

# The Sustainable Transformation of Sanitary Systems: An End-User Perspective



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Session: Perspectives from the extreme-ends of the chain

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# Outline

- Background of the EET-DESAR project;
- Theoretical starting point for this paper:
  - Modernized Mixture Approach (MMA)
  - End-user Perspective;
- Two pilot projects: Sneek and Culemborg;
- Selection of end-user concerns in the two pilot projects;
- Conclusions



# EET project & ENP Group

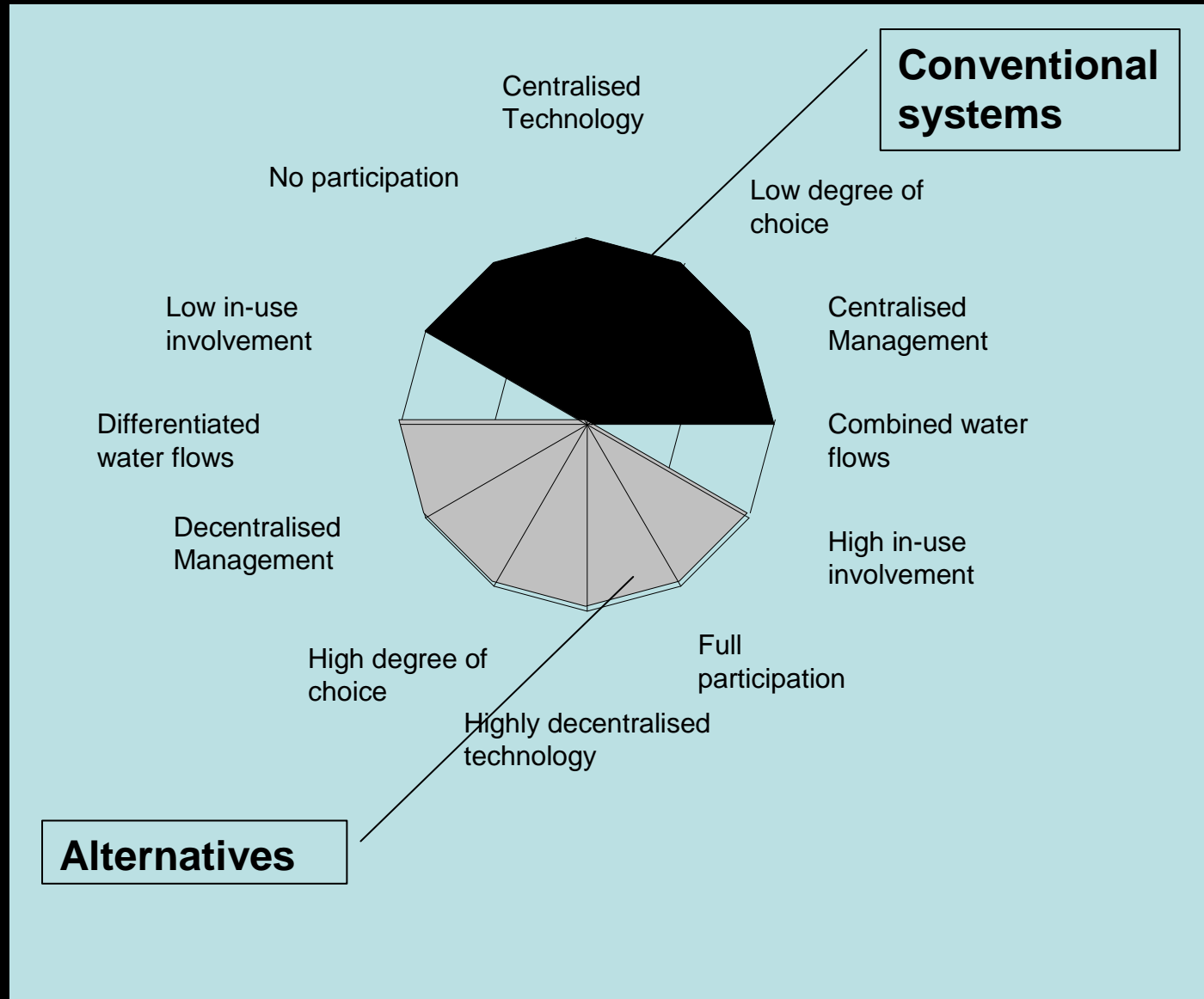
- Multi Disciplinary research project funded by EET Program SenterNOVEM (2001-2007) – Decentralized Sanitation and Reuse (DESAR)
- Initiated by environmental engineers of Wageningen University
  - Fundamental research and development;
  - Application of DESAR technologies in pilot projects
- PhD thesis: Greening Sanitary Systems: An End-User Perspective

# Modernized Mixture Approach

- Modernized mixtures; win-win situations between ‘large is robust and efficient’ and ‘small is beautiful’;
- Not one but many sustainable solutions;
- Context specific application;
- Toolkit for niche experiments.

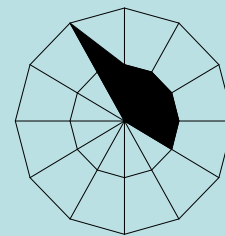
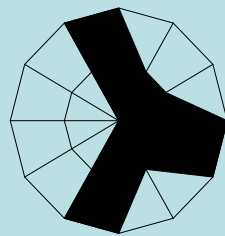
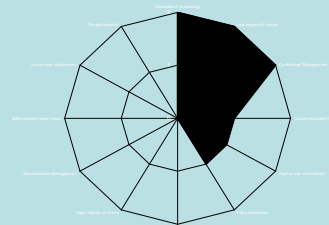
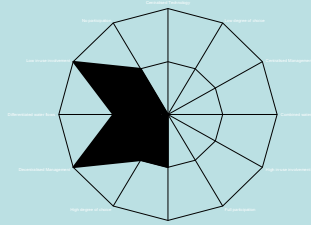


# Modernized Mixture Approach



# Modernized Mixture Approach

Modernized Mixtures



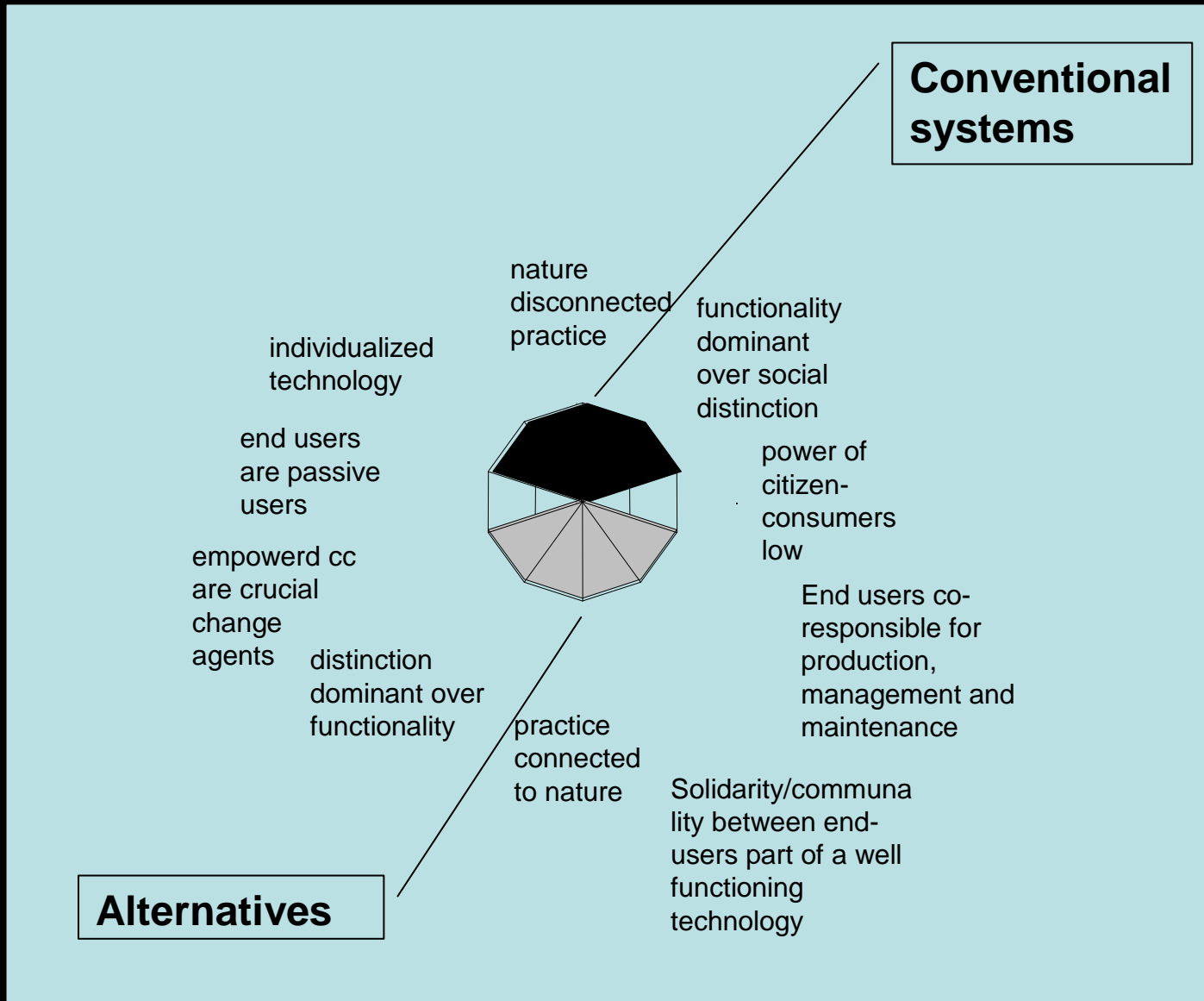
# End-user perspective

- End-user is important...
  - ...pilot projects in Wageningen and Emmen cancelled, partly because they were deemed 'unacceptable' for end-users
  - ...end-users evaluate new technologies differently than expected (Hannover)

So:

- What can we learn when we look at sanitary innovations from an end-user perspective?
- Can we develop a 'Lifeworld' toolkit for niche experiments?

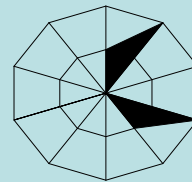
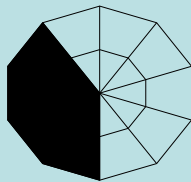
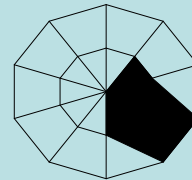
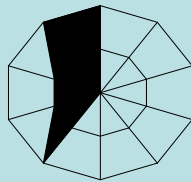
# An End-User Perspective





# Modernized Mixtures from an end-user perspective

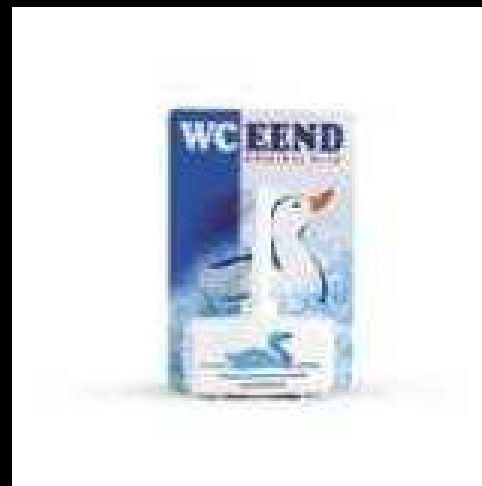
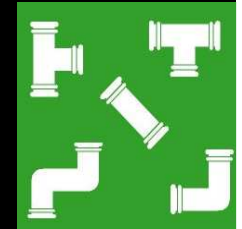
Modernized Mixtures



# Expert-led experiment: Sneek



- Vacuum toilets in Sneek
- End-users find 'the environment' important;
- But also:



- Size of the toilet;
- Easy to clean;
- Using/not using detergents with bleaching agents;
- Trust in the housing corporation & the experts behind the technology.



# Citizen-consumer driven experiment: Culemborg



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[www.eva-lanxmeer.nl](http://www.eva-lanxmeer.nl)



- Eco village in Culemborg: EVA-Lanxmeer;
- Citizen-initiative;
- Wastewater innovations as part of a range of social and environmental innovations.



# Selected End-User concerns

- **Power vis-a-vis systems of provision:** very different in both cases, but in both cases it can work;
- **Social interdependencies:** solidarity/communality part of a well-functioning technology; in Sneek accidentally, in Culemborg deliberately;
- **Functionality vs. Display:** pilot project character & diversification in sanitary infrastructures reintroduces a display dimension next to considerations of pure functionality.

# Conclusions

- Pilot projects benefit from project executors who check and challenge claims about what end-users want;
- Answers to the sanitation challenge should be sought 'in the plural' (cf. Grin 2006);
- This requires deliberate experimentation, in different contexts...

...with different socio-technical systems

...and different configurations from an end-user perspective



# Thanks for your attention

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