

# Sustainability assessment systems for new and existing neighbourhoods

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- Karlsruhe Institute of Technology (KIT)
- Startup Project - Focus  
    **“Humans and Technology in an Urban Context”** (Mensch und Technik im urbanen Kontext)

In collaboration with:

Jürgen Kopfmüller & Dr. Oliver Parodi - ITAS

- Urban development  $\leftrightarrow$  Sustainable development
- Building level  $\rightarrow$  Neighbourhood level
- New neighbourhood developments are taking place worldwide
- Need for improvement of existing buildings, neighbourhoods and communities

As a consequence we need:

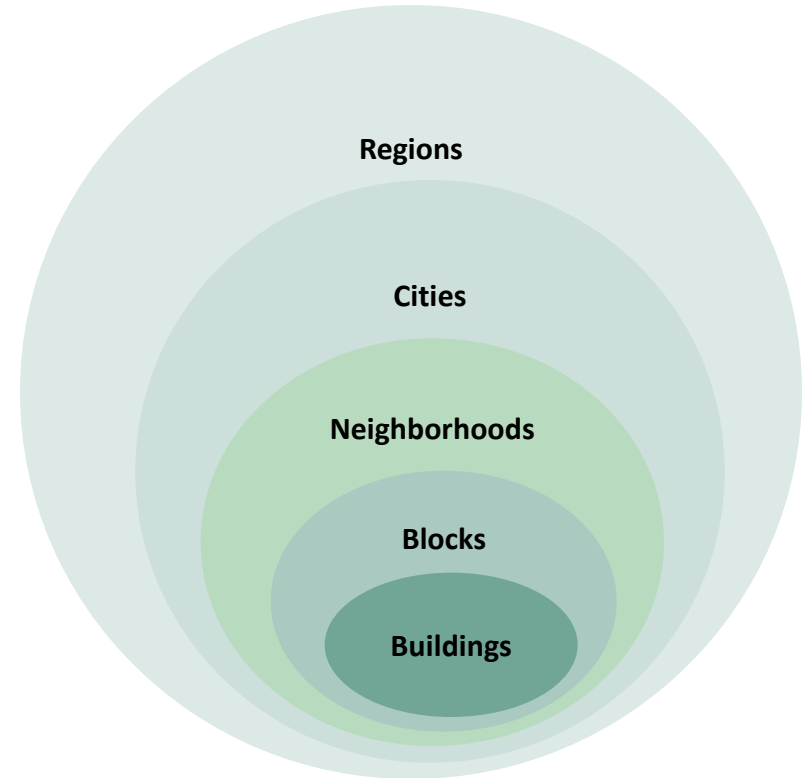
- (1) Target definition, control of success/monitoring
- (2) Method, tools to support decision making

➔ **Sustainability Assessment** can be one solution

- Shift from **qualitative** to **quantitative** approaches
- Shift from considering only **environmental** criteria to including also **social & economic** criteria
- Shift from focusing only on the **building** level to examining also the **infrastructure, neighbourhood, community or city** level

# Level of Scale – Object of Assessment

- Region
- City
- Neighbourhood
- Group of Buildings/ Blocks
- Building



**In the paper the following questions are discussed:**

- What are the advantages for examining neighbourhoods (object of assessment) instead of entire cities?
- Which traditions and existing examples can constitute a basis for such an analysis?
- What examples exist already in Germany?
- How can the assessment systems be analysed? What are the results?
- What type of systems are suitable for the assessment of new neighbourhoods and what for the further development of existing ones?

## ■ Pros

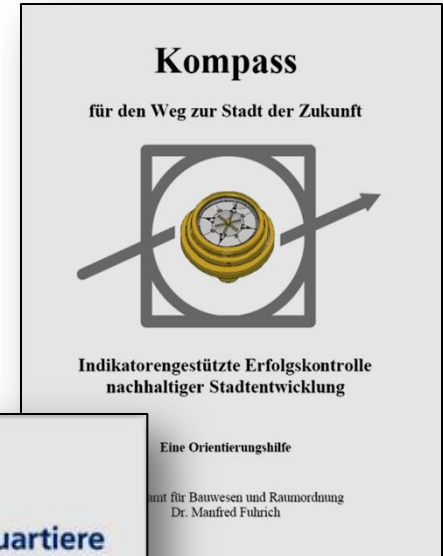
- (1) meso-level between city and building
- (2) Its size is better manageable compared with the city level.
- (3) the various characteristics of a city (e. g. densities, cultural diversities, etc.) can be considered more thoroughly than at the larger city scale
- (4) interactions between different economic, physical and social sub-systems can be analysed more adequately.
- (5) The level of involvement, engagement and motivation of different actors in decisions influencing their living environment is higher and more direct compared with the city level.

## ■ Cons

- (1) Unlike cities and individual buildings, neighbourhoods display no clear references to institutional and administrative boundaries – their definition is complicated
- (2) It is difficult to describe a functional equivalent as a basis for comparison of different variants and assessment results.
- (3) Very heterogeneous groups of actors are involved in a neighbourhood development (e.g. local authorities, property owners' associations, etc.)



- **Tools assessing the progress of a neighbourhood towards sustainable development**
  - different indicator sets for describing goals and monitoring performances  
(e.g. Fürich, M., *Stadt der Zukunft*, 2001)
- **Tools assessing the sustainability of a new neighbourhood**
  - DGNB – certification system for describing and assessing the sustainability of new neighbourhood developments following the basic structure of certification systems for buildings. It is assessed the level of performance of a new neighbourhood achieved at a defined point in time



# Examples of Tools (Assessing the Progress)

In Germany, there have been numerous initiatives that promote the use of indicators in the context of sustainable urban development.

Specifically, the project “**Städte der Zukunft**” (Cities of the Future) (BBSR 2004) is the approach that first defined strategic objectives by consensus and operationalised them to measure the success of their implementation through appropriate indicators



# Examples of Tools (Assessing the Progress)

## Standard Indicators      Additional Indicators

### Haushälterisches Bodenmanagement

- B1 Siedlungs- und Verkehrsfläche
- B2 Intensität der Flächennutzung
- B3 Schutzflächen
- B4 Wiedernutzung von Brachen

### Stadtverträgliche Mobilitätssteuerung

- M1 Gefahrene Kilometer von Bus und Bahn
- M2 PKW-Dichte

### Vorsorgender Umweltschutz

- U1 Restmüll
- U2 Trinkwasserverbrauch

### Sozialverantwortliche Wohnungsvergung

- W1 Fortzüge ins Umland
- W2 Wohngeld

### Standortsichernde Wirtschaftsförderung

- Ö1 Arbeitslosenquote
- Ö2 Pendlersumme

### Haushälterisches Bodenmanagement

- B5 Zuwachs von Siedlungsflächen  
Innen:Außen
- B6 Baulandmobilisierung  
im Bestand

### Stadtverträgliche Mobilitätssteuerung

- M3 Gesamtlänge des Fahrradweges-  
netzes
- M4 PKW-Nutzung in der Stadt  
(Modal-Split)
- M5 ÖPNV-erschlossener Siedlungs-  
bereich
- M6 Verkehrssicherheit  
(Verkehrstote)

### Vorsorgender Umweltschutz

- U3 CO<sub>2</sub>-Ausstoß
- U4 Energieverbrauch

### Sozialverantwortliche Wohnungsvergung

- W3 Grundversorgung
- W4 Wohnungseinbrüche

### Standortsichernde Wirtschaftsförderung

- Ö3 Flächenbedarf von Arbeits-  
plätzen
- Ö4 Lokale Wirtschaftsstruktur

Economical use of land

Mobility management compatible  
with cities

Pollution prevention

Socially responsible housing  
supply

Location wise economic  
development

# Examples of Tools (Assessing the Progress)

## Indikator B1: Siedlungs- und Verkehrsfläche



### Welche Bedeutung hat der Indikator für eine nachhaltige Stadtentwicklung?



Die Siedlungs- und Verkehrsfläche in Deutschland wächst pro Tag um etwa 105 ha. Die Zersiedlung der Landschaft schadet dem Boden dauerhaft und kommt uns teuer zu stehen. Wir riskieren den Verlust der natürlichen Lebensgrundlagen. Immer mehr Autoverkehr wird erzeugt und die vorhandene Infrastruktur wird weniger ausgelastet. Die Entwicklung im Bestand muss Vorrang vor der Ausweisung neuer Siedlungsflächen haben. Eine interkommunale Abstimmung ist unverzichtbar für einen dauerhaften Erfolg. Langfristig ist das Flächenwachstum ganz zu stoppen („Nullsummenspiel“).

### Welche Strategie und generellen Zielvorstellungen verbinden sich mit dem Indikator?



**Städtebauliche Strategie: Reduzierung des Zuwachses an bebauter Siedlungsfläche**

- Neuinanspruchnahme von Flächen für Siedlungs- und Verkehrszwecke im Stadtgebiet, besonders im Außenbereich der Stadt, geht zurück.
- Vorhandene Infrastruktur in den bebauten Lagen wird besser ausgelastet.
- Städtebauliche Brachen werden verstärkt wiedergenutzt.
- Vorhandene Baulandreserven werden mobilisiert.
- Der Gebäudebestand wird modernisiert und besser genutzt.

### Wie drückt sich die örtliche Entwicklung konkret in Zahlen aus?

Musterstadt	Aktuelle Fläche: 108,630 km <sup>2</sup> – Einwohner (Erst- und Zweitwohnsitz): 154.284 EW				
	31.12.1998		31.12.2003	Δ %	
Siedlungs- u. Verkehrsflächen	31,2736	28,7 %	31,7816	29,2 %	+1,6
Hintergrunddaten:					
Darunter: Wohnbauflächen <sup>1</sup>	10,0875	9,3 %	10,5556	9,7 %	+4,6
Darunter: Nichtwohnbaufläche <sup>2</sup>	8,5565	8,2 %	8,8020	8,1 %	-1,7
Darunter: Verkehrsfläche <sup>3</sup>	9,2746	8,5 %	9,2643	8,5 %	0
Darunter: Erholungsfläche	2,9750	2,7 %	3,1597	2,9 %	+6,2

Kernaussage: Siedlungs- und Verkehrsfläche wächst geringfügig, Erholungsfläche nimmt stark zu.

### Wie und was wird gemessen ?

**Messgröße des Indikators**  
Siedlungs- und Verkehrsfläche insgesamt in km<sup>2</sup> und Anteil an der Gesamtfläche der Stadt in Prozent; Veränderung in Anteilen des absoluten Ausgangswertes.

### Was ist besonders zu beachten ?

**Hintergrundinformationen:**  
ALK Nutzungsarten (Automatisiertes Liegenschaftskataster): Wohnbaufläche<sup>1</sup> (130), Nichtwohnbaufläche<sup>2</sup> (100/200-130), Erholungsfläche (400+940), Verkehrsfläche (500); Siedlungs- und Verkehrsfläche = (100/200+300-310+400+500+940)  
Größe der Gemeindefläche als Bezugsgröße für Anteile der Nutzungsarten, Veränderung in Prozent zum Ausgangswert

**Anmerkungen**  
Angaben gemäß Eintrag im automatisierten Liegenschaftsbuch (ALB) bzw. Liegenschaftskataster (ALK) oder einmündige Kategorien im GIS; systembedingter Zeitverzug im ALK und ALB ist zu beachten.  
<sup>1</sup> Wohnbaufläche: ALK-Gebäude- und Freifläche für die Nutzung „Wohnen“; ALK-Wohnbaufläche (130)  
<sup>2</sup> Nichtwohnbaufläche: ALK-Gebäude- und Freifläche abzüglich Wohnbaufläche (100/200-130).  
<sup>3</sup> ALK-Verkehrsfläche (500), <sup>4</sup> ALK-Erholungsfläche (400+940)  
Einschränkung: die statistische Erfassung der Flächendaten ist in den Bundesländern nicht einheitlich geregelt.

### Welche Datenquellen stehen zur Verfügung ?

**Datengrundlagen**  
Datenerfassung aus dem amtlichen Liegenschaftsbuch (ALB) oder Liegenschaftskataster (ALK); ersatzweise aus ATKIS, ALKIS. Noch besser ist ein geografisches Informationssystem (GIS) als laufende Dokumentation der Realnutzung. Der Flächennutzungsplan ist nicht geeignet, da er nicht die Realität sondern nur die Planvorstellungen der Kommune abbildet.  
Laufende Raumbeobachtung des BGR, Berichte, Tabelle 14

### Prüfrage: Wurden weniger Flächen für Siedlungszwecke neu in Anspruch genommen ?

In what way is the indicator relevant to sustainable urban development?

What strategy and objectives are connected to the indicator?

How the local development is expressed concretely in numbers?

How and what is measured?

What is particularly important?

What are the available data sources?

**Test question:** was less land newly claimed for settlement purposes?

# Examples of Tools (Assessing the Progress)

**Indikator B1: Siedlungs- und Verkehrsfläche**

Welche „Risiken und Nebenwirkungen“ sind im Erfolgsfall zu beachten ?

- Bauland- und Immobilienpreise steigen bei Angebotsmangel.
- Pendleraufkommen erhöht sich, wenn Erwerbstätige ins Umland ziehen.
- Nachfrage nach lockeren Bauformen verlagert sich mangels Angebot in das Umland.

Welche verstärkenden Wechselbeziehungen zwischen den Indikatoren sind ausgeprägt ?

- Intensität der Flächennutzung B2
- Wiedernutzung von Brachflächen B4
- Zuwachs an Siedlungsfläche B5
- Baulandmobilisierung im Bestand B6
- ÖPNV-erschlossener Siedlungsbereich M5

Welchen Bezug gibt es zur Nationalen Nachhaltigkeitsstrategie ?

Schwerpunkt: Flächeninanspruchnahme vermindern - Nachhaltige Siedlungsentwicklung fördern  
Indikator: Zunahme der Siedlungsfläche

Welche wesentlichen Eckpunkte bestimmen den kommunalen Handlungsrahmen ?

- Die Kommunen stehen im interkommunalen Wettbewerb um Investoren.
- Die Kommunen konkurrieren um einkommensstarke Haushalte.
- Der Gestaltungsspielraum der Kommunen verengt sich bei rückläufigen Einnahmen.

Welche kommunalen Instrumente und Maßnahmen unterstützen den Erfolg ?

- Flächennutzungsplan
- Bebauungsplan
- Kooperationsverträge mit Nachbargemeinden
- Brachflächen- und Baulückenkataster, GIS
- Flächenrecycling, Bauflächenmanagement

Welche „Orientierungswerte“ sind für den kommunalen Einsatz denkbar ?

Die in der Nachhaltigkeitsstrategie festgelegte Reduzierung des Zuwachses an Siedlungsfläche bedeutet eine durchschnittliche Beschränkung auf unter ein Viertel der bisherigen Flächenenerweiterung. Als mittelfristiges Ziel könnte der Orientierungswert des Forschungsfeldes dienen, nämlich Innenentwicklung zu Außenentwicklung wie 3:1. Dieser Wert könnte von den Modellstädten gut erreicht werden. Langfristig ist ein Nullwachstum anzustreben, d.h. es wird nur soviel Siedlungsfläche neu in Anspruch genommen, wie anderswo der Natur durch Rückbau bzw. Rückwidmung wieder zurückgegeben wird.

Welche Besonderheiten sind bei der indikatorengestützten Erfolgskontrolle zu beachten ?

Der Zuwachs an Siedlungsfläche ist regional sehr ungleich verteilt. In Kernstädten fällt der Zuwachs bekanntlich deutlich geringer aus als in den ländlich geprägten Gemeinden. Hohe Grundstückspreise bewirken eine intensive Flächennutzung. Großzügige Ausweisungen von neuen Wohn- und Gewerbegebieten im städtischen Umland verstärken die Suburbanisierung. Für eine nachhaltige Siedlungsentwicklung ist eine interkommunale Kooperation ebenso unverzichtbar wie die Umsetzung der Prinzipien der Kreislaufwirtschaft im häushälterischen Flächenmanagement. Bei der quantitativen Betrachtung ist zu berücksichtigen, dass ein nicht unerheblicher Anteil des Zuwachses auf neu ausgewiesene Erholungsflächen zurückzuführen ist. Soweit diese als Ausgleichsflächen eingebracht werden, entfalten sie sogar positive Effekte.

Bundesamt für Bauwesen und Raumordnung – Dr. Manfred Fuhrich

What risks and side effects are to be expected in case of success?

What reinforcing interrelations are developed between indicators?

What is the relationship with the National Sustainable Development Strategy?

What key points determine the local action framework?

Which municipal instruments and measures support the success?

What “reference values” are feasible for communal use?

What special features are to be considered in the indicator-based success monitoring?

## Environmental Quality

- Life Cycle Assessment
- Water and Soil Protection
- Change in City District Climate
- Biodiversity and Interaction
- Consideration of Possible Environmental Impacts
- Land Use
- Total Primary Energy Demand and Renewable Primary Energy
- Energy-Efficient Development Structure
- Infrastructure with Low Resource Consumption, Groundwater Management
- Local Food Production
- Water Cycle

## Economic Quality

- Lifecycle Costs
- Fiscal Effects on Municipality
- Value Retention
- Efficient Use of Space

## Sociocultural and Functional Quality

- Social and Functional Diversity
- Social and Labour Infrastructure
- Objective / Subjective Security
- Quality of Open Areas in Public Spaces
- Noise Protection
- Proportion of Open Areas
- Handicapped Accessibility
- Occupancy Flexibility and Development Structure
- Adaptation to Urban Development Plan
- Urban Planning Design
- Use of Existing Buildings
- Public Art

## Technical Quality

- IT and Communication Infrastructure
- Energy Technology
- Waste Management
- Rainwater Management
- Dismantling, Sorting, and Recycling of the Infrastructure
- Maintenance, Servicing, Cleaning
- Quality of Transport Systems
- Quality of Road Infrastructure
- Quality of Public Transport Infrastructure
- Quality of Cycling Infrastructure
- Quality of Pedestrian Infrastructure




## Process Quality

- Participation
- Concepts Developed in Competitive Bids
- Integrated Planning
- Community Involvement
- Controlling
- Environmental Impact of Construction Site / Construction Process
- Marketing
- Quality Assurance and Monitoring

# Example DGNB – Result

Environmental Quality	Economic Quality	Sociocultural and Functional Quality
22,5%	22,5%	22,5%
Technical Quality		22,5%
Process Quality		22,5%

## Weighting

Total score	Minimum gained score	Award	
From 50%	35%	Bronze	
From 65%	50%	Silver	
From 80%	65%	Gold	

## Rating Level/ Certification (Absolute Assessment)



# Global Overview

	Tool's name	Developer(s)	Region	Version
Certification Systems	<b>LEED ND</b>	USGBC, CNU, and NRDC	US	2009 (2007)
	<b>Earthcraft Communities</b>	Greater Atlanta HBA & others	US	2003
	<b>BREEAM Communities</b>	BRE	UK	2009
	<b>CASBEE UD</b>	JSBC and JaGBC	Japan	2007 (2006)
	<b>ESTIDAMA Pearls</b>	Abu Dhabi UPC	Abu Dhabi	2010
	<b>QSAS Neighb.</b>	GORD	Qatar	2011
	<b>Greenstar Communities</b>	GBCA	Australia	2012
	Green Mark for Districts	BCA	Singapore	2009
	<b>DGNB NSQ</b>	DGNB	Germany	2012 (2011)
	GPR-Stedenbouw	City of Groningen & others	Denmark	2011
Tools	<b>HQE2R</b>	CSTB	EU	2001-2004
	<b>Ecocity</b>	EU research project	EU	2002-2005
	<b>SCR</b>	Victorian State Government	Australia	2007
	EcoDistricts	POSI	US	2010
	SPeAR	ARUP	UK	2011 (2000)
	SuBET	HILSON MORAN & others	UK	2008-2010
	One Planet Living (OPL)	BioRegional Development Group and WWF International	UK	2008
	SMEO-Quartiere	BFE and ARE	Switzerland	2011
	Beacon Neighbourhood Sustainability Framework	Beacon	New Zealand	2010
	Cascadia Scorecard	Sightline Institute	US	2004

Systems that emerged from already existing and established third-party assessment and certification systems for buildings

Systems embedded into neighbourhood-scale plans and sustainability initiatives mostly intended to be used as planning and decision support tools (first or second-party assessment systems)



- The importance and comparability of the following criteria were investigated:
  - a) **object of assessment** (existing neighbourhoods, new neighbourhoods, both?)
  - b) **basic character** (certification system with absolute assessment of sustainability or system following distance to target method to support sustainable neighbourhood development?)
  - c) **included dimensions** of sustainability (economic, environmental and/or social dimension, possibly supplemented by an institutional dimension?) → **Level 1**
  - d) **assessment criteria** included in each sustainability dimension → **Level 2**
  - e) **Indicators** included in each criterion → **Level 3**

## ■ 3 possibilities:

- a) New neighbourhood (object)
- b) Existing neighbourhood (object)
- c) Sust. Dev. of Exist. neighbourhood (process)

- Existing neighbourhood as an object – danger of being stigmatised as “unsustainable”, as the result is based only on the performance at a specific point in time.

→ Planners and developers are discouraged to deal with such cases.

- There is no such thing as static state for neighbourhoods – they are always in a constant development.

# Object of Assessment – Results

	Certification Systems								Tools		
Criteria	LEED ND	BREEAM Communities	CASBEE UD	ESTIDAMA Pearls	QSAS-NH	Greenstar Communities	DGNB NSQ	ECC	HQE <sup>2</sup> R	Ecocity	SCR
OBJECT OF ASSESSMENT											
New neighbourhood developments	X	X	X	X	X	X	X	X		X	X
Existing neighbourhoods as an object			X		X				X	X	X
Existing neighbourhoods as a process									X		

## Results:

- The focus of the analysis is mostly on “New Development Projects“
- Existing neighbourhoods, when assessed, in most of the cases they are assessed as an object, not a process.

## ■ 2 methods for assessing sustainability:

### a) **Performance oriented assessment**

It is assessed whether a neighbourhood developm.  
is sustainable at a specific point in time

→ *Suitable for new neighbourhood developments*

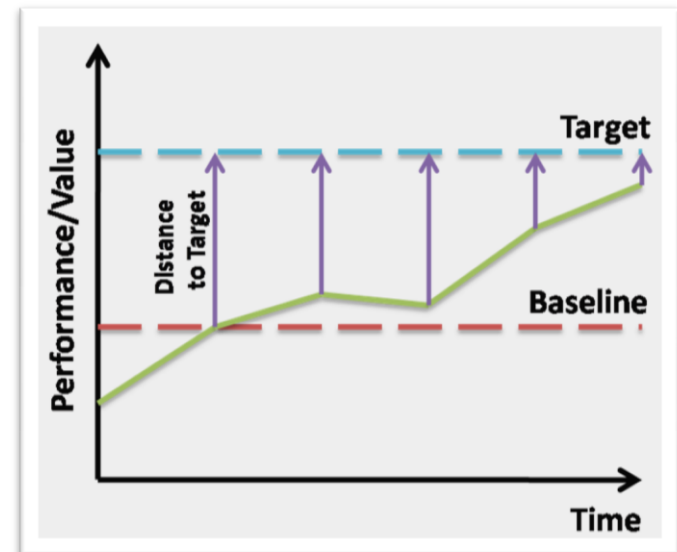
### b) **Distance to target and performance monitoring**

It is assessed the sustainable development – the  
relative progress in the direction of sustainability

→ *Suitable for existing neighbourhoods or renovation projects*

■ The character of a system influences its ability to  
function as a decision support system.

■ **Important** – to track temporal changes in the  
sustainability of existing neighbourhoods to  
specify whether they move in the right direction  
towards achieving specific targets.

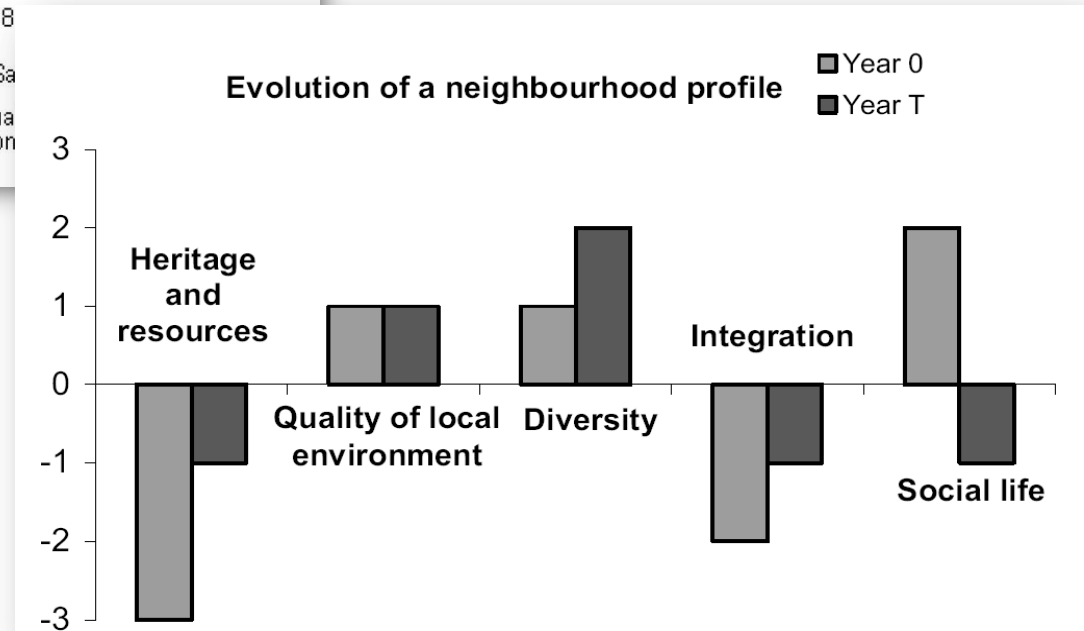
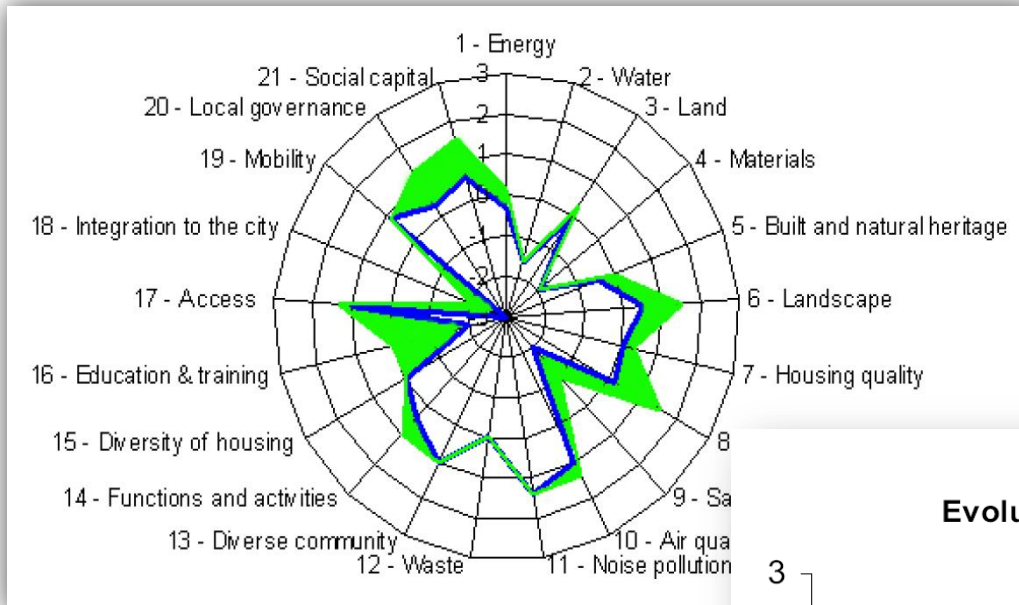


	Certification Systems								Tools		
Criteria	LEED ND	BREEAM Communities	CASBEE UD	ESTIDAMA Pearls	QSAS-NH	Greenstar Communities	DGNB NSQ	ECC	HQE <sup>2</sup> R	Ecocity	SCR
CHARACTER											
Performance oriented assessment	X	X	X	X	X	X	X	X	X	X	X
Distance to target & performance monitoring									X		

## Results:

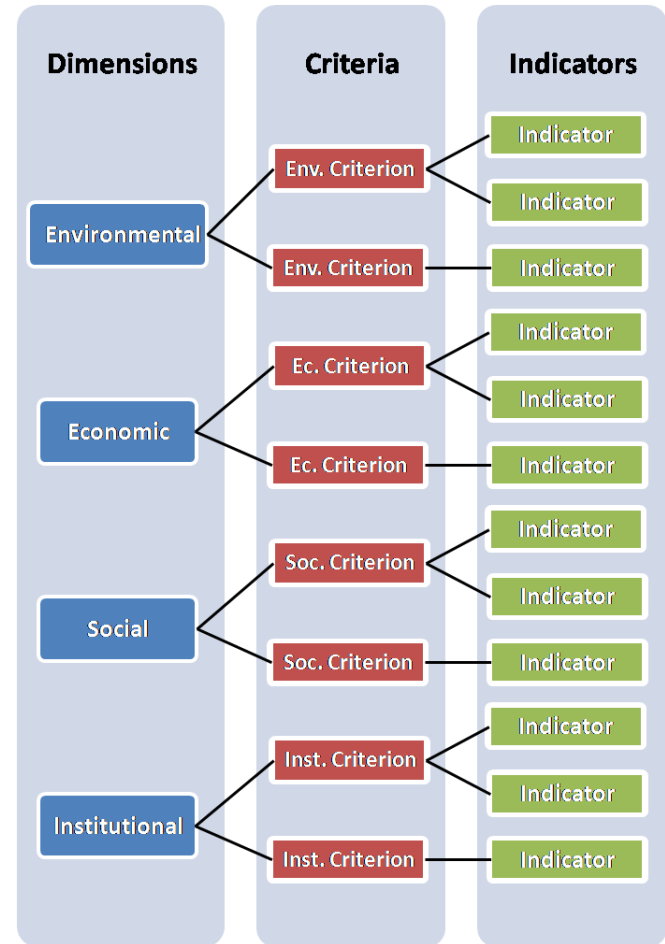
- The most of the systems follow the performance oriented approach irrespective of the object of assessment (new or existing neighbourhood). Only a few systems (e.g. HQE<sup>2</sup>R) assess the relative success of existing neighbourhoods.

# Character – Results (HQE2R Example)



# Sustainability Coverage – Rationale

- The last years the framework of assessment has been expanded from merely covering environmental impacts to hitting a **balance between environmental, social, and economic performance**.
- Emphasis on the importance of **institutional sustainability as the fourth pillar** – the participation of community stakeholders in the decision making process, as well as the community management and governance mechanisms.
- **How?** A comparison among the tools and systems can be performed at different levels – at an indicator, criteria or main category (or sustainability dimension) level.



# Sustainability Dimensions – Results (Level 1)

## 1) Comparison at the level of sustainability dimensions

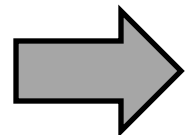
	Certification Systems								Tools		
Criteria	LEED ND	BREEAM Communities	CASBEE UD	ESTIDAMA Pearls	QSAS-NH	Greenstar Communities	DGNB NSQ	Earthcraft Communities	HQE <sup>2</sup> R	Ecocity	SCR
<b>SUSTAINABILITY COVERAGE</b>											
Environmental	X	X	X	X	X	X	X	X	X	X	X
Social	X	X	X	X	X	X	X	X	X	X	X
Economic	X	X		X	X	X	X	X	X	X	X
Institutional		X		X	X	X	X	X	X	X	X



# Sustainability Dimensions – Results (Level 1)

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**But this was just the sustainability coverage in terms of the different dimensions. In each dimension what kind of criteria or indicators are covered needs to be analysed in detail prior to performing any comparisons...**

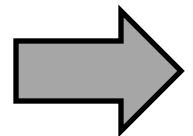


**NEXT**  
Level 2

# Sustainability Criteria – Results (Level 2)

## 2) Comparison at the level of sustainability criteria – “economic sustainability” as an example

Criteria	Certification Systems								Tools		
	LEED ND	BREEAM Communities	CASBEE UD	ESTIDAMA Pearls	QSAS-NH	Greenstar Communities	DGNB NSQ	Earthcraft Communities	HQE²R	Ecocity	SCR
<b>ECONOMIC SUSTAINABILITY</b>											
Skill education and employment	X	X				X		X	X	X	X
Community investment		X				X				X	X
Value stability							X				
Space efficiency							X				
Support of national economy					X						
Residential incentives						X					
Housing affordability	X	X				X		X	X		X
Costs and benefits assessment				X		X	X			X	X
Fiscal impact on the community							X				



**NEXT**  
Level 3

# Sustainability Indicators – Results (Level 3)

## 3) Comparison at the level of sustainability indicators – “cost and benefits assessment” as an example

Criterion – Costs and benefits assessment	ESTIDAMA Pearls	Greenstar Communities	DGNB NSQ	Ecocity	SCR
Life cycle costing (LCC)	X		X		
Return on investment (ROI)		X			
Cost/return ratio				X	
Internal rate of return (IRR)					X
Gross margins					X

### Conclusion:

It is always more accurate to compare at an indicator level,  
as similar criteria can be assessed by different indicators.

# But there is still lots of confusion...

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**Although the existing assessment tools and systems clearly mark a progress regarding the expansion from the building to the neighbourhood level, and the scope of applied assessment criteria, there are still gaps and deficiencies...**

## ISO/TC 268 Sustainable development in communities

Standardization in the field of Sustainable Development in Communities will **include requirements, guidance and supporting techniques** and **tools** to help all kind of communities, their related subdivisions and interested and concerned parties **become more resilient and sustainable** and **demonstrate achievements in that regard**.

The proposed series of International Standards will thus encourage the development and implementation of **holistic, cross-sector and area-based approaches** to sustainable development in communities.

As appears in the program of work, it will include **Management System Requirement, Guidance** and related standards.



[http://www.iso.org/iso/standards\\_development/technical\\_committees/other\\_bodies/iso\\_technical\\_committee.htm?commid=656906](http://www.iso.org/iso/standards_development/technical_committees/other_bodies/iso_technical_committee.htm?commid=656906)

## *Planned sections:*

- Sustainable development and resilience of communities - Management systems -- **General principles and requirements**
- Sustainable development and resilience of communities – **Vocabulary**
- Sustainable development and resilience of communities -- **Indicators for city services and quality of life**
- Inventory and review of existing indicators on sustainable development and resilience in cities



- Communities are still not familiar with the topic of “sustainable urban development”
- Communities fear that their city or specific districts of their city will be stigmatised with the use of systems offering only an absolute rating – fear of losing their reputation in the case of a negative assessment result
- Cities and city districts are difficult to compare – it is therefore problematic to develop and apply benchmarks

- For the case of design and development of new neighborhoods, sustainability assessment systems can be recommended for use. They can be used even without aiming at certification as a checklist for planning and as a basis for agreements between project developers and planners.
- For the case of further development of existing neighbourhoods the tools defining sustainable development targets and assessing the progress of a neighbourhood towards these targets are recommended for use. What is important is the involvement of relevant stakeholders in appropriate forms of organization (e.g. Neighbourhood Improvement District - NID).



- **Neighborhood Improvement District (NID)** is defined as an area in which property owners make a collective contribution (e.g. paid by special tax assessments) to stabilize and improve their district. NIDs typically include capital improvements like housing, park and public space enhancements and provide services such as supplementary safety and security or the development of a marketing concept for the district. The term NID is already established in practice in some US-states.
- There is also the term **housing improvement district (HID)**
- The aim of HID/NID is to strengthen residential areas through private Initiatives

- It is proposed the NID/HID approach to be combined with sustainability assessments at a neighbourhood level
- It is suggested to transfer this approach to already existing examples aiming at the energy-related improvement of neighbourhoods (e.g. the funding programme of the German state-owned KfW Bank) and to consider the energy-related part as a sub-theme. Conceptually, this approach can be applied by community/property owners associations.

With respect to possible future activities it is proposed a two-step procedure:

- a) **A modular kit to be provided to potential users, which:**
  - will allow for **better distinguishing between newly constructed and already existing** neighbourhoods
  - include an **expanded sustainability criteria set** to better consider cultural aspects, alternative economic aspects or social coherence aspects.
  - will **involve relevant local stakeholders**, and should fulfill certain thematic and procedural minimum requirements.
- b) **This kit to be the basis for discussions about possibilities of a certain standardization of assessment processes** (e.g. ISO TC 268 – sustainable development in communities)

**Thanks for your attention !**  
**Questions ? Comments ?**

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