



rise

REVITALISING INFORMAL
SETTLEMENTS AND
THEIR ENVIRONMENTS

Laying Foundations

RISE ANNUAL ACTIVITY REPORT 2017



More than **one billion** people live in informal settlements around the world and over **two billion** live without basic sanitation.

Polluted water supplies and inadequate sanitation are the leading causes of preventable disease in these informal settlement communities.

Climate change and rapid population growth exacerbate water and sanitation challenges.

A new approach to water and sanitation management is needed to achieve Sustainable Development Goal 6: *Clean Water and Sanitation* and Sustainable Development Goal 11: *Sustainable Cities and Communities*.

Revitalising Informal Settlements and their Environments (RISE) is an action-research program working at the intersection of health, environment, water and sanitation in urban informal settlements.

RISE aims to provide new evidence that a localised, water sensitive approach to revitalising informal settlements can deliver sustainable, cost-effective health and environmental improvements, paving the way for further deployments in the region and globally.

Working with communities, governments, local leaders and partner institutions in 24 settlements across Suva, Fiji and Makassar, Indonesia, RISE is co-designing location-specific solutions that integrate water sensitive infrastructure, such as constructed wetlands, to strengthen the whole-of-life water and sanitation cycle.

Underpinned by the emerging discipline of Planetary Health, RISE success will be measured by the health and well-being of residents – particularly children under five years of age – and the ecological diversity of the urban environment.

Part of Wellcome Trust's 'Our Planet, Our Health' program, with support from the Asian Development Bank, RISE is being led by Monash University in partnership with the CRC for Water Sensitive Cities, Stanford University, Emory University, The University of Melbourne, University of Cambridge, Hasanuddin University, Fiji National University, The University of the South Pacific, United Nations University International Institute for Global Health, Melbourne Water, South East Water, Oxfam, WaterAid, and the Wellcome Trust Sanger Institute.

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OUR VISION IS TO IMPROVE HUMAN, ENVIRONMENTAL AND ECOLOGICAL HEALTH IN URBAN INFORMAL SETTLEMENTS ACROSS THE DEVELOPING WORLD THROUGH A NEW APPROACH TO WATER, SANITATION AND HYGIENE MANAGEMENT.”

Foreword

From Professor Rebekah Brown, RISE Program Director and Director of the Monash Sustainable Development Institute

Polluted water and inadequate water supply, sanitation and hygiene cause around 80% of diseases and one in four deaths in developing countries.

More than 500,000 children under five years of age die each year due to preventable diarrhoeal diseases resulting from water and sanitation challenges.

These deaths are avoidable. Through innovation and commitment, we can design our way out of them. Informal settlements are the new normal in many cities of the global south, and so we must adapt and co-develop sustainable solutions for these communities.

We set an ambitious workplan and associated targets during the RISE inception workshops in August, laying strong foundations for the program. By leveraging

the strength of our unique interdisciplinary team, collaborating across expertise and experience, we have gone a long way to achieving these targets in 2017.

I would like to thank the entire RISE team for consistent dedication prior to the Wellcome Trust grant being approved in August and during the inception phase. This has enabled us to successfully move into the next phase of program implementation in 2018.

I also extend my sincere gratitude to the Wellcome Trust, the Asian Development Bank, our partners in Fiji and Indonesia, to local leaders and city and national government counterparts, and in particular, to the informal settlement communities for their time and invaluable contributions to date. We look forward to continued cooperation in 2018.

01 Executive Summary

The RISE Annual Activity Report 2017 provides an overview of the program establishment, both prior to and post-launch, and a summary of the highlights and progress to date.

Since launching in August, RISE has made significant progress during the program inception phase (August-December). Partnerships with local and international institutions have been forged and strengthened, international advisory panels are being finalised, and government counterparts in both locations have committed their full support.

Prior to officially launching, the RISE team spent the first half of 2017 finalising the program groundwork. With modest program preparation grant funding, RISE undertook visits to more than 80 informal settlements for verification and assessment of potential sites and commenced a due diligence process on the shortlist to ascertain their ability to be included in RISE.

By the close of 2017, the majority of main informal

settlement sites were selected, letters of no objection were received from government partners, and community mobilisation commenced in Indonesia.

Locally-led and socially inclusive, RISE is applying a community co-design process for each site, working closely with residents and local leaders. This co-design process has already been successfully undertaken for two demonstration sites, with construction scheduled to start in March 2018. The demonstration sites are not part of the main 24 sites that form the core of the RISE assessment but provide an illustration of the water sensitive cities (WSC) approach, enabling the development and tailoring of RISE tools and approaches prior to commencement in the main sites.

Considerable work has been undertaken to advance the RISE assessment methodology and harness the opportunities of the interdisciplinary nature of the program. Overall, the RISE assessment remains as originally envisaged and outlined in the Wellcome Trust proposal.



What is a **Water Sensitive Cities (WSC)** approach to upgrading informal settlements?

The water sensitive approach integrates ecologically and economically sustainable water infrastructure into buildings and landscapes. This includes constructed wetlands, bio-filtration gardens, stormwater harvesting, and local sanitation systems based on “smart” new septic tanks.

Also known as nature-based solutions, these types of systems are more ecologically sustainable because they mimic the earth’s natural systems, while being more economically sustainable because they require less maintenance and do not require connection to a central “big pipes” system.

Decentralised water infrastructure is implemented at dwelling, neighbourhood, and precinct scales to harvest rainwater and stormwater, recycle wastewater, and protect dwellings from flooding and environmental pollution.

Wastewater is managed locally using natural passive treatment processes such as constructed wetlands and natural filters. Stormwater runoff is conveyed to minimise flooding and environmental pollution using grassed channels, surface wetlands and bio-filtration gardens.

Locally sourced water, such as storm and rain water, is used for a range of domestic purposes and economic activities including urban agriculture, while green spaces increase local amenity.

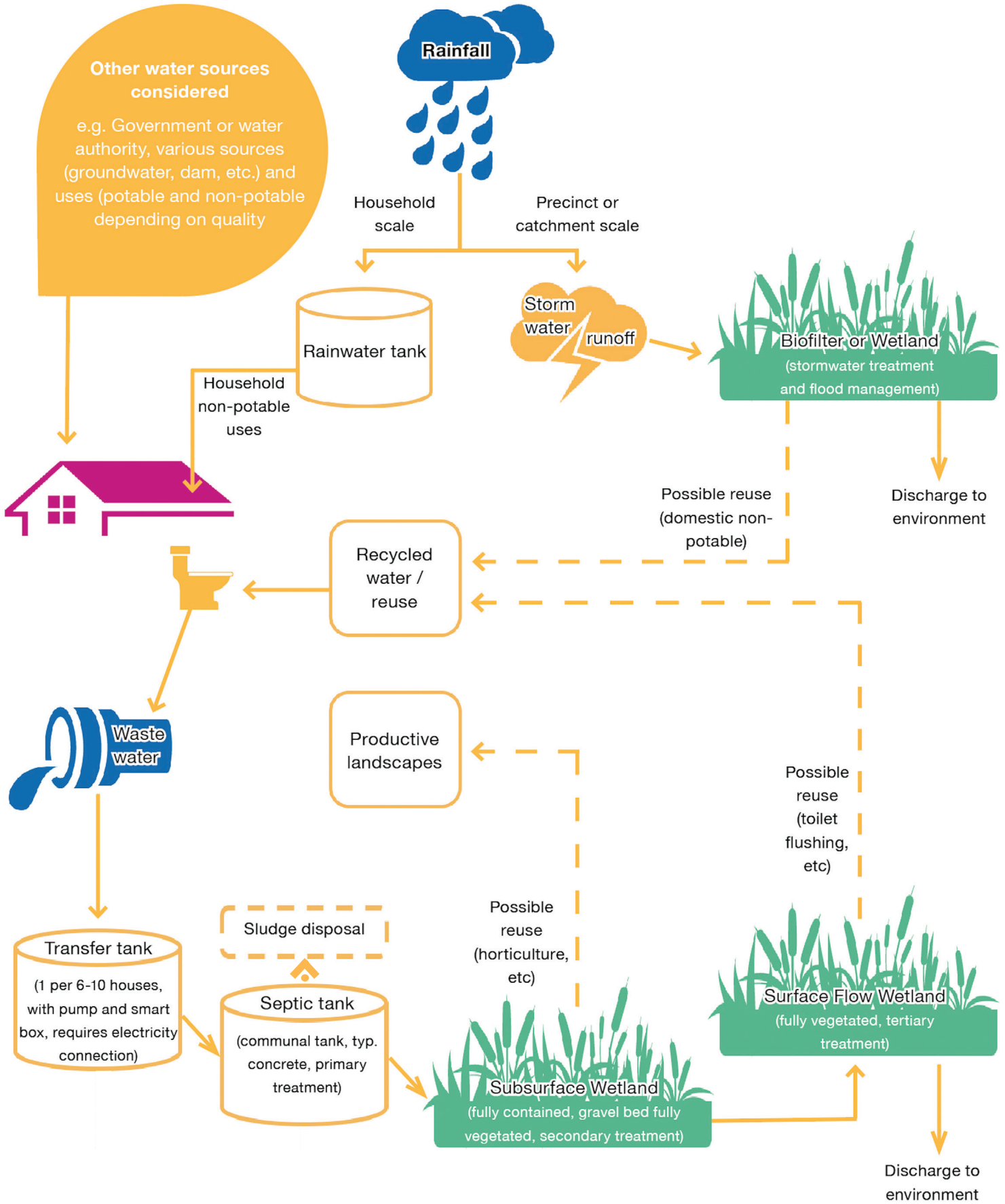


Figure 1_ Water sensitive cities approach

Locally-led



- 24** informal settlements
- 2** demonstration site communities
- 22** Big Gatherings
- 64** local students involved
- 118** briefing meetings with local leaders and government departments
- 2** finalised demonstration site designs



8 SDGs

Clean water and sanitation; Good health and well-being; Sustainable cities and communities; Industry, innovation and infrastructure; Gender equality; Partnerships for the goals; Life on land; and, Reduced inequalities

Collaborative & interdisciplinary



- 25** leadership meetings held
- 1** two-week inception workshop with all lead researchers
- 6** partnership agreements signed
- 43** RISE fieldtrips to Fiji and Indonesia

18  institutions

03 Introduction

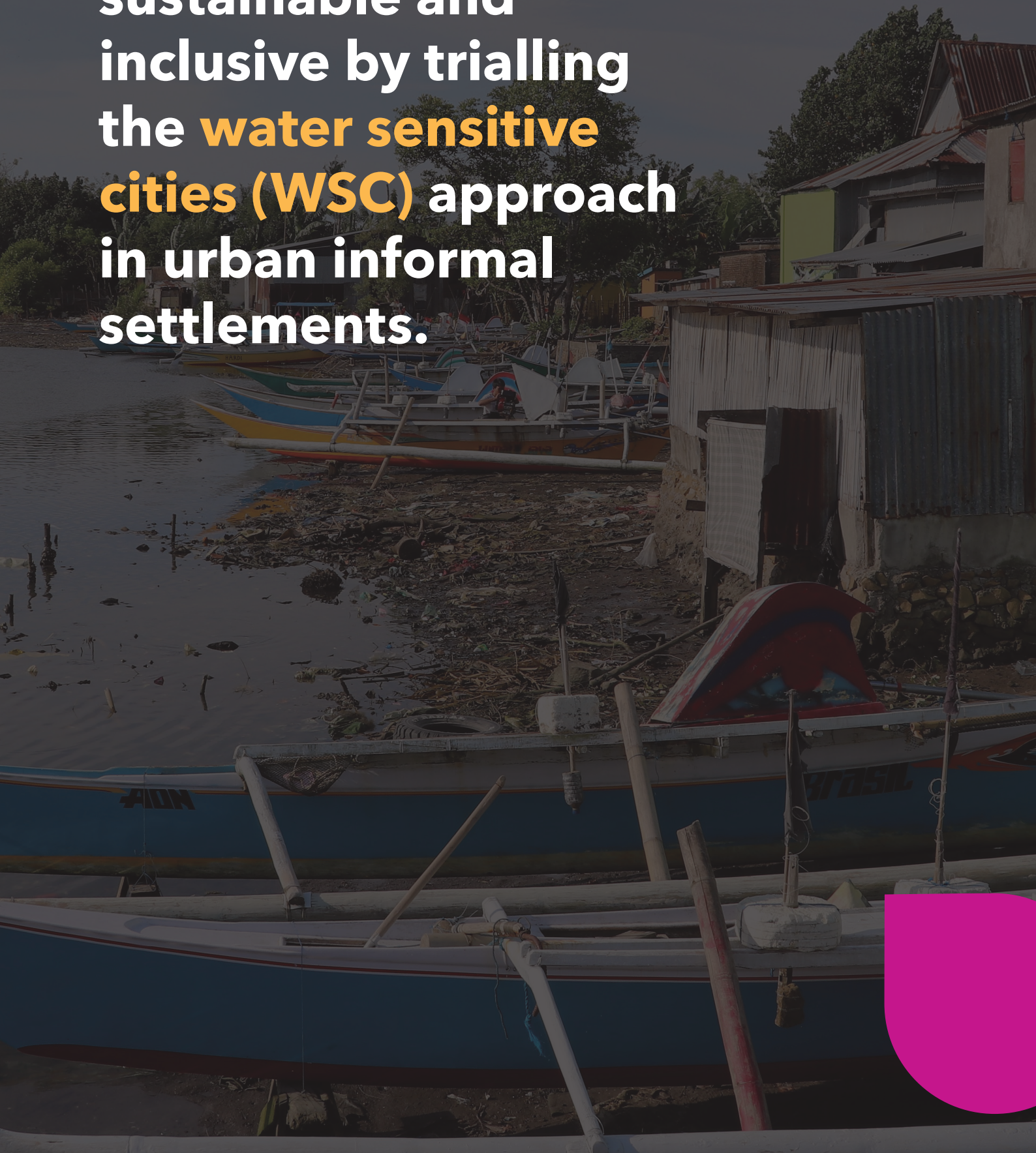
RISE is exploring how to make water and sanitation more sustainable and inclusive by trialling the water sensitive cities (WSC) approach in urban informal settlements (Page 6). The program intends to reduce both environmental contamination itself and human contact with contaminants, which is a leading cause of illness, especially in children under five years of age.

Working in 24 informal settlements across Makassar, Indonesia and Suva, Fiji, RISE aims to support a change that will see communities recycling their own wastewater; harvesting rainwater; creating green space for water cleansing and food cultivation; restoring natural waterways to encourage diversity; and, reducing vulnerability to flooding and climate change.

Multiple benefits are anticipated, including improved community health and well-being, fewer infections, better intestinal health among children, and improved environmental quality and biodiversity.

RISE researchers are examining the impact of the WSC approach; before, during and after the intervention. This will be done through a randomised control trial whereby half the settlements receive the intervention initially and the other half are control settlements, to receive the intervention after two years. Key human health, well-being and environmental dimensions are to be measured quarterly to provide the evidence base that a localised, WSC approach to upgrading informal settlements can deliver sustainable, cost-effective improvements in health and the environment.

RISE is exploring
how to make **water**
and sanitation more
sustainable and
inclusive by trialling
the **water sensitive**
cities (WSC) approach
in urban informal
settlements.



04 Program Overview

Mission

To improve the lives of women and men, girls and boys in urban informal settlements through improvements in environmental and human health by adopting a water sensitive cities (WSC) approach to informal settlement upgrading.



Aim

To provide the first-ever rigorous evidence base that a localised, WSC approach to upgrading informal settlements can deliver sustainable, cost-effective improvements in health and the environment.

Approach

A randomised control trial involving 24 settlements. Half will be upgraded initially and the other half (the control group) will be upgraded after two years. RISE will compare the two groups to measure the impact of the intervention on health and environmental outcomes.

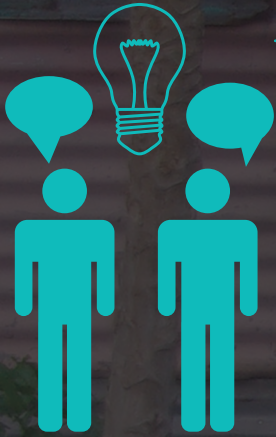




Main Activities

- 1_ Baseline health and environmental assessments;
- 2_ Co-design of upgrading works with communities and local partners;
- 3_ Implementation of upgrading building works;
- 4_ Quarterly monitoring of human health and environment;
- 5_ Upgrading the control settlements at the end of the study; and,
- 6_ Continuous dissemination of lessons learned and results to inform policy making and investments.

05 Program Objectives



OBJECTIVE 1_ DESIGN & ENGAGEMENT

Implementation of the WSC revitalisation of urban informal settlements through co-design processes, reflecting community aspirations and site contexts.

Leader | Professor Diego Ramírez-Lovering

Chief Investigator | Professor Mohamed El Sioufi

OBJECTIVE 2_ ECOLOGY & ENVIRONMENT

Environmental monitoring will determine the impact of the intervention on the prevalence and density of microbial communities and faecal pathogens, biodiversity, and vector abundance.

Leader | Professor Steven Chown

Chief Investigator | Associate Professor David McCarthy



OBJECTIVE 3_ HUMAN HEALTH

A crucial hypothesis is that the environmental benefits of the intervention are accompanied by health improvements. The impact of the altered environment on the health of residents is being assessed, prioritising biological evaluation of gastrointestinal health of children under five years of age.

Leader | Professor Stephen Luby

Chief Investigators | Professor Andrew Forbes; Associate Professor Julie Simpson



OBJECTIVE 4_ WELL-BEING

The physical environment is a significant structural determinant of well-being. Changes to this environment can affect how people live, how they feel about themselves and their lives, and how safe they feel. It can affect an individual's capacity for paid work and to feel part of a community. Objective 4 will monitor the effects of the intervention on individual and community well-being.

Leader | Professor David Johnston

Chief Investigator | Professor Pascale Allotey

OBJECTIVE 5_ POLICY & INVESTMENT

Objective 5 will integrate evidence and outcomes from across RISE to facilitate the widespread adoption of a WSC approach to revitalisation of informal settlements. The aim is to facilitate transferability of program lessons learned and outcomes to end users, including governments, NGOs, communities, professionals, and the private sector who shape urban development and water management decisions and practices.

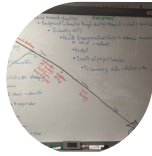
Leader | Professor Thomas Clasen

Chief Investigator | Professor Bruce Cahan



TIMELINE

2016



Shortlisted to go to full proposal and planning grant awarded.

Researcher workshop in Melbourne for program scoping.



Makassar field trip.

Researcher workshop in Melbourne for program design.

JAN 2016

MAY 2016

AUG 2016

APR 2016

JUL 2016

Expression of Interest submitted to Wellcome Trust.



Full proposal submitted.



Suva field trip.



Suva visit for site assessment and selection.



Engagement and briefing with local partners.

MAR 2017

MAY 2017

JUL 2017

APR 2017

JUN 2017



Budget Challenge and review of Wellcome grant.



Makassar visit for site assessment and selection.



Wellcome Trust grant signed.



Presentation to Wellcome Trust in London.

OCT 2016

NOV 2016

2017

JAN 2017

FEB 2017



Suva and Makassar field visits for site selection.



Grant notified.



Engagement and briefing with local partners.



Inception workshops in Melbourne, Suva and Makassar involving all lead researchers and partners.



Field visits.
Partner agreements signed with Stanford, Emory and UNU-IIGH.



Assessment implementation workshop to finalise research methodology.

SEP 2017

NOV 2017

AUG 2017

OCT 2017

DEC 2017



Technical missions to Suva and Makassar for Objectives 2 and 3.



Demonstration site community co-design commenced in Suva and Makassar.



06 2017 Progress

6_1 PARTNERSHIP AGREEMENTS

Robust partnerships are the foundation of RISE and will ensure the program is well positioned to achieve its objectives. Nuanced and flexible partnership agreements have been signed to allow RISE to proceed with a focus on the overall aims and objectives while also allowing for changes in scope over the course of the five-year program.

In 2017, 13 partnership agreements were drafted to cover all contributing program partners. Three were completed and signed (Stanford University, Emory University, United Nations University International Institute for Global Health). Five were agreed and will be signed in Q1 2018, and the remaining five are under final legal review.

RISE PARTNERS AND SUPPORTERS



Monash University

RISE brings together expertise from the Monash Sustainable

Development Institute, five university faculties, and Monash University Malaysia. Art Design and Architecture (MADA) is leading Objective 1 (Design & Engagement), Business and Economics is leading Objective 4 (Well-being), Medicine, Nursing and Health Sciences is leading across all program assessment components, Engineering is supporting Objective 1, Science is leading Objective 2 (Ecology & Environment), and Monash Malaysia is leading data management.



Monash Sustainable Development Institute (MSDI)

MSDI initiated and led the Wellcome Trust grant application

process and continues to manage the program across all objectives. Led by RISE Program Director, Professor Rebekah Brown, MSDI is one of the world's leading interdisciplinary research and education institutes in sustainable development.



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 proposes to support the infrastructure components of the program, including the rapid demonstration project in one site

in each city. The ADB's Urban Sector Group 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 Objectives 1 and 5. The CRCWSC's vision is for future cities and towns, and their regions, to be sustainable, resilient, productive and liveable.



Stanford University, Centre for Innovation in Global Health

Stanford University's Centre for Innovation in Global Health is engaged in RISE primarily for Objective 3 (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 Objective 5, though it also plays a key role in Objective 3, 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 has partnered 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 well-being of society.



Fiji National University (FNU)

The FNU College of Medicine, Nursing and Health Sciences will lead the implementation of the program assessment 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)

The Faculty of Public Health at UNHAS will lead the

implementation of the program assessment 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 Objective 1 (Design & Engagement). UNHAS is one of the largest autonomous universities in Indonesia, located in Makassar.



The University of the South Pacific (USP)

The USP School of Geography will support Objective 1 (Design & Engagement) and the qualitative

components of Objective 4 (Well-being). USP students will work 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.



Wellcome Trust Sanger Institute

Alongside University of Cambridge, the Wellcome

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



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 well-being dimensions of RISE, particularly qualitative research under Objective 4. UNU-IIGH was established by the United Nations University and the World Health Organisation 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 Objective 1. 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 Objective 1.



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.



6_2 INCEPTION WORKSHOP

The RISE Inception Workshop was held across four cities in August 2017 – Suva, Fiji; Makassar, Indonesia; Singapore; and, Melbourne, Australia. Representatives from six institutions undertook the travel, including five faculties from Monash University (Art Design and Architecture; Business and Economics; Engineering; Medicine, Nursing and Health Sciences; and, Science), the CRC for Water Sensitive Cities, Stanford University, Emory University, Melbourne Water and South East Water.

The series of workshop sessions were fundamental in the development of a truly collaborative team across countries, institutions and disciplines. Outcomes from the workshop included: (a) Partnerships with local stakeholders strengthened and formal commitment received; (b) Increased understanding of local partner capacities, opportunities and constraints; (c) All partners developed a shared understanding of the RISE approach, objectives, components, and tasks for the initial two years; and, (d) Opportunities for broader collaboration on Planetary Health were explored.



6_3 RESEARCH ETHICS

The RISE research ethics strategy involved first applying for human ethics approvals at Monash University using a comprehensive application, encompassing everything outlined in the Wellcome Trust funding proposal. This was submitted in July and approved in September. The animal ethics application was submitted to Monash University in November for the Objective 2 (Ecology & Environment) vector research components.

Ethics approval processes at Stanford University, Emory University, FNU and UNHAS commenced in October. In Fiji, the human subjects application was submitted to the Ministry of Health, via FNU, in November.

In Indonesia, the human ethics application was submitted in December to the Ethics Board at UNHAS. This Board is nationally accredited by the Ministry of Health in Jakarta so approval by UNHAS qualifies as national approval. Animal ethics in both Fiji and Indonesia will be submitted in January 2018 once the scope of the vector work is refined.

Overall, as a result of considerable work, including for translation into Bahasa Indonesia, ethics applications for RISE are on track as originally planned.



6_4 ADVISORY PANELS

Four advisory panels are being established to guide RISE implementation. Terms of Reference for all panels have been drafted and were approved by the RISE Executive in October. Mobilisation of panel members is ongoing.

The **International Scientific Advisory Panel** provides strategic support and scientific guidance to ensure the highest levels of scientific rigor are adopted and followed, consequently providing the required scientific evidence base to inform policy and investments. Nominations for panel members have been received and the Chair, Professor Ted Bianco, has been appointed. The panel will hold its inaugural meeting in early 2018.

The **End-Users Reference Panel** is a platform by which practitioners in the domains of human health, water and environment, and urban development and informal settlement upgrading can share their vision and expertise during RISE implementation. The panel will play a leading role in translating RISE research findings into improved policies and investment. Nominations for panel members have been received and the panel will be formed in early 2018.

In-Country Stakeholder Advisory Panels are being established in Suva and Makassar. These will build on existing networks and align with the requirements of ADB's program oversight mechanisms. The panels act as an advisory function to review program progress and co-develop implementation workplans to ensure alignment with ongoing initiatives.

In Suva, the panel will include: the Ministry of Housing and Local Government; Ministry of Economy; Ministry of Town and Country Planning; Ministry of Lands; Ministry of Public Health; Suva city councils; the Water Authority of Fiji; the iTaukei Lands Trust Board; program delivery partners, FNU and USP; and, representatives of the 12 RISE settlements. In Makassar, the panel will include: the City Government of Makassar; City Planning Department and Public Works Department; Provincial Health Department; UNHAS; and, representatives of the 12 RISE settlements. It is envisaged these panels will be operational by Q2 2018.

6_5 POLICIES, PROCEDURES AND GUIDELINES

RISE is a large, interdisciplinary, multi-year program comprising 18 partner institutions across 6 countries and therefore it is essential to establish clear policies, principles and guidelines to steer implementation. The following documents have been developed in a collaborative manner with the RISE Leadership Team, engaging external technical assistance where required, and will be updated periodically throughout the program.

6.5.1 Additional Projects Policy

The Additional Projects Policy was approved in September 2017. An 'additional project' is defined as an action that is substantively aligned with and/or implemented in the same settlements as the RISE program, but not currently funded or programmed under the core Wellcome Trust or ADB components. The policy aims to balance opportunistic and entrepreneurial behaviour from RISE members to deepen partnerships and research impact while ensuring the delivery of the RISE program according to agreed timelines and the highest research quality standards. The policy sets the requirements and procedures to follow for securing approval for an additional project.

6.5.2 Travel Policy

The RISE travel budget needs to be carefully managed over the five-year period of the program to ensure funds are utilised in the most cost-effective manner to achieve planned program outcomes. Therefore, a RISE Travel Policy was developed and approved in October 2017. The aim of the policy is to establish a system and procedure to optimise RISE travel for the timely and efficient delivery of the program. The policy sets the financial and administrative procedures for all travel as well as expenditure management and approvals. Operationally, a quarterly travel plan is utilised to guide travel and in-country logistics.

6.5.3 Publications Policy

The RISE Publications Policy has been drafted and is currently under review. The policy recognises that disseminating research progress and findings from interdisciplinary action-research presents several issues, including authorship rights, responsibilities, and conventions which vary by discipline, university

and country. The policy aims to: (a) promote high-quality publishing under the RISE program in a timely manner with maximum impact; (b) ensure meritorious recognition of RISE collaborators' contributions to published or presented work; and, (c) establish a system for the proactive oversight of publications and research outputs originating from the RISE research.

6.5.4 Gender Strategy and Action Plan

The RISE Gender Responsive Programming Strategy and Action Plan has been drafted and is currently under review. While RISE is an action-research program that aims to provide proof of concept that the WSC approach can improve human and environmental health and well-being, and is not a research program focused on gender transformation in Fiji and Indonesia, it is imperative that gender is mainstreamed across the program and to avoid gender-blind research design, implementation and dissemination of research findings. It is recognised that programs that do not account for the gendered nature of water and sanitation risk reinforcing social norms and gender inequities.

The RISE Leadership Team is committed to advancing gender equality by empowering women and girls to be involved in all phases of the program. RISE will create an enabling environment for women, girls and other marginalised groups to meaningfully participate in and gain equal benefit from RISE. The strategy outlines how this is planned under each objective in RISE and has been informed by a number of sources including WaterAid, The World Bank, the Australian Government Department of Foreign Affairs (DFAT), UNICEF, the Gender & Development Network, Plan International Australia, the Netherlands Commission for Environmental Assessment, and UN Water.

6.5.5 Dispute Resolution

Grievance and dispute resolution mechanisms are essential components of international development and action-research programming, and should be an integrated part of effective program management, in line with the principle of 'Do No Harm'. The RISE Dispute Resolution Policy has been drafted and is currently under review.

The policy aims to establish procedures, roles and responsibilities to manage grievances and disputes that arise in the context of RISE-supported activities at the country level. The policy supplements existing national mechanisms for grievance and dispute resolution, which should be used in the first instance. The system and procedures aim to facilitate the voluntary participation of various stakeholders to resolve grievances and disputes that arise from RISE activities.

The policy is based on best practices in cross-boundary research collaborations, and grievance and dispute resolution mechanisms, notably the United Nations Development Programme and the Asian Development Bank, tailored to the research characteristics of the RISE program.

6.5.6 External Communications Policy

The RISE External Communications Policy has been drafted and was approved in December 2017. This policy aims to establish an accurate and consistent narrative across all RISE communication, ensuring gender sensitivity, social inclusiveness and balanced visibility of all stakeholders involved in the program.

The policy primarily relates to engagement with external stakeholders, including: researchers, alumni, donors, media, higher education sector, funding/statutory/governing/professional bodies, international partners, business and industry, local community, and members of the public.

6.5.7 Communications and Engagement Strategy

To operationalise the RISE External Communications Policy, a RISE Communications and Engagement Strategy (2017-2022) has been developed and approved. The strategy aims to: (a) set the strategy and framework for partner, stakeholder and external communications for the RISE program; (b) ensure coordinated, effective and efficient communications for the program; and, (c) help raise the profile of RISE and contribute to the successful delivery of the program. Both internal and external audiences fall under the scope of the strategy, including partners, stakeholders and those outside of the program.



RISE IS A LARGE, INTERDISCIPLINARY, MULTI-YEAR PROGRAM COMPRISING 18 PARTNER INSTITUTIONS ACROSS 6 COUNTRIES...”

¹Montreal Statement on Research Integrity in Cross-Boundary Research Collaborations (2013). <http://www.researchintegrity.org/Statements/Montreal%20Statement%20English.pdf>

6_6 SETTLEMENT SELECTION

During 2017, extensive investigation and due diligence was undertaken on potential RISE settlements. More than 100 settlements were visited and assessed against a key site-selection criterion. Potential sites were discussed with local government counterparts, NGOs, and local leaders in terms of feasibility to suit the RISE research and to understand any existing upgrading activities underway or planned.

Key site-selection criteria included:

- Households representative of the most vulnerable populations;
- High water and sanitation stressors, including poor drainage and vulnerability to flooding;
- High risk of water-borne and -related ill health and disease;
- Settlement size (approximately 50 houses per site);
- Delineated boundary conditions to meet the randomised control trial conditions; and,
- Consent for health and environmental studies and infrastructure modification from residents and government.

By the end of September, 34 informal settlements in Makassar and Suva had been shortlisted, with 24 identified as most promising. Letters of no objection for RISE to implement in the shortlist of sites were received from government counterparts, including the Ministry of Local Government and Housing in Fiji and the City Government of Makassar.

Extensive due diligence was subsequently undertaken on shortlisted sites to identify potential land tenure issues or unresolvable conflicts that would jeopardise RISE implementation. Community consultation was undertaken through meetings and briefings with key local leaders and existing community groups. In November, the RISE Assessment Team (Objectives 2, 3 and 4) undertook technical missions to conduct a rapid feasibility study of each site in terms of refining the monitoring approaches and sampling frames. By the close of 2017, the majority of main informal settlement sites had been selected and full community consultation had commenced.



More than **100**
settlements were
assessed in 2017.

34 were shortlisted.

24 were selected
and full community
consultation has
commenced.



MAKASSAR
TEAM





6_7 IN-COUNTRY TEAMS

In-country RISE teams are essential to the delivery and ultimate success of RISE. Providing invaluable local insight and experience, the in-country teams are building genuine connections with the informal settlement communities, local leaders and government counterparts, strengthening the value of the program for local partners while promoting the sustainability of the intervention.

The RISE program strategy for in-country teams and operations was developed and approved by the RISE Leadership Team in Q3 2017. The RISE Leadership Team recognises the importance of embedding the program locally in a meaningful way to cultivate stronger partnerships and ensure continued involvement of target communities over the five-year life span of the program.

Greater focus has been given to creating flexible local teams that can work across all objectives, rather than individual staff that would work in 'silo' objectives. For example, RISE has dedicated community fieldworkers that are responsible for community co-design under Objective 1, as well as health and environmental sampling, and undertaking the quarterly and annual surveys. These fieldworkers are, through regular engagement with residents, building trust and ensuring continued access to settlements. The implications of this community-based approach include greater training requirements for fieldworkers (e.g. on sample collection as they may not all be trained specialists), and strong quality assurance mechanisms, both of which have been incorporated into the RISE workplan.

Program in-country staffing organograms were developed in July and approved by the RISE Leadership Team in August at the inception workshop. A full staffing and accountability framework was drafted, outlining the Terms of Reference for every in-country position, including reporting lines and key deliverables.

Local teams have been established incrementally by selecting qualified individuals that have experience with both research projects and development projects, while paying particular attention to the gender balance of teams and the need to have age, ethnic and religious diversity.

An initial team of eight staff have been recruited for Makassar (five women, three men) through support from Monash Indonesia. The staff were trained in November and December and are now fully operational for delivery of the demonstration site and the community mobilisation across the main sites. In Suva, an initial team of five local professionals have been identified and recruitment is underway (three women, two men). One challenge in Suva has been identifying an implementing modality/partner that can sufficiently manage the complexity of RISE within the budget available.



Figure 2_ The location of the Tamavua-i-wai settlement

6_8 DEMONSTRATION SITES

In August, pilot testing of the co-design process and the WSC approach in one demonstration site in both Makassar and Suva commenced. These projects aim to practically demonstrate the opportunities afforded by a WSC approach in Indonesia and Fiji and to provide more accurate costings to refine planning for the 24 main sites.

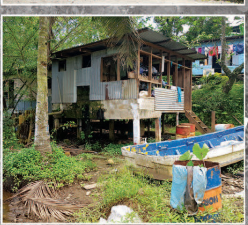
From August to December, a structured program of co-design activities was undertaken:

- Government and community briefings – to outline the aims and objectives of the demonstration component.
- Problem tree exercise – to understand the water and sanitation problems in the community, the causes, and the impacts on families. The exercise is conducted in three groups (women, men and children).
- Neighbourhood activity mapping exercise – to explore the community’s psychosocial understanding and valuing of their area based on activities and locations as well as current water and sanitation services, flooding, and use of space.
- House counting exercise – to develop a complete, community-endorsed, spatially-attributed enumeration of the area.
- Neighbourhood street and public space demarcation – to generate a community-endorsed land tenure mapping showing the public space available for green infrastructure.
- Neighbourhood co-design – a participatory design session, including prioritisation of issues, preference of type of street and activities, housing-related water and sanitation design requirements.
- Housing mapping – house to house surveys to understand current housing conditions, looking at everyday activities, water and sanitation.
- Technical bio-physical diagnostic – examining the hydrology of the precinct and sites, and likely faecal contamination exposure pathways.
- Plenary sessions – to report back to residents.

Figure 3_ The Tamavua-i-wai settlement approach >

RISE

TAMAVUA | WAI
SUVA / FIJI



SUBSURFACE AND SURFACE WETLAND + COMMUNITY SEPTIC
for cleaning toilet water



BIOFILTER + NEW DRAINAGE
for cleaning water from kitchen and shower



RUBBISH BIN + NEW PATHWAY
for rubbish collection by the community for better accessibility

WETPOD
= rainwater tank + sink + toilet + cooking area

PRESSURE TANK
for pumping toilet water to septic tank



RUBBISH RACK
for collecting rubbish from the drainage



Figure 4_ An example of an existing toilet in the Tamavua-i-wai settlement



Figure 5_ Houses on stilts within low-lying areas in the Tamavua-i-wai settlement



Figure 6_ Sessions with residents in Tamavua-i-wai

6.8.1 Tamavua-i-wai, Suva, Fiji

This site was selected because it is challenged by water and sanitation stressors in a number of areas. The lessons from Tamavua-i-wai are particularly critical for guiding the processes of design and implementation of the other 12 sites across the Greater Suva Area. As illustrated in Figure 2, the settlement is located at the bottom of a steep, poorly surfaced road, and low-lying areas are inundated as a result of both overland and tidal flows. Parts of the site are currently included under two community leases established in the 1980s. The most vulnerable area within the site – the area within the circular roadway – is not presently included in the leases. Most of the existing houses within the eastern portion of this area are raised on stilts to accommodate the tidal waters, while the houses in the western portion are sited on steep terrain which slopes down to the stream.

These site conditions will allow the team to demonstrate a range of WSC solutions, including green technologies, new wetpod amenities (toilet, shower and rainwater tank) and drainage improvement works which are much needed. The site was also selected because of its configuration and relative ratio of building to open space, allowing for easy deployment of solutions within the constrained timelines of the program.

In September, RISE met with officials and local community leaders prior to the community workshop, briefing them on the plan and the objectives of the co-design week to establish their support. Figure 6 demonstrates sessions held in the community during the week, with key community representatives opening the first meeting. The initial Big Gathering received significant community and government support, attended by representatives from the Ministry of Lands and Department of Housing. 35 adults (60% women) and more than 40 children and young people participated.

The RISE team worked alongside students from USP to undertake the full enumeration of households and houses and to develop the demonstration site design through the community co-design process. The draft upgrading plan was presented back to the community in November where feedback was received and discussions were initiated with households about wetpod provision and configuration. By the end of December, the full drawings were complete and planning permits and development approvals had commenced.

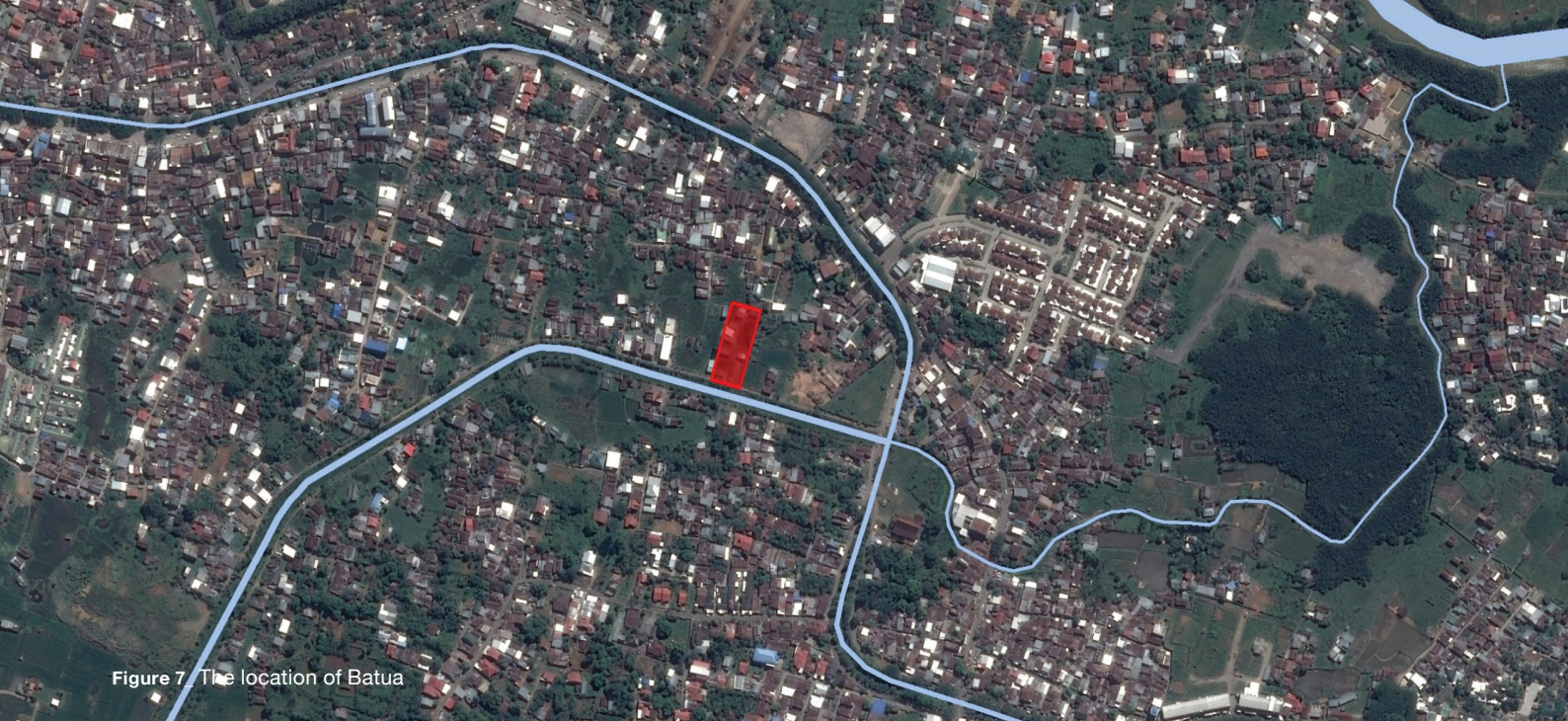


Figure 7. The location of Batua



Figure 8. Flooding in Batua



Figure 9. Proceeding with the process of co-design



Figure 10. Co-design session with UNHAS



Figure 11_ Sessions with residents in Batua

6.8.2 Batua, Makassar, Indonesia

Batua has been selected as a demonstration site to illustrate how the proposed WSC interventions play out in a severely flood stressed community. The lessons from Batua are particularly critical for guiding the processes of design and implementation of the other 12 sites in the city of Makassar. As illustrated in Figure 7, Batua is located on a low-lying area within a precinct bounded by two canals to the north and south. This site has been developed through a process of subdivision, accommodating a mix of relatively temporary and permanent structures. Most of the existing houses are elevated on stilts as the site is prone to flooding (Figure 8).

In September, RISE met with key government officials and local leaders prior to the community workshop and briefed them on the plan and objectives of the co-design week. These officials opened the first Big Gathering held on site which marked the start of the co-design. Figure 11 shows the sessions with residents in Batua. The RISE team undertook a range of co-design activities, working alongside students from UNHAS to develop the demonstration site design (Figure 10).

Monthly missions were undertaken by the Melbourne-based RISE Objective 1 (Design & Engagement) team to advance the design with the community, taking iterations of the drawings and models back for community feedback (Figure 9). By December the final proposal had been agreed, ready for the full technical drawing and tendering process to begin in Q1 2018.

The working upgrading plan for Batua includes a two-stage approach. The essential WSC infrastructure will be delivered in the first stage along a three-metre wide street elevated from the natural ground level. A number of additional items and public amenities such as stairs, trees, street lighting and benches will then be provided in the second stage. This staged approach has been developed to avoid: (a) possible overlaps between funding packages; (b) demolition of existing buildings; and, (c) potential contestation over the challenging issue of land tenure.



6_9 24 MAIN INFORMAL SETTLEMENT SITES

By the close of 2017, the majority of main sites had been selected. At all settlements, intermittent water supply of varied quality and inadequate or absent sanitation systems result in high rates of exposure to faecal contamination. The sites are variously characterised by combinations of: tidal inundation with occasional storm surges; riverine flooding; and, poor drainage and pluvial flooding. Residents are marginalised from a lower socio-economic demographic, with limited access to services.

Each settlement comprises an average of 50 dwellings per site which house approximately 5–6 people per dwelling, meaning a total of 6,000–7,200 people in the RISE program. This intervention scale and sample size will ensure statistical power for primary health and environmental outcomes. Site inspections have confirmed feasibility and accessibility, with site locations and sizes determined using the UN-Habitat informal settlement selection approach.

6_10 COMMUNITY ENGAGEMENT

In November, the local RISE team commenced community mobilisation in Makassar across the 12 main sites to enroll all households across the settlements in the RISE program, including securing informed consent to participate. The team followed the 10 steps outlined in the community mobilisation roadmap (Page 37), reviewed by the ADB, and approved by the RISE Leadership Team.

The five-year timeframe and intensive human sampling required (e.g. quarterly surveys and stool collection) necessitate that residents understand and value the

research elements of the program and therefore wish to participate for its duration, regardless if they are in the intervention or control group. Careful community mobilisation is crucial to ensure residents are interested and supportive of the RISE research, not only the physical upgrading intervention. RISE will always implement meaningful and considered outreach and mobilisation activities in all proposed sites.

Overview of RISE community mobilisation roadmap

(Oct 2017 – March 2018)

1_ OUTREACH AND SENSITISATION

Aim_ Raise awareness of RISE and identify social entry-points.

Tools_ Discussions with leaders and existing groups; 'walking and talking'; mapping psycho-social understandings; linking with ongoing initiatives and projects being implemented; dissemination of information sheets.

Outcomes_ General resident interest in participating in RISE and agreement to hold full briefing.

FIRST BIG GATHERING 2_

Aim_ Brief residents on RISE and provide a forum for discussion and Q&A.

Tools_ Big Gathering held in a common space with residents and government.

Outcomes_ General interest in participation and agreement to participate.

3_ COMMUNITY-BASED BIO-PHYSICAL DIAGNOSTIC

Aim_ Develop a base understanding of the bio-physical characteristics and engage residents in assessing and understanding the links between the environment and human health.

Tools_ 'Walking and talking'; interviews; mapping.

Outcomes_ Residents have increased awareness and therefore become more keen to be involved in RISE; bio-physical site diagnostic.

4_ SECOND BIG GATHERING

Aim_ Present the bio-physical results to generate further interest in participating in the program.

Tools_ Big Gathering held in a common space with residents and government.

Outcomes_ Increased resident participation, interest and agreement.

REACHING EVERYONE 5_

Aim_ Ensure all households/residents have been briefed on the program.

Tools_ Piggybacking on existing groups' meetings; house to house visits; social events; outreach through schools; information posted on local noticeboards.

Outcomes_ All residents have been reached and are interested in participating.

6_ COMMUNITY BASED ENUMERATION

Aim_ To survey and count all houses and people in the settlement.

Tools_ Community-based enumeration; mapping at household and settlement scales (focused on water and sanitation).

Outcomes_ Basic housing and population enumeration of settlement.

7_ TECHNICAL SITE SURVEY

Aim_ Engineering survey of the settlement from a bio-physical perspective.

Tools_ Topographical survey; aerial photography/imagery; site mapping. Youth or other groups could be involved, led by technical experts.

Outcomes_ Refined understanding to help with assessment protocols and planning (especially the environment).

FORMALISING COMMUNITY GOVERNANCE 8_

Aim_ Form (or strengthen) a representative Community Engagement Council (CEC) to give RISE a decision-making entity to engage with moving forward.

Tools_ Using the enumeration data, hold an election to vote for the CEC.

Outcomes_ CEC formed and aware of their Terms of Reference.

9_ FORM RISE COMMUNITY NETWORK

Aim_ Link CECs in each city through a citywide network – a mechanism to: build city level support; promote structured engagement with government and partners; and, function as an information sharing and exchange platform.

Tools_ Inaugural meeting with representatives; ensure strong government engagement.

Outcomes_ CEC network formed.

PROJECT LAUNCH AND BASELINE STARTS 10_

Aim_ Publicly launch the program.

Tools_ Inaugural meeting with RISE community network representatives; ensure strong government engagement; media and press release; newspaper articles; RISE partners to sign Statement of Cooperation in each country.

Outcomes_ The public knows about RISE and communities have fully signed up.

6_11 ASSESSMENT DESIGN AND APPROACH

Overall, the RISE assessment remains as originally envisaged and outlined in the Wellcome Trust proposal. This section provides updates in a few notable areas.



Objectives 3 and 4 Survey Instruments

In August and September, the required modules for the survey instruments were chosen and questionnaires were drafted. The survey details have since been refined, with many iterations in order to optimise coordination across objectives. At the end of 2017 a near-final draft had been completed, which will be culturally adapted as needed. In Q1 2018 the surveys will be translated and tested locally.



Wellcome Trust Sanger Institute and University of Cambridge

A cooperative arrangement between Cambridge and Sanger has been established. Pilot testing of samples will begin in Q1 2018 to finalise decisions regarding procedures and pipelines for the genomics work. In Q2 2018, a full-time Cambridge PostDoc will be employed to facilitate testing of RISE samples at Sanger and assist with bioinformatics analyses.



November Technical Missions

Field visits to all sites with Objectives 2 and 3 technical specialists were undertaken in November to Makassar and Suva.

Detailed site inspections plus collection of water, soil and mosquito pupae samples have been crucial in informing detailed logistic planning for optimising environmental assessment. Coordination with local partners and advice regarding community perceptions of the intended assessment have assisted in refining plans for locally appropriate implementation.



Protocol and Standard Operating Procedures (SOPs)

Each objective has developed protocols and is collating SOPs. Population sampling frames have been agreed on, as have randomisation procedures for choosing an average of

30 children under five years of age per site for biological sampling. Pending site population enumeration data, to maximise scientific inference of intervention effects, there will be subsampling of children aged 6 months to 2 years (20 children per site) and children 2-5 years (10 children per site). Integration of contact with householders across objectives will minimise household visits and resulting disruption to participants, reduce burden on field workers, and account for feasible sampling loads for laboratory staff.



Assessment Implementation Workshop

A two-day technical Assessment Implementation Workshop was held in December to update progress on key elements of the interdisciplinary

assessment and to coordinate workplans across Objectives 2, 3 and 4. Integration of major milestones and timetabling for the rollout of multifaceted data collection were agreed. Plans for coordination of training for in-country staff, piloting of surveys and sampling, and for rollout of the baseline assessment prior to randomisation in Q3 2018 were finalised.



Research Permits and Material Transfer Agreements

Guidance has been drafted for RISE researchers for both Indonesia and Fiji regarding research permit requirements. By the close of 2017 applications were in process for those

RISE members requiring research permits. Procedural plans for storage and transport of specimens are progressing, taking into account differences in individual country restrictions. Requirements for Material Transfer Agreements are being investigated for Indonesia and Fiji, noting that the timing of specimen collection necessitates this be finalised by the time of randomisation (Q3 2018).



Figure 12_ The RISE Lab at FNU

6_12 LAB SET-UP

Because of the need for laboratories dedicated solely to RISE research, considerable work has been undertaken to secure appropriate spaces in both Suva and Makassar with partner universities. Spaces optimised for location, size and suitability are now secured.

In Makassar, this is a dedicated room within a larger laboratory complex at Hassanudin University (UNHAS). In Suva, a laboratory previously in use for another now-completed project has been provided by Fiji National University (FNU).

Given the spaces allocated for laboratory work are not within fully-functioning existing laboratories, RISE is working with and supporting in-country teams to complete refurbishment, laboratory fit-out and provision of reliable back-up generators.

In close collaboration with in-country partners, ordering of laboratory equipment is progressing. In case of procurement delays, items required for the baseline work are being prioritised.

07 Crosscutting Issues

7_1 GENDER EQUALITY AND SOCIAL INCLUSION

RISE is committed to promoting social inclusion by creating an enabling environment for women, girls and other marginalised groups to meaningfully participate in and gain equal benefit from the program through:

- a_ Creating opportunities and training for women to take on leadership roles in RISE design, implementation and maintenance, aiming for a 50:50 gender balance with a focus on the quality of engagement;
- b_ Identifying barriers to participation and developing mitigating strategies to address each barrier;
- c_ Mainstreaming gender across policymaking, establishing local ownership of gender policies and strategies, to build capacity of leaders and governments to understand the specific water and sanitation needs of women and girls;
- d_ Upholding the principle of ‘Do No Harm’, ensuring RISE does not increase the burden of unpaid care work on women and girls, or place them at further risk of physical, mental or emotional harm;
- e_ Recognising the intersection between gender, age, poverty, disability, race, ethnicity, culture and religion, and the potential impact on each community member’s ability to interact with and benefit from RISE;
- f_ Incorporating gender indicators into monitoring and evaluation;
- g_ Working alongside the Ministry of Women Empowerment and Child Protection in Indonesia and the Ministry of Women, Children and Poverty Alleviation in Fiji, and partnering with local women’s organisations, to engage local gender advocates; and,
- h_ Ensuring all communication and engagement is gender-sensitive and socially inclusive.

A comprehensive RISE Gender Responsive Programming Strategy and Action Plan has been drafted and outlines the RISE strategy in more detail.



Figure 13_ How RISE is meeting the UN Sustainable Development Goals

7_2 2030 AGENDA

RISE is taking an integrated and holistic approach to achieving the Sustainable Development Goals (SDGs), 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; Clean Water and Sanitation; and, Sustainable Cities and Communities.

7_3 CAPACITY DEVELOPMENT

RISE aims to be strongly anchored in each country of implementation. By design, the program is wholly collaborative and will be implemented, refined and adapted in complete cooperation with local university, government and community partners. This is an explicit strategy to ensure the sustainability of the intervention and harness the opportunity of the assessment to contribute to improving research and knowledge in each country.

In 2017, efforts have been taken to advance RISE to be more locally-led and socially inclusive. The program has strengthened its community co-design and co-research approach with a key focus on in-country communities of practice around design, implementation, and the environmental and public health assessments.

A core tenet of the RISE approach is to support local partner universities to improve institutional and human capacity to undertake globally-leading research. Where advantageous, RISE welcomes the involvement of researchers and students in partner countries who have an interest and passion in the research area.

By incorporating dedicated training programs and collaboration with local engineers, contractors, governments and community organisations, RISE is building local capabilities around water sensitive infrastructure, with the hope to leave a lasting legacy.

“

INVOLVING THE UNIVERSITY OF THE SOUTH PACIFIC STUDENTS IN THE WORKSHOP GAVE THEM A CHANCE TO WORK WITH INFORMAL SETTLEMENT RESIDENTS AND EXPERIENCE FIRST-HAND THE CHALLENGES OF WORKING IN COMPLEX ENVIRONMENTS. THE STUDENTS PLAYED A KEY ROLE IN UNDERTAKING THE HOUSING SURVEYS AND CO-DESIGN TO GET THE COMMUNITY'S VISIONS AND IDEAS OF HOW TO CREATE A SAFER NEIGHBOURHOOD.”

— Camari Koto, USP Lecturer and RISE Partner



08 Outlook for 2018

RISE is on track to complete planned 2018 activities as originally intended in the Wellcome Trust proposal. Key milestones include:

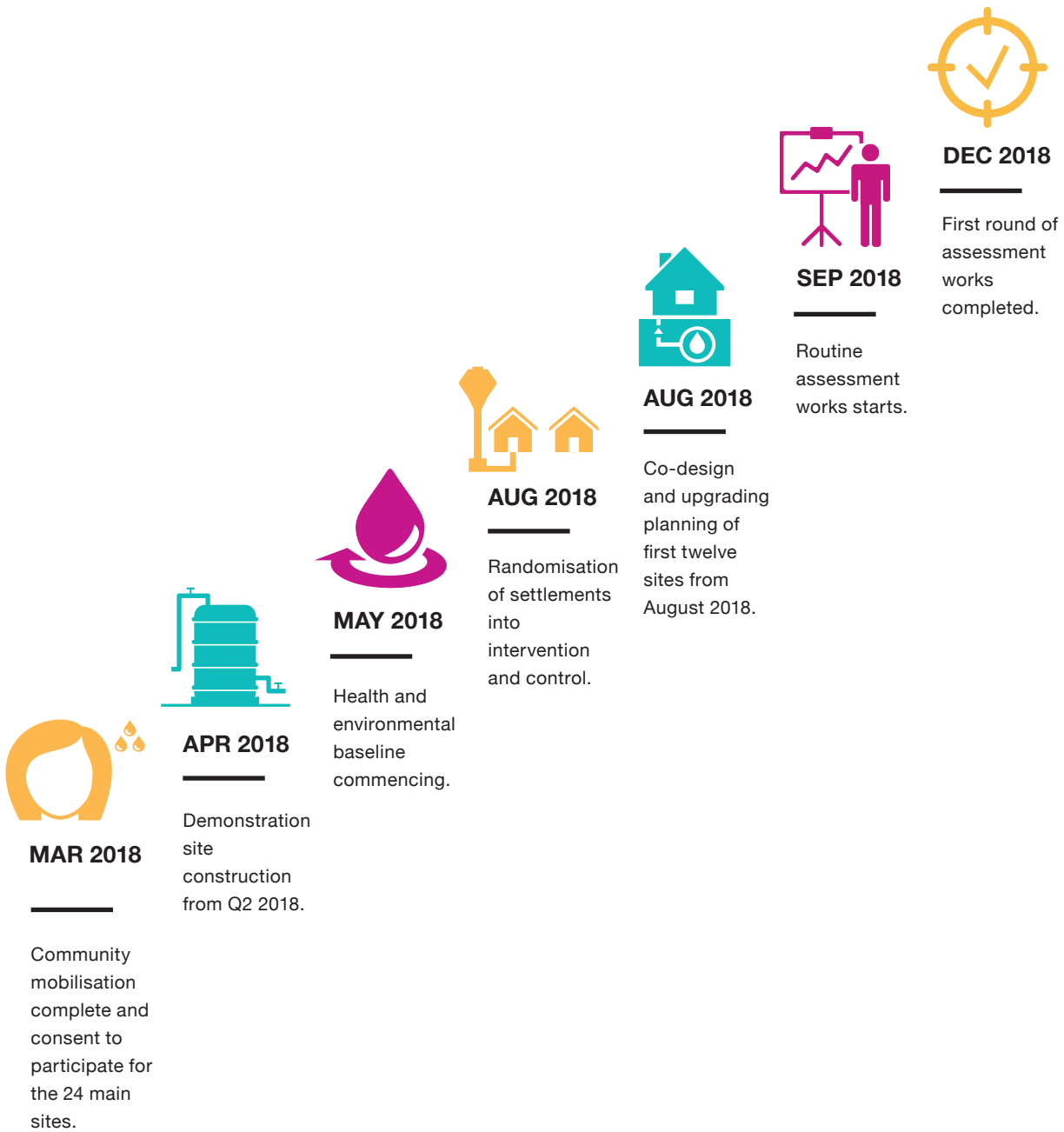


Figure 14_ RISE 2018 timeline

09 Management and Governance

9_1 EXECUTIVE

The RISE Executive comprises the following people and meets on a bi-weekly basis:

RISE Program Director

Professor Rebekah Brown,
Director of the Monash Sustainable Development Institute

RISE Build Team Leader

Professor Tony Wong,
CEO of the CRC for Water Sensitive Cities

RISE Assessment Team Leader

Professor Karin Leder,
Head of the Infectious Diseases Epidemiology Unit within the Monash School of Public Health and Preventive Medicine

RISE Program Manager

Dr Matthew French,
Monash Sustainable Development Institute

9_2 LEADERSHIP GROUP

The RISE Leadership comprises the above Executive and the following people and meets on a bi-weekly basis:

RISE Objective 1_ Design & Engagement Leader

Professor Diego Ramírez-Lovering,
Monash Faculty of Art Design and Architecture (MADA)
Deputy Dean and Associate Dean (Engagement)

RISE Objective 2_ Ecology & Environment Leader

Professor Steven Chown,
Monash Faculty of Science, School of Biological Sciences

RISE Objective 3_ Human Health Leader

Professor Stephen Luby,
Senior Fellow - Stanford Woods Institute for the Environment & Freeman Spogli Institute for International Studies; Director of Research, Center for Innovation in Global Health; Professor of Medicine, Infectious Diseases, Stanford University

RISE Objective 4_ Well-being Leader

Professor David Johnston,
Centre for Health Economics, Monash Faculty of Business and Economics

RISE Objective 5_ Policy & Investment Leader

Professor Thomas Clasen,
Professor of Environmental Health and Rose Salamone Gangarosa Chair of Sanitation and Safe Water at the Rollins School of Public Health, Emory University

RISE Data Management Leader

Professor Daniel Reidpath,
Professor of Population Health and Head of Public Health at Jeffrey Cheah School of Medicine and Health Sciences, Monash University Malaysia, and Director of the South East Asia Community Observatory (SEACO) Research Platform

The RISE Leadership Team would like to extend their **gratitude to all** those individuals and institutions involved in and supporting the program.

With your significant contributions, **a strong foundation** has been established for the program as it heads into 2018.

Thank you for your unwavering support.









MONASH
SUSTAINABLE
DEVELOPMENT
INSTITUTE



rise

REVITALISING INFORMAL
SETTLEMENTS AND
THEIR ENVIRONMENTS

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