



# Expanding networks for the urban poor: Water and telecommunications services in Lima, Peru

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## ABSTRACT

In many cities of the developing world, poor residents occupy land and build their dwellings before infrastructure is provided. Expanding the infrastructure networks for the poor is a long, expensive and complicated affair. Before the 1990s, the public sector was generally in charge of the basic services; but these services have been liberalized and, in many cases, privatized since then. In this new context, a relevant question is: have these reforms contributed to urban integration? Or, on the contrary, have they contributed to deepen urban fragmentation? This study presents the case of water and telecommunications services in Lima, Peru, the most contested and politically sensitive urban sectors. The objective is to test Graham and Marvin's claims about the splintering of networked infrastructures expressed in *Splintering Urbanism*.

The findings show that the reforms have improved the situation at aggregate level, but there is still no sustainable solution for the crucial dilemma of cities with high poverty restrictions: self-financed network expansions versus service affordability. The diverging paths of the utilities reform in Lima illustrate that privatization is not the main issue in the discussion to expand the networks for the poor. The main conclusion is that sensible policies complemented with carefully targeted subsidies and continuous regulation can successfully provide water for all. Good governance practices at the urban level help to achieve this goal. Water and telecommunications in Lima also show that there are no general solutions for the universalization of the services; each city is different and some sectors are much more complex and problematic than others. This demands careful and continuous technical and political consideration of the local circumstances to reform the utilities.

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## 1. Introduction

National and international economic policies shifted sharply in the late 1970s and 1980s towards greater reliance on market practices and the withdrawal of the state. Developing countries were compelled to change the model of economic development towards opening national borders to global trade and capital. In Latin America, the IMF (International Monetary Fund), the World Bank and the IDB (International Development Bank) encouraged a profound restructuring of the state according to neo-liberal thought, which was mainly implemented during the 1990s. In this context, the privatization and liberalization of key economic sectors was a central element of the reforms. Public utilities – energy, gas, water, sewerage and telecommunications – were among the first public companies to be reformed and privatized.

In *Splintering Urbanism*, Graham and Marvin (2001) state that the notion of universal and integrated infrastructural systems that characterized the expansion of the modern city is being gradually abandoned due to the neo-liberal reforms: “During the last two

decades there has been a paradigmatic shift across all networked infrastructure sectors based on the movement from integrated to unbundled urban networks” (2001, p. 138). The process of unbundling refers to separating bundled networks and services into individual functional components. The authors claim that the new political-economic context is producing strong effects in urban infrastructures. This ‘entirely new infrastructural landscape’ would be conducive to cherry-picking strategies towards the constitution of premium networked spaces on the one hand, and to the development of excluded or by-passed spaces, on the other hand. This situation is leading to heightened levels of urban segregation and urban fragmentation, which constitute a regression from the previous urban condition.

Consequently, Graham and Marvin argue that the “infrastructure ideal of universal and integrated infrastructural systems” that characterized the modern city is being dismantled. *Splintering Urbanism* emphasizes the processes of disintegration, fragmentation and segregation going on in cities around the world as a result of the changing political and economic context. The objective of this study is to test Graham and Marvin's (2001) claims in relation to two basic services in Lima, the capital city of Peru.

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With more than 8 million inhabitants, Lima is the fifth most populous Latin American metropolis. In common with many other cities of Latin America, Lima grew rapidly due to rural–urban migration after the 1940s. But Lima has been less able to provide housing, employment, and services than other cities of the region. Migrants have sought to obtain them in informal ways, building vast *barriadas*<sup>1</sup> at the periphery. *Barriadas* have been larger,<sup>2</sup> more organized and in some ways, more thought-provoking<sup>3</sup> than in other cities of Latin America. In the context of a city with approximately 50% of its population living in poverty as Lima,<sup>4</sup> the provision of basic services and their financial sustainability constitute key problems of urban planning.

The main question has been: have the reforms of water and telecommunications contributed to urban integration trends in Lima? Water and telecommunications were selected because of their value in answering the question, helping to grasp the different circumstances and effects of the reforms of two sectors in the same city. Both were reformed during the 1990s, but while telecommunications was completely privatized the water sector was not, for different reasons. These sectors are the most contested and politically sensitive urban sectors in Lima, objects of frequent and fierce debate in the media. Therefore, in these two sectors the contradictions, conflicts and dilemmas that accompany the provision of basic services in cities with great poverty restrictions can be more easily observed and documented.

The paper first addresses the issue of urban integration in Lima, describing the main political-economic dynamics of its urban development. The second section presents the reforms of water and telecommunications in the Latin American region. The third and fourth sections are focused on the telecommunications and water reforms in Lima, respectively. The fifth section discusses the results relating them to the issues raised in *Splintering Urbanism*. The paper concludes answering the main question about splintering and integration and presenting the main findings.

Both quantitative and qualitative methods were used. The increased transparency and efficiency in the water and telecommunications sectors has been useful in obtaining recent quantitative data. Additionally, in February 2007 I interviewed people involved with these sectors and (former) representatives of both regulatory agencies. I also observed the state of these services in several recently formed *barriadas* of the South Cone. To position Lima's reforms I have used international sources from different disciplinary perspectives. The use of many local sources and the selection of methods and topics are influenced by my education and working experience as a (local) urban planner and researcher, as well as by the issues of the local urban debate, in which the *barriada* has a prominent role.

## 2. Urban integration trends in Lima

From the point of view of urban planning, the notion of urban integration refers to the incorporation of urban areas into the

whole city dynamics considering physical, functional, social, cultural and political aspects. The opposite of urban integration are the concepts of segregation and fragmentation, which are not equivalent. Segregation, an important feature of cities, is the expression of the rules organizing space according to patterns of social interaction and differentiation. Segregation is not intrinsically negative if it allows difference without exclusion. The case of Lima is a good example: *barriadas* may be an expression of spatial segregation, but they have given their residents a place in the city, making possible their incorporation as important social and political actors. In such way, *barriadas* have been means towards social integration.

Urban fragmentation, on the other hand, refers more specifically to the lack or reduction of physical links and/or exchanges between areas. The fragmentation of urban space resulting from walled, gated and/or enclosed urban areas obstructs the modern city's ideals of freedom of circulation and openness of public space. Current trends towards the privatization of public space (e.g. private neighbourhoods) are a clear example of urban fragmentation. These types of privileged space exclude or control those considered different ("the other"). The exclusion of people from public space (and public life) goes against the values of freedom, social equality and respect of differences which are at the base of modern societies.

Urban fragmentation has been a historic feature of Lima since its Spanish foundation in 1535, although its intensity has evolved and changed over time. A map of Lima in 1613 shows the area of the Spanish colonists, and separated from it, El Cercado (the walled site), the area for the indigenous population. Although the city gradually incorporated El Cercado into its urban grid, the social divisions remained and did not change much after the independence from Spain in 1824. During the first half of the 20<sup>th</sup> century, Lima grew, increasing its primacy and concentrating economic and political power. As the seat of Peru's elite, poverty was less visible and widespread than in the rest of Peru. Inequality and social divisions were, however, stronger. Salazar Bondy (2002) described this in *Lima la horrible* in 1964, denouncing the elite's invented "Colonial Arcadia" and Lima's incapacity to listen to the "real Peru". The irony is that the "real Peru" gradually moved to Lima.

Lima's second wave of urban fragmentation corresponds to the emergence of large peripheral *barriadas* in the mid-1950s. These settled in the hills to the north and south, linked to the city only by the road to Canta and to Atocongo, respectively. Unable to cope with the growing housing shortage, the national authorities tolerated them. After several years of political pressure from *barriadas* settlers for the regularization of their land, "path breaking" legislation was launched in 1961, the Law of Marginal Settlements (Calderón, 2005), the so-called *Barriadas* Law. Allowing the recognition of the legal status of *barriadas* and promoting self-help, it represented a radical shift at that time, when a negative view of these informal processes was held worldwide.<sup>5</sup>

During the 1960s and 1970s Lima grew spectacularly, while *barriadas* filled up Lima's surrounding hills, starting the development of the North, South and East Cones. The 1981 census showed that 31.7% of Lima's population was living in *barriadas*. On the other hand, the political scene was radically altered after 1968, when a military government made a serious attempt to "create a Peru that would be less dependent, one in which all of its citizens had the chance to participate" (Dietz, 1998, p. 48). The *barriadas* of

<sup>1</sup> In Peru, the informal neighbourhoods are called *barriadas*. The large areas of *barriadas* that surround formal Lima are called the Cones (North, South and East), according to their geographic position.

<sup>2</sup> Driant (1991) mentions the easy availability of (public) land, Lima's mild climate and the very flexible housing policy as reasons for the massiveness. Dietz and Tanaka (2002) mention that although in Peru rural–urban migration took place, import substitution industrialization was modest and arrived late, failing to create a class of local industrial capitalists. The scarcity of industrial jobs contributed to the vast extent of the *barriadas*.

<sup>3</sup> Lima's orderly and spacious *barriadas* and the processes going on inside them have inspired academics in the field of social housing (John F.C Turner), and the informal economy (Hernando De Soto) to take unorthodox approaches in their fields.

<sup>4</sup> Poor households are those whose income is not enough to pay for the consumption of basic products and services, according to the Peruvian Institute of Statistics and Informatics (INEI, 2005a).

<sup>5</sup> The law was inspired by a group of progressive urban professionals working for a conservative Minister, Pedro Beltrán, who considered that to promote homeownership among the poor was the best way to fight communism. Legalizing *barriadas*, the *Barriadas* Law had the unintended consequence to promote the expansion of *barriadas*, and, more importantly, to spread the view of the *barriadas* as the official housing solution for the poor (Calderón, 2005).

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