


Fall 12-16-2011

# Public Space Planning as a Catalyst for Dweller Initiated Slum Upgrading: Ahmedabad, India

Christopher Bystedt  
cjbystedt@usfca.edu

Follow this and additional works at: <https://repository.usfca.edu/thes>

 Part of the [Cultural Resource Management and Policy Analysis Commons](#), [Urban, Community and Regional Planning Commons](#), and the [Urban Studies and Planning Commons](#)

---

## Recommended Citation

Bystedt, Christopher, "Public Space Planning as a Catalyst for Dweller Initiated Slum Upgrading: Ahmedabad, India" (2011). *Master's Theses*. 5.  
<https://repository.usfca.edu/thes/5>

This Thesis is brought to you for free and open access by the Theses, Dissertations, Capstones and Projects at USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. It has been accepted for inclusion in Master's Theses by an authorized administrator of USF Scholarship: a digital repository @ Gleeson Library | Geschke Center. For more information, please contact [repository@usfca.edu](mailto:repository@usfca.edu).

University of San Francisco

Public Space Planning as a Catalyst  
for Dweller Initiated Slum Upgrading:  
Ahmedabad, India

---

A Thesis Presented to  
The Faculty of the College of Arts and Sciences  
Masters Program in International Studies

In Partial Fulfillment  
Of the Requirements for the Degree  
Master of Arts in International Studies

by  
Christopher Bystedt  
December 2011

Public Space Planning as a Catalyst  
for Dweller Initiated Slum Upgrading:  
Ahmedabad, India

In Partial Fulfillment of the Requirements for the Degree

MASTER OF ARTS

in

INTERNATIONAL STUDIES

by

Christopher Bystedt  
December 2011

UNIVERSITY OF SAN FRANCISCO

Under the guidance and approval of the committee, and approval by all the members, this thesis has been accepted in partial fulfillment of the requirements for the degree.

Approved:

\_\_\_\_\_  
Advisor: Seth Wachtel

\_\_\_\_\_  
Date

\_\_\_\_\_  
Academic Director: Dr. Anne Bartlett

\_\_\_\_\_  
Date

\_\_\_\_\_  
Dean of Arts and Sciences: Marcelo Camperi

\_\_\_\_\_  
Date

## Table of Contents

Signature Page.....	ii
Table of Contents.....	iii
List of Tables.....	v
List of Figures.....	v
List of Abbreviations.....	v
Acknowledgements.....	vi
<b>Chapter 1: Introduction.....</b>	<b>1</b>
1.1 Statement of the Problem.....	1
1.2 Background & Need for the Study.....	3
1.3 Purpose of the Study.....	11
1.4 Research Questions & Hypotheses.....	12
1.5 Theoretical Framework.....	14
1.6 Methodology.....	18
1.7 Limitations of the Study.....	22
1.8 Significance of the Study.....	23
<b>Chapter 2: Literature Review.....</b>	<b>24</b>
Introduction.....	24
2.1 Defining Slums.....	25
2.2 Methods of Slum Treatment.....	27
Conclusion.....	33
<b>Chapter 3: The Case Studies - Existing Slum Urbanism.....</b>	<b>33</b>
Introduction.....	33
3.1 “Hollywood”, Gulbai Tekra.....	35
3.2 Ravivari Market Slum, Sabarmati Riverfront.....	38
3.3 Figure-Ground Analysis.....	40
3.4 The Five-Minute Walk.....	50
3.5 Patterns of Urban Growth.....	52
Summary.....	54
<b>Chapter 4: Potential Benefits of Public Space.....</b>	<b>55</b>
Introduction.....	55
4.1 Improved Health and Safety.....	56
4.2 Perception of Permanence.....	61
4.3 Economic Generation.....	68
4.4 Case Study Public Space Solutions.....	71
Summary.....	73

<b>Chapter 5: Conclusions &amp; Recommendations.....</b>	<b>74</b>
Conclusions.....	74
Recommendations.....	76
<b>References.....</b>	<b>78</b>
<b>Bibliography.....</b>	<b>81</b>
<b>Appendices.....</b>	<b>79</b>
Appendix 1: Map of Greater Ahmedabad.....	84
Appendix 2: Map of Downtown Ahmedabad with Slum Locations.....	85
Appendix 3: Figure-Ground - Ahmedabad (Walled City).....	86
Appendix 4: Figure-Ground - Hollywood.....	87
Appendix 5: Figure-Ground - Ravivari Market Slum.....	88
Appendix 6: Figure Ground - Venice.....	89
Appendix 7: Figure-Ground - San Francisco, CA.....	90
Appendix 8: Figure-Ground - New Delhi, India.....	91
Appendix 9: Figure-Ground - Irvine, CA.....	92
Appendix 10: Figure-Ground - Brasilia, Brazil.....	93
Appendix 11: European Comparison Maps.....	94
Appendix 12: European Comparison Figure-Ground Plans.....	95
Appendix 13: Five-Minute Walk Analysis.....	96
Appendix 14: Growth Pattern Analysis.....	97
Appendix 15: Hollywood Time-lapse Images.....	98
Appendix 16: Riverfront Time-lapse Images.....	99
Appendix 17: Riverfront Sunday Market Satellite Image.....	100
Appendix 18: Hollywood Satellite Image.....	101
Appendix 19: Hollywood Public Space Solutions.....	102
Appendix 20: Hollywood Corner Market Plaza.....	103
Appendix 21: Hollywood Community Plazas.....	104
Appendix 22: Riverfront Public Space Solutions.....	105
Appendix 23: Riverfront Sunday Market Plaza and Amphitheater.....	106
Appendix 24: Riverfront Community Plazas.....	107

### **List of Tables**

Table 1 (pg. 6): SNP Cost Contribution Per Household (from 2005 AMC Report)

Table 2 (pg. 48): Intersection and Block counts for Figure-Ground Plans

### **List of Figures**

Figure 1 (pg. 16): Krier's Urban Growth Diagrams (from *Architecture: Choice or Fate*)

Figure 2 (pg. 28): Slum Approach Compass

### **List of Abbreviations**

AMC - Ahmedabad Municipal Corporation

AUDA - Ahmedabad Urban Development Authority

CBO - Citizen Based Organizations

GoI - Government of India

JNNURM - Jawarlal Nehru National Urban Renewal Mission

MUD - Ministry of Urban Development

SRDP - Sabarmati Riverfront Development Project

SEWA - Self Employed Women's Association

SNP - Slum Networking Program; also known as Parivartan

TPS - Town Planning Schemes

UDA - Urban Development Authority (e.g Ahmedabad Urban Development Authority (AUDA))

ULB - Urban Local Body, the municipal government (e.g. Ahmedabad Municipal Corporation (AMC))

## Acknowledgements

I would like to first thank the University of San Francisco faculty and staff in the MAIS program that assisted me in writing this thesis. I would especially like to thank my thesis advisor, Seth Wachtel, for his guidance and assistance. I am grateful for the many meetings, conversations and brainstorming, emails, reviews and critiques, and for connecting me to the research opportunity in Ahmedabad. To Dr. Anne Bartlett, thank you for inspiring me to continue following my true passion and find my niche within the field of architecture and urban design.

I also wish to thank Dr. Bimal Patel at HCP Design and Project Management in Ahmedabad, India for the summer research opportunity. Your generosity in opening the doors of your company to young designers and researchers (like myself) from across India and around the globe is encouraging to the fields of architecture and planning. Thank you to Chirayu Bhatt at Environmental Planning Collaborative (EPC) for your supervision and guidance in the slum research process this past summer. Also, thank you to Niraj Jani at SAATH for the conversations and for generously touring me through Hollywood, revealing the beauty of the slum community.

To my classmates, friends, and family who constantly connected me to new resources and research while challenging my thoughts through conversations and examples.

Finally, thank you to my best friend, and wife, Katie, for dealing with my out-loud-thinking sessions, for listening to me complain, for not distracting me when I was productive, and for distracting me when I wasn't. You have encouraged me the most!

## **Chapter 1: Introduction**

### 1.1 Statement of the Problem

The inclusion of formal public space planning into slum upgrading schemes can act as a catalyst for dweller-initiated housing improvements. While municipalities that choose to upgrade their slums are primarily concerned with supplying bare necessity infrastructure—such as water, sewage, and paving—most upgrading schemes ignore the reality that slum communities are complex, integral components of the urbanization process. These settlements deserve and necessitate comprehensive design and planning services which will integrate the community into the larger urban fabric.

Such extensive design services are much too expensive for local governments, especially when rapidly growing cities such as Ahmedabad, India can contain thousands of unique slum settlements (AMC, 2007: 60). In addition, many qualifications for external funding require a completion of slum upgrading within a period of five to ten years. With such high costs and condensed timelines, municipalities are forced to rely on oversimplified upgrading schemes, removing valuable urban planning and design processes that can effectively improve community development and quality of life.

This thesis suggests that an alternative to choosing either expensive comprehensive design services or incomplete basic-infrastructure provisions is the inclusion of small public space design into slum upgrading projects. These design services can be implemented as a portion of the basic infrastructure package already administered by slum upgrading projects. While these slum communities are in need of professional design, they are also hindered by neglect from municipalities and shrinking



government budgets. In the meantime, slum communities continue to grow, and their integration into the larger urban fabric becomes less and less feasible. Slums are increasingly perceived as filthy communities of misery and squalor. However, investigating the urban patterns inherent to slum communities, one can see that these communities already possess the basic urban forms needed to create beautiful, livable communities. In addition, professional design services, which are already administered to wealthier urban communities, can make vast improvements through public space planning.

For decades urban theorists have placed an overwhelming importance on the presence of public space in city planning. Since the 1960s Jane Jacobs (1961) has advocated for the proper use of neighborhood parks and sidewalks which encourage diversity and pedestrian interaction (55-73) while, recently, New Urbanists claim that the public realm is a city's most significant amenity. (Duany, Plater-Zyberk, Speck, 2000:156) Urban theorists agree that public space is essential for healthy urban living, for creating a sense of ownership within the city, and for economic growth. However, if proper application of public space is fundamental to the vitality of the city, it is a wonder that in informal settlements—where the city is perceived as poorly functioning—an injection of public space is not recognized as part of a cure to improving the quality of life. Municipalities and NGOs tout their slum upgrading projects which invest in basic physical improvements (including water, sewage, roads, street lighting, and electricity). Yet these infrastructure developments lack attention to the public realm, an essential

component helping cities and neighborhoods to function as communities, places of secure dwelling, and commercial centers.

## 1.2 Background & Need for the Study

### *Ahmedabad, India*

This thesis concentrates on the informal settlements of Ahmedabad, India as a general case study and investigates the process of the Slum Networking Program (SNP) implemented in 1995. Located in the northwest state of Gujarat, Ahmedabad is the smallest, yet fastest growing city of India's seven megacities. In comparison to the rest of the globe, Ahmedabad is the third fastest growing city in the world behind the Chinese cities Chengdu and Chongqing (Cheers, 2010). Its population is 5.6 million people, a comparatively smaller megacity (Census, 2011). However, Davis (2006) claims that the developing world's population booms will mostly burden second-tier cities which lack planning and services to accommodate the people (7), resulting in large numbers of informal settlements caused by insufficient affordable housing. The 2011 Census of India claims that Ahmedabad's urban growth rate grew by 27.82% while its rural growth rate fell by 0.32%, showing a growing population to the city center. In 2007 an estimated 37 percent of the population lived in slums with a total of 1028 slum pockets (AMC, 2007: 60). According to a study done by the NGOs SEWA and SAATH, after the 2001 Census that number dropped to 710 unique slums while the population in those slums doubled (AMC, AUDA & CEPT, 2006:73). Regardless of the differences, the growth is still massive, and these are numbers to which many megacities can relate. With such a rapid

growth rate and large slum population, Ahmedabad is an ideal case study, representing the global trend of rapid urban migration and slum formation.

Ahmedabad's slums are also a typical sampling of the various communities found in many informal settlements. The complex patchwork of pocket slums, differ in both size and origin and have been popularly divided into two main typologies: illegal slums, which are organic settlements caused by rapid growth and insufficient municipal services, and *chawls*, which are overcrowded and dilapidated affordable housing structures originally built to house mill workers for the textile industry (UN-Habitat, 2003:201). In addition, these settlements can be further categorized by geography and origin. Slums on the eastern side of the Sabarmati River tend to be larger settlements and economically weaker. With the decline of the textile industry in the 1980s, eastern Ahmedabad slums were birthed by the mass exodus of the textile mills from the city center (CHF, 2006:12). In addition, the eastern part of Ahmedabad tends to have more riverfront slums along the Sabarmati banks. In contrast, slums on the western side of the Sabarmati River are smaller pocket slums formed by the rapid growth of the modernizing, Western-modeled development patterns. On some occasions, these slums existed first as old villages known as *gamtals* and were eventually surrounded and swallowed up by larger, wealthier development. These varying slum typologies are distributed both within the city center and at the urban fringe. While these communities may not be representative of the massive, sprawling settlements in cities like Mumbai, Nairobi, and Caracas, they represent the varied growth of smaller slums in second-tier cities throughout the world,

and the Ahmedabad Municipal Corporation (AMC) has implemented a unique model to upgrade these slums into formalized urban settlements.

### *The Slum Networking Program*

In the past two decades, Ahmedabad has been carefully observed by the Government of India (GoI) for its innovative slum upgrading projects. With the adoption of the 74th Amendment to the Constitution in 1992, the government put more power in the hands of local governments. Most of that power was in the form of delivery of services and specifically focused around slum improvements and poverty alleviation (CHF, 2006:8). The amendment made a bold stance towards pro-poor housing policies, “providing at least some political and policy support towards [slum upgrading] efforts” (Chang, 2009:14). This support gave way to a new outlook on local upgrading policy.

Following the amendment, the state of Gujarat made several advances which would affect Ahmedabad’s approach to slum upgrading. First, the Gujarat Municipal Corporations Act gave permission to ULBs to provide water and sewage to slums located on both public and private land. Second, the state of Gujarat made it policy to avoid relocation of slum dwellers. Finally, ten percent of ULB municipal revenues were to be dedicated to programs benefitting the poor and slum communities (CHF, 2006:8). These new policies shifted the approach from slum demolition and neglect to encouraging in-situ slum upgrading projects.

In 1995, as a response to the new policies, the AMC implemented the Slum Networking Program (SNP), also known as Parivartan (meaning “transformation”) with the first pilot upgrading in the Sanjay Nagar slum. The basic goal of the SNP was two-fold: upgrade the physical infrastructure and increase community development through social services. This new model provided more than just basic infrastructure services and resulted in a unique partnership model between local NGOs (providing community development) and the AMC (providing physical upgrades). In addition, larger partnerships were created as financing for the physical improvements was split three-ways between the AMC, the private sector, and the slum community. Each partner contributed one-third of the physical upgrading costs which combined for a total of 6,000 Rupees per household (Table 1). This model would prove to be successful as it showed that slum dwellers were willing to pay for upgraded services, and it created an excellent scenario for community participation.

**SNP Cost Contribution Per Household**

<b>Component</b>	<b>Community</b>	<b>Private Sector</b>	<b>NGO</b>	<b>AMC</b>	<b>Total</b>
Physical Development Costs	2000	2000		2000	<b>6000 Rs.</b>
Community Development Costs			300	700	<b>1000 Rs.</b>
Linkage to Basic City Infrastructure Costs					<b>3000 Rs.</b>
Individual Toilet Costs				5800	<b>5800 Rs.</b>
Community Corpus for Maintenance	100*				
<b>Total Expense</b>	<b>2100*</b>	<b>2000</b>	<b>300</b>	<b>8500</b>	
					<b>Grand Total 15800 Rs.</b>
*Community Corpus for Maintenance not included in Grand Total					

Table 1: Breakdown of Costs per Partner per Household. Based on 2005 AMC Parivartan report.

As part of the physical upgrades, communities could choose a package of seven services which included water to individual households, underground sewage to individual houses, paving of internal roads, lanes and bylanes, storm water drainage, street lighting, solid waste management, and landscaping (AMC, 2005:8). In addition, individual toilets were provided by the AMC through an extension of a previously funded project. In order for communities to receive these physical upgrades, all households within the slum must come to a consensus as to which services they desire, and each household must all be willing to contribute the 2000 Rupee cost. The community development services, on the other hand, were at the discretion of the NGOs and the AMC who were covering the costs (30% NGOs, 70% AMC). These services included the formation of groups for neighborhoods, women, and youth; community savings programs which gave access to credit, banking services, and financial education; non-formal educational opportunities for children, dropouts, and adults; health education; day care centers; and health centers (Ibid.). This new model of upgrading and the successes and failures it has encountered gives validation that physical upgrading alone is not enough to pull a community out of the categorization of “slum” . The process of the SNP shows the amount of overlap needed from multiple sectors of the greater community.

*Process of the SNP*

The SNP process has proven to be a communal response to slum upgrading and requires collaboration from the government, NGOs, and the slum dwellers themselves. As a first step, NGOs evaluated 710 slums and selected 417 pocket slums which qualified for services. Of these slums 190 were prioritized to receive SNP services. “As of May 2008, 45 slum communities/projects covering 8,348 households benefiting 39,045 people have been completed” (Gautam, 2008: 5). The slums selected satisfied two main criteria: the slum was not located on land designated for city infrastructure improvements (e.g. new roads or riverfront development) and the slum was not located in a hazardous area (e.g. flood zone).

All of the pocket slums selected who were willing to participate in the upgrading were required to form a Community Based Organization (CBO) which would act as a leadership team for easy mediation between the community and the NGOs and the AMC. This ensured that the slum community was active in the planning process and responsible for collecting the funds needed from residents to complete the upgrading. In addition, the CBO gave approval that the project had been satisfactorily completed and agreed to the release of funds to the AMC and contractors as payment for the upgrades.

As part of the funding process, each household was required to open a savings account with the local urban bank SEWA Bank (Self Employed Women’s Association). This community bank has existed for several decades within Ahmedabad serving and organizing women in economically weaker communities. SEWA acts as a financial

mediator between the communities and the AMC and works closely with the CBOs in collecting funds.

As an incentive for slum dwellers to join SNP, the AMC granted a ten-year no-eviction guarantee so that residents felt comfortable upgrading knowing they would not be evicted. The decision to grant a no-eviction versus full tenure was controversial to the global community. To date, the communities whose ten-year timeframe has expired were allowed to renew for another ten years. In conjunction with the AMC and to promote individual housing upgrades, SEWA also provided home loans to residents once infrastructure upgrades were completed.

As construction from the AMC was in progress, NGOs worked with CBOs and residents providing health, education, and employment training. The NGOs also trained CBOs in maintaining the newly placed infrastructure. After completion of the services, NGOs worked with the AMC and CBOs to integrate slum communities into a “full system of urban services, maintenance, and property tax” (CHF, 2006: 15).

Providing physical improvements and community development is a positive start to the slum upgrading process, yet nothing in the model creates a tangible link between these two important elements of upgrading. One could easily assume that physical upgrades and community development could be entirely separated. In fact, on several occasions SNP slums were provided either infrastructure without community development (because no NGOs were willing to work with the community) or community development without infrastructure upgrades (because the community was not willing to purchase the package of services). The upgrading scheme fails to integrate



the slum communities into the larger community by providing public space, civic buildings, or transportation connections in or near slum communities. As Alexander Neis, Anninou and King (1987) state, “Every new act of construction has just one basic obligation: it must create a continuous structure of wholes around itself” (22). The slum communities are still treated as islands separated from the larger community, and each upgrading project only provides basic services without taking advantage of the construction process to provide quality, holistic community design. The construction process should aim to “heal the city” (Ibid.) for the long-term rather than merely satisfy a temporary, popularity checklist for the next political candidate. If the populations in these slums are growing, yet land is limited, the slum dwellers must be given a chance to build upward and permanently. Small amounts of design planning could assist in creating extraordinary urban quarters from these informal settlements.

Ahmedabad is an ideal case study as successful upgrading has been completed with ample time for resettlement of the residents, allowing for follow-up studies. While all of these projects invest in infrastructure items such as those listed in the Best Practices in Slum Development Report, “individual water supply, individual sewerage connections, individual toilets, storm water system disposal, paved roads, street lighting and solid waste management,” (DIG, n.d.) they fail to include urban planning as a priority. This lack of comprehensive design services in slum upgrading projects offers an opportunity for major improvements to the treatment of Ahmedabad’s informal settlements.

### 1.3 Purpose of the Study

This study aims to explore how slum upgrading projects in Ahmedabad can improve the quality of life for residents and increase dweller initiated upgrading by including public space planning into the provided bundle of services. Although the SNP has been praised for its unique three-part financial sharing mechanism, the services offered to slum residents are insufficient and lack a design process in the upgrading plans. This study looks at how a minimal design component can be incorporated into upgrading schemes and still have a significant effect on the slum community.

With this research I hope to prove that public space is an important, yet unrecognized, piece of the slum upgrading process. While much emphasis has been placed on infrastructure and housing upgrades, public spaces have been neglected as an essential piece of urban infrastructure. Appropriate attention to these spaces can exponentially contribute to the upgrading of the community by motivating residents to invest in rejuvenating their own communities. In the case of Ahmedabad, creating better public space in its informal settlements will reveal how such planning can be a necessary and primary step in the upgrading process.

The study starts by highlighting the positive urban design elements already present in typical informal slum “planning”. This inherent urban design organization reveals how slum communities are valid and unique forms of urbanization. While these settlements are not normally ideal living locations due to poverty and lack of infrastructure, they possess elements of urban design that can assist communities into further positive development. Highlighting the existing positive planning elements in

slum communities helps to shed the stigma that slum communities are hopeless urban forms that warrant demolition and redevelopment.

The ultimate goal of this study is to show that these informal settlements should be treated as unique urban forms which deserve comprehensive urban planning and design. This process of slum upgrading should proceed as any other redevelopment and planning process used in other areas of the city. The planning goal should be to physically connect each urban quarter with the surrounding context, create economic growth, and provide community development for its citizens. Residents should be engaged in the design process with the opportunity to give feedback. Additionally, residents' homes should not be impacted without compensation. According to the Upgrading Urban Communities website, this process should allow residents to “obtain an improved, healthy and secure living environment without being displaced” (SIGUS, n.d.). These goals can be achieved through implementing public space planning into infrastructure upgrades.

#### 1.4 Research Questions & Hypotheses

This research aims to answer the question: Can changing our perception of slums reshape how we upgrade slum communities? Categorizing informal settlements as valid forms of urban growth changes how we approach the development of slum communities. Instead of problems to be ignored or demolished and redeveloped, they become included in the many urban locations that need formal planning and design services to slowly develop as places of higher quality living and as better communities. By searching for

the elements that are working in slum urbanization, we can build on existing successes.

This thesis uses two case studies of Ahmedabad slums to highlight how slums are already functioning as good urban communities.

This research uses the first question to ask a more specific question of slum upgrading schemes: How can the inclusion of public space planning in slum upgrading schemes be a catalyst for further dweller initiated upgrading? Answering this question starts with two commonly held assumptions. First, it assumes that upgrading is the most beneficial method of slum treatment (as opposed to relocation or demolition), and second, it assumes that slum upgrading should include community infrastructure and should exclude housing upgrades.<sup>1</sup> In answering this question, I have focused on studying how public space benefits communities, as well as how it is used in the slums of Ahmedabad. I hypothesize that the inclusion of public space results in three benefits to the slum community which increase motivation for slum dwellers to invest in housing upgrades. First, public space creates a healthier and safer environment which increases the chances for dwellers to want to remain in the settlement. Second, inclusion of these public spaces creates a sense of permanence which can counter a less secure tenure status. Third, spaces can enhance economic growth which provide dwellers the incentive and capital to improve their housing.

---

<sup>1</sup> The former assumption is addressed in more detail in Chapter 2 while the later assumption is covered in the following section (1.5).

## 1.5 Theoretical Framework

No dominant single theory is utilized in this thesis study. Instead, this thesis observes several urban design practices made popular by New Urbanist theorists<sup>2</sup>. These practices focus on the value of smaller scale urban design rather than massive city planning. New Urbanists see the beauty in a relatively dense, walkable community and try to recreate that intimacy through smaller planning schemes. This study employs the urban planning work of Allan Jacobs, Andres Duany, Elizabeth Plater-Zyberk, and Leon Krier who have made significant contributions of reforming contemporary city planning with a twofold goal of both designing places for physical beauty and for the strengthening of community. Consequently, these theories augment this thesis study by reinforcing the success of the SNP two-part goal: physical upgrading and community development.

The first theory used in this thesis is the work of Allan Jacobs in his book *Great Streets* (1995). Jacobs compares the street and block patterns of several well-known major cities by creating black and white figure-ground plans of each city (Appendices 3-10). A one square mile portion of each location is selected at a scale of one inch to one thousand feet (1"=1000'). Jacobs (1995) claims this scale captures the variety of patterns in a single selection while allowing for easy viewing of the comparisons (204). His primary motivation for this study is to determine what makes great streets so memorable and desirable for people. He evaluates the physical characteristics represented in the two-dimensional figure-ground plans: size of blocks and streets, as well as, patterns and

---

<sup>2</sup> Many of these design practices are held valuable by theorists who would not consider themselves New Urbanists (including Allan Jacobs). When I was in architecture school, these practices were referred to as "traditional urbanism." I have also heard some people refer to it as simply "good urbanism", implying that there is nothing "new" about these practices. Instead, designers somehow strayed from what worked in the past, and we are now rebranding the old.

layout. While Jacobs is searching for the design of great streets, this thesis uses his research method to observe the existing valuable urban characteristics listed by Jacobs that are inherent in slum urbanization patterns.

The methodology for choosing each city selected by Jacobs has often been random. While he does do a selection for Ahmedabad (Appendix 3), he has focused on the eastern portion of the city, or the historical walled city. For the purpose of this thesis, I will select several locations within Ahmedabad to compare to this original selection by Jacobs.

The second theory applied in this thesis is the five-minute (or ten-minute) walk used by traditional urban planners and made popular by New Urbanists. This process creates a walkability analysis of neighborhoods by superimposing a circle with a designated diameter over a neighborhood plan. The circle represents the distance one can travel in a casual five-minute (or ten-minute) walk. Duany, Plater-Zyberk, and Speck (2000) have made this popular in New Urbanist theories, and use a distance of 400 meter (.25 mile, 1,320 feet) to define a five-minute walk (15). In addition, Krier (1998, 2009) has written extensively on the ten-minute walk which he defines as a 500 to 600 meter (1,600 to 1,900 feet) walk. The theory is important because it claims that communities should be walkable for its residents and that means daily needs are accessible within a 400 to 600 meter circle (128, 140). “A local resident is rarely more than a five-minute walk from the ordinary needs of daily life: living, working, and shopping” (Duany et al., 2000:15). For the purpose of this thesis, I will use Duany et al.’s definition of the five-

minute walk defined as 400 meters (1,320 feet), showing that the case study slum communities fulfill this urban requirement.<sup>3</sup>

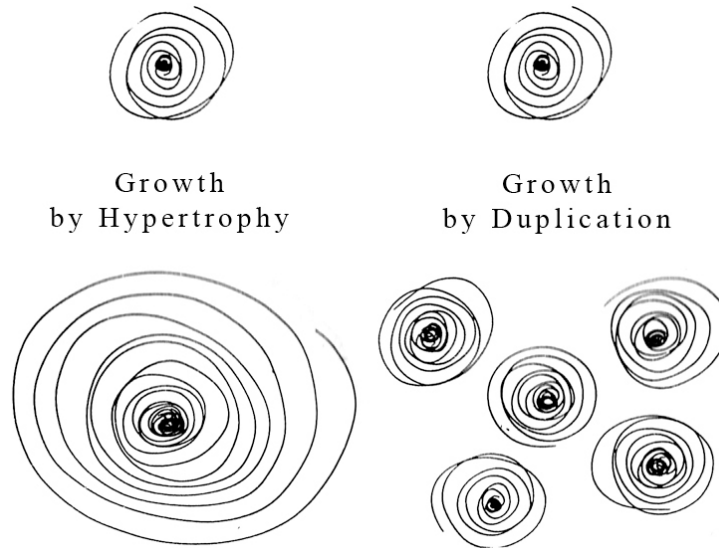


Figure 1: Adaptation of Krier's Urban Growth Diagrams (from *Architecture: Choice or Fate*)

Building on the theory of the five-minute walk, this thesis uses Krier's theory of growth by duplication. Krier (2009) states that cities today grow by hypertrophy which he argues is a negative growth pattern consisting of monstrous overgrowth of high-rises and suburban sprawl (99). This hypertrophy is represented as a spiral with the downtown located at the center and infinite circles of growth surrounding it (Figure 1). He states that "instead of growing organically by means of the multiplication or duplication of autonomous quarters, twentieth-century cities suffer from various forms of mono-functional overexpansion" (2009: 99). Cities dependent on the car and high-rises have unnecessarily over-expanded vertically at city centers and sprawled horizontally at urban peripheries. Krier suggests that cities should be growing through a pattern of duplication.

<sup>3</sup> This five/ten-minute walk theory can also be referred to as a ped shed (pedestrian shed).

With the ten-minute walk as the basic urban building block, communities should grow by duplicating the new community along side the existing community. All of the daily needs and uses established in the five-minute walking community would be present in the duplicated urban quarter, including a major urban center. Figure 1 shows a representation of the spiral growing to a certain limit and then duplicating the pattern of growth. This theory solves many problems inherent in patterns of urban sprawl and mega-suburbs.

For the purpose of this thesis, I have used this theory to show how slum communities are reaching a maximum walkable dimension and then duplicating into new communities. The duplication pattern is organic in these slums, bound by caste, class, and family sizes. However, as greater Ahmedabad grows in concentric circles, these duplicating slum quarters are being disconnected from the city center and, subsequently, political and economic participation.

This research also follows the theory that communal upgrading and in-situ upgrading are more effective and more affordable than individual housing upgrades. According to studies done by the World Bank in conjunction with MIT, improvements to community infrastructure will result in residents upgrading their housing with their own finances on their own time schedule (SIGUS, n.d.). By focusing improvements on infrastructure rather than housing, financing is received by the entire community through shared infrastructure upgrades. This infrastructure is normally more difficult to obtain through long, complicated municipal processes. After infrastructure upgrades have been completed, families are free to focus their financing on their housing at their own pace when upgrades are needed or when private financing is obtained. The Upgrading Urban



Communities website states, “Experience has shown that upgrading basic services tends to mobilize extensive housing investment” (Ibid.), showing how infrastructure upgrades can be cheaper and more effective for municipalities.

## 1.6 Methodology

My research methods for this thesis consist of a combination of participant observations, document analysis, and city plan comparisons. I began my research with the assumption that communal space is poorly defined and lacking in slums, and that the process of upgrading could benefit with improved infusion of formal public space. I then used the previously mentioned methods to understand how the slum upgrading process within Ahmedabad functioned in the past through investigating Parivartan reports and procedures. Next I explored the slums themselves to see how space was being used, and how participants created that space. Finally, I used several urban planning theories to compare a selection of Ahmedabad slums with middle-class sections of the city, other Indian cities, and international cities. With this process, I found answers to how public space is being created and used in slums, and how that public space compares to formally planned spaces.

### *Observation In Ahmedabad Slums*

The most important aspect of my research was observing the existing spaces in various slums and how they were being used by the community. Field research for this thesis was conducted from mid-May until the end of June 2011. As part of an internship

with the nonprofit Environmental Planning Collaborative (EPC) in Ahmedabad, India, I spent six weeks living, working, and researching in pocket slums within the city. My experience living in the city allowed me to encounter those slums scattered throughout the city on a daily basis. I took note of where these slums were located, how they were integrated into the fabric of the city, and in what manner they were received by the rest of the city dwellers.

In addition to living in Ahmedabad, I had the privilege of interning for EPC, a nonprofit, planning research firm. EPC has completed several research projects and written reports on the importance of upgrading slums while also trying to reduce the cost of housing throughout Ahmedabad. The nonprofit had recently been awarded a grant for implementing a new slum upgrading project based on the Parivartan model. While we conducted research, I was able to gain access to much of the current methods, perspectives, and reports on Indian slum upgrading. This access and research assisted in framing my own personal research into the context of the current approach to slum upgrading in Ahmedabad.

While living and working in the city, I conducted my own observatory research by visiting many slum settlements through the help of local organizations and guides. I made contacts with several non-profit companies who were working closely with the slum populations and asked for assistance. My primary contacts were SAATH and the St. Xavier Social Services Society (SXSSS). With the help of these companies and on my own, I formally visited ten unique slums.

After visiting these slums, I selected two case studies to focus my research: Hollywood Basti located in Gulbai Tekra and the Ravivari Market slum, a riverfront settlement located at Ellis Bridge near Victoria Gardens. I conducted several short visits to Hollywood Basti over the course of six weeks and received one formally guided tour by a staff architect at SAATH. During this tour we talked about the various public spaces and use of space while also visiting families and their homes to observe their use of public space. I conducted three visits to the riverfront slum at Ellis Bridge. All of these were conducted during the Sunday Market so that I could observe the use of this market in conjunction with the adjacent slum. On one of my visits to this slum I was guided by a local college student who assisted as my translator.

My process for choosing these two slums relied on access to the slums as well as selecting a represented variety of slum conditions present in Ahmedabad. I relied on finding diverse characteristics in order to understand the different uses of space in both situations. Hollywood Basti is a historically rich slum which has been present for several decades (Somasundaram, 2011; Nayudu, 2009, Oct). The slum existed as a small village, or *gamtal*, before being swallowed up and incorporated by the modern development patterns on the western edge of the city (Nayudu, 2009, Oct). In contrast, the Ravivari slum is located on the east side of the Sabarmati. It is a riverfront slum which gives a completely different understanding to the use of space in conjunction with the river. There is a famous Sunday market attached to this slum, giving a fantastic understanding to public space.<sup>4</sup> The slum was also recently demolished by the AMC (*Slum*, 2011),

---

<sup>4</sup> The Sunday Market is also known as Ravivari Market or Gujari Bazaar.

bringing the research full-circle to the importance of slum upgrading over demolition.

The selected slums are a good representation of the slum categories used by the “Working with the Market” study which includes slums, *gamtals*, and riverfront slums as the major categories (Annez, Bertaud, Patel, & Phatak, 2010: 41).

My methods for observation while visiting both of these slums focused around how the public spaces were being used. I focused on three areas. First, I studied the layout of the space and how it related to the slum community as well as the larger surrounding community. Second, I observed the multiple uses that each space supported and how that space was formed in order to adjust to the community needs. Finally, I analyzed the types of building uses and functions that were surrounding each public space. All of these observations led me to examine the size and shape of each space, as well as, to examine the effects of each space on the community. I then compared these observations with the non-slum communities in Ahmedabad in order to see what differences were present.

### *Visual Mapping Analysis*

My final research looked at how spaces were planned in comparison to greater Ahmedabad and several other major international cities. I used Alan Jacobs as a reference point for such a comparison, creating figure-ground for the two slum case studies. These maps were created and analyzed from August to October 2011.

A second visual analysis was used by examining the five-minute walking radius of the slum case studies as previously mentioned. While each slum fits within the walkable

radius, these diagrams prove the need for communities to be focused around a local public space. In addition, with each new growing community, additional public space is needed to create a new community.

The diagram also shows the growth patterns of Ahmedabad in relation to the slum communities. As the slum communities grow along a walkable scale, greater Ahmedabad is growing on a massive, vehicular scale. This incompatibility of scale creates a lack of connectivity from the greater community to the slum community. These diagrammatic comparisons show not only the lack of public space planning in slum settlements, but also its importance as part of a comprehensive upgrading program.

### 1.7 Limitations of the Study

This research is limited by two major factors. First, the process by which slum communities are upgraded is a lengthy procedure consisting of several years of permitting, financing, planning, and, finally, construction. Field work for this study consisted of only six weeks of in-country research which is limiting to the nature of the subject matter. Ideally, such research should be conducted over a period of several years. To combat this problem, this research has focused on past projects and reports which have been completed; however, these reports have not specifically focused on public space planning.

Second, all mapping exercises have been conducted using Google Earth satellite imagery of the selected locations. Although it is usually acceptable in the field, it is not entirely accurate and requires some form of on-site verification of the mapping.

However, due to limited in-country fieldwork, the mapping exercises are approximations and several assumptions had to be made in order to understand the character of the slum communities.

### 1.8 Significance of the Study

This research will be of immense importance to municipalities and designers involved in slum upgrading. First, this research reinforces the existing argument that informal settlements are acceptable forms of urban growth. By acknowledging the slum dwellers as residents of the greater community, they are also deserving of the rights of other citizens, to not only clean water, electricity, and sewage, but to complete design services provided by city planners. This research would help prove that clearance of slums is an unacceptable process which is too expensive and ineffective. Instead, informal settlements need to be managed and maintained as any other neighborhood within the city.

Second, the results of this research could redirect the focus of slum upgrading from thin development plans towards upgrading projects that have a multiplier effect. Money invested in typical slum housing projects remains stagnant, while money invested in infrastructure exponentially increases the upgrading process (SIGUS, n.d.). My research would further explain this phenomenon by showing how money spent on investing in public spaces would create better livable slum communities and could generate investment in housing and create economic growth.

Finally, this research may be a precursor to the five-year research being conducted on the topic of public space usage in slums by UN-Habitat in conjunction with the New York based Project for Public Spaces (PPS) (Nikitin, personal communication). In April 2011 UN-Habitat released their first statement on public space, primarily focusing on slums (MacIver, 2011). The combination of public space and slum upgrading is a new topic and lacks quality research, leaving a space for this study.

## **Chapter 2: Literature Review**

While the idea of living in slums is not attractive, we must realize that the rapid growth of their populations make informal settlements a necessary form of urban development. Slums and their residents have much to teach us about the future of urbanization which is under the pressure of rapid population growth on one end and declining wealth, space, and sustainable resources on the other. In this literature review first I trace the historical definition of the term “slums”. The meaning of the word has evolved from focusing on the immoral activities of the people to describing the deficiencies of urban housing. The current definition, however, still ignores the need for community centered elements, including public spaces. Then, I explain the six major attitudes that governments and planning agencies take towards the existence of slums. To date slum clearance has the worst track record while upgrading projects have given unofficial approval to illegal slum living. Despite the importance in creating a better living environment for slum dwellers, there is a low priority placed on providing adequate comprehensive planning in slum settlements.

## 2.1 Defining Slums

The definition of a slum has varied throughout history beginning as an adjective describing criminal activity to referencing a particular location within a city typically delineated by overwhelming poverty. Davis (2006) claims that the first published definition was written in *Vocabulary of the Flash Language* in 1812 in which slum meant “racket” or “criminal trade”, yet later evolved to mean the locations in which the poor were practicing such deviant acts (21). By 1850 the term was commonly published including urban theorist Cardinal Wiseman and English novelist Charles Dickens. The term generally signified bad housing where conditions of overcrowding, disease, poverty, and vice were associated with the locations. However, as the term referred primarily to the physical housing conditions, the dominant description implied that the immoral behavior of the people living in the slums was a direct cause of the squalor.

In the twentieth century, the term expanded to include not simply a house or housing but entire neighborhoods and cities. The immorality of the people was no longer blamed for the dilapidated housing, but rather, the poor living conditions were seen as a cause of immoral behavior. In 1952 the United Nations defined a slum as “a building, a group of buildings, or area characterized by overcrowding, deterioration, unsanitary conditions or absence of facilities or amenities which, because of these conditions or any of them, endanger the health, safety or morals of its inhabitants or the community” (UNO, 1952: 200). In this definition, the morality of the slum dweller is a result of the slum itself not a cause. To take it a step further, Abrams (1964) described the word slum as “a catchall for poor housing of every kind as well as a label for the



environment” (4). Furthermore he claimed, “Slum life is not always the symbol of retrogression. It may in fact be the first advance from homelessness into shelter, or the way station on the road from abject poverty to hope” (Ibid:5). In this description, the morality of the slum dweller is removed, and the slum is defined as a source of hope along a path to upgraded living conditions. No matter the historical definition or amount of territory covered, the word “slum” has taken on a negative connotation calling to mind visions of poverty and inhumane living conditions.

Abrams also pointed out that the various definitions of slum overlooked the vast differences between locations, rental property versus owned, and legal versus illegal housing, adding several factors which must be taken into account when defining a slum. He stated, “The same word denotes a Chicago mansion turned into furnished rooms and a cardboard carton sheltering a human being in Lima” (1964:4). His observation highlighted the need for a standard interpretation of a slum. Through several evolving attempts, the most comprehensive definition, established by UN-HABITAT, addresses this ambiguity. However, it states that the definition is “restricted to the physical and legal characteristics of the settlement, and exclud[es] the more difficult social dimensions” (2003: 12). According to the report:

The operational definition of a slum that has been recently recommended for future international usage defines a slum as an area that combines, to various extents, the following characteristics:

- inadequate access to safe water;
- inadequate access to sanitation and other infrastructure;
- poor structural quality of housing;
- overcrowding;
- insecure residential status.

(Ibid.)

The UN definition dissociates the moral implications of slums and describes the various physical conditions of slums, focusing on deficient housing and infrastructure, while including the provision for secure tenure for such physical improvements. This definition allows for a wider variety of urban conditions to be labeled as “slums”, yet it clearly delineates specific problems that need to be targeted for improvement.

While the report defines the goals of slum treatment, it fails to recognize the deficiencies of the larger urban environment and the surrounding community. What about inadequate public space for settlement residents? To many urban designers, public space is valued as high as other infrastructure and housing demands, yet it is never specifically mentioned in the UN report. Infrastructure improvements in the report are limited to water, waste, electricity, transportation, lighting, and drainage; in addition, poor structural quality, overcrowding, and insecure tenure are defined only to individual housing conditions, ignoring businesses, markets, plazas, and community centers. The definition has clarified the UN’s targeted areas for adequate living standards, yet it fails to acknowledge the need for basic urban planning and community development.

## 2.2 Methods of Slum Treatment

Most urban theorists have classified slums into six major categories. For clarity I have divided these categories into two groups of three, possessing either negative or positive undertones. The negative grouping views slums in one of three ways: (1) as failed urbanization which deserves clearance, (2) as a necessary evil which will always exist, or (3) as a potential source of learning for what should not be done in urban

development. The positive grouping, on the other hand, views slums as (1) a form of urban development moving along a continuum, (2) a way of life for the future, and (3) a source of learning for how to plan future urban development. These groupings are most easily viewed as direct opposites of each other. Placed on a circular compass with the negative perspectives on one side and the positive perspectives on another, the compass can tell us from what point of view the author is arguing and what his or her potential treatment of slums might be (Figure 2).

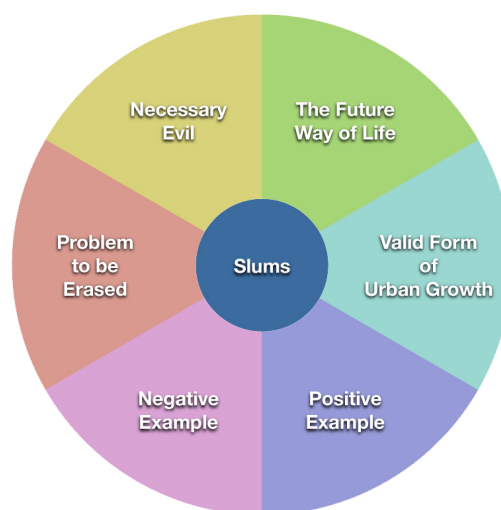


Figure 2: Slum Approach Compass.

Historically, the viewpoint most often taken is that informal settlements are a problem which should be eradicated as quickly as possible. Many government authorities have taken this approach with the assumption that if the slums are physically cleared, they will be permanently eliminated. In most cases this has not been a successful strategy and the slum dwellers have simply moved back onto the vacant land (sometimes overnight) or have overcrowded other areas of the city creating the potential for new

slums. In some cases slum populations have grown extremely large, and the local municipality can no longer afford to clear the slum housing. Maintaining the viewpoint that the settlements are a problem to, or failure of, the government, these slums are treated as a nuisance to the rest of the community. This negative perception separates the slum from adequate government outreach or community response.

In underdeveloped countries, slum clearance has been a consistent practice learned from the examples of Britain and the United States. Abrams (1964) writes that in the late 1950s British-trained planners working with local authorities were calling for slum clearance in Accra, Ghana despite the housing shortages. He states that in 1954 at a Cambridge University meeting of British and foreign officials concerned with African issues there was “a sincere feeling amongst most that the way to clear slums was to tear them down” (1964:119). Hamdi (2010) writes that in the 1960s slum clearance was a global perspective. “In cities of countries in the north and south, the demolition of slums and clearance of informal settlements was the norm. The values and living conditions of squatter settlements were obstacles to modernization and had to be obliterated” (2). This represented a common view of the day, and one that persists today.

The allure of slum clearance is that it is quick and affordable if attempted early when the settlements are small. The government can even make a profit if the land can be divided up and quickly sold to private developers. (Abrams, 1964:121) The cost of clearing the land is more favorable than attempting to install expensive underground infrastructure like sewers and water after structures have been built. However, the clearing of land does not resolve the enduring problem that there is a lack of quality,

affordable housing and decent urban planning. Even constructing low income, high density housing after slum clearance has only exacerbated the problem. Newly constructed project housing has, in some cases, become merely unhealthy multi-story slums. Jane Jacobs (1992) says, “low-income projects [have] become worse centers of delinquency, vandalism and general social hopelessness than the slums they were supposed to replace” (4). These examples show that the main response, historically, has been to superficially treat slums with a band-aid, while the growing housing problem has become an infected wound.

As we move clockwise around the slum compass, we see that slums can be viewed as a necessary evil. At some point the process of razing slums and providing affordable housing cannot meet the growing demand for housing as a result of rapid migration from rural to urban regions. The migration of people to the city overwhelms the means and finances of the state to adequately plan, construct infrastructure, and provide housing for the population. Consequently, these informal settlements are reluctantly accepted by the state. They ignore their existence and simply provide the minimum necessities to ensure social stability and avoid unfavorable public action. Davis’ (2006) apocalyptic writings view slums as places that will never be eradicated as long as our current neoliberal policies are the dominant economic mentality. He sees the slum as the future of urban development as the state continues to diminish its role in providing for its citizens. While Davis may be correct in saying that slums will always exist, he provides no solutions to combat this eventual decline of society nor does he cite

evidence that the reversal of neoliberal policies will lead to a diminishing slum population. His writings act as scare tactics for government policy changes.

However, as we move further clockwise along the spectrum, bringing Davis' apocalyptic writings into a positive light may help us approach slums completely differently. Brand (2010) has chosen to look at slums as the inevitable way of life in the future; however, from his perspective, this way of living is bringing true innovation to urban living. He (2010) proclaims positively that with the retreat of the state "young populations test out new ideas unfettered by law or tradition". Using minimum energy, materials, and simple transportation such as foot and bicycle, he claims squatter cities are "unexpectedly green," something many developed cities are desperately working towards (Ibid). His view envisions the future of urban living as a form of glorified slum: small, compact, and sustainable. The UN-Habitat shares Brand's view stating that "some experts have actually suggested that the only realistic poverty reduction strategy is to get as many people as possible to move to the city" (2003:27). Although they do not advocate for the inadequacies that define slums, they envision it will be easier and more affordable for states to provide the essentials to a condensed urban population, rather than a sprawling rural or suburban population. While not ignoring the fact that slums have serious issues, they see the positive potential inherent in the chaotic slum structure.

On the right side of the slum circle diagram, many urban theorists today are redirecting their attitude towards informal settlements as valid forms of urban growth, a process which will eventually lead to formal housing and natural upgrading. The writer Robert Neuwirth looks historically at cities in the Middle Ages and draws the comparison

that today's informal settlements are similar to medieval settlements. He (2005) writes, "All cities start in mud" (179), implying that with some amount of time, policy, and investment, slums will become fully developed urban settlements. Brand (2010) reinforces the inherent potential in slums saying, "The magic of squatter cities is that they are improved steadily and gradually by their residents." Hamdi (2010) echoes this sentiment but draws attention to the shortfalls in social and political structures: "The urban poor today are recognized for their resilience and productive capacities, rather than their inadequacies, despite the continued burden of discrimination and disadvantage" (9). These statements spring from the theory that urbanization is a process which must gradually occur. "When we look at the most beautiful towns and cities of the past, we are always impressed by a feeling that they are somehow organic...Each of these towns grew as a whole, under its own laws of wholeness" (Alexander et al., 1987: 2). Yet we often fail to see the beauty of the organic process happening in slums, using the existing beauty to create better urban environments.

While many urban theorists today agree with Neuwirth and Hamdi, their approaches to creating the ideal environment for slum upgrading vary. Solving the problem of slums is not a single issue solution. However, it is important to stay optimistic when examining and learning from the urban survival methods of slum dwellers and to see what is already working in slum communities. Staying on the negative side of the compass, the point of view of slums as "problem" and "necessary evil" point to a process of learning what not to do in urban planning which limits what can actually be learned from studying slum urbanization. Instead of finding out how

urban communities are succeeding in creating unique living environments, governments and planners are dismissing organic growth as unplanned, unnatural, and unwanted exactly as architects have been doing for years (Hamdi, 2010: 11). However, just the opposite may be true: Using slums as a positive example of learning can show us what can be accomplished with limited space, materials, money, and a constant retreat of the state. Informal settlements are a source of valuable information for urbanists and a growing reality for future urban living. How we view these slums can either keep us in a constant and futile state of clearing and dispersing vulnerable populations or it can frame the problem as a valid process of urbanization and challenge us to find humane methods of upgrading and relocation by first looking at how slums are already functioning.

While informal settlements are not ideal, the reality is that they exist: they have existed for, and will exist for, a long time. The slum is not merely a lack of physical infrastructure, but a result of years of neglect from municipalities and the surrounding communities. Understanding how we view these slums and their residents will help us approach their solutions with clarity and focus. We must create effective upgrading plans that encompass physical upgrades as well as community development elements.

### **Chapter 3: The Case Studies - Existing Slum Urbanism**

The first step of this research is to understand how slum communities are contributing to the urban pattern of Ahmedabad. This process involves changing one's perspective to appreciate what already exists in slum settlements before attempting to



implement development work. Carr (2011) writes, “There is no discussion of what is working in the lives of the poor, and therefore the public has little sense that there are fragile things in peoples’ lives and livelihoods that should be protected as we bring new programs and projects to ground”. Slum communities deserve to be recognized as functioning urban quarters and this research hopes to prove that. Once the urban qualities are identified, in-situ upgrading projects can build on the working characteristics to create more habitable living situations for the poor.

Presently, the lack of affordable housing is the main cause associated with slum growth. However, we must change our perspective and realize that these slums are already producing the affordable housing that is lacking, closing a gap in the supply. The problem remaining is how to integrate these communities into the larger urban fabric while simultaneously creating a dignified standard of living. Governments must recognize the existence of this affordable housing, improve it, and enhance the existing community.

For this research two case studies have been chosen which will be tested against existing urban theories. The urban theories reveal how these communities have been naturally and organically formed according to popular New Urbanist design principles. In the following chapter, the case study slums are described first, followed by the evaluations of their unique urban patterns.

### 3.1 “Hollywood”, Gulbai Tekra

The first slum case study is Hollywood Basti, located in Gulbai Tekra, west of the Sabarmati River. Gulbai Tekra is in the Ambawadi Ward and sits between Gujarat University and St. Xavier’s College to the north, Chimanlal Girdharlal (C.G.) Road and Parimal Gardens to the east, the Sheth C.N. Vidyalaya art school to the south, and the Ahmedabad Stock Exchange is located to the west not far away. Many believe Hollywood was established sometime in the 1950’s (Somasundaram, 2011), but some reports claim it has existed for 150 years (Nayudu, 2009, Sept.). Regardless, residents are in agreement that the community existed long before the modern development existed. Essentially, the slum existed as a village which was swallowed up by the expanding AMC boundary and new development in the 1960s (Ibid).

Hollywood is a relatively average sized slum for Ahmedabad’s standards and has obtained basic infrastructure connections. It houses approximately eight thousand people in 1,500 shanties and covers roughly 11.5 acres (4.65 hectares) (Somasundaram, 2011). The community is situated on half of one city block in western Ahmedabad. Each house pays for individual electricity from the privatized electric company. Communal toilets have been installed, and some homes receive private water connections. However, this is rare for newer squatter homes. In addition, residents pay taxes for these services, as well as, for the ownership of the land (Nayudu, 2009, Sept.).

The informal settlement is located in the middle of the Gulbai Tekra neighborhood on a triangular plot of land surrounded by affluent businesses and residential housing. Its metropolitan nickname, “Hollywood”, is somewhat of a mystery according to local

newspapers (Somasundaram, 2011). The Times Crest states “Some say the nickname is a tribute to the slum's colorful people. Indeed, women here wore backless cholis much before they became a rage. Others say the intent is ironical.” (Ibid.) The irony in the name comes from the primary scene of the slum: a large trash heap strung along the main road which passes the settlement. The Times of India describes the slum as having “ubiquitous filth and narrow labyrinths” (TNN, 2009). This main passage through the affluent surrounding neighborhood presents a strong contrast as one travels north from the new, wealthy development in Gulbai Tekra, through the Hollywood slum, and north to Gujarat University. One moves from dense, wealthy city to overcrowded, unmanaged slum, and finally to spacious university lawns and institutional buildings. The slum can hardly be ignored visually in its current location.

One might notice the surprising amount of filth in front of the slum at first glance, but the second observation might be the giant unfinished terra-cotta idols of Ganesh displayed outside the community. Hollywood is known for its fabulous idol making, and people travel from all over Ahmedabad and from neighboring states to purchase these statues before the Hindu festival honoring Lord Ganesh in early September. Hundreds of idols are shipped out by the truckloads for the celebration. This is the primary source of income for Hollywood slum dwellers, but this work only lasts for about four months a year. “Most residents are Bavris (Rajasthani Marwadis) who make idols before festival time, work as domestic help and as laborers” (Ibid.). Residents must either subsist off of the income generated by the September festival or find additional work in the off season.

Most children work alongside their parents and as a result are not formally educated. “The slum has two anganwadis [preschools] and a municipal school nearby. But, only a few children study in it as they have to work to help their families eke out a living. Most drop out and help their parents in their work” (Ibid.). Over the last decade, St. Xavier’s College, run by Jesuit priests, has opened their campus to conduct informal night schooling for the adults and children of the slum. The Gulbai Tekra Project also assists by providing medical assistance and discounted food rations.

Despite being a popular destination for idol making, being established for over fifty years in the Gulbai Tekra area, and promises from the Supreme Court not to demolish slum housing, Hollywood has had to struggle for its existence in the past decade. The AMC itself has tried to demolish the slum on several occasions. In 2004 the AMC destroyed 120 hutments to construct a road now bordering the southern side of Hollywood and splitting the community into two (Appendix 15). In another case in September 2009, the AMC “demolished around 10 hutments and four deris (small temples) at Gulbai Tekra despite a stay order from the Supreme Court” (Nayudu, 2009, Sept.). The AMC blatantly ignored the Supreme Court’s orders denying demolition of slum housing in Ahmedabad and attempted to raze nearly 75 houses. In 2010 plans were made to give the land over to private developers in the city’s new public-private-partnership (PPP) model for housing the urban poor. However, plans have stalled due to legal battles still pending from 1961 and 1972.

Hollywood Basti is a well-known, well-established fixture in Ahmedabad. For over fifty years it has drawn locals and tourists to the seasonal idol-making attraction. In

February, 2011 the Hollywood settlement applied to UNESCO for a heritage tag after the AMC failed to list them (Nayudu, 2011). Hollywood's main hurdle is finding a way to be recognized by the AMC and the greater community as a legitimate and secure settlement.

### 3.2 Ravivari Market Slum, Sabarmati Riverfront

The Ravivari Market slum is the second case study. Located on the east bank of the Sabarmati River in the Jamalpur ward, the settlement's western edge has been shaped by the high and low tides of the flood seasons. One can see from historical satellite maps that during the high flood season that the settlement comes right to the edge of the rising river (Appendix 16). Named for the historical Ravivari (or Sunday) Market, the slum is located just south of Ellis Bridge adjacent to the market edge and extends almost halfway to Sardar Bridge. The settlement is bounded by Victoria Garden and several high-rise housing and hotel developments to the east.

The settlement, unfortunately, rests in the boundary of the Sabarmati Riverfront Development Project (SRDP), and the AMC unexpectedly demolished the slum in early May, 2011 (Ahmedabad, 2011, May). This is one of many controversies surrounding the SRDP and its handling of various riverfront slums. While the AMC claims to have provided alternative housing to the majority of the families residing in the slum, residents argue that the housing was too far from the market and their livelihood. Just two weeks after the incident, I observed that many families had returned to the slum and set up temporary hutments made of tarps and cloth, trying to establish permanence in the valuable location. Local papers claim that residents are waiting for compensation for

housing from the AMC: “More than 300 families, who were rendered homeless post the demolition drive by AMC in the first week of May, have ended their agonizing month-long wait for houses from the civic body by beginning their search for their own home elsewhere in the city” (Rana, 2011). Due to the coming monsoon season, many newly homeless residents have moved to other slums throughout the city (Ibid.).

Both the slum and the Sunday flea market have been a historical fixture on the Sabarmati riverbank. Many people claim that the market was established in the fifteenth century by the founder of the city himself, King Ahmedshah. It is estimated that over two thousand vendors sell at this market every Sunday, and thousands more are affected by the informal sales that take place (Rana, 2011; Nayudu, 2009, Oct). A town hall meeting in 2009 held by the CEPT university and the local NGO SEWA allowed residents to speak about the history of the market and the slum after the AMC threatened to close the location for the SRDP. Nafisbhai, the head of the Gujarati Market Traders Association which manages the market, stated “Even though we pay tax to AMC regularly, we are going to lose our means of sustaining our families. Shouldn’t such a historic bazaar be preserved rather than removed?” (Victims, 2011). The slum itself is unquestionably connected to the market both physically and economically. However, as slum dwellers have been resettled in many locations along the riverfront, “many locals allege that those living there since the 70s have not been allotted a house.” (Ahmedabad, 2011, May). Before the demolition, the Ravivari Market slum housed an estimated 5,000 families, and more than 500 hutments were demolished in early May (Ibid.).

Like Hollywood, the Ravivari Market slum is a historically established and popular settlement throughout Ahmedabad. The weekly market makes the community an attraction and allows for a consistent source of income close to the homes of slum dwellers. Similar to Hollywood, leaders in the Ravivari Market slum petitioned UNESCO for a heritage tag after being ignored by the AMC (Nayudu, 2011). Now demolished, the slum dwellers still living there lack acknowledgement from the AMC and have become an enemy to the riverfront development plans.

With the following mapping analyses, I hope to prove more definitely how these two slums can contribute to the urban fabric of Ahmedabad. While the communities are continually ignored by the AMC, they deserve complete integration without clearance or relocation.

### 3.3 Figure-Ground Analysis

A. Jacobs (1995) searched for existing characteristics which already work in creating great streets in cities around the world. This thesis uses his research method to find the valuable urban characteristics which already exist and are working in slum urbanization patterns in Ahmedabad. Of the many observations that Jacobs makes through his study, this thesis summarizes five results which can be applied to slum settlements. First, variety in urban patterns is inevitable. Second, some form of organization exists in cities whether straightforward or complex. Third, changes in scale are important for creating interest. Fourth, urban design requires that the population has access to participating in the overall design. Finally, good urbanism delivers freedom to

its residents and allows for an infinite number of daily choices. Looking at these five observations, we can see that slum communities in Ahmedabad have satisfied many of the characteristics needed to be quality places.

First, Jacobs observes that all cities have an infinite variety to their design and layout. This bodes well for slum communities who may seem “different” than typical wealthy development patterns. One can see from the figure-ground plans of Ahmedabad that the slum communities of the Ravivari Market and Hollywood interrupt a different block pattern occurring outside of the slums (Appendices 3-5). The riverfront community, for example, creates a hinge between two distinct development types (Appendix 5). One can see the intense density of the Walled City to the east of the riverfront slum. The slum pattern is not much larger than the scale of the historical district of Ahmedabad (Appendix 3). Small blocks and narrow streets create an intimate urban experience. However, it is grossly out of scale to newer development in cities like Irvine, CA and Brasília, Brazil (Appendices 9 & 10). Once crossing the Sabarmati River to the west where modern development has relied on mega-blocks and large streets, the slum community looks vastly out of place. This oddity is more apparent in the Hollywood condition.

For Hollywood, the slum sits in the center of the map and abruptly stops the regular mega-block pattern of high income development near Panchwati Circle at the south (Appendix 4). To the north, the characteristically large open space development of the college and university development is monstrous. The university development is less permeable than the regular development to the south, and is less inviting in plan.



Hollywood's development pattern could be recognized as a typical rural village which began as one caste, class, or even a single family and was engulfed by modern development. When the lots were given to the university, Hollywood became completely surrounded by a mega-block development pattern, completely alienating its own intimate scale from the rest of the city. On the other hand, the riverfront slum is still similar in pattern to the Walled City plan.

These different patterns carry mixed sentiments from the public and city planners; however, following Jacobs' celebration of diverse city patterning, they are neither good nor bad. One could see the many flaws in mega-block planning—such as lack of walkability and strain on extended infrastructure—just as well as one could see the problems associated with the compactness of slum communities—such as overcrowding and limited emergency access. Hollywood and the riverfront are not negative urban patterns, but they simply become one of the many urban planning varieties. We will see how their patterns are often more enjoyable and appropriate than the alternative larger-block urban patterns.

The second observation identifies urban communities as having an inherent order and structure. To the outsider, the slum community may seem to lack such a characteristic; however, with closer observation, we know this is false. Notice how the Hollywood pathway connections from the street into the settlement are rhythmic. Each opening in the fabric is evenly spaced about the dimension of the small houses. As one enters the community, those narrow streets widen and open up to small, public spaces not

far from the main road<sup>5</sup>. This pattern is a combination of lack of space and security from the surrounding community. Like a medieval city, Hollywood protects itself from the larger city. This pattern is both intentional and a result of the small housing of the slum.

One can see that Hollywood has an intricate connection of pathways which connect one open space to another. These spaces are almost systematically distanced from the previous, and in Appendix 18 it is clear that these spaces are often structured around existing trees growing in the settlement. Compared to formal developments in the city, the Hollywood and riverfront slums tend to have a larger number of trees scattered throughout the communities. These communities have created a miniaturized scale of good park space and open space compared to the clusters of trees found in large developments. For the slum, each tree appears to be sacred, as they are evenly spaced in the community and surrounded by public activity. The spaces around them are often used for religious celebrations, work, or sleeping outside during warmer nights. These settlements are not randomly building in a haphazard flurry; rather, they are organizing a way of life that is in line with their physical environment. They are creating an order to their community.

It is vastly more complex than any other kind of order. It cannot be created by decision. It cannot be designed. It cannot be predicted in a plan. It is the living testament of hundreds and thousands of people, making their own lives and all their inner forces manifest. And, finally, the whole emerges. (Alexander, 1979: 510)

In the case of Hollywood, protection and small places of gathering are important for the structure of the community, which are reflected in the urban designs.

---

<sup>5</sup> On the south edge of the settlement one can see open spaces directly on the street front; however, this is where the AMC demolished several houses to create a new road.

The third observation is the importance of varied scales within the city. From viewing the figure-ground plans, it is obvious that these informal settlements operate on a smaller scale; however, what is not apparent is the amazing sense of place that one gets while walking through these communities. My first observation walking through Hollywood was how intimate it felt. The slum defied my perceptions of poverty and filth, as I walked through tidy, organically-patterned, paved pathways. Part of the slum had been connected to public services about ten years prior, and the housing, although below city building standards, was kept clean and maintained. Each facade was brightly painted in primary colors or bright whites. This slum could have been a Greek island village, or an Italian hillside town<sup>6</sup>. The scale felt similar, and the experience was romantic, yet still urban. I felt like I had left the city of Ahmedabad and had been transported into a quiet, remote village in the countryside, not a slum in the innercity.

One explanation for such an extreme comparison is that when mapping the slum, one is including nearly every space between buildings as “street” and every left over awkward space as “plaza”. The maps drawn by Jacobs focus on blocks and street patterns only, and not necessarily buildings. If we were to compare the Greek island village and Italian hillside village by building shape, rather than lot sizes, it might be similar to the slum village.<sup>7</sup>

In appendices 11 and 12, I have compared six smaller versions of the figure-ground plan to emphasize this important point. The plans are squares, sixteen hundred

---

<sup>6</sup> In fact, Gulbai means “hill” and residents told me that the slum once overlooked most of the surrounding area.

<sup>7</sup> In many cases, these European buildings fill the entire lot lines anyway.

feet by sixteen hundred feet at the same scale of one inch equals one thousand feet (1:1000)<sup>8</sup>. To the left side, the diagram shows three European cities known for their combination of condensed scale and beautiful urban experiences: Mikonos, Greece; Montepulciano and Venice, Italy. To the right, are the historic Walled City of Ahmedabad and the slums of Hollywood and the Ravivari Market. First, one can see that the scale of the island town of Mikonos is comparable to the two plans of Hollywood and the riverfront slum. Blocks are small, streets are narrow and irregularly placed. Montepulciano, on the other hand, has a more regularized street system which follows the contours of the hillside. It is stepped to the geography, but still has some narrow streets except for areas that open up to large public spaces. These spaces are comparable to the size of the riverfront's market to the north (Appendix 17). Blocks are much larger than the slum villages; however, there are a few which can be compared to the smaller sizes of the slum blocks. Many of Venice's blocks are small and fragmented like the plans on the right. The streets and canals are wider compared to the those in the slum. Comparing the historic Walled City to the slums, the streets are as narrow, and in the riverfront, the public spaces are much larger. It is strange that despite these similarities between these towns and the slums, that the perception of them and their treatment are entirely different.

While tourists flock to these locations in Europe, in Ahmedabad they are locations to avoid. However, the intimate pattern of all of the selected drawings in Appendices 11 and 12 is beautifully scaled for a romanticized urban experience. This is primarily due to the fact that both the European villages and the slums contain everything one needs for

---

<sup>8</sup> The minimum dimension used by Krier to designate a ten-minute walkable community. (See section 3.5.)

city life in such a small scale. The communities are infinitely diverse in the activities that are happening. Jacobs writes:

A consequence of the various scales of cities and of how much is in a limited area is the amount that can be experienced intimately, on foot, in one compared to another. The square miles with more in them seem also to have more streets in them, more different places for people to be, though not necessarily a greater surface area taken up by streets. Most of the great streets that we have encountered are also in areas where there are more things. (1995: 260)

One can compare the validity of Jacobs' statement to what is happening in the slum case studies. The number of spaces and streets in these six plans far outnumber those in the newer developments of Ahmedabad (Table 2). Exploring a slum on foot could take all day, yet it covers just one city block. In contrast, experiencing a newer development on foot which encompasses an entire city block is hardly an interesting, walking adventure. This might explain why those surrounding areas of the city are rather boring and uninviting to tourists and locals. Instead, people are drawn to the intimacy and diversity found in the compact and historic Walled City (which got its start with the same scale of the slum case studies).

These slum communities are using less space and accomplishing much more. Can the residents of the new developments west of the Sabarmati River claim to work, live, play, eat, pray, and sleep in the same 100 square feet? In the slums, multiply this experience by forty to eighty families, all on one city block. This small-scale city planning is the natural intuition of humanity at its finest, and yet we still feel a need to destroy or relocate this population without identifying the positive contributions being made to urbanization.

Jacobs claims this larger development scale is a result of newer planning technique. “It seems clear that the scale of blocks and of street patterns has become larger with time, especially over the last 150 years” (1995: 259). He also notes that the “patterns become less complicated” (Ibid.). But I must argue it is a result of not recognizing what is already existing and working in our most beloved urban locations. The slum dwellers are naturally creating the beauty we lack in newer, formally-planned urban areas, and much of this beauty comes from the scale with which they have “chosen” to build. This scale is condensed and human compared to the massive urban planning scales of formally planned communities which Jacobs observes like Brasília, Brazil and Irvine, California (1995: 260-1) (Appendices 9 & 10).

While this small scale in the slums creates an intimate city experience, it is obviously not perfect. The most prominent distinction between the plans is that the European examples and the Walled City contain formalized public spaces which act as city centers. The slum villages lack those centralized spaces and lack their comparable size (with the exception of the riverfront’s informal weekly market). While spaces are clearly present in Hollywood’s plan, the sizes are just the size of courtyards and corners in the European examples, and they function more as near-home semi-private spaces for the surrounding families. These slum communities lack centers for gathering and commerce.

Fourth, the large number of intersections and streets in the slum communities increases choice and freedom for residents. For urban development it is ideal to have more intersections at smaller scales for the flow of people and for equal access to

shopfronts and commerce. Jacobs (1995) claims that less intersections in the city fabric (typical in newer development patterns) “can be viewed in terms of diminishing choices and perhaps in terms of diminishing freedom” (266). Newer developments such as Brasília and Irvine have a limited number of intersection in their figure-ground plan (82 and 15, respectively). In contrast, Venice and Ahmedabad contain 1725 and 1447, respectively. This makes a difference in experiencing these cities on a human scale. Hollywood and the Ravivari Market slum contain 6,802 and 2,512 intersections, respectively (Table 2). These slum residents have created communities which provide an infinite number of choices in daily life, a freedom that is definitely oppressed once exiting the confines of the slum.

<b>City (and area)</b>	<b>Intersections</b>	<b>Blocks</b>
Venice	1,725 * (1,507)	987 * (862)
Ahmedabad (Walled City)	1,447	539
Ahmedabad (Hollywood with slum)	175	223
Ahmedabad (Hollywood without slum)	297	110
Ahmedabad (Hollywood slum only)	6,802 * (122)	6,300 * (113)
Ahmedabad (Riverfront with slum)	251 * (209)	181 * (151)
Ahmedabad (Riverfront without slum)	154 * (128)	97 * (81)
Ahmedabad (Riverfront slum only)	2,512 * (81)	2171 * (70)
San Francisco (mid-city)	182	137
Brasília	92	47
Irvine, CA (business complex)	15	17
New Delhi (old city - Red Fort)		

\*As Jacobs adjusted the square miles for large bodies of water, increasing the numbers by the proportion of land deducted, so have the slum counts been adjusted to cover the entire square mile. The number in parenthesis is the actual count.

Table 2: Intersection and block counts for Figure-Ground Plans in Appendices 3-10

Finally, Jacobs’ also observed that as newer developments grow in scale over time, this has reduced access by residents to participate in the urban process. Jacobs

(1995) writes, “The new pattern...favors bigness and wealth at the expense of participation by large numbers of smaller actors” (265). The figure-ground plans are a vivid symbol of such development patterns. Each large block of western Ahmedabad may be owned by one corporation or individual. The participation of how that land is integrated into the city fabric rests in the hands of that one entity. The mega-block on which Gujarat University sits is one example. The process is exclusive to those who have wealth and political power. On the other hand, the slum blocks are at such a small scale that access in the decision making process is nearly open to each individual household. This pattern of slum development creates additional diversity in the city planning process. A multitude of actors have been given the power to shape the city fabric.

While in most cases the slum dweller has not been given the permission to shape the city fabric, he has taken that right back unto himself. Like Lefebvre's “right to the city”, the slum dweller is demanding access to participation on a personal scale. This is also apparent in Hamdi's understanding of the slum development process. Hamdi (2010) states that for slums, the urban process is, in fact, backwards (121). The typical process starts with securing tenure and land rights, then to planning, and building. Finally the space is inhabited. In the slum, the process begins with inhabiting space. With time, something is built and may be formally planned. Finally, the dwellers search for ways to secure tenure and property rights. The slum dweller is exercising this access to participation at the first moment possible by occupying land as the first step and creating as the second.



While these five observations show what is working in the slum, they also reveal some major short falls. These short falls may not be negative aspects of the slum community, only different forms of urban patterning which create unique ways of living. Nevertheless, the figure-ground plans show how the condensed scale of slum communities can actually be a positive start in urban planning discussions.

### 3.4 The Five-Minute Walk

Recent urban planning methods have placed a high level of importance on creating walkable neighborhoods in order to reduce dependence on automobile transportation. New Urbanists claim these walkable neighborhoods create better places to live and stronger communities (Duany et al., 2000). Especially for the elderly, the young, and the poor, walkable communities provide more access to the usual daily needs provided by the city. In the case of slums, by applying the five-minute walk theory, we can see that these communities are walkable: another indication that good urban design is naturally occurring in slums.

Duany et al. (2000) define the five-minute walk as a circle with the diameter of 400 meters (1,320 feet) (15). Looking at appendix 13, one can see the analysis of the five-minute walk overlaid onto the aerial images of Hollywood and the Ravivari Market slum. This analysis shows that the small scale of the slum communities follows more closely in line with the concepts of New Urbanist planning than do the new urban patterns of Ahmedabad. The small scale of the slum communities is humanly proportioned and allows for access to all uses of the city by a variety of users. No one is

excluded from being able to obtain their daily needs due to lack of fares for public transportation or lack of personal vehicular transportation.

Despite achieving a walkable scale, an important aspect lacking in the five-minute walk is access to an urban center or public space. Krier (2009) states as a minimum that “each quarter has at least one central square” (141). While these slum communities have small spaces which can be accessed by families or a small collection of people, there is no single location that is designated as the urban quarter’s “center”. Instead, there are many smaller, fragmented spaces, and the larger public squares, by default, become overflowing spaces outside of the boundaries of the slum community. In the case of Hollywood, the north-south street to the front of the slum becomes the public gathering space for the residents. One can see the many activities occurring along this street at all hours of the day, from eating and sleeping to idol making and vending. As a major street connecting two ring roads within Ahmedabad, it is also a dangerous location for the community. Cars speed by without much care as to the adults or children crossing or playing in the street. On several occasions I witnessed cars speed through and interrupt celebratory processions or evening festival activities. In the Ravivari Market slum, the situation is much less dangerous. The Sunday market has sustained that community as the primary public space and is located off the main highway, below the bridge, and closer to the riverfront. The dwellers have respected that land boundary without encroachment, knowing that the market is the “center” of their urban quarter. While the riverfront slum has a centralized market it is still informal and physically disconnected from the city.

In both of these slums, a formal space is missing in the community. The five-minute walk analysis proves that these neighborhoods are forming good planning patterns, however, they lack important aspects which normal municipal governance would provide. Centralized squares are non-existent and in need.

### 3.5 Patterns of Urban Growth

We have seen that these two slums have excellent diversity and urban patterns contained within a small scale, but it is generally assumed that these communities are growing at alarming rates within cities causing over-expansion problems. While this may be true for some cities such as Mumbai or Nairobi where slum communities house thousands of families in a sprawling pattern, Ahmedabad's slum communities remain isolated pocket slums, compact and limited in their growth. The two case studies show a different pattern of growth which Krier describes as the more acceptable growth by duplication.

Looking at the map of Ahmedabad, it is obvious that the city itself has unfortunately fallen into Krier's category of growth by hypertrophy (Appendix 1). The city's pattern of growth consists of concentric circles building larger and larger around the latest peripheral development of the city. Despite attempts to stop such growth by designating a no-build green belt, the city continues to grow concentrically.

In contrast to the larger city's growth by hypertrophy, the slum communities primarily grow through duplication. Since these communities are organized around one caste, class, or family, the growth patterns tend to be small and defined by these social

structures. Once the community grows to a certain size of family members or laborers in one caste, the community is duplicated as Krier encourages. Alexander, Ishikawa & Silverstein (1977) call a cluster of these small communities a “mosaic of subcultures” (43). These subcultures preserve the various unique cultures of each community, keeping them separate, yet accessible to the surrounding public. In the slums of Hollywood and the riverfront, the culture of each caste is maintained through the small boundaries, while still being experienced by the surrounding people through visits to the Ravivari Market and during the Ganesh idol making season. These subcultures are also roughly the same size of the five-minute walk: “We imagine that the smallest subcultures will be no bigger than 150 feet across; the largest perhaps as much as a quarter of a mile” (1977: 50).

Examining the slum map of Hollywood, one might assume that the settlement is made up of one large community; however, the slum actually consists of two to three communities which have duplicated (Jani, 2011). The section of slum previously mapped contains two separate communities after years of growth. In addition, another section of slum kathy-corner to the southeast is forming a third community. These slum communities show a smaller scale of growth occurring in the slum communities throughout Ahmedabad, and they can be visually explained by two small circles (Appendix 14). Part of this small scale growth is attributed to the physical restraints of the land that is available; however, this is not always the case as the riverfront slum indicates.

The expanding growth of informal settlements along the riverfront have mimicked this small scale growth pattern despite the availability of open land. The Ravivari Market

slum is isolated for the most part from surrounding development; however, its size has remained constant for the last 10 years at least (Appendix 16). Even if the seasonal rising of the river has kept the settlement consistent, this does not explain why the settlement has not grown larger since the riverfront embankments were built in 2006. At a time when growth of slums is increasing, the boundaries of the Ravivari Market slum remained the same. Most definitely density is increasing in these communities; however, it is still interesting to note that a predetermined physical size of the slum boundaries remains fairly consistent. The organic nature of the slum communities confine themselves to a natural maximum growth size before duplicating into a new community.

Despite the natural, duplicative growth of these settlements, the communities still lack connection to the greater spiraled growth of Ahmedabad. These settlements are being engulfed in the fast, large-scale development patterns of greater Ahmedabad. There must be a means of connecting these communities to the greater urban fabric without destroying the heritage of the unique urban patterning happening in the slums. Again, one way to achieve this connection is by creating public spaces that do not exclude slum communities, but rather, that make the slum communities a destination point of their own. If appropriately scaled public spaces are included into slum upgrades, these communities can be better linked to the larger city pattern. However, these public spaces must be designed in a way that allows the slum community to become a place or destination of the city to be celebrated and not a place to be avoided.

## **Chapter 4: Potential Benefits of Public Space**

Including public space design as part of infrastructure improvements increases the capacity for slum communities to initiate self-help upgrading while also giving legitimacy to those existing communities. Municipalities cannot afford to rebuild and redesign slum settlements, and getting the most out of an upgrade means doing the very least with the most return. Providing appropriately designed public spaces as connection points to slum communities can improve the quality of life for slum dwellers while also using the existing good urbanism that is coming out of the slums. This reuses what already exists and does not overburden the upgrading project's finances or timeline. If municipalities are going to upgrade water, sewage, storm drainage, and roads by tearing up the soil and placing paving, it makes sense to incorporate the design of a connective public space which residents can use for respite, celebrations, and income generation. In the following chapter, I explain the many ways in which public spaces can enhance slum upgrading, and I give examples of some of the ways these spaces are already working to improve the quality of life for slum dwellers. In general, public spaces have already been used in urban planning to increase health and safety standards, promote pride in one's community, and to increase economic activity. I finish the chapter by providing a public space solution to the two case study slums as a guideline.

#### 4.1 Improved Health and Safety

One benefit of providing public space is its ability to improve the health and safety of people in high density neighborhoods. The following section explains how these spaces can be a benefit for physical health, social well-being, and public safety.

First, public space can be a benefit to increasing physical health in slum dwellers. Under Target 11 of Millennium Development Goal number seven, there are five objects listed to combat eradicating slums by 2020. One of these five concerns is reducing overcrowding in informal settlements (2003, May). Not to be confused with high densities, meaning “large numbers of dwellings per acre of land”, overcrowding “means too many people in a dwelling for the number of rooms it contains” (Jacobs, 1961: 205). High density is a benefit of city living and celebrated by many urban planners, on the other hand, overcrowding is a sign of slum living and insufficient dwelling units for the poor. UN-Habitat (2003, May) reports, “Examples of slums worldwide show that dwelling units are often overcrowded with five and more persons sharing a one-room unit used for cooking, sleeping, and other household activities” (13). Overcrowding is a problem in slum communities which causes many physical and mental health concerns.

One approach to combat the unhealthy number of people per dwelling unit is to provide for a greater number of dwelling units. However, this is obviously a financial burden which many municipalities cannot afford nor can the market provide in an effective and timely manner. In this situation, public space can be used to create a respite for slum dwellers living in overcrowded conditions. Alexander et al. claim, “A town needs public squares; they are the largest, most public rooms, that the town has” (1977:

311). These public spaces (or “rooms”) do not benefit just one family, as simply providing a larger house would, but it satisfies the entire community’s needs for additional space.

The SNP has begun to recognize the need for communal space indirectly by providing landscape planting as part of the upgrading package. This consisted mainly of planting trees in transition spaces throughout the slums. As I observed in chapter 3, Hollywood had a large number of trees planted in that community compared to surrounding development. Hollywood used these unbuildable tree locations as public spaces, occupying them with a variety of uses. While planting these trees were mainly used as a method of greening the community, it consequently allowed for unbuilt open spaces to be created and then used by the slum population.

As overcrowding is eased, residents can build housing at their own pace to satisfy their housing needs. Simply providing larger spaces and more rooms for the various activities of the household does not necessarily provide for a better living condition. I observed that many families use their houses for business related purposes such as cooking meals to be sold on the streets, making items in their living spaces, or selling items directly from their homes. Providing a room for these activities do not always make the living condition healthier. During one visit to Juhapura, a slum located in the west of Ahmedabad, a family was using the near-home public space to cook meat that would be sold in town later that evening. With this specific business, having a larger kitchen would not provide for this family’s business nor reduce the risk of smoke related illnesses found in indoor open-fire cooking. Instead, being able to use the public space to



cook and prepare the food helped this family to reduce costs of having a larger home, but also reduce risks to their health.

Cities are a better option for providing services and reducing economic and environmental impacts, but to go one step further, slums specifically have even been seen as an “unexpectedly green” form of urbanization (Brand 2010). This is attributed to the reduced use of resources in these communities. Slums become greener places of living due to reduced impact on the environment from road paving and car exhaust as residents primarily walk to their destinations. As we have seen from the five-minute walk diagrams, providing more public spaces within slum quarters would further reduce the need for slum dwellers to travel large distances to sell or purchase products.

Social health is the second need for public space in informal settlements as the public realm creates cosmopolitan interaction amongst dwellers. In 2002 Ahmedabad was surprised by two and a half months of riots within the state of Gujarat when a history of Hindu-Muslim conflict heightened. The riots in Ahmedabad were the worst in the state, and as a result of the violence, 200,000 were left homeless. Many of these families were forced to move to the slums to find housing, and communities segregated themselves along religious differences. Powers (2008) states, “Hindus and Muslims withdrew from mixed communities in which they had been living. Trust between religious communities disappeared.” (104) In the wake of such violence, public space encourages cosmopolitan interaction which helps build community amongst residents. J. Jacobs writes that public spaces “bring together people who do not know each other in an intimate, private social fashion.” (1992: 55) J. Jacobs describes how this interaction in

public spaces results in a level of understanding and trust within the community. Alexander et al. also state “The simple social intercourse created when people rub shoulders in public is one of the most essential kinds of social ‘glue’ in society” (1977: 489). It has been said that during the riots, the most peaceful locations were the religiously mixed slums, where small public spaces demand intimate interaction and trust. These public spaces in slums help build bridges and maintain peaceful relationships. As public spaces within Ahmedabad are provided for markets, politics, and social activities, people become more connected to their neighbors within the slum.

This experience is in contrast to the interaction that most slum dwellers in India have in public spaces. Typically, slum dwellers must travel to public spaces within the developed city centers, encountering the various upper classes. Lower castes and classes are no longer seen as sharing the public space, but rather, invading the space of the wealthier classes. In Ahmedabad it is particularly significant with the rigid Indian caste system. Slum dwellers are often Muslim or of a lower caste or class, resulting in discrimination and refusal of service. By providing a space within the slums or within close proximity for dwellers to interact, the poor are able to take a step toward claiming Lefebvre’s “right to the city” (1996). Although this space does not lessen the slum dweller’s need to take back the right to the city within the upper class districts, the public space within the slums allows for a gathering space to collectively demand dignity and recognition from the greater public. In this sense, public space is providing stronger, healthier community interaction which is improving the social health of slum residents.

In the case of both Hollywood and the Ravivari Market slum, these communities were using public space to create chance encounters and interactions with other classes and communities. In Hollywood, I observed on several weekends how marriage ceremonies and festivals filled the main intersection in front of the slum. Although alarming at first, the public celebration allowed me to become a participant in the festivities as I walked through the streets. At the Ravivari Market, the entire city mixed culture and classes to shop the various bargains. This market space has provided a space where slum dwellers and the wealthy are interacting and doing business together.

Finally, providing formal public space improves the safety of slum dwellers by creating “eyes on the street” as Jacobs describes (1992: 35). The use of sidewalks by pedestrians successfully reduces crime within cities. Whyte (1980) writes: “With few exceptions, plazas and smaller parks in most central business districts are probably as safe a place as you can find during the times that people use them” (63). In an odd way, being surrounded by strangers in a public space creates a mutual understanding of trust in one’s neighbor. As people are able to see each other on the streets through commercial interactions and casual passing, the trust of one’s neighbor grows. In addition to this trust, one also comes to recognize neighbors after repeat interactions, further increasing community ties. These casual interactions create Jacobs’ concept of “eyes on the street”, which deter criminal activity.

In the situation of Ahmedabad’s slums, there is a potential for safety to increase as public spaces are planned into future urban growth. These public spaces can function as a variety of uses. With an increased diversity of usage as commercial centers,

recreational gatherings, and residential locations, the population is always present on the public space throughout the day and night. Soon the need for security and police is reduced due to the increased population near the public space.

The New Urbanist Peter Calthorpe spoke of a similar transition happening along University Avenue in downtown Berkeley. A study in 1996 showed that University Avenue was high in crime rates and low in density and commercial activity. As part of the revitalization plan, designers proposed infusing the corridor with commercial and residential development. This created an increase in population density and activity on the street, significantly reducing crime rates to almost zero. While this is one example in a developed country, the concept has been applied universally: if activity in public spaces is increased, crime drops. To successfully carry this model into revitalizing slums in Ahmedabad, creating formal public spaces must be a first step in upgrading programs.

Public space within Ahmedabad's slums creates a physically healthier environment, a space for community strengthening, and a safer living situation. By improving these elements in the quality of living, further improvements by slum dwellers can be made to the quality of life in their communities. Healthier, safer communities raises the awareness of the needs of the slum and increases public involvement in the neighborhood.

#### 4.2 Perception of Permanence

The presence of public space gives residents a sense of permanence in their community, and providing this permanence gives residents the initiative to improve their

surrounding on their own. Permanence instills pride in one's living environment while also ensuring the safety to invest in physical housing. As structures themselves become more permanent, governments are less likely to clear the developed land as a method of slum abatement. In addition, permanence provides political power which drives the dweller to lobby for other services and rights.

It is important to note that the term permanence is nearly synonymous with the commonly used term security; however, there is one distinction. The term security has varied greatly in cases of land right issues, and the use of the term permanence hopes to include the variation of definitions, which all have an underlying theme of safety and stability. For example, the definition of secure land tenure gives residents the formal binding contract and the rights to the land without eviction. This is an ideal form of land rights for dweller initiated upgrading. As residents are given secure land tenure they will invest in improving their housing despite their apparent poverty. De Soto (2001) uses the phrase "mystery of capital" where secure tenure can generate capital for wealth as residents use their property and assets to generate more wealth. He compares capital to Einstein's atomic energy theories stating "capital is the result of discovering and unleashing the potential energy from the trillions of bricks that the poor have accumulated in their buildings (2001: 1) UN-Habitat states "Secure tenure is one of the most essential elements of a successful shelter strategy" (2003, May: 10). This secure tenure prompts slum dwellers to invest in their housing.

In many slum communities, however, secure land tenure is not provided by municipalities due to high costs of land purchases and disputed land titles. Instead these

governments only give residents secure land, meaning “the ability to live in a place without fear of eviction” but without a formal binding contract. (Greene, 2010:12) In the case of Ahmedabad’s SNP, residents were given a guarantee that they would not be evicted from their land for ten years after the upgrading process was complete. While this debate has varied widely as to what is defined as security, it is important to understand how public space can provide security on many varied definitions of the term by providing an over-all sense of permanence. UN-Habitat reports that “either *de facto* or perceived protection from forced evictions” or “perception of secure tenure” is on par with secure tenure (2003, May: 10-11). Thus, the terms “permanence” and “sense of permanence” are used in this paper to describe how public space can spark upgrading initiatives by slum dwellers.

First, public space provides identity to the community and instills pride in caring for the physical surroundings. While most informal settlements are excluded from city planning efforts, informal planning is happening within the slums by the residents themselves. This informal planning is providing physical public spaces such as roads and pathways as a necessity for movement and access within the slum. However, the formal public spaces of community plazas and market places described earlier are lacking.

Correa (1985) describes how a city does not need to be perfectly planned in order to function as a beautiful example of urban living and community. He argues that a city “gets worse and worse as physical environment...and yet better and better as city” (81). In other words, overcrowding and haphazard building patterns begin to destroy the built environment through pollution and planning confusion, for example, yet the place

becomes a thriving integrated community of people and a destination point for visitors. Cynthia Smith, the curator of the U.N. slum design exhibit in New York says, “It’s easy to build a house, much harder to build a community” (Kimmelman, 2011). The Ravivari Market slum can be used as an example of how that community can be built. Once a small market between the Sabarmati river and Victoria Gardens, the slum became a permanent fixture next to the weekly gathering of vendors. As years progressed, the slum would grow, respecting the boundary of the Sunday flea market, but also creating more diversity within the urban quarter. Soon the location was not only a park and a weekly market, but a thriving community with its own unique identity. Even after the AMC demolished the homes, the residents have returned to the location. As a slum grows (just as Correa describes normal city growth), it functions less and less as a humane living environment, but more and more as a working community.

Correa (1985) states this desire to develop within the city “is an intriguing insight, and perhaps explains not only why the migrant goes from village to town, but, more importantly, why, having experienced the physical degradation of his new life, he does not return to his village. He has no choice.” (77) In other words, he has no choice to move from this place of “identity” back to the rural which is void of identity. In this same sense, the slum dweller notices the sense of identity within the slum and continues to improve his situation, creating a stronger social community and attempting to develop the physical environment. A newspaper reported after the riverfront slum was demolished that “Nafis Ahmed, president of Sunday Market Merchants Association, claimed that the majority have been allotted houses, but they chose not to live

there” (Ahmedabad, 2011, May). These residents were given places to live in new developments close to centers of work and commerce. Could their reasoning for staying in this slum be associated with the identity of the riverfront and its lucrative market?

As public space is provided for all residents and made accessible by all residents regardless of status, it provides the dwellers with a sense of belonging to that community. “Sense of belonging, we know, is a resource, what Robert Putnam calls capital. That resource gets lost...for those displaced as they try to rediscover their sense of belonging” (Hamdi, 2010: 54). These residents of the Ravivari Market slum are attracted to the identity of the riverfront. As a city dweller can understand, identity drives development and improvement as one takes pride in their surroundings. With a sense of pride, residents may be encouraged to further upgrading, and one could see the great pride that these public spaces would instill in local dwellers.

Second, a sense of permanence gives residents the opportunity to invest in their housing as the fear of eviction is diminished. De Soto (2000) claims that a title deed is needed for residents to invest in their housing situation, giving them leverage against their investments: “Legal property...gave the West the tools to produce surplus value over and above its physical assets”. While this paper recognizes that it may be true, it is also not the exclusive means. Giving residents the sense of permanence is as important to actual documentation. MIT’s Upgrading Urban Communities website states “that for every \$1 invested in upgrading of infrastructure, an additional \$7 of housing investment was mobilized from non-project sources. In effect, upgrading has mobilized additional energies and funds beyond the narrow scope of a project” (SIGUS). This fact shows that



the money invested in creating a permanent sense of community through infrastructure upgrades, allows residents to generate money that is directed towards housing improvements. It is not necessary for upgrading projects to simply invest in slum housing, but programs must look at the multiplied benefit of providing community assistance.

De Soto also argues that secure tenure is the only way to spur government investment for that infrastructure; however, other theorists such as Gulyani and Talukdar (2008) have shown the opposite is also true. Dweller initiated upgrading as a first step has been used as a strategy to gain tenure. (In Greene, 2010:13) In the latter scenario, dwellers must be sparked to upgrade their community. As public space has already been shown to give residents pride in their location, it follows that their need for identity would spark an urge to gain secure tenure, and a sense of permanence would provide the kindling for that spark. The AMC recognizes the links between permanence and housing quality, granting residents in upgrade-focused neighborhoods a guarantee of ten year secure tenure. While UN-Habitat has criticized the AMC for not offering Ahmedabad's slum dwellers permanent tenure, the temporary tenure has proven affective in the short run. Basic infrastructure and the ten-year no-eviction guarantee "led people to improve their housing condition from shacks to semi-pucca houses, which is an indirect achievement of SNP" (AMC et al., 2006: 78).

Third, as permanent structures are completed around public spaces, these spaces are less likely to be cleared. Many government authorities have taken the approach that if slums are physically cleared, they will be permanently eliminated. In some cases this has

been successful, but in most cases the slum dwellers have simply moved back onto the vacant land (sometimes overnight). Once the population grows large enough, the local municipality can no longer afford to clear the slum housing. Within slums it is beneficial for its dwellers to invest in more permanent public spaces which provide an added security against clearance policies. Smaller urban squares will develop quicker than the surrounding housing, creating larger permanent structures that become a deterrent for clearance policies.

Finally, public space within communities becomes a location of political power which assists in organizing for other rights and infrastructure. Public spaces become the places where slum communities transform from “being just a collection of many individual poor families to being a more collective mutual support development unit.” (Boonyabancha, 2009:314) These families are able to join together to form a collective power strong enough to advocate for infrastructure improvements and other rights within the settlements. The CBOs as required by the AMC are a testament to the strength of community organizing. As part of the SNP upgrading process slum settlements were required to establish CBOs for participation. With the help of NGOs, the CBOs functioned as a way for dwellers to organize themselves and “would later be responsible for the maintenance of infrastructure services provided through the program.” (Anand 2008:11) Through these CBOs, the SNP was able to provide training and capacity building for communities. The potential of community organizing was started with the CBO system; however, much can be improved through the provision of space for such leadership gathering.

### 4.3 Economic Generation

An important component of the slum upgrading system demands that slums have a chance to generate income which is initiated from outside of the slum community. This income can be generated through the existence of public space in two ways. First, slums can attract income through products and services being manufactured and sold in slum markets, and second, they can receive formal public or private investments in infrastructure and urban real estate development. *The Challenge of Slums* report on Ahmedabad states that the AMC “allow[ed] public space to be used for income-generating activities” (UN-Habitat, 2003: 201). This implies that commerce and economic activity within the slums was not a right given to its residents. Rather it must be granted to the slum dwellers. Public space must be a right where economic activity is freely accepted.

An important initial step in the upgrading process is to create a system of economic growth within Ahmedabad’s slums. In order for that to happen the slum must become a destination of economic activity. In Ahmedabad much of the city’s business enterprise is happening in the slums.

The share of employment in [the] informal sector was 77% and it generated 47% of the total city income. In short, the poor contribute to the globalizing economy of Ahmedabad as much as the non-poor. But the poor do so without receiving the due economic or other civic facilities or services at par with the non-poor. (AMC et al., 2006: 71).

Through the planning and use of public space, dwellers are given a location to create such markets and centers of commerce on “par with the non-poor” (Ibid):

In many cities of the global south, or in informal settlements anywhere, public spaces are not principally used for leisure... Instead, they're sites where local informal retail economies flourish. (Nikitin, 2011 May)

As these public spaces become more formalized, they become recognized to outsiders as places to go for cheaper goods or specialty items. The slum market may become a destination for middle-class city dwellers and generates income for residents in informal settlements. Such has been the case in Hollywood as the Ganesh festival brings thousands of visitors each Fall to purchase idols of the slum-dwelling crafts men and women.

Once these small markets and public spaces are established, the plazas act like de Soto's unlocked "mystery of capital", but in the public realm servicing the entire community. Rather than creating privately owned land which individuals use as capital to borrow against and create future wealth, the establishment of public spaces create capital and growth that can be used by the greater populace. A formalized public space surrounded by commerce and political activity generates higher land values, increased economic activities and outside investments. Eventually, the public space becomes a formalized destination for outsiders as well as community members.

De Soto claimed that one challenge the urban poor has in creating this capital is that it lacks a cohesive economic system that cities in the West have. However, India, and Ahmedabad specifically, is expanding its capacity to function in the global economic system. A recent report by Forbes magazine claims that the state of Gujarat, in which Ahmedabad is the capital, is "perhaps the most market-friendly and business-friendly of Indian states." (DNA, 2010) This increase in a standardized system could have major

benefits to slum dwellers as their own manufactured goods can be exported beyond the slum walls. In addition, recent SNP upgrading projects required slum dwellers to participate in banking programs and educational classes in order to be considered for housing upgrades. The trusted community organization SEWA (Self-Employed Women's Association) created a banking branch which would allow dwellers to put savings away to partially pay the minimum requirement for the housing upgrades, allowing slum dwellers to participate in this cohesive system that De Soto describes. Slum residents are given both the access to the system and the dignity in participating in the upgrades by providing a partial payment for the services. Comparing Easerly's (2006) assessment of Japan's "self-help" growth, residents of Ahmedabad's slums are providing their own growth through mechanisms provided by the AMC. The neoliberal policies may have increased slums in Ahmedabad, but working with the system may help reduce them.

The second step in increasing economic growth is attracting outside investors in the development in public space. As these locations become economic destinations, outside investors are drawn to putting their businesses and investments there. Economic activity benefits exponentially from this process. The increased investments in spaces and infrastructure raises the human living condition. Emphasis is not placed strictly on the "GDP" of the slum but rather on the importance of the health of the person and the sense of place to attract more economic activity. Providing public space becomes a system that exponentially increases both infrastructure upgrades and the dignity of the person.

#### 4.4 Case Study Public Space Solutions

Following the research of the past two chapters, I have created a public space design for both of the case studies. These plans will serve as examples to show how such planning can be implemented into upgrading schemes without altering the pattern of the existing community. Appendices 19 and 22 show the locations of these public space plans for Hollywood and the riverfront slum. Both plans include one major public space which will act as a center point for the community, but they will also serve as connectors to the larger community. The plans also include several smaller multi-use spaces which residents of the slum communities can use for celebrations, markets, or worship services. Appendices 20, 21, 23, and 24 show the specific designs for integrating public space into the slum upgrades.

For Hollywood, I have created a corner market plaza (Appendix 20). This space satisfies the needs of the community by creating a large space for the many weddings and festival celebrations that occur within the Hollywood slum communities. In addition, a covered space is placed on the corner for vendors to store and sell idols in preparation for the Ganesh festival. “In every neighborhood and work community, make a piece of the common land into an outdoor room—a partly enclosed place, with some roof, columns, without walls, perhaps a trellis; place it beside an important path and within view of many homes and workshops” (Alexander et al. 1977: 351-2). This covered space which Alexander et al. describe is included in the design and is surrounded by the homes and workshops of the locals. Its placement connects the slum community with the surrounding buildings and streets, as Alexander et al. have suggested. This large space

also takes advantage of the existing temple which sits on the northwest corner of the intersection. This temple generates more use of the plaza. The roundabout and tree in the plaza center uses the existing Ahmedabad traffic-calming mechanisms to slow the automobiles passing through the community.

The smaller plaza spaces in Appendix 21 serve as intimate spaces reserved for the slum community. There are two spaces which connect the community to the main streets and allow for integration of the slum with the formal development while still giving privacy to the Hollywood slum residents. In addition, a plaza has been created deeper into the slum settlement. It has been shaped by the large open space under an existing tree. I have proposed that additional buildings be built (or upgraded) to maintain the edge of the plaza space. This will prohibit encroachment by new slum residents.

In the case of the riverfront slum, there is a great opportunity to develop the weekly Sunday market space in conjunction with the SRDP (Appendix 23). In order for the space to feel like a formal plaza or market, additional structures need to be built. These new structures can be mixed-use with shops, residential, and civic functions, creating an economically diverse location as part of the riverfront development. I have shown a plan for the Sunday market which creates new structures for vendors to use and opportunities to build larger buildings which hold the edge of the market plaza. In addition, an amphitheater faces the river which can be used for larger community functions or can be converted into spaces for vendors during Sunday markets. This may help generate more activity at the location on days other than Sunday. The organic nature of the space forms “activity pockets” (Alexander et al. 1977: 599) which create smaller

public spaces attached to the larger market plaza. These spaces become more intimate for local residents, but the plaza remains a connecting node for the riverfront slum and the surrounding formal development.

Taking advantage of the riverfront development, the smaller plaza designs in Appendix 24 call for additional structures to be built as well. These structures create the shape of the smaller plazas and protect the slum community from the future pedestrian activity along the riverfront. The spaces formed by the new structures are more intimate than spaces which might open up to the riverfront. The slum community can use these spaces for celebrations, smaller daily markets, or religious festivals. The smaller plazas, in conjunction with the formal Sunday market, provide a variety of public space uses for all the residents while connecting the slum community with the future SRDP.

The primary goal in the slum upgrading process should be to provide a system that is sustainable and dweller initiated. Participation and inclusion in the slum upgrading process by slum residents is not enough. Slum communities and individuals must be primary actors in the process guided by local municipalities. While recent projects have been successful in Ahmedabad in creating participation, momentum was lost when projects were unable to expand. However, providing public space can be a healthy cure to this lost momentum. First, by giving dwellers a healthier, safer living environment, people want to upgrade their homes. Second, by providing a sense of permanence and place, residents are drawn to investing in their community as a source of pride. Finally, by providing economic activity and employment close to home, people



can afford to upgrade. Public space should not be excluded as an after thought or a luxury, but rather as an essential piece of basic urban infrastructure.

## **Chapter 5: Conclusions and Recommendations**

### 5.1 Conclusions

Those things that Ahmedabad slums are doing well in terms of urban planning seem to be attributed to the slum dwellers themselves and their instincts to create beautiful, livable communities. In contrast, those things that seem to be wrong in the slums are the denial of basic services and connections to the greater city by municipalities, developers, and social perceptions. This research has come to four main conclusions.

First, stakeholders in the slum upgrading process must first approach these unique urban settlements with the perception that something right is happening in these communities in order for them to have survived for such long periods of time where they are. These communities are functioning components of the urban fabric and must be evaluated on a case by case basis as to why they are performing so well despite the lack of municipal support. The current process of evaluation assumes that the slum is underperforming when, in fact, it is performing at a higher level in order to sustain itself in the absence of municipal services.

Second, accepting that these settlements are valid forms of urbanization can improve methods of upgrading by using what is working in the community to enhance the living conditions of slum dwellers. Upgrading should not be a process which starts

from scratch, rather it should be an adaptive design process. Urban designers look for the least possible changes which can make the greatest impact, and this mentality should be applied to slum upgrading projects. In addition, laying a foundation of equality and mutual assistance while involving the dwellers in the upgrading process can create a more fruitful upgrading experience. Slum upgrading will hopefully be a process of asking slum dwellers what is already working in your community and what is missing. This becomes the first step in providing comprehensive design services.

Third, inserting public space into the basic package of upgrades is a means of integrating the community with the greater surroundings while retaining what has already been established by the slum dwellers. These public spaces become hinge points from one urban pattern to the next and gives validity to the community that has already existed. This public space component gives slum dwellers the security and opportunity to invest in their community, improving the stock of low-income housing in Ahmedabad. If residents receive basic infrastructure, they must be encouraged to upgrade their housing on their own. Public space has a multiplier effect which cannot be achieved by basic infrastructure improvements and which requires less personnel-heavy community development projects. If the urban environment is catered towards community development, then upgrading will be an easier process for both municipalities and residents.

Finally, the use of public space in upgrading projects inserts a minimum process of design into the upgrading schemes. This design process adds value to the insufficient basic necessities of infrastructure-only upgrading. With time, hopefully the design

process will reveal how initiating a complete process of design and planning will allow these communities to flourish with support, rather than merely survive without basic planning services. As other communities in the city receive comprehensive design services, eventually a system will be developed to provide such planning services to each informal settlement.

## 5.2 Recommendations

The aim of this study is to explore improvements to slum upgrading schemes; therefore, this research was limited to the field of upgrading occurring through Ahmedabad's SNP. However, extending beyond the boundaries of slum upgrading, this thesis recommends that further research be completed on how slum upgrading schemes could be integrated into the Gujarat Town Planning Scheme (TPS) process. Since this thesis argues for more comprehensive design services for slum settlements, this recommendation seems like a natural progression and extension of this research.

To date, Town Planning Schemes have only been used as a process of converting rapidly-growing rural settlements, located at the fringe of the city boundary, into a new urban developments. The process consists of the ULB creating a new urban plan for the settlement at the urban fringe, integrating it into the existing urban fabric creating an extension of the city boundary. In the process, one-third of the land is taken from land owners by the ULB. The ULB then sells a portion of the land in order to fund the upgrading and cost of new infrastructure and uses the remaining land for roads, parks, buildings designated for government and civic uses.

Using this process in conjunction with the current slum upgrading process may allow for better funding and inherent comprehensive design services. However, importance must be placed on the ease of planning (including political bottlenecks), construction, and the approaches to initial funding. My assumption is that the TPS, although affective for new development in a semi-rural conversion to urban situation is effective, it is too complicated and would create a large disruption to the established slum community. The density of slum communities would require demolition and and possible lose of the character of the community. I believe that a simplified Parivartan upgrading approach would create a less disruptive process; in addition, initial funding would be easier to obtain from the slum community and supporting private investing partners.

## References

- Abrams, C. (1964). *Man's Struggle for Shelter in an Urbanizing World*. Cambridge, MA: MIT.
- Ahmedabad Municipal Corporation, Ahmedabad Urban Development Authority, & CEPT University. (2006). *City Development Plan, Ahmedabad 2006-2012*. Retrieved 5 May 2011, from <http://www.scribd.com/doc/20614676/Ahmedabad%20City%20Development%20Plan>
- Ahmedabad Municipal Corporation. (2005, Dec). *Ahmedabad Slum Networking Programme*. Submitted to Human Settlement Management Institute (HSMI). Retrieved 5 May 2011, from [www.egovamc.com/snp/snp.pdf](http://www.egovamc.com/snp/snp.pdf)
- Ahmedabad Municipal Corporation. (2007). *AMC-Annual Administration Report: 2006-2007*. Retrieved Apr. 2011, from AMC website [http://www.egovamc.com/amc\\_budget/Sta\\_report.asp](http://www.egovamc.com/amc_budget/Sta_report.asp)
- Ahmedabad Municipal Corporation razes slums around Gujari Bazaar*. (2011, May 7). *DNA*. Retrieved 22 Oct. 2011, from [http://www.dnaindia.com/india/report\\_ahmedabd-municipal-corporation-razes-slums-around-gujari-bazaar\\_1540464](http://www.dnaindia.com/india/report_ahmedabd-municipal-corporation-razes-slums-around-gujari-bazaar_1540464)
- Alexander, C. (1979). *The Timeless Way of Building*. New York: Oxford University Press.
- Alexander, C., Ishikawa, S., Silverstein, M. (1977). *A Pattern Language: Towns, Buildings, Construction*. New York: Oxford University Press.
- Alexander, C., Neis, H., Anninou, A., & King, I. (1987). *A New Theory of Urban Design*. New York: Oxford University Press.
- Annez, P., Bertaud, A., Patel, B., & Phatak, V. K. (2010). Working with the market: A new approach to reducing urban slums in India.
- Brand, S. (2010, Jan 27). How Slums Can save the Planet. *Prospect Magazine*, 126. Retrieved Apr 2011, from <http://www.prospectmagazine.co.uk/2010/01/how-slums-can-save-the-planet/>
- Calthorpe, P. (2011, Apr 11). Urbanism in the Age of Climate Change. Davies Forum: Envisioning a Post-Carbon City: Creative Strategies for Climate Change. Lecture. USF, San Francisco.
- Carr, E. R. (2011, Oct 6). At What Scale Can We Fail? *Open The Echo Chamber*. Retrieved 29 Oct. 2011, from <http://www.edwardrcarr.com/opentheechochamber/>
- Census, Ahmedabad. (2011). Retrieved 23 Oct 2011, from <http://www.census2011.co.in/census/district/188-ahmadabad.html>

- Chang, T. (2009) Improving Slum Conditions with Public-Private Partnerships. *Panorama*. Retrieved 20 Sept. 2011, from <http://www.design.upenn.edu/city-regional-planning/panorama-2009>
- Cheers Ahmedabad! City Is Racing Ahead*. (2010, Oct. 16). *DNA*. Retrieved Apr. 2011, from [http://www.dnaindia.com/india/report\\_cheers-ahmedabad-city-is-racing-ahead\\_1453361](http://www.dnaindia.com/india/report_cheers-ahmedabad-city-is-racing-ahead_1453361)
- CHF International. (2006, Dec). *Documentation of Selected Slum Upgrading Projects and Recommendations for Future Integrated Slum Upgradation Under the JNNURM Mission*. Elliott, D.
- Correa, C. (1985). Great City...Terrible Place. In *The New Landscape: Urbanization in the Third World (75-84)*. Bombay: Book Society of India.
- Davis, M. (2007) *Planet of Slums*. New York: Verso.
- De Soto, H. (2001, Mar). The Mystery of Capital. *Finance and Development* 38.1. Retrieved Mar. 2011, from <http://www.imf.org/external/pubs/ft/fandd/2001/03/desoto.htm>
- Development Innovations Group (DIG). (n.d.) *Best Practices in Slum Improvement: The Case of Ahmedabad, India*. By Anand, S. Retrieved Mar. 2011, from <http://www.google.com/url?sa=t&rct=j&q=best%20practices%20in%20slum%20improvement%3A%20the%20case%20of%20ahmedabad%2C%20india&source=web&cd=1&ved=0CB0QFjAA&url=http%3A%2F%2Fwww.urbisnetwork.com%2Fdocuments%2FAhmedabadBestPracticesinSlumImprovement-WUF.pdf&ei=6OTXTrabO8OSiAKB04zICQ&usg=AFQjCNGCN0Wuk4JtoyezU8LgblAP-VaZOA&cad=rja>
- Duany, A., Plater-Zyberk, E., & Speck, J. (2000). *Suburban Nation: the Rise of Sprawl and the Decline of the American Dream*. New York: North Point.
- Easterly, W. (2006). Homegrown Development. In *The White Man's Burden: Why the West's Efforts To Aid the Rest Have Done So Much Ill And So Little Good (341-66)*. New York: Penguin.
- Greene, M. (2010, June). *Literature Review: Main Policy and Programmatic Approaches for Slum Upgrading*. Rep. for Joint Work Programme. World Bank Group and Cities Alliance. Web. Apr. 2011.
- Gautam, I. P., (2008). Mixing Financial Sources for Slum Upgrading/Prevention, Ahmedabad Slum Networking Programme-India. Retrieved 30 Oct. 2011, from [http://www.justnsustshelter.org/index.php?option=com\\_docman&task=cat\\_view&gid=24](http://www.justnsustshelter.org/index.php?option=com_docman&task=cat_view&gid=24)
- Hamdi, N. (2010). *The Placemaker's Guide to Building Community*. London: Earthscan.
- Krier, L. (1998). *Architecture: Choice or Fate*. London: Papadakis.

- Krier, L., Thadani, D. A., & Hetzel, P. J. (2009). *The Architecture of Community*. Washington, DC: Island.
- Jacobs, A. B. (1995). *Great Streets*. Cambridge: MIT Press.
- Jacobs, J. (1992). *The Death and Life of Great American Cities*. New York: Vintage.
- (Jani, N., personal communication, 10 June 2011)
- MacIver, M. (2011, Apr 18). UN-HABITAT Adopts First-Ever Resolution on Public Spaces. Retrieved 30 Oct. 2011, from Project for Public Spaces (PPS) website: <http://www.pps.org/blog/un-habitat-adopts-first-ever-resolution-on-public-spaces/>
- Nayudu, U. (2009, Sept 22). Despite SC Stay, AMC Bulldozer Razes down Gulbai Tekra Hutments. *Indian Express*. Retrieved 22 Oct. 2011, from <http://www.indianexpress.com/news/despite-sc-stay-amc-bulldozer-razes-down-gulbai-tekra-hutments/519917/0>
- Nayudu, U. (2009, Oct 12). *Sabarmati riverfront project may wipe out historic Gujarati market*. Retrieved 23 Oct. 2011, from <http://www.indianexpress.com/news/sabarmati-riverfront-project-may-wipe-out-hi/527813/>
- Nayudu, U. (2011, Feb 21). Exclusion from AMC Heritage List: 3 Communities to Go Back to UNESCO. *Indian Express*. Retrieved 22 Oct. 2011 <http://www.indianexpress.com/news/exclusion-from-amc-heritage-list-3-communit/752610/>
- Neuwirth, R. (2005). *Shadow Cities: A Billion Squatters, A New Urban World*. New York: Routledge.
- Nikitin, C. (2011, May 19). What is the Place for Public Space in our Cities? Retrieved 23 Nov. 2011, from Project for Public Spaces (PPS) website: <http://www.pps.org/blog/what-is-the-place-for-public-space-in-our-cities/>
- (Nikitin, C., personal communication, 25 Oct. 2011)
- Powers, J. M. (2008). Restoring Harmony to Gujarat: Peace Building After The 2002 Riots. *Journal of Third World Studies* Fall 25.2: 103-15. Retrieved Apr. 2011, from *Academic Search Premier*.
- Rana, N. (2010, June 14). *Mumbai firm will give Ahmedabad slums a facelift*. Retrieved 22 Oct. 2011, from [http://www.dnaindia.com/india/report\\_mumbai-firm-will-give-ahmedabad-slums-a-facelift\\_1396079](http://www.dnaindia.com/india/report_mumbai-firm-will-give-ahmedabad-slums-a-facelift_1396079)
- Special Interest Group in Urban Settlement (SIGUS). (n.d.). *About Upgrading Urban Communities*. Retrieved Nov. 2011, from MIT School of Architecture and Planning Website: <http://web.mit.edu/urbanupgrading/upgrading/index.html>
- Soja, E. W. (1996). The Stimulus of a Little Confusion. In *Thirdspace*. Malden, MA: Blackwell.

Somasundaram, K. (2011, Feb 19). At home in their slum. *Times of India: Crest Edition*. Retrieved 22 Oct. 2011, from <http://www.timescrest.com/society/at-home-in-their-slum-4806>

Thakor, P. (2011, June 15). Ahmedabad's homeless riverfront slum dwellers move on. *DNA*. Retrieved 22 Oct. 2011, from [http://www.dnaindia.com/india/report\\_ahmedabad-s-homeless-riverfront-slum-dwellers-move-on\\_1555307](http://www.dnaindia.com/india/report_ahmedabad-s-homeless-riverfront-slum-dwellers-move-on_1555307)

TNN. (2009, Mar 8). A Slum Called Hollywood. *Times Of India*. Retrieved 22 Oct. 2011, from [http://articles.timesofindia.indiatimes.com/2009-03-08/ahmedabad/28036724\\_1\\_ganesha-idols-dharavi-dream](http://articles.timesofindia.indiatimes.com/2009-03-08/ahmedabad/28036724_1_ganesha-idols-dharavi-dream)

UN-HABITAT. (2003). *The Challenge of Slums: Global Report on Human Settlements*. London: Earthscan.

UN-HABITAT. (2003, May). Guide to Monitoring Target 11: Improving the Lives of 100 Million Slum Dwellers. In *Progress Towards the Millennium Development Goals (1-15)*.

UN-HABITAT. (2011, April 12). Draft resolution on sustainable urban development through access to quality urban public spaces. Retrieved 25 Oct. 2011, from [http://www.unhabitat.org/downloads/docs/9771\\_1\\_593694.pdf](http://www.unhabitat.org/downloads/docs/9771_1_593694.pdf)

United Nations Organizations (UNO). (1952). Report on Urban Land Policies.

*Victims of Development - A Jun Sunvayi (Peoples Hearing)*. (2011, Feb). 26. Retrieved 22 Oct. 2011, from SEWA website: [http://www.sewa.org/Twenty\\_Sixth\\_Issue.asp](http://www.sewa.org/Twenty_Sixth_Issue.asp)

Whyte, W. H., (1980). *The Social Life of Small Urban Spaces*. Tuxedo, MA: Printers II.

## Bibliography

Ahmedabad Municipal Corporation. (n.d.). *Slum Networking Project*. Retrieved Apr. 2011, from AMC website: [http://www.egovamc.com/a\\_city/amc/new\\_features.asp](http://www.egovamc.com/a_city/amc/new_features.asp)

*Ahmedabad Municipal Corporation will provide 10K Flats to relocate from the Sabarmati banks*. (2011, July 6). *CommonFloor*. Retrieved 22 Oct. 2011, from <http://www.commonfloor.com/stories/ahmedabad-municipal-corporation-will-provide-10k-flats-to-relocate-from-the-sabarmati-banks-4873>

Boonyabancha, S. (2009). Land for housing the Poor—by the poor: experiences from the Baan Mankong nationwide slum upgrading programme in Thailand. *Environment and Urbanization*, 21(2). 309-329.



- Chauhan, A. (1996). Learning from Slums. In *One2one: Minimal Space, Minimal Housing*. By Peter Schreibmayer and Johann Grabner. Graz: Verlag Der Technischen Universitaet Graz, 2009. Print.
- (Elliott, D., personal communication, 24 Oct. 2011)
- Epstein, J. (2010, Feb 23). Public Space = Public Health. *The Huffington Post*. Retrieved Apr. 2011, from [http://www.huffingtonpost.com/joel-epstein/public-space-public-health\\_b\\_472648.html](http://www.huffingtonpost.com/joel-epstein/public-space-public-health_b_472648.html)
- Franco, P. M. (2007). Development in Latin America. In *The Puzzle of Latin American Economic Development (1-29)*. Lanham: Rowman & Littlefield.
- Herzog, L. A. (2006). Culture, Public Space, and Cities. *Return To The Center: Culture, Public Space, And City Building in a Global Era*. Austin: University of Texas.
- Higbee, E. C. (1960). *The Squeeze; Cities without Space*. New York: Morrow.
- Jacobs, J. (1969). *The Economy Of Cities*. New York: Vintage, 1969.
- Khanna, P. (2010). Beyond City Limits. *Foreign Policy*. Sept.-Oct. 120.
- Kimmelman, M. (2011, Oct 21). Rescued by Design. *New York Times*. Retrieved 26 Nov. 2011, from [http://www.nytimes.com/2011/10/23/arts/design/for-some-of-the-worlds-poor-hope-comes-via-design.html?\\_r=2&emc=eta1](http://www.nytimes.com/2011/10/23/arts/design/for-some-of-the-worlds-poor-hope-comes-via-design.html?_r=2&emc=eta1)
- Lefebvre, H., Kofman, E., & Lebas, E. (1996). The Right to the City. In *Writings on Cities (147-59)*. Cambridge, Mass, USA: Blackwell.
- Ministry of Urban Development. (n.d.). *JNNURM: Jawaharlal Nehru National Urban Renewal Mission*. Government of India. Retrieved Nov. 2011, from <http://jnnurm.nic.in>
- Mahadevia, D. & Mathur, N. (2010, Oct). *Our Inclusive Ahamedabad (A Forum of Concerned Citizens of Ahmedabad)*. Rep. Public hearing on habitat and livelihood displacement. Ahmedabad, Mar. 2010.
- Mitchell, D. (2003). *The Right to the City: Social Justice and the Fight For Public Space*. New York: Guilford.
- Natakun, B. (n.d.). Collective Near-home space appropriation: a case study of Baan Mankong, participatory slum-upgrading project, Bangkok. Retrieved Oct. 2011, from *Academic Search Premier*.
- Rana, N. & Tiwari, K. (2010, Mar 6). Slum-free Ahmedabad dream now reality. DNA. Retrieved 22 Oct. 2011, from [http://www.dnaindia.com/india/report\\_slum-free-ahmedabad-dream-now-realty\\_1355862](http://www.dnaindia.com/india/report_slum-free-ahmedabad-dream-now-realty_1355862)
- Sen, A. (1999). Introduction. In *Development As Freedom (3-11)*. New York: Knopf.
- (Shaikh, Q., personal communication, 14 June 2011)

*Slum dwellers lodge complaints against AMC officials.* (2011, May 26). Retrieved 15 Sept. 2011, from [http://articles.timesofindia.indiatimes.com/2011-05-26/ahmedabad/29585584\\_1\\_amc-slum-dwellers-demolition-drive](http://articles.timesofindia.indiatimes.com/2011-05-26/ahmedabad/29585584_1_amc-slum-dwellers-demolition-drive)

The Strange Allure of Slums. (2007, May). *Economist* 383.8527. Retrieved Dec. 2010, from *Academic Search Premier*.

TED (2006, Feb). *Stewart Brand On Squatter Cities*. Retrieved Apr. 2011, from TED.com: [http://www.ted.com/talks/lang/en/stewart\\_brand\\_on\\_squatter\\_cities.html](http://www.ted.com/talks/lang/en/stewart_brand_on_squatter_cities.html)

TNN. (2010, Nov 6). New slum policy: Builders keen to join hands with govt. *Times of India*. Retrieved 22 Oct. 2011, from [http://articles.timesofindia.indiatimes.com/2010-11-06/ahmedabad/28239942\\_1\\_slum-dwellers-private-developer-amc](http://articles.timesofindia.indiatimes.com/2010-11-06/ahmedabad/28239942_1_slum-dwellers-private-developer-amc)

Turner, J. F. C. (1968 Nov). Housing Priorities, Settlement Patterns, and Urban Development in Modernizing Countries. *AIP Journal*. pp. 354-363.

Turner, J. F. C., & Fichter, F. (1972). *Freedom to Build: Dweller Control of the Housing Process*. New York: Macmillan.

*UN-HABITAT*. Website. Accessed Sept. 2010: [www.unhabitat.org](http://www.unhabitat.org).

Zukin, S. (2010). *Naked City*. Oxford: Oxford UP.

### Appendix 1: Map of Greater Ahmedabad

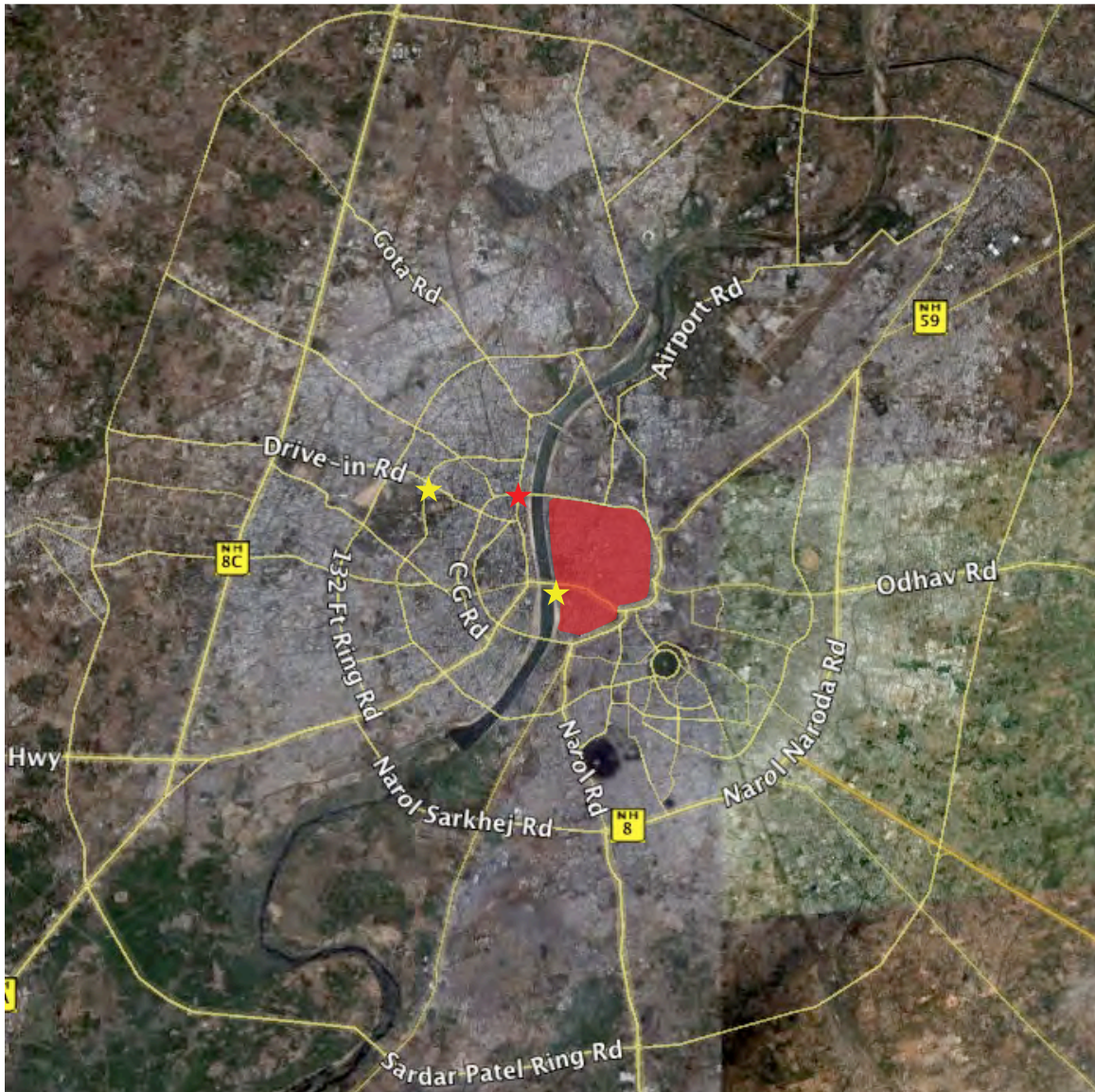





Image Not to Scale

-  **Central Business District**
-  **Case Study Slum Locations**
-  **Walled City**

**Appendix 2: Map of Downtown Ahmedabad with Slum Locations**

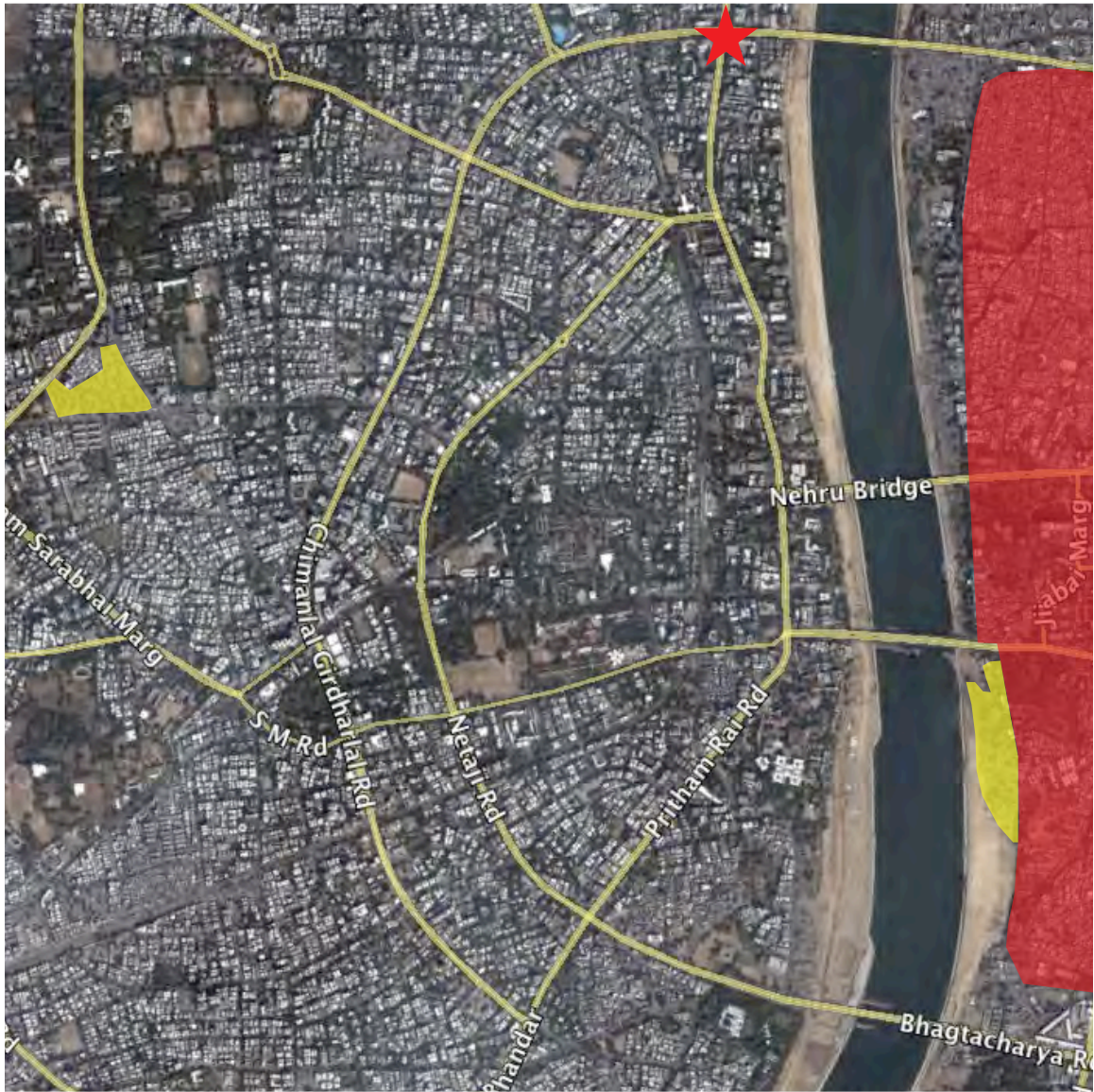


Image Not to Scale



**Ravivari Market Slum (Riverfront Slum)**

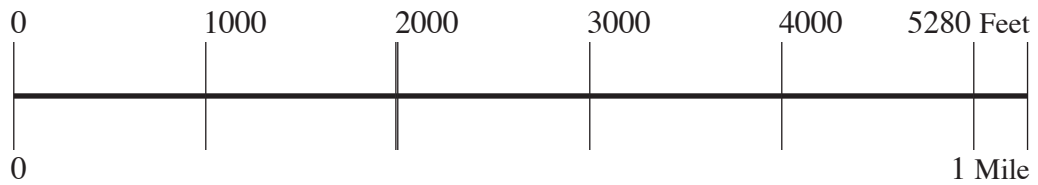


**Hollywood Basti, Gulbai Tekra**

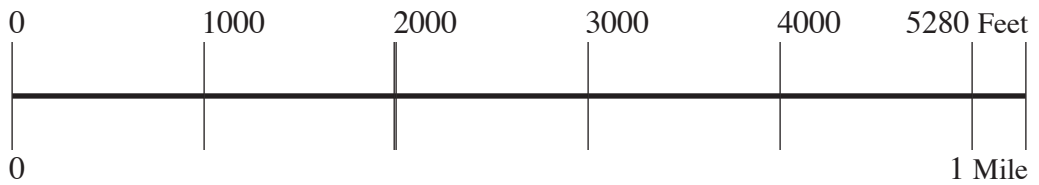


**Central Business District**

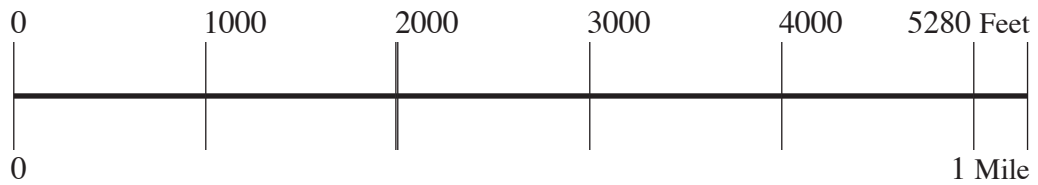
**Appendix 3: Figure-Ground Plan of Ahmedabad, India (Walled City)**  
(as published by Allan Jacobs)



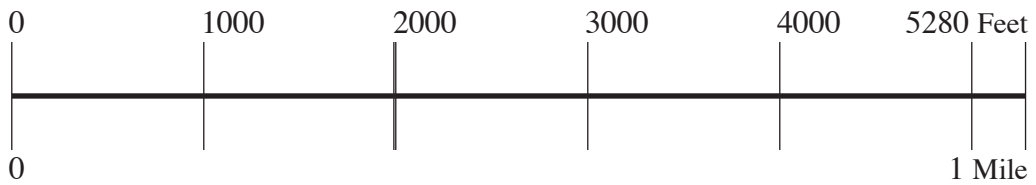
**Appendix 4: Figure-Ground Plan of Ahmedabad (Hollywood, Gulbai Tekra)**



Appendix 5: Figure-Ground Plan of Ahmedabad (Ravivari Market Slum)

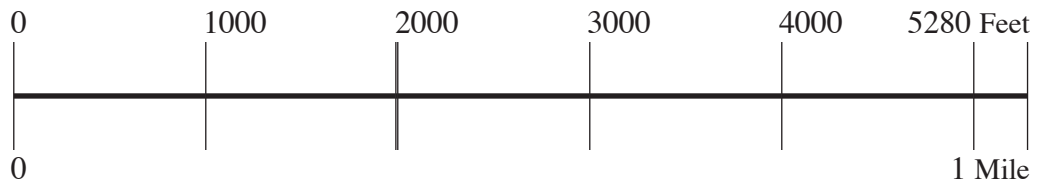


**Appendix 6: Figure-Ground Plan of Venice, Italy**  
(as published by Allan Jacobs)

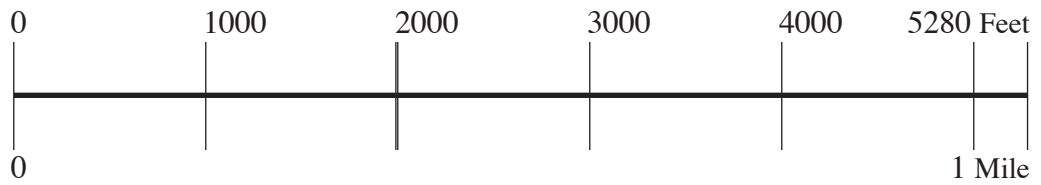




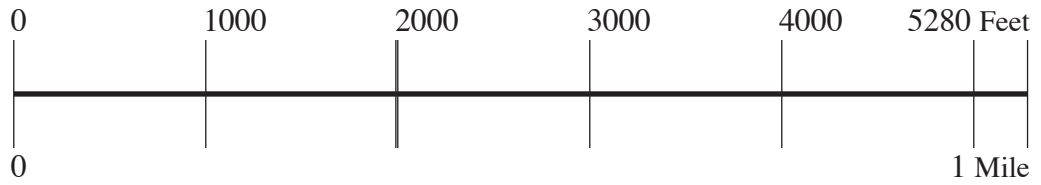
**Appendix 7: Figure-Ground Plan of San Francisco, CA (downtown)**  
(as published by Allan Jacobs)



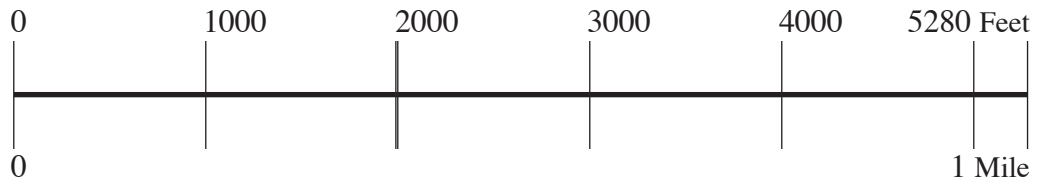
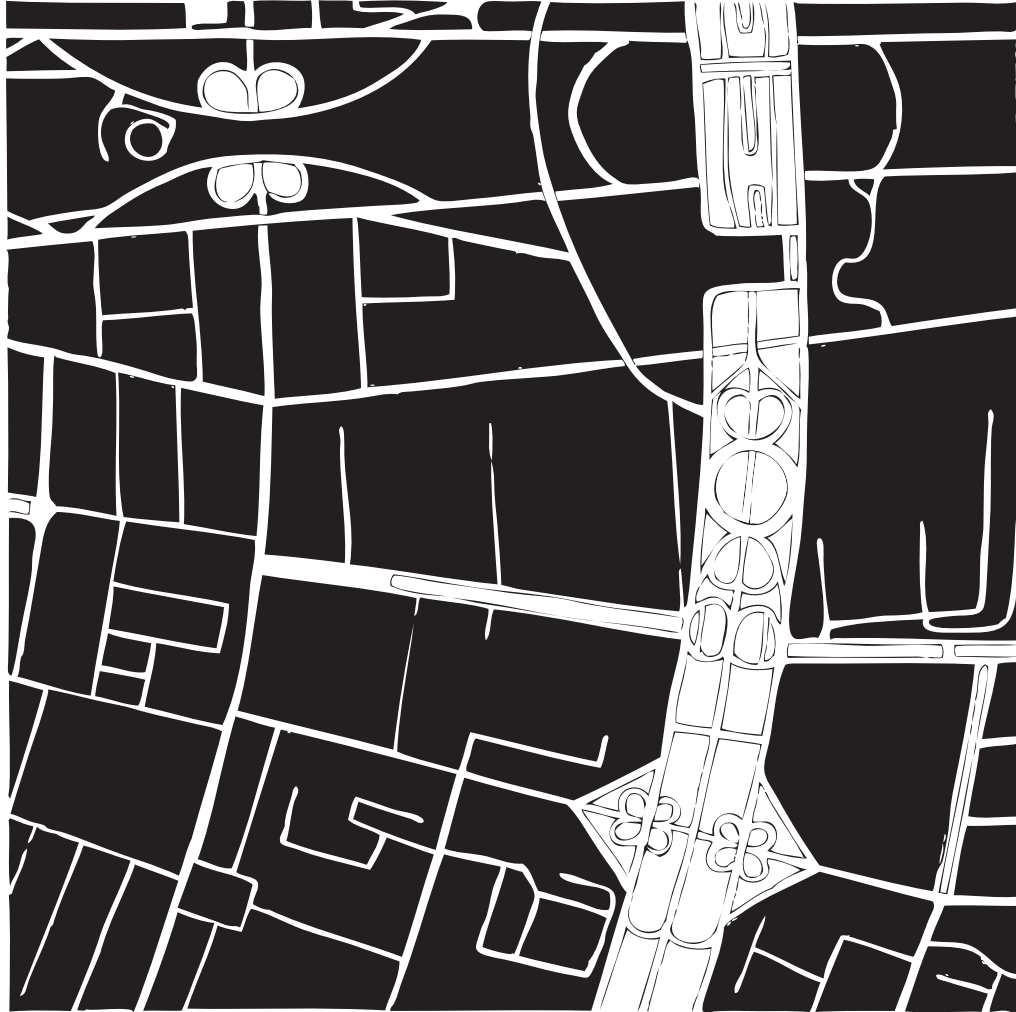
**Appendix 8: Figure-Ground Plan of New Delhi, India (old city - Red Fort)**  
(as published by Allan Jacobs)



**Appendix 9: Figure-Ground Plan of Irvine, CA (business complex)**  
(as published by Allan Jacobs)



**Appendix 10: Figure-Ground Plan of Brasília, Brazil (city center)**  
(as published by Allan Jacobs)



**Appendix 11: Six Comparative Maps  
of Slums, the Walled City, and European Villages**



a. Mikonos, Greece



b. Ahmedabad  
(Walled City)



c. Montepulciano,  
Italy



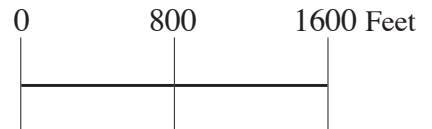
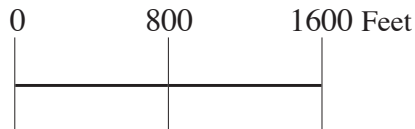
d. Hollywood



e. Venice, Italy



f. Riverfront



**Appendix 12: Six Comparative Figure-Ground Plans  
of Slums, the Walled City, and European Villages**



a. Mikonos, Greece



b. Ahmedabad  
(Walled City)



c. Montepulciano,  
Italy



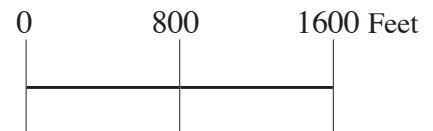
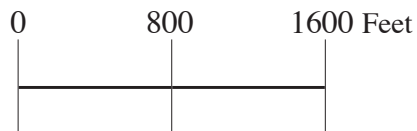
d. Hollywood



e. Venice, Italy



f. Riverfront



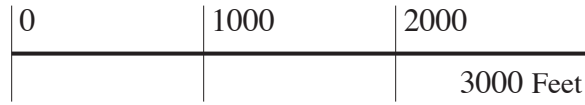
### Appendix 13: Five-Minute Walking Diameter (Hollywood and the Riverfront)



a. Hollywood (Satellite Image)



b. Hollywood (Figure-Ground)



c. Riverfront Slum (Satellite Image)



d. Riverfront Slum (Figure-Ground)

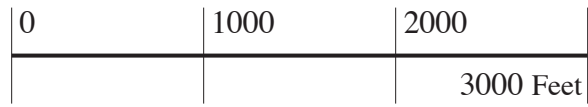
### Appendix 14: Growth Patterns as Defined by Five-Minute Walk (Hollywood and the Riverfront)



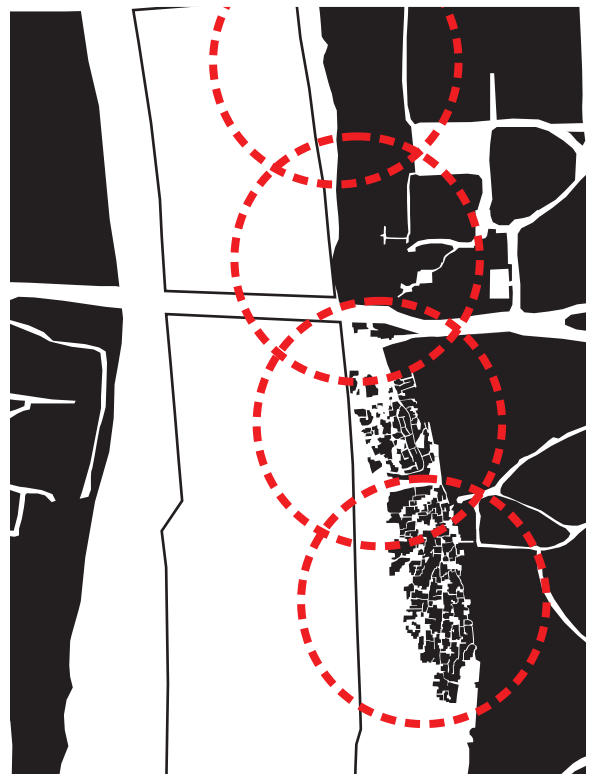
a. Hollywood (Satellite Image)



b. Hollywood (Figure-Ground)



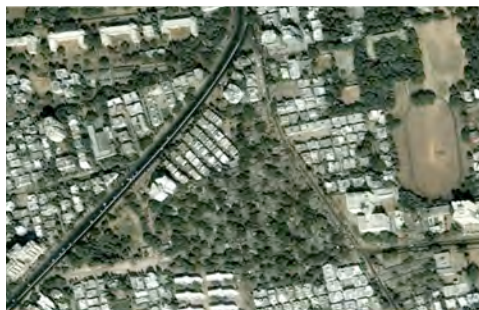
c. Riverfront Slum (Satellite Image)



d. Riverfront Slum (Figure-Ground)

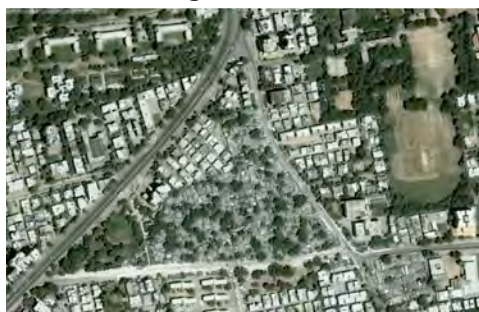


### Appendix 15: Hollywood Satellite Image Time-lapse

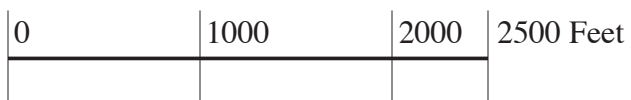


a. Date: 2000 (Nov. 11)  
Before Road Extension

b. Date: 2005 (Sept. 2)  
During Construction



c. Date: 2010 (May 30)  
After Construction



### Appendix 16: Riverfront Slum Satellite Image Time-lapse



a. Date: 2000 (Nov. 7)



b. Date: 2002 (July 4)



c. Date: 2005 (Sept. 2)



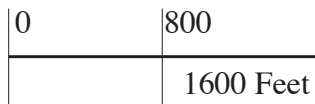
d. Date: 2006 (Dec. 17)



e. Date: 2009 (Mar. 14)



f. Date: 2010 (May 30)



**Appendix 17: Riverfront Slum Satellite Image of Sunday Market**



a. Riverfront Slum during Sunday Market  
Image Date: 14 March 2009



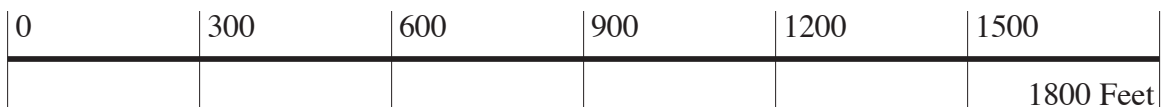
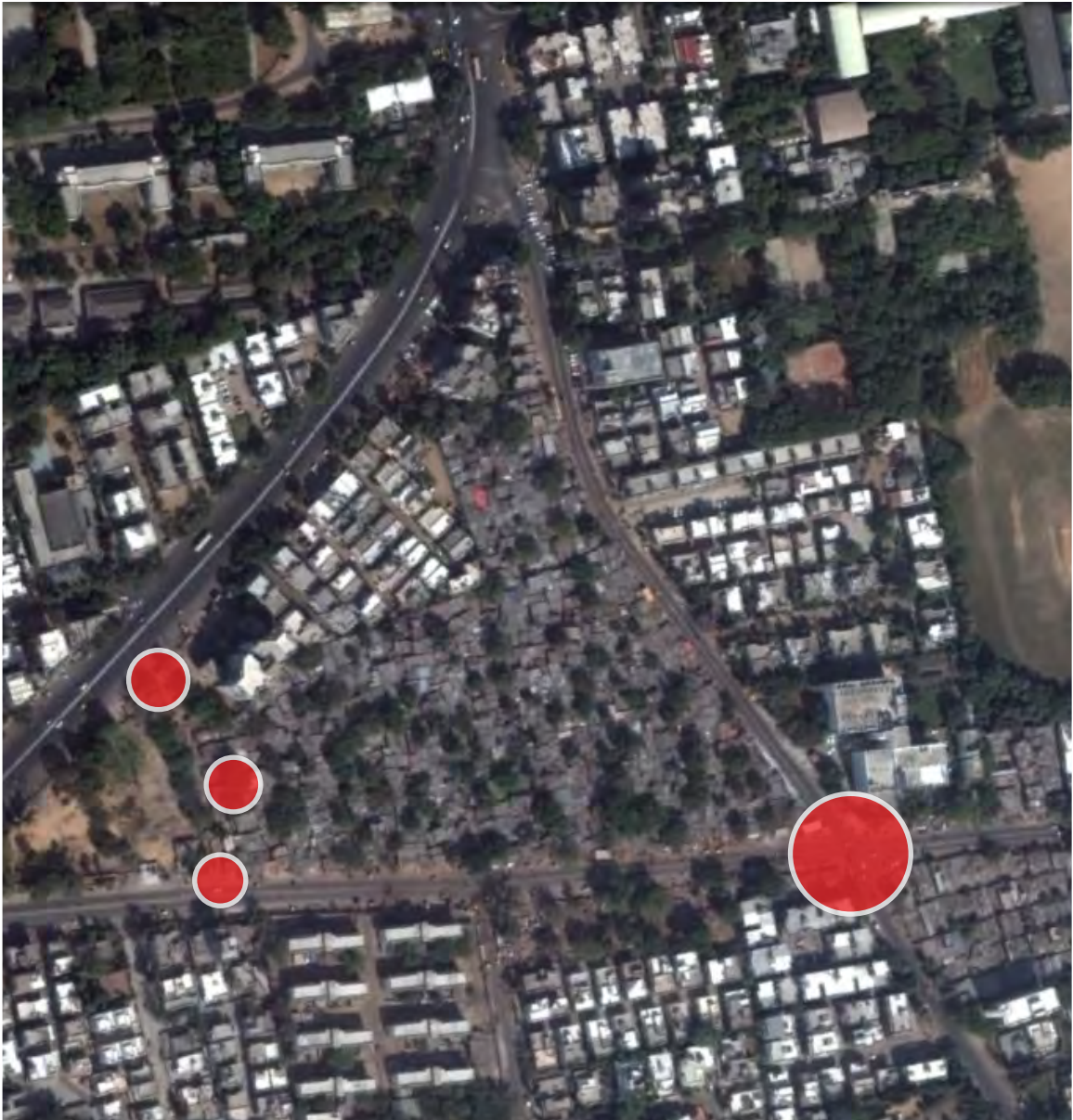
b. Riverfront Slum without Sunday Market  
Image Date: 30 May 2010

**Appendix 18: Hollywood Slum Satellite Image**

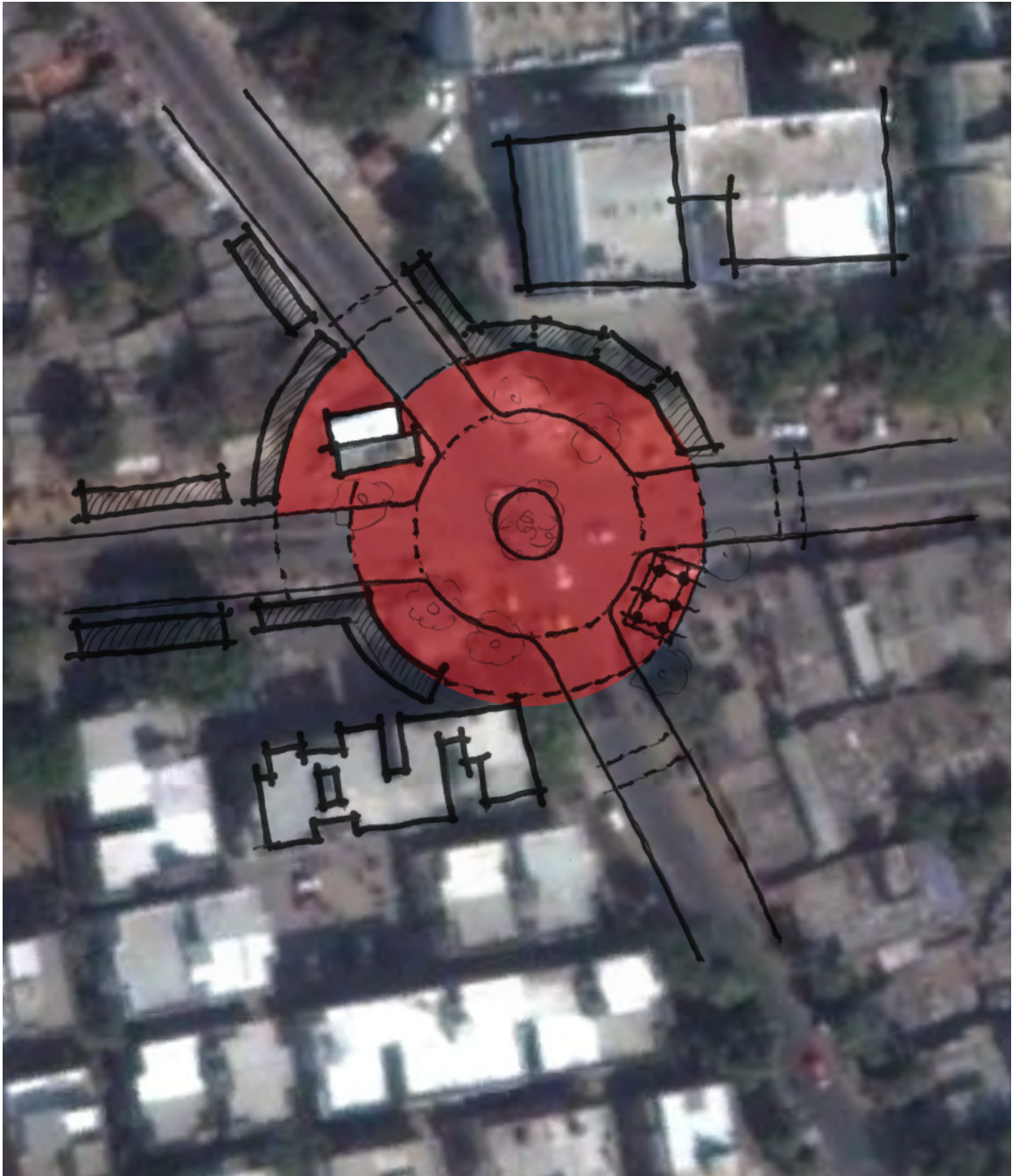


Hollywood Basti, Gulbai Tekra  
Image Date: 30 May 2010

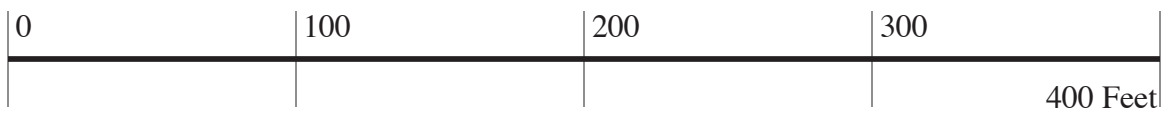
Appendix 19: Hollywood Public Space Solutions



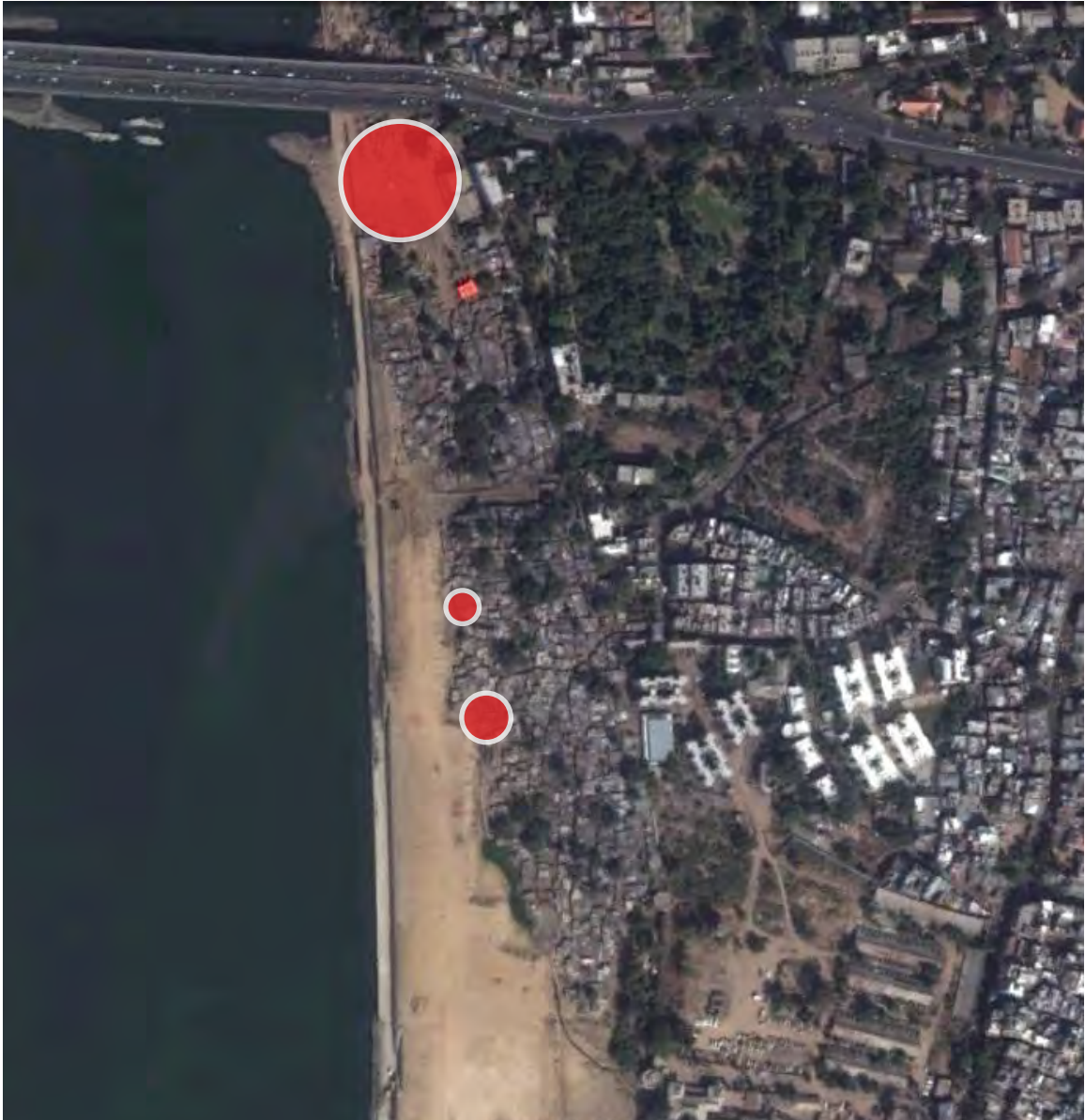
Appendix 20: Hollywood Corner Market Plaza



Appendix 21: Hollywood Community Plazas

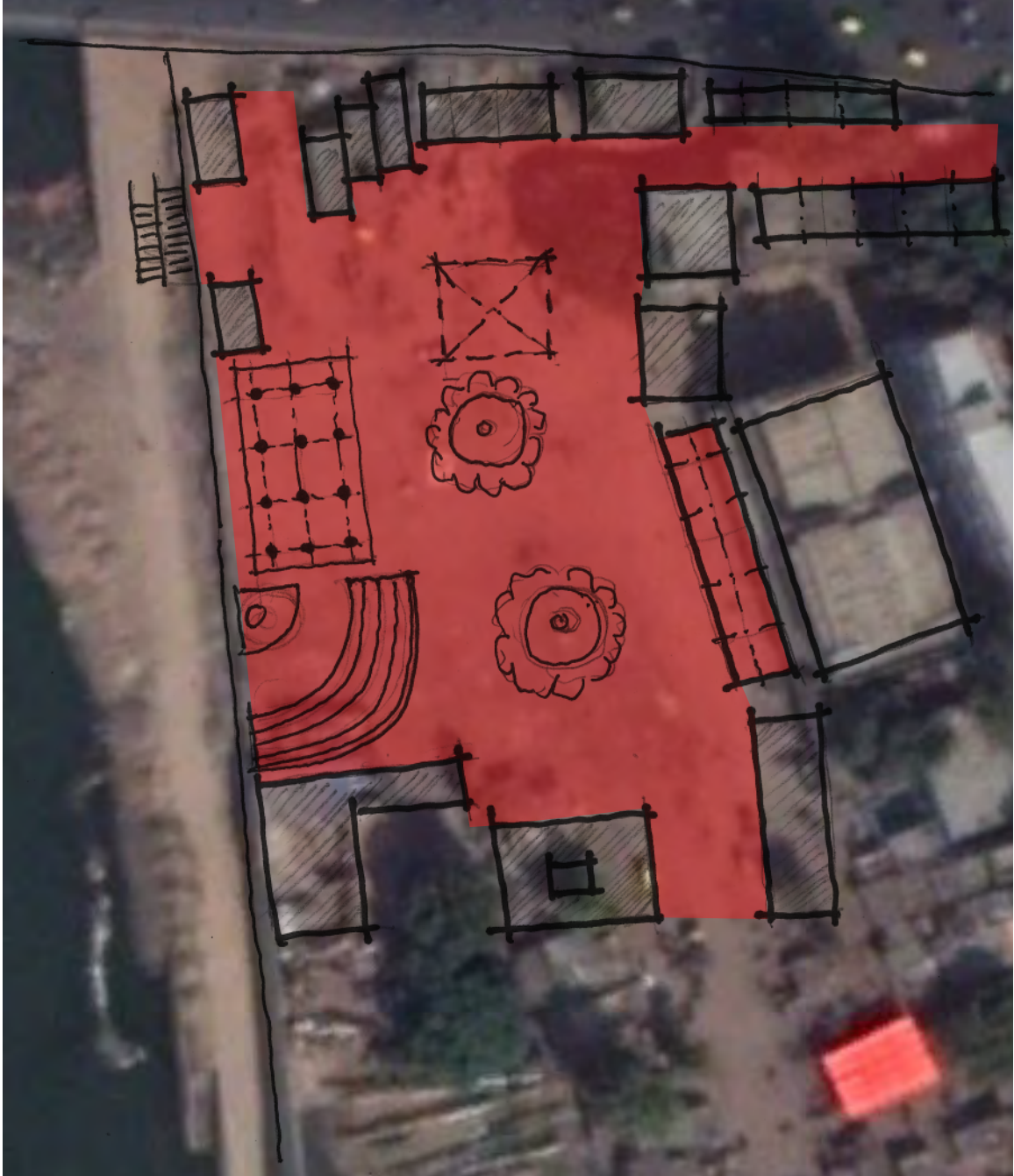


**Appendix 22: Riverfront Public Space Solutions**





Appendix 23: Riverfront Sunday Market Plaza and Amphitheater



Appendix 24: Riverfront Community Plazas

