



Side Event at the 7th World Water Forum
Solution for water challenges of non-urban area
with simple and low-cost technologies
(SE0089)



11:20 - 13:20, 15 April 2015, Teague

Improving Water and Sanitation System in Sahel region - Sustainable Agro-Sanitation Model in Burkina Faso -

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Today's Messages

**New business model
is required for Sahel region**

- **Start from User's point of view**
- **Analyze their Value chain**
- **Include sanitation system in it**
- **Make a close link between sanitation system and agriculture – Agro-Sanitation**

Burkina Faso



- GDP : 1.1 US\$/day/Capita
- Improved sanitation (MDGs 2008): 11% (**rural 6%**, urban 33%).
- Under-five mortality rate: **176 /1000 live birth** (WHO, 2010).
- Generally, people defecate in toilet or open area, and urinate in shower space.

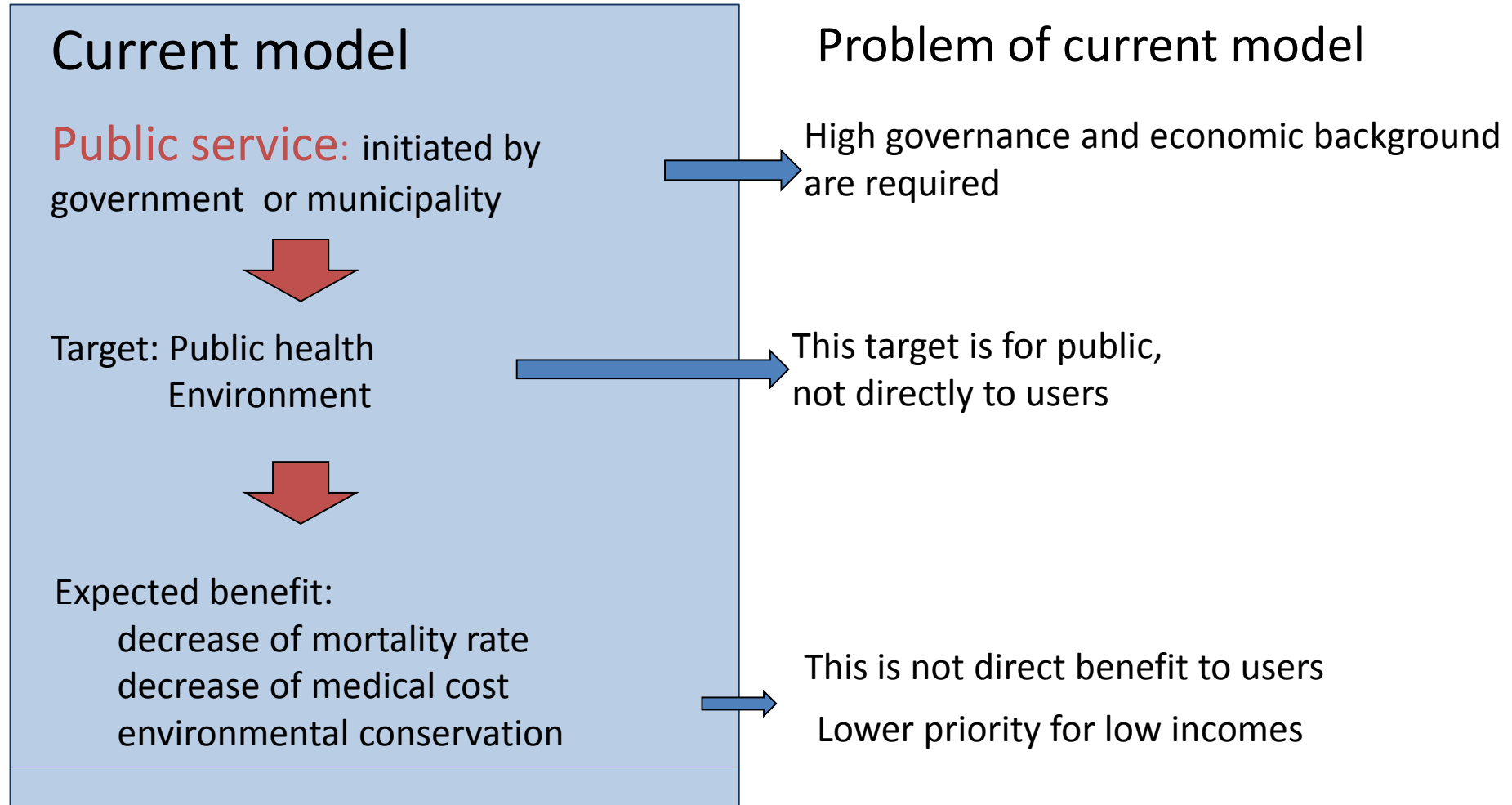


Six important components of Sanitation system

- **User: Participation**
- **Policies, Institutions and Finance system and Information for**
 - Governance
 - Maintenance and operation of the system
 - Human resources
- **Technologies for**
 - Transporting and collecting water
 - Treating water
 - Finalizing waste from treatment plants

Identified problems of current sanitation model

difficult to motivate individuals to participate





If basic conditions are not met, What should we do ?

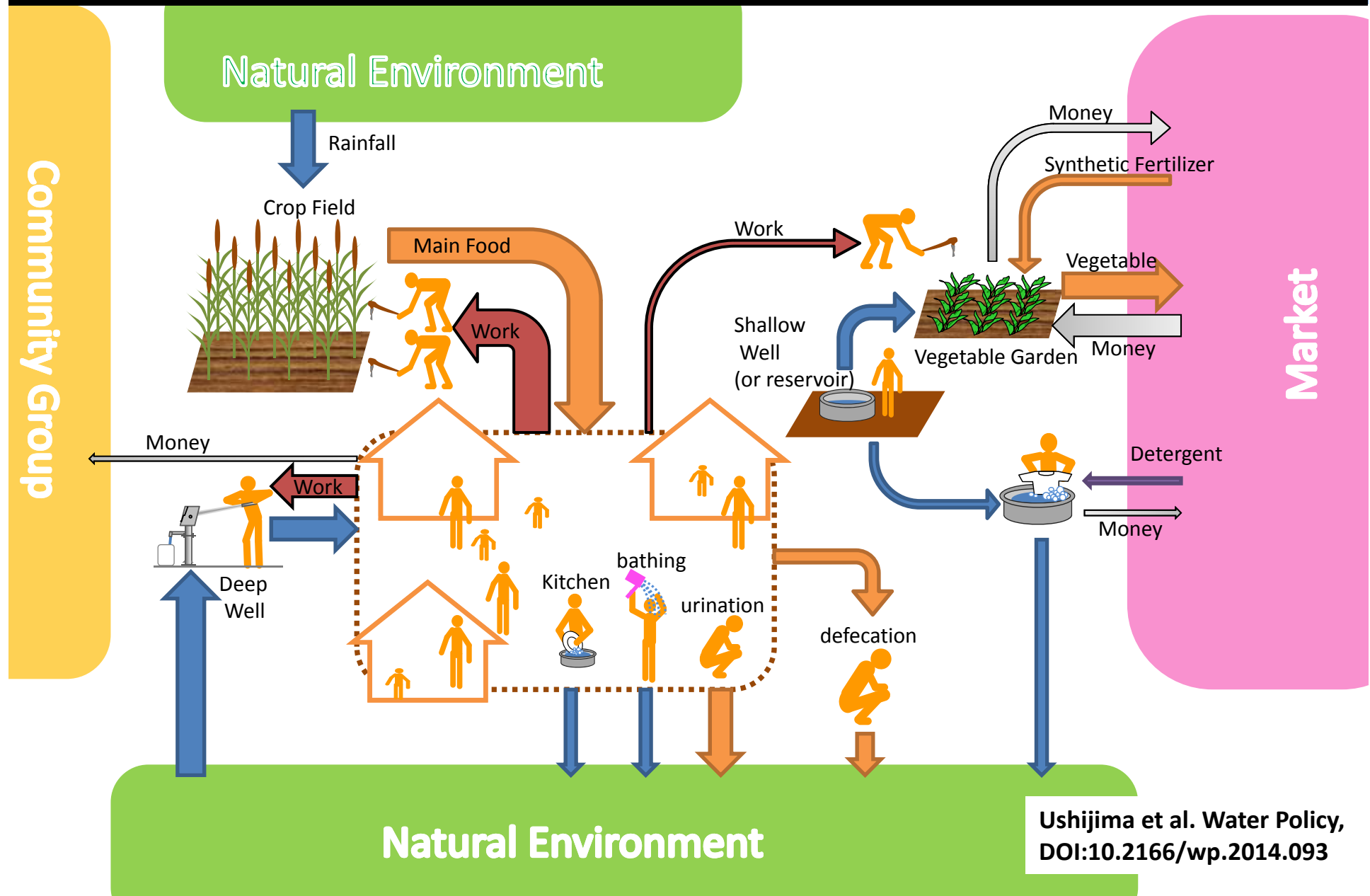
Our Project in Rural area
Burkina Faso



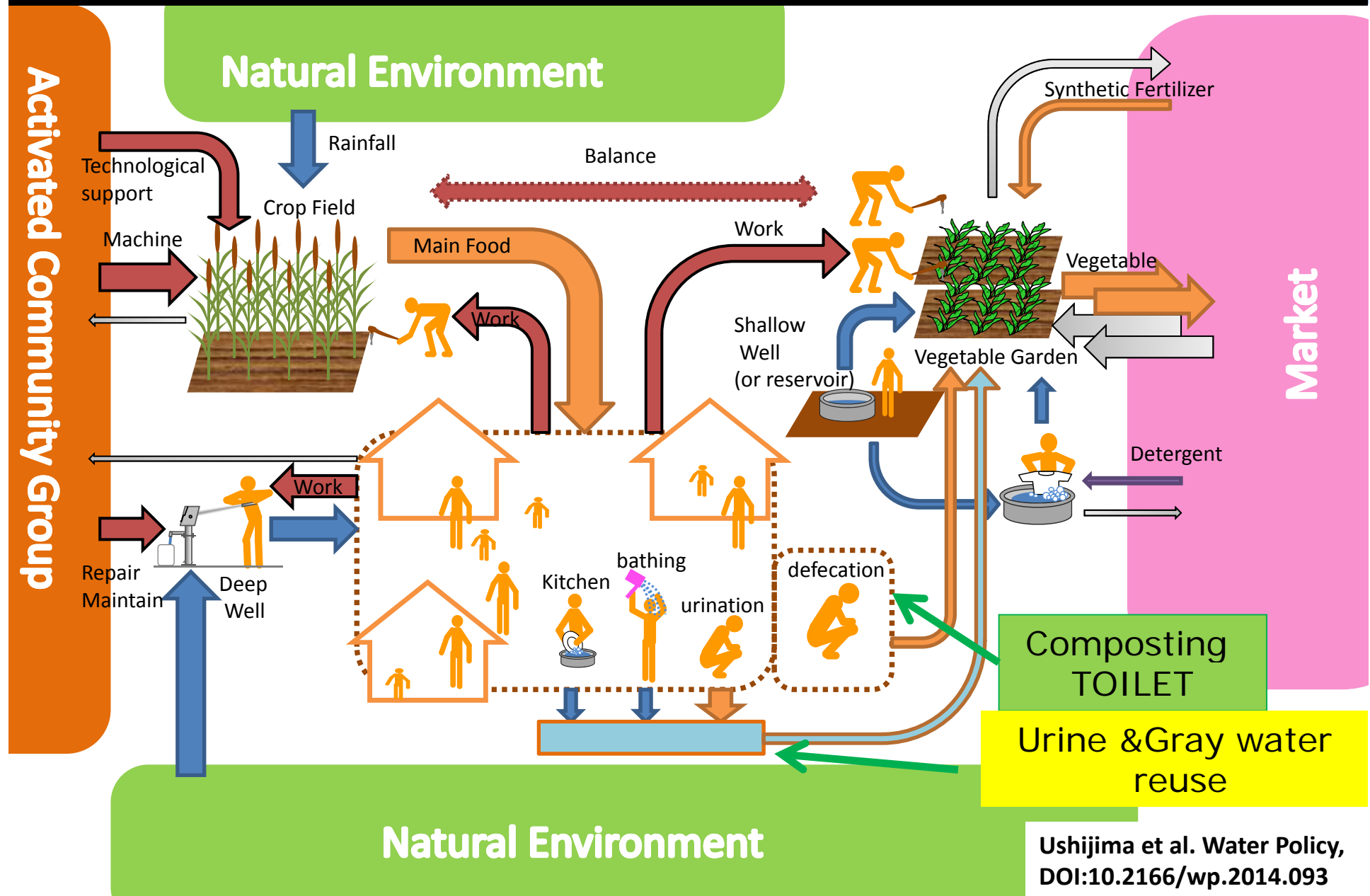
Our approach

- (1) Analyze user's value chain
- (2) Include sanitation units into user's value chain
→ motivate them to manage it by themselves
- (3) Design the linkage to agricultural activities
→ create value from sanitation
- (4) Analyze market of vegetables
→ maximize and stabilize user's income
- (5) Estimate the income by sanitation units
→ show direct merits to users
- (6) Make a financial plan
→ realize and drive this model
- (7) Design sanitation units
→ adapt technology to this business model

Current Value Flow



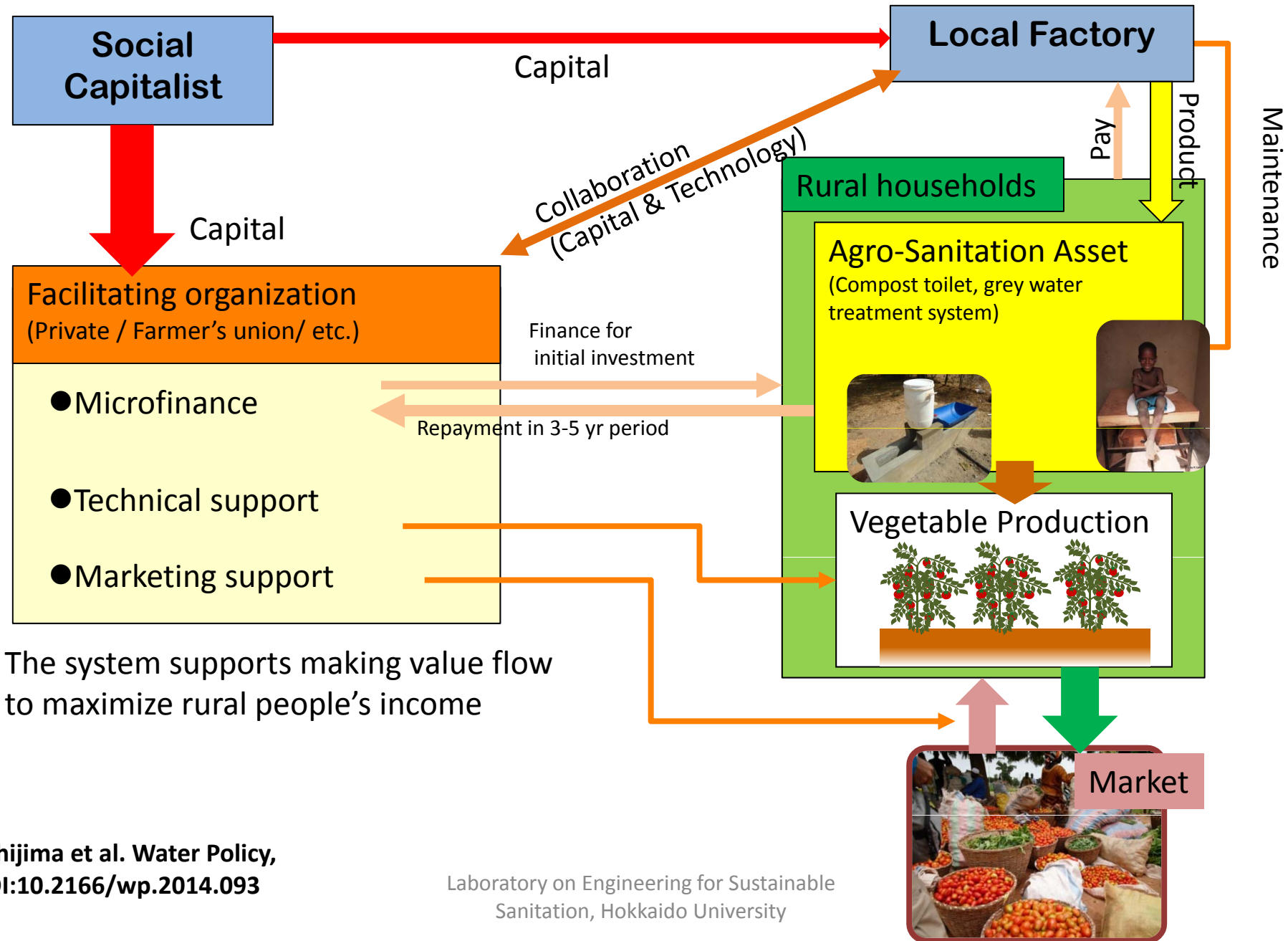
Include sanitation unit into their value chain



Show the clear benefit to users

- Recognize gray water and black water as a personal property
- Treat black and gray water to improve their value
- Use reclaimed black and gray water as an agricultural resources
- Recognize the Sanitation System as an “agro-sanitation asset” which provide income to users

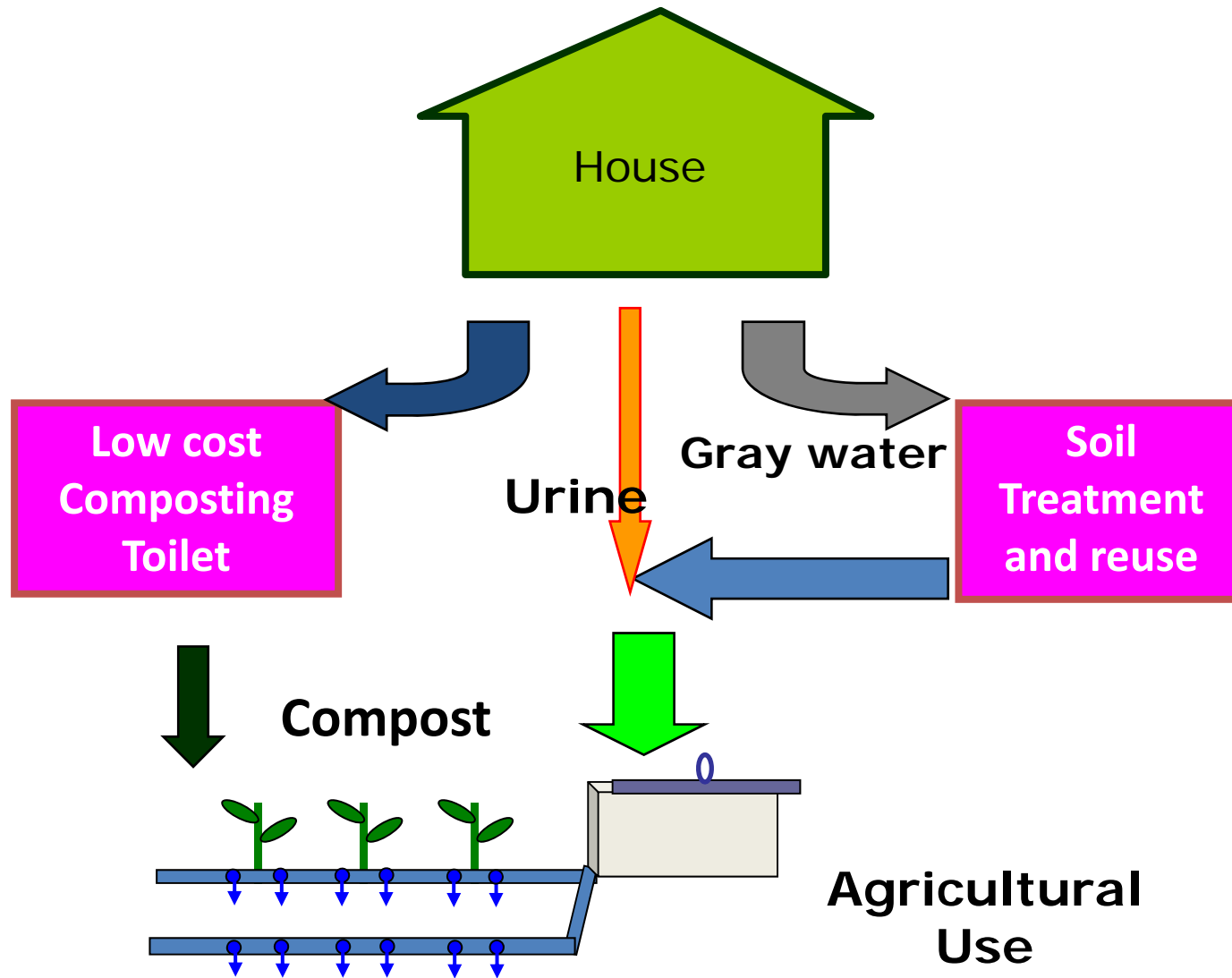
Sanitation business model



Target customer is

- House wives, because:
 - Each wife owns her own vegetable garden in order to obtain her income
 - It is reasonable to design the system that wife owns and manages her own Agro-Sanitation Assets (Toilet, GW treatment, Urine storage)
 - This system can motivate each wife to operate and manage the Agro-Sanitation Asset well.

Technologies

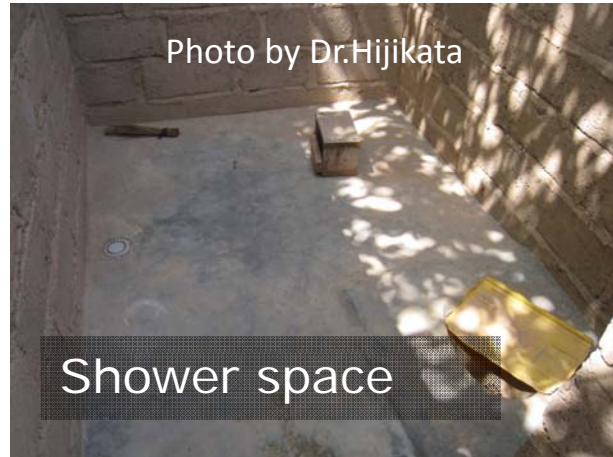
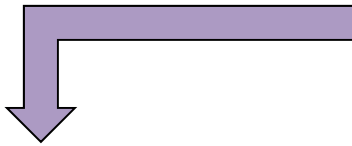




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Urine and Gray water

Gray water

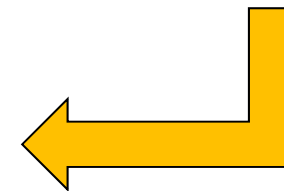
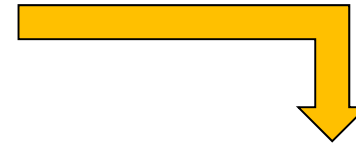


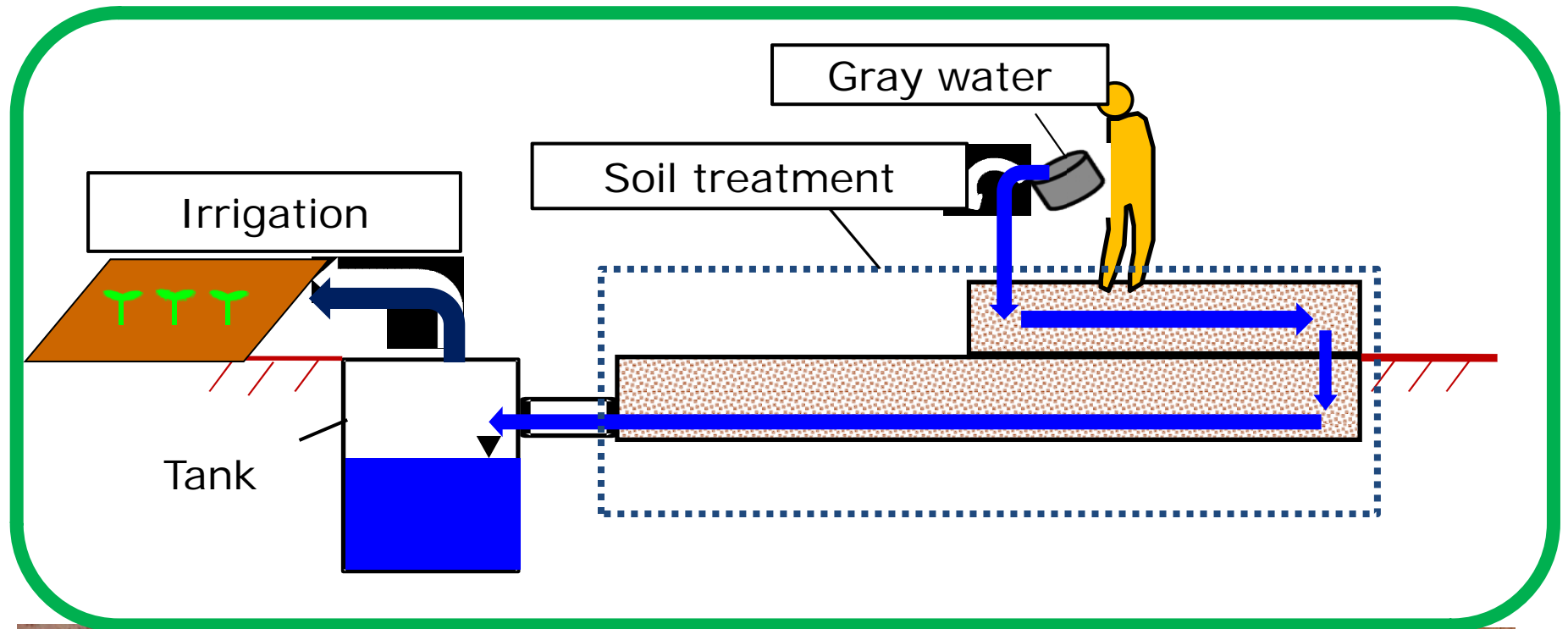
Shower space



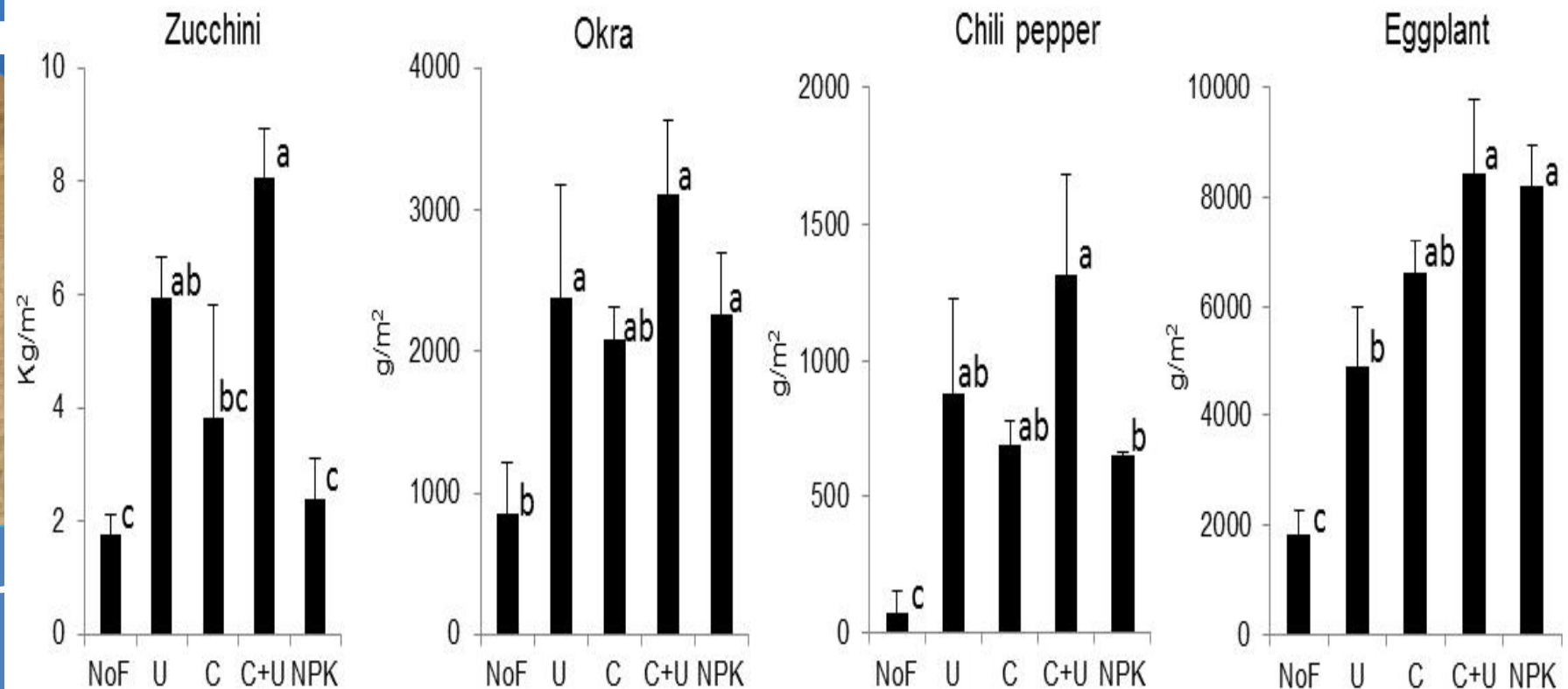
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Urine





Advantages of simultaneous use of Urine and Compost



Income from feces, urine and gray water

	Possible Irrigation Area [m ²]	Increased Yields[g]		Increased Value [FCFA]	
		U	C+U	U	C+U
Zucchini	10	59400	80700	8012	10878
Okra	25	38033	56313	28813	42661
Chili Pepper	10	5539	7227	9081	11848
Egg plant	10	12416	38756	2590	8085

- Ziniare: 23Euro/Capita/year
- Bobo: 33Euro/Capita/year

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- We are looking for person or group who will establish the facilitating organization and social capitalists