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Understanding Sustainable Development:

Let’s us remember where we came from 20 years ago. The evolution of our thinking & action
The Sustainable Development Agenda

1972
UNCED 1
Stockholm
UNEP

1992
UNCED
Rio 92

2000
Millennium
Summit
MDG

2002
World
Summit
WSSD
Jo’burg

2012
Rio+20
Conference

2015
SDG’s
Agenda
2030

GLOBAL AGENDA 21

LOCAL AGENDA 21

CLIMATE CHANGE

THINK GLOBAL
ACT LOCAL

The Brundtland Report

SUSTAINABLE CITIES

POVERTY
ERRADICATION
Change Unsustainable patterns of consumption & production

The 5 P’s
People Planet Prosperity
Peace Partnership
End extreme poverty, fight inequality and injustice, and protect our planet

29/06/2018

Claudio Acioly Jr, Head CDU, UN-HABITAT
What is sustainable development?

“What sustainable development meets the needs of the present generation without compromising the ability of future generations to meet their own needs”
Rio, 1992: ‘Our Common Future’

AGENDA 21,
Chapter 7: Human Settlements
Chapter 28: Local Agenda 21

Sustainable Cities

ACT LOCALLY, THINK GLOBALLY.
What’s sustainable development?

- Economic Development
- Conservationism
- Economic Development of Society
- Social Development
- Ecologic Development
- Ecology or Utopia Principles
- Sustainable Development
How to reconcile goals and interests of multiple actors, institutions and processes?
Are we missing a dimension in the Sustainable Development equation?

- Economic Development
- Social Development
- Ecologic Development
- Physical Spatial Territorial Development
Sustainable Urban Development

Management and Planning for Urbanisation is crucial for the future of a planet of cities.
TIME TO THINK URBAN
Are we missing a dimension?

- Economic
- Social
- Physical
- Environmental
Urban Expansion and New Frontiers of Urban Boundaries:
The sustainable urbanization concept.
Preparing to Absorb Urbanisation

Source: UN-HABITAT, 2008
Sustainable urban development is the spatial manifestation of urban development processes that create a built environment with norms, institutions and governance systems that enable individuals, households and societies to maximize their potential. These urban development processes must also improve access to a vast range of environmentally and economically efficient services so that homes and neighborhoods, cities and towns are planned, built, renewed and consolidated in ways that minimize any adverse impact on the environment and safeguard the quality of life and livelihood of current and future inhabitants. The term “sustainable urban development” can thus be defined as the spatial transformation of the urban environment and the quality of life of its inhabitants – through participatory, equitable, accountable and effective planning, management and governance processes and systems – making neighborhoods, towns and cities more environmentally sound, economically productive and socially inclusive for present and future generations.

GC23 Theme Paper, HSP/GC/23/4, 28 January 2011
INCORPORATING THE “SPATIAL DIMENSION” INTO A DEFINITION OF SUSTAINABLE URBAN DEVELOPMENT

“sustainable urban development can be defined as the spatial manifestation of urban development processes that creates a built environment with norms, institutions and governance systems enabling individuals, households and societies to maximize their potential, optimize a vast range of services so that homes and dynamic neighborhoods, cities and towns are planned, built, renewed and consolidated restraining adverse impacts on the environment while safeguarding the quality of life, needs and livelihood of its present and future populations”. Source: UN-Habitat contribution to Rio+20, 27 October 2011.
Urbanisation at Night
5. The Sustainable City:

Enabling cities to maximize its role as engine of development & economic growth without jeopardizing the opportunities of future generations.
THE “SPATIAL DIMENSION” OF SUSTAINABLE URBAN DEVELOPMENT (1)

1. The physical manifestation of urbanisation

2. Planning and Managing the built environment: land, buildings, infrastructure, services

3. Setting up rules: urban laws, norms, institutions, policies and governance systems

4. Regulations to enable, prevent and/or harmonize activities & interests of individuals, households and firms

5. Harmonize and maximize the economy of scale derived from concentration of people and economic activities

THE “SPATIAL DIMENSION” OF SUSTAINABLE URBAN DEVELOPMENT (2)

6. Maximize the LOCUS of economic opportunities & wealth production: major part of GNP of countries is produced in cities.

- Policies to agglomerations providing services, homes, business opportunities, education, technological innovation
- Adaptation & Mitigation: concentration of environmental vulnerabilities & economic growth
- Systems to safeguard quality of life, needs and livelihood of its present and future populations: human development
- Going green with building cities: construction technologies, use and production, emissions, mobility, behaviour

Urban Form & Densities:
the urban & ecological footprint of cities
Housing Typology: seeking optimal densities, appropriate design and technologies

Key
Target a mix of activities
Include a variety of house types

- Community facilities
- Shops and workspaces
- Maisonettes
- Houses
- Apartments

Source: Compact Cities and Urban Forms. Can they be Sustainable?, Mike Jenks.
6.

Urban Density:

Planning and Urban Management Instruments to enable cities to maximize its resources, infrastructure, land but what is the limit?
Density Decline in 25 Cities from the Peak Density Year to circa 2000

Source: Based on data from Angel et al. (2012, table 5.2, 346-349).
A Comparison of Densities in the Global Sample of 120 Cities, 1990 and 2000

Above line: Density increased between 1990 and 2000

Below line: Density decreased between 1990 and 2000

Source: Based on data from Angel et al. (2012, table 5.1, 322–345).
Expected loss of agricultural land due to urban expansion: 2000-20150

About 6% loss by 2050

Note: Estimates assume a 2 percent annual density decline.
Sources: Urban land cover data from Angel et al. (2012 online); cultivated land map based on MODIS data in Friedl et al. (2002); and urban expansion estimates based on United Nations Population Division (2010) and the author’s density projections.
The Built-up Area of Atlanta and Barcelona Represented at the Same Scale

Atlanta:
2.5 million people (1990)
4,280 km² (built-up area)

Barcelona:
2.8 million people (1990)
162 km² (built-up area)

Figure 3: The built-up area of Atlanta and Barcelona at the same scale. Knaap, 2005
Similar populations...

but **Atlanta** using **11.8x more urban land, 5.75x more emissions per capita**

**Population** 5.3 M  
**Urban area** 7,692 km²  
**Transport emissions** 6.9 tons CO₂

**Population** 5 M  
**Urban area** 648 km²  
**Transport emissions** 1.2 tons CO₂
Atlanta versus Barcelona

- Because of the difference of density, Atlanta’s built-up area is 28 time larger than Barcelona’s.
- As a consequence, the metro of Barcelona is only 99 km long and its stations are within walking distance to 60% of the population.
- By contrast, to provide the same service to the same number of people, Atlanta would have to develop 3400 km of metro track!

Source: Knaap, 2005
How does urban density impact energy use in transportation?

Newman and Kenworthy 1989
RElationships

Gasoline Use per capita versus Urban Density (1980)

Based on Newman & Kenworthy, 1989.
Achieving the Right Balance & Optimal Use of Land

Source: www.urban-advantage.com
Urban Management

San Francisco 1916

Densification

San Francisco 1990’s

source: Cities then and Now, Antoniou, J MacMillan 1994
Comparative density profile: nine cities in Asia, Europe, and USA

Person/ HA vs. Distance in km

Alain Bertaud
Global Urbanization Patterns: Population Densities

Source: Jim Brown, LILP, 2005; Alain Bertaud,
7. UN-Habitat response to the urban environmental problems:

The Sustainable Cities Programme and the Localizing Agenda 21 Initiative.
Unsustainable and Sustainable City Growth?
Sustainable City Growth?
Sustainable City Growth?
THE END
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