

Megaprojects and Urban Development in Cities of the South

*By Loraine Kennedy, Glen Robbins, Bérénice Bon, Guillermo Takano,
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**Chance2Sustain
Work Package 2 Thematic Report**

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Economic development is one of the pillars of the sustainable development paradigm, which informs the broad research agenda of this FP7 call. Within Chance2Sustain, the decision to focus on megaproject (MP) development, as opposed to “economic development policies” more generally, was considered a more dynamic point of entry, although efforts were made for each city to situate this particular thrust within the wider policy agenda.² Significantly, many of our study cities do *not* have an explicit political mandate to pursue economic growth, which is considered the prerogative of higher levels of government, provincial or national, South Africa being the notable exception. Notwithstanding, our research has garnered robust evidence to show that most of our cities are situated within a *system of governance arrangements* that gives increasing priority to economic growth and recognises urban spaces as being increasingly central in that process. In this respect, our case studies lend empirical support for theoretical propositions, such as urban “entrepreneurialism”³ and “state spatial rescaling”⁴, which hypothesize a shift in the scale of mediation between capital and territory from the national scale to urban scales. Our cases suggest however a noteworthy discrepancy with some strands of the international literature that have posited the increased significance of local government within the broader territorial organisation of the state.⁵ In all of our cases,

local governments are not driving the process of economic development.⁶ For this reason, their implication in megaproject development is more or less direct and intense, depending on the case. This point is further discussed in Section II below.

A second rationale for examining MP development is that it provides a window for studying urban governance more broadly, a means for identifying key actors and for characterising patterns of interaction between them, including the types of knowledge they mobilise and the extent to which knowledge is shared among various categories of actors. More than other domains, economic development initiatives typically involve a greater degree of interaction between public and private sector actors. This is because we are dealing with market economies—or mixed economies transitioning to market economies following neoliberal prescriptions—, where private enterprises play a predominant role in creating employment and where urban infrastructure is increasingly built through public-private partnerships (roads, transport systems, water supply systems, etc.). Property developers especially are assumed to be archetypal members of the “coalition” promoting a growth agenda, via infrastructure development, also known as a “growth machine”, referring to Harvey Molotch’s seminal article published in 1976.⁷

MPs also provide a compelling prism through which to examine rescaling processes between different levels of government. As a consequence of the institutional set-up of the study cities, and even in the case of South Africa where municipalities have a constitutional mandate to

1 The authors gratefully acknowledge the contribution of the Chance2Sustain research consortium and the students associated with the project. Special thanks go to Isa Baud and David Jordhus-Lier for inputs on an earlier version. It should be noted here that this Work Package 2 Thematic Report is the last in a series of reports, and builds on the earlier reports.

2 See the relevant country and city reports, as well as the fieldwork reports, most of which are available on the C2S website: <http://chance2sustain.eu>

3 Harvey, David. “From Managerialism to Entrepreneurialism: The Transformation in Urban Governance in Late Capitalism.” *Geografiska Annaler. Series B*, 71(1), 3-17.

4 Neil Brenner, *New State Spaces: Urban Governance and the Rescaling of Statehood* (Oxford New York: Oxford University Press, 2004).

5 Territorial organisation is understood here to mean the administration by the state of its territory, the manner in which space is subdivided into smaller units and responsibilities and finances distributed.

6 This contrasts with Brenner’s assertion that local governments are acquiring “increasing structural significance within each territorial state’s internal administrative-organizational hierarchy”, most notably through their actions aimed at promoting economic growth (Brenner 1998: 16). It is consistent with Richard’s Stren’s assertion that cities in the South are more dependent on other levels of the political system. See Stren, Richard E. 2001. “Local Governance and Social Diversity in the Developing World: New Challenges for Globalizing City-Regions.” in *Global City-Regions : Trends, Theory, Policy*, edited by A. J. Scott. Oxford ; New York: Oxford University Press, pp. 193-213.

7 Molotch, H. (1976). The City as a Growth Machine: Toward a Political Economy of Place. *The American Journal of Sociology*, 82(2), 309-332.

pursue economic development, it was observed that MP development *always* involves multi-level governance arrangements. It is significant that in all of our cases, the initiative for the MP did not originate at the city level. The research underscored how conflicting agendas between different political spheres sometimes crystallized around specific large-scale projects. These “flash points” created opportunities for our investigations, as they provided concrete cases around which the discourses and actions of various types of actors could be analysed. Likewise, social mobilisation in response to MP development provided an opportunity for analysing local governance patterns and the management of spatial knowledge (generation, exchange, contestation).

Analysing the politics and governance of MPs required careful examination of the decision-making processes as well as the policy tools used to implement various stages of the project. One particularly compelling observation gleaned from the specialised literature on megaprojects was with regard to the changing role of infrastructure, “from simple precondition for production and consumption to being at the very core of these activities (...)”,⁸ which contributes to explaining why infrastructure is increasingly being built as megaprojects, why the type of megaprojects being promoted is changing (cf., *infra*) and why also new instruments are being used.

Before turning to our working definition for the term MP, it is useful to recall a few elements about the context of our research, which contribute with varying degrees to explaining why MPs have become more prominent in cities we are studying. Firstly, these are all fast-growing cities, and needs and demands have also grown at a fast rate making large-scale projects appear more adapted to meet those challenges, whether in the form of infrastructure for basic needs or for economic development. As one respondent remarked (an engineer from South Africa): the needs are so massive it is not particularly surprising that the responses are scaled up. Another consideration, there has been a greater flow of funds to local governments in some contexts, notably South Africa and Brazil (see Work Package 6 Thematic Report), which is occurring alongside expanding local sources of revenue and also interest by other spheres of government to spend in cities to promote growth, all of which help make large projects possible when only modest ones would have received funding previously.

In our study of MPs, we adopted Susan Fainstein’s loose definition: “Essentially it involves a costly scheme for

development of a contiguous area, requiring new construction and/or substantial rehabilitation. Implementation may take a number of years and may be the responsibility of a single or multiple developers. MPs always include a transformation of land uses”.⁹ Another definition, by Paul Gellert and Barbara Lynch, offers relevant insights for thinking about our research object: “projects which transform landscapes rapidly, intentionally, and profoundly in very visible ways, and require coordinated applications of capital and state power”.¹⁰ We witnessed evidence of this power to shape, albeit with differences of scale and intensity in all of our case studies (cf. Table 1 in the Appendix).

As explained in the Work Package 2 Fieldwork report,¹¹ multiple criteria were used to choose our case studies, which included coordinating with other Work Package teams to favour the study of linkages across thematic areas. So unlike a study designed around a single focus on MPs per se, MPs were conceived here as prisms for apprehending patterns of urban governance,¹² and also for casting light on broader societal processes of restructuring. Frank Moulaert *et al.* point out that these changes, “take

8 Flyvbjerg, Bent, Bruzelius, Nils & Rothengatter, Werner, 2003. *Megaprojects and Risk: An Anatomy of Ambition*. Cambridge University Press: Cambridge, pp. 2-3.

9 Fainstein, Susan S. Mega-projects in New York, London and Amsterdam. *International Journal of Urban and Regional Research* 32(4) 2009:768.

10 Gellert, Paul K. and Barbara D. Lynch. 2003. “Mega-Projects as Displacements.” *International Social Science Journal* No. 175 (March):15-16. However, their more detailed definition, which underscores important potential features, appears too restrictive: “[Megaprojects] use heavy equipment and sophisticated technologies, usually imported from the global North and require coordinated flows of international finance capital ...” p. 16. These characteristics must be established on a case-by-case basis.

11 Kennedy, Loraine, Glen Robbins, Dianne Scott, Cathy Sutherland, Eric Denis, Julia Andrade, Liliana Miranda, Aurélie Varrel, Véronique Dupont and Bérénice Bon. 2011. “The Politics of Large-Scale Economic and Infrastructure Projects in Fast-Growing Cities of the South.” *Literature Review No 3 – March 2011*. (<http://www.chance2sustain.eu/26.0.html>).

12 This position resonates with that of Alan Altshuler and David Luberoff, who studied megaprojects in the United States: “efforts to realize large-scale investment projects often provide an unusually revealing window on patterns of influence in urban development politics. Such projects involve huge commitments of public resources and often entail significant threats to some interests and values even as they promise great benefits to others” Altshuler, Alan A. and David Luberoff. 2003. *Mega-Projects: The Changing Politics of Urban Public Investment*. Washington, D.C., Cambridge, Mass.: Brookings Institution Press; Lincoln Institute of Land Policy. p. 4.

place in and through the reconstruction of *concrete urban landscapes* and their accompanying social, political, and economic characteristics.”¹³

MPs usually involve very long gestation periods from conception to completion. The projects studied in our ten cities were no exception and were, furthermore, at varying stages of advancement during the study period, roughly 2010-2013. This situation was actually beneficial for our research as we could observe MPs at different phases of their development, and gain insights about the underlying processes that influence the trajectory of projects, whether at the conception stage or once operations started. Hence, the focus of the analysis focussed more on *processes* than outcomes.

Table 2 in the Appendix offers a rudimentary classification of our case studies based on their primary purpose, and where relevant, secondary purposes are also represented. The main categories are (i) infrastructure for basic services (e.g., water management, housing), (ii) economic development (usually via property development and commercial outlets) (iii) transport infrastructure, and (iv)

urban redevelopment. However, this table should be viewed with caution because in reality, most projects are multi-purpose or “hybrid” to quote Flyvbjerg et al.¹⁴, or are closely connected to a range of other capital project schemes, i.e., that construct capital assets. This can in part be attributed to the status of MPs as “terra formers”¹⁵ with influence on the urban landscape, which often require other major investments as part of their original plan.

The report is organised as follows. The next section revisits the Work Package 2 literature review, three years after it was drafted, in order to re-evaluate some of our early assumptions in light of our research. It is also an opportunity to engage with new strands of literature and situate our findings within the academic discussion and in wider policy circles. Section 3 presents some of the most compelling results of the research carried out in Work Package 2 and reports on conceptual advances, both with regard to the international literature on megaproject development and to the core issues addressed in the Chance2Sustain project. In the final section, the Work Package 2 research questions are discussed in reference to the other Work Packages, and linkages between Work Packages are examined.

13 Moulart, Frank, Swyngedouw, Erik & Rodriguez, Arantxa, 2001. Large Scale Urban Development Projects and Local Governance: from Democratic Urban Planning to Besieged Local Governance. *Geographische Zeitschrift*, 89. Jahrg., H. 2/3 (2001), pp. 71-84, (emphasis added).

14 “Megaprojects are so complicated that by nature they are essentially hybrid.” Flyvbjerg et al., op. cit.

15 Fuller, G & Harley, R, 2004. *Aviopolis: A book about airports*. Black Dog: London.

2

Revisiting the Literature Review and Engaging with New Scholarship

The rationale for revisiting the literature review, prepared during the first year of the project, can be expressed as follows:

- it involves a reflexive exercise, allowing us to critically examine, three years later, some of our early assumptions formulated on the basis of our first literature review. In light of our empirical studies and our collective reflection arising from exchange mainly during our annual network meetings, some of these hypotheses have been reformulated;
- it is an opportunity to critically engage with the literature on the basis of our research results to corroborate or take issue with certain aspects of theory;

- by situating our research results within various strands of the literature, it allows us to take better cognizance of their specific contribution, which will help us to identify directions for further research.

Not surprisingly, at the close of nearly four years of research, our perspective with regard to the theoretical literature on MPs has evolved. It has been informed by our in-depth analyses of specific projects, situated within specific national and local contexts, and equally important by comparing and contrasting across our ten cases studies. This has allowed us to tease out common features and also notable differences, which we have tried to relate back to variables such as the city’s economic base, the city’s position in the urban architecture of the country, the



political mandate and capacity of local government, the country's overall development model, specific features of governance in the city, etc.

Perhaps the most striking shift in our viewpoint, with regard to the theoretical literature, has to do with scalar perspective. Whereas our initial literature review gave considerable attention to macro-structural approaches, which seek to relate megaproject development as a phenomenon to the evolution of global capitalism and to the specific role of large cities in capital accumulation, our theoretical positioning today appears more grounded in local perspectives. This local grounding has not however implied a neglect of other scales; indeed all the case studies included a careful examination of the articulation of local scales with supra-local scales. What has transpired is a reversal of our perspective: the point of departure is the local scale instead of the global scale, and this has had a significant impact on the manner in which we engage with the literature.

In the following paragraphs we revisit some key elements of our earlier review and engage also with additional strands of the literature to present some of our key findings and discuss how they contribute to theoretical constructions surrounding MPs, especially in developing city contexts.

Entrepreneurialism and large-scale urban projects

Large-scale urban projects, another term for megaprojects, have received considerable attention in recent years in the theoretical literature. In one prominent strand they are associated with global economic restructuring and rescaling processes, i.e., the shift in the spatial scales at which the conditions for capital formation are shaped, from national to subnational scales. According to this theory, this shift has brought in its wake corresponding changes in governance, with large cities emerging as key nodes of accumulation. For Neil Brenner, state re-scaling is an accumulation strategy deployed by states, the goal of which is "to promote the global competitive advantage of their major urban regions".¹⁶ David Harvey was among the first to identify what he called the shift from *urban managerialism*, a focus on providing basic urban services, to *urban entrepreneurialism*, a mandate to promote

economic growth.¹⁷ Concepts like glocal states¹⁸ and glocal fixes¹⁹ refer to the specific ways states seek to attract capital through space-based interventions, usually specialised infrastructure, in urban regions. Examples of glocal fixes include fitted out production platforms in the form of industrial parks or state-of-the-art ports or nicely packaged redeveloped urban areas, of which the Baltimore Waterfront and the London Docklands have become classic examples.

These theoretical propositions have generated a large amount of debate and have stimulated a large amount of academic work. It was in this broad context that a major study was conducted on large-scale urban development projects (UDPs) in 13 cities of various sizes in the European Union.²⁰ The selected UDPs were seen to embody processes that reflect global pressures and incorporate changing systems of regulation and governance, as "the material expression of a developmental logic that views megaprojects and place-marketing as means for generating future growth strategy and for waging a competitive struggle to attract invest capital"²¹. Further, this research interpreted the development of UDPs as symptomatic of "less democratic and more elite-driven priorities" (p.195), and as contributing to accentuating socioeconomic polarisation, e.g., through real-estate markets that price low-income groups out of the market and through changes in public budgets from social objectives to investments in the built environment. As such, these projects were considered emblematic of the gradual shift away from distributive policies and direct service provision towards market-oriented approaches, economic promotion and "an entrepreneurial style of urban governance" (p200).

This body of literature informed our study of MPs by suggesting a series of hypotheses ranging from the deep macroeconomic causes of current patterns of capital accumulation (structure), to the actors of this development (agency) and also the socioeconomic outcomes of megaprojects. By adopting a multiscale interdisciplinary

16 Brenner Neil, *Global Cities, Glocal States: Global City Formation and State Territorial Restructuring in Contemporary Europe*. *Review of International Political Economy*. 1998;5(1):1-37.

17 Harvey, 1989 op. cit.

18 Swyngedouw, Erik. 1996. "Reconstructing Citizenship, the Re-Scaling of the State and the New Authoritarianism: Closing the Belgian Mines." *Urban Studies* 33(8):1499-521.

19 Brenner, Neil. 1998 op. cit.

20 Swyngedouw E, Moulaert F, Rodriguez A. Neoliberal Urbanization in Europe: Large-Scale Urban Development Projects and the New Urban Policy. In: Brenner N, Theodore N, editors. *Spaces of neoliberalism : urban restructuring in North America and Western Europe*. Malden, Mass.; Oxford: Blackwell.; 2002. p. 19

21 Swyngedouw, Moulaert, Rodriguez, op. cit., p. 199.

approach to our research questions, elaborated collectively, we endeavoured to take account of the specific combinations of structure and agency at work in our case studies.

In order to engage with these questions at the macro level, the urban MP development was situated in each of our cases within a broader frame of reference pertaining to the orientation of the state with regard to market processes, to the respective role of private and public investment in growth processes, to the nature and sequencing of the ongoing economic reform process in each country, and to the national economy's engagement with global markets and institutions. This background material (elaborated in City/country/fieldwork reports and also in the Work Package 2 Literature Review) has been crucial for understanding the context in which the decision to deploy urban megaprojects was taken in our study cities, as well as their modalities, i.e., the specific manner in which they are deployed and the objectives they are intended to meet.

At the meso level, attention has been given to the institutional environment in which megaproject development takes shape, in order to grasp the specific features of the governance patterns. Here again, care was taken to balance the weight of institutions with social dynamics on the ground, which give rise to agency on the part of various categories of actors. In this type of analysis, initially developed in the Country reports and further refined over the course of the project in the City Reports and Fieldwork Reports, the aim was to grasp the mandates of local governments (municipalities or metropolitan regions), their technical and financial capabilities and importantly their relationships, through formal and informal institutions, both with higher levels of government and with private sector actors.²² To analyse these relations, the literature on growth coalitions and urban regimes was mobilised, although not always found relevant for our cases (cf. fieldwork and city reports).

City-grounded perspectives

One of our starting assumptions, based on our reading of the literature, was that “mega-projects are concrete manifestations of a strategy of international competition among large cities to attract investments”.²³ In light of our

collaborative research, we are ready to reformulate and bring nuance to this assumption today. Not all our cities have elaborated an explicit strategy of international competition, in the sense of striving to become a “global city”, in the sense used by authors such as Saskia Sassen,²⁴ although some cities have manifested elements of such a strategy. The current mayor of Rio, for instance, in his public discourses, manifests all the characteristics of a political leader driving a strong entrepreneurial agenda in his bid to realise the “renaissance” of Rio and make it “world class”.²⁵ Even Lima's left-leaning mayor seeks to attract global investors to fund urban development projects in her city.²⁶ In Indian cities, which do not traditionally have strong mayors, city strategies are generated at higher levels of government, and city officials are expected to assist in implementing them. These strategies include frequent references to “global cities” and “world class” idioms.²⁷

Another important distinction that fieldwork brought to the fore: whereas in several of our case studies megaprojects can be linked to some extent to a growth strategy, it is not necessarily one aimed explicitly or directly at *global competitiveness*. Moreover, even when growth is explicitly driving mega-project development, for instance in the case of Chennai, Durban and Rio (cf. Table 2 in the Appendix), it is not usually the *only* purpose for which the projects are promoted; basic infrastructure provision and urban redevelopment are often associated objectives. In fact, one of the characteristics of the megaprojects we studied is their tendency to be multi-purpose, which corroborates a trend identified in the literature (cf. *infra*). In Durban, for instance, the King Shaka international airport project has been designed as one element of an “aerotropolis”,

and Infrastructure Projects in Fast-Growing Cities of the South. *Literature Review No 3 – March 2011*. <http://www.chance2sustain.eu/26.0.html>

- 24 Sassen, Saskia (1991). *The global city: New York, London, Tokyo*. Princeton, N.J.: Princeton University Press.
- 25 He has defended the cost of the controversial Museum of Tomorrow (USD 100 million) by claiming that the city needed “icons”. See http://www.nytimes.com/2014/03/01/world/americas/shepherd-of-the-citys-rebirth-rios-mayor-feels-the-strains-too.html?_r=0
- 26 See for instance <http://iloveperunews.com/2011/12/07/limas-mayor-promotes-investment-opportunities-york/1581>
- 27 See Dupont, Veronique. 2011. “The Dream of Delhi as a Global City.” *International Journal of Urban and Regional Research* 35(3):533-54 and Follman, Alexander. 2014. “Urban Mega-Projects for a “World-Class” Riverfront—the Interplay of Informality, Flexibility and Exceptionality Along the Yamuna in Delhi, India.” *Habitat International* (accepted, forthcoming).

22 Three of the four countries studied have federal structures (Brazil, India, South Africa), whereas Peru has a unitary state structure with “nested” administrative scales. See Work Package 6 Thematic Report for comparative data on decentralisation and public finance at the local level.

23 See the Work Package 2 literature review: Kennedy, Loraine, et al. (2011). *The Politics of Large-Scale Economic*



supported by capacity for developing a logistics sector aimed at export promotion (Dube Tradeport) (see Photo 1). In Cape Town, a large-scale housing project is planned as an “integrated settlement” and tied into plans for promoting the tourism industry via city beautification (N2 Gateway). The multi-purpose design of such projects can also serve as a multi-purpose strategy to secure a coalition of support (with varied interests) and to secure scale effects by crowding in other elements – sometimes motivated by interests – such as those of contractors. This resonates with a common point across most of the megaprojects studied: they were explicitly designed to promote the interests of local or regional property developers (e.g., Chennai, Delhi, Durban, Rio, Salvador), a trend also highlighted in the literature, which reflects the increasing participation of private capital in public-private partnerships to construct megaprojects.

Thus, our research suggests that large-scale projects respond to various objectives that combine in varying degrees economic, political and social objectives. They are often more or less articulated with longer-term goals of

urban planning and urban redevelopment (e.g., Delhi, Durban, Lima, Rio, Salvador). This is apparent, for instance, in medium and long term planning documents like the 2012-2025 Regional Plan for Lima, which has quite a strong focus on economic issues, and the Regional Plan 2021 for the National Capital Region (Delhi) of India, which underscores the importance of developing connecting infrastructure, specifically transport, to boost the competitiveness of the metropolitan region.

It is true also that MPs are not always planned in advance; they are sometimes integrated ex post facto into planning documents. Indeed, in some cases, the megaprojects appear to emerge from a relatively narrow set of objectives, promoted by a relatively narrow set of actors. However, it should be pointed out that it was extremely difficult to reconstitute for each case the decision-making processes and to identify the congregation of players involved, not all of whom wished to be visible. The long gestation periods, and the wide range of interests involved, further increased the challenge of our research. Fieldwork from Salvador, for example,

Photo 1: Billboard announcing Durban’s Aerotropolis, photo taken 2 May 2010 (G. Robbins)



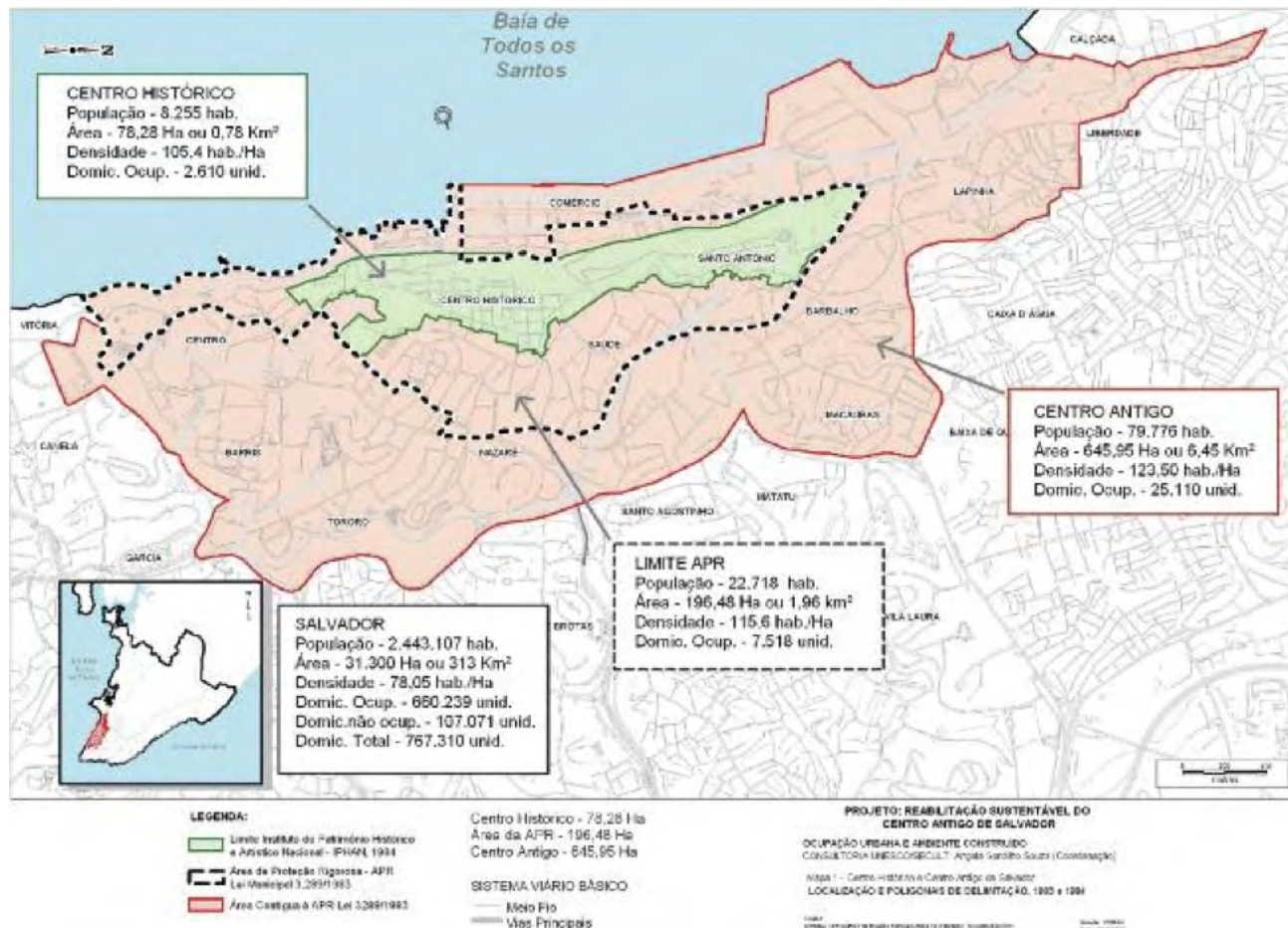
illustrates that private real estate developers often piggy-back on large-scale public projects, without concerned state agencies necessarily being informed of their plans. The research showed that ERCAS [the agency in charge of coordinating the renovation of the Old Centre of Salvador, see the Map 1 of Historical Centre of Salvador] was not informed of plans between the Salvador city council and local real estate interests to develop “audacious” projects in the framework of the redeveloped historical centre until after they were publicly announced. The fact that these projects, including the development of a new district for the wealthy called Santa Tereza and a nearby luxurious residential complex, were not part of the official plan was apparently not an obstacle to their realisation. Nor did it prevent the City Council from announcing that it would be responsible for constructing leisure areas, pavements and lighting within the exclusive perimeter of the new district. Moreover, the council proposed to submit a proposal to extend the “Commercial District Fiscal Incentive law” for another four years, including for the sub-area of Santa Tereza. As the analysis underscored, such incentives intended to stimulate private initiatives

(or reward investors who have already chosen to invest) are facets of Corporate Urbanization (Santos 1990) or classic urban entrepreneurship. In such cases as these, one can speculate about the relations between local politicians and real estate interests, but these are not easy to document for purposes of research.

Travelling concepts and transposition processes: links between local and global scales

Our initial review of the literature did not include a section on the notion of travelling concepts, however their importance became increasingly evident in the course of our fieldwork research, as we engaged with our core research questions. The Work Package 2 Fieldwork Report discussed the relevance of transnational “models”, circulated through transnational knowledge flows including transnational policy networks, and noted that they embody particular ideologies about urban development and

Map 1: Map showing the Historical Centre of Salvador



economic growth.²⁸ Indeed the experience of other “models”, sometimes domestic sometimes international, was noted in most of the Work Package 2 case studies. However, the precise processes through which knowledge was transferred and/or adapted in each case were difficult to trace. Transmission can be indirect, through imitation of experiences or “best practices”. In some cases, forms of knowledge pass through intermediaries e.g., international development organisations or through transnational professionals working as consultants on projects, who transpose concepts between city.²⁹ The trajectory of the “IT Corridor” concept in India is revealing in this respect: after having been elaborated by Jurong consultants, based in Singapore, for Bangalore, it made its appearance in the revised CDP plan for Chennai some years later, in a more narrowly defined form. For the Lima case too, it was

apparent that established modes of public-private partnership concessions, promoted as “international best practices”, were a feature in the “Línea Amarilla-Via Parque Rímac” Project (see Map 2). A word about this is instructive.

In recent years, a very strong contract enforcement culture has been promoted in Peru, with an aim to consolidate the property rights system, improve the investment climate and boost economic growth. The conditions under which the Lima road project was commissioned were directly influenced by that broader context. However, our research has shown that while embracing such international practices the Peruvian government, particularly at regional and local government levels, has not given equal attention to promoting better public sector capacities to perform public tendering, formulate concession contracts and design appropriate contract supervision/regulation schemes. This has resulted in reduced room for manoeuvre on the part of local governments involved in contracting with private firms.³⁰ Interestingly, these findings resonate with literature

28 See the discussion in the Work Package 2 Fieldwork Report, “Large-Scale Projects Shaping Urban Futures”, page 3: <http://www.chance2sustain.eu/58.0.html>

29 Pierre-Arnaud Barthel, Eric Verdeil, 2008, Experts embarqués dans le « tournant financier ». Des grands projets urbains au sud de la Méditerranée, *Annales de la recherche urbaine*, n°104, pp.38-48.

30 See the fieldwork report on Lima by Guillermo Takano, “Case Study for Work Package 2 – Chance2Sustain The Línea Amarilla-Via Parque Rímac highway”, 2013.

Map 2: Via Parque Rímac in metro Lima



Source: Adapted from Metropolitan Lima and Callao City Report

documenting experiments in advanced industrialised countries, such as the widespread contracting by the UK's National Health System to private firms. Critics have pointed out that NHS commissioners lacked the skills to "negotiate effectively with private providers and hold them to proper account for poor performance."³¹ In India too, recent studies have shown that cities have started to sub-contract urban services to private companies or NGOs, but without capacity to supervise and sanction them in the case of poor performance. The Indian state has been promoting the adoption of new models and norms but has not put in place mechanisms to ensure accountability to the public through more stringent regulation.³² This is an important reminder that new forms of governance, which give greater importance to private sector actors, require more, not less, state capacity, here to ensure that that private contracts are drawn up effectively and executed satisfactorily and to provide regulatory oversight.³³

Likewise, in the case of the Delhi, the metro project involved an example of "policy transfer",³⁴ borrowing in particular the instrument of land value capture from the transit company MTR Corporation of Hong Kong. This instrument consists of financing a part of the capital costs of the metro through property development: in Delhi development rights are being sold to private real estate companies for residential and commercial projects on the land granted to the transport agency from the state.

Officials from the parastatal agency in Delhi in charge of building the metro, the DMRC, travelled to Hong Kong, presumably to deepen their understanding of the technical features of that model in order to replicate it in Delhi, and then in other large cities in India.³⁵

In the case of the King Shaka International Airport and Dube TradePort in Durban, elements of the "aerotropolis" concept, inspired from Dubai, Schipol and Austin, were interwoven with local policy concerns about growing exports. There is some indication that the use of international comparator projects was important in giving credibility to the initial idea, but the project was also subject to a variety of local influencing ideas as it became necessary to build a broader coalition in order to get decision makers to support the project. This underscores the importance of analysing for each case the actors, institutions and modes of governance, a common approach in our fieldwork studies.

In this regard the researchers noted a variety of work such as that in the edited volume by McCann and Ward (2011) in which the case is made that structure and agency interact in a variety of ways to influence the character of knowledge flows from the global to the local (and the local to the global)³⁶. The research conducted resonates with comments by McCann and Ward that whilst global networks of policy and knowledge are indeed influential in the formulation of local responses, it can also be the case that local processes, rooted in particular local circumstances, can either be a leading force in how and what urban policy choices are made or can significantly influence the manner in which global concepts may get absorbed in local processes. Alan Cochrane notes that urban politics, "are produced, assembled in particular ways at particular times." (Cochrane, 2011: xi).³⁷ The insistence of the state leading and mobilising the public funds for the King Shaka International Airport and Dube TradePort project (KSIA-DTP) illustrate how an apparent globally dominant model of public-private partnerships can be subject to sub-national or national political influences despite the overall project concept

31 Cf. Colin Leys, "NHS contracting has been a disaster", The Guardian, Tuesday 22 April 2014 <http://www.theguardian.com/commentisfree/2014/apr/22/nhs-contracting-disaster-commissioners-simon-stevens>, consulted 27 April 2014.

32 On health services, see Kennedy, L., Duggal, R., & Tawa Lama-Rewal, S. (2009). Assessing Urban Governance through the Prism of Healthcare Services in Delhi, Hyderabad and Mumbai. In Ruet, Joel and Stéphanie Tawa Lama-Rewal (eds.), *Governing India's Metropolises* (pp. 161-182). New Delhi: Routledge.

33 According to Frédéric Boehm, "It is also an ironic tour of destiny that the introduction of private sector participation does not, despite its name, reduce the role of the state. Rather, one can observe a shift of responsibilities and it is an open question whether the state does not even have to be stronger under the new schemes than under the traditional public model". F. Boehm (2007) *Regulatory Capture Revisited – Lessons from Economics of Corruption*. Working paper, p. 3. Available at: http://www.researchgate.net/publication/228374655_Regulatory_capture_revisitedlessons_from_economics_of_corruption, accessed 27 April 2014.

34 See Diane Stone. Transfer agents and global networks in the "transnationalization" of policy. *Journal of European Public Policy* 11(3), 2004:545-566.

35 See Bérénice Bon, "The Delhi Metro, a New Megaproject Model and a new funding model. Travelling concepts and local adaptation in Delhi". (Habitat International, accepted, forthcoming).

36 McCann E & Ward K, 2011. "Introduction. Urban assemblages: Territories, Relations, Practices, and Power", in McCann, E & Ward, K (Eds), *Mobile Urbanism: Cities and Policymaking in the Global Age*. University of Minnesota Press: Minneapolis.

37 Cochrane, Alan, 2011. "Foreword", in McCann, E & Ward, K (Eds), *Mobile Urbanism: Cities and Policymaking in the Global Age*. University of Minnesota Press: Minneapolis.



having been heavily informed by international cases of airport development. Stretched a bit further, it is possible to see the projects examined in this research as not being simply a project of globally mobilised neo-liberal agendas as is sometimes implied in the literature, but more often being a point of interaction between the global and the local with the resultant character of projects be one that could be much more strongly framed around local power-relations than dominant global ones.

Actors, institutions, and modes of urban governance

The Work Package 2 Literature review discussed the strengths and weaknesses of various theoretical frameworks for the study of urban governance processes. In addition to dominant theories, such as “global” or “world” cities, attention was given to work offering alternative perspectives on the effects at the local scale of globalisation processes. One notable critic, Jennifer Robinson, argued that these dominant approaches “impose substantial limitations on imagining or planning cities around the world” and inhibit understanding about growth, development and urbanization in cities of the South, since they assess and rank cities outside of the West against standards of “city-ness” derived from an understanding of the dominant Western cities.³⁸ Other authors criticized the overly central role assigned in some prominent theories to international business elites and to the decisive influence of external capital or markets on policy-making within cities, often underplaying the continued importance of the nation-state, on one hand, and local political agency, on the other (see above).³⁹

Various branches of scholarship on urban regimes and urban governance provided frameworks for examining power struggles between different groups of interests *within cities* in order to understand how local political economy is influenced by the specific nature of local governing coalitions or “regimes”, as well as by institutional forms defining inter-governmental relations. The specialised literature on MPs⁴⁰ has been especially useful for studying

various aspects of their development in our cities given that much of our in-depth field-based research focused on the MP itself. This literature emphasizes for instance the “exceptional” nature of MPs, the “special regime” that accompanies their implementation. MPs “normally require special authorizing, funding, revenue, land acquisition, and regulatory actions by two or more levels of government”⁴¹ and “Civil society does not have the same say in this arena of public life as it does in others; citizens are typically kept at a substantial distance from megaproject decision making”⁴². A key problem that has been identified then is lack of accountability, the absence of clear objectives and arrangements for measuring how they are met and for rewarding/punishing poor performance. Various studies also concur to denounce the tendency for MPs to generate cost overruns and to grossly overstate the “projected benefits, notably in terms of positive regional development, [which] often turn out to be insignificant or even negative”⁴³.

Santamaria reads the exceptionalist planning policies and procedures associated with MP development as “a necessary flexibility of megaprojects to create zoning controls and incentive structures”⁴⁴. Plans are redrawn and compromises made during the megaproject’s implementation phase, which usually extends over a long period. This necessary flexibility is also linked to the multiple actors, and the different procedures of planning involved especially for a mixed-use megaproject. This resonates with the question of the legal dimension of the megaproject, and the law as a resource for the megaproject to build a “system”, when the interests, the references, the norms are not the same for various stakeholders, and when each component of the megaproject implies specific rules. This raises the spatial and territorial dimension of law and the role of law in building a collective project, and as a tool of interaction.⁴⁵

Other strands of literature suggest that so-called “exceptionalist” patterns observed in the establishment of megaprojects are in fact representative of a governance mode that relies on informality. Thus, recent literature on

38 Robinson, Jennifer. 2002. “Global and world cities: a view from off the map.” *International Journal of Urban and Regional Research* 26(3), p. 531. See also Jennifer Robinson. 2008. “Developing ordinary cities: city visioning processes in Durban and Johannesburg.” *Environment and Planning A* 40(1), pp. 74-87.

39 See for instance Jeffery M. Sellers. *Governing from below: urban regions and the global economy*. Cambridge; New York: Cambridge University Press, 2002.

40 Altshuler and Luberoff, 2003, op. cit.

Flyvbjerg, et al., 2003 op. cit.

Barthel, Pierre-Arnaud 2010. Arab Mega-Projects. special issue, *Built Environment* 36(2).

41 Altshuler and Luberoff 2003, op. cit., p. 267.

42 Flyvbjerg et al. 2003, op. cit., p. 5.

43 Flyvbjerg et al. 2003, op. cit., p. 5.

44 Gerardo del Cerro Santamaria, “Introduction”, in G. d. C. Santamaria (Ed.), *Urban Megaprojects: A Worldwide View, Research in Urban Sociology*, Vol. 13., 2013.

45 Patrice Melé, “Pour une géographie du droit en action”, *Géographies et cultures*, n°72, p.25-42, 2009.

urban governance in India has suggested that instead of simply condemning the absence of accountability in decision-making to establish megaprojects or insufficient monitoring and control systems for evaluating their social and environmental impacts, it is possible to see these aspects as manifestations of a *mode of urbanization* based on informality.⁴⁶ This interpretation sheds new light on urban planning processes, and underscores the complexity of the state, the existence of interests and claims *within* the state among different levels, departments, agencies. In a recent study of riverfront megaprojects along the Yamuna in Delhi, Alexander Follman argues that the Indian state itself – drawing on its neoliberal agenda – intentionally empowers these projects and their promoters to bypass existing environmental laws and regulation in order to realise property development.⁴⁷ In this conception, informality is not invariably “the object of state regulation” but rather often “produced by the state itself”⁴⁸, in a process that leaves the state with the option to regulate at a later time or to grant exceptional status, etc.. This challenges the narrow definition of informality as activities “beyond the realm of the state” and advances an understanding of informality of existing *within* the scope of the state. This is a compelling theory, especially in the Indian case where “informality”, although ubiquitous, has been under-theorised, usually relegated to a “sector”; recent research has attempted to reconceptualise the links between formal and informal practices, suggesting a multi-layered formal/informal continuum.⁴⁹

Our research sought to question the voice and agency of different categories of actors. In particular, we investigated, in conjunction with other Work Package teams, the manner in which knowledge about MPs was generated, and the extent to which it was shared with other sets of shareholders, including local communities directly affected by the construction of the MP.

The fieldwork reports documented the manner in which decision-making regarding MP development takes place, often opaque and exclusive. In many cases, local communities directly affected by the MP are excluded from discussions and have little or no reliable information with which to make informed decisions about future action; they are left grappling with uncertainty, not knowing who to trust: local politicians, bureaucrats or representatives of private sector interests. The IT Shastri Park project is a case in point: it is located on the Yamuna river banks in East Delhi, adjacent to very dense and low-income residential areas (see Map 3). All information about the megaproject is mediated through political leaders who assert episodically their position in local space, for instance in reaction to conflicts or direct impacts of the megaproject. Conflicts between parastatal agencies over this space, the use of regulatory tools in an ad hoc manner (e.g., change of land use) are factors that further complicate local communities’ scope for accessing knowledge.

However, it is also worth appreciating that marginalised actors and communities can and do mobilise around these projects. Although, the special powers or the special status of MPs might render this contestation ineffective in that spheres of government do not always respond to the issues raised by mobilised groups, the existence of forms of contestation should be noted. For example, protests by informal settlement dwellers in Lima in the path of planned construction for the new freeway did ultimately succeed in securing better compensation for the loss of their homes. The enhanced payout was not insignificant – the minimum compensation was USD 30,000 – but still fell short of the costs of relocating to a similar home. In this particular case, some of the struggles and movements were aided by coinciding with the election of a left-leaning Mayor. The result was that the road contractor for the PPP had its concession period extended in order to recover revenue allocated to this settlement and time lost due to protests.⁵⁰ In the case of the airport in Durban, a local environmental group secured major concessions over the airport design and flight path plans in order to protect nesting areas of the migratory barn swallow. More recently, post much of the project fieldwork, persistent public protests in the vicinity of some of the projects in Rio, Salvador and Sao Paulo has forced some concessions and also disrupted

46 See Ananya Roy (2005). *Urban Informality. Towards an Epistemology of Planning*. Journal of the American Planning Association, 71, 147-158. See also: Roy, A. (2009). *Why India Cannot Plan Its Cities: Informality, Insurgence and the Idiom of Urbanization*. Planning Theory, 8, 76-87. Roy, A. (2011). *The Blockade of the World-Class-City: Dialectical Images of Indian Urbanism*. In A. Roy & A. Ong (Eds.), *Worlding Cities: Asian Experiments and the Art of Being Global* (pp. 259-278). Oxford: Blackwell.

47 See Alexander Follman, *Urban mega-projects for a “world-class” riverfront – the interplay of informality, flexibility and exceptionality along the Yamuna in Delhi, India*, *Habitat International*, forthcoming.

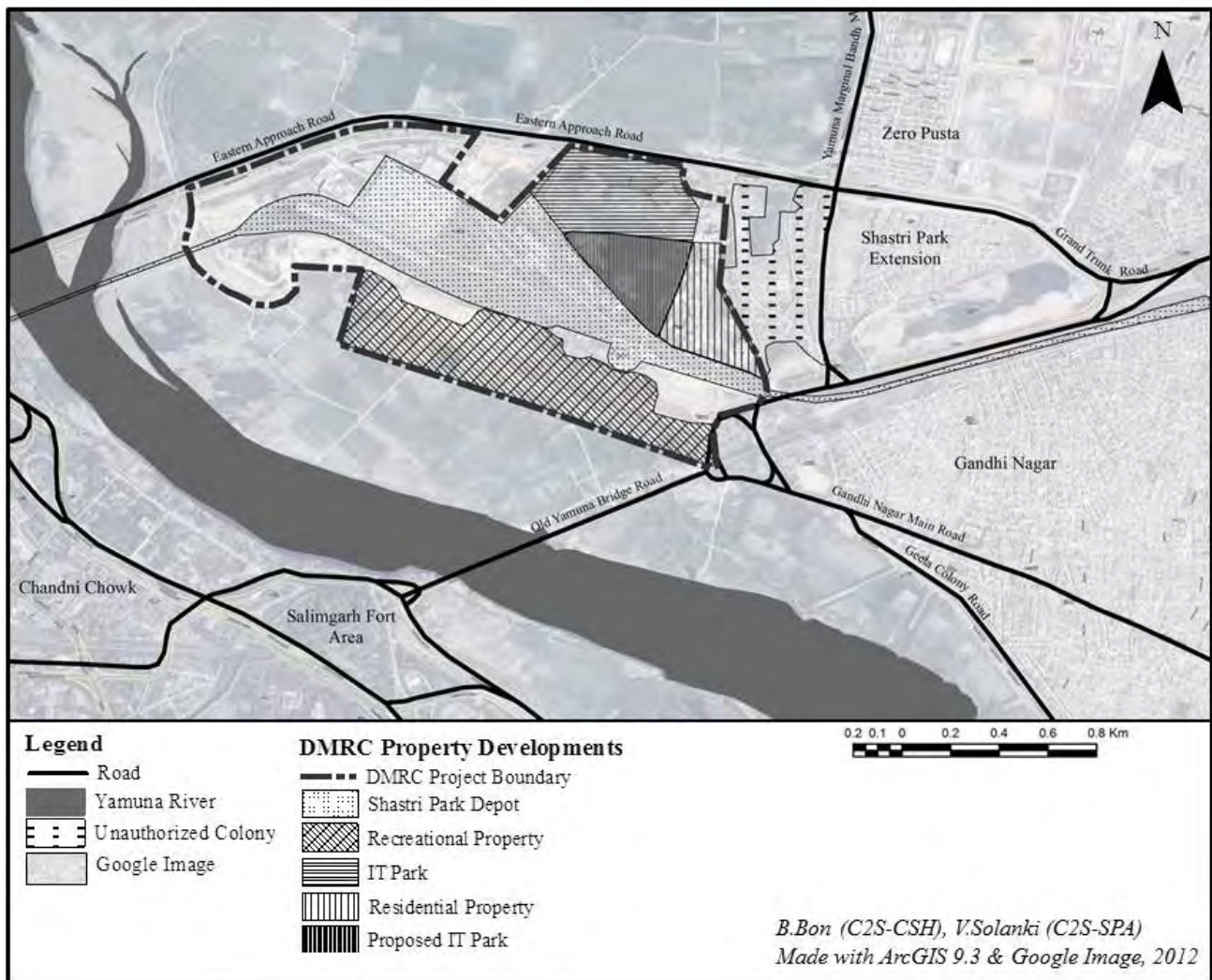
48 Roy, 2005, op. cit., p. 149, cited by Follman, op. cit. forthcoming.

49 See the literature review in Follman op. cit.

50 Officially, the reason for the extension of the concession was because of additional infrastructure investments. However, it appears quite certain that it would not have been possible to negotiate a better compensation scheme if the concession period had not been extended. This is due to economic stability clauses, which ensure the return on the concession cannot be reduced.



Map 3: Map of Shastri Park and metro depot, located along the banks of the Yamuna, Delhi.



the delivery of some of the development work associated with FIFA 2014 World Cup. Whilst the core projects have proceeded, some have been abandoned and the impact of the protests is likely to also be felt in future election results. These cases show that mobilisation of actors in opposition to these projects can be a feature and that

the agency of these actors – often left out of consultation – should not be ignored.

The next section discusses some of the key findings emerging from the fieldwork and analysis, including conceptual and theoretical proposals.

3

Research Findings and Conceptual Advances

As indicated above, and in other Work Package 2 outputs, our research on MP development has focussed largely on governance, re-scaling and governmentality in relation to institutional arrangements. We have noted, for instance,

the creation of special agencies for MP implementation, the growing interest (and funding) from different spheres of government, the pervasiveness of PPP arrangements, the shifting boundaries of our cities to encompass

surrounding peripheries, e.g., in Chennai, and the debate about the northern boundary in Durban. In our analyses of governance dynamics, we have also noted the significance of the instruments that are being deployed, and which in turn influence governance arrangements. These instruments, which have not been widely explored in the MP literature, appear to be an interesting angle for examining MP and for engaging with the debate on “new” vs. “old” MPs (cf. *infra*).

The Delhi case suggests that key instruments, e.g. land value capture, coupled with the use of international standards and norms, can serve as a form of guarantee for international investors, including intergovernmental lending agencies and international development cooperation, and hence are crucial for the realisation of the MPs. In the case of mass transit systems in India, further discussed below, which represent tremendous market potential for both domestic and foreign economic actors, most of the megaprojects are implemented through joint ventures between various state agencies (answering either to the State government or the central government) and funded via soft loans from international agencies (notably the Japan Bank for International Cooperation). The involvement of international funders influences the instruments used, as well as the related technology and techniques (e.g. the process of bidding for the consultants, contractors), which shape in turn institutional arrangements. Among other things, new instruments may be needed to assemble the land, —by definition megaprojects entail large areas—, which may require bringing land into the market for the first time or re-zoning land not intended to be used for those purposes. Two Work Package 2 case studies in particular examined carefully the use of new instruments to establish particular regulatory regimes.

Governing with instruments

The choice of instruments, including those used for financing megaprojects, can be as decisive as the projects themselves. Following Pierre Lascoumes and Patrick Le Galès, an instrument of public action is “a social and technical device”, which carries values, norms, interests.⁵¹ For instance, the parastatal agency in charge of the metro megaproject in Delhi, the DMRC, has introduced the use of incentive-based land value capture instruments in order to raise private capital for funding the project: this instrument allows the agency to “capture” the increase in land values that occur in transit corridors and around metro stations by selling the development rights to private developers. The technocratic

implementation of this instrument obscures the underlying political issues at stake, namely urban land management. The use of this instrument by a public transit agency is facilitated by the “special regime” of the megaproject.⁵² The implementation of new rules and regulations translates into new power relations, and in the case of Delhi have led to rivalries and conflicts between different categories of public actors and different levels of government. A careful analysis of the instrument can reveal the nature of the institutional arrangements supporting the megaproject, and the position of each actor involved. Moreover, the Delhi case study indicates that transport megaprojects and their specific instruments, here land-based value capture, are currently influencing a new legal and institutional framework for urban planning, and are at heart of a the new Transit Oriented Policy, intended to serve as a model for all of India. This policy aims to produce dedicated spaces within cities with specific land use regulations and building rules (e.g. additional Floor Area Ratio).⁵³

In the case of Lima too, a new set of policy instruments are currently being used in the construction of the LA-VRP expressway, based on private concessions. This case is especially compelling for illustrating the “exceptionalist” dimension of megaproject governance, pointed out earlier by Swyngedouw, Moulaert and Rodriguez.⁵⁴ Here, the regulatory regime centres on the signed contract, between the city government and the private builder, a Brazil-based multinational, to build, operate and transfer a toll road, connecting the city centre to the airport, and running through the heart of the city. In effect, the 40-year concession period of the LA-VRP will be entirely regulated by a single contract, one that is guaranteed by national laws and upheld by the judicial system. As pointed out in the specialised literature, “Regulation by contract is an appealing concept because it seems to hold the promise of a regulatory system that operates on ‘autopilot’”⁵⁵. However, as the Lima case study showed, there are numerous problems related to this choice of instrument, notably that it effectively locks in the local government,

51 Lascoumes, Pierre and Patrick Le Galès, eds. 2004. *Gouverner Par Les Instruments*. Paris: Presses de Sciences Po.

52 Pierre-Arnaud Barthel, “Faire du “grand projet” au Maghreb. L'exemple des fronts d'eau (Casablanca et Tunis)”, *Géocarrefour*, vol. 83/1, 2008.

53 See Bon, Bérénice. A new megaproject model and a new funding model. Traveling concepts and local adaptations around the Delhi metro. *Habitat International* (submitted).

54 Swyngedouw, E., Moulaert, F., & Rodriguez A. (2002). Neoliberal urbanisation in Europe: large-scale urban development projects and the New Urban Policy. *Antipode*, 34(3).

55 Bakovic, T. et al. Regulation by Contract. A New Way to Privatize Electricity Distribution? The World Bank, 2003, p. 13.



once a contract is signed.⁵⁶ The current municipal government of Lima has learned this the hard way after campaigning on the promise to scrap the project.

The Lima case study corroborates many insights from the literature, one is that information asymmetries are larger at the early stages of the project, to the advantage of contractors, with the result that the state may get involved in disadvantageous deals.⁵⁷ Due to intense public scrutiny and possible third party opportunism, complex renegotiation and addendum processes become the only way to change contract conditions, and so these would come only with high economic and political costs. Two important strands of the literature are on renegotiation⁵⁸ and on theories of “regulatory capture”, i.e., influence exerted on rule-making processes by firms or interest groups, including the state, who try to shape the design of regulations in their favour before they come into effect.⁵⁹ Current governance arrangements in Peru that encourage “private initiatives” are strongly biased in favour of the interests of private sector operators whose prerogatives become almost indisputable.⁶⁰ In effect, these instruments allow a privately promoted project to be approved without an open and competitive public tendering process. Although these instruments are ostentatiously modelled on theories of “regulation by contract”, they are in sharp contradiction to them to the extent that these theories assume that tendering occurs in a competitive environment and that the process automatically grants the bid to the most competitive promoter. A broad question raised by our research then: to what extent a contract signed under these conditions undermines Lima’s sustainability in the long term by perpetuating and transferring hazards caused by initial power/information asymmetries or corrupt behaviour?

“New” mega-projects

In addition to the published research material discussed in our initial survey, members of Work Package 2 have more recently mobilised another strand of literature, appearing

in the 2000s, which sought to distinguish “new” and “old” generations of urban megaprojects.⁶¹ This body of work, elaborated primarily on the basis of European and American examples,⁶² suggested interesting hypotheses for our cases. “New” types of megaprojects are defined as follows: their focus is flexible and diverse rather than singular and monolithic and they involve the creation of mixed-use spaces.⁶³ In the interpretation of their consequences, authors assert there is a shift from collective benefits to a more individualized form of public benefit; such projects simultaneously re-inscribe and reinforce socioeconomic divisions. Moreover, it is suggested that the diversity of forms and uses employed has tended to inhibit the formation of contestational practices.⁶⁴

Several of our cases were ideally positioned to critically engage with the category of “new” mega-projects, which in several cases are being developed in the context of mega-events. This was the case for instance in Delhi, where hosting the 2010 Commonwealth Games acted as a catalyst for taking decisions, raising funds, acquiring land for megaprojects and justifying a policy to “beautify” the city, especially through eviction and demolition of informal settlements. Currently Brazil’s cities are undergoing similar pressures in preparation for the 2014 FIFA World Cup (and for the Olympic Games in Rio in 2016). Likewise, the “aerotropolis” project in Durban (King Shaka International Airport/Dube TradePort) and the N2 Gateway project in Cape Town, timed to coincide with the 2010 FIFA World Cup, have features of so-called “new” megaprojects.

In Durban the project for a new international airport was conceived as an integral part of a multi-modal logistics platform, the plans for which included “high value manufacturing, agro-industry and technology-enabled B2B commerce” (Dube TradePort Company, undated: 8). Modelled on the “aerotropolis” concept – including an airport city –, as described by Kasarda (2000), its aim was

56 See Takano, G. “Case Study for Work Package 2 – Chance2Sustain. The ‘Línea Amarilla-Via Parque Rímac’ highway”, Work Package 2 Fieldwork Report for Lima, April 2013.

57 Guasch, J.L. (2004) Granting and Renegotiating Infrastructure Concessions, Doing it Right. The World Bank.

58 Guasch, op. cit.

59 Boehm, F. Regulatory Capture Revisited – Lessons from Economics of Corruption. Working paper, 2007:15.

60 See Takano, op. cit, for more details.

61 Various members of the C2S team have engaged with this literature in a special issue of *Habitat International* (forthcoming). See the introductory article to the issue: Loraine Kennedy. The politics and changing paradigm of megaproject development in metropolitan cities. *Habitat International*, forthcoming.

62 See the special issue of *International Journal of Urban and Regional Research* 32(4), 2009 and Gellert and Lynch, op cit., pp. 15-25.

63 Lehrer, Ute and Jennefer Laidley. Old Mega-Projects Newly Packaged? Waterfront Redevelopment in Toronto. *International Journal of Urban and Regional Research* 32(4), 2009. Susan Fainstein, op cit.

64 Lehrer and Laidley, op cit

to be much more than just a transport project (see Photo 2). In many respects, it closely resembles the textbook “new” generation of megaprojects, at least in its design and its ambitions, which are to generate economic development by promoting a new growth pole, centred on the Dube TradePort adjacent to the King Shaka International Airport and eventually stimulating growth across a larger area of to the north of Durban (see Map 4). But reality can be different than planning, and the outcomes have not lived up to the projections. But this has not stopped promoters, and other stakeholders from pursuing their plan to develop the area. Following on the idea that infrastructure development has become an end in and of itself, property development is conceived as a productive activity, or at the very least, as an activity that generate rents, in the form of pecuniary gains from increasing land values.

Another case study in South Africa, the N2 Gateway project in Cape Town, provided scope for exploring various aspects attributed to the “new generation” of megaprojects. The analysis focused on the political tensions and community mobilisation stemming from the implementation of this large-scale housing project.⁶⁵ In particular the study engages with one of the hypotheses regarding the tendency for new megaprojects to inhibit contestation by proposing mixed-use spaces, which offer benefits for various social groups.

The N2 Gateway is one of South Africa’s flagship housing projects (along with Cornubia in Durban, also studied in the framework of the Chance2Sustain project), it was also part of the process of “dressing up for the world”, in preparation for hosting the FIFA 2010 World Cup. Thus, two parallel discourses were put forward to justify the N2 Gateway project, the need to address the housing “backlog” and the wish to beautify a major road artery, the N2 highway, in time for the World Cup.

Based on fieldwork carried out in an informal settlement, Joe Slovo, the study shows the political controversy that arose around the megaproject, how local communities mobilised to try and shape the process of implementation, and also how this experience contributed to reshaping local community dynamics through various phases of mobilisation. In analysing social movements, the study underscores the extremely asymmetrical power relationship that prevails between state and business interests in charge of realising the megaproject, on one hand, and communities who are directly affected by and trying to engage with such

Photo 2: Publicity for John Kasarda’s Presentation in Durban in May 2012

CATALYST FOR ECONOMIC DEVELOPMENT
- THE DUBE AEROTROPOLIS

A new phenomenon is changing the way we live and do business. A catalyst for change, with sustainability at the core of its ethos, is emerging – the aerotropolis. This brings with it enormous economic opportunities and positively influences the national commitment to significant levels of investment in infrastructure, providing for improved economic integration and the movement of goods through the Durban-Free State-Gauteng logistics and industrial corridor. The development is stimulating and being stimulated by businesses involved in air transportation and world-wide air freight movement, increasing connectivity and reducing logistics costs.

Dube Aerotropolis – Africa’s first purpose-built aerotropolis – is set to change our landscape forever.

Dube TradePort Corporation, Tongaat-Hulett and Durban University of Technology have pleasure in inviting you to attend a highly informative academic lecture and discussion by John Kasarda – world authority on the aerotropolis concept...

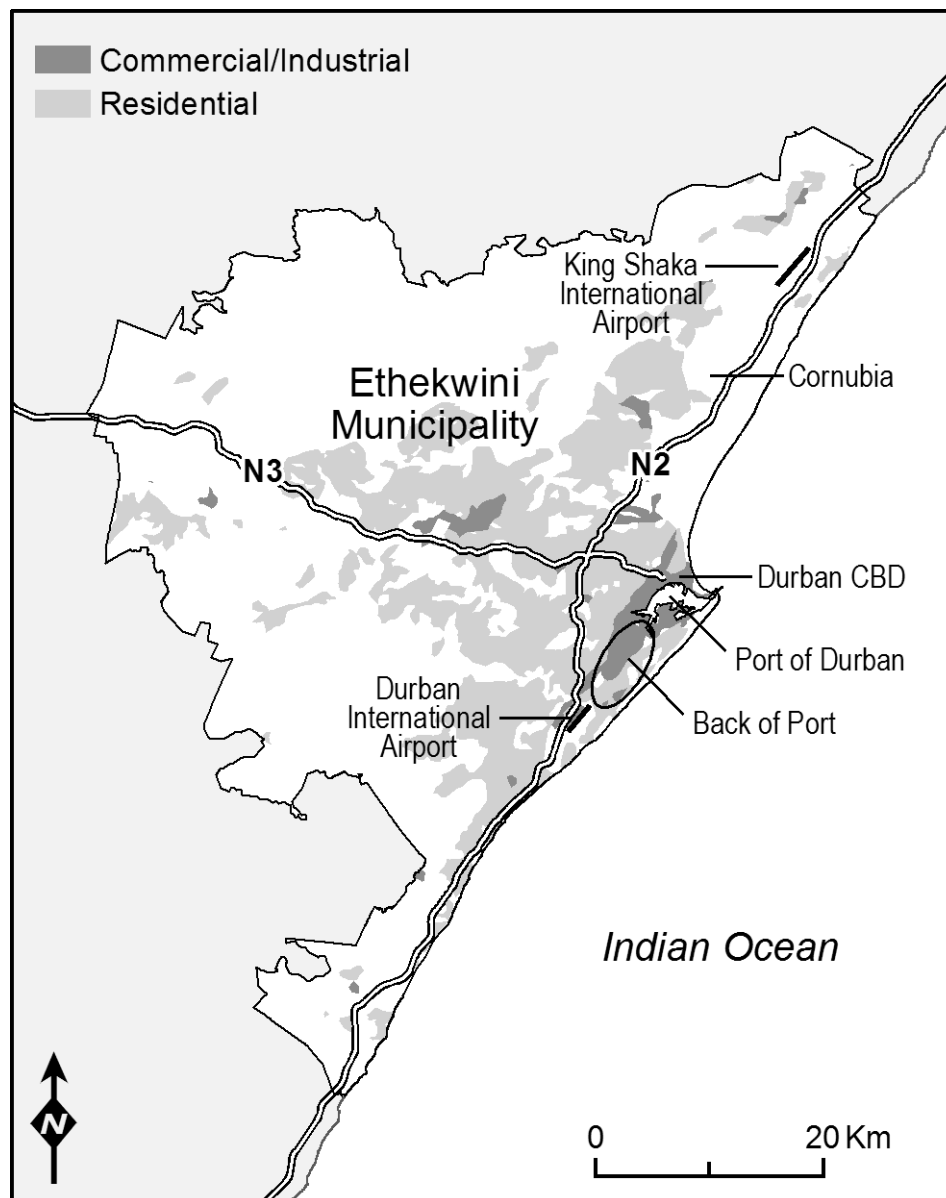
...A combination of an airport, a planned city and business hub, which will be at the heart of the next phase of globalisation. Drawing on decades worth of cutting-edge research, John offers a visionary look at the opportunities of this future aerotropolis.

WHEN: 30 May 2012
TIME: 08:00am for 08:30am start – 10:45am
WHERE: Conference Centre, The Hotel School, Durban University of Technology, Winterton Walk (opposite Curries Fountain Ground)
THEME: Aerotropolis – The way we will live next
RSVP: Zama Hlangwa on 031 373 2110 or zamac@dut.ac.za

JOHN KASARDA:
John Kasarda is the developer of the aerotropolis concept which defines the roles of aviation and airports in shaping 21st-century business location, urban competitiveness and economic growth. He is a key consultant world-wide in the conceptualisation and strategic planning of the aerotropolis.

Tongaat Hulett
DUT DURBAN UNIVERSITY OF TECHNOLOGY
dube tradePORT
SOUTHERN AFRICA'S PREMIER AIR LOGISTICS PLATFORM
29° SOUTH, 7 UMSINI JUNCTION, LA MERCY, KWAZULU-NATAL, 4399
TEL: +27 32 814 0000/1 | WEB: WWW.DUBETRADEPORT.CO.ZA

⁶⁵ The results of this study are forthcoming in Jordhus-Lier David, Community resistance to megaprojects: the case of the N2 Gateway project in Joe Slovo informal settlement, Cape Town, *Habitat International*.

Map 4: Location of King Shaka International Airport within the eThekweni Municipality

Source: Frank Socolic map for Cities and Flows, 2013

interventions, on the other. This naturally limits what the inhabitants of informal settlements are able to achieve, even with help they may receive from NGOs and other progressive actors; moreover, their relative victories have come with a cost. Indeed, the implementation of the megaproject has had divisive effects on local community dynamics:

At each stage of the project, members of the community have been – directly or indirectly – pitted against each other, or against constituencies outside the Joe Slovo informal settlement. Initially, this emerged as a conflict between those living in Joe Slovo and people living in other informal settlements and backyards. (...) But as real housing opportunities

began to materialise in Phase 3 in 2011, tension between different groups within the informal settlement became the dominant fracture line. Different groups had different vested interests in the project, first and foremost relating to housing but also to employment opportunities and knowledge. This served to polarise the community and their representative organisations, (...).⁶⁶

The study showed that although the community was benefiting from thousands of new homes – for those who qualified for that opportunity – it was divided both

66 Jordhus-Lier, D., op. cit.

physically, through relocation, and socially, in the sense that its associational life was split into rival groups. This scenario is being played out to some degree in Durban, too, where the Cornubia project has created great expectations for housing, more than can be met.⁶⁷

In contrast to these cases, some of our other studies resemble “old” megaprojects i.e., state-initiated, state-financed projects aimed at the creation of public goods, whose physical appearance corresponds to “monolithic singular structures extended via networks”. Studying examples of both types allowed us to test certain hypotheses about governance more generally and about the relevance of the distinction between “old” and “new” types.

The large-scale water supply scheme in Kalyan Dombivili appears in many respects to be a text-book case of an old MP, as defined above. However the analysis indicated that the decision to build it was not unrelated to current concerns about city competitiveness in policy-making circles in India. According the Kalyan fieldwork report:

The national discourse on city development focuses on the need for the provision of basic services to urban areas, which would help in harnessing the actual economic potential of the city by providing better facilities to its citizens and attracting capital investments. JNNURM [the national urban renewal mission adopted in 2005] presents this focus with clarity and has allocated huge funds to meet this goal. State government realizes the importance of KMDC [Kalyan Dombivilli Municipal Corporation] as an important industrial and residential suburb of Mumbai, which lacks in infrastructural capital for basic services.⁶⁸

Until the new the water supply system was completed, the state government arranged to meet the water deficit in this area via a parastatal agency. The Kalyan municipality complained about the high cost of water supplied through that route, which was twice the amount of that supplied through its own water treatment plants. So building a new plant would save money but also give greater scope to the municipality for managing this basic service. The project was funded jointly by all three levels of government:

national (35%), state (Government of Maharashtra, 15%) and local (50%). The municipality met its commitments through soft loans from the state government.

The other water supply case study, conducted in Arequipa in Peru, was financed by a private mining company, which was motivated to take on such a project primarily in order to meet its own (private) interests related to the expansion of its activities. The analysis noted that directly assuming a role in public service provision was a way for the company to improve its image with the public, but at the same time, it contributed to already negative perceptions on the part of the public of the legitimacy and efficiency of local authorities. This case combines characteristics from “old” MP (classic infrastructure) and “new” MP (enhanced role of private capital).

It is probably not a coincidence that the only two single purpose MP cases included in our study were in Arequipa and Kalyan Dombivili both “secondary” cities in their respective country’s urban hierarchy. Such cities often lack infrastructure, even for basic needs such as water and sanitation, and these projects appear most urgent. They also lack a critical mass of high-income consumers, which perhaps make them less attractive targets for mixed-use projects, which usually include residential and consumer-based subprojects, and their limited financial and technical capacity makes them ineligible to organise mega-events.

Alternatives to MPs

It was observed that given the trend for large-scale projects, it has become more difficult to fund small projects. There is desire on the part of politicians, and mayors in particular, to announce flagship projects that will mark the urban landscape, and ensure the posterity of their promoters. It has been suggested in a number of the case studies that the multitude of smaller projects that are often important to communities get side-lined in a context where scaled-up strategic initiatives tend to dominate. This can be a result of MPs crowding scarce resources at the cost of other projects, but can also involve the crowding in or state capacity around more prestigious projects with consequent impacts on forms of more discreet local project activity.

One of the Work Package 2 research questions involved reflecting on the relative importance given to large-scale economic and infrastructure projects in our study cities, in relation to alternative strategies for economic development. We were interested in identifying the factors that might explain differences observed among cities: was city type significant? or city size? Or was the national economic development framework a more determinant factor for

67 See Sutherland, C., Sim, V., Scott, D., Contested discourses of a mixed-use megaproject: Cornubia, Durban, *Habitat International* (forthcoming).

68 See Neeraj Mishra, Background of 150 MLD Water Supply Project in Kalyan-Dombivili Municipal Corporation. A summary of this report appeared in the Work Package 2 Fieldwork Report, Appendix 6, available online: <http://www.chance2sustain.eu/58.0.html>



explaining differences that were observed?

To begin with, it is evident that not all cities have the same range of choice for economic development strategies, whether in the form of MPs or policy instruments. As noted above, organising a mega sporting event is not an option for all cities as it requires a certain quantity and quality of infrastructure (airport, hotels, stadia). Likewise, scope for city marketing is limited for satellite cities. Guarulhos for example is a city whose development path is absolutely linked to Sao Paulo; its main strategy consists in servicing Sao Paulo. This appears to be the case also for Kalyan Dombivili; its development perspectives are defined in relation to Mumbai and it falls within the area under the jurisdiction of the Mumbai Metropolitan Region Development Authority, which undertakes planning for the region as a whole.

One way of thinking about MPs is to represent them as the expression of a supply-side development strategy. Usually dedicated to providing infrastructure (road, metro, water supply, airport, housing), MPs are intended to facilitate economic development by integrating urban space, improving communication and mobility, and hence scope for property development and commercial ventures; such infrastructure projects serve the public, and also business interests. Alternative or complementary supply-side policies include offering subsidies or support to producers or firms in order to stimulate greater efficiency and lead to employment creation. These could take the form of technological inputs, labour and entrepreneurship training programmes, and support for small enterprises, for instance. Such policies are often elaborated at the national or provincial level, more rarely at the local level. In the case of the KSIA-DTP the South African government has recently made a commitment to develop the site as a Special Economic Zone (SEZ) with some accompanying incentives for firms. The Provincial government of KwaZulu-Natal – the custodian of the Dube TradePort Corporation – has also invested in developing sites for investors and in incentives for airlines as part of a drive to bring accelerated development to the project area.

Broadly speaking, supply-side policies can be contrasted with demand-based development strategies, which would seek, for instance, to stimulate growth by stimulating demand. Such strategies could include wage and prices supports for instance, which increase revenues. Especially in low-income countries, where additional income would be immediately spent on meeting basic needs, such policies might be expected to provide stimulus to the local economy. Such policies can be implemented through entitlement programmes, such as cash transfers for households below the poverty line (e.g., *borsa familia* in Brazil) or food for

work (e.g., national rural employment guarantee scheme NREGS in India). Such programmes are typically conceived at the national scale, not at the local scale, and apply to the entire country.

As mentioned above, many of our study cities do not have a mandate to pursue economic development. This is the case for municipalities in India. In addition to national policies, most State (provincial) governments elaborate economic development policies, and these are applied to the territory of their respective States. A recent trend, highlighted in the literature, is for State governments to increasingly target interventions at metropolitan cities, with the aim of making them growth engines for the regional economy.⁶⁹ This is a pragmatic position given that cities contribute approximately 60% of GDP, although only 30% of country's population lives in urban areas.⁷⁰ In Chennai, for instance, the government of Tamil Nadu has identified specific areas for developing industrial clusters in the metropolitan region, including an IT corridor (see Map 5), which has been studied extensively in the C2S project⁷¹, and an automobile corridor.

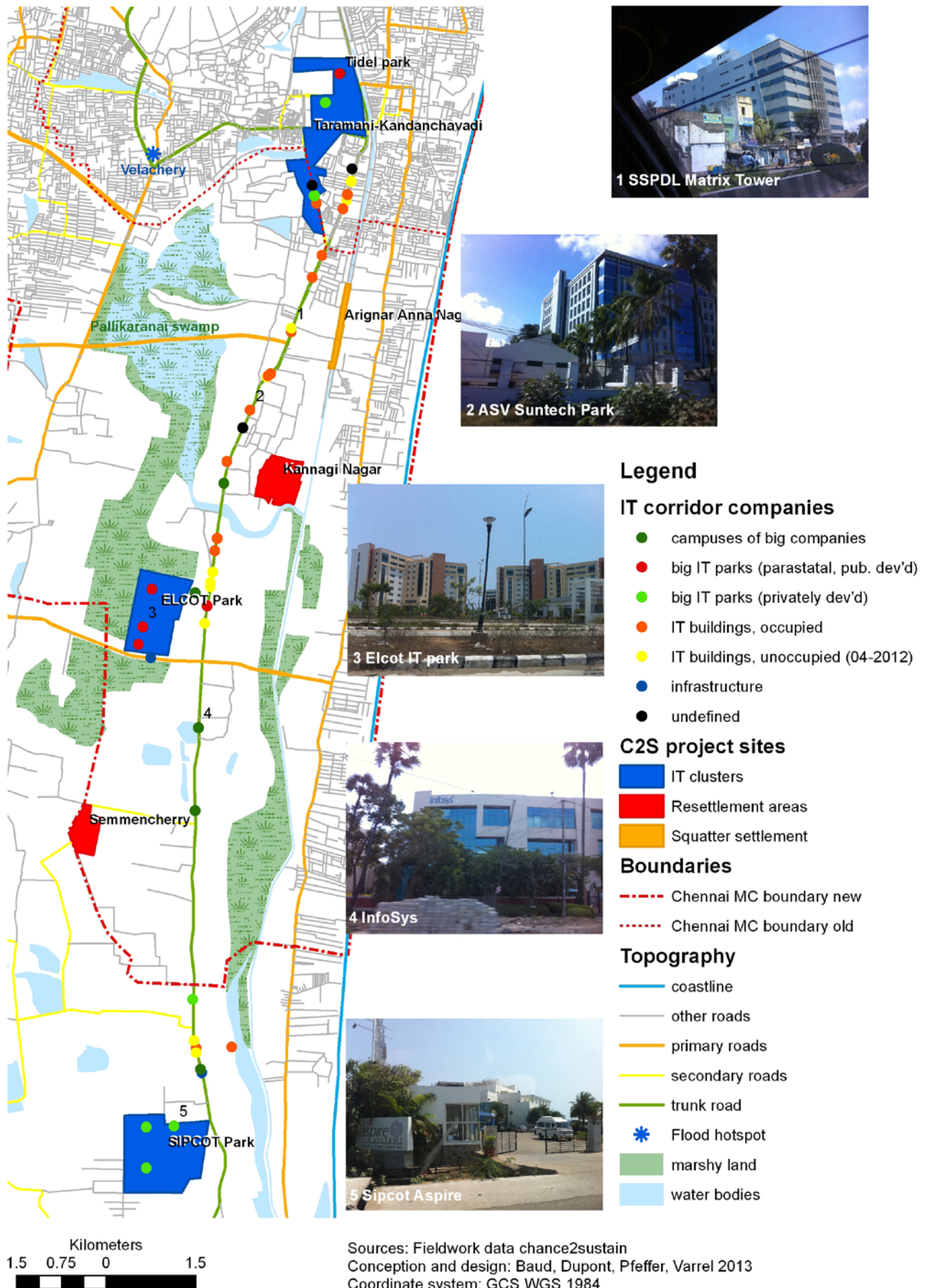
Although the experiences of the projects, and that of the cities in which they are located, does not point to a particularly clear picture of emerging alternative economic strategies there are some issues worth noting. These can be seen against two processes. The first of these relates to a growing trend in developing countries for local authorities to be encouraged to support local economic development in their areas of responsibility. The second relates to the public sector and other actors, often private sector businesses, acting in such a way that, intentionally or

69 See for instance Kennedy, Loraine. 2007. "Regional Industrial Policies Driving Peri-Urban Dynamics in Hyderabad, India." *Cities* 24(2):95-109; Shaw, Annapurna and M. K. Satish. 2007. "Metropolitan Restructuring in Post-Liberalized India: Separating the Global and the Local." *Cities* 24(2):148-63.

70 "In terms of both population and GDP, many Indian cities will become larger than many countries today. For instance, Mumbai Metropolitan Region's GDP is projected to reach 11.9 trillion rupees (\$265 billion) by 2030, larger than the GDP of many countries today, including Portugal, Columbia and Malaysia." (McKinsey Global Institute, 2010. India's urban awakening: Building inclusive cities, sustaining economic growth. McKinsey Global Institute, McKinsey & Company: page 49, accessed from [http://www.mckinsey.com/insights/urbanization/urban_](http://www.mckinsey.com/insights/urbanization/urban_awakening_in_india)awakening_in_india on 23 May 2014).

71 See the summary of the Chennai Fieldwork Report in the Work Package 2 Fieldwork Report, op. cit.. See also the Chennai City Report: Engaging with Sustainability Issues in Metropolitan Chennai: <http://www.chance2sustain.eu/66.0.html>

Map 5: Location of case studies in the IT Corridor area of Chennai





otherwise, supports agglomeration effects – both localisation economies (such as labour pooling) and urbanisation economies (where scale opportunities support the attraction of suppliers or development of dedicated infrastructure). With regard to the latter it is clear that processes of agglomeration are a feature of the urban landscapes providing a backdrop to the MPs explored. All the cities host economic activities, formal and informal, that interact with the processes surrounding agglomeration and this has been, to varying degrees, reinforced through local state efforts as apparently benign as land-use controls and the provision of forms of specialised infrastructure. However, the extent to which the specific MPs explored have been specifically designed to mobilise and intensify either localisation or urbanisation economies has not generally been made explicit in project documents. In the case of the IT corridor in Chennai, both public and private actors have contributed to the development of buildings for the burgeoning business process outsourcing (BPO) industry. The associated development of middle-class accommodation around the corridor could help support localisation economies in that a thickened local skilled labour market can be reinforced in proximity to firms with highly flexible/uneven labour demand patterns. The Dube TradePort endeavour in Durban has sought to specifically engineer the clustering of export-intensive businesses and those closely associated with aviation logistics and services. Through the provision of subsidised land parcels and buildings, supported by extensive ICT infrastructure and dedicated project facilitation services, the intent has been to provide some of the expected agglomeration benefits ahead of the actual physical location of businesses.

With respect to local economic development programmes and strategies these are, as has already been noted, not always present in an explicit sense in the cities' programmes. Municipal economic programmes are probably least explicit in the Indian city municipal plans but are not completely absent. For example, in the Delhi Development Authority's Master Plan of Delhi 2021, under the economic development section, plans are set out to support growing industrial and commercial development as well as plans for support and management of the informal sector.⁷² In the various Lima municipalities, economic development activities in local government are given some attention with some staff focused on these programmes such as the ones working with the informal sector, markets and local promotion. Similar examples are set out in some of the Brazilian cases, although in others – such as in Rio – these have been elevated to being a major

city focus. However, generally in these cases a fully-fledged, city-wide, stand-alone economic strategy is not set out for the municipal structures. Certainly in the Indian examples the focus of the municipal work under the economic development banner is largely related to land development, regulation or infrastructure issues. The presence of newer generation economic development programmes, discussed often in relation to developed country cities such as economic sector initiatives or efforts around human resources skills and technology initiatives in collaboration with various actors⁷³, are—in the cases explored in this research—rare or tend to be hosted by other spheres of government at the state/province or national level.⁷⁴ The eThekweni Metropolitan Municipality and its institutional predecessors have adopted municipal economic strategies since the early 1990s, which have had a range of strategic elements including infrastructure development, sectoral programmes and institutional development partnerships with other actors. In the South African context the 1996 Constitution provided backing for local government to support economic development and this has been supported at all spheres of government. The eThekweni Municipality has tended to view major economic development and infrastructure projects as an important element of improving the business environment in the city and to help support the development of employment opportunities and access to services for the majority of poor residents.⁷⁵

73 These are elaborated by authors such as Susan Clarke and Gary Gaile in their book, *The Work of Cities* (1988), University of Minnesota Press: Minneapolis. They have also been discussed in the work of Allen J. Scott: Scott, A, 1992. *The Roepke Lecture in Economic Geography—The collective order of flexible production agglomerations: Lessons for Local Economic Development Policy and Strategic Choice*. In *Economic Geography*, 68 (3), pages 219-233.

74 Rodriguez-Pose, A & Tijmstra, S, 2007. *Local Economic Development in Sub-Saharan Africa*. In *Economic Development and Planning C: Government and Policy*, 25, pages 516 – 536.

75 In the eThekweni Municipality's strategy document on economic development the following point is made: "There is a critical role for cities and regions to, on the one hand, enhance their competitiveness as economic hubs, while simultaneously creating the conditions for local actors to enter the stage, and incorporate the unemployed to create a virtuous cycle of growth and prosperity. This strategy seeks to; provide direction on the strategic issues and where large-scale investments are required to enhance the economy; to deal with the softer issues that improve competitiveness; to encompass spatial economic issues, and to address underdevelopment and neighbourhood level economic development (LED). While the strategy proposes programmes aimed at poverty and underdevelopment to address current problems, it also

72 'See Masterplan of Delhi 2021 at http://dda.org.in/planning/mpd_2021_trade_commerce.htm – accessed on 27 May 2014.

With respect to MPs in a city such as Durban, they do tend to be nested within a relatively elaborate economic programme, although the substance and impact of such programmes might vary from MP to MP. In this regard issues such as labour absorption in MPs, skills and enterprise development in construction processes and support programmes to leverage the future economic processes associated with the MPs (such as tourism marketing and asset development, investor facilitation and various sector support programmes) have been a feature. These MP-linked activities tend to be seen as part of the growth equation in the economic development strategy, based on assumptions that growth-inducing projects are the best long-term choice to generate employment and thereby reduce poverty.

The maturity of economic development programmes is highly uneven across the case study cities and this can also be seen in terms of the extent to which economic development strategies at the core of the MPs are made explicit. However, even where these intentions are more explicitly attached to economic programmes the degree to which such initiatives are able to yield more equitable economic outcomes or more meaningful distributional gains remains limited. In fact, the analysis suggests that MPs tend to be highly selective in the way benefit streams are orchestrated, with powerful interest groups often best placed to capture direct and indirect gains. However, since economic development goals of cities are a relatively unsettled feature of city programmes, they are subject to some contestation and scope for re-orientation through popular pressure. Contestation over street trading and informal economy markets in Lima provide an example where pressure from more marginalised communities can have an impact.⁷⁶

MPs shaping metro space and urban futures

By virtue of their scale, MPs have the potential to structure urban space and to shape urban futures by exerting influence over zoning, and hence the location of basic infrastructure (usually public funded), as well as over public

and private investments in property developments. Likewise, MPs can act as catalysts for introducing new policy instruments, as discussed above, and also for implementing institutional reforms. In Chennai for instance the city limits were extended in June 2011 to encompass a large section of the IT Expressway and the surrounding areas, a decision that reflected the political will to streamline the management of this fast developing urban space (see Map 6). In theory, the inclusion of this area within municipal boundaries should enable the urban planning body, the Chennai Metropolitan Development Authority, to enforce more effectively building rules and regulations. In effect, rural administrative machinery is ill-equipped to negotiate with industrialists and property developers, resulting in informal arrangements that take little account of social and environmental considerations.

In the Durban case, there is strong evidence to show that the KSIA-DTP mega project was a critical element influencing spatial planning. During the early 2000s, prior to the approval of the airport relocation in 2006, the eThekweni Municipality proposed a spatial development framework for the metropolitan region that left the proposed development area some considerable distance *outside* the perimeter designated for urban expansion. Then, with the approval of the project in 2006, the municipality's plans identified the north of the city – right to the northern boundary including the airport and proposed Dube TradePort site – as the priority growth corridor. However, municipal legacy commitments to infrastructure in other parts of the city and resistance from technocrats and officials with considerable regulatory influence tended to work to circumscribe the scale of the project and related proposals for private development around it. For this reason, actors associated with the airport project started to mobilise for the KSIA-DTP site to be excised from the eThekweni Metropolitan area and to be included in the neighbouring KwaDukuza Municipality, which was seen to be far more disposed to supporting extensive land transformations from a regulatory perspective. Although this effort failed, it did encourage authorities in Durban to approve a plan for the northern area of the city that supported almost 2000 hectares of greenfield development (gross) for the period heading towards 2020. This pattern of development in a context of a city highly segregated on the basis of race and income is likely to challenge both sustainability prospects and prospects of enhanced social justice (for example in relation to the relocation of informal settlements on the periphery of the airport site) (see Photos 3 and 4).

In Delhi, the Regional Rapid Transit System, based on the model of the Delhi metro, is being deployed as a central component for the economic and demographic

seeks to put in place programmes that are aimed at expanding the formal economy to increase the absorption of workers.” (eThekweni Municipality, 2012. Draft Economic Development & Job Creation Strategy 2012. eThekweni Municipality Economic Development Unit: Durban. Page 3.)

76 “Street vendors in Lima shape groundbreaking regulation for vending in public spaces”, accessed from <http://www.wiego.inbrief.org/recent-highlights/> on 27 May 2014.

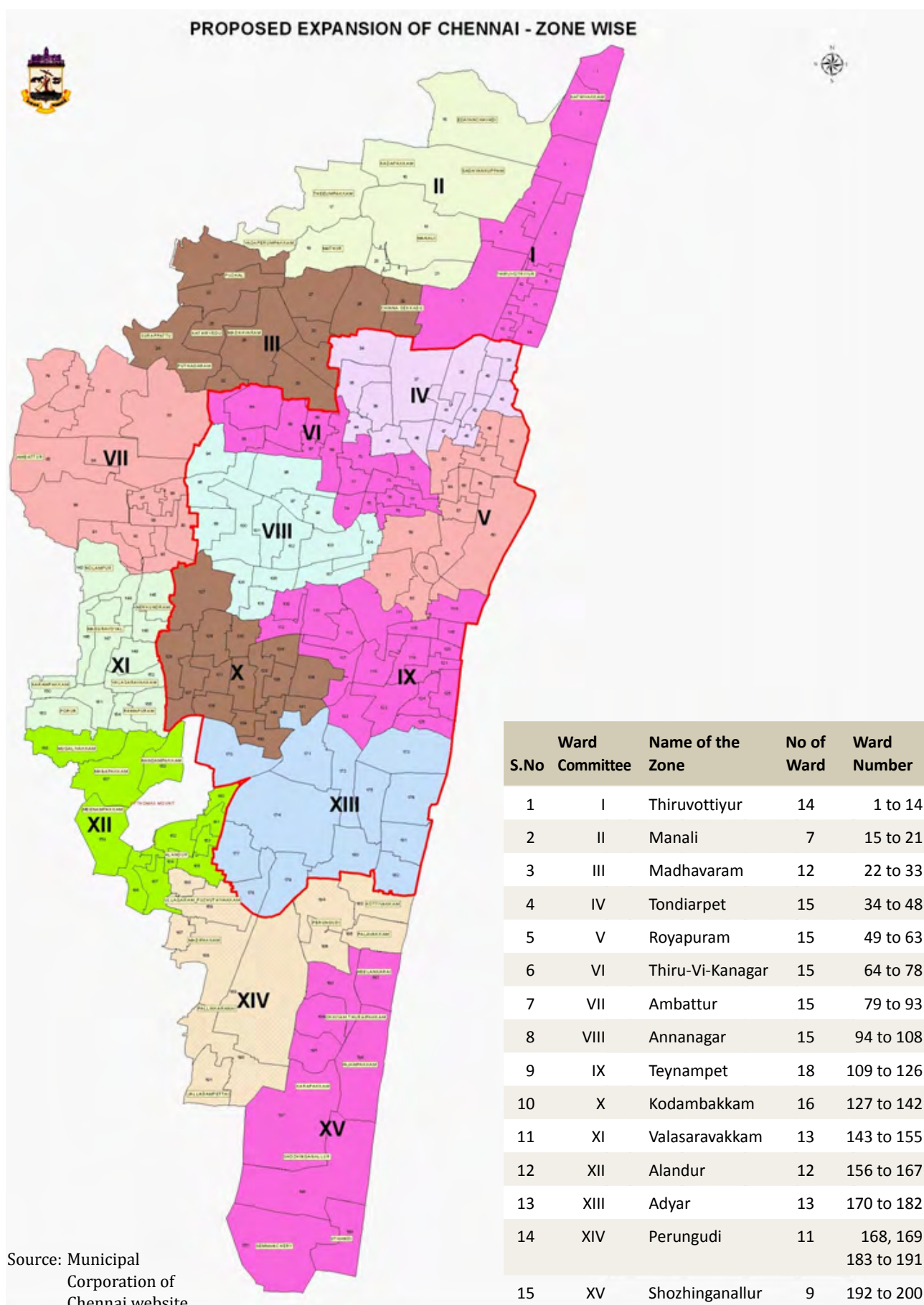
Map 6: Administrative divisions in the Municipal Corporation of Chennai and the 2011 expansion

Photo 3a: Ocean Drive-In Informal Settlement, relocated from the airport periphery. Photo taken in 2011.



Photo 3b: Ocean Drive-In Informal Settlement, relocated from the airport periphery. Photo taken in 2011.






Photo 3c: Ocean Drive-In Informal Settlement, relocated from the airport periphery. Photo taken in 2011.



Photo 4: Hammonds Farm, the relocation area for residents of Ocean Drive-In, forced to re-locate as part of the Aerotropis megaproject, Durban, 2011.





development of the National Capital Region (NCR). It will serve three investment regions that have been earmarked under the proposed Delhi Mumbai Industrial Corridor, with the goal of boosting the manufacturing sector both in terms of output and employment. This transport project aims to expand the manufacturing and service base of the NCR and develop the corridor stretches as “Global Manufacturing and Trading Hubs” (NCR, Draft Revised Regional Plan, 2013). Within Delhi’s municipal boundaries, the IT Shastri Park project implemented by the Delhi Metro Rail Corporation as a land value capture project near a depot is a small enterprise park (with a pending application to become a Special Economic Zone), which will soon double in size (from 6 ha to 12 ha). The total revenue generated from the annual rent from the companies operating there is about 20 millions of euros. These companies are estimated to employ approximately 6000 persons.

This pattern of using space-extensive MPs to carve out a more prosperous urban future is in part based on the argument that these efforts are critical in generating opportunities for employment. Although the various projects have been informed by quite different public motivations, the creation of employment or less specific employment “opportunities” – either as a construction input or as a result of investment induced by the completed project – has tended to feature as a core rationale or as an argument to defend project impacts. However, despite this focus, data on employment impacts is usually impossible to access. Whilst original motivations might talk glibly of thousands or direct and perhaps even tens or hundreds of thousands of indirect employment opportunities, project reporting on these numbers during development and in the project operational phase is variable to say the least. Furthermore, the intended impacts often tend to neglect the employment displacement effects some projects might have. These can arise through direct impacts such as sites of employment (formal or informal) being disrupted (at times permanently) by construction activities or new regulations. Proposed upgrades of the historic Rio port neighbourhoods for the FIFA World Cup and Olympic games were seen to be disruptive of existing enterprises as attempts were made to make the areas more aligned to tourist interests. Negative effects can also be indirect, occurring for instance when public subsidies crowd into certain projects and thus create an unfair advantage for the activities associated with those projects compared to others. The example of planned fresh produce production for export in subsidised facilities at the Dube AgriZone (in

Dube TradePort), which was then directed to local market consumption as prospective EU markets began to avoid retailing produce with high air-miles, was an example of local employment disruption as other producers lost orders.

Large public initiatives or mandates to private developers to access a limited number of land development opportunities can also generate an effect of employers in other parts of a city relocating to new sites to take advantage of particular conditions, such as improved infrastructure. These are often claimed as new jobs, but in fact the city as a whole sees little in the way of net job gain when this takes place. This is a local effect of what Harvey (2006) describes as a global phenomenon where investors move relatively mobile activities to take advantage of new economic rent extraction opportunities without intending to embed themselves in local economies in more meaningful ways.⁷⁷ Some of these investments can in fact thin-out prospects for deeper agglomeration effects proposed in some of the literature. Although the KSIA-DTP MP has had much lower employment impacts than was originally suggested in the project motivations, the intention to yield employment remains a key feature of the project. In KSIA-DTP, all employment generated since the project was originated, when viewed from an apparent zero base and against a background of a national economy with high unemployment, is argued to be progress. Project proponents, even where there is a genuine attempt to yield sustained employment impacts in the face of a globally uncertain economic environment (as in the case of the KSIA-DTP), are able to take advantage of a lack of public or institutional information about real employment impacts and the various costs associated with creating these apparent employment impacts. In other words, they are not required to produce actual proof that they do generate employment. The MPs under consideration have been proposed or developed in an environment where the bulk of urban residents make a precarious living on the fringes of formal economic activity and often have a limited array of skills recognised by formal employers. Projects that fail to engage with the need for expanded employment in lower skill categories and that do not support improved decent work environments can contribute to widening employment inequalities. The tensions between efforts to link cities to ambitious growth-oriented opportunities through MPs and the reality of the most pressing urban employment dynamics are a stark feature of many of the MPs.

77 Harvey, David 2006. *Spaces of Global Capitalism: Towards a theory of uneven geographical development*. Verso: London.

4

Engaging with the Work Package 2 Research Questions in Relation to the other Work Packages

The analysis of the social and environmental impacts of megaprojects was carried out in conjunction with other Work Package s. For instance, the analysis of the social impacts of MPs involved consideration of Work Package 3 themes, i.e., the degree of social mobilisation broadly speaking in defence of social and spatial justice, especially mobilisation of the urban poor themselves. The implications of MP development on informal settlements were examined in most of the Work Package 2 case studies: Delhi, Chennai, Lima, Salvador, Rio, Guarulhos, Durban, Cape Town. Work Package 4 issues were explored in conjunction with Work Package 2 case studies in Arequipa, Chennai, Durban, Guarulhos and Kalyan. To a large degree, Work Package 5 and Work Package 6 considerations provided the conceptual framework for analysing these impacts and inter-linkages, via spatial knowledge management, on one hand, and urban governance and participation, on the other. The latter has been discussed above, as MPs were studied in relation to the broad urban governance context in each case. With regard to the cross-cutting issues developed under Work Package 5, attention was given to these in each of the case studies (cf. *infra*). For these reasons there is considerable overlap, evident in the discussion on linkages below, which testifies to the integrated nature of the C2S project.

Social impacts of MPs (Work Package 2 - 3)

Social impacts of MPs can occur both during the implementation phase, and as a result of the completed MP, i.e., in its functions and in the practices that take place around the MP. These impacts can be direct or indirect, and usually involve a combination of both. Direct impacts observed during the implementation phase include eviction/removal/relocation of informal settlements to make room for MPs themselves or for developments designed in conjunction with the MP, such as beautification or re-zoning of the area for commercial or residential uses (e.g., Cape Town, Delhi, Chennai, Durban, Lima, Rio, Salvador).

Direct impacts can also involve the increase of safety and health risks for residents in the form of air pollution or adverse effects on water resources and sanitation. For instance, the 18 kilometre IT Expressway in Chennai dramatically increased vehicle traffic as tens of thousands

of jobs created in software engineering and BPO were located in the area, requiring 24h commuting between the city and the IT parks and campuses located along the Expressway (see Photo 5).

MPs by their scale and through their capacity to produce space and restructure space generate various types of indirect social effects. Enhancing property value in the vicinity of the megaproject is one such indirect effect, which in the case of certain networked projects (roadways, metro) can extend to cover large parts of the city. As discussed above, the Delhi metro project explicitly seized on the expected enhancement in property values to contribute to the capital costs of building the metro. By selling the rights to develop the areas contiguous to the metro stations, via long-term property leases, the metro raised capital, albeit a small percentage of the total required for the project (see Photo 6). One of the reasons cities pursue a pro-growth agenda is to enhance property values, which generate both public gains, in the form of higher taxes, and private gains to property developers. However in Delhi this process has lead to a court case between the municipality and the DMRC as the transit company began making use of part of the land for real estate developments without paying property taxes, which represented a very significant financial loss for the municipality. In Durban the municipality partnered with one of the city's largest landowners to develop the area around the new international airport, and the private partner has a direct stake in the creation of value through property development. In this case, private and public actors have had to compromise on the joint realisation of the MP to ensure that social welfare goals, e.g., provision of low income housing and social mixing, would be pursued alongside more conventional market-driven development.

Immaterial impacts, in the form of strains on community mobilisation and cohesion were highlighted in the case of the N2 Gateway in Cape Town. Solidarity among people fighting for a common cause weakened or dissolved as a result of bureaucratic decisions about which households would benefit from a new house, and which would not, or only at a later date. Similarly in Lima, depending on the location of the settlement and its legal status, some households were eligible for compensation and others were not. The decision on the part of the municipality to deal with project affected households on an individual basis only certainly had an adverse impact on efforts to build

Photo 5: Traffic and congestion along the IT Corridor, Chennai, photo taken in November, 2011 (A. Varrel)



Photo 6: Residential component of the metro project and the adjacent low-income area, Shastri Park, Delhi, 2012 (B. Bon)



collective action to negotiate with the municipality and the private operator.⁷⁸ In other cases, local communities have come together to try and counter negative impacts, or at least constitute a bloc in order to gain visibility. This was the case in the localities contiguous to Shastri Park in Delhi, where elected officials took the lead in opposing the demolition of temple in connection with the extension of the megaproject.

The example of the Porto Maravilha project in Rio illustrates both direct and indirect effects. The multi-layered, multi-pronged project aimed at “revitalizing” the port zone involves a profound restructuring of the area, in

both functional and social terms. In the second half of the twentieth century the port’s activities declined and the zone became consolidated as a space for low-income residents, who made use of the economic vacuum and relatively low land prices to meet their housing needs. Since then this space has been characterized as a “decayed” and “rundown” zone by the public authorities and the media. Although a series of “revitalization” projects were elaborated over the years, the mega-events lined up over the next years (mainly the 2016 Olympic Games) have acted as a key driving force to promote the current large-scale projects. Residents’ associations and activists have mobilised to counter the large-scale programme for “upgrading” the favelas (see Photo 7). Reacting to the threat of eviction or gentrification, what some regard as “social cleansing”, a resistance network called Foro Comunitario do Porto was formed and has contributed to politicising the issue at a broader level,

78 See Lisa Strauch, Guillermo Takano, and Michaela Hordijk, *Mixed-Use Spaces and Mixed Social Responses: Popular Resistance to a Megaproject in Central Lima, Peru*, *Habitat International*, forthcoming.

Photo 7: Buildings marked for demolition in the Morro da Providência, Rio.



linking up with all-city networks such as the *Copa Popular da Copa e das Olimpíadas* (People's Committee of the World Cup and the Olympics).⁷⁹

Megaprojects, water accessibility and environmental risks (Work Package 2 - 4)

Several Work Package 2 case studies directly engaged with Work Package 4 themes (Arequipa, Chennai, Guarulhos and Kalyan). It was found that the type of city (political capital, second tier city, satellite city), as well as its geographical location, do indeed influence the risks a given city faces and can define its relative vulnerability. In the case of Kalyan, described as a fringe city,⁸⁰ its proximity to Mumbai and its co-evolution within the metropolitan region certainly influence its exposure to environmental externalities and risks. Serving in part as a bedroom community for Mumbai, Kalyan has experienced very rapid demographic growth and faces challenges to meet basic services and ensure broadly consistent service levels across urban space. The decision to build a large-scale water supply and treatment facility, which was the object of the Work Package 2 case study, must be understood within this larger context. Although there can be no doubt that the municipality will benefit, and save money, the megaproject also introduces risks because of the limited administrative and technical capacity of the municipality. The municipality was heavily dependent on private contractors to prepare detailed plans for the project. And more striking, the municipality depended on private companies to organise consultation with the residents and civil society organisations, in order to define priorities for urban development, in the framework of the City Development Plan. In order to avail of funding from the national urban renewal mission (JNNURM), "people's participation" was required, so the municipality delegated this "task" to the private consultants, who had been hired to coordinate the City Development Plan. The local government's lack of implication in what appears to be a basic practice of local democracy is indicative of prevailing governance patterns in India, most notably in secondary cities and small towns, but also to some degree in metropolitan cities

too. Although there is existing knowledge within the municipality, (and within the water department regarding the megaproject), the municipality lacked the capacity necessary for meeting the specific technical formats, as well as the governance formats, required by national and metropolitan agencies for the project and more broadly for the City Development Plan. Reliance on outside expertise, whether from higher levels of the administration (MMRDA) or from private companies, has diminished transparency and perhaps more importantly the accountability of local government, contributing to a lack of "ownership", both of the project and the vision document. This resonates strongly with the Arequipa case, discussed above, and suggests that secondary cities may be especially vulnerable to such risks.

The study of Chennai, a large metropolitan city and the capital of a large Indian state, yielded similar findings with regard to local government capacity. In the metropolitan region of Chennai, water supply and sanitation are the responsibility of parastatal agencies (Metro Water, and the Tamil Nadu Water and Drainage Board) that answer to the provincial government. The studies carried out in the framework of Work Package 4 focused on the area encompassing the IT Corridor,⁸¹ which straddles the municipal boundary. These studies provided important insights into how MPs influence environmental risks. It was seen for instance that planning for the IT Corridor did not take into consideration the specific features of the coastal environment (exposure to flooding, natural risks like tsunami, seawater intrusion, etc.), nor the fragile wetland system. The IT Corridor and related development of the built environment, in the form of large-scale office buildings and residential complexes, have dramatically increased environmental risks. The depletion of underground water resources (through excessive pumping) and the inability of the government to provide networked water on a regular basis to the area's growing population have introduced new risks, or exacerbated existing ones, that are unevenly spread across social groups; low income groups are required to pay a larger proportion of their income to meet their water needs. But companies themselves undergo negative externalities as the need to buy water increases their exploitation costs, which diminishes the geo-locational advantages of the cluster (see Photo 8). Externalities like the loss of wildlife habitat and unique ecosystems as a

79 For more information, see the Work Package 3 thematic report: "Analysing policies and politics to address upgrading of sub-standard settlements in metropolitan areas – Cases from Brazil, India, Peru and South Africa".

80 See the City Report: Isa Baud et al (2013), The Development of Kalyan Dombivili ; Fringe City in a Metropolitan Region. <http://chance2sustain.eu/59.0.html>

81 See Roumeau, Samuel. 2012. "The Challenges of Water Governance to Build Resilient Cities: The Case Study of the It Corridor in Chennai, India". *Fieldwork Report, Chance2Sustain Project* ; Seifelislam, Aicha "A rapid assessment of the impact of wetland's degradation on groundwater resources in the fast growing city Chennai", Report for the European Programme Chance2Sustain.



result of encroachment on the Pallikanarai marshlands and water and air pollution, also generate costs, which have not been taken into consideration in developing the IT Expressway (see Photo 9).

In the case of the KSIA-DTP in Durban a key feature of the institutional conflict between the Ethekewini Municipality and Dube TradePort Corporation over the development was the debate about water and sanitation infrastructure. With the project being at the outer edge of the Municipality's service networks, the cost of bulk provision to the area was deemed a major challenge. The DTP team argued for delivery of infrastructure ahead of projected development demand, whilst the Municipality claimed this would not be feasible as income streams to pay for related project borrowing would be very slow to be realised and would require a reduced attention to infrastructure needs elsewhere in the city. Ultimately, the only way the Municipality could conceive of making the delivery of bulks to the site was to enable a substantial increase in the amount of private development in the area to try and connect in more paying customers. Although the Municipality did approve considerable infrastructure investments to the site for potable water, sanitation developments have been significantly delayed by major problems associated with sewer treatment investments, given that existing watercourses are already severely stressed and unable to absorb anything but fully treated water. This remains a major point of contestation between the DTP and the Municipality alongside environmental regulations preventing development of some of the most commercially attractive portions of the DTP site. It is worth noting that these very same regulations have seen the DTP and the Airports Company of South Africa (ACSA) having to invest in major remedial works on local watercourses and areas of sensitive bio-diversity amounting to around 500 hectares. These rehabilitation commitments have placed a significant burden on the developers and stand out as notable in a context where many other MPs manage to bypass environmental sustainability obligations.

Engaging with spatial knowledge management (Work Package 2 - 5)

It was observed that MP development relies largely on formal or expert knowledge, at various scales of analysis (see Table 1 for a summary of knowledge exchange in MP development in a selection of case studies). The significance of traveling concepts and policy models was discussed above; decision-makers learn about MP "models" (river front development, transport infrastructure, mixed use public spaces, etc.) through transnational policy networks and international development agencies, which are

informed through both practitioner and academic sources of knowledge and understanding. The dissemination of the "global city" concept is a case in point. Likewise, London's docklands and Baltimore's revitalization initiatives became internationally recognised and lionised examples of how urban megaprojects can bring "success" to cities in the form of economic growth or prestige, for instance, through iconic architecture. In the case of Rio, Barcelona has been held up as an example to emulate, a "successful" model of how to use a mega-event (1992 Olympic Games) as a catalyst for large-scale urban redevelopment.

The choice of MP that is ultimately selected depends on the dominant city vision, which may or may not be explicitly articulated, and is a reflection of the power relations of various stakeholders within the governing regime.⁸² The projects themselves rely heavily on expert knowledge for structural design as well as for design of the financial package, which are complex and controversial. And "technical knowledge" is not politically neutral; depending on who is producing it and under which conditions, it can defend the interests of one set of stakeholders over those of another.⁸³ Our cases show that very rarely are other types of knowledge (e.g., community-based knowledge) integrated into planning documents. However, when MPs are contested, for instance between two levels of government, or when civil society groups mobilise to oppose them, there is potential for new knowledge to be both generated (for instance, to counter the knowledge presented by the project promoter) and exchanged, within existing networks or between the opposing groups. Competing visions of urban development are represented and defended during the confrontation process, but whether the confrontation leads to a public debate, or to a modification of the original project, with an integration of opposing views/representations/knowledge, depends on the dominant governance patterns in each case. An analysis of the plans and discourses constructed by the multiple actors involved in the KSIA-DTP project in Durban show how they reflect the struggle of competing goals in a mixed-use megaproject that is required to meet pro-growth and pro-poor imperatives.⁸⁴

82 See the Work Package 5 Thematic report, on City visioning.

83 In the Arequipa case, where the construction of water treatment plants was in the hands of a private mining company, SMCV, hired consultants produced technical knowledge that was consistent with the company's water interests.

84 See also the analysis of the Cornubia project: Catherine Sutherland, Vicky Sim and Dianne Scott, "Contested discourses of a mixed-use megaproject: Cornubia, Durban", *Habitat International*, forthcoming.

Photo 8: Tanker inside Ascendas Tech Park, IT Corridor, Chennai, November 2011 (A. Varrel)



Photo 9: Sewage water inflow to the Pallikaranai Marshland, Chennai, 2013 (A. Seifelislam)



MPs typically generate spatial data in relation to the design and planning of the project. In some cases, this spatial data is made public, but it is not systematically the case. Also making information public is not equivalent to conducting a “consultation” process where input is invited from the general public *before* the project is finalised, with a view to integrating it into the project plan.

In South Africa, legislation requires local development plans to include a public consultation process both for land-use planning and for environmental approval. In the case of the KSIA-DTP project the required institutional consultation processes did take place under the format of the Environmental Impact Assessment (EIA). This involved the project proposers having to make available a wide range of information, and conduct independent expert studies and a series of public meetings where different aspects of the project were discussed. This process revealed that there were some very organised local groups – such as a bird interest group – who used their own extensive knowledge of the area to influence a variety of aspects of the development, including approved flight paths and development footprints. Representation of local communities tended to take place through political representatives and focused quite heavily on calls for the creation of low-skilled jobs and enhancements to amenities in surrounding areas. However, as is often the case, these social claims tended to capture little interest in the core EIA process, with the result that this aspect of local knowledge largely fell on deaf ears – not just of the project promoters, but also of Municipal officials, as is revealed in the Work Package 3 case study from Durban.

At a more general level, the deployment of futuristic developer mock-ups and the “aerotropolis” concept images were also a key feature of efforts to secure buy-in from actors around the development concept of the KSIA-DTP (see Photo 10). This knowledge was reinforced by regular trips taken by decision makers and those the project promoters wanted to influence to various other airport-intensive development projects around the world. However, local participatory processes to draw in a variety of local knowledge sources about the existing spaces and people’s future expectations for the space were not promoted. As with Municipal spatial planning, the tendency was to encourage irregular forms of invited participation to comment on expert knowledge in spatial planning undertakings.

The IT Shastri Park in Delhi provided evidence of how little effort was made by the implementing agency, the DMRC, to inform communities living in close proximity to the project about planned developments.⁸⁵ Local residents have been left completely in the dark about the exact location of the project boundary, and about the time schedule for various extension phases.

In the case of Lima, discussed above, the “private initiative” framework for infrastructure development allows promoters to keep project information secret, so as not to infringe on the rights of private companies, and disrupt the tendering process. But this confidentiality in fact prevents elected municipal councillors from taking full cognisance of the project details, which they would presumably need to make an informed decision. As for the affected communities, they were not consulted nor informed in any formal way about the initial project, *Línea Amarilla Project*. Compensation schemes for affected households were included in the project design, but were considered by residents as insufficient for buying alternative housing, and importantly, the compensation modalities were different for tenants and holders of a legal property title. The latter were to be compensated with 200 USD per m² for built area and 70 USD per m² for non-built area. Residents without a title, a majority of those concerned, were to be compensated for their plot with a one-time payment of USD 5000. In this context, local communities mobilised to contest the project, which led to the project being delayed. Later, after municipal elections returned a new ruling party, the contract was renegotiated and the new project, renamed “Vía Parque Rímac”, reduced the number of affected families by modifying the original roadway, and improved the economic conditions of the compensation scheme. All residents would be compensated with a minimum of USD 30,000 for each dwelling and the amount of compensation would be calculated by a valuation of the dwelling’s market price.⁸⁶

85 See Bérénice Bon, “The Delhi Metro, a New Megaproject Model and a new funding model. Traveling concepts and local adaptation in Delhi”. *Habitat International*, forthcoming.

86 However, the reallocation scheme offered to the affected households did not improve. As under the previous administration, the project offered a housing unit of 60 m² in an apartment block built by the concessionaire. Cf. Strauch et al. forthcoming.

Photo 10: Marketing the aerotropolis concept, Business in Durban magazine.



Relating the politics of megaprojects to fiscal decentralisation and participatory governance patterns (Work Package 2 - 6)

How do we characterise the politics of urban megaprojects to governance patterns and in terms of participation in municipal processes? The politics of urban megaproject development has been a central component of the research carried out under Work Package 2, and our analyses have constantly focused on understanding how MPs reflect governance arrangements and power relations (see section II above). Some elements from our findings are briefly highlighted here.

The literature underscores the fact that megaprojects usually involve “exceptional” forms of governance, and do not go through the normal channels, and we saw evidence of this in our case studies. The scale of the projects, their huge costs and their long gestation periods are all factors that contribute to explaining why customized, “special purpose” mechanisms are usually devised to implement them.

Our research indicates that MPs are not insulated from local politics, leading us to question whether they are perhaps less insulated than in the North. In most of our cases, there *is* agency for political actors to accommodate changes in the course of the project. Lima is a notable exception, the Mayor could not break the contract engaged by the previous regime, although she hoped to do so when her party was elected to office. However, as mentioned above, the new government was able to renegotiate the contract, improving notably the compensation scheme, albeit in exchange for a longer concession period.⁸⁷

Our findings suggest that local governance arrangements or power configurations tend to be less stable than what is suggested in the “urban regime” literature, linked perhaps to institutional/governance reforms that have occurred over the last few decades. It is precisely because there is an absence of such regimes, which ensure a degree of stability, that projects can not be fully insulated from politics; elected politicians have a short timeframe in which to show results, necessary for their re-election. If there is popular unrest, they must be able to adapt. Likewise, project promoters have to build new coalitions to weather the political cycles, as well as adverse business cycles, which can take place through new “packaging” or framing. For instance, in

Durban, initially the new airport was justified as necessary was for accommodating tourists (starting with the FIFA World Cup in 2010), then the argument changed to both tourism *and* export promotion. In Salvador, authorities and project promoters are leveraging the World Cup and the 2016 Olympics to pursue urban redevelopment projects, elements of which had been discussed for decades. In the case of Lima, in response to popular opposition to certain aspects of the project for an expressway to the airport, a new plan was devised that includes green spaces and in-situ improvements (as well as a better deal for evicted residents) (see Photo 11). In Cape Town, N2Gateway underwent some “repackaging” keeping in mind the tourist industry, which is critical for driving the local economy.

In the case of Chennai, a downsized version of the initial project was finally completed almost ten years after its launch. At the same time, a second phase has already been announced, and work started, for a much longer road (by three times) but one that is technically less ambitious.

Megaprojects tend to involve the mobilisation of fiscal resources from a variety of sources. Even those that might be driven by the private sector are likely to involve resources from the public sector – either directly or indirectly in terms of connecting services and supporting infrastructure. The Work Package 6 element of the Chance2Sustain project revealed a trend for growing fiscal decentralisation across the countries in which the project cities are located. Although the extent of this varied from country to country, the broad tendency has been for city level governments to have greater authority over their fiscal processes as well as having a growth in flows of funds for specific forms of urban expenditure from the national/federal or provincial/state level⁸⁸. This has opened up avenues for scaled up forms of expenditure on city projects with bolder local governments exercising their growing decision-making power and/or other spheres of government and their agencies committing to significant local impact projects with an eye on regional or national benefits. The experience of cities in terms of the details of fiscal governance arrangements varies but the trend is one that also enables (or compels) local governments to expose themselves to new financing instruments such as bond issues or loans in support of local development needs. In some cases, because of very low budget and project finance capacities e.g., in Peru, the only option for developing large-scale urban projects is through PPP and with the increasing presence of private experts and operators.

87 As mentioned above, the official reason for the extension of the concession is additional infrastructure investments borne by the private firm.

88 See the Work Package 6 thematic report available on the Chance2sustain website for more details.

Photo 11: Construction work on the Via Parque Rímac, Lima.



Source: <http://www.caretas.com.pe>, July 2012

These processes have brought with them complex governance challenges, some of which can open opportunities for more participatory forms of municipal governance; in some cases, they have opened opportunities for resource capture by elites. The “private initiative” and concessions framework at the core of the Lima roadway project, engineered nationally but with very local consequences, and the N2 Gateway project with its on-going contestation over the project governance arrangements between different spheres of the state both

point to some of the challenges that come with this state of flux in fiscal processes.

Lastly, it should be noted in this context that MPs potentially expose the local state to financial risk should projects fail. In South Africa, for example, the development of stadiums for the 2010 FIFA World Cup has generated demands on host cities to allocate operating subsidies, as the stadiums struggle to make sufficient revenue to cover costs.

Appendix

Table 1: Knowledge (KNW) exchange in MP development. Work Package 2 - 5 linkages in a selection of Work Package 2 case studies

Location, name of project, and builder	Sourcing of knowledge (types, origins)	Exchange of knowledge (modalities, integration of forms of non-expert knowledge, ...)	Contestation (actors involved, types of knowledge mobilised, modalities of exchange)
PERU			
<p>Arequipa</p> <p>Water and Sanitation System (drinking water & wastewater treatment plants (250 m€)</p> <p>Built & managed by a MNC mining company, Sociedad Minera Cerro Verde (SMCV).</p>	<p>Expert KNW sourced from international consultants (Germany, Israel). Legal and fiscal KNW about tax exemptions for reinvestment of profits. Local forms of KNW about land use (incl. agriculture & protection of landscapes).</p>	<p>Dialogue among expert groups (consultants) about plant design, and with local authorities ; exchange and negotiation between SMCV and political authorities & public about location of treatment plants, with compromise agreement. Support by Architects and Engineers Professional Bodies to Uchumayo community on its opposition to the construction of plant in "Fundo Los Hurtado".</p>	<p>Contestation by CSOs and by local authorities, together and separately, vis-à-vis SMCV over tax exoneration, location of treatment plants, obligations to "pay back" and compensate (moral KNW). Repression of protest; appeal by protestors and local authorities to higher political levels; intermediary consultation process with local communities to obtain "Social License" for the project (rejected); dialogue and partial integration of local forms of knowledge (land use); final agreement between SMCV to fund the treatment plant, within their site, does not include community participation.</p>
<p>Lima</p> <p>Linea Amarilla – Via Parque Rímac</p> <p>Built and managed by OAS-INVEPAR (Brazilian construction company and infrastructure operator).</p>	<p>Expert KNW sourced from the transnational infrastructure operator that worked in close relationship to the PPP unit of the Metropolitan Municipality (GPIP).</p> <p>Previous urban development KNW reflected in urban and transport plans.</p>	<p>Limited KNW exchange between technical (consultants), political (councillors) and social (CBOs) actors related to the project layout and social and financial/economic effects. Non-expert KNW forms systematically rejected.</p> <p>Enforceable urban and transport plans have not been followed or discussed.</p>	<p>Contestation by CSOs related to the project layout and compensation scheme supported by the current mayor when candidate.</p> <p>Legal and technical KNW (related to property appraisals and expropriation laws) mobilized in rather individual and ineffective manners.</p> <p>Social unrest remains the most effective mechanism for collective action.</p>

Location, name of project, and builder	Sourcing of knowledge (types, origins)	Exchange of knowledge (modalities, integration of forms of non-expert knowledge, ...)	Contestation (actors involved, types of knowledge mobilised, modalities of exchange)
INDIA			
<p>Chennai</p> <p>Expressway & IT Corridor</p> <p>Built and managed by Tamil Nadu Road Development Corporation, a parastatal agency of the Government of Tamil Nadu.</p> <p>Cost: 450 crores rupees = app. 80 million euros (2012)</p>	<p>Expert KNW, internal to Govt of Tamil Nadu agencies and officers.</p> <p>Expert reports by international consultancy firms.</p>	<p>Top down process. Exclusion of alternative voices and KNW (NGO EIA dismissed).</p> <p>Local consultations including only local politicians, mere token exercises.</p>	<p>Little contestation.</p> <p>Contestation diluted by the scale of the project (40 localities) and institutional fragmentation (across limits of the municipal body).</p> <p>Local contestation partly anticipated and avoided by inclusion in the project of potential contentious points turned into highly symbolic gestures of goodwill: construction of commercial centres for displaced shopkeepers, relocation of religious buildings, revamping of school.</p> <p>Occasional demonstrations by limited groups of users of the road (commuters, local inhabitants): accommodated through cuts in the toll fees.</p>
<p>Delhi</p> <p>Shastri Park Metro Depot & IT Park on the river Yamuna banks</p>	<p>Technical engineering knowledge from engineers of the Indian Railways. Expert knowledge from the principal consultants of the megaproject: one indian engineering consultancy company under the aegis of the Indian Railways (RITES), two japanese engineering firms (Japan Railway Technical Services and Tonichi Engineering consultants), and one multinational engineering and design firm (Parsons Brinckerhoff).</p>	<p>Dialogue among engineering experts and the Delhi Department Industry to plan an IT Park instead of a large-scale residential project (because of no takers for the first bid). Preparation of a Concept Plan with only technical parameters. Building Plans prepared by an engineering private firm (Larsen & Toubro) who won the second bid. Environmental Impact Assessment for the IT Park prepared by RITES after the construction of the IT Park. Interaction with the Delhi Planning Authority through the use of technical parameters and the approvals (controversies about the extension of the project and the Floor Area Ratio). The Land use was changed after the construction of the project. The Yamuna Standing Committee delivered approvals in an ad hoc manner: first it advised the DMRC not to construct a depot, then only a depot but 'no further developmental activities', then the IT Park as a 'special case', and lastly permitted the proposal to increase the IT Park but with a condition, the intervention of the judiciary: the approval of the High Court of Delhi. Recently Fairwood Consultants (England) won the bid for a recreational park within the project boundary.</p>	<p>Contestation between the two parastatal agencies the DDA and the DMRC but through the use of technical parameters and approvals (very few meetings, and according to then it can not be qualified as a process of interaction and negotiation to find compromises; and for this project, only very few maps (which represent the delimited area of each component of the megaproject, not for instance the environment, the adjacent residential colonies). Buildings maps to represent only the technical parameters (FAR, entry and exit)). Contestation of NGOs through judicial tools (Public Interest Litigation), and obtain information through the use of the Right To Information Act but it does not impact the project. Strong mobilisation of powerful political actors, MLAs (hunger strike on the project site to modify the project boundary, intervention of the police and the Chief Minister. The boundary was redefined). Episodically the MLAs assure to channel the contestation of the local leaders of the adjacent residential areas (on water pollution, road widening etc...).</p>

Location, name of project, and builder	Sourcing of knowledge (types, origins)	Exchange of knowledge (modalities, integration of forms of non-expert knowledge, ...)	Contestation (actors involved, types of knowledge mobilised, modalities of exchange)
SOUTH AFRICA			
Durban King Shaka Airport and Dube TradePort	3 types of KNW: Economic policy frameworks promoting economic openness and export orientation ("Washington Consensus"); Developmental role of the state as lead actor in economic infrastructure development (influenced by Asian developmental states, especially China); Role of airport cities (<i>aerotropolis</i>) in new era of cities in the global economy (Dubai, Austin Texas, Schiphol).	Expert-based dialogue together with extensive use of global and domestic consultant advisors. Further supplemented by use of field trips for decision makers to see possible best-practice cases around the world. Use of political channels to align institutional decision makers.	Competing views of city development between KSIA-DTP promoters, major private sector land-owners and the Municipality. Promoters combine <u>consultant technical KNW</u> with effective use of <u>political influence</u> at the highest level to secure decision in favour of airport development. Major private land owner in vicinity of airport actively works to secure development approvals of its land holdings to avoid being "out-supplied" by Dube TradePort – including entering partnership with Municipality to develop portions of northern land for low cost housing in exchange for development rights. Municipality uses <u>expert regulatory KNW</u> and control over local infrastructure spending to influence development activities. All 3 actors develop competing views of spatial development framework for the area as basis for institutional interaction. Community groups and <u>community KNW</u> largely excluded in these processes apart from some limited formal engagement in Environmental Impact Assessment process. Some success of local community groups concerned with bio-diversity in influencing flight paths to avoid nesting areas for birds and to require rehabilitation of degraded water courses etc.
Cape Town N2 Gateway & housing project	Mainly technical KNW used for a formal housing development plan. Political and network KNW instrumental for the project's protagonists in order to bypass municipal processes and community consultation.	Community KNW not included in planning phase, only on a consultation basis in the implementation phase. Only certain community representatives viewed as legitimate, other groups have been deemed to have unrealistic demands insufficient understanding.	Contestation has gone through several phases, but demands for co-determination, inclusion of community KNW, access to information and transparency have been recurring themes. Legal NGOs and other supportive organisations have contributed to a "expertification of lay activists", and have generated KNW by conducting enumerations to challenge aerial photo shack counts by government agencies.



Location, name of project, and builder	Sourcing of knowledge (types, origins)	Exchange of knowledge (modalities, integration of forms of non-expert knowledge, ...)	Contestation (actors involved, types of knowledge mobilised, modalities of exchange)
BRAZIL			
<p>Rio</p> <p>Porto Maravilha (PPM)</p> <p>Highways and major infrastructure is being built by Porto Novo Consortium (CPN), formed by 3 firms: OAS, Odebrecht and Carioca Engenharia. CPN began operations in June 2011.</p>	<p>Broad context from 1990s: local government has used KNW from business administration in its municipal management practices (urban entrepreneurialism). The city used mainly expert KNW in strategic planning (e.g., Catalan Consultancy firm).</p> <p>At macro level, Keynesian economic theory is the basis for launching a policy in favour of large-scale construction activity (<i>Minha Casa Minha Vida</i>), to counteract recessionary forces.</p>	<p>Evidence of travelling concepts in urban policies, such as “zero tolerance” policy from New York City; also KNW about organising mega-events was based on international “best practices”;</p> <p>Private construction firms have strong political influence; KNW from private firms informs urban policy: CPN presented an urban development report to the city council, which was later adopted.</p> <p>Lack of local, community-based KNW in designing PPM – e.g., residents’ needs were not taken into consideration in the design of public transport.</p>	<p>Contestation by CSOs and by local authorities, together and separately, vis-à-vis SMCV over tax exoneration, location of treatment plants, obligations to “pay back” and compensate (moral KNW). Repression of protest; appeal by protestors and local authorities to higher political levels; intermediary consultation process with local communities to obtain “Social License” for the project (rejected); dialogue and partial integration of local forms of knowledge (land use); final agreement between SMCV to fund the treatment plant, within their site, does not include community participation.</p>

Source: authors

Table 2: Types of megaprojects

Location and name of project	Infrastructure for basic services (water, housing)	Economic development	Transport (road, metro, airport, seaport)	Urban redevelopment
PERU				
Arequipa Water and Sanitation System	■			
Lima Linea Amarilla – Via Parque Rímac			■	□
INDIA				
Chennai Expressway & IT Corridor		■	□	
Delhi Shastri Park Metro Station & Depot		□	■	
Kalyan Water Supply and Treatment	■			
SOUTH AFRICA				
Durban King Shaka Airport and Dube TradePort		■	□	
Cape Town N2 Gateway & housing project	■		□	
BRAZIL				
Rio Porto Maravilha		□		■
Salvador Historic Centre				■
Guarulhos Tiête Park	■		□	

■ = dominant purpose; □ = secondary purpose

Source: authors



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