGHT EQUIPMENT

Silvia Rosova Vilsoni, Laboratory Technician, RISE Fiji

Since the RISE laboratory became fully equipped and operational this year, it's been a bit surreal thinking that I'm working in one of the most advanced labs in the Pacific. Facilities like this help us build institutional and human capacity to do leading science, and working for RISE has been absolutely enjoyable.



WATER-SENSITIVE INFRASTRUCTURE IS A CHALLENGE TO FIT IN DENSE URBAN SETTLEMENTS

Anna Leersnyder, Senior Civil Engineer, Monash University

We have needed to modify infrastructure so that it can fit into tight, narrow spaces, such as along accessways, which is often the only available land. Conversations during *PANRITA* (co-design) have enabled our team to deliver infrastructure that responds to the community's concerns.



NEGOTIATING DIVERSE STAKEHOLDER PRIORITIES IS A FINE BALANCING ACT

Kerrie Burge, International Engagement Manager, Cooperative Research Centre for Water Sensitive Cities

We are working to ensure the delivery of the intervention does not contravene donor safeguards or local laws, still offers a technically feasible infrastructure solution, and allows for meaningful design collaboration with the communities. There is still some way to go, but we are making great progress towards delivering an innovative water-sensitive intervention in the first six settlements.



ONE SIZE DOES NOT FIT ALL WHEN PLANNING WITH COMMUNITIES

Liza (Icha) Marzaman, Community Fieldworker, RISE Indonesia

During *PANRITA* (co-design) we have learned that every settlement has its own unique characteristics, and people have different perspectives on issues. We have just finished *PANRITA* for the last settlement that will be upgraded in the first phase of the program, and while it was very exhausting it was worth the effort to build trust and friendship with the residents.



RISE IS AS SERIOUS ABOUT DELIVERY AS RESEARCH

Tony Wong, RISE Intervention Lead, Cooperative Research Centre for Water Sensitive Cities

We have learned valuable lessons through the construction of the Batua demonstration site, and we have evidence of comparable costs with mainstream traditional systems. The demonstration site has now made RISE tangible: stakeholders can see it, touch it and appreciate its potential. Our process of designing with communities has proved to be very effective in harnessing their participation.



RANDOMISING COMMUNITIES IN RESEARCH CAN HELP FOSTER COMMUNITY OWNERSHIP AND ENGAGEMENT

Associate Professor Julie Simpson, Head of Biostatistics Unit, Melbourne School of Population and Global Health, The University of Melbourne

The randomisation ceremony hosted by the in-country RISE teams is not something I've ever seen done before in a research program: usually randomisation is done by the statisticians at a computer, and then participants are told. This wasn't the case in RISE, and instead it was a fantastic, open community event.



TAKING TIME TO BUILD TRUST WITH COMMUNITIES IS PROGRESS GAINED, NOT TIME LOST

Alex Wilson, Senior Community Fieldworker, RISE Fiji

Starting and completing baseline surveys in Fiji this year has been a major achievement for us as a team. We have made sure we connect genuinely with residents during our interactions, rather than just asking questions and ticking boxes.



Global partnerships



MONASH
SUSTAINABLE
DEVELOPMENT
INSTITUTE



RISE is led by Monash University which is Australia's largest university and a member of the 'Group of Eight'. RISE incorporates diverse expertise from across the University, including six faculties: Art, Design and Architecture (MADA); Science; Medicine, Nursing and Health Sciences (MNHS); Engineering; Business and Economics; and Law.

RISE is anchored with the Monash Sustainable Development Institute (MSDI). As one of the leading research and education institutes for sustainable development in the Asia-Pacific region, MSDI is driven to find real solutions to some of the most significant challenges facing our world today. MSDI provides a cross-faculty, interdisciplinary platform to bring diverse partners together to collaborate, to educate, to take action — and to make a real difference.



Wellcome Trust

Wellcome Trust is funding the research components of RISE under the 'Our Planet, Our Health' program, which is exploring what makes cities healthy and environmentally sustainable, and how water management can be built into urban design. The Wellcome Trust is also a key advisory body for the program.



Asian Development Bank (ADB)

The ADB has pledged to support the infrastructure components of the program, including the demonstration project in one site in each city. The ADB's 'Future Cities' program provides integrated planning and support to assist cities across the Asia-Pacific to manage rapid urban growth and become more liveable.



Cooperative Research Centre for Water Sensitive Cities (CRCWSC)

With significant practical experience in designing, implementing and monitoring the WSC approach, the CRCWSC is providing technical support to the Design & Engagement and Policy & Scaling up teams. The CRCWSC's vision is for future cities and towns, and their regions, to be sustainable, resilient, productive and liveable.



Stanford University, The Centre for Innovation in Global Health

Stanford University's Centre for Innovation in Global Health is engaged in RISE primarily for human health. The Centre for Innovation in Global Health is dedicated to understanding and reducing health disparities and strengthening human capital. The Centre strives to create an ethos of service for low-resource communities in the US and worldwide.



Emory University

Emory University's focus for RISE is Policy & Scaling up, though it also plays a key role in Human health, with strong experience in gender and social inclusion. Emory is a leading research university, with one of the world's best health care systems. Its focus is on confronting global challenges, educating the next generation, creating knowledge, advancing caring and healing, and transforming society.



The University of Melbourne

The University of Melbourne is providing support across the program on the statistical aspects of the research. As Australia's leading comprehensive research-intensive university and host to some of the world's most distinguished medical researchers, The University of Melbourne strives to make a distinctive contribution to society.



University of Cambridge

Working closely with the Wellcome Trust Sanger Institute, University of Cambridge is partnering with RISE to support the genomics work of the human and environmental research. Cambridge is committed to achieving excellence in research and scholarship, and to ensuring its research contributes to the wellbeing of society.



Fiji National University (FNU)

RISE is partnering with the FNU College of Medicine, Nursing and Health Sciences for the program assessment. FNU will lead the implementation of the research in Fiji across all 12 settlements, including set-up and operation of the laboratory. Originally established as the Suva Medical School in 1885, the College transformed into the School of Medicine, then became part of FNU when the university officially opened in 2010.



Hasanuddin University (UNHAS)

RISE is partnering with the Faculty of Public Health at UNHAS for the assessment components of the program. The Faculty will lead the implementation of the research in Makassar across all 12 settlements, including set-up and operation of the laboratory. In addition, RISE is partnering with the Faculty of Engineering to support implementation of Design & Engagement. UNHAS, located in Makassar, is one of the largest autonomous universities in Indonesia.



The University of the South Pacific (USP)

RISE is partnering with the USP School of Geography to support Design & Engagement and the qualitative components of Wellbeing. USP students are working alongside MADA students on community co-design processes. USP is the premier provider of tertiary education in the Pacific region and an international centre of excellence for teaching, research consulting and training on all aspects of Pacific culture, environment and human resource development need.



Live & Learn Environmental Education

Live & Learn Environmental Education (LLEE) works with communities throughout Asia and the Pacific to encourage individual and community attitudes, values and actions that are ethical and sustainable. LLEE spearheads the implementation of RISE in Fiji, working hand-in-hand with Fiji National University and the

University of the South Pacific. With strong community engagement practice and deep experience localising international development projects, LLEE is translating RISE's global work for the Fijian context.



United Nations University International Institute for Global Health (UNU-IIGH)

The strategic partnership with UNU-IIGH will assist with translating RISE lessons and findings into global policy dialogues. The partnership will focus on the human health and wellbeing dimensions of RISE, particularly qualitative research in Wellbeing. UNU-IIGH was established by the United Nations University and the World Health Organization in 2000 to address issues of global health and public health delivery systems.



Melbourne Water

Melbourne Water has extensive expertise in citywide and city-region WSC design, implementation and maintenance. Its role with the RISE program includes technical support and advisory services, primarily for Design & Engagement. Melbourne Water is a leader in world class integrated water, sewerage, waterways and amenity management.



South East Water

South East Water has considerable experience in decentralised wastewater treatment solutions, new technologies and innovations that are cost-effective and offer alternatives to big-pipe solutions. Alongside its subsidiary, Iota Services, South East Water's role in the RISE program is technical support and advisory services, primarily for Design & Engagement.



Oxfam

Oxfam is a global leader in poverty reduction, disaster response and development. Oxfam supports the strategic direction of RISE, both at global and country levels, specifically as a member of the End-User Advisory Panel, and the Fiji In-Country Stakeholder Advisory Panel.



WaterAid

WaterAid is a global leader in water, sanitation and hygiene challenges, joining the RISE program as a strategic partner, End-User Advisory Panel member and strategic support provider. WaterAid is working towards getting water, toilets and hygiene to the millions of people still living without these basic human rights.



Wellcome Trust Sanger Institute

Alongside University of Cambridge, the Wellcome Trust Sanger Institute is supporting the genomics work on human and environmental samples for the RISE program. The Wellcome Trust Sanger Institute is a non-profit British genomics and genetics research institute, primarily funded by the Wellcome Trust.



Australian Department of Foreign Affairs and Trade

Australia's aid program focuses on sustainable economic growth and poverty reduction. Through its Water for Women fund, the Australian Government is funding a sub-study within RISE to generate evidence on how women and girls are engaged when designing water and sanitation services. Based on rigorous gender data, evidence will ultimately promote more gender-sensitive approaches to designing these systems.



New Zealand Ministry of Foreign Affairs and Trade

The New Zealand aid program invests in sustainable development, climate change mitigation and adaptation, and poverty reduction. The New Zealand Government is co-funding RISE Fiji, in particular the revitalisation projects for RISE's informal settlements in Suva. Co-funded by the Government of Fiji, the upgrades include streets, sewers, stormwater and water supply infrastructure, as well as RISE's sustainable water-sensitive technologies.



United Nations Human Settlements Programme

UN-Habitat is the United Nations program which promotes socially and environmentally sustainable human settlements and adequate shelter for all. UN-Habitat and Monash University are strategically partnering to advance the Sustainable Development Goals in the Asia-Pacific. With RISE a key vehicle to progressing a number of the Global Goals, the partnership is particularly focused on advancing urban planning, housing and land, water and climate change (SDGs 11, 6, 10 and 17).



Fiji Ministry of Housing and Community Development

The Ministry of Housing and Community Development of the Republic of Fiji is a lead government partner for RISE Fiji. The Ministry of Housing and Community Development aims to improve access to affordable housing for all Fijians, both urban and rural, and upgrade informal settlements to improve living conditions and reduce urban vulnerability. The Ministry of Housing and Community Development is co-funding the revitalisation of 12 informal settlements under the RISE program. ●









Ministry of Housing and
Community Development



Together, we can transform human, environmental and ecological health.

Thank you to the individuals and organisations who are supporting our ambitious action-research program. As a global community we can be part of ground-breaking research to transform human and environmental health across the world.

Join us.

CONTACT US

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www.rise-program.org

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