Economics of Sustainability

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Introduction

It has been evident that the issues regarding sustainability are as complex and far-reaching as urban regeneration; environmental sustainability and economics are impacted first by the choices made long before a project reached the architects office. These are basic choices, like where a developer chooses to build, the governmental development policies that encourage particular types of developments. This essay realizes the effects of these policies and choices on the society/ culture, and emphasizes on rapid urban growth, which is a potential outcome of these effects. This essay also aims to anticipate possible theoretical solutions- from an architect's perspective- to mitigate these social concerns by employing sustainable development/ design strategies on a building and urban scale. Can we pursue economic growth without harming the society and the environment? If we pursue prosperity today, are we condemning our children and grandchildren to poverty tomorrow?

For the purpose of this essay, two cases will be analyzed:

- The effects of mass tourism in Barcelona, Spain
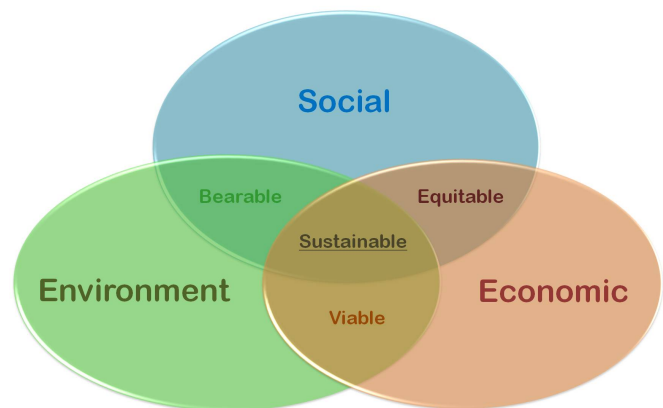- The refugee crisis in Jordan, Middle east

Keywords: Sustainability, urban regeneration, development policy, urban sprawl, sustainable development, economic growth, Barcelona, Jordan

What is environmental sustainability?

According to the United States Green Building Council, the term sustainability means, *"to meet the needs of the present without compromising the ability of future generations to meet their own needs".*

The three basic criteria that sustainable design must meet are:

1- **Social equity:** is often not very well defined or understood regarding the different ways of approaching environmental sustainability. Social sustainability has had considerably less attention in public dialogue than economic and environmental sustainability. Social equity, livability, health equity, community development, social capital, social support, human rights, labor rights, placemaking, social responsibility, social justice, cultural competence, community resilience, and human adaptation.

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2- **Environmental needs (Ecological needs):** is the most talked-about aspect of sustainability. It refers to the conservation of natural resources and the reduction of impacts on eco-systems. The environmental pillar concerns itself with protecting natural habitats, developing eco-friendly products, conserving resources, ensuring air and water quality, reducing pollutants, and reducing waste.

3- **Economic feasibility:** Economic feasibility is required if sustainability is to remain viable in the long term. For example, solutions that are cost neutral (that won't cost more to implement) are most likely to succeed. The generation of incentives for sustainable practices (such as tax credits for solar panels or grants for environmental cleanups) is one means of making important sustainability issues more economically viable and accessible to the masses.

Keywords: economic feasibility, social equity, environmental needs, cultural sustainability

What is urban sprawl?

Urban sprawl is the spreading of a city or its suburbs. Urban sprawl often happens rapidly and generally used with negative connotations. It often involves the construction of residential and commercial buildings in rural areas or otherwise undeveloped land at the outskirts of a city. Urban sprawl is often associated with environmental degradation such as jeopardizing the health of wildlife, increased carbon footprint as a result of heavy automobile use, which radically alters the behavior of society and the economic growth of a city.

Urban sprawl can be a result of rapid/ spontaneous urban growth and is often associated with a mixture of improper urban planning and flawed governmental development policies imposed on a city. Massification/ overcrowding a city with inadequate infrastructure can potentially lead to urban sprawl, which would backfire on the delicate balance between the social (cultural), environmental, and economic needs of a city.

Keywords: urban sprawl, environmental degradation, massification, overcrowding

Mass tourism in Barcelona:

"This is not a city to live in. It's a theme park where there's no local life left. It's all decoration."

"Tourism is not going to be forever, and it's destroying other ways of life."

"We cannot live with those floods of people day after day."

These are some quotes taken from Bye Bye Barcelona, a documentary about tourism's destructive effect on the culture of a city. Barcelona in Spain is the fourth most visited city in Europe after London, Paris and Rome, yet it is much smaller than those cities. The 1.5 million long-term residents of Barcelona received more than 8 million tourists in 2013, most of them flown in by low-cost airlines.

It is most commonly identified that the 1992 Olympic games was the turning point for tourism in Barcelona. Since then, the uncontrolled growth of the tourism industry has been getting higher and higher every year.

In tourism hotspots of the city, the scale of visitor numbers is affecting not only residents' quality of life, but also their ability to live in the area. In La Barceloneta, the city's historic seafaring neighbourhood, there have been neighbourhood assemblies, protest and, in one case, tensions with tourists who are present to abuse the city in a disrespectful manner. In the past few months there have also been demonstrations against businesses involved in the illegal rental of apartments, an activity that the city council has only begun to combat recently.

Tourists reported wandering around for three hours in the

People who live in areas popular with tourists are at risk of being forced out, by speculators who raise the rents of apartments and shop premises in pursuit of the tourist market. If they manage to stay, they have to put up with noise and pollution that are difficult to combine with daily life. It's paradoxical, but uncontrolled mass tourism ends up destroying the very things that made a city attractive to visitors in the first place which is the unique atmosphere of the local culture.

Refugee Crisis in Jordan, the Middle East:

Jordan's economy is considered an ideal example of a small, open economy that is strongly connected in its regional and international spheres. There are, however, two important features that have persistently dominated the overall economic scene in the country: scarce natural resources and a small-sized economy.
Jordan's geographical area and population are both small, when compared with those of many other countries around the world, particularly its neighbors: Syria, Iraq, Saudi Arabia and Egypt.

The protracted crisis in Syria has caused a large influx of refugees into Jordan, amounting to over 700,000 as of December 2013 – or approximately 10% of the entire Jordanian population. This large influx of population is placing a considerable burden on the already poor local Jordanian host and their basic social and economic services. Crowding effects in the local market, in particular with regards to housing and labour, are widely reported in the Northern governorates.
The present crisis comes at difficult time for Jordan, despite many efforts to engage in economic stabilization and liberalization; the country faces real economic and social challenges. Moreover, some resentment and a growing feeling of unfairness and exclusion are emerging among the host communities.
The country in general, and its northern communities in particular, have come under severe stress as institutions and services are overwhelmed with the increasing demands placed upon them by the growing population.

Analysis:

It is clear that overcrowding has numerous negative impacts on the society, which is one of the essential pillars towards sustainability, and it is inevitable that sustainable development is only achieved if these essential pillars are in balance.

Overcrowding leads to urban sprawl, which negatively affects social conditions in several ways:

- Increased community costs for maintaining roads, bus routes, sewers, and other services.

- Ongoing increases in property taxes to meet growing need for services, which may pressure landowners to sell to developers.

- Increased use of automobiles; increased noise, traffic, pollution (carbon footprint); reduced potential for bicycling and walking which might lead to health problems such as obesity and increased risks or car accidents.

- Increased time needed for transportation reduces time available to spend with family and friends or contributing to the community.

- Reduction of rural character or community sense of place.

Towards a sustainable environment, society, and economy through sustainable design strategies:

1) Community Connectivity:

Urban Planners and architect must find solutions to the heavy automobile use and must promote walking and bicycling. Solutions can include the development of more parks and open spaces, more installations, monuments and exhibitions are proved to make a difference.

Walkable communities can quickly become an avenue to increased economic vibrancy in several ways. As people get out of their cars to interact with their surroundings, businesses experience an immediate benefit. Urban projects that improve walkability have quantifiable results on the occupancy, activity, and sales of businesses in the area, in some cases more than tripling economic activity.

2) Preserve heritage:

In order to preserve heritage, architects and urban planners must employ technical and aesthetic principles of architecture and architectural history with the social value of the city's past. The use of new and old material, alteration design, additions and modifications to existing buildings, and the sustainable, ethical and equitable development of sites in light of its past uses. By engaging with history, the architect's role as a heritage consultant is to provide value to building owners, visitors and cultural bodies, all of which have a shared interest in understanding, adapting and preserving the city's heritage.

This create a real sense of a place, a sense of being somewhere unique and interesting. Architects must understand the social value and embedded capital of significant sites, and determine what should be preserved for future generations. This particularly applies to the city of Barcelona, where the character of the city is diminishing.

3) Reduce carbon footprint from transportation:

Architects and urban designers must encourage developers to use car-sharing programs, and hybrid cars, and limited parking. This will significantly reduce the number of cars in the streets and hence decrease the carbon footprint of transportation and also the risks of car accidents.

4) Reducing waste to landfill:

Reduce the amount of trash going to landfill by incorporating recycling strategies within the design.

4) Raising awareness:

Architects must always propose green building design strategies to their clients.
- The use of Smart materials with low carbon footprint and materials that is reusable.
- Techniques to limit the heat island effect in dense areas, which has an influence on the amount of energy consumed to cool the buildings during the summer. (Green roofing, white roofing.)
- The use of better insulation to regulate the energy needed to heat the buildings during winter.
- The use of Energy Star products or similar, to regulate the water consumption in commercial and residential buildings. (Efficient urinals, faucets)
- And finally the encouraging and promoting the use of renewable energy products: Wind turbines, PV panels, and solar panels.

5) Research:

Advancements in technology has tackled many problems and significantly changed the way we live and produce. Advancements in the tools, machinery in the design/ build sector has lead to higher productivity and positively changed the way architects and builders execute

their projects. Digital fabrication, robotics, state of the art design/ visualization/ construction management software helps architects to foresee potential arising problems and risks, and mitigate them rapidly and in an efficient manner.

Conclusion:

My definition of sustainability is keeping a balance. The delicate balance between the environment, the economy and the society must be maintained, and the governments imposing development policies must put more effort and attention to social needs. After analyzing the former cases, it is clear that the policies and the decisions made promote a fast economic growth while neglecting the negative social consequences of these decisions.

In my opinion, the most important defect that is shaking this balance in the cases discussed is the increased loss of character of the city as a result of massification. This will have an effect on the economy as the city will be less appealing to tourists, on the environment as it would endanger wildlife, and most importantly on the society as the people will be less productive as a result of frustration and discomfort.

Architects, urbanists and urban planners are able to make a positive change, but the core of the arising concerns is the higher authorities, that are channeling their efforts towards creating a consumer-based society.

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