

SMP-1981: Curaçao

Circular eco-feed chain for responsible pork consumption and production at Curaçao

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Agenda

- Main objectives
- Way of working
- Results
- Partners interest and other stakeholders
- Next steps

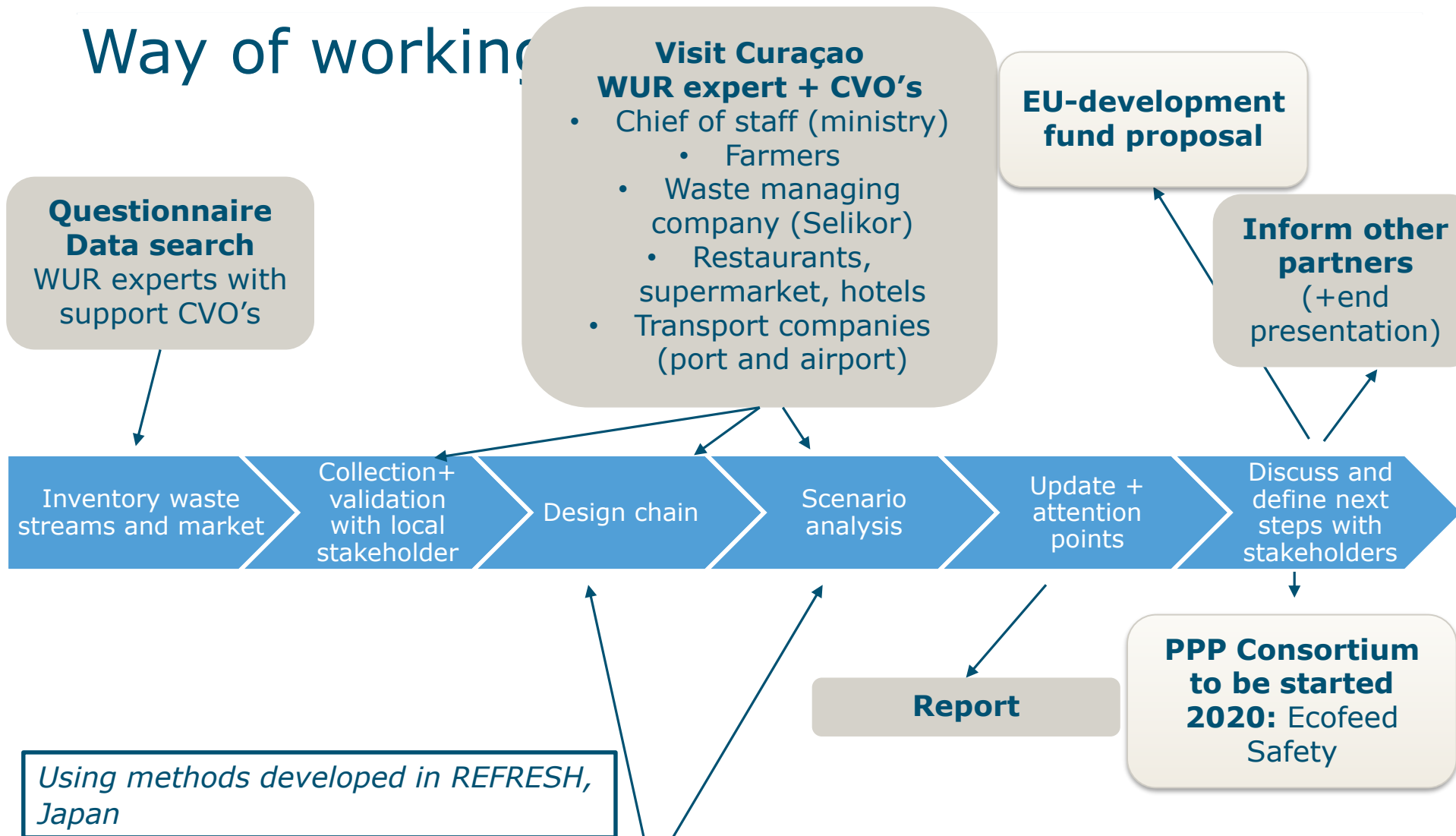
Main objectives

- Explore feasibility of a circular eco-feed chain for responsible port production at Curaçao
- Create 'coalition of the willing' (stakeholders, business model)

Benefits Eco-feed chain Curaçao:

- Less food loss/waste
- Availability of locally produced safe and good quality feed
- Employment opportunities
- Improve self-sufficiency of the island
- Innovation on the island
- Example function for the Caribes
- Example for Europe where eco-feed is currently prohibited (link to new projects)

Way of working



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Scope of analysis of the SMP research

- Estimate of volume of available food waste streams
- Assessment of interest by pig farmers
- Attitude of stakeholders: suppliers, farmers, government, current (food) waste collectors

Food system perspective:

chain, environmental, socio-economic

Available food waste streams

- Retail (increasing number of supermarkets)
- Restaurants/hotels (specifically all-inclusive)
- Cruise ships
- Fruit and vegetable wastes from some parties are collected by pig farmers.
- However, this is irregular/unpredictable
- Positive attitude from these suppliers
- Interest in 'sustainability image'
- Volume from cruise ships is expected to decline
- Volume from retail + hotels is expected to increase

Total volume of 1000 tons/year seems realistic

Demand side: pig farming

- Relatively small on Curaçao
- However, feed demand is much higher than available volume of food waste.
- Market has large interest in more locally produced meat!
- Collected fruit and vegetable waste has low nutritional value.
- Potentially dangerous
- Practice of incinerating the packaging material results in dioxin problem
- Imported feed is expensive

Reactions from other stakeholders in agro-food system

■ Government:

- priorities: circularity + innovation
- feed safety
- instrument: pig farming licenses

■ Waste collectors:

- embrace alternative, and more sustainable, outlet (appreciated by their clients)

Reflection on environmental & safety impacts

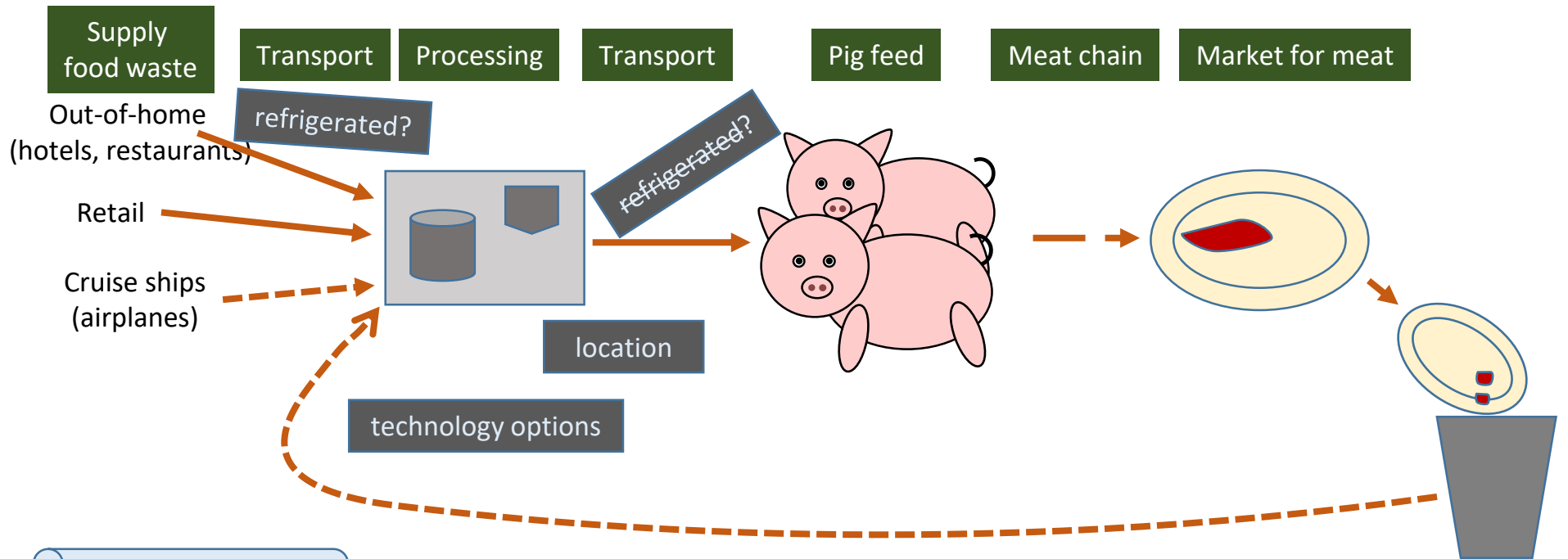
Safety:

- Current system of utilizing fruit and vegetable waste for feed induces safety hazards
- Ecofeed can control safety

Environment:

- Through the circular principle Ecofeed reduces
 - landfilling (with high greenhouse gas emissions)
 - dependency on feed production
- Ecofeed may contribute to reducing the dioxin problem

Integral conclusions



- SUPPLY**
- What:
 - composition
 - legal status
 - Volume
 - Where

limiting!

1000 ton/y

maximum capacity processing unit

≈€100/ton

potential for reducing dominant cost factor (labour)

potential demand from pig sector

DEMAND/CONSUMPTION PIG MEAT

- Curaçao

not limiting!

- OPPORTUNITIES FOR DEVELOPING PIG MEAT CHAIN**
- Opportunities: appreciation of local meat, chance for added value!
 - Threats: environment (manure?)
 - Weakness: cost price of Ecofeed at the relatively small scale
 - Strengths: safe implementation of current practice + better utilization of current food waste

Interest from partners and stakeholders

- All stakeholders on Curaçao were very positive/enthusiastic
- Selikor has submitted project proposal to European Development Fund Programme (developing the plant)



Interest from partners in the project

<i>Name</i>	<i>Organisation</i>	<i>Role</i>
Annechien ten Have	Ten Have Mellema Varkenshouderij	Sustainable pork farmer, share practical knowledge & network
Teun Smits	Princepeel Varkenshouderij	Sustainable pork farmer, share practical knowledge & network
Ruud Zanders	Kipster	Knowledge & communication circular livestock systems
Karel van der Velden	Nijsen / Granico	Knowledge feed quality & network
Christianne Brusckke	Ministry of Agriculture, Nature and Food Quality	Chief Veterinary Officer
Arnold Dwarkasing	Government Curacao	Chief Veterinary Officer Curaçao
Karen Luyckx	Global Feedback (UK)	Expert surplus food to livestock
Tomoyuki Kawashima	University of Miyazaki (Japan)	Expert Eco-feed Japan

Actively interested in follow-up, could not be present here today.

Actively contributed and interested in follow up

Follow up and next steps (Sanne)

- **European Development Fund Programme project proposal**, theme F: Solid waste and treatment in close collaboration with Selikor, the largest waste manager on Curaçao (submitted)
- **PPP (LWV 19091)** Food and feed safety and valorisation of new and limited by law sidestreams for animal feed (kick off on 09/12/19)
- **Proposal for policy project:** Animal protein ecofeed for non-ruminant animals, creating a constructive EU policy landscape through stakeholder engagement (in process)

Thank you for your attention

For more information, please
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