Research Paper

The application of micro-regeneration strategy in urban renewal in northern Lima, Peru

Bo Bian, School of Architecture, Southeast University; China

Abstract

Lima, the capital city of Peru, is situated within the country's desert region on the Pacific coast and bordered by the Andes Mountains to the East. It is one of the most fast developing city shifting from both formal and informal urban construction. While traditional renewal model and strategy cannot deal with new situation and complex urban problems of this mega city due to its inner and outer contradictions and complexity.

This paper analyses the current situation of San Martin de Porres, a typical district in the northern part of the city, which grew towards the Chillon river corridor mainly during the second half of the twentieth century. It conducts investigation and analysis on the current situation related to social, economy and infrastructure system in this district. It shows that from the perspective of planning and design, urban scale top-down interventions have little positive impact on individual realities. On the opposite, much of the society's knowledge and useful space are created by the residents' active behaviour and informal activities, which belong to the bottom-up strategy, and they provide the source for urban vitality.

Based on the above content, the paper puts forward the micro-regeneration strategy based on the theory of organic renewal and daily life, which mainly includes three aspects: urban catalysts, space design and corporate mechanism construction.

The paper investigate different potential urban catalysts based on the feature of different functional space. It includes the most symbolic area that the latter design would applied to the whole province practically. Space design consists of four aspects: riverbank reuse, street renovation, community building and neighbourhood space transformation. The paper introduces community-based organization and governmental structure based on current top-down model and residents' activities in order to push on the practical work that all the other area could follow.

It tries to stimulate the improvement of the current situation and hopes to provide a new mode for the development of this mega city and similar practice.

Keywords

Lima, micro-regeneration, urban renewal, bottom-up

1. Introduction

Globalization and neoliberalism have caused dramatic changes in urban labor market, leading to the rapid development of informal economy and houses in developing countries, which formed the informal city (Hansen & Vaa, 2004). Normally it comes from small scale activities for the purpose of survival that are self-conducted by the poor people whose needs

that the government could not meet of (Hernando, 1989). Although the majority of informal activities are classified as illegal because they lack governmental control, these activities are considered normal rather than exceptional since informal employment take up more than half of employment in developing countries. At the meantime, some scholars use the concept of informal sector in the area of ethnic groups and activities (Kate, 2009). The urban poor who want to improve their living conditions conduct these activities. They volunteered to organize groups to mediate or confront with government or other interest groups. As a result, a self-determined informal social network was formed (James, 2011).

Lima is the capital city of Peru, a typical developing country that informal economy, informal houses and informal social groups are important parts. While most research on informal sector that have been done are focusing on economy and policy, little have been done on urban planning and design. We have to admit that we do not achieve desired effect by using policy-making tools to control the informal city. While it is great opportunity to reorganize and improve the informal city from the perspective of space planning and design. This paper proposes to use micro-regeneration strategy in terms of space design to provide a sustainable method for northern Lima based on our research.

2. Current condition

2.1. Basic information

Lima is situated within the country's desert region on the Pacific coast and bordered by the Andes Mountains to the East with the Rimac River flowing through its center towards the Pacific just north of La Punta in Callao. Modern Lima connects multiple historical centres: the colonial city centre (and the government seat of Lima) was established inland on the Rimac River but later expanded towards the Pacific coast connecting to the towns of Callao to the west, Magdalena del Mar, Miraflores and Chorrillos to the south. The city also grew northward towards the Chillon river corridor mainly during the second half of the twentieth century (Marwan, 2017).

Figure 1 Basic location; (a) Peru in Latin America; (b) Metropolitan Lima in Lima city; (c) Lima district

Source: www.mapsofworld.com/south-america/

2.2. Problem

Unlike the centre area and the southern area, which already have been preserved and renewed to some extent, the northern area is suffering from unlimited urban sprawl and

low-quality urban renewal. As a result, the northern area appears inequality and geographically segregation in different fields such as social level, working opportunity, infrastructure provision etc. In the northern area, much of the formal workers and formal houses are near the main north-south road and the city center, where there are more high quality educational and health institution, as well as better transportation, electricity and water facilities. In addition, the average income of informal workers (take up 2/3 of all workers in metropolitan Lima) is less than 1/3 of that of formal workers.

Figure 2 Informal Sector Labour Participation by Gender, Metropolitan Lima 2002–2008

Source: Own calculation OLA raw estimates

2.3. Cause

2.3.1 Government's oppression on informal sectors

The Metropolitan Municipality of Lima is the utmost authority of the entire city while each district has its own local government and local political leaders. What makes things worse is that, since Lima is the capital of the country, the central government often contravenes its urban planning. This three-tier government system creates high negotiation costs in infrastructure-building programs in Lima and lowers the efficiency of government bureaucracy. The municipalities have only paid attention to the need for urbanization land, but not to the provision of services and equipment, such as housing production, issues which are principally in the hands of the central government (Li, 2014). It does not construct a reasonable top-down governmental system, nor a rational mass basis. The district government usually puts money in the formal area where there are more high-income residents to achieve high profit instead of improving the living environment of low-income residents, thus increasing the gap between the formal and informal, as well as the high-income and low-income residents.

Informal economy is one of the main working patterns in metropolitan Lima, and it is the choice of the majority of low-income workers. This kind of economy are well received in the informal area and the informal system are complete enough to run by themselves. However, the government controls the overall system of the city. As a result, informal economy does not occupy position in formal economy; some informal workers with high education level cannot get chances in formal working. The government is fears that the grassroots' nature of informal economy will overthrow the formal economy (Hernando, 2010).

2.3.2 Low quality of informal groups

The government controls the construction of infrastructure in Lima, any organizations and individuals as well as local administrations and groups are unable to provide necessary infrastructure. Thus, informal residents can only get access to the infrastructure by illegally connecting themselves to the infrastructure in formal area. This inefficient and illegal activity is the main way for many informal residents to obtain public facilities includes water and electricity, as well as education and medical facilities, which are at relatively low level.

Economic crisis from 1973 has caused the cut of formal jobs; many highly educated and skilled workers lost their original jobs and entered informal jobs. People with low educational level and low working skills are losing opportunities to compete in the increasingly fierce job competition. A growing number of people are becoming unemployed residents or even vagrants (Gustavo, 1996).

2.4. Cause

Urban scale top-down interventions have little positive impact on informal individual realities. On the opposite, much of the informal society's knowledge and useful space are created by the residents' active behaviour and activities, which belong to the bottom-up strategy, and they provide the source for urban vitality. In addition, informal sector has long been considered as illegal while the type and scale of informal sector is huge enough that it benefits the development of the whole city. However, the barriers between formal and informal sectors result in inability of informal activities and growing gap between them. This will make the inequality problems between formal and informal groups even worse. We should manage to give suitable rights to informal groups and place them in the right position to solve the problems we are facing and let them play effective roles in the future.

3. Exploration and practice on informal sector

Based on the above studies, this paper hope to review the research on informal sectors, especially the various theory of policies and practices, looking for the opportunity to promote the urban renewal and urban development of informal area in a positive way.

3.1. Need for space design

In early stages, policies and related research are mainly focus on informal houses. The majority believe that the urban poor who live in the informal houses are rational actor. It means that they build these houses because the government and market did not provide enough suitable houses for them. As a result, they build these cheap and simple houses to meet their demands.

In 1976, World Bank published a report (George, et al., 1976) on developing countries and it tells that governments in Asia, Africa, and Latin America have implemented a range of policies to integrate informal settlements—spatially, economically, and politically—in the overall management of cities (Angel, et al., 1993). It was popular for architects and urban designers to use planning and design methods to improve the physical environment. However, those plans ignored the social reality of informal communities and it turned to be ineffective (UNHCR, 2010).

At the same time, the World Bank proposed an In-situ upgrading strategy under the resistance to moving out from informal residents. In addition, it continued to proposed service-sites plan, which was very attractive to the local people (Bishwapriya, 2014). However, in early 1980s, it proved to be not sustainable because it required too much subsidies and public organizations could not earn from it (Michael, et al., 1983).

3.2. Inefficient policies

From the 1980s, the government started to turn from a few projects into comprehensive management as well as public policies and it provide better markets for land, housing and commercial functions (Michael & Robert, 1984). However, many of the reform programs were difficult to be put into effect because those programs were not practically relevant to the residents. On the opposite, residents were still willing to accept the specific community plans made by developers (Mukhija, 2016).

In addition to the top-down strategies, bottom-up process was also of vital importance. While informal residents had their own groups, they were not free from political and economic power. The organizations that wanted to get rid of governmental control still needed to receive support from the higher authorities or folded into government organizations (Elliott, 1984) and the government still needed to maintain its status and manage the community resource (Elinor, 2000).

3.3. Reform of informal sectors

Scholars such as De Soto held the view that informal residents should receive legal rights of their houses. While it was difficult to form such a complex system, De Soto thought that suitable reform of the system could help to promote the building of the whole system (Hernando, 2000). As a result, public organizations and informal residents who received legal rights could quickly put the system into effect at a lower cost, which was similar to the process of promotion between democracy and capital system. Other organizations such as NGOs could get involved and act as mediators between government and residents to cut the

cost and speed up the formation of the informal community system (Ruth & Esther, 2009). De Soto's concept of legalization was a tentative idea and the International Labour Organization in the conference responded this concept in 2014 and 2015. It called on that the existing informal lifestyle should be preserved and improved. Public space could become the working space for informal workers and suitable regulations should be made to guarantee the rights of using the public space and resources (ILO, 2015).

3.4. Conclusion

The consequence that informal urban sprawl caused in Lima cannot be reversed while the gap between formal and informal sectors is widening because of the de-legalization of informal sectors and government's focus on formal area. The voice of constructing informal legalization system in metropolitan Lima is getting higher while it is difficult to predict and control the consequences caused by major changes in policy and system based on past events. It is more acceptable for informal residents to receive the changes of surrounding space and daily activities in relatively small scale. It is impossible for the government to provide countless affordable houses or to reform the fundamental informal policies rapidly. On the opposite, it is practical to form a system controlled and financially supported by government, led by residents' association, mediated and invested by non-government associations to renew the informal communities and to improve the informal activities in a relatively small scale. Therefore, the paper proposes to use micro-regeneration strategy in focusing area in northern Lima.

4. The concept of micro-regeneration and its application

4.1. Origin and definition

The concept of "micro" originated from the "Internet plus" period in China. With the development of internet, cost of acquiring resources for the individuals become cheaper, which means that it is easier for individual development and exchange of knowledge. As a result, there exist a variety of idea and product taking the concept of micro as core idea. Micro-regeneration is the application of micro concept in urban planning and design and it was first applied to old building renewal in historic cities. Nowadays, it is difficult to use traditional planning methods to solve all the city problems at one time. With the popularity of urban renewal, professional teams and organizations started to use micro-regeneration strategy in community and city level.

Micro-regeneration strategy is based on the theory of organic renewal, keeping the overall city structure and cityscape. At the same time, it emphasizes the bottom-up process and encourages residents' association to take part in urban renewal process. As city is a complex system, the strategy follows the developing order to avoid unpredictable consequences. It renews part of local site to stimulate continuing self-regeneration process and it hopes that this small-scale renewal will have positive effect on local residents that they would like to follow. As a result, micro-regeneration will achieve influential and sustainable changes that would solve the city problems. This strategy may be suitable for the social and space renewal in informal area.

4.2. Form and mode

Under the influence of early renewal methods, traditional urban renewal lacked consideration of the public interest. Urban renewal a tool to reflect the will of the

government, realize the personal values of designers and profitability of developers. With the development of society, the urban organic renewal model began to pay attention to two important topics of public participation and non-material environmental protection. Compared with the urban renewal under the intervention of external forces, the micro-renewal concept advocates the development model based on endogenous power, and the public's renewal demand is the core.

Under the influence of the early renewal methods, traditional urban renewal lacked consideration of public interest. It usually became tools to show the authority of government and to realize the personal values of designers and profitability of developers. With the development of society, organic renewal method started to pay attention to public participation and intangible environment protection. Compared to traditional urban renewal that was under the intervention of external forces, the micro-regeneration strategy follows the core idea of organic renewal and advocates the method based on endogenous power from the residents.

Overall, micro-regeneration mainly includes three aspects.

(1) The development mode is based on the residents' interest. Traditional urban renewal is top-down mode, which is too simple that residents could only observe or even resist. On the opposite, micro-regeneration pays much attention on residents' needs and emphasizes on following the inherent characteristic and of the area to increase the continuity of urban renewal in time. As a result, residents will initiate to form self-renewal system based on the bottom-up community cultivation.

(2) Source of funds become wider. Source of funds in traditional urban renewal are mainly from governmental subsidies and developers' investment. While trustworthy groups' funds from community residents and NGOs can guarantee the reliability of the use of funds in micro-regeneration.

(3) Organizational structure changes from top-down mode to bottom-up mode. The government dominates traditional urban renewal with developers putting it into effect. Designers only exist in the initial stage and residents can hardly participate in the process. While residents are at the core in micro-regeneration process and they raise their needs and goals. Developers become professional advisers with designers helping the work. Government will do the managing works with NGOs act as mediators between different groups to achieve multi-party services and protect every groups' interest.

4.3. Operation process

Micro-regeneration mainly includes three operation stages: urban catalysts selection, space design and corporate mechanism construction.

(1) Micro-regeneration manages to choose suitable urban catalysts based on current situation. In 1989, Wayne Atton and Donn Logan put forward the idea of urban catalysts (Wayne & Donn, 1989). It tells that urban catalyst is not the final product of simple urban renewal while it can stimulate and lead the follow-up development. This action is aimed to promote the development of the area in a continuous and gradual way.

(2) Space design not only focus on the practical plan of public space, but also emphasize on the implementation on stages. It changes current static planning into dynamic planning and it combines planning-making with management and construction action. By doing so,

government and residents can work together to manage the area from target setting to strategy practicing and space renewal. At the same time, it can adjust the plan based on the change of political, economic and social factors at any time to renew the area in the most realistic and suitable way.

(3) Corporate mechanism mainly includes two aspects. On one hand, it guarantees that the developing mode, resources of fund and main body of responsibility are shown clearly to the public in every steps of the construction. On the other hand, bottom-up feedback mechanism can be formed among the residents to keep the sustainable renewal after the initial project at the center public space.

Figure 4 Process of micro-regeneration strategy

5. Proposal of micro-regeneration in northern Lima

5.1. Selection of focus area

Based on the above research, the focus area in San Martin de Porres near Los Olivos is the place where the gap between rich and poor is the greatest. It is practical that we use this most typical area as an example to get involved.

Another reason why we choose this area is that the proximity of space to wealthy area brings certain opportunity to the informal area (Janice & Fernando, 2011). Perman's research shows that poor residents who live near the rich area have higher possibility of improvement in living conditions than those who live in the periphery area. More working opportunities, closer distance between working place and residence, gaining more knowledge and information through contact with employers, better education for child are all reasons that lead to the result. As a result, in-place renewal and upgrading residential area are highly supported by the public.

Figure 5 Location of focus area

5.2. Planning and design process

Based on the operational strategy of micro-regeneration concept, this paper summarizes the specific planning and design process into three parts.

- (1) Classify the whole area into different semi plots according to the space, social, cultural and economic characteristics. Summarize the core problems and feature of different plots.
- (2) Search for potential catalyst sites different plots that ensure the representativeness and typicality of the selection. Guarantee that the planning and design methods can be applied to other sites.
- (3) Study the characteristics and needs of different political bodies. Design a complete and renewal mechanism to provide sustainable space update guidance and political system.

5.3. Catalyst design

Based on the above analysis of current problems and concept of micro-regeneration, this paper finds three typical catalyst sites as listed below, aiming at the problem such as poor operating of social environment, disordered informal market, insufficient supply of public facilities, and low quality of public activities' space. The paper discusses the design and planning potential and formulate corresponding renewal mechanism based on current conditions.

Figure 6 Map of selected sites

5.3.1 Site 1: Main street and central market

This site is located at the intersection of two major streets in the district; the planning area is about 24,000m². The east-west street is the widest in the site while the north-south road is just a secondary road. Most cars pass through the east-west street to reach the expressway on the east. However, all the roads are in low condition with too much dirt. Residential houses and some undeveloped open ground take up most of the space in this area.

It is a region with a large population but lacking enough infrastructure and basic central markets. While the location and commercial environment of this area make it have the potential to become the public center of leisure and business function. At the same time, not only vendors or market sellers that need the public space, but also the pedestrians, vehicles and people doing recreational activities. Normally, planning and design are based on land use zoning that one particular area of land can only have one single category of use. But in Lima, various people and activities, as well as function space should be adapted to each other. It is because that mixed, flexible land use and eclectic management by free and active idea are the characteristics of informal society. Therefore, this paper hopes to use the core functions of commercial and daily living activities to form a cluster space of multiple functional activities in district level. The renewal process is divided into three stages.

(1) Early market formation period.

The government seldom understands the specific and differentiated location and service requirements of informal residents. They also do not know the informal activities match the local, national and even international value chains (Rosemary & Peter, 2009). Therefore, informal groups formed by experienced residents should lead the informal sellers to gather and conduct their activities especially the informal economy activities, forming a preliminary business and activity environment. Then the sellers together with developers and NGOs can form a market committee to decide how to use the public space and unused houses, and to build a central market or even commercial complex. At the same time, the committee act as supervisor to manage and control the operation of the market.

(2) Market upgrade period

The government can intervene appropriately to provide part of funds, and they can call on the local experienced developers and designers of mega projects to help to build the central market or to transform and rebuild the existing buildings. As a result, central market with elements of informal sectors as the core can be formed, and a variety of commercial and leisure activities can be conducted at this site to improve the social, cultural and economic environment.

(3) Complete development of market leisure area

In order to avoid the negative effect caused by informal activities that was popular in other area, residents' association and the government as well as other interests' groups are involved in the management and supervision of the site. It is important to change the existing chaos of the streets but also to maintain the social vitality of informal activities.

It hopes to form a self-renewal mechanism led by the residents' association and supported by the government and other interest groups. Integrate informal economy carriers such as vendors or retailers in bad business who do not have suitable physical space and provide them with an area to play a role of informal sectors. At the same time, it will improve the upgrading of the physical public space in the surrounding area, realizing the sustainable renewal of this commercial and leisure center.

Figure 7 Space design in market renewal; (a) Street leisure area; (b) Building transformation; (c) Market transformation; (d) Plan of market renewal

Figure 8 Map of market renewal mechanism

5.3.2 Site 2: Community center

This site is located near the secondary road inside the main community; the planning area is about 24,000m². This site is one of the typical undeveloped area that is in large scale within the community. On one hand, its location is good for the internal and external exchanges of various activities. On the other hand, large area undeveloped space has the potential to supplement the infrastructure of nearby communities. Moreover, the renewal process is divided into three stages.

(1) Early community center formation period

The formation of community center needs the gathering of public enthusiasm, increasing of public activities as well as building of community social networks. We encourage vendors and informal market sellers to conduct their selling here, but in small scale that take up only part of the space. Once the accessing to public space is guaranteed, basic infrastructure such as running water and toilets, as well as services such as garbage removal, are urgently needed, which is generally beneficial to all users, including residents (Sally, 2014). This is the starting point of improving infrastructure quality for the whole community. The funds of early improvement should come from residents themselves and reliable residents' association, as well as local developers. When small shops and enough power supplies are in place, vendors will carry out more profitable and more valuable business activities such as sewing and repairing (Richard, et al., 2009). It provides great opportunity for daily gathering and other activities.

(2) Community management upgrading period

With the daily gathering of residents and the availability of basic infrastructure, residents' association and other community groups can form a community agency and start to manage and coordinate among the community. During this period, the community agency leads investigate and record the basic information of residents, forming a file management system. On one hand, it is easy to find and to try to solve the core problems in community. On the other hand, multi-groups formed by residents and various local groups can prevent from single organizational structure and the inequality of interests' distribution. As a result, the overall quality of social and living environment can be improved.

(3) Community training maturity

When infrastructure quality and social networks are relatively mature, what still need to be addressed is the quality and ability of residents and government's knowledge of informal sectors. On one hand, it is important to provide more education agencies to increase the knowledge level and thus increase the working opportunity for informal residents. On the other hand, government staff should come to informal communities and learn about the specific needs of the informal society. It provides the fundamental opportunity to build up connection between informal and formal sectors in the future.

On the whole, based on the current situation that existing informal groups have their own social networks but are unable to improve their social level, the paper attempts to use the undeveloped area in the site to improve the infrastructure level, to cohere the informal community, and to build better managing groups. Thus, it hopes to achieve an overall improvement of the informal community.

Figure 9 Maps of community center renewal; (a) Space design 1; (b) Space design 2; (c) Plan of community center; (d) Corporate mechanism of community center renewal

5.3.3 Site 3: Neighborhood public space

This site is located in one of the common neighborhoods; the whole planning area is about 75,000m². The specific design plots are the undeveloped area and demolition space between the residential houses. It is common that it lacks activity space and physical contact in the neighborhood. Based on this situation, the design hopes to increase the possibility of daily activities inside the neighborhood and to interact formal and informal sectors by the connection of space.

(1) Partial transformation period

The initial space utilization mainly focuses on local intervention to avoid interference to the residents. Compared with traditional neighborhoods, the organic combination of low-level and medium-density buildings in informal area is similar to the new urbanism advocated by planners (Janice & Fernando, 2011). The renewal should retain this kind of urban form while meeting the needs of residents. Evaluate existing neighborhood structure and poor-quality buildings as well as unused public space, sort out the space available for renewal operation, and determine the links between possible resources and functional area.

(2) System formation period

In terms of choosing potential public space, the levels should be clearly graded, and the size of each level should be relatively average. Residents in a particular small area can organize together to manage the investment and use of nearby public space through neighborhood raising and introducing of NGOs. It is even possible that developers can engage to invest in the public space managing and transformation. As a result, residents will be provided with more suitable activity venue through the installation of functional facilities and components. They will also be guided to more open space through the path, thus forming a multi-level activity space system and providing residents with multiple choices in daily life. Through the "street eye" mentioned by Jane Jacobs, the coherence and mutual care of the neighborhood guarantee the safety and enhances the overall comfort of the neighborhoods (Jane, 1992).

(3) Systematic connection period

Historically, it is difficult to integrate informal area with a high degree of identity directly into formal cities, because this kind of integration means that urban informality is replaced by urban formality within a certain space. Therefore, it is reasonable and effective to conduct spatial, social and cultural connection between the urban informality and formality, in order to bridge the gap. However, the residents themselves control this kind of connection and communication. They determine the function and continuous direction of the public space. At the same time, formal sectors need to value the informal sectors, thus bring the downward connection so that two separated groups can create useful communication and connection.

Finally, this paper hopes to promote the connection between formal and informal area through the gradual construction of public space system and to encourage the bottom-up renewal of the informal area from the perspective of spiritual and institutional support.

Figure 10 Maps of neighbourhood renewal; (a) Space design 1; (b) Space design 2; (c) Plan of neighbourhood space; (d) Connection system of community

6. Conclusion

The informal sectors constitute one of the dominant factors in metropolitan Lima and they are highly embedded in urban politic, economy, and culture. They actually have the potential to help the city to develop in a better way. However, recognizing informal factors and establishing their status should not be dramatic and rapid. On one hand, slight changes in policies have proved that it is difficult to have positive effect on informal factors. On the other hand, informal residents tend to accept space plan and suitable legalization. Planners and designers as well as policy makers can work together to use micro-regeneration strategy, taking informal residents as main body to renew the unequal informal area.

Based on fully recognizing the situation in the informal area, it is realistic to construct the space and policy action mechanism. It hopes that the informal residents have the ability to

gradually renew by themselves and form an independent system, thus promoting the better development of the informal area and the whole city.

The application of micro-regeneration has some successful cases in China and Europe, but this paper is only a theoretical discussion and proposal on the renewal in a specific area in Lima. Whether the concept can be implemented and promoted is unknown, more practice is needed to verify in the future.

Acknowledgment

The work is supported by the Chinese Scholarship Council (Grant No.201606090340).

The work is part of an urban design course taught by Marwan Ghandour in Iowa State University, U.S. in 2017.

References

Hansen, Karen Tranberg; Vaa, Mariken (2004) *Reconsidering Informality: Perspectives from Urban Africa*, Uppsala: Nordic Africa Institute.

Hernando De Soto (1989) *The other path: the invisible revolution in the Third World*, London: B. Taurus.

Kate Meagher (2009) "The informalization of belonging: Igbo informal enterprise and national cohesion from below", *Africa Development*, Vol.24 No.1.

[4] James Duminy (2011) "Literature survey: informality and planning", Urban policies programme of the policy-research network women in informal employment globalizing and organizing (WIEGO), available at http://www.inclusivcities.org/wp-content/uploads/2012/07/Duminy-Planning-Lit-Review_FINAL.pdf.

Marwan Ghandour (2017) "Urban regeneration in Lima, Peru", Course syllabus of Urban design global studio, Master of urban design program, College of Design, Iowa State University.

Li Yuanxin (2014) "Lima's city planning", *Public Policy Peru 2014*, School of Public Policy, University of Maryland, available at umdpolicyperu2014.wordpress.com.

Hernando De Soto (2010) "Latin America: Looking north or south? Bringing wealth to the poor: A deed for every home", *New Perspectives Quarterly*, Vol.18 No.1.

Gustavo Riofrio (1996) "Lima: mega-city and mega-problem", In: *The mega-city in Latin America*, edited by Alan Gilbert, Tokyo, Japan, United Nations University Press.

George Beier; Anthony Churchill; Michael Cohen; Bertrand Renaud (1976) "The task ahead for the cities of developing countries", *World Development*, Vol.4 No.5.

Shlomo Angel; Stephen K. Mayo; William L. Stephens Jr (1993) "The housing indicators program: a report on progress and plans for the future", *Netherlands Journal of Housing and the Built Environment*, Vol.8 No.1.

UNHCR (2010) "Update on UNHCR's global programs and partnerships", available at <http://www.unhcr.org/4ca5deb59.pdf> [accessed 20 July 2014].

Bishwapriya Sanyal (2014) "Informal Land Markets--Perspectives for Policy" In Birch, Eugenie; Chattaraj, Shahana; and Wachter, Susan (eds.) (2015) *Informal Real Estate Markets* (Forthcoming, University of Pennsylvania Press).

Michael Cohen; Callisto E Madavo; Harold Dunkerley (1983) "Learning by doing: World Bank lending for urban development, 1972-1982", Washington, DC: World Bank.

Michael Mastanduno; Robert L Ayres (1984) *Banking on the poor: The World Bank and world poverty*, Cambridge, Mass: MIT Press.

Mukhija, Vinit (2016) "Rehousing Mumbai: Formalizing Slum Land Markets Through Redevelopment" in *Slums: How Informal Real Estate Markets Work*, edited by Eugenie L. Birch; Shahana Chattaraj and Susan M. Wachter, available on University of Pennsylvania website.

Elliott R. MORSS (1984) "Institutional destruction resulting from donor and project proliferation in Sub-Saharan African countries", *World Development*, Vol.12 No.4.

Elinor Ostrom (2000) "Collective action and the evolution of social norms", *Journal of Economic Perspectives*, Vol.14 No.3.

Hernando De Soto (2000) *The mystery of capital: why capitalism triumphs in the west and fails everywhere else*, New York: Basic Books.

Ruth Meinzen-Dick; Esther Mwangi (2009) "Cutting the web of interests: pitfalls of formalizing property rights", *Land Use Policy*, Vol.26 No.1.

International Labour Organization (2015) "Transition from the informal to the formal economy in Africa", ILC 104/2015, Report V (2B), ILO Publications.

Wayne Attoe; Donn Logan (1989) *American urban architecture: Catalysts in the design of cities*, Berkeley: University of California Press.

Janice E Perlman; Fernando Henrique Cardoso (2011) *Favela: four decades of living on the edge in Rio de Janeiro*, Don Mills: Oxford University Press.

Rosemary D.F. Bromley; Peter K. Mackie (2009) "Displacement and the new spaces for informal trade in the Latin American city centre", *Urban studies*, Vol.46 No.7.

Sally Roever (2014) "Informal economy monitoring study sector report: street vendors", Report of Women in Informal Employment Globalizing and Organizing (WIEGO), available at <http://www.wiego.org/sites/wiego.org/files/publications/files/IEMS-Sector-Full-Report-Street-Vendors.pdf>.

Richard Dobson; Caroline Skinner; Jillian Nicholson (2009) *Working in Warwick: including street traders in urban plans*, Durban: School of Development Studies, University of KwaZulu-Natal.

Jane Jacobs (1992) *The Death and Life of Great American Cities*, New York: Random House.