Needs Based Design

“Co-creating Community with a Needs-Based Approach to Urban Design and Planning”

Masters in Strategic Leadership towards Sustainability
Blekinge Institute of Technology
Karlskrona, Sweden
www.bth.se/msls

Ella Susanne Lawton
Tack så mycket

- Natalie Heltrich & Geoffrey Stack
- Richard Blume & Karl-Henrik Robèrt
  - The Natural Step Int’l
- Bill Reed
  - Integrative Design
    - Collaborative / Regenesis / Natural Logic
- 29 experts
Funders

- Hobsonville Land Company Ltd
- New Zealand Scandinavian Business Association
- Sustainable Futures
Sustainability is a design problem. More than just a
‘Needs Based Design’ (NBD) is a new approach to urban design, based on an understanding of fundamental human needs and creating spaces that eliminate or minimise barriers to people satisfying their needs.

*Max-Neef* - “*The best development process will be that which allows the greatest improvement in people’s quality of life*”
Needs Based Design plants and nurtures the seed of individual and community change for the growth of a sustainable society.
Background

- Sustainability is a function of design and how a community responds to that design
- Tools - ‘how’ to design ‘green’
- ‘Green’ is not sustainable
- Promote a move towards sustainable mental models and behaviour that promotes this move
Upstream Confluences

- NBD Focus
- Historical Context
- Design + planning process
- Construction Documentation
- Construction
- Occupancy
- Community engagement
- Community vision informs

Milestones in the urban design and planning process over time
Research Method

1. Current approach to ‘green’ design and planning.
2. Proposed desired approach
3. The testing of both approaches; and
4. A comparison between the two approaches
Green Design

- Tools = ‘Less bad’
- ‘Check-box’ solutions to simple problems
- Three gaps:
  1. Weak application of systems thinking
  2. Minimal consideration of social fabric, cohesion and sustainable behaviour of residents; and
  3. Lack of structure for collaborative planning in complex systems
Current Reality
Proposed Future

“...a strategic process that promotes co-operation and collaboration by recognising the importance of the understanding of basic human needs through meaningful participation”

- Systems thinking
- Facilitate complex social issues
- Structured and robust framework
NBD Approach

- Systems thinking
- Co-operation / collaboration
- Common Language
  - Shared definition of sustainability
  - Shared understanding of Fundamental Human Needs
- Common Vision
Needs Based Design framework

**Five Level Framework for Planning in Complex Systems**

**Design or planning project within society within the biosphere**

**Basic Human Needs**
- Subsistence
- Freedom
- Protection
- Creativity
- Affection
- Participation
- Idleness
- Understanding
- Identity

Participants envision future for project constrained by FSSD SPs:

In a sustainable society:
1. people are not subject to conditions that systematically undermine their capacity to meet their needs and natural systems are not subject to systematic increases in:
2. degradation by physical means.
3. concentrations of substances produced by society.
4. concentrations of substances extracted from the Earth’s crust.

**Backcasting**
A planning procedure by which a successful outcome is imagined in the future, followed by the question: “what do we need to do today to reach the successful outcome?”

**Meaningful Participation**
is a basic need and vital for success within community development. Participation also refers to the relationship where society once again functions as nature, fully participating in biological systems.

**Prioritising guidelines** (refer to Table 2.2)
Do actions provide a: 1. Step in the right direction? 2. Flexible platform? 3. Return on investment?

**Steps taken to integrate and implement project**
Each project team must choose and consistently evaluate its actions in the context of the strategic guidelines and its definition of success.

**Tools**
- Categories: Strategic
- Systems
- Capacity

**IDEA method:**
- Intend
- Discover needs + place
- Envision
- Act (ABCD Analysis)
- Economic Capital ($)

**Other tools as appropriate:**
- Green Rating Systems
- Human needs assessments
- Process indicators
- Documentation
- Communication

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1 (Max-Neef 1991)  
2 (Ny et al. 2006)  
3 (Broman et al. 2000)  
4 (Holmberg & Robert 2000)
Fundamental Human Needs

- Basic needs are never actually ‘met’ or ‘satisfied’
- Basic needs are often confused with satisfiers and the goods that serve to satisfy our needs
- Barriers inhibit the fulfilment of needs
- A deprivation of one or multiple basic need(s) implies poverty and opens the door for opportunity

<table>
<thead>
<tr>
<th>Nine basic human needs</th>
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Needs Based Design framework

Participants envision future for project constrained by FSSD SPs:

In a sustainable society:
1. people are not subject to conditions that systematically undermine their capacity to meet their needs;
2. concentrations of substances produced by society;
3. concentrations of substances extracted from the Earth’s crust;
4. degradation by physical means.

And natural systems are not subject to systematic increases in:

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Sustainability Principles of NBD

In a sustainable society:

4. ...people are not subject to conditions that systematically undermine their capacity to meet their needs,

and natural systems are not subject to systematic increases in:

3. ...degradation by physical means;

2. ...concentrations of substances produced by society, and

1. ...concentrations of substances extracted from the Earth’s crust.
Needs Based Design framework

Five Level Framework for Planning in Complex Systems

System

Success

Strategic Guidelines

Actions

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Categories:
- Strategic
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- Capacity

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Design or planning project within society within the biosphere

Basic Human Needs
1. Subsistence
2. Freedom
3. Protection
4. Creativity
5. Affection
6. Participation
7. Idleness
8. Understanding
9. Identity

Participants envision future for project constrained by FSSD SPs:

In a sustainable society:
1. people are not subject to conditions that systematically undermine their capacity to meet their needs
2. and natural systems are not subject to systematic increases in:
   - degradation by physical means,
   - concentrations of substances produced by society,
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3. Backcasting
   - A planning procedure by which a successful outcome is imagined in the future, followed by the question: "what do we need to do today to reach the successful outcome?"

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Needs Based Design framework

Participants envision future project constrained by FSSD SPs:

In a sustainable society:
1. people are not subject to conditions that systematically undermine their capacity to meet their needs;
2. concentrations of substances produced by society;
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Backcasting:
A planning procedure by which a successful outcome is imagined in the future, followed by the question: “what do we need to do today to reach the successful outcome?”

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IDEA method

**Phase questions**

What do we intend to create?

What allows life to flourish within us and within this community?

What will we create to contribute to the flourishing of life in this place?

How can we fulfill the project’s vision to allow people the opportunity to meet their needs both now and in the future?

What can we do to continually meet our needs and positively participate in the flourishing of this place?

**Project Participants**

- Everyone interested in participating
- Leadership Team
- Core Team
- Design teams
- Contractors + builders
- Public (inc. business)
- Government

**Future steps**

- Construction
- Documentation
- Team meetings
- Team work
- Final public review session
- Act - Integrated Design Phase(s)
- Community co-creation session(s)
- Envision
- Discover needs and place
- Intend
- Regional sustainability efforts
Concerns

- Regional context
- Public Participation
  - Added complexity
  - Public interest
- Business case
- Complexity
- Facilitation
Strengths

“By looking at just the project, and not the large whole, you are inherently promoting non-sustainability.” – O’Riordan 2008

“The vision and principles on which the project is based are the guiding light, so that everyone is on the same page. They give reasons for why the decisions were made. Principles give us a root as to why we made this decision.” – Guenther 2008

“It’s a truism that people will support what they help create, and the converse is also true. People will often oppose that which is seen to be imposed upon them.” – Zimmerman 2008

“Let us [the development community] solve the problem in a creative way. We will find ways to be creative.” – Startt 2008
Summary

- We are still getting feedback!
- Current tools are ‘green’
- ‘idealistic’ and ‘not far enough’
- Reluctance for participatory processes
- Limited by policy
- Regional efforts can make or break the effort
- A common language and structure are helpful in participatory processes
- Good facilitation is paramount
Milestones in the urban design and planning process

- Historical context
  - Design + planning process
  - Pre-project
    - Problem Definition
  - Concept Design
  - Schematic Design
  - Design Development
  - Construction
    - Documentation
  - Construction
  - Occupancy
  - Community engagement

Phases in current approaches to green design

Milestones in the urban design and planning process

- Intend
  - Discover needs + place
- Envision
  - success
- Act - Integrated design

Phases in NBD approach
Sustainability Principles of NBD

In a sustainable society:

4. ...people are not subject to conditions that systematically undermine their capacity to meet their needs,

and natural systems are not subject to systematic increases in:

3. ...degradation by physical means;

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Public Participation

There is understandable reluctance towards a process that utilises broad public participation and transparency, as the current methods for gathering community input and feedback for projects inadequate and frustrating. Inviting inclusiveness and involvement from project participants provides the insights necessary to gain a complete understanding of needs and place; involves people in the achievement of a shared vision of success; and provides a way for people to decide how to shape the structures that will help or hinder their ability to meet their own needs. The invitation to participate in a project should be early, broad, and extended ‘every time’ for each design phase.
## Gap Analysis

<table>
<thead>
<tr>
<th>Green design approaches</th>
<th>Proposed NBD approach</th>
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<tbody>
<tr>
<td><strong>Inside-out</strong></td>
<td><strong>Outside-in</strong></td>
</tr>
<tr>
<td>Mechanistic, linear</td>
<td>Holistic</td>
</tr>
<tr>
<td>Fragmented perspective</td>
<td>Pattern-based</td>
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<tr>
<td>An understanding of</td>
<td>perspective</td>
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<td>independent basic</td>
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### System

- Common understanding of sustainability is rare
- Economic gain ($)
- ‘Green’ design intention to ‘reduce impacts’ of development
- Vision determined by owner

- Common, scientific understanding of sustainability
- Design within, and beyond the constraints of the FSSD Sustainability Principles
- Vision co-created with community

### Success

- Often constrained by forecasting (not all potential solutions are explored or evaluated)

- Backcasting
- Meaningful participation
- Monitoring guidelines

### Strategic Guidance

- Use conventional project phases and structure
- Project considered first

- ‘Front loaded,’ progressive process
- Community considered first

### Actions

- Green Rating Systems
- Cradle to Cradle
- Matrices
- Measurements & indexes

- IDEA method
- ABCD Analysis
- Economic Capital ($)
- All Others
Framework for Strategic Sustainable Development (FSSD)

Applying the Five Level Framework for Planning in Complex Systems to achieve and maintain a sustainable society

In a sustainable society, nature is not subject to systematically increasing:
1. concentrations of substances extracted from the Earth’s crust,
2. concentrations of substances produced by society,
3. degradation by physical means.

Each individual organization may develop and add its own principles of success based on the minimum constraints of the Sustainability Principles

Strategic guidelines for prioritizing actions
Actions are prioritized by searching for measures that:
1. proceed in the right direction with respect to all four sustainability principles
2. function as a stepping-stone (i.e., flexible platform) for future improvements
3. are likely to produce a sufficient return on financial, cultural, and political investment to further catalyze the process

Backcasting
A planning procedure by which a successful outcome is imagined in the future, followed by the question: “what do we need to do today to reach the successful outcome?”

Concrete steps based on strategic guidelines
Each organization must choose and consistently evaluate its actions in the context of the strategic guidelines its definition of success.

ABCD Planning Methodology:
A awareness of FSSD and the motivation for pursuing sustainability
Baseline: An assessment listing all current assets and problems
Clear & Constructive Visioning: Solutions and visions for tomorrow
Down to Action: Actions evaluated using the strategic guidelines

Other tools, as appropriate, for example:
- Life Cycle Analysis
- Ecological Footprinting
- ISO Standards
- LEED® Rating Systems
- CSR
- Cradle to Cradle
- Happiness Index
- Fair Trade

References