

How to involve the next generation in our work

Lessons from Polder2C's

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**Kring of Coastal Engineers workshop,
Rotterdam 25 September 2022**



About me

- Background in **civil engineering**
- PhD in **flood risk management**
- Affinity with **coastal disasters surveys**
- Affinity with **cross-disciplinary approaches** to risk management



NATO school, Germany 2018



Tsunami survey, Japan 2011



Tsunami survey, Indonesia 2019



Hedwige-Prosperpolder 2021 (**Polder2C's**)

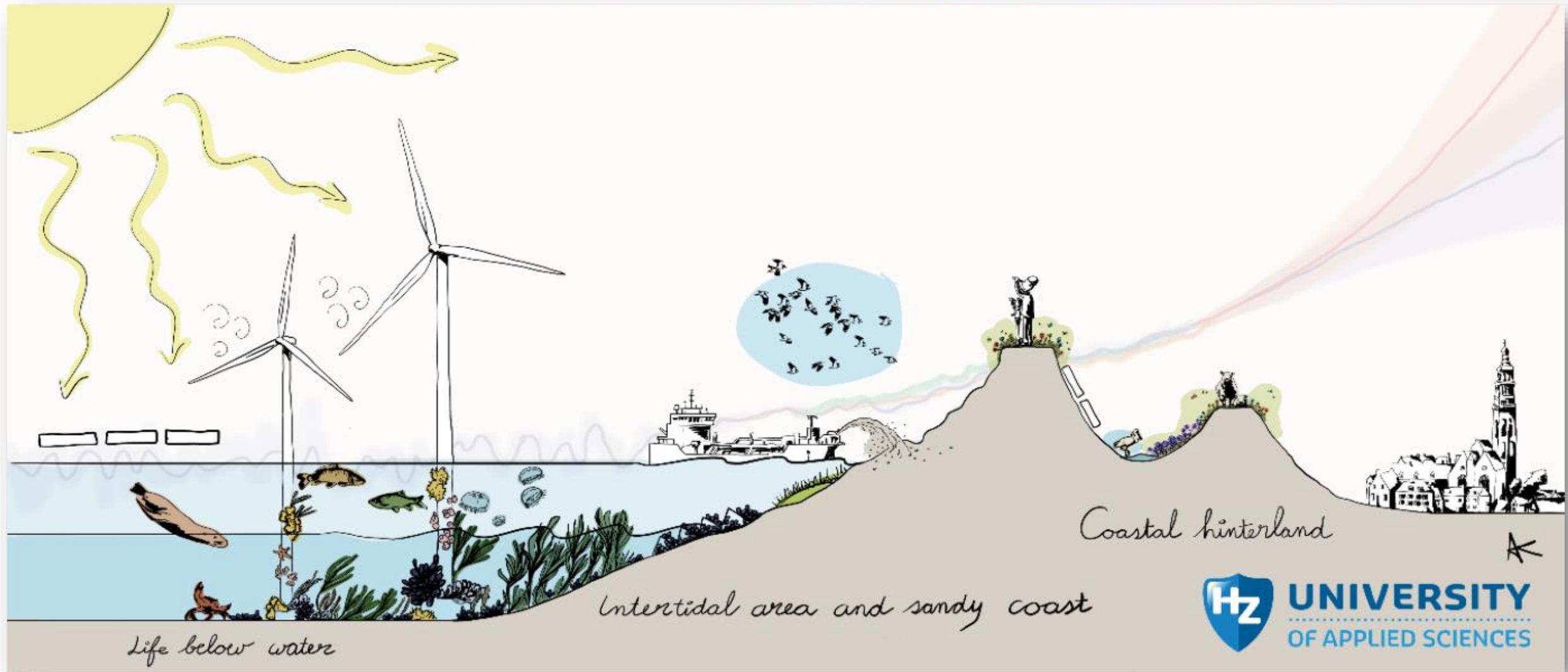
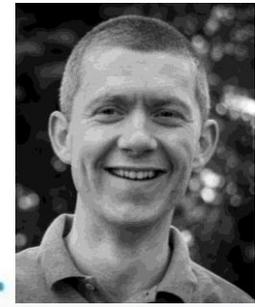


Van Oord 2016



My dissertation

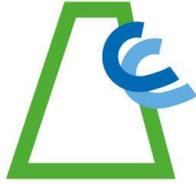
Building with Nature Research group



Why are students involved in Polder2C's? Living Lab Hedwige-Prosperpolder

Interreg 
2 Seas Mers Zeeën
Polder2C's

European Regional Development Fund



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The Living Lab approach

Definition

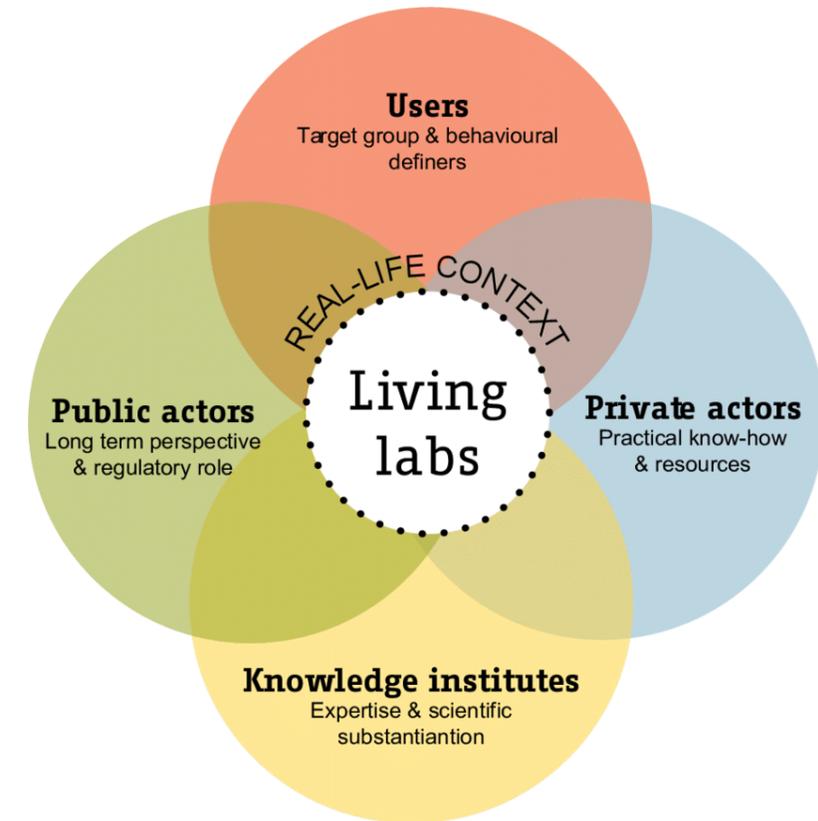
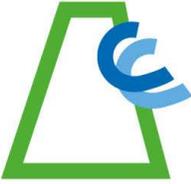
A *user-centric* research methodology for *sensing, prototyping, validating and refining* complex solutions in multiple and evolving *real-life contexts*. (Eriksson et al. 2006)

Key elements (Almirall et al. 2012)

1. Experimentation in **real-world settings**
2. **Involve actors** that help capture domain-based knowledge and needs
3. Focus on both **tacit and theoretical** knowledge
4. **Partnerships** for generating initial demand and giving feedback in the process

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Polder2C's objectives

Build capacity to cope with the adverse effects of climate change

- Advance and share knowledge on the **design and maintenance of levees (WP1)**
- Advance and share knowledge and experiences in **flood emergency response (WP2)**
- Develop a sound **knowledge infrastructure** that facilitates knowledge transfer across countries, generations and organisations **(WP3)**

Winter/Summer Schools

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FIELDWORK FOR
FLOOD RESILIENCE
WINTER SCHOOL



LIVING LAB HEDWIGE PROSPERPOLDER

Climate adaptive flood defences | Emergency response | Knowledge Infrastructure

WHO PHD & MSc students in hydraulic engineering, flood risk and crisis management
WHAT In-class education and field training in the Living Lab Hedwige Prosperpolder
WHERE JC Prosperpolder 5106 Engbertstraat 5 9500 Kieldrecht

SAVE THE DATE
MONDAY 1 MARCH 2021
FRIDAY 5 FEBRUARY 2022
Interreg 
2 Seas Mers Zeeën
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- Focus on *fieldwork*
- Explore how *locally tested solutions* can be transferred for *global problem solving*
- Get *feedback from participants* for Polder2C's activities

FIELDWORK FOR FLOOD RESILIENCE

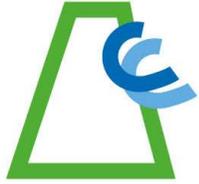
WINTER SCHOOL 2.0



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Levee Challenges

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- Competitions for students and (young) professionals
- Development and testing of creative, innovative solutions
- 2 levee challenge participants stayed with us!



Update of educational curricula

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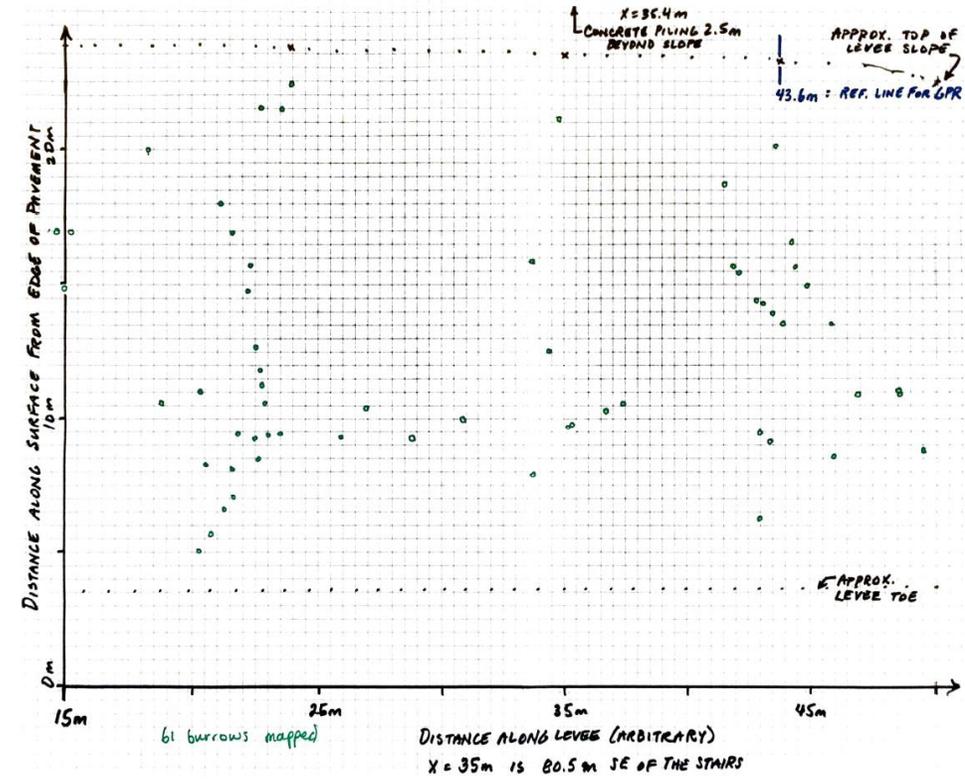


- Guest lectures and course assignments related to Polder2C's topics
- Field exercises as part of course assignments
- Thesis topics
- Internships offered by non-educational partners

Spontaneous initiatives

Animal burrows collaboration

- Jointly developed knowledge agenda (HZ, TUD, STOWA, ULille, EA)
- Labour-intensive fieldwork
- *Student-manpower* from France, Belgium and the Netherlands
- Equipment 'mix and match'



Animal burrows surveys (grouting)

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Quantitative impact on HZ education

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- 110 students attended **guest lectures** on Polder2C's topics
- 76 students worked on **assignments** related to Polder2C's topics
- 17 students contributed to **data collection activities** in the living lab
- 3 students participated in the 1st **Polder2C's winter school**
- 2 students wrote a **thesis** on Polder2C's topics

Drivers of success



- **Working in the field** with real professionals is usually attractive and motivates students.

“TELL ME AND I FORGET,
TEACH ME AND I MAY REMEMBER,
INVOLVE ME AND I LEARN.”

~ BENJAMIN FRANKLIN

- The **board network of partners** and the variety of topics tackled within Polder2C's made it possible to cater to students with a wide spectrum of interests.
- **Close attention to the matching process** of students with topics and organisations of interest from the beginning.

Challenges and lessons

Dealing with constraint-driven processes

Constraints in education

- Strict planning (academic calendar)
- Learning objectives
- Need for objective assessment criteria
- Questionable outcomes

Plan early



Constraints in Polder2C's

- Strict planning (field activities)
- Delivery of results
- 'Frequent' change in course of action

... Prepare for failure



Be creative

