Integrated watermanagement in Urban areas in Practice Oriented Education

School of Governance, Law and Urban Development

Henk Blokland
Saxion University of Applied Sciences

24,000 students and 2,000 staff members
11 Schools
51 Bachelor Programmes
12 Master Programmes

Apeldoorn | Deventer | Enschede | Hengelo
Kom verder. Saxion.

Hengelo

Enschede (HQ)

Deventer

Apeldoorn
Kom verder. Saxion.
School of Governance Law and Urban Development
Some themes within the new Urban Studies:

- Climate resilient cities
- Accessibility
- Health and safe cities
- Transformation
- ......

> Integral watermanagement is and was a main issue
Kom verder. Saxion.
Kom verder. Saxion.
• Nationaal programma, uitgevoerd
door:
• Deltaprogramma | Nieuwbouw en herstructurering
Urban Heat Island Effect
Our Exchange programmes

for students from partner universities

Spring semester:
- Urban Rural Fringes & Smart Cities (12–20 weeks)
- Risk & Emergency Management (12–20 weeks; starting 2015)

Autumn semester:
- Sustainable Area Development & Integral Water Management (12–20 weeks)
- International Law (12–20 weeks)
## Structure of int. academic year

<table>
<thead>
<tr>
<th><strong>Induction (1 ECTS)</strong></th>
<th><strong>Capita Selecta Specialisations ES / CE / URP / UD (6 ECTS)</strong></th>
<th><strong>Project Environmental Impact Assessment (8 ECTS)</strong> (<em>urban design has a different structure)</em></th>
<th><strong>Project Integral Water Management (12 ECTS)</strong></th>
<th><strong>Bachelor Thesis Project (28 ECTS)</strong></th>
<th><strong>Professional Skills (5 ECTS)</strong></th>
</tr>
</thead>
</table>


26% of the Netherlands is situated below sea level.

If there were no dunes or dikes 66% of the Netherlands would be covered by water.
Kom verder. Saxion.
International problem

- Eems
- Schelde
- Maas
- Rijn

Kom verder. Saxion.
Local effects
• Education
• Research
• Professional field: consultancies, (other) companies, governmental institutions, ngo’s.
Competences and beyond…

Acting as a consultancy

- Knowledge: on the subject, technology, cause–effect relations… etc.
- Skills: practical skills; communication, GIS, methods of research, …
- Attitude
3–I’s

• Integral (approach, multidisciplinary)
• International (perspective, comparative)
• Intercultural (groupwork)
Phases and products

*Phases in real life project*

- Plan of Action
- Research/advice report
- Process report
- Presentation
- Oral Exam
Phases

Plan study

- agreement between governmental organisations
- plan of Action +
- Initial report
- Alternatives
- Preferred alternative
- Final plan

- Planning delayed;
- Execution started in 2013

Bestuursovereenkomst

PvA + Ruimtelijk Kwaliteitskader

Startnotitie

Alternatief 1

Alternatief 2

Alternatief 3

Voorkeurs Alternatief

Definitief Plan

Jan 2007

Mei 2007

Sept 2007

Jan 2008

Juni 2008

Maart 2009
Content: e.g. policies NWP and EIA

Drivers (D)
- e.g. industry, transport, tourism, development

Pressures (P)
- e.g. pollution, land-use change, population change

State (S)
- e.g. water, soil, habitat, air, vegetation quality

Response (R)
- e.g. actions, incentives, regulations, taxes, laws

Impact (I)
- e.g. ill health, habitat fragmentation, economic damage, biodiversity loss
• Elaborate three scenarios
Strategies
3 types of flood risk strategies

• Flood risk = Flood frequency \( \times \) Flood damage potential

• hazard reduction
  "keep the floods away from the people"

• exposure reduction
  "keep the people away from the floods"

• vulnerability reduction: “accept flood and clean up afterwards”
OR…

• Bypass in the river bed
• Bypass around (part of) the city
• Retention area(s)
Kom verder. Saxion.
Kom verder. Saxion.
Methods to elaborate, e.g.

- Environmental Impact assessment
- Multi Criteria Analysis: incl. decision making
- But as well: learning to reflect your work/group and other groups’ work.
Social issues

E.g.

• interviews
• Stakeholder analysis
• How behaviour can be changed…

• As well essential for technical students
No one said it would be easy easy easy
Working towards solutions
INSTRUMENTS

- Law based instruments
- Economical/financial
- Communicational
- Technological/Physical

Other
- Research
- Organisational, ...

- So not only the design, and/or technology but influence behaviour with other means:
  - Elaborate for your subject…What can a municipality/region do?
  - GIVE AN ADVICE....
Kom verder. Saxion.
“Inclusive” Education like

- Lectures
- Workshops
- Guest lectures
- Interviews
- Tutorship
- Intervention
- Organisation and planning

• LEARNING BY DOING
• Applied research
• Relevant for society
• If possible: In cooperation with companies, NGO’s and governments
City Lab & Saxion Center of Urban & Environmental Development
Go for the challenge

- Creativity
- Evidence based
Kom verder. Saxion.
• **Contact information:**

• *Course Director Short Degree programmes*
  • Hans Hasselt
  • [j.e.hasselt@saxion.nl](mailto:j.e.hasselt@saxion.nl)

• *Coordinator International Projects*
  • Henk Blokland
  • [h.blokland@saxion.nl](mailto:h.blokland@saxion.nl)

[international.abr@saxion.nl](mailto:international.abr@saxion.nl)