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Annotating key concepts of integrated spatial planning

Urban Sustainability

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Mainstream/Conventional Definition

Urban sustainability refers to the ability of cities to balance economic development, social equity, and environmental protection in ways that meet present needs without compromising the capacity of future generations to thrive. It emphasizes compact and resource-efficient urban forms, resilient infrastructures, inclusive governance, and reduced ecological footprints. The concept often builds on the "triple bottom line" framework—environmental, social, and economic dimensions—while integrating resilience and adaptability to climate change and other systemic shocks.

In practice, urban sustainability is an approach to urban development that seeks to reduce negative environmental impacts, ensure social inclusivity, and foster economic vitality within urban systems. It focuses on creating cities that are liveable, resilient, and regenerative.

Contested Meanings / Debates in the Literature

Despite its prominence in policy discourse and practice, urban sustainability remains a contested and evolving concept. On one hand, it provides a unifying vision for sustainable cities, mobilizing governments, international organizations, and civil society around shared goals such as the UN Sustainable Development Goal 11 (Sustainable Cities and Communities). On the other hand, scholars critique its vagueness, arguing that "sustainability" is often used as a catch-all slogan that obscures trade-offs, competing priorities, and entrenched power dynamics.

Critical debates revolve around whether urban sustainability initiatives genuinely transform urban systems or whether they reproduce existing inequalities and ecological pressures. For instance, while compact city models are celebrated for reducing sprawl and emissions, critics highlight risks of gentrification, displacement, and socio-spatial exclusion (Dempsey et al., 2010). Similarly, eco-city and smart city frameworks have been critiqued for privileging technological fixes and market-oriented approaches, often sidelining social justice and community needs (While, Jonas & Gibbs, 2004; Caprotti, 2015).

Another debate concerns the scalar nature of sustainability. Urban sustainability cannot be fully achieved within city boundaries alone, as cities depend on global flows of energy, food, and materials. The concept of urban metabolism (Kennedy et al., 2011) has highlighted how cities externalize environmental costs, raising questions about whether “sustainable cities” are possible without addressing broader systemic inequalities in global resource distribution.

From a postcolonial perspective, scholars note that dominant models of urban sustainability often emerge from Global North contexts and may be ill-suited or extractive when applied to Global South realities (Parnell & Robinson, 2012). Insurgent and grassroots movements argue for sustainability grounded in local ecologies, community practices, and indigenous knowledge systems, challenging technocratic or universalist definitions.

Ultimately, the concept embodies a tension between normative aspirations (resilience, equity, ecological balance) and the practical realities of governance, politics, and uneven development. The central debates ask: sustainability for whom, by whom, and at what scale?

Applications in Practice

Urban sustainability manifests across a wide spectrum of policy arenas and urban interventions:

- Urban form and mobility: Compact city policies, transit-oriented development, and walkable neighborhoods that reduce car dependence and carbon emissions.
- Green infrastructure and climate adaptation: Deployment of parks, green roofs, wetlands, and nature-based solutions to mitigate heat islands, manage stormwater, and improve urban biodiversity.
- Energy and resource systems: Investments in renewable energy, circular economy models, and sustainable building practices (e.g., passive design, adaptive reuse, zero-carbon housing).
- Governance and participation: Integrated sustainability plans (e.g., Local Agenda 21, SDG-based municipal strategies), participatory budgeting, and climate assemblies to ensure democratic legitimacy.
- Social equity initiatives: Affordable housing, equitable access to green space, and health-oriented urban design strategies that link sustainability with well-being.

Globally, emblematic practices include Copenhagen's carbon neutrality plan, Medellín's cable-car transit for peripheral communities, and Singapore's water-sensitive urban design. These illustrate how urban sustainability is operationalized at different scales, blending environmental goals with social and economic considerations

Selected References & Key Readings

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