IN SEARCH FOR URBAN RESILIENCE
DESIGN PRINCIPLES

Authors:
Prof. Dr. Eva Vaništa Lazarević
Branislav Antonić
WHY THE TOPIC OF URBAN RESILIENCE MATTERS?
INTRODUCTION

Considering current figures and global trends, the future of the World is in cities.

Answer from academia > numerous global theoretical concepts and models in contemporary urbanism.

The concept of urban resilience has recently gained popularity and acceptance.

The key year for the concept was 2008, when the economical crisis caused stresses and shocks in urban economy.

The reason for the rise of the concept > the significance of stabilisation and preparedness, highlighted by the concept, certainly were more desirable than shaken “faith” in unstoppable progress.

This is a new concept > problem with its implementation.

The aim is to check “implementability” of the principles of resilient urban design in Serbia.
RESILIENCE IN GLOBAL

Resilience has **many different meanings** today, depending on different aspects which concern it.

- Organisational resilience
- Psychological resilience
- Energy resilience
- Constructional resilience
- Computer resilience.

However, all of them highlight the importance of **protection, response, adaptation, and preparedness** of a given system.
URBAN RESILIENCE

The key year for the concept was 2008.

Prior 2008 > Urban resilience was more connected to the actions against climate change > risk and disaster management

After 2008 > Broad coverage of urban resilience > easy adaptation to fast changing reality.

Global concept

Many definitions and explanations

inevitability of local adaptation

JUST ONE DEFINITION . . .

Urban resilience is a “capability to prepare for, respond to, and recover from significant multi-hazard threats with minimum damage to public safety and health, the economy, and security” of a given urban area (Klein et al, 2003).
URBAN RESILIENCE

If present-day cities want to be resilient, they should be
• flexible,
• responsive,
• adaptive,
• interconnected
to cope with fast changing circumstances at global tier.

Moreover, they should be focused to upgrade their:
• leadership,
• well-being,
• economy,
• infrastructure, and
• environment.

Campaign “100 resilient cities”
Urban resilience is in agenda of major international organisations (United Nations, OSCD, World Bank or ISOCARP)

“My city is resilient” campaign | UN Office for Disaster Risk Reduction

“Investing in Urban Resilience”| World Bank
RESILIENT URBAN DESIGN

Since the rise of the concept, urban resilience has been connected mainly with **urban planning** and the related theoretical fields, which target a “**macro scale**”.

Resilient urban design is still an **underdeveloped field**.

Many similarities between urban design and urban resilience. Both of them aspires to an **integrative approach and balance** in their concerns:

• to link economy and society through qualitative urban space,
• to balance between nature and human development,
• to harmonise creativity and engineering.

Nowadays, resilient urban design is more attached to the resilience of those urban spaces **important for public concerns**, such as squares, streets, park, gardens or quays.
10 TARGETS TO ACHIEVE RESILIENT URBAN DESIGN

UN Social Development Goals (2015)

Goal No 11 “Make cities inclusive, safe, resilient and sustainable”

Ten targets to achieve resilient cities
They should be achieved till 2020 or 2030.
10 TARGETS TO ACHIEVE RESILIENT URBAN DESIGN

1. By 2030, ensure access for all to adequate, safe and affordable housing and basic services and upgrade slums

2. By 2030, provide access to safe, affordable, accessible and sustainable transport systems for all, improving road safety, notably by expanding public transport, with special attention to the needs of those in vulnerable situations, women, children, persons with disabilities and older persons

3. By 2030, enhance inclusive and sustainable urbanization and capacity for participatory, integrated and sustainable human settlement planning and management in all countries

4. Strengthen efforts to protect and safeguard the world’s cultural and natural heritage

5. By 2030, significantly reduce the number of deaths and the number of people affected and substantially decrease the direct economic losses relative to global gross domestic product caused by disasters, including water-related disasters, with a focus on protecting the poor and people in vulnerable situations

6. By 2030, reduce the adverse per capita environmental impact of cities, including by paying special attention to air quality and municipal and other waste management

7. By 2030, provide universal access to safe, inclusive and accessible, green and public spaces, in particular for women and children, older persons and persons with disabilities

8. Support positive economic, social and environmental links between urban, peri-urban and rural areas by strengthening national and regional development planning

9. By 2020, substantially increase the number of cities and human settlements adopting and implementing integrated policies and plans towards inclusion, resource efficiency, mitigation and adaptation to climate change, resilience to disasters, and develop and implement, in line with the Sendai Framework for Disaster Risk Reduction 2015-2030, holistic disaster risk management at all levels

10. Support least developed countries, including through financial and technical assistance, in building sustainable and resilient buildings utilizing local materials
### 10 Principles for Resilient Urban Design

<table>
<thead>
<tr>
<th>Principle</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Resilient Housing</strong></td>
<td>new and regenerated residential areas with viable focal points (squares and streets).</td>
</tr>
<tr>
<td><strong>Resilient Urban Transport</strong></td>
<td>support for public transport, design of the space where transport needs meet other urban functions and facilities, design for vulnerable people and groups</td>
</tr>
<tr>
<td><strong>Resilience and Participation</strong></td>
<td>inclusion of participation in urban-design process and management</td>
</tr>
<tr>
<td><strong>Resilient Heritage</strong></td>
<td>the qualitative inclusion of cultural and natural heritage into wider urban space, with the protection of their uniqueness</td>
</tr>
<tr>
<td><strong>Resilient Risk Management</strong></td>
<td>minimisation of risks, disasters and hazards, proper actions in design to prevent or easily overcome the mentioned challenges</td>
</tr>
<tr>
<td><strong>Resilient Environment</strong></td>
<td>incorporation of environmentally friendly measures in urban design through “smart” design and the use of resilient and healthy materials</td>
</tr>
<tr>
<td><strong>Resilient Urban Greenery</strong></td>
<td>design of viable green urban spaces, formation of the network of greenery in urban areas, use of green materials and solution in urban design</td>
</tr>
<tr>
<td><strong>Resilient Urban-Rural Links</strong></td>
<td>the support form mixed use and higher densities in urban, peri-urban and rural areas to enable better accessibility</td>
</tr>
<tr>
<td><strong>Resilient Urban Governance</strong></td>
<td>development of ITC-driven governance, transparency in decision-making and all procedures in urban design</td>
</tr>
<tr>
<td><strong>Resilience and Local Awareness</strong></td>
<td>the use of local tradition and materials in urban design, the link between urban design and urban context</td>
</tr>
</tbody>
</table>
“NON-CLASSIC” CONCLUSION
IMPLEMENTABILITY OF URBAN DESIGN PRINCIPLES IN SERBIA

General problem in Serbia > many attempts at national tier to introduce and implement internationally known concepts and models without real adaptation to local conditions have usually resulted with failures.

How the principles of resilient urban design can be implemented?

1. RESILIENT HOUSING
   Resilient residential areas with more the facilities for social interaction (open public spaces, community facilities) as well as to strengthen economical base through mixed-type and mix-dense residential development.

2. RESILIENT URBAN TRANSPORT
   The development of urban mobility.
   Urban centres both accessible by public transport and viable for all people during a day.
   Transport nodes.

3. RESILIENCE & PARTICIPATION
   Formal participation > public audit
   Informal participation > workshops, exhibitions, etc.

4. RESILIENT HERITAGE
   Facilitation of functional side of heritage.
   Protection and use at the same time.
“NON-CLASSIC” CONCLUSION
IMPLEMENTABILITY OF URBAN DESIGN PRINCIPLES IN SERBIA

5. RESILIENT RISK MANAGEMENT
   Proactive measures against natural risks and disasters.
   Better focus on integrative measures is welcomed.
   Both risk measures and qualitative urban design.

6. RESILIENT ENVIRONMENT
   Environmental issues should be underlined.
   The minimal standards for environmentally friendly elements.

7. RESILIENT URBAN GREENERY
   Minimal standards and norms for urban greenery.
   Rules and recommendation to developed “green networks” in urban areas.

8. RESILIENT URBAN-RURAL LINKS
   New interventions in urban design more associated to more vulnerable places;
   such are illegal settlements in suburbia and villages-centres.

9. RESILIENT URBAN GOVERNANCE
   New ICT-driven measures necessary for the outcomes of urban design.
   The collection of accurate data and for the transparency and understanding
   of decisions and procedures in urban design

10. RESILIENCE AND LOCAL AWARENESS
    The use of local tradition and local materials in urban design.
    Local distinctiveness in urban patterns can be useful to define better adaptation.
IN SEARCH FOR URBAN RESILIENCE DESIGN PRINCIPLES

Dr Eva Vaništa Lazarević
Full Professor
University of Belgrade – Faculty of Architecture
eva.vanistalazarevic@gmail.com

Branislav Antonić
PhD candidate & Researcher
University of Belgrade – Faculty of Architecture
antonic83@gmail.com