Strategic Planning for Sustainable Neighbourhoods: A Case Study from Palestine

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Introduction

• **The neighbourhood** is the basic planning entity in modern residential planning theories.

• **Sustainable communities** are those which:
  - meet the diverse needs of existing and future residents, their children and other users,
  - contribute to a high quality of life, and
  - provide opportunity and choice.

They achieve this in ways that:
  - make effective use of natural resources,
  - enhance the environment,
  - promote social cohesion and inclusion, and

• strengthen economic prosperity.

(The Egan Review Skills for Sustainable Communities, 2004)
Components of Sustainable Communities

- GOVERNANCE: Effective and inclusive participation, representation and leadership
- TRANSPORT AND CONNECTIVITY: Good transport services and communication linking people to jobs, schools, health and other services
- SOCIAL AND CULTURAL: Vibrant, harmonious and inclusive communities
- HOUSING AND THE BUILT ENVIRONMENT: A quality built and natural environment
- SERVICES: A full range of appropriate, accessible public, private, community and voluntary services
- ECONOMY: A flourishing and diverse local economy
- ENVIRONMENTAL: Providing places for people to live in an environmentally-friendly way
Introduction ...

- UN-Habitat proposed a new strategy of sustainable neighbourhood planning, published in 2014, suggesting 5 principles to be considered to achieve sustainable neighbourhood:
  - adequate space for streets and an efficient street network,
  - high density,
  - mixed land-use,
  - social mix, and
  - limited land-use specialization.
Neighbourhoods Development in Palestine

• Since the establishment of the Palestinian National Authority in 1994, after 27 years of Israeli occupation, the residential sector witnessed massive developmental efforts.

• The first Palestinian Developmental Plan for the period 1994-2000 gave priority for infrastructure and housing sectors.

• In Palestine, 60% of households own their housing units.

• Public Housing accounts for less than 1% in Palestine.

• By the end of 2019, estimated deficit of housing units will be about 294,000 units.

• The Palestinian Higher Green Building Council was established in 2010 to promote green and sustainable building.
Neighbourhoods Development in Palestine …

• Recently, a new trend of neighbourhood-based residential developments starts to spread rapidly.

• In 2006, Rawabi was established as the first new town in Palestine.

• After 2009, tens of new neighbourhoods can be observed, such as Al Reehan.
Research Motivation

• Limitations/challenges on development in Palestine:
  - availability and accessibility of land, and political factors,
  - scarcity of energy, water, and material resources,
  - prevailing conditions of environmental pollution,
  - persisting economic challenges, and
  - new lifestyle trends.

• Need to consider these factors in planning and developing of sustainable neighbourhoods in Palestine.

• Need a national strategic framework to guide the efforts to achieve the goal of having sustainable neighbourhoods.
Research Objectives

- The **objectives** of this paper include:
  - Analyse and understand the sustainable neighbourhood developmental related issues.
  - Identify sustainable neighbourhood domains and actors in the Palestinian context.
  - Formulate a national strategic planning framework for sustainable neighbourhoods.
  - Propose relevant recommendations to start implementing the proposed framework.
Methodological Approach

- Case study
  - Developer Representatives
  - Focus Groups

- Literature Review
- Survey & Data Collection
- SWOT Analysis
- Strategic Development Framework

- Interviews
  - Academic Experts
  - Professional Engineers
  - Decision Makers

Organisers:
- Global Alliance for Buildings and Construction
- Sustainable Buildings and Climate Initiative
- iiSBE

International Co-owners:
Al Reehan Neighborhood: Case Study Settings
Al Reehan Neighborhood: Case Study Settings …

- Al Reehan is a new neighbourhoods, located about 7 km from Ramallah City, at the middle of the West Bank.
- The developer has attempted to adopt and implement sustainability concepts and practices.
- Developed over the past 6 years by Amar Group, a firm owned by Palestine Investment Fund, the sovereign development fund.
- Built on 250,000 m², and includes 1800 housing units, ranging from 100-260 m², to accommodate about 8,000 people.
- Key services and amenities, commercial centre, hospital, green areas, etc.
## Al Reehan Neighborhood: Case Study Settings …

<table>
<thead>
<tr>
<th>Sustainability Area</th>
<th>Element</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Environmental</td>
<td>Water</td>
<td>Clean water</td>
<td>Potable new network of 8520m length.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Waste water</td>
<td>Collection system constructed and a waste water treatment plant installed (closed container system based, with capacity of 500m³/day, located in the project lowest point, and minimum pumping system required). Treated water is not used till now in the project.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Storm water</td>
<td>Special network, collection from streets and buildings’ roofs. Collected water not used yet.</td>
</tr>
<tr>
<td>Renewable energy</td>
<td>Heated water</td>
<td>All units have solar system for hot water.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Generating energy</td>
<td>PV system installed for commercial centre, covering 30% of its needs, with ability to be adjust orientation.</td>
<td></td>
</tr>
<tr>
<td>Transport</td>
<td>Roads network</td>
<td>Different streets widths (14m, 16m, 20m). Internal cul-de-sac streets for social and environmental reasons. Paved pedestrians sidewalks, ability to add bike lanes.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Public transport</td>
<td>Shuttle bus services exist between the neighbourhood and Ramallah city. No bus stations exist yet.</td>
<td></td>
</tr>
<tr>
<td>Land/Materials</td>
<td>Land use</td>
<td>About 40% public space, 30% residential area (multi-storey buildings and villas); 30% green area.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Materials</td>
<td>Reused the rocks extracted from the site to produce gravel for roads and stones for building the residential units.</td>
<td></td>
</tr>
<tr>
<td>Sustainability Area</td>
<td>Element</td>
<td>Category</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------------------</td>
<td>---------------</td>
<td>----------------</td>
<td>-----------------------------------------------------------------------------</td>
</tr>
<tr>
<td><strong>Economical sustainability</strong></td>
<td>Job opportunities</td>
<td></td>
<td>Available jobs in the commercial centre and the largest private specialized hospital.</td>
</tr>
<tr>
<td></td>
<td>Water</td>
<td></td>
<td>Available system for using storm water and recycled water for irrigating the green areas.</td>
</tr>
<tr>
<td></td>
<td>Energy</td>
<td></td>
<td>Use of PV system, thermal insulation.</td>
</tr>
<tr>
<td><strong>Social sustainability</strong></td>
<td>People</td>
<td>Social fabric</td>
<td>Different residential unit areas for different family sizes, different social levels, different residential units (100-260m²) and types (villas and apartments). Strong relationship between residents.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Public participation</td>
<td>Participation in all decisions related to the neighbourhood, strong loyalty to the neighbourhood.</td>
</tr>
<tr>
<td><strong>Political sustainability</strong></td>
<td>Land</td>
<td></td>
<td>Protecting the Palestinian land from confiscation by Israeli occupation.</td>
</tr>
</tbody>
</table>
Strategic Analysis

- Collection, review and assessment of available information.
- Interviews with the developer’s team.
- Interviews with experts and officials.
- Focus group meetings were held:
  - with a group of current residents, and
  - with a group of prospect residents.
- Strengths-Weaknesses-Opportunities-Threats (SWOT) analysis was conducted to identify the positives and negatives within the internal and external neighbourhood environment for each of the sustainability areas/domains.
### Example: SWOT Analysis for Energy

#### Strengths
- Use of solar system for hot water.
- Use of solar panels in the commercial centre.
- Proper location of the waste water treatment plant with no need for pumping.
- The buildings are insulated.
- Using a central system for gas utility.

#### Weaknesses
- No use for solar energy in streets lighting.
- No utilization of the roofs of the residential and public buildings to install solar panels.
- Limited use of environmental friendly products in buildings that reduces energy consumption.
- No proper awareness to use energy saving electrical devices.

#### Opportunities
- Electricity Sector Organizing Council incentives to encourage renewable energy initiatives.
- Favourable environmental factors to enable good renewable energy utilization.

#### Threats
- High initial cost for establishing energy friendly systems.
- Limited internal support and external fund devoted for sustainability-related development.
Strategic Planning Framework

• Formulating the strategic goals and objectives.
• Defining strategies and actions over the short- and medium-term, including setting policies, regulations, planning guidelines, and design standards that need to be implemented.
• Laying the basis for a time- and budget-based action plan.
• Laying the basis for a monitoring and evaluation plan with relevant Performance Indicators for the base year and the coming 5 years to measure the progress towards achieving the goals and objectives stated in the strategic framework.
Example: Strategic Planning Framework for Efficient Energy Use Goal

<table>
<thead>
<tr>
<th>Goals</th>
<th>Objectives</th>
<th>Strategies</th>
<th>Actions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Efficient energy use</td>
<td>1. Reduced dependency on fossil energy</td>
<td>1. Increase the share of generated renewable energy</td>
<td>• Solicit government and external support for renewable energy projects, and benefit from the Electricity Sector Organizing Council incentives for the purchase of surplus produced energy</td>
</tr>
<tr>
<td></td>
<td>2. Improved efficiency use of energy</td>
<td></td>
<td>• Use of photovoltaic panels in street lighting</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Maximize utilization of efficient solar system in producing hot water</td>
</tr>
<tr>
<td></td>
<td></td>
<td>2. Decrease energy consumption</td>
<td>• Conduct public awareness on the efficient and sustainable energy and use of energy saving electrical devices and bulbs</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Support using smart energy-saving systems</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>• Encourage the use of new efficient building insulating techniques/materials</td>
</tr>
</tbody>
</table>
Conclusions and Recommendations

• This study provides an overall framework that could guide the efforts to realize sustainable neighbourhoods which can be adopted in neighbourhood development in Palestine.

• Main areas/domains are identified for consideration in developing sustainable neighbourhoods.

• Using a case study, with interviews with developer and residents focus groups, as well as interviews with key actors, to identify factors related to internal and external positive and negative impacts.

• This has facilitated the formulation of the proposed strategic planning framework for sustainable neighbourhoods.
Conclusions and Recommendations

- It is recommended to adopt this framework after proper debate with the relevant key actors.
  - Key ministries, the municipalities, the Housing Council, and the Higher Green Building Council, are urged to exhibit a leading role in supporting sustainable neighbourhoods, through devising relevant policies and regulations.
  - Developers and investors are encouraged to be pioneering in initiatives that will result in sustainable neighbourhoods.
  - Engineers Association and university experts need to conduct awareness campaigns and train engineers, planners, and developers, on sustainable neighbourhoods aspects.
Thank you