

# Resource Recovery and Safe Reuse (RRR) in Lima, Peru

*Transforming residues into resources for the sustainable  
development of Lima*

**Sanitation safety planning-PSS: Training workshops and  
formulation of implementation proposals in Peru**

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SDC Global Program GWI,  
Hub Lima-Peru



Unsafe management and/or reuse of wastewater and excreta poses important public health and environmental risks - the vulnerable groups being the most exposed to a range of microbial and chemical contaminants.

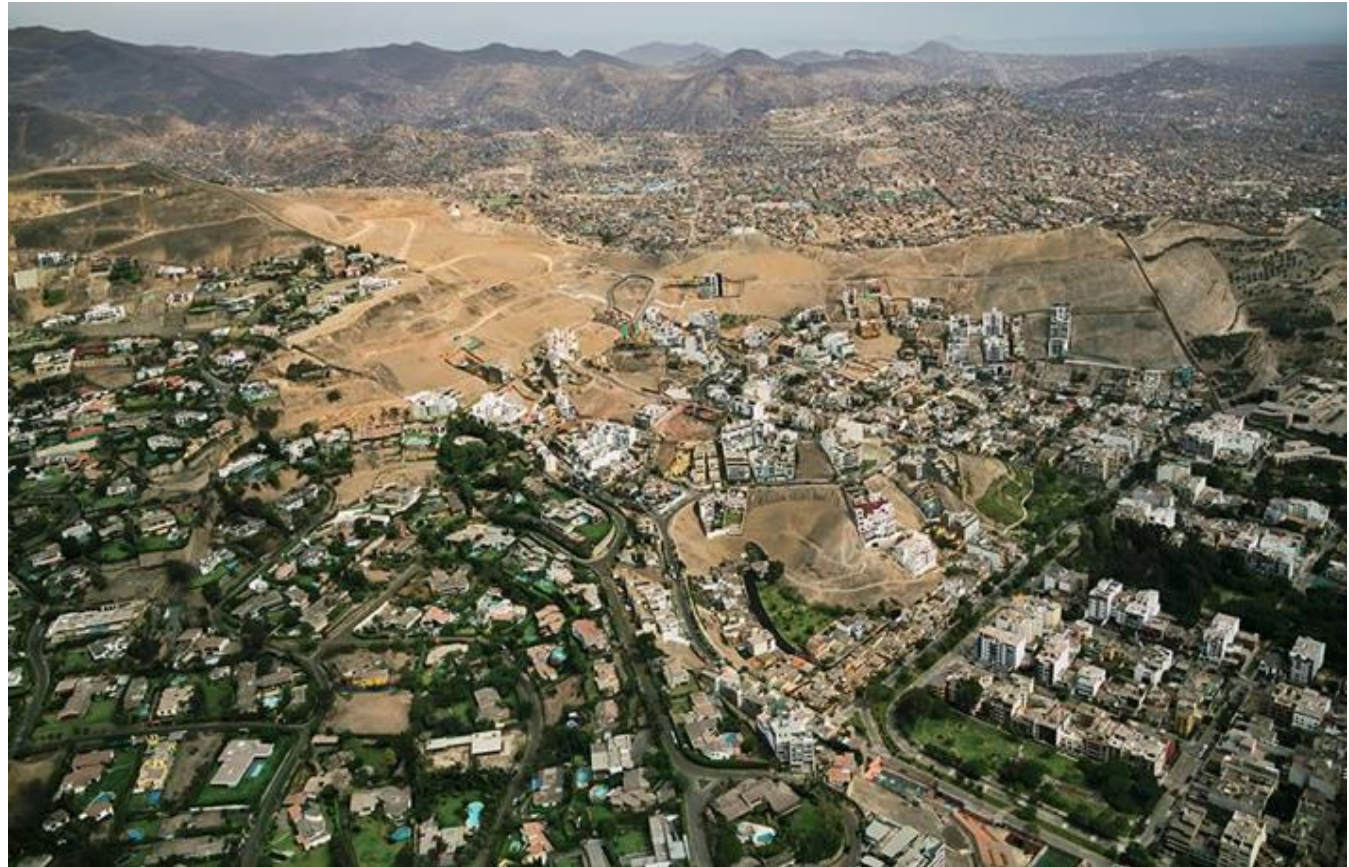
“Rethinking Sanitation Systems - Resource Recovery and Safe Reuse (RR&R)” (2011-2018) aims at directly supporting the application and implementation of the WHO guidelines by national authorities through a newly developed policy tool in the form of Sanitation Safety Plans (SSP).

SSP is a management tool applying the principle of risk assessment and management to sanitation systems. It is useful to all actors working in sanitation service delivery to systematically identify and address real and perceived health risks and to ensure measures and monitoring are in place with the various actors along the sanitation chain, from collection, storage, transport to final disposal and/or treatment and reuse.

# Situation of Lima, Peru ...

## Society

- Fast urban growth (close to 10 MM inhabitants)
- Low green areas availability (3m<sup>2</sup>/inhabitant)
- Need for improvements in sanitation services
- Great potential for sustainable enterprises





# Situation of Lima, Peru ...

## Economy

- High consumption of resources for commercial and productive activities
- Greater number of industries and businesses in the city
- High transaction cost in municipal management (residues)
- Potential market for RRR



# Situation of Lima, Peru...

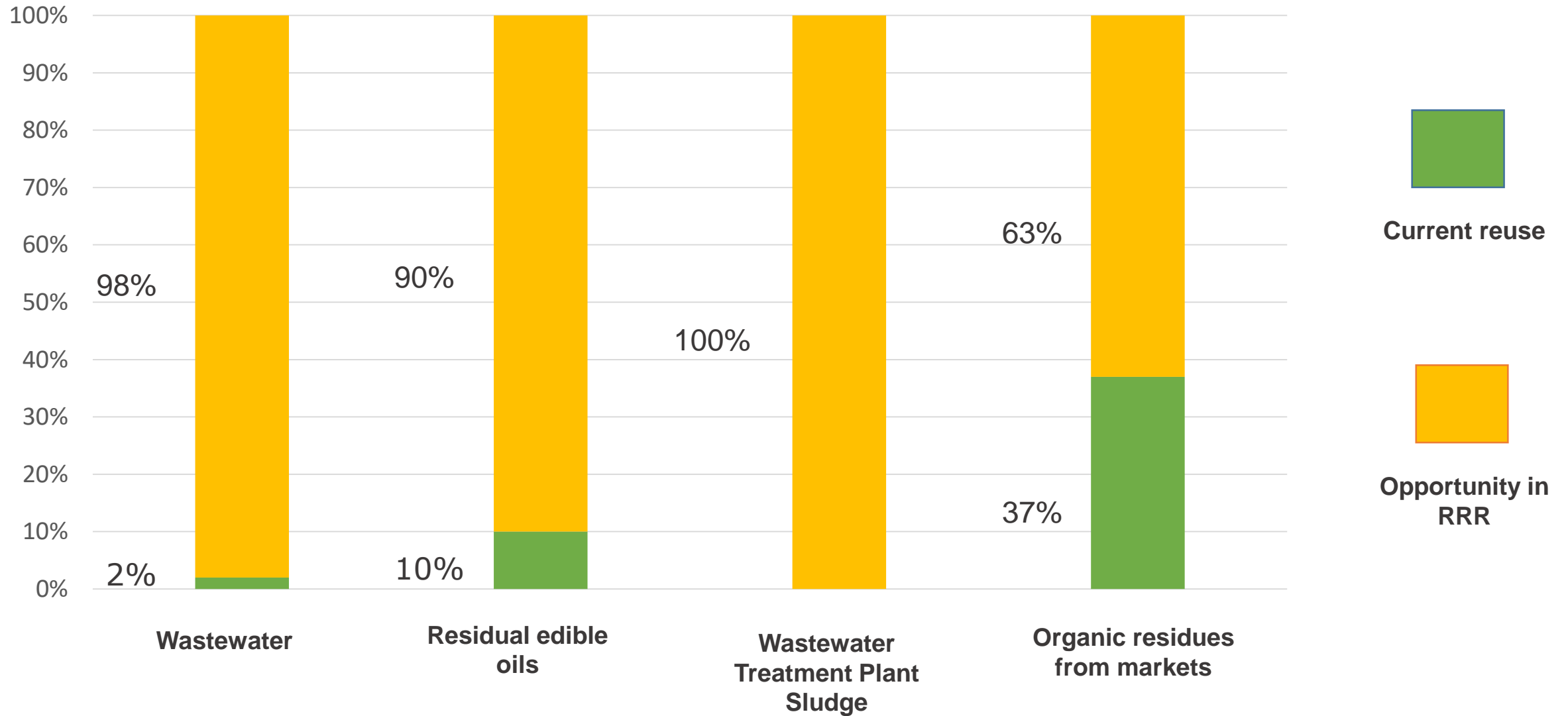
## Environment

- Treated wastewater into the sea (15 m<sup>3</sup>/s)
- 53% organic waste is not reused and ends up in public spaces
- Sludge from wastewater treatment plants is taken to landfills
- Large generation of residual edible oils (12 MM of gallons/year)





# Opportunities for improvement...



# What does the RRR Project pursue?

Support entrepreneurship models for safe use of residues: “innovative and sustainable business models”

**ME1** Irrigation of green areas with treated wastewater



**ME2** Production of biodiesel from residual edible oils



**ME3** Production of compost from vegetal waste from markets



**ME4** Production of compost from Wastewater Treatment Plant sludge







Sanitation Safety Planning(PSS) Peru.

Workshops for training and formulation of proposals for implementation in Peru



Objectives:



The series of workshops (PSS) aims to contribute to the adoption and planning of sanitation security in the regulatory framework of Peru.



Strategic objective:

raise awareness among decision-makers about the benefits it can bring the security planning of sanitation, as a tool for control of health risks and environmental, allowing the effectiveness of public and private resources ventures. Contents of the event:-presentation of the sanitation (PSS) security planning. - Examples of implementation in other countries. -Benefits of the implementation of the PSS.



Swiss Tropical and Public Health Institute  
Schweizerisches Tropen- und Public Health Institut  
Institut tropical et de Santé Publique Suisse  
Associated Institute of the University of Basel



# RRR entrepreneurship model

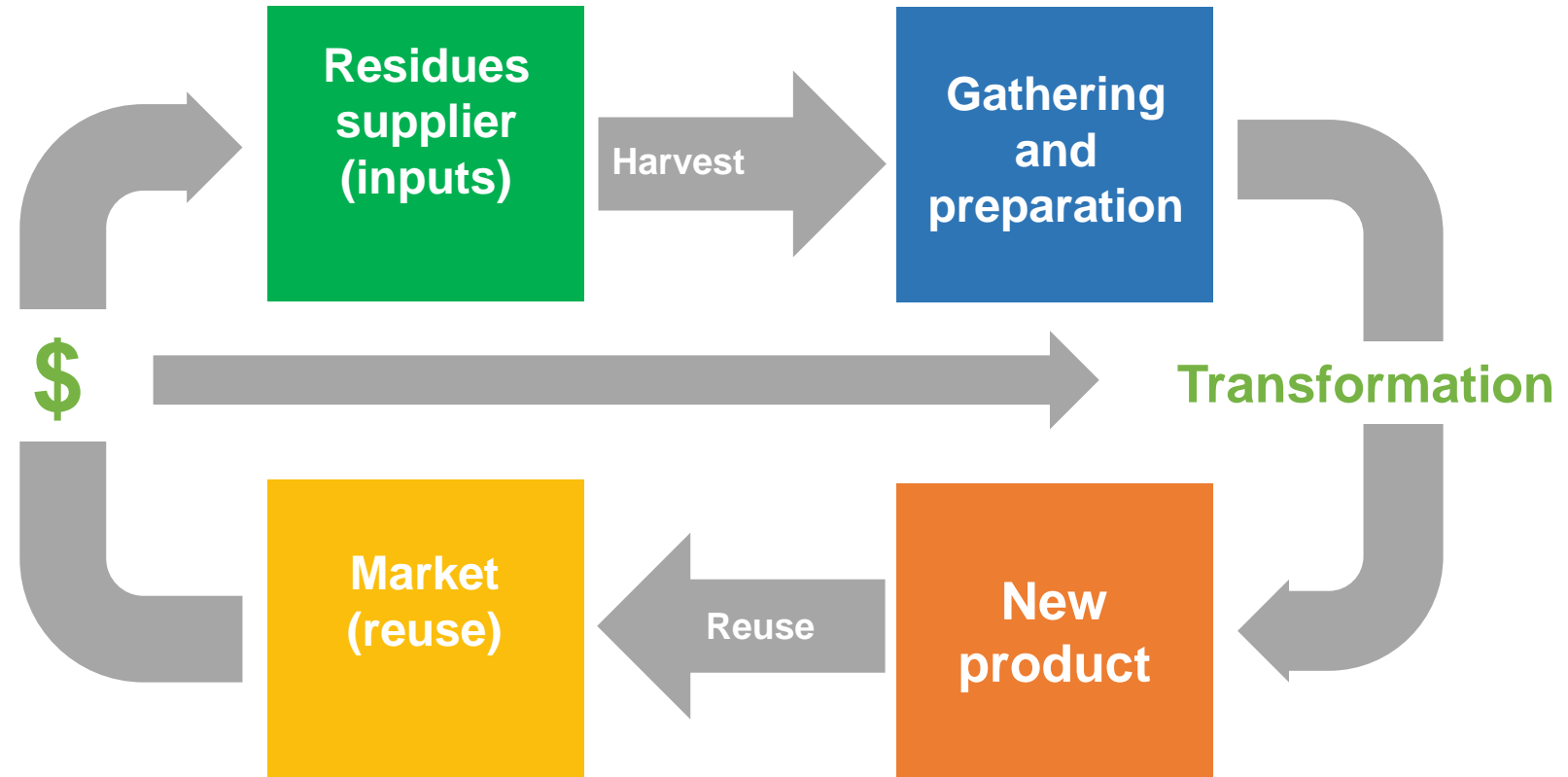
Technically viable

Profitable

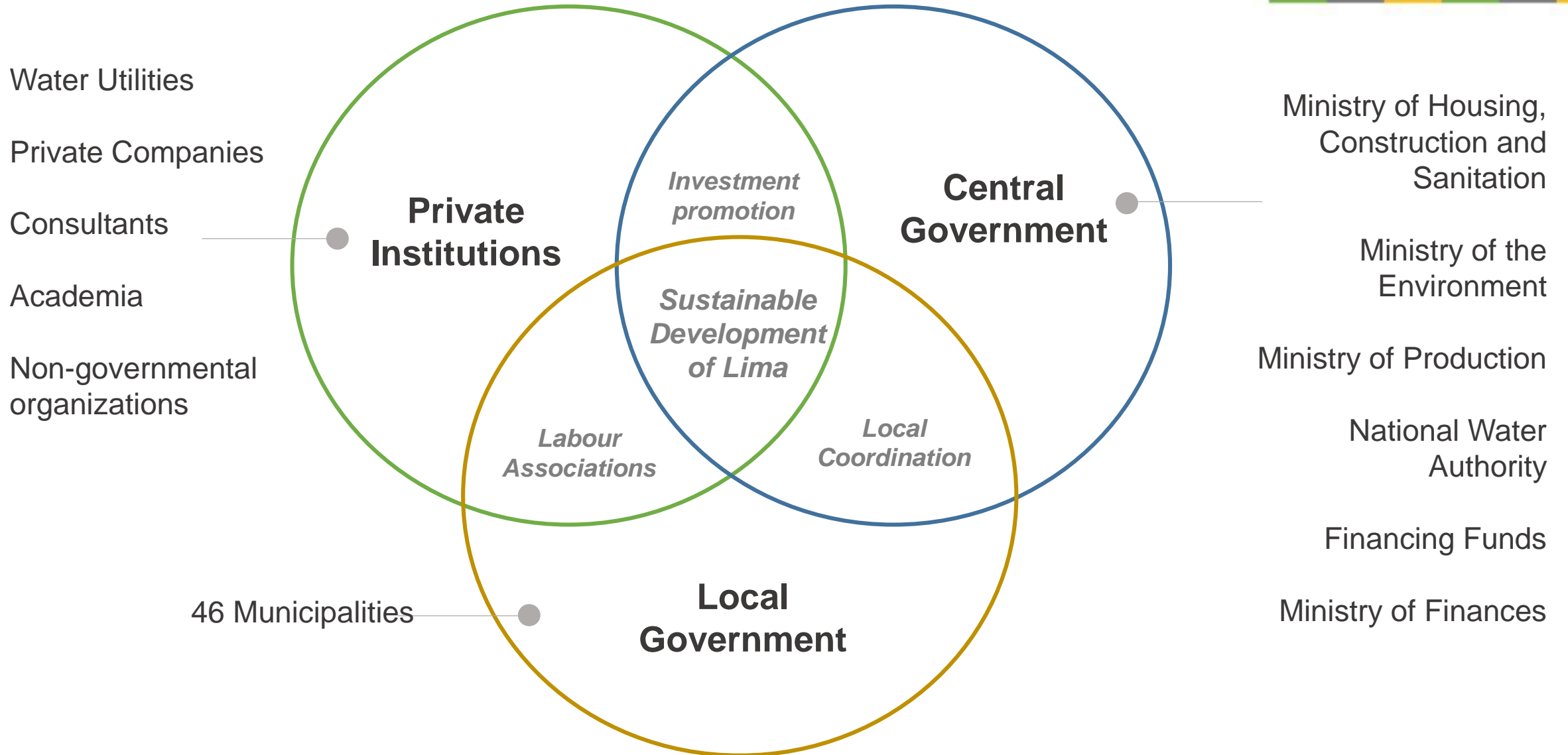
Safe

Socially acceptable

Environmentally friendly



# Actors involved...





# Strengthening Capacities

## PHASE 2

### *Training program in RRR*

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To train new (public and private) entrepreneurs

#### **Workshop “Entrepreneurship in RRR”**

built skills, provided  
knowledge to develop  
implementation plans in RRR.



April 2017

#### **Business plans competition**

Best implementation plans  
competition to secure support  
during the start-up phase

June 2017



#### **Coaching and permanent training**

Customized coaching from  
RRR experts, who will  
assist participants in  
starting-up

July 2017 – May 2018

# Workshop on RRR entrepreneurship

ME1: Reusing water

ME2: Biodiesel

ME3: Compost preparation

**Participants:** Municipalities, Businesses, consultants, etc.

**Training:** Technical-operating aspects  
Legal and institutional framework  
Financial feasibility  
Market studies  
Sanitation safety planning

**Result:** Project plans





# Workshop on RRR entrepreneurship

## Wastewaters



## Biodiesel



## Compost





## ***Public-Private Work Group***

To achieve comprehensive and  
coordinated development

**Participants:** Key actors in the  
development of the RRR  
approach in the country.

**Led by:** Ministry of Housing,  
Construction and Sanitation

**Coordinated by:** RRR consortium

**Objective:** *Support the adaptation of  
the RRR approach  
in the public policies of  
Peru.*



# Impact on Policies

**3R** recuperación y  
utilización segura de  
recursos



**Opening session of the  
Public-Private Working  
Group (PP-RRR Group)**



## Next steps...



### ***Customized RRR Coaching***

Advisory for the development of projects on reuse of resources.

*July 2017 – May 2018*



### ***Workshop on Sanitation Safety Plans***

With the aim of integrating SSP in the regulatory framework in Peru

*October 2017*



### ***Replication and scale up of RRR models***



### ***Institutionalization of the PP Group***





# Lessons learned...

## PHASE 2

There are many RRR initiatives in Lima, but sometimes they fail to develop because:

**Funding is a limitation**



Promotion of public and international funding mechanisms

**Lack of technical knowledge**



Training, workshops, courses and talks at local and regional level and in the ministries.

**The institutional framework hinders the development of RRR projects**



Relevant current actors and experiences as baseline for gradual improvement.

**“Price over quality” thinking (culture)**



Environmental education and dissemination of sustainability (importance of added value)

**Challenges**

**Recommendations**

*Transforming residues into resources for the sustainable development of Lima*

# Thank you!

3R **ecuperación y  
eutilización segura de  
recursos**



INICIO PROYECTO RRR EMPRENDIMIENTOS RRR GRUPO DE TRABAJO RRR NOSOTROS CONTACTENOS



NOTICIAS

"Recuperación y Reutilización Segura de Recursos (RRR) en Lima"

Es un proyecto auspiciado por la Agencia Suiza para el Desarrollo y la Cooperación COSUDE, cuyo



[www.rrr.pe](http://www.rrr.pe)

# Risks and opportunities

## Opportunities

- Learning from tackling technical and institutional challenges simultaneously
- Framing project goals and approach in terms of the agenda of current government
- Mobilizing support and entrepreneurship by framing challenges as opportunities for cost-recovery and/or profitable businesses
- Building knowledge and strengthen capacities at different level (policy, technical and academy) in order to foster the dissemination of RRR approach, and scaling up.
- Improve/articulate the regulations in order to contribute a better management (and the sustainability of the project) based on an inter-institutional joint work.

## Risks

- Jeopardizing the potential for sustainable impact by narrowing down the project's scope.
- Underestimating the challenges of turning public officials into «entrepreneurs.»
- Not being able to provide enough incentives for entrepreneurs to partake in the technical training.
- Not having clear competencies of each institution involved, which makes it difficult to optimally manage the project execution process.