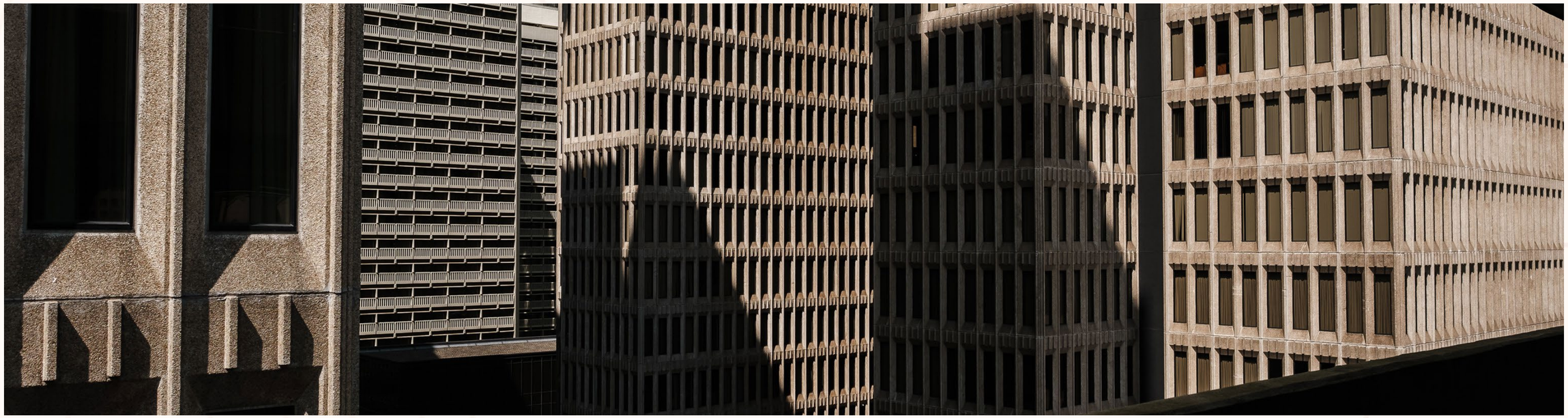
DASH
Deliver sAfe and Social Housing

CONFERENCE

28-29. October 2026

WHEN HOUSING STOPS REPRESENTING A HOME:

AFFORDABILITY PARADOX IN SERBIA'S HOUSING MARKET



Aleksandra Terzić, Jovana Todorić, Dragoljub Štrbac & Dragana Konstantinović

Structural Paradox:

Depopulation vs Construction Boom

Depopulation occurs simultaneously with aggressive real estate construction and rising property values.

Regional Divergence

Metropolitan areas absorb capital and population, while peripheral centers experience socio-economic deprivation and depopulation.

Assets vs Affordability

Residential property is increasingly used for capital preservation, increasing vacancy levels. Despite rising incomes, housing affordability declines.

Problem Statement

Demographic Decoupling: Construction trends are entirely disconnected from actual demographic needs.

Affordability Crisis: The housing crisis is driven by low affordability relative to income levels, not physical unit shortages.

Spatial Inequality: Affordability pressures and capital preservation tactics vary drastically across Serbian municipalities.

Post-2021 Acceleration



AIM AND SCOPE

This study examines the nexus between rising housing construction, demographic decline, affordability and spat
inequality in Serbia, questioning the fundamental mechanisms of the contemporary housing market.

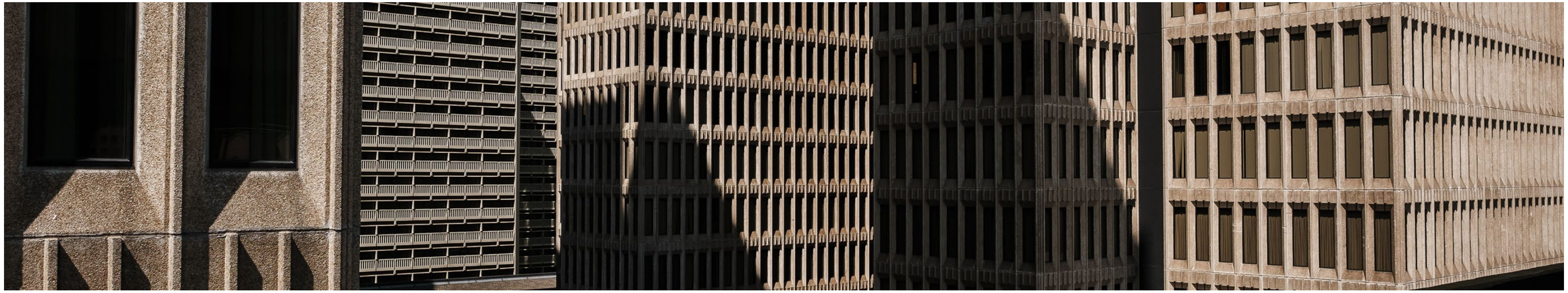
Research Questions:

What drives housing-market expansion in a shrinking demographic context?

Why and for whom are these housing units being constructed?

Is housing becoming increasingly unaffordable for the average household?

The study examines how the combination of demographic contraction, continued housing construction, increasing housing prices, and constrained purchasing power produces geographically differentiated affordability across Serbia.



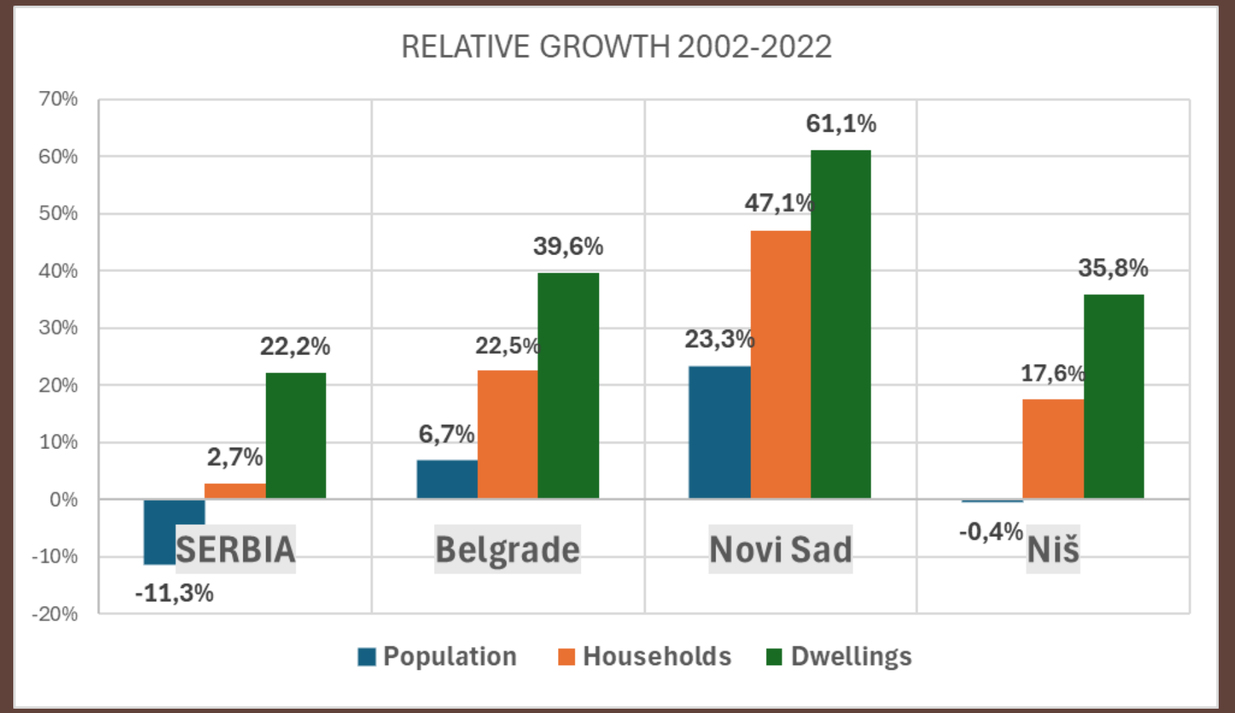
Socio-Demographic Context and Housing System in Serbia



Urban population in 2022: **62,2%**
Population Growth(2002/2022): **-1,3%**
Household Growth (2002/2022): +2,7%;
Dwellings Growth (2002/2022): +22,2%

Average household size dropped from 3.0 to 2.6 persons;
30% are single-person households, 12% single-parents.





Homeownership Rate: 98.9% (2022).

88.3% occupied by owners;
6.4% by tenants.



Consumer Basket

Average consumer basket: ~€888
(40.2% of food and 20.7% on housing utilities);
Minimal consumer basket: ~€460

Confederation of Trade Unions of Serbia (2025):
actual cost of living exceeds official basket over 55%.

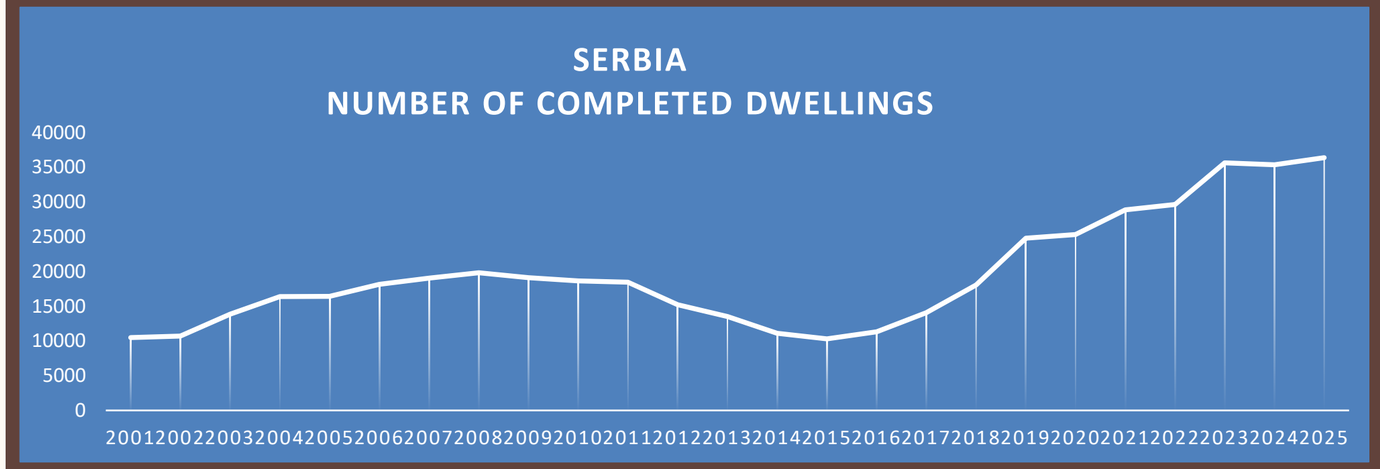
Income Pressures

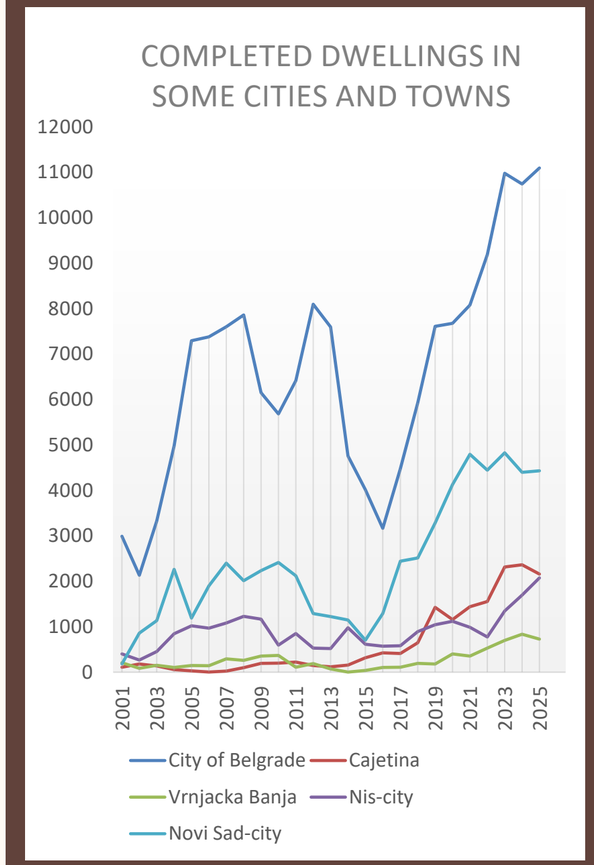
GDP per capita in PPS: about 45% of EU average
Average net wages (2024): ~€850; Median: ~€643

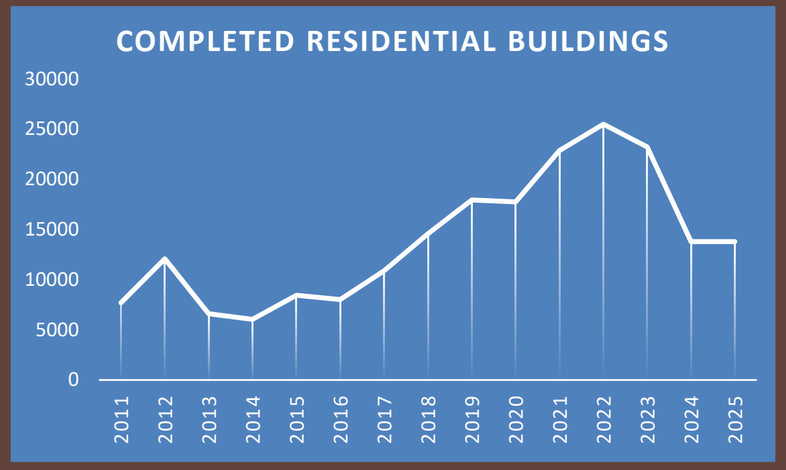
Poverty Risk: ~24% of population (42% for single-person/single-parent households)

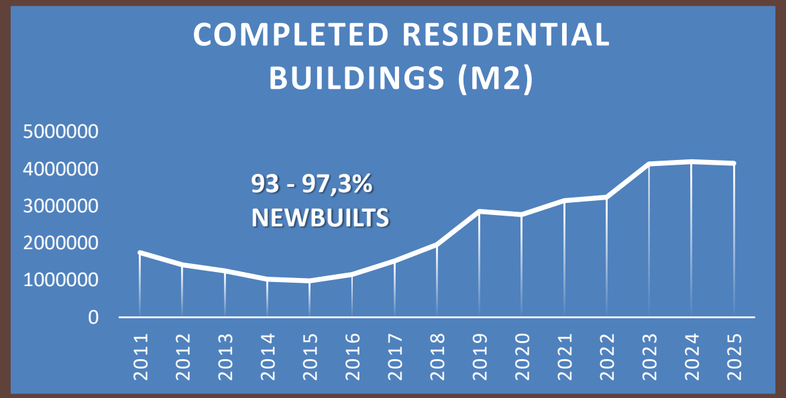
.

SURVEY ON HOUSEHOLD FINANCIAL BURDENS (2023):
4% reported no financial burden,
49.4% experienced some burden
46.6% experienced a severe burden.









HOUSING MARKET DYNAMICS

According to Republic Geodetic Authority (RGZ,2024)
47,219 apartments, **21,041 houses** and **958 second-homes**
sold at market prices in 2024.
Belgrade accounted **for 54% of the total value** of transactions

Dominance of **cash purchases:**
over 90% of all realestate;
78% of all housing
only 22% of apartment/house purchases financed through housing loans.

Housing price per m2 2019/2024 growth: + 32%
Belgrade: +42,4%; Novi Sad: + 66,7%; Niš: +64,7%
Loznica: +69,1%; Valjevo: +55%; Užice: +90,3%
Kruševac: 34,7%; Negotin: -1,6%; Vranje: +27,3%

NUMBEO Affordability Report (2024)
Price-to-Income Ratio (PIR): 16,8
Belgrade among the least affordable European capitals relative to local earnings.

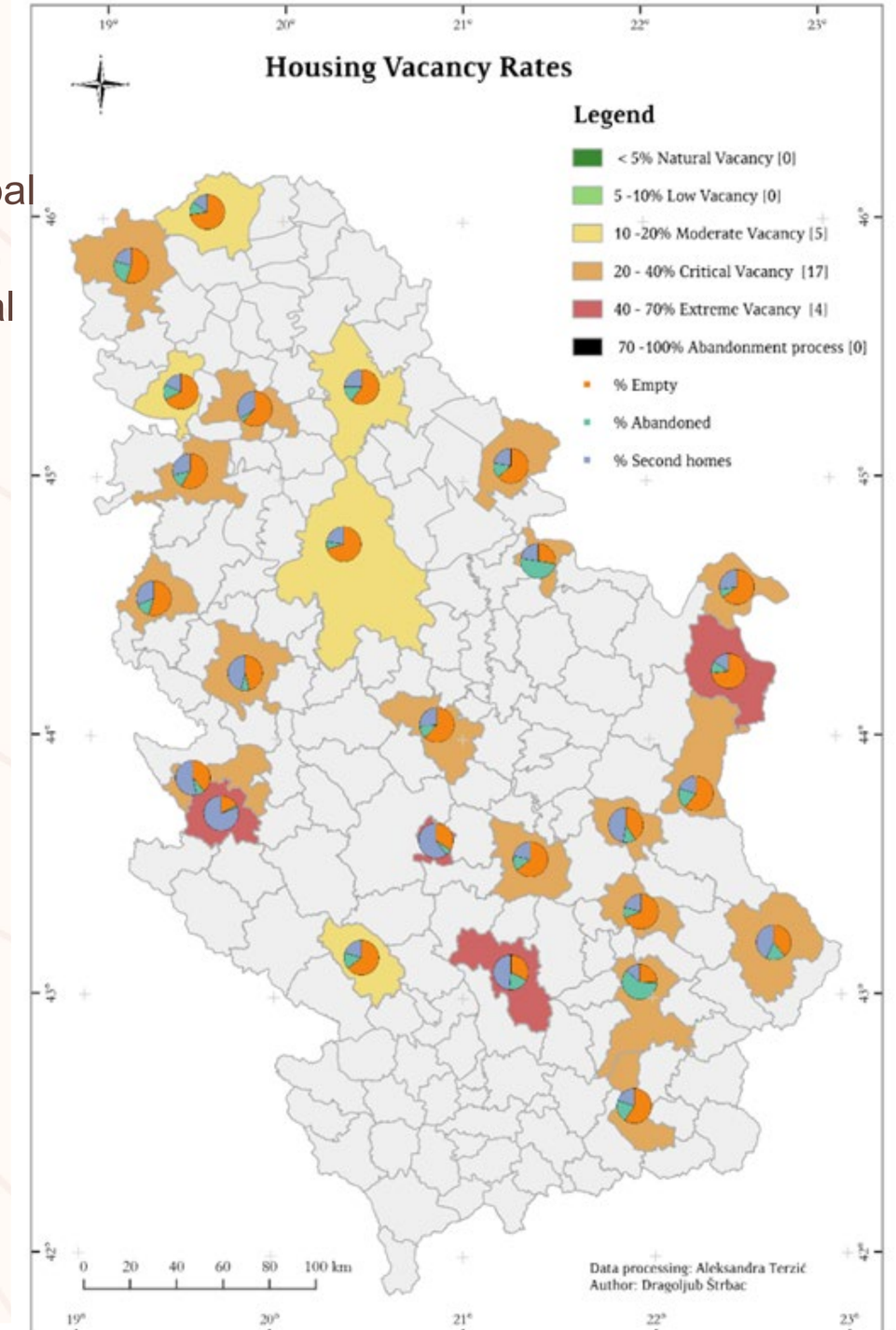
Sample: Purposive sample of **26 municipalities across Serbia**.

Rationale: heterogeneity and balanced spatial representation; diverse municipal sizes and typologies: from major metropolitan economic hubs (e.g., Belgrade, Novi Sad, Niš) to mid-sized regional centers, tourist destinations and peripheral declining municipalities.

VACANCY RATES IN SERBIA

2002: 14,7% → **2011: 25%** → **2022: 28,3%**

BELGRADE	2002: 8,8%	→ 2022: **20%**
NOVI SAD	2002: 11,6%	→ 2022: **19,2%**
NIŠ	2002: 15,5%	→ 2022: **26,9%**



METHODOLOGY: DUAL-DIAGNOSTIC MODEL (2021–2024)

1. CONCEPTUAL FRAMEWORK

Construction-Demography Gap (CDG)

Alignment of stock capacity vs. resident population (Terzić et al., 2026).

Snapshot & Trend Analysis

- $CDG_{i,t} = \frac{H_{i,t} \cdot S_{i,t}}{P_{i,t}}$
- $CDG_{trend} = \frac{\Delta H \cdot S}{\Delta P + \epsilon}$

Interpretation:
>1.0: Structural Surplus
1.0: Equilibrium
<1.0: Deficit

Demographic Affordability Gap (DAG)

Socio-economic accessibility using residual purchasing capacity (incorporating Consumer Basket).

$$DAG_{residual} = \frac{HP(m^2) \cdot A}{12 \cdot (I_{i,t} \cdot n - CB_t)}$$

$$DAG_{rental} = \frac{HP(m^2) \cdot A}{12 \cdot (I_{i,t} \cdot n - CB_t - RP_t)}$$

Ultra-conservative baseline scenario: 55m2 unit, dual earners, avg wages, no rental barriers during accumulation, strict consumer basket.

2. CLASSIFICATION & DATA

DAG MARKET CLASSIFICATION

- <5: Highly Affordable
- $5-7: Stable/Balanced
- $7-10: Relatively Unaffordable
- $10-15: Highly Unaffordable/ Acute Crisis
- >15: Severe Bubble/ Speculative

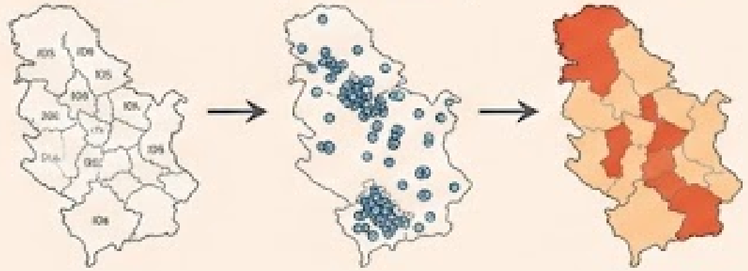
VARIABLES & DATA SOURCES

Variable		Sources
H	H, P,	SORS (Census/Wages), RGZ (Prices), NBS (Policy), Online Portals (Rent), Ministry of Trade (Basket).
ΔH	ΔH, ΔP,	
S	HP(m²),	
A	A, I, n,	
	CB, RP.	

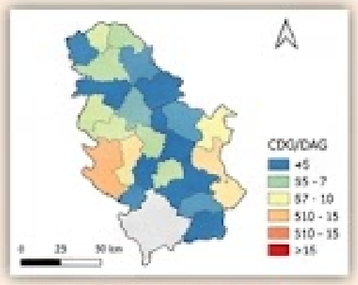
3. SPATIAL ANALYSIS & MAPPING

GIS WORKFLOW

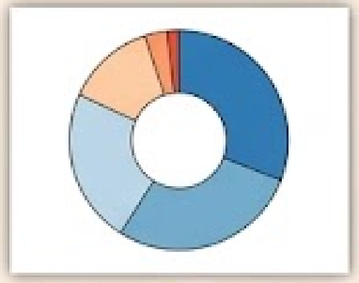
1. Join Indices to Municipal Boundaries
2. Aggregate Point Data to Polygons (Zonal Stats)
3. Visualize Territorial Patterns



VISUAL OUTPUTS

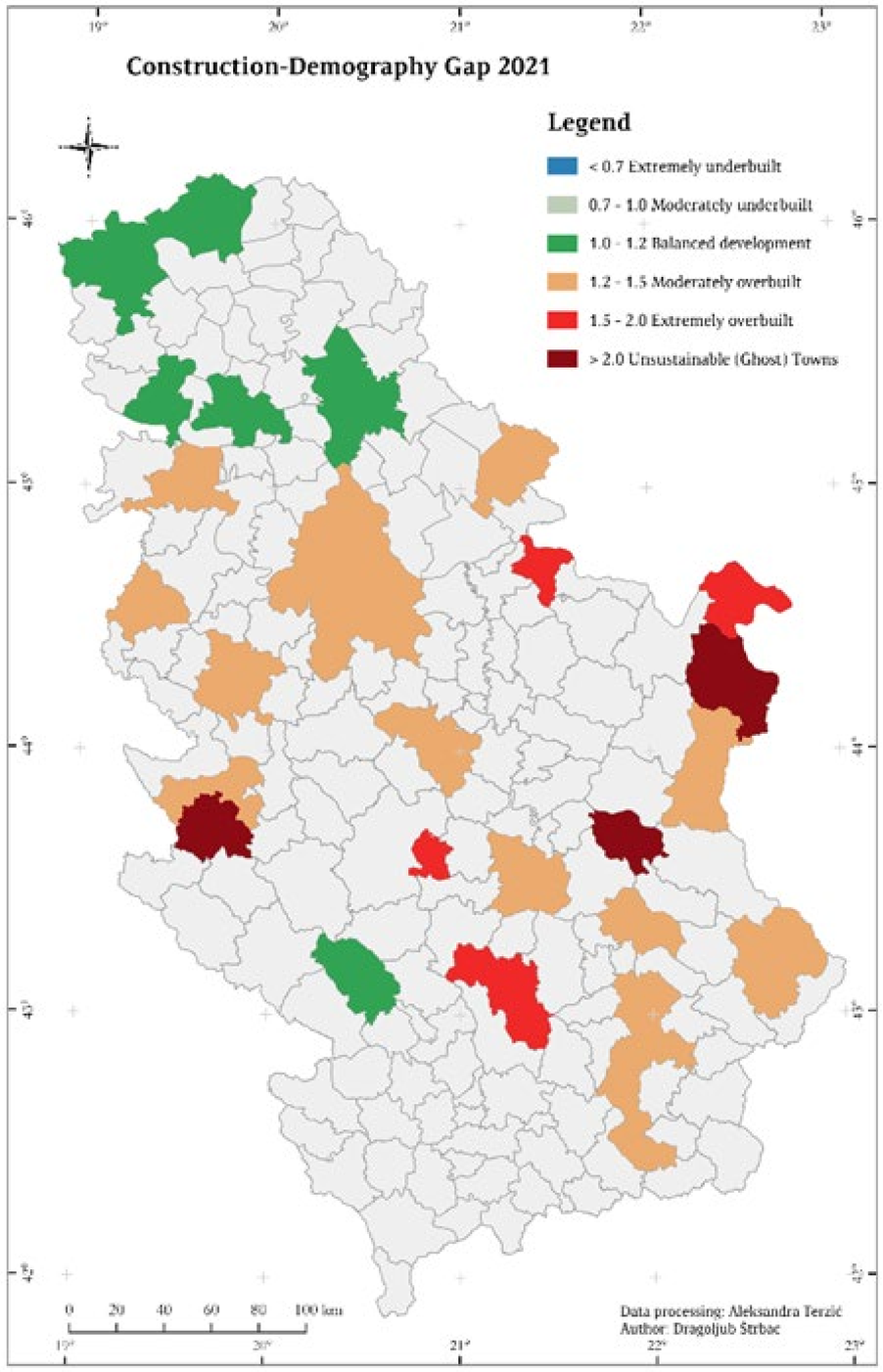


Chorrete map with tiers / CDG/DAG



% empty, % abandoned, % second homes

Justifications: Census data, Post-pandemic economic shock and structural realignment (2021 Rebound); Geopolitical spillover and regional shift (Russian-Ukraine conflict (2022-2023) - massive influx of immigrants and foreign capital, accelerated rental prices and housing demand; Monetary policy tightening - Inflation, Loans.



Serbia

Population growth:- 3.8%;

Housing stock growth: + 2.8%

The CDG index rose from 1.35 in 2022 to 1.45 by 2024,

CDG ratio(2022/24):-1,0

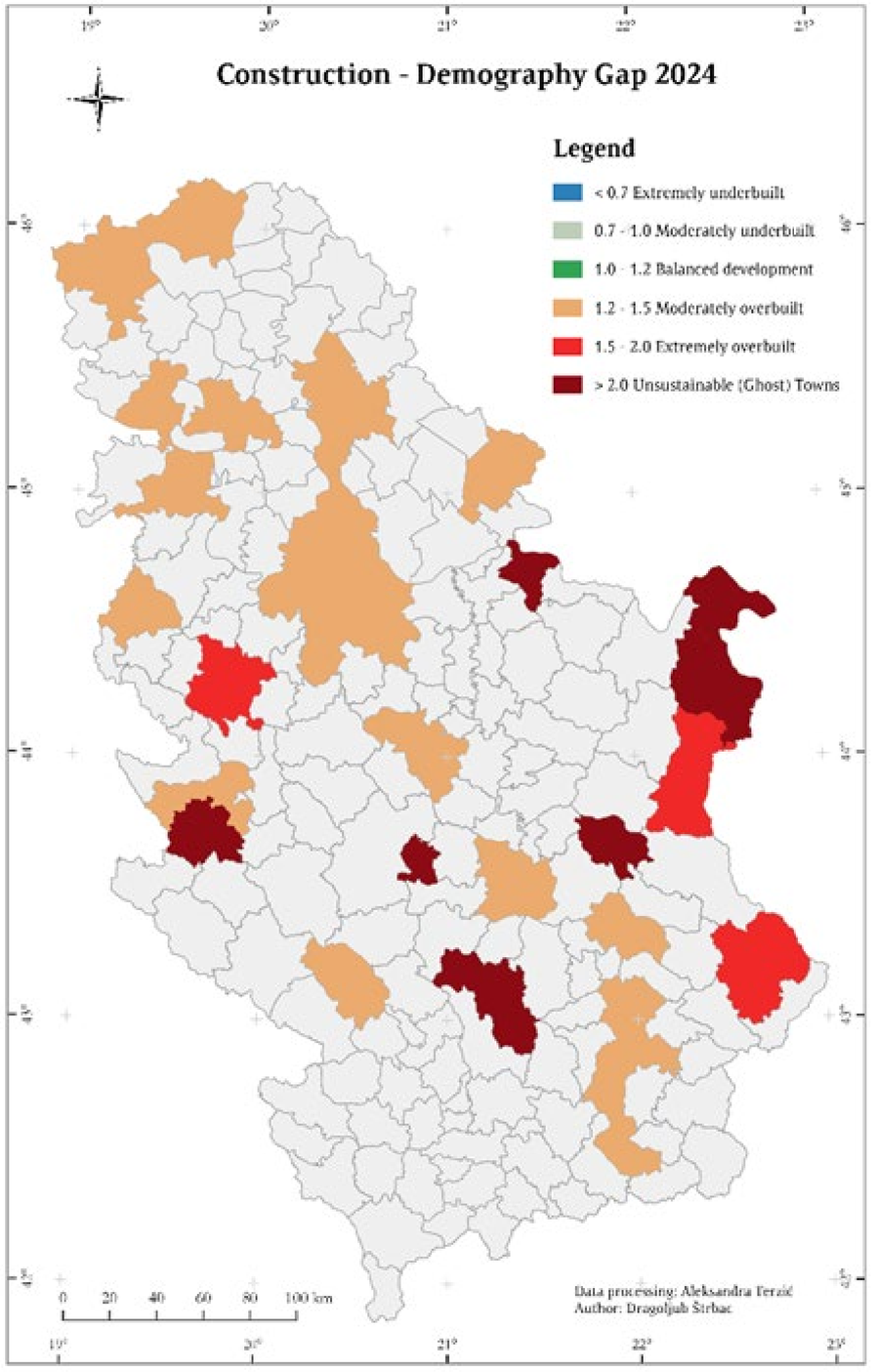
indicates a**profound decoupling**

Belgrade CDG (2024): 1,29

Novi Sad CDG (2024): 1,28

Niš CDG (2024): 1,38





SERBIA

DAG: 9,9 years of effective savings

DAG rent: 17,6 years

BELGRADE

DAG: 9,1 / DAG rent: 18,0

NOVI SAD

DAG: 9,8 / DAG rent: 17,6

NIŠ

DAG: 8,9 / DAG rent: 16,2

ČAJETINA:

DAG: 14,7 / DAG rent: 62,6

VRNJ AČKA BANJ A:

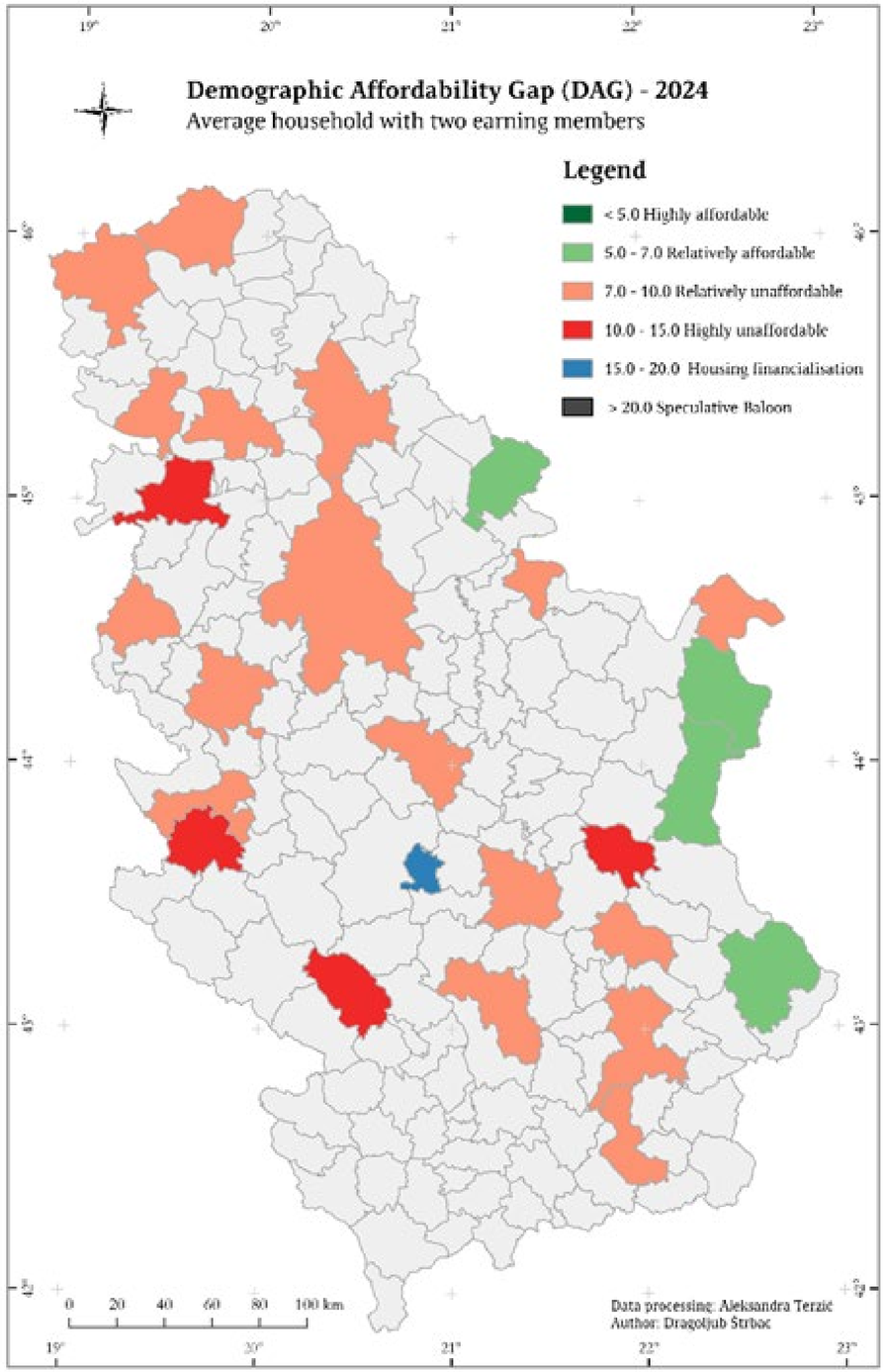
DAG: 16,2 / DAG rent: 84,9

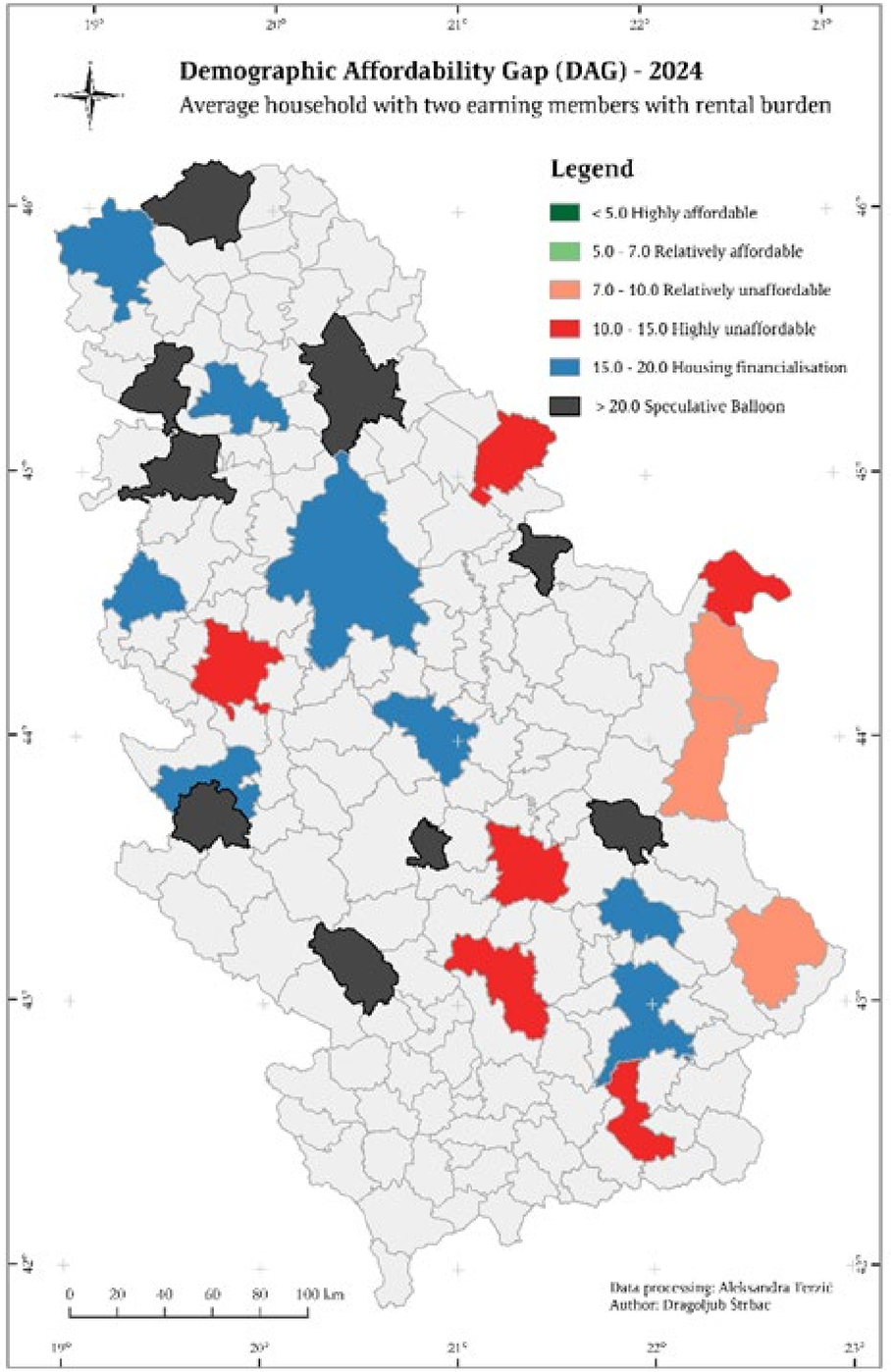
ZAJ EČAR:

DAG: 5,7 / DAG rent: 7,5

KRUŠEVAC:

DAG: 7,2 / DAG rent: 10,9





THE FUNDAMENTAL MEANING OF HOUSING (UNHABITAT, 2009; AND ICESCR 1991):

HOUSING IS NOT MERELY PHYSICAL SHELTER, BUT A FUNDAMENTAL HUMAN RIGHT, ESSENTIAL FOR AN ADEQUATE STANDARD OF LIVING AND T LONG-TERM EVOLUTION OF HUMAN SETTLEMENTS.

- **Use Value (Home):** Its social, cultural, and practical function—providing shelter, privacy, stability, security, family rearing, and community connection.
- **Exchange Value (Commodity) :** Its market value—its capacity to generate ground rent, produce capital growth, yield interest, or store financial capital.

WHY HOUSING STOPPED REPRESENTING A HOME?

Macro-economic policies and financial markets, due to economic crisis, have prioritized housing's exchange value over its use va lue.





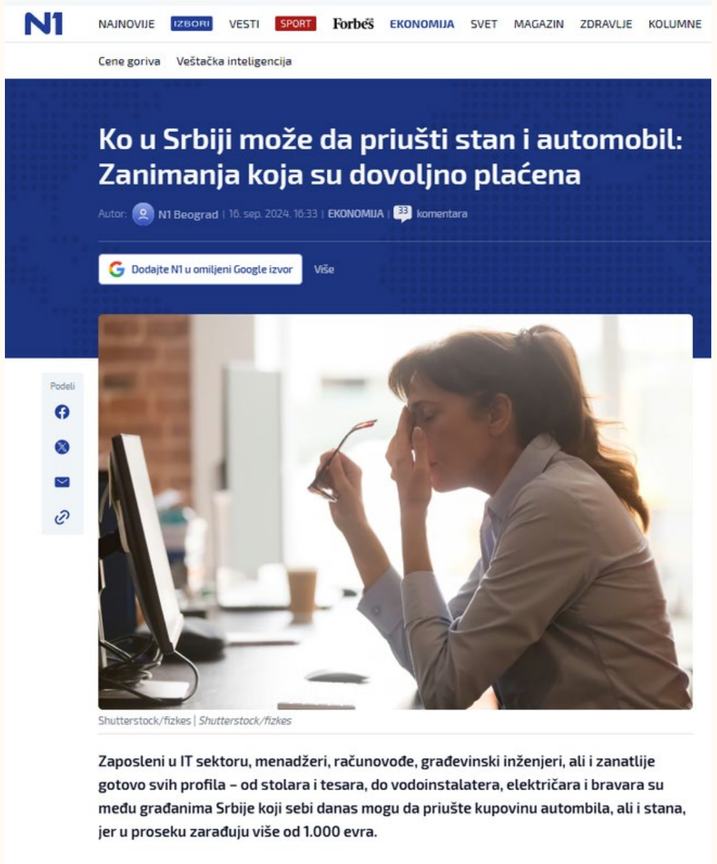
Affordability implications extend beyond capacity to purchase a home.
It is fundamentally linked to demographic sustainability, social reproduction, social and spatial inequality.

When housing costs absorb an increasing share of household income, families often respond by:

- reducing discretionary consumption → malnutrition (health issues) and poverty; social isolation and cultural deprivation;
- delaying household formation due to prolonged intergenerational cohabitation → depressing natural population growth rates;
- downscaling living arrangements → increased domestic stress and reduced quality of life;
- relocating to less expensive areas → affects workforce redistribution and reduces commuting;
- ….







International Human Rights Law - UNITED NATIONS

CESCR General Comment No. 4: The Right to Adequate Housing (Art. 11 (1) of the Covenant), 1991. (E/1992/23)

01 Legal Security of Tenure

ensuring residents have stable and secure occupancy rights regardless of ownership type.

02

Availability of Services, Materials, Facilities and Infrastructure

AFFORDABILITY 03

Housing costs (purchase prices or rental burdens) must be kept at a level that does not compromise the satisfaction of other basic human needs (food, health, education, and transport).

Habitability

Providing physical safety

04

05 Accessability

Must be affordable and accessible to disadvantaged groups: the elderly, children, persons with disabilities, and marginalized groups.

06 Location

Allow access to employment, health-care services, schools, child-care centers, and other social facilities.

07 Cultural Adequacy



UNITED NATIONS AGENDA 2030 SDG GOALS:

TARGET 11.1 By 2030, **ensure access for all to adequate, safe and affordable housing** and basic services and upgrade slums.”

Current housing market dynamics and public policies in Serbia (and most SEE countries) are fundamentally inconsistent with the Universal Declaration of Human Rights and the Sustainable Development Goals.

Governments that actively enable, deregulate, and/or protect speculative markets are failing not only in their legal obligations under international treaties, but also in their fundamental social responsibility to society as a whole.

THANK YOU FOR YOUR ATTENTION

