HEALTH AND GREEN INFRASTRUCTURES FOR THE LIVABLE CITY

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The city livability project: why livable city?
  - From pseudo urbanisation to livable city

Health and Green Infrastructures
  - Health Infrastructures
  - Green Infrastructures
    - Preventive measures
    - “social” health – strengthening social understanding in multicultural state

Conclusion
“LIVABLE CITY” for Malaysia

- **Urbanisation:**
  - Pseudo urbanisation/urbanism 1950s – 1970s
  - Widespread poverty in cities
  - Squatter settlements
  - Excess labour

- **Urbanisation: Post 1970s**
  - Economically and socially vibrant and congenial
  - Healthy, Safe
  - Environmentally invigorating

- **Moving towards Ethical Living Initiatives**
  - Kuala Lumpur metropolitan
  - Seremban
  - Rising metropolitanism
KUALA LUMPUR
“LIVABLE CITY” for Malaysia

- Modern Trappings and Rising Health Problems
  - Table 1: Diseases in Negeri Sembilan, 2002 - 2007
<table>
<thead>
<tr>
<th>Disease</th>
<th>2002</th>
<th>2003</th>
<th>2004</th>
<th>2005</th>
<th>2006</th>
<th>2007</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Number s</td>
<td>Rate s</td>
<td>Number s</td>
<td>Rates</td>
<td>Number s</td>
<td>Rates</td>
</tr>
<tr>
<td>HIV</td>
<td>432</td>
<td>48.0</td>
<td>279 (7)</td>
<td>30.5</td>
<td>217 (9)</td>
<td>23.3</td>
</tr>
<tr>
<td>AIDS</td>
<td>108 (74)</td>
<td>12.0</td>
<td>62 (45)</td>
<td>6.8</td>
<td>24 (26)</td>
<td>2.6</td>
</tr>
<tr>
<td>Food Poisoning</td>
<td>118</td>
<td>13.1</td>
<td>502</td>
<td>54.9</td>
<td>791</td>
<td>85</td>
</tr>
<tr>
<td>Typhoid</td>
<td>9</td>
<td>1.0</td>
<td>3</td>
<td>0.3</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Typhus</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Hepatitis A</td>
<td>1</td>
<td>0.1</td>
<td>2</td>
<td>0.2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Hepatitis B</td>
<td>22</td>
<td>2.4</td>
<td>8</td>
<td>0.9</td>
<td>5</td>
<td>0.5</td>
</tr>
<tr>
<td>Hepatitis C</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>1</td>
<td>0.1</td>
</tr>
<tr>
<td>Tuberculosis</td>
<td>379</td>
<td>42.1</td>
<td>423</td>
<td>46.3</td>
<td>358</td>
<td>38.5</td>
</tr>
<tr>
<td>Leprosy</td>
<td>8</td>
<td>0.9</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0.2</td>
</tr>
<tr>
<td>Malaria</td>
<td>180</td>
<td>20.0</td>
<td>45</td>
<td>4.9</td>
<td>15</td>
<td>1.6</td>
</tr>
<tr>
<td>Dengue Hae.Fever</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>34 (1)</td>
<td>3.7</td>
</tr>
<tr>
<td>Filariasis</td>
<td>2</td>
<td>0</td>
<td>3</td>
<td>0</td>
<td>4</td>
<td>0.4</td>
</tr>
<tr>
<td>Measles</td>
<td>105</td>
<td>11.7</td>
<td>1</td>
<td>0.1</td>
<td>124</td>
<td>13.3</td>
</tr>
<tr>
<td>Gonorrhea</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>6</td>
<td>0.6</td>
</tr>
<tr>
<td>Syphilis</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
<td>0.3</td>
</tr>
<tr>
<td>Hand, Foot &amp; Mouth Disease</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>4</td>
<td>0.4</td>
</tr>
</tbody>
</table>

Table 1: Diseases in Negeri Sembilan, 2002 - 2007
Basic Physical Health Infrastructure for “Healthy Living”

- We develop a simple hierarchy of health infrastructures, namely
  - a) Basic Physical Infrastructures for Health Maintenance;
  - b) Basic Infrastructures for Health Sustainability.
- Table 1 summarizes these Basic Physical Infrastructures for health maintenance.
Health Infrastructures for Health Maintenance

<table>
<thead>
<tr>
<th>No</th>
<th>Type of Health Infrastructure</th>
<th>Total</th>
<th>No. of Beds</th>
<th>Total Population of Seremban District</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Government Hospital</td>
<td>1</td>
<td>850</td>
<td>383,000 in the year 2000</td>
</tr>
<tr>
<td>2</td>
<td>Private and Maternity Hospital</td>
<td>8</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Government Health Clinic</td>
<td>2</td>
<td>-</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Private Clinic</td>
<td>177</td>
<td>-</td>
<td></td>
</tr>
</tbody>
</table>

Source: Department of Health, Seremban, 2008
- Social-spatial pluralism
  – social health

<table>
<thead>
<tr>
<th>Administrative District</th>
<th>Malay and Other Bumiputera</th>
<th>Chinese</th>
<th>Indian</th>
<th>Others</th>
<th>Non-Malaysian Citizens</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>SEREMBAN DISTRICT</td>
<td>176,472</td>
<td>117,360</td>
<td>71,007</td>
<td>2,130</td>
<td>16,561</td>
<td>383,530</td>
</tr>
</tbody>
</table>

- Governance – Federal, State and Local
- Accessible to all citizen
“Preventive” health initiatives
Apart from awareness campaign by the authorities, the private initiatives for preventing diseases
  - Personal activities
  - Societal health
The lake Garden as a case study
This paper then seeks to extend the argument that green areas in cities of the developing world serve more than just a green lung providing moderating effects to the hot and humid built-up city center to offer a place with ambience that is therapeutic in nature for healthier living.
THE LAKE GARDEN IN FOCUS

- We argue earlier that a livable Malaysian city has all the basic infrastructures to ensure that the city people and visitors to the city live and stay in comfort, free from hassles and problems associated with short – fall of infrastructure provision.
The Seremban Municipality and a Hierarchy of Infrastructures: Green Areas

- The Seremban Municipality is located in the State of Negeri Sembilan in Peninsula Malaysia, and is currently experiencing vibrant economic, social and physical developments.
- Green Infrastructures Hierarchy:
  - Regional: Under Planning
  - Urban: Lake Garden
  - Local: Housing area
Seremban Municipality Area
POPULATION OF SEREMBAN MUNICIPALITY, 1891 - 2000
The Lake Garden ecosystems comprised a small valley, the lake being prominent in the center.

Over the last three decades have confirmed the findings of earlier studies of the effects of green areas of western cities on urban temperature regimes, that in the case of the Lake Garden area the green area has reduced the mid-day temperature on average by about 3-4 degrees Celsius twenty years ago but decreased 2-3 degrees Celsius in 2005.
Green Infrastructures in the Lake Garden Perimeter

- The Lake Garden area is more than just a green area to the Seremban Municipality. It offers basic physical infrastructure and hence social foundation for activities amidst nature.
- We see in the Lake Garden situations an added role to promote closer and meaningful interactions among the multi-cultural urbanites. The green infrastructure of the Lake Garden provides spaces for local initiatives of a ‘bottom-up’ in nature for social mixing in a relaxed and informal atmosphere.
- Informally Organized Health Activities - Chinese Tai-chi, Playing harmonica, aerobic dance.
- The opportunities opened to the urbanites to engage in a range of social and personal physical health activities the ambience of the Lake offers also a platform for inter-ethnic mixing and interactions.
CONCLUSION

• The Lake Garden of Seremban has all the basic elements to make it functional as an eco-health area for the urbanites.
• The green space is more than just a space with trees, to offer the people with green infrastructures to pursue a variety of individual and group activities related to health. Basic facilities and amenities had been added for the convenience of the users and visitors; all contribute to making the Lake garden a suitable rest area.
• The green infrastructures along with amenities and facilities for various health related activities around the Lake area have brought personal and group benefits in the forms of several fitness exercises at no cost.
THANK YOU
TERIMA KASIH

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