An Analysis of the Rational Comprehensive Model in Selected Cities in Developing Countries

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Abstract

Since the end of the Second World War, developing countries have presented themselves as a testing ground for western theories or planning techniques usually referred to as rational comprehensive planning. This paper examines evidence of several difficulties in promoting social and economic development with the use of this planning approach. The paper concludes that planning requires a full-understanding of the context where improvements or strategies are implemented. Developing countries poses social and economic characteristics that are considerably different than those found in developed countries, where rational planning was first introduced.

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Introduction

Traditionally, in much of the developing world, planning techniques and methods to promote urban development have been based on top-down approaches, usually referred to as the rational comprehensive model, under the influence of the “western knowledge”. Since the end of the Second World War planners in developing countries have had a growing interest in reaching the maximum potential of cities by transforming them to achieve a “world-class” status. In doing so, several direct interventions have included adopting concepts and planning legislation that were first developed in the western world. However, despite well-structured master plans, evidence has demonstrated several difficulties in promoting development with the use of this planning model due to the complexity of the context in which urban planning strategies are implemented. Along with macroeconomic problems and political instability, failure to converge to western standards is also a consequence of a civil society that resists this type of “modern” planning approach.

In this paper a historical perspective about the use and application of the rational planning is presented. In the following sections, the paper presents the philosophy of the rational comprehensive model, highlighting its challenges for the context of developing countries. Then, the paper examines three cases to illustrate the influence of economic, social and cultural factors on the overall rational planning method. From the promising urban development...
projects in Africa in the early 1960s, to Niemeyer and Lucio Costa’s ideal to transform Brazilian society with their Brasilia master plan during the late 1950s; to the British influence in designing an efficient urban community for the town of Bhubaneswar in India during the post-independence; to the ambitious “Vision Mumbai” to transform Mumbai into a World-Class city in recent years, this paper discusses some of the consequences of being guided through planning practices based on assumptions that belong to a western context.

Rational Comprehensive Model in the Developing World

For Escobar (1992) rational comprehensive planning as applied in developing countries usually implies the adoption of western principles at the expense of local people’s existing ideas. The model is based on the assumption that society can respond and adapt to economic and planning mechanisms that have helped alleviate social, economic and urban concerns in western economies. Turner (1972) also refers to rational planning as to planning techniques based often on a well-intentioned assumption that the public “does not know what it wants” or simply that highly-qualified people understand the needs for society better. That is, urban development requires government actions in a more direct way with the use of advanced techniques.

The rational comprehensive model has also implied the recognition of a legal framework as the guarantor of good order. Escobar (1992) indicates that this planning method is based on the identification of “problems,” which can be resolved by institutional top-down, discrete and “rational” practices such as the implementation of master plans. Escobar goes beyond the concept of planning as means to promote physical changes and states that

“in the face of the imperatives of “modern society”, planning involved the overcoming or eradication of traditions, obstacles and irrationalities, that is, the wholesale modification of human and social structures and their replacement with rational new ones.” (p 135)

Promoting urban development in developing countries with the use of the rational planning model has also been based on what Jacobs (1961) describes as a thoughtful myth that enough money can promote social development and alleviate urban concerns. However, a question that arises is whether cities in developing countries have both the financial resources and the institutional capacity that is needed to improve urban development. In this respect, Burra (2005) argues that, with more than 300 million urban dwellers in India, any amount of money allocated for the urban poor would be negligible. In the Sub-Saharan Africa, for example, despite large amount of resources being spent, there is a growing lack of access to basic services for those living in poor conditions. In fact, for several African inhabitants, current living conditions are even worse than they were in the past and could continue to worsen in the coming years if no action is taken (Easterly, 2002; Watson, 2002; Gandy, 2006).
Several authors identified factors that have contributed to the lack of urban development in developing countries including, low levels of public investment, limited capacity for public administration, political instability, bad governance, and high level of external debts (Berry, 1973; Easterly, 2002). However, in the last few years, there has been a high degree of consensus in the planning and development literature that the poor social and economic conditions that prevail in some parts of the developing world have also been the result of adopted planning techniques. Rather than implementing ad hoc planning strategies for specific contexts, planning models have been implemented by “highly-qualified” planners under clear western influences and inadequate planning regulations through the power of a “modern” state.

For example, Bolay (2006) indicates that housing and urban-related problems in the developing countries are, in part, a consequence of mismanaged urban planning. He indicates that classic urban planning principles based on the rational comprehensive model such as land allocation and technical implementations for services are frequently undermined by social practices of individuals. Bolay points out that legal frameworks and regulatory procedures based on western legislation often create a type of discrepancy between what the population can afford and what urban planners aim to implement. In consequence, individual and social groups, particularly the poorer ones, create their own and affordable solutions to urban problems, usually, outside official regulations and standards.

Berry (1973) also highlights cultural elements that impede the adequate implementation of urban solutions. Berry indicates that modernization and westernization of developing countries after the Second World War occurred under traditional socio-cultural elements that were incompatible with western-imported concepts. Along the same line, for Friedmann (2007), planning strategies and implementations do not usually take into account the role that “social identity” of places could play in attempting the transformation of what exists. He indicates that cultural factors also oppose to policies and urban improvements attempting to promote modernization, social order, and control such as those found in Tsu-Sze Bridge in Taipei. Despite modernization and transformation of Taipei and surrounding areas, the Tsu-Sze Bridge presents a type of traditional form of life full of what some planner might identify as “problems.” The area lacked “urban order,” with street vendors crowding the sidewalk selling local food. For Friedmann, however, these patterns and rhythms of life that prevail at Tsu-Sze Bridge represent “the triumph of irrepressible life over technology.”

The following section offers an in-depth analysis of some places located in developing countries that have been subjected to rational planning methods. The paper identifies the issues that can influence the adequate provision of basic services, such as housing and water, and the development of cities as well.
After the Second World War, western “knowledge” was exported to several African countries to improve urban conditions. The colonial legacy and poor social and economic conditions in these areas presented an opportunity for the use of scientific methods. As a result, loans and technical assistance were extended to the “new nation” from several developed countries (Easterly, 2002). Modernization was then introduced following foreign standards but ignoring much of the social, economic, and cultural conditions, as well as the traditional settlement forms of each place (Jenkins et al. 2007).

Several policy strategies were introduced to solve particularly housing and the provision of basic services. Arimah and Adeagbo (2000) indicate that, to cope with the problems of housing and basic services, several African countries enacted a series of legislations. Such legislations aimed at controlling and coordinating urban development and at initiating planning schemes for building plans. However, despite well-intentioned plans, Okpala (1987), Wekwete (1995), Arimah and Adeagbo (2000), and Gandy (2006) argue that urban development and planning regulations in many parts of Africa were based on premises and conceptual frameworks derived from a colonial legacy rather than on the African context. The result of this planning reform was the creation of an official building standard that was however, not followed for a large number of houses. Instead, the construction and modification of houses were based on what people could afford and according to people’s needs.

For the city of Ibadan in Nigeria, for example, Arimah and Adegbo (2006) point out that despite people in Ibadan being aware of the existence of planning legislation, they, on average, violated building regulations when improving their places to live. Houses in Ibadan were thus deemed to be houses contravening building standards, and subjected to potential demolition. Interestingly, Arimah and Adegbo also highlight that infringements were also common in wealthy neighbourhoods, which strengthened the importance of a redefinition of the legal framework for housing in that particular region. Okpala (1987) refers also to the problem of housing and argues that in the context of prevailing poverty such as that found in Africa urbanization implies that whatever housing the low-income group can afford will fall below what is prescribed by “official” minimum building standards.

Additionally, Okpala (1987), Lussagga (1992), and Gandy (2006) indicate that the adequate provision of basic services for society has also been based on foreign standards, which are unrealistic given the living conditions of many cities on the African continent. Gandy (2006), for example, indicates that the urban crisis and lack of social and economic development faced by Lagos has its roots on modern unrealistic planning policies. For Gandy, in Lagos there was little administrative and technical expertise available to implement these modern policies. Gandy also expands this situation and describes that an incomplete urban infrastructure in Lagos...
has in fact given rise to other types of side-effects. He indicates that in recent years, there has been a proliferation of “water lords” who intentionally vandalise possible attempts to improve the network for services in order to continue exploiting the poor.

The financial cost of adopting western standards in existing settlements has also affected the efficient implementation of urban improvements. Western standards are considered too high compared to the average African’s household income. Therefore, despite improvements of basic services, such as sewage and water systems, the incompatibility between third-world basic needs and western needs would make it impossible to achieve major sanitary improvements. In this respect, Lussagga (1992), for example, argues that the cost of installing a drainage system in poor settlements in Nigeria could represent ten times the monetary cost that opting for a first-class pit latrine. Lussagga indicates that, despite Nigerian houses being connected to the public water supply network most households have continued to use non-waterborne sanitation due to the high cost of the consumption of water compared with the household income.

In the case of the African context “acceptable urban standards” must be reoriented in accordance to the local context and to what African citizens are able to afford. United Nations Centre for Human Settlements in its Habitat Agenda has certainly recognized this situation and stated recommendations in relation to planning regulations and development that could effectively ensure a congruent development of urban centres. Such recommendations, among others, include changes and gradual adjustments in the planning and building regulatory frameworks and norms for land use (UNCHS, 1997).

Planning Practices in India: Bhubaneswar and “Vision Mumbai”

Urban planning in India has not been very different from the African experience. After the end of the Second World War, planning strategies to urbanize India were widely influenced by British norms and implemented through top-down government action without taking into account the traditional forms of Indian life.

After the period of independence in India, the town of Bhubaneswar was re-designated as the new capital of the state of Orissa. Bhubaneswar presented an opportunity to implement well-intentioned modern plans to build an efficient urban community for a population of over 40,000 people. The town plan was based on fulfilling housing requirements for different levels of civil servants who had to move to the new capital (Routray et al, 1996). However, low-level civil servants found difficulties in adapting to the new types of houses due to the insufficient storage space, poor ventilation, and lack of accommodation for family members and cows. This description was, of course, different from the image that the westernized official Indians had about the new housing development. For these officials, the new houses were “palaces” compared to previous village housing.
The government was thus unable to provide low-income housing in accordance with both western standards and low-income group needs, resulting in the proliferation of squatters. Most of these settlements were, in fact, tolerated by government authorities, who were aware of the services that the squatter population provided (Turner, 1972; Routray et al, 1996). For Turner (1972), Bhubaneswar was not different than other Indian towns. In fact, recent reports indicate that, today, approximately 23 percent of the total population in Bhubaneswar live in slums, and less than 60 percent of the urban poor have access to water (World Bank, 2006; NIUA, 2008).

An ambitious transformation of Mumbai, with the use of advanced planning techniques is now promoted with the use of the scientific knowledge. The Vision Mumbai master plan surpasses previous attempts to transform Mumbai. Large scale housing redevelopment, and relocation based on sophisticated recommendations have been proposed to increase the land availability for private developers to transform Mumbai into a world-class city.² This transformation looks, in fact, like a new urban utopia promoted by private developers and with the consent of the power of the state. However, for Benjamin (2008) the westernization of Mumbai is non-other than the desire of international donors to promote a modern development with the use of advanced planning practices. Although Vision Mumbai recognizes the importance of public involvement in housing reallocation and slum rehabilitation, public participation occurs at the level of political discourse. UN Global Report on Human Settlements (2007) indicates that Mumbai’s preferred instrument for “rehabilitation” scheme still is based on slum evictions. MacFarlane (2008) indicates that the transformation of Mumbai follows, in fact, those western colonial practices to construct a “desired state”. As he states, Vision Mumbai ignores much of the local context and draws its transformation strategies on examples from New York, London, Shanghai and Singapore.

However, despite efforts to converge with western standards with the use of “rational” strategies, Mumbai has not achieved its expected outcomes due to opposing forces. For example, slums evictions during 2004 and 2005 were followed by civil demonstrations demanding equal housing opportunities. Demonstrations have thus forced the state government to concede re-housing, although temporarily, to all slum-dwellers who came to Mumbai before 2000. In addition, the World Bank suspended, although temporarily, the funds for the Mumbai Urban Transport Project due to slum dwellers complaints (World Bank Report, 2007; The Hindu, 10 June 2007). These events show in consequence the role of society in the transformation of Mumbai into a world-class city. These forces are pushing government actions to modify much of the planning strategies and expected outcomes.

### Planning in Brasilia

The construction of Brasilia during the late 1950s was also based on rational planning and

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on the assumption that a good urban design could transform Brazilian society (Holston, 1998). It was believed that the new city would be able to promote social integration and also able to change the life of all living there. Planners and authorities claimed that the equality and standardization of architectural elements would help prevent social discrimination and induce people to adopt a new form of social experience. It was also intended to be a city free of slums and of the social and health “implications” that these slums might cause (Scott, 1995).

In effect, Brasilia was highly influenced by North American and Le Corbusier's planning principles. Residential neighbourhoods were organized around small squares in order to support a variety of social and cultural activities. In addition, the commercial business area was planned to be on the ground floor of each apartment block for the needs of the community. External space in each residential neighbourhood was also conceived as the way to reinforce the sense of public space. Complex road systems for the residential axes also dominated much of the layout of the city (Holston, 1998; Deckker, 2000).

However, the city, initially planned for 500 thousand people, is now home of about 2.5 million people and is far from being immune to the problems caused by urban sprawl.\(^3\) Today, unplanned peripheral settlements or satellite cities contain more than 75 percent of the total population of the district. Although “unplanned Brasilia” presents a wide variety of urban characteristics, most of these satellite cities lack public facilities and present high levels of poverty. Their urban conditions are, in fact, not that different than the conditions that can be found in conventional Brazilian cities. For example, San Antonio do Descoberto, a typical satellite city, with a population above 100,000 people, presents both an elevated number of people living in precarious conditions and high levels of social-related problems such as vandalism, drug consumption and prostitution. Similarly, the urban conditions in areas such as Recanto das Emas are even comparable to the conditions that can be found in Sub-Saharan African's slums, where the drainage system and paved streets are inexistent (Deckker, 2000; Kennedy, 2004).

Moreover, the intended social integration in Brasilia never occurred. “Planned Brasilia” is considered a medium-high class area within the Brasilia Distrito Federal. According to the World Bank, in 1991, more than a half of all those living within the original Brasilia’s layout were earning more than ten minimum salaries. In contrast, approximately 90 percent of people earning less than the minimum salary were living outside of Brasilia in one of its satellite cities (see World Bank Working Paper, 2004).

In terms of Brasilia’s social life elements, Scott (1995) indicates that the city does not necessarily present those folkloric elements that are inherent in a conventional Brazilian city. He points out, for example, that the city lacks busy

\(^3\) Scott (1995) indicates that part of this problem was caused by the hired workforce to construct the city. It was an assumption that this workforce gradually will move back home and leave Brasilia to the administrators for whom it was built. Instead, they organized to defend their territory demanding property rights and urban services.
street activity that helps promote social conviviality. Additionally, Scott indicates that favouring car movement has resulted in the elimination of pedestrian activities. In addition, Holston (1998) points out that both the “rational” address systems implemented and the homogenous design for Brasilia have destroyed the common sense of urban location that prevails in cities in developing countries. As he describes, whereas a typical street address in Brazil can be identified as “Rua Montenegro 87”, in Brasilia an apartment address becomes a complex denotation of “SQS 106-F-504”. Eugene Robinson described similar problems in Brasilia in an article published in the Washington Post. He pointed out that “in Brasilia everything is scientifically plotted” ... “Brasilia is less a city than an idea” (The Washington Post, 26 December 1990).

Similarly, Scott (1995) indicates that “rather than having planned a city”, planners in Brasilia “have actually planned to prevent a city.”

In contrast, for Deckker (2000), the problems faced by Brasilia are not entirely associated to rational planning. The current problems faced by Brasilia were also a consequence of the actions taken by the military government that followed President Juscelino Kubitsche. He indicates, that Kubitsche’s successors ignored much of the Pilot Plan for Brasilia and, in fact, were unable to formulate development plans to cope with the rapid increase in urban population. This situation brought about the erection of illegal settlements in different parts of the district area. Moreover, the lack of ability to conduct the Brazilian economy certainly influenced the efficient urban development of Brasilia. However, despite the preceding arguments, it will remain unknown if a “complete” Brasilia would have promoted a better social development.

**Summary and Conclusions**

Over the years, the use of the rational comprehensive model has been the instrument at hand for planners and government authorities to transform what exists. This paper analysed different places around the world in which urban development strategies have failed to impose “rational” forms of life over society and hence to achieve the results expected *a priori*. These results were, in part, a consequence of a total misunderstanding of each of the contexts and of the idea that people could easily dislodge to traditional forms of life. At a narrower level, these failures were also the result of adopting western standards, often unrealistic for the developing world, leading cities to an “incomplete” urban modernity.

In addition, the analysis evidences a general impression that the lack of recognition of cultural and social factors within the planning proposals has also been the consequence of unsatisfactory urban improvements driven by the government. This situation is extensively discussed by Turner (1972) and Escobar (1972), who emphasized the importance of local knowledge in urban development. They indicate that, often, the answers to increase the standards of living are with the people, and not in

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4 See in Holston (1998) p 149.  
“Washington” or in any other arbitrary decision-makers around the developed world.

However, the planning model per se might not be the only factor that led to the poor urban results presented. The lack of responsibility of that “agent” that should have ensured the good order and the efficient implementation of plans has also influenced current poor urban conditions. This “agent” allowed corruption, opted for political bias, left cities with unfinished projects, and showed a total lack of capacity to anticipate for the coming problems, as if the “invisible hand” would solve the coming problems.

Planners should thus recognize the importance of the local context in official attempts to improve development. “The problems and conditions of planning are not the same everywhere, and it is the specificities of place that should be our guide,” Friedmann (1993, p 76) indicates. These realities, in turn, require planners to be able to respond to the particular demands of context without compromising the local values. Solutions to urban development requires planners and decision-makers to assume a more social responsibility and discover adequate planning strategies without entirely resorting to simplified planning recommendations from different parts of the globe.

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