



**rikolto**

What will we eat tomorrow?



An aerial photograph of a densely packed urban area, likely a slum or informal settlement. The image shows a mix of building types, including some with corrugated metal roofs and others with more solid walls. There are narrow streets, parked cars, and a soccer field in the lower-left quadrant. The overall scene is one of intense land use and urban expansion.

A global urgency

**50%** more food will be  
needed by **2050** to keep up  
with ever expanding cities

# A global urgency



70%

of all the food in the world is produced by small-scale farmers

60 years

is the average age of a farmer

1 billion

people are employed in the global food industry, representing 10% of the global GDP

37%

of all **greenhouse gasses** are linked to our food system



# Our mission



SUSTAINABLE  
INCOME FOR  
FARMERS  
& NUTRITIOUS  
AFFORDABLE  
FOOD  
FOR EVERYONE



Because a better world starts on our plate.



# A Food System approach for collective impact

To tackle  
the **inter-related challenges** of  
food insecurity, climate change, biodiversity &  
economic inequality

**we build bridges**

between smallholder farmer organisations,  
companies, authorities and other actors  
across rural and urban areas.

**Connecting is at our core.**



# 3 global programmes & cross-cutting commitments

Youth engagement  
to vitalise food systems

#YouthinAg



**COCOA  
& COFFEE**

Living  
Income and  
resilience

Climate smart agriculture  
to cope with climate change  
and biodiversity loss



Rikolto in Indonesia also develops **Payment for Ecosystem Services (PES)** models to foster innovative agribusiness and incentivise farmers who practice sustainable agriculture.



**RICE**

A food system  
mainstay



Gender inclusion  
to speed up  
food system change

**FOOD SMART CITIES**

At the centre  
of food system  
change



# Where we work in Indonesia



# Food Smart Cities



Healthy Canteen  
in Surakarta

GoodFood  
@School

Food  
Citizenship



Circular Food  
Economy



- Food donation
- Urban farming
- School of life

Food Markets  
4 All

Generation  
Food



- SEED Starter
- Agavi

We build bridges for sustainable & fair food in cities.





# Why a focus on the Circular Food Economy?

- To contribute to reducing greenhouse gas emissions:
  - FLW generates 8% of global GHG emissions ([WWF, 2020](#)) and requires an agricultural area the size of China. Shifting towards sustainable diets AND reducing FLW could reduce emissions by 1.8 Gt CO<sub>2</sub> eq per year, contributing to approx. 20% of the global mitigation needed in 2050 to deliver on the 1.5°C target ([WWF, 2020](#))
- To increase efficiency in the food system:
  - Reducing FLW:
    - Diminishes the need for land conversion for food production
    - Lowers methane emissions from food in landfills
    - Saves the energy and resources used to process, transport, store & cook the FLW → impact on affordability?
  - Food and green waste comprise more than 50% of all municipal waste but **less than 2% of organic waste is recovered** as nutrients that are looped back into the local agricultural economy → waste of resources
- To increase food availability:
  - Reducing the current rate of FLW by 50% (SDG 12.3) would close the gap between the amount of food needed to feed the planet in 2050 and the amount of food available in 2010 by more than 20% ([WRI, 2019](#))
  - To make healthy food available to vulnerable groups

Figure 4 | Why Food Is Lost or Wasted Is Due to Multiple Underlying Drivers

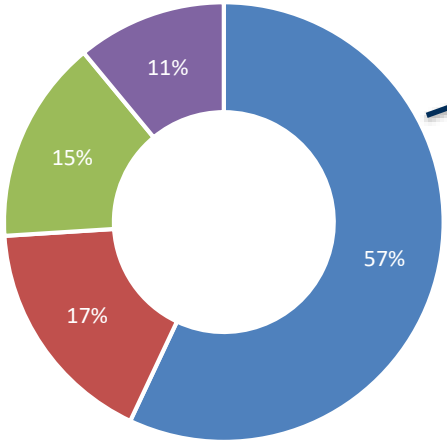


Drivers of food loss and waste (source: WRI, 2019)



# CITIES REDUCE FOOD WASTE THROUGH DIGITAL INNOVATION - BANDUNG

Waste composition in Indonesia



■ organic ■ others ■ plastic ■ paper

**39% food waste**  
= 13 million tons of food waste/year  
= 28 million people can be fed  
= 11% of poor people

## SOLO:



0,75kg/HH



13%



10%



9%

source: YLKI & Gita Pertiwi, 2019

Source: KLHK 2019



# Waste supply chain

Households, Horeca,  
offices, etc



Temporary dump



Landfills



Garbage truck



# Existing policies

## Number of policies on waste management:

1. Regulation no 18, year 2008 about waste management
2. Regulation no 36, year 2009 about health
3. Republic Indonesia Law no 31, year 2009, about Protection and Environment Management
4. Government Regulation no 81, year 2012 concerning household waste management
5. Government Regulation no 16, 2005 concerning System Development Drinking Water Supply
6. Ministry of Home Affairs no 33, 2010 concerning Guidelines for Waste Management
7. Ministry of Public Works no 21, 2006, concerning Policy and National Strategy for Solid Waste Management System Development
8. Surakarta City Regional no 2, 2006 concerning Control Environment
9. Regional regulation no 3, 2010 concerning Waste Management
10. Etc...



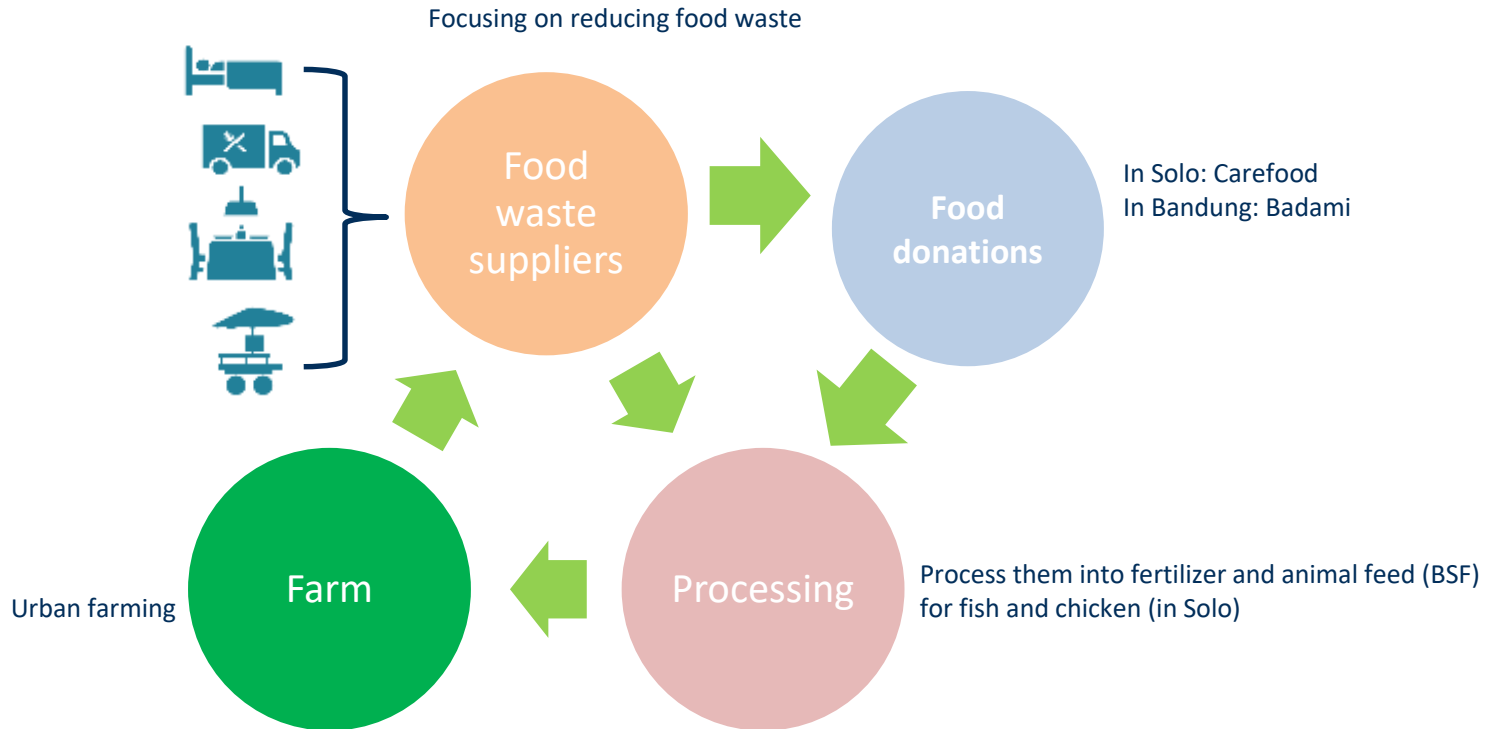
# Pakta Milan/commitment

SCOPE of Food Smart City in Solo & Bandung

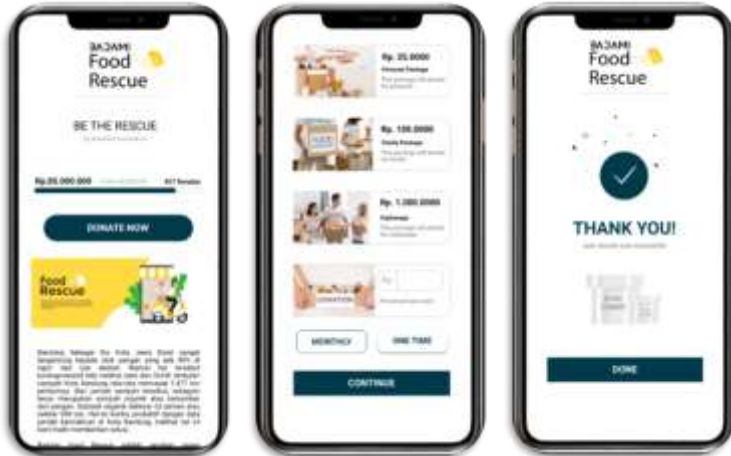


# Circular economy model

**Objective:** facilitating the development of inclusive and circular business models between sustainable producers and urban buyers



Our key activities were to build food donation application as a platform for food donation, train the SMEs and urban farming for the communities.



100 SMEs  
1000 users

1. Develop Badami Food Rescue App built by Badami foundation and supervised by Bandung City Government:
  - Food Cowdfunding
  - Marketplace for SMEs, urban farming community and traditional market
  - Surplus Food (hotels, restaurants, café and SMEs)
  - Point of sale
  - Inventory stock
2. Trained MSMEs (Micro and Small Medium-sized Enterprises) food hygiene, healthy food processing, food waste management, and digital marketing. **Involved:** Badami foundation, youth volunteers, local government (health department, MSMEs department)
3. Strengthen the existing urban farming in community level (grow vegetables, transform organic waste into fertilizer). **Involved:** Local government (Agriculture department), Leader of the community, women, local NGO



# Transforming food waste into fertilizer or animal feed



Conducted human centered design approach to find the solutions for the organic waste.

**Involved:** community leader, youth, women, men

*BSF for fish and chicken. For the case in Solo: Agriculture department everyday take 500kg food waste from one hotel.*



3,3 tonnes of food waste saved



Strengthen the existing urban farming in community level (grow vegetables, transform organic waste into fertilizer). **Involved:** Local government (Agriculture department), Leader of the community, women, local NGO .





# Urban farming



Selling vegetables, fertilizer, seeds, composter using double buckets.

**Involved:** community leader, youth, women, men



542 kg of fruits and vegetables (500m2 land)



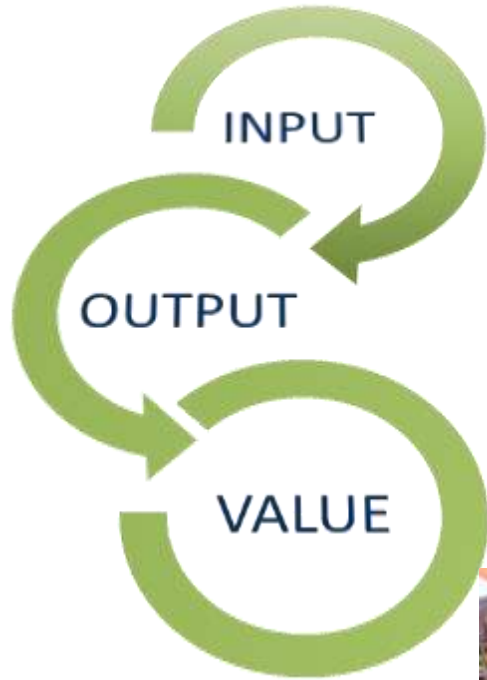
# MAKING WASTE COLLECTION PROFITABLE - ARUSHA



- High concerns about food safety contributed by poor hygiene Arusha urban markets
- Poor waste management at the markets due to lack of waste separation, uncoordinated waste collection
- Existing informal opportunities around waste collection esp. among youth and women
- Recycling & Reusing opportunities - such as CHANZI
- High competition for protein sources btw human & animals



# Model & Objectives



## Objectives

Creating value of organic waste through circular economy

Specific objective:

- Job creation
- Improved hygiene of urban markets = Food safety
- Environmental sustainability –  
↓ GHG



# Activities



- Support & facilitate youth to engage in waste collection as a business = formation of Kusanya - youth led business on waste collection
- Build capacity of young waste collectors on soft skills & entrepreneurship and waste management practices
- Coordinate & lobby with ACC to work on a structured way of organic waste collection in the city
- Community engagement and sensitization - contribute towards systemic change in the community around waste management inc. waste separation
- Facilitate & Coordinate multistakeholder actions around waste management through ASFS platform, City planning & logistic working group
- Support Chanzi in resource mobilization



# rikolto

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