Exploring healthy landscape

Ge Tang
May 2016

Committee: Mary G. Padua (Chair)/ Hyejung Chang/ Robert Hewitt
Introduction
- Background
- Significance
- Challenges
- Prospective Focus
- Research question

Literature review
- Therapeutic Gardens
- Designing Healthy Communities
- Healing by Design
- Stress Rehabilitation through Garden

Research methods
- Case study method

The site selection
Site inventory and analysis
Research-based design
Conclusion
References
Introduction
- Background
- Significance
- Challenges
- Prospective Focus
- Research question

Literature review
- Therapeutic Gardens
- Designing Healthy Communities
- Healing by Design
- Stress Rehabilitation through Garden

Research methods
- Case study method

The site selection
Site inventory and analysis
Research-based design
Conclusion
References
Health has emerged as an important social issue.

Health is the foundation of human survival and development. People's mental health and behaviors can impact themselves, others and even the society. With the development of science and the changes in society, the definition of health not only refers to the health of the body, but also refers to mental health.

With the development of higher living standards for society, the definition of landscape is no longer offering people a place to enjoy the beautiful environment and enjoy the sense of aesthetic, it is also a new concept where the environment meets the psychological demand of human.
What can landscape architects do to deal with the issue?
Can the environment be helpful?

Hypothesis
The health and well-beings of patients and residents can be improved through the design of the built environment especially the outdoor landscape.
INTRODUCTION

Types of Landscape Benefits

- Texture
- Smell (herbs)
- Space
- Aesthetics

"Healing Function"
Research Question
This study is focusing on the relationship between human health and landscape architecture: what contributions can landscape architecture make, in the outdoor public spaces located around the hospitals or health centers and residential districts.

Goal
enhancing people's overall health in the United States through the meaningful design of outdoor environments.
Introduction
- Background
- Significance
- Challenges
- Prospective Focus
- Research question

Literature review
- Therapeutic Gardens
- Designing Healthy Communities
- Healing by Design
- Stress Rehabilitation through Garden

Research methods
- Case study method

The site selection
Site inventory and analysis
Research-based design
Conclusion
References
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Outdoor Exercises</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Social Needs</td>
<td>X</td>
<td>X</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sense of Security</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Serve More Users</td>
<td>X</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Spatial Design</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Health care Costs</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Planting Design</td>
<td>X</td>
<td></td>
<td>X</td>
<td>X</td>
</tr>
</tbody>
</table>
Introduction
   - Background
   - Significance
   - Challenges
   - Prospective Focus
   - Research question

Literature review
   - Therapeutic Gardens
   - Designing Healthy Communities
   - Healing by Design
   - Stress Rehabilitation through Garden

Research methods
   - Case study method

The site selection
Site inventory and analysis
Research-based design
Conclusion
References
<table>
<thead>
<tr>
<th>Project</th>
<th>Location</th>
<th>Built Year</th>
<th>Size</th>
<th>Open to Public</th>
<th>Exercise Support</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Elizabeth and Nona Evans restorative garden</td>
<td>Cleveland, OH</td>
<td>1988</td>
<td>0.5+ acres</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Anne’s Garden</td>
<td>Gainesville, GA</td>
<td>2009</td>
<td>1,200 sq/ft</td>
<td>No</td>
<td>No</td>
</tr>
<tr>
<td>Garden of Healing and Renewal</td>
<td>Clarkston, MI</td>
<td>2010</td>
<td>4+ acres</td>
<td>Yes</td>
<td>No</td>
</tr>
<tr>
<td>Spaulding Rehabilitation Hospital Garden</td>
<td>Charlestown, MA</td>
<td>2010</td>
<td>2,900 sq/ft</td>
<td>Yes</td>
<td>Yes</td>
</tr>
<tr>
<td>Thomas M. Menino Park</td>
<td>Charlestown, MA</td>
<td>2013</td>
<td>6,700 sq/ft</td>
<td>Yes</td>
<td>Yes</td>
</tr>
</tbody>
</table>
The Elizabeth and Nona Evans restorative garden

Location: Cleveland Botanical Gardens
Completed: 1988
Client: Jeanette and Whitney Evans
Design Team: J. Catts, Landscape Architect of Record; David Kamp, Dirtworks PC; Patricia G. Owen, MS, HTR, Horticultural Therapist, Cleveland Botanical Garden; Nancy Gerlach Spriggs; Vince Healy.
Funding: Public
Researched by: Barbara Knecht, RA
Anne’s Garden in Gainesville, GA
Location: Gainesville, GA
Completed: 2009
Size: 1,200 sq/ft
Key Points: Water feature, Eco-system
Spaulding Rehabilitation Hospital
Location: Charlestown, MA
Client: Perkins + Will Architects, Inc./Partners HealthCare
Design Team: Copley Wolff Design Group
Completed: 2010
Size: 2,900 sq/ft
Key Points: Green roof, Therapeutic trail, Fountain
CASE STUDY

Garden of Healing and Renewal in Clarkston, MI
Location: Clarkston, MI
Completed: 2010
Size: 4+ acres
Key Points: Open to public, Music, Art works
Thomas M. Menino Park
Location: Charlestown, MA
Client: Perkins + Will Architects, Inc./Partners HealthCare
Designer: Cheri Ruane
Design Team: Spurr, Weston & Sampson's design studio collaborated with M.E. O'Brien & Sons, Inc.
Completed: 2013
Size: 2,900 sq/ft
Key Points: Playground, Waterfront park
### CASE STUDY

<table>
<thead>
<tr>
<th>Project</th>
<th>Location and Surroundings</th>
<th>Users Groups</th>
<th>Spatial Organization</th>
<th>Accessibility</th>
<th>Activities</th>
<th>Site Features</th>
<th>Solutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Elizabeth and Nona Evans restorative garden</td>
<td>Cleveland, OH</td>
<td>SPFEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Anne’s Garden</td>
<td>Gainesville, FL</td>
<td>SPF</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Garden of Healing and Renewal</td>
<td>Clarkston, MI</td>
<td>SPFEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Spaulding Rehabilitation Hospital GARDEN</td>
<td>Manitowoc, WI</td>
<td>SPFEN</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Thomas M. Menino Park</td>
<td>Charlestown, MA</td>
<td>SPFNC</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Legend**
- SPFEN: Hospital staffs, patients, patients/families, and visitors
- SPF: Residences and neighborhood community
- NC: Children
- SPFNC: Hospital staffs, patients, patients/families, and visitors, residences and neighborhood community, and children
- Green space: Green spaces and therapeutic plants
- Seating & Gathering: Space for gathering or other physical exercise
- Path Entries

**Summary and Conclusion**
- Most gardens near a hospital or a health center
- Most of them are open to public
- Designers should consider multiple views
- Access to the garden should be considered when the garden is a public one
- Easy access to the garden is important
- Spatial use varies by different user groups and surroundings
- Almost all gardens have seating areas
- Not all gardens pay attention to physical exercise
- Normative for what coastal use, safety is important
- Accessibility should be considered during design process and priority to design
- Therapeutic garden needs to be linked to context
- Making a link is an effective way of creating a walking trail
- Being aware of accessibility

<p>| | | | | | | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Seating &amp; Gathering</td>
<td>Walking Trail</td>
<td>Physical Exercise</td>
<td>Gardening</td>
<td>Playground</td>
<td>Seating &amp; Gathering</td>
<td>Walking Trail</td>
</tr>
</tbody>
</table>

**Site Features**
- Water fountain
- Recycling rainwater and irrigation system
- Colorful plants
- Sculptures
- Music settings
- Fountains
- Therapeutic trails
- Green roof
- Therapeutic walking trail
- Therapeutic plants
- Fountains
- Space for waterfront views
- Playground settings
- Space for waterfront views
- Colorful pavings
- Seating & Gathering
- Walking Trail

**Solutions**
1. Therapeutic Walking Trail
2. The trail for patients to practice a variety of real life challenges within a safe and controlled environment
3. Green roof
4. Rainwater harvesting system, which provides places for people with HIV/AIDS to work, play, and heal
5. Fully accessible
6. This can include a concrete walkway for wheelchair users. People with physical disabilities can enjoy this pathway and comfort. It can be made easier for mobility by the use of slope.
7. The garden is expected to move more than 100 plants of various types in 2020 and the need of children also plays a role in this move. It can also provide places for those who want to see the beautiful views of the water and the sky.
Introduction
- Background
- Significance
- Challenges
- Prospective Focus
- Research question

Literature review
- Therapeutic Gardens
- Designing Healthy Communities
- Healing by Design
- Stress Rehabilitation through Garden

Research methods
- Case study method

The site selection
Site inventory and analysis
Research-based design
Conclusion
References
Selection criteria
- near a hospital or a health center
- community scale
- good soil conditions
- location is sensitive to congested or crowded places
- accessibility
Introduction
- Background
- Significance
- Challenges
- Prospective Focus
- Research question

Literature review
- Therapeutic Gardens
- Designing Healthy Communities
- Healing by Design
- Stress Rehabilitation through Garden

Research methods
- Case study method

The site selection
Site inventory and analysis
Research-based design
Conclusion
References
SITE RESEARCH
Introduction
- Background
- Significance
- Challenges
- Prospective Focus
- Research question

Literature review
- Therapeutic Gardens
- Designing Healthy Communities
- Healing by Design
- Stress Rehabilitation through Garden

Research methods
- Case study method

The site selection
Site inventory and analysis

Research-based design

Conclusion
References
DESIGN

USER GROUPS

- Neighborhood Residents
  - Low income (30K+)
  - High income (80K+)
- Visitors
- Hospital Patients
- Hospital Staffs
- School Students
- School Faculties

THEIR NEEDS

- Community Park
- Doing Exercise
- Resting
- Good Environment
- Have a Rest
- Doing Exercise
- Lunch Break
- Social Activities
- Natural Treatments
- Good Views
- Good Environment

PROGRAM STRATEGIES

- Walking Trail
  - Doing Exercise
- Seating Area
  - Resting
  - Lunch Break
  - Taking
- Observation Deck
  - Views
  - Psychology
  - Gathering
- Therapeutic Plants
  - Good Environment
  - Natural Treatment
  - Views

THINKING PROCESS
<table>
<thead>
<tr>
<th>Use Frequency</th>
<th>User Groups</th>
<th>Monthly Activities Calendar</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Q1</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Jan</td>
</tr>
<tr>
<td>Repeat User</td>
<td>School Student</td>
<td><img src="1" alt="Gathering" /> <img src="1" alt="Viewing" /> <img src="1" alt="Farmer market" /> <img src="1" alt="Seating &amp; Resting" /> <img src="1" alt="Walking for exercise" /> <img src="1" alt="Walking through" /> <img src="1" alt="Lunch &amp; Dinner break" /></td>
</tr>
<tr>
<td></td>
<td>School Faculty</td>
<td><img src="1" alt="Gathering" /> <img src="1" alt="Viewing" /> <img src="1" alt="Farmer market" /> <img src="1" alt="Seating &amp; Resting" /> <img src="1" alt="Walking for exercise" /> <img src="1" alt="Walking through" /> <img src="1" alt="Lunch &amp; Dinner break" /></td>
</tr>
<tr>
<td></td>
<td>Hospital Staff</td>
<td><img src="1" alt="Gathering" /> <img src="1" alt="Viewing" /> <img src="1" alt="Farmer market" /> <img src="1" alt="Seating &amp; Resting" /> <img src="1" alt="Walking for exercise" /> <img src="1" alt="Walking through" /> <img src="1" alt="Lunch &amp; Dinner break" /></td>
</tr>
<tr>
<td></td>
<td>Patient</td>
<td><img src="1" alt="Gathering" /> <img src="1" alt="Viewing" /> <img src="1" alt="Farmer market" /> <img src="1" alt="Seating &amp; Resting" /> <img src="1" alt="Walking for exercise" /> <img src="1" alt="Walking through" /> <img src="1" alt="Lunch &amp; Dinner break" /></td>
</tr>
<tr>
<td></td>
<td>Resident</td>
<td><img src="1" alt="Gathering" /> <img src="1" alt="Viewing" /> <img src="1" alt="Farmer market" /> <img src="1" alt="Seating &amp; Resting" /> <img src="1" alt="Walking for exercise" /> <img src="1" alt="Walking through" /> <img src="1" alt="Lunch &amp; Dinner break" /></td>
</tr>
<tr>
<td>One-time User</td>
<td>Patients’ Family/Friend</td>
<td><img src="1" alt="Gathering" /> <img src="1" alt="Viewing" /> <img src="1" alt="Farmer market" /> <img src="1" alt="Seating &amp; Resting" /> <img src="1" alt="Walking for exercise" /> <img src="1" alt="Walking through" /> <img src="1" alt="Lunch &amp; Dinner break" /></td>
</tr>
<tr>
<td></td>
<td>Visitors</td>
<td><img src="1" alt="Gathering" /> <img src="1" alt="Viewing" /> <img src="1" alt="Farmer market" /> <img src="1" alt="Seating &amp; Resting" /> <img src="1" alt="Walking for exercise" /> <img src="1" alt="Walking through" /> <img src="1" alt="Lunch &amp; Dinner break" /></td>
</tr>
<tr>
<td>-----------------------------</td>
<td>----------------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Outdoor Exercises</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Social Needs</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Sense of Security</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Serve More Users</td>
<td>X</td>
<td></td>
</tr>
<tr>
<td>Mental Health</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Spatial Design</td>
<td>X</td>
<td>X</td>
</tr>
<tr>
<td>Health care Costs</td>
<td></td>
<td>X</td>
</tr>
<tr>
<td>Planting Design</td>
<td>X</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Thesis Project</th>
</tr>
</thead>
<tbody>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
<tr>
<td>○</td>
</tr>
</tbody>
</table>
CONTENT

Introduction
- Background
- Significance
- Challenges
- Prospective Focus
- Research question

Literature review
- Therapeutic Gardens
- Designing Healthy Communities
- Healing by Design
- Stress Rehabilitation through Garden

Research methods
- Case study method

The site selection
Site inventory and analysis
Research-based design
Conclusion

References
REFERENCES

[9] Catherine Carrigan. Healing depression: a guide to making intelligent choices about treating depression