Increasing Spatial Densities of Activities in and around the Port of Rotterdam

An operational multi-actor systems approach of sustainable urban areas

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Pilot Study

Round 1
The Urban Decision Room

with a Group Decision Room structure

In terms of structure, the UDR resembles a Group Decision Room (GDR). Both ‘rooms’ are interactive, with several people gathered together in a room with several computers.

The computer network enables the participants to communicate with each other about the relevant topics.

The network enables also to make calculations of the ‘results’ of this communication and to represent it at each computer.

These results may form the basis for further discussions and negotiations. A succession of rounds of this kind is therefore a feature of both the UDR and the GDR.

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The Urban Decision Room

as a goal-seeking urban design and planning team

If subsolution A is combined with subsolutions B and C, all three can be accommodated in the solution space, as calculated by the model language. But if the cluster of subsolutions A, B and C are combined with subsolution D, then the calculation shows that the outer boundary of the solution space (given the starting points and preconditions) is transgressed. Subsolution D is cannot therefore be combined with A, B and C. If subsolution D is to survive in the vision of any of the participants, then some negotiating will be needed about the starting points and preconditions upon which original preferences were based (fig. 0.2). The shifting of the constraints can lead to subsolution D becoming a point within the solution space. In figure 0.2 each sub-solution is a particular combination of the values of the variables X and Y.
The Urban Decision Room

1. Background and management point of view

Features of decision arenas with multi-actor interaction planning

The increased mutual interdependency between the parties involved

With urban planning questions, many interests of different parties are involved. A situation occurs where one or a few of the parties is unable to ‘claim’ any more space without harming the interests of other parties. The dependence between the parties increases as a result of possible conflict of interests, but also as a result of common interests.

Constantly changing partnerships

Urban planning questions are characterised more and more often by project-based partnerships, where the hierarchical role of government is becoming less and less prominent – each project requires a tailor-made approach, for which any one public party hardly ever has all the required specific knowledge.

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2. Background and management point of view of the UDR system

Uncertainty of the final outcome
Because various parties with different backgrounds are involved in the planning and decision-making process of urban planning questions, it is no longer possible to manage the decision-making process from one central point, nor towards one or just a few solutions. The influence that all the parties like to have is now too great for a centralised process. It is an open-end process that requires a flexible attitude on the part of all the parties that will bring about a final outcome. Mentally this leads to a situation that is far from clear, in which the faith of parties in the final success of a project is severely tested.

The changing role of planning
The translation of this changing planning methodology in the profession of urban planners manifests itself in the role urban plans play nowadays. There are various types of plans in current urban planning practice, from regional plans, urban visions, district visions all the way up to master plans and land-use plans. These plans are characterised by different levels of scale, and they have a specific focus. (Examples of plans at urban and regional level)

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1. The end-means system feature for representation of the relations in an interactive decision-making multi-actor network;

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The Urban Decision Room

1. The group optimisation system feature for modelling the common dynamic solution space;

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Content Presentation

- Introduction
- Pilot study
- Urban Decision Room
- Methodology
- Open Design Approach
- Reflection
Introduction

Organisational Structure CityPorts Rotterdam

Development Department
Municipality Rotterdam

Port Authority
Rotterdam

Development Corporation
CityPorts Rotterdam
Introduction

Pilot study Heijsehaven area, in CityPorts Rotterdam

Aerial view CityPorts

Project Heijsehaven (#2)
Introduction

Pilot study Heijsehaven area, in CityPorts Rotterdam

Heijsehaven area view

Typical industrial buildings & activities
Introduction

Pilot study Heijsehaven area, in CityPorts Rotterdam

Nearby residential area Heijplaat
Container business terminal
Introduction

Pilot study Heijsehaven area, in CityPorts Rotterdam

Map Heijsehaven area
Pilot Study

Problem Setting – Part of area (Heijsehaven)

Characteristics Heijsehaven

- 46 Projects
- Total surface required: 165,000 m²
- Total quay length: 2,540 m

Characteristics Projects

46 Projects
Pilot Study

Facts & Figures Instrument

- 46 projects divided in
  - 6 main functions
- 8 participants
  - 6 representatives of functions
  - 2 stakeholders
- 35 plots

- Housing
- Tourism
- Education
- Events
- Business
- Water-dependent business
  - Port Authority Rotterdam
- Urban Planning Department
  - Municipality Rotterdam
Pilot Study

Designing
Pilot Study

Function variants
Pilot Study

Round 1
Pilot Study

Land Use
Variant 1
Pilot Study

Round 2
Pilot Study

Land Use
Variant 2
Pilot Study

Land Use
Variant 3
Urban Decision Room

Multi-actor Decision-making Instrument

- **Structure**
  - Interconnected computer network
  - Arena of actors/decision makers

- **Technique**
  - Lineair Programming
  - (Common) goal seeking
  - Combination of sub-solutions
  - Optimal collective (urban) plan
Urban Decision Room

Multi-actor Decision-making Instrument

- **Content**
  - Urban Planning project
  - Resources of organisations
  - Urban design schemes

- **Process**
  - Interactive negotiation
  - Simultaneous decision making
  - Searching for agreements
Reflection

What did we learn from this project?

- Acceptance of the approach/instrument
  - Private Companies
  - Urban Designers
  - Next Generation

- Implementation of the approach/instrument
  - Organisational structure
  - Building process focus
  - Role of the design-process engineer
Methodology

The Open Design Methodology

- **Science:** TU Delft – Chair of Computer Aided Design and Planning
- **Method:** Multi-actor decision-making in Architecture & Urban Planning
- **Core:** Decision-making processes in urban planning are open ended and based on network structures for cooperation

*a new methodological approach to the preparation and implementation of urban (re)development*
Contact

Information

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- Recently published book on Open Design (available):

Thank you for your attention!