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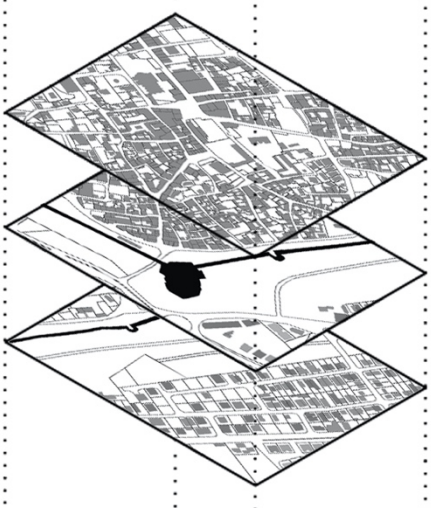

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In this issue:

Matthew Carmona
Ruşen Keleş
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Vítor Oliveira
Glafkos Constantinides

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Design Governance
Urban Growth
Urban Megraprojects
Town-Plan
Land Readjustment

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Corresponding address:
Journal of Urban Research and Development
Eastern Mediterranean University
Famagusta, Northern Cyprus
(Via Mersin 10 - Turkey), 99450
Phone : +90 392 630 2588
Fax : +90 392 630 2865
E-mail : jurd@emu.edu.tr or sebnem.hoskara@emu.edu.tr
Website: : https://ojs.emu.edu.tr/index.php/jurd/index

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Aminreza Iranmanesh

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Editorial

The Need for a New Journal

In one of his leading publications '*Urbanisme*', Le Corbusier criticizes the twentieth-century city punitively stating that 'the city is crumbling, it cannot last much longer, its time is past. It is too old. It is something utterly abnormal grows day by day. Everything is changed, the norm of our existence is completely demolished and reversed', which clearly expresses his concerns for the industrialized and urbanized cities of the time. Undoubtedly, his apprehensions were built on emerging cases such as the United States which attracted more than 25 million immigrants from 1870 and 1920 –a considerable amount from Europe, mainly Italy and Eastern Europe. Cities of the time were fostering new kinds of industrial activity on large and small scales providing businessman the capital to industrialize the rest of the United States and create jobs for the growing population. During this period, urbanization spread out into the countryside and up into the sky, in line with the new methods of construction.

Such ideas fed visionary architect and planner Le Corbusier to develop conceptual city plans such as Ville Contemporaine (Contemporary City) for 3 million inhabitants. The theoretical ideas he developed in 1922 emerged as a cluster of X-shaped 60-storey apartment buildings centered around a transportation hub for trains, buses, and airplanes. His main ideas were outlined in Vers Une Architecture (Towards a New Architecture), which was mainly about standards and perfection. He felt that the automobile was a machine created by the goal of the engineer relating to necessities of motion, speed, and comfort, combined with the limitations of industrial production, creating a set of standard elements that with each refinement brought the car closer to perfection. Based on this idea he believed that that "all men have the same needs," and that a house should be "a machine for living."
Le Corbusier applied his idea to different types of structures around the world, including the concrete apartment blocks he built in several cities as a Utopian 'machine' for mass housing. In the 1950s, he was invited to India to plan and construct Chandigarh, the new Indian capital of Punjab which was intended to be a symbol of India's future and its engagement in the modern world. Although the ideas he introduced were visionary and aimed to propose solutions for highly industrialized and urbanized cities, nonetheless he was harshly criticized by critics for alienating people from one another and elevating the car over the human which led to the emergence of postmodern thought prioritizing the needs of people.

After a century, the city is still valued as a resource of economic activity, yet what has changed is the way economic commotion is delivered, where heavy industrial activities gradually left their place to new industries involving the diffusion of knowledge and technological innovation. However, despite their importance, cities are still under increasing pressure on a number of fronts such as rapid growth in urban population leading to major infrastructure problems and strains over natural resources. These pressing issues have put the environmental pollution and degradation matters to the fore of local and central administrations as well as national and supranational institutions in the last few decades specifically in Europe. Other issues facing cities in these regions include public health, safety and the challenges of an aging society. To tackle these disputes in the city and remain economically successful and attractive to citizens, many cities are investing in smart city projects to improve efficiency, manage complexity, and enhance the quality of life for their citizens.

Meanwhile, there is more than a billion homeless in the world cities who needs to reside in slums and unhealthy environmental conditions without any right to secure tenure. Lack of affordable housing is also an emerging urban issue in our cities.

On the other end of the scale there are American cities facing with communal violence based on racisim and mob wars where as some Middle East cities experience

physical and social division and boundaries as well as contested spaces based on conflicting interests of various political groups.

Accordingly, we believe that this is where *Journal of Urban Research and Development (JURD)* opens a discussion ground for tackling urban issues at a global level as well as a regional level. We may argue that, there is definite evidence of an interest in urbanism, urban development, urban form, urban planning and urban design, especially after Covid-19, not only in academia but also within the professional life including various disciplines related to environment and public life. Thus, *JURD* aims to add richness to "research" on and "practice" in urban related issues within the five key disciplines – regional planning, urban planning, urban design, architecture, cultural heritage conservation and management – that address planning and design of the natural and built environments with an interdisciplinary approach, both globally and locally. Both researchers and professionals in these disciplines have the option, if not the directive, to consider environmental, social, and economic issues in their efforts. As such, these industries can obviously contribute to sustainable development, and particularly, assist in achieving the Sustainable Development Goals (SDGs) that were set out by the United Nations in 2015. The United Nation's 17 SDGs and their 169 integrated targets are part of an agenda to "stimulate action ... in areas of critical importance for humanity and the planet" (United Nations, 2015, p. 1). In addition to many other urban-related issues, the potential work to be published in this journal, will also contribute to the debate on SDGs and their future success or failure.

We hope that you enjoy the first issue of *Journal of Urban Research and Development (JURD)* and that you find the Journal both inspiring and effective. In order to develop a network and a forum for debate and discussion on urbanism and on all urban related issues, varying from city scale to placemaking, we would like to invite you to contribute to the future issues of the *JURD* with your research.

Editors
Journal of Urban Research and Development (JURD)
Eastern Mediterranean University
Urban Research and Development Center

Design Governance: Making Planning Proactive Again

Matthew Carmona

The Bartlett School of Planning, Faculty of the Built Environment, University College London, UK
Email: *m.carmona@ucl.ac.uk*

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Abstract

This article explores the governance of design, using the experiences of planning for better design in England over the last 25 years to examine some fundamental challenges effecting state-led involvement in the design of development. These challenges are global in their relevance, as are the sorts of tools that governments have at their disposal to deal with them; and so this article next sets out the full design governance toolbox available to planners and others charged with the delivery of this agenda. Finally, drawing on the British experience, the article sets out an argument for a return to more propositional tools of design governance. It argues in particular that if we are to set out a positive and sustainable vision for the future of our cities, then (in the West) we need to move back to a more proactive – design-led – form of planning once again.

Keywords

Borders, University Campus, Network Analysis, Gated Space.

Design Governance: Making Planning Proactive Again

A century ago planning was largely a physical preoccupation, with architects (the master) producing grand visions for cities and neighbourhoods (master planning) that were then implemented often with little political discussion and certainly no citizen engagement in those plans. Whilst this very narrow and top down type of planning went out of fashion (indeed was discredited) in Western countries many decades ago, this article argues that in the face of on-going development pressures there is a need to remember some of this early vision, and to make planning proactive once again. This design dimension of planning requires that planners do more than simply allocate sites, write policies, and regulate development, it requires that they bring forward positive visions for change. This article discusses some of the conundrums associated with such an approach and considers the best tools to improve practice in the future.

A Bumpy Road

In the UK, as elsewhere in the West, planning has been on a journey. From its beginnings as a physical subject, by the 1960s and 1970s it had completely rejected such approaches in favour of systems thinking in which cities and regions were seen as a series of overlapping social and economic systems that could be tweaked through policy in order to manage growth or decline. By this time few planners were receiving any design training as part of their university education and the professions of architecture and planning increasingly took divergent paths with disastrous consequences: planning was increasingly divorced from a place

perspective and from a sense of its ultimate impact on the built and natural environment, whilst architecture was increasingly divorced from any serious engagement with the social and economic consequences of design.

Whilst other countries either never lost the physical tradition in the first place (e.g. China) or recovered their confidence more quickly and by the 1980s began to systematically address issues of physical planning alongside their social, economic and environmental aspirations (notably parts of Continental Europe), in the UK it took a little longer. Indeed, up until the mid-1990s an unwarranted nervousness persisted within Government over conflating design with planning at all, reinforced in the 1980s by a strong concern to avoid what was seen as undue interference in the market (a perspective that has returned to some degree in the austerity years following the financial crash of 2008).

A first toe back in the water was the commissioning by Government in 1993 of research that eventually led to the publication of the book 'The Design Dimension of Planning' (Punter & Carmona 1997). The 'Pink book', as my co-author Professor John Punter, (commenting on my design for the front cover – Figure 1) christened it, argued: first, for the central role of design within the planning system; and second, that this should begin with the comprehensive treatment of design within the new generation of statutory local development plans that local authorities were required to produce across England and Wales. In other words, in planning policy. Today, while I still hold to the first of these principles, I am now far less convinced about the second, precisely because abstract policy can never be a substitute for truly proactive planning that more clearly defines aspirations for how places should be. At the time, however, we argued that design policies within development plans had the potential to:

- Establish and articulate the spatial vision of the plan
- Reflect the design aspirations of the local community and other stakeholders
- Guide the 'process' of design as well as the outcomes
- Give designers, developers and the community greater certainty
- Move beyond a narrow aesthetic to a more fundamental place-making view of design
- Deliver a more positive, enabling and even visionary planning process

During the 1990s and into the 2000s, Government gradually warmed up to the idea of design quality as a political objective, and national policy in Scotland and then in England (and a little later in other parts of the UK) caught up with what we were advocating, moving from a prohibitive to a permissive environment as far as the treatment of design through the planning system was concerned. Indeed, following the creation of the Commission for Architecture & the Built Environment (CABE) in 1999 as a body dedicated to moving the national culture away from a 'development at any costs' model to one based on adding value through design, for a time the national policy environment exceeded even our wildest dreams of what might be possible (Carmona et al 2017)'. That was until the financial crisis of 2008 hit, leading to the eventual demise of CABE, retreat of government from engaging with design, a dramatic hollowing out of design skills within local authorities as discretionary activities were quickly cut, and a growing obsession with the quantity of development above all else, and certainly above its quality. Planning in England, perhaps more than any other policy arena and more so than other parts of the UK (which retained their equivalents of CABE), is and remains a roller-coaster. Nowhere more so than as it relates to design.

So with all this going on, was our faith in the potential of the statutory development plan to establish and deliver a clear local design vision and agenda justified? Before we get to that, first it is worth considering some of the key themes and problematics associated with any attempt to engage in design, whether in England, elsewhere in the UK, or overseas.

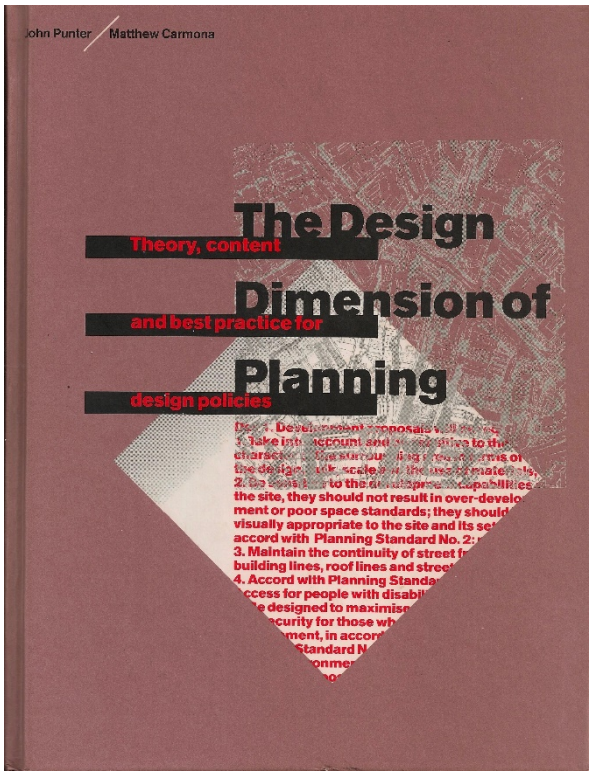

Figure 1. The 'Pink Book'

The Problem with Design Governance

"It seems that whatever the system, whatever the governance, no matter what our rules and regulations, however we organise our professions, and no matter what our histories, placeless design seems to be the inevitable consequence of development processes outside our historic city centres. Moreover, this is despite the ubiquitous condemnation of such environments as sub-standard by almost every built environment professional you ever meet" (Carmona 2010a)

This was the somewhat damming conclusion from a European research project that focussed on the governance of design beyond the continent's historic city centres. So what do the various systems investigate (and many more beyond Europe) have in common? One thing is a crude love of standards and regulations as a substitute for design: parking standards, highways regulations, zoning controls, density guidelines, health and safety regulations, construction codes and the like. Typically, these are: limited in their scope; technical in their aspiration; not generated out of a place-based vision; and imposed on projects without regard to outcomes. Nobody is consciously designing the places that emerge – just the parts: a housing estate, a road, a cycle track, some signage, etc. etc. In a neo-liberal world where the unskilled application of such standards is all there is to safeguard the public interest, the danger is that the work of unscrupulous private developers will largely go unchecked, whilst the work of enlightened developers will be needlessly and crudely undermined.

All this raises the thorny question of design quality, and what we mean by it? 'Design quality' means different things to different actors and there is often little consensus on the scope of design in the built environment (from a narrow aesthetic perspective to a broad holistic view of place), let alone what, in any given circumstance, qualifies as 'good' or 'bad' quality design (Carmona 2016). The endless circular debates that characterise so many of the exchanges between traditionalists and modernists within the architecture profession represent a case-in-point.

Like other aspects of planning, processes of design governance ultimately restrict private property rights, and those who perceive their freedom to design to be most directly affected – typically designers and developers – often resist such intervention the hardest (Walters 2007: 132-133). For their part, planners have not always had the confidence and training to define and deliver a positive public design agenda. As one commentator on the state of British planning recently complained: "Vision is something that your average planner simply does not have … Hence noddy box / upvc heaven from one end of the country to the other" (Bellay 2013).

Despite this (perhaps because of it), public authorities (including but not limited to planning authorities) have typically been highly adept at applying the sorts of 'technical' standards and regulations previously referred to. The question then arises, might it be possible to raise the general standard and expectations in order to focus mainstream efforts more concertedly on higher order principles, those associated with the making of coherent, sustainable, equitable and life-affirming places? This is the design governance conundrum: Can state intervention in processes of designing the built environment positively shape design processes and outcomes, and if so, how? There are certainly plenty of good examples where this has occurred, almost always defined by the public sector playing a far more proactive role in shaping the built environment (Figure 2).

Figure 2. Birmingham, the team working on the centre of the city from the late 1980s onwards transformed it from vehicle to people dominated space (Matthew Carmona)

The Design Governance Conundrum

Here we need to be careful. More public intervention might seem to be the most appropriate response to poor place-making (correcting the market failure), but the presumption that more design regulation will, if so facto, lead to better design must be treated with caution:

- In some places there may be no market failure, but instead a failure in governance or regulation
- Sometimes the solution may be worse than the problem e.g. the creation of a safe street environment but one that no one wishes to inhabit because it is devoid of character.
- Narrow 'conservative' thinking may create barriers to change and innovation in design.

Regulatory economists argue that regulation is inherently costly and inefficient, but difficult to challenge because of what Peter Van Doren (2005: 45; 64) of the right wing CATO Institute calls: 'bootleggers' (special interests who gain from

regulation) and 'Baptists' (those who do not like the behaviour of others and want government to restrict it). Yet even the least regulated places in the developed world impose controls of some sort or other on the use of space. Houston, for example is often identified as the only major US city without zoning controls. But even their ordinances are adopted to alleviate a host of land use problems including banning nuisances, imposing off-street parking, and regulating minimum lot, density and land use requirements. In other words, zoning by other means (Siegan 2005: 227).

Two questions arise from this. First, not 'if', but 'what type of', intervention should occur? Second, at what point will this be most effective? The first question will be determined by the choice of tools available and our ability to use them (and we will come back to that), but taking the second question first; here it is important to make a key conceptual distinction about the role of planning in relation to design, as opposed to private (or public) sector project design.

The when question

George (1997) makes the important distinction between first and second order design processes: "In first-order design, the designer usually has control over, is involved in, or is directly responsible for all design decisions. … Second-order design is appropriate to a situation characterised by distributed decision-making because the design solution is specified at a more abstract level and is, therefore, applicable across a wider range of situations". He argues that most urban design falls into the second category – characterised by distributed decision-making – as opposed to architecture which is typically in the first camp

Design, in the context of planning, needs to deal with shifting and complex economic, social, political, legal and stakeholder environments, and with how places change over very long time horizons. Second-order design is particularly suited to such turbulent decision-making environments because it is more strategic in nature, specifying what is critical to define, and ignoring what is not. The governance of design should therefore be about shaping the decision-making environment within which design decision-making occurs, rather than being concerned with making all of the design decisions.

This in turn should shape an 'opportunity space' within which a creative design and development process can occur (Tiesdell and Adams 2004). In other words, establishing the sorts of key parameters and constraints that are necessary for that process to thrive and deliver 'good design'. It follows that in order to be both influential and impactful on design outcomes (and despite the numerical contradiction), this second-order process needs to come before the act of project design; in other words, first. This may raise alarm bells amongst those seeking to deregulate the development process (as has happened in the UK in recent years), but evidence consistently demonstrates that the increased certainly, coordination and consensus it builds actually helps to streamline the planning process (Carmona & Giordano 2013).

The how question

Onto the question of what type of intervention, in fact there is a sophisticated toolbox available as my own research on the work and impact of the Commission for Architecture & the Built Environment (CABE) has demonstrated (see Carmona et al 2017) (Figure 3). Many of these tools operate outside of formal regulatory processes and within the realm of informal tools of design governance (Carmona 2017). They demonstrate the potential and opportunities available to local planning authorities (and others) to work beyond their statutory powers in order to deliver a positive opportunity space within which places can be successfully shaped. This potentially reverses a situation where planners have over-relied on their regulatory powers and have then faced confrontation and delay, instead of consensus and collaboration.

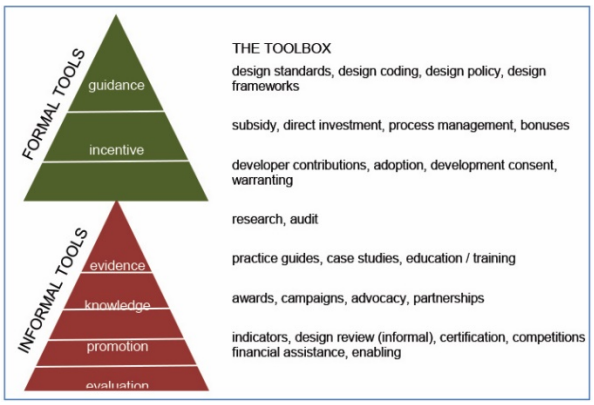

Figure 3. The design governance toolbox

The informal tools can be classified into five categories that move from hands-off and informative to hand-on and proactive, whilst always advisory and never statutory:

- Evidence tools: gather information through focussed research about design and design processes in order to support arguments about the importance of design, underpin advice about what works and what does not, and as a means to monitor progress towards particular policy objectives or to gauge the state of the built environment. This includes large scale audits of particular development types (e.g. housing) or of particular locations such as those undergoing rapid change.

- Knowledge tools: articulate and disseminate knowledge about the nature of successful design, good and poor design practice, and why it matters. This can be expressed through the production of practice guides that focus on particular topics or issues (e.g. design for accessibility), the compilation of published case studies of best practice, and through education and training with a focus on design knowledge and skills (e.g. design training for local politicians involved in making planning decisions)
- Promotion tools: make the case for design quality in a more proactive manner by taking knowledge to key audiences and seeking to package messages in a manner that engages attention, wins over hearts and minds, and exhorts particular behaviours. Promotion initiatives include the introduction of local design awards (e.g. annually or bi-annually for the best developments in a municipality); campaigning around particular issues that undermine environmental quality (e.g. the cumulative impact of minor alterations on local character); advocacy work, engaging particular development partners in a more focussed fashion in order to advance clear design aspirations (e.g. within the local highways authority), and the building of more formal partnerships with like-minded organisations (e.g. developers or housing associations)
- Evaluation tools: allow systematic and objective judgments to be made about the quality of design by parties external to, and therefore detached from, the design process or product being evaluated. These include the use of indicators designed to systemise and structure decision-making processes on design (e.g. the Scottish Government's Place Standard1); informal design review conducted by an independent design review panel (either within or external to the local authority); the use of external certification schemes (e.g. Building for Life2); and the use of design competitions for specific high profile sites or projects.
- Assistance tools: use more proactive means to engage the public sector directly in projects or in otherwise shaping the decision-making environment within which design occurs. They include the provision of direct financial assistance to initiatives that act to enlarge the opportunity space for good design (e.g. providing financial support for a local architecture centre), and the use of direct enabling within the design process itself. This might encompass the parachuting in of external expert design assistance to advise on, for example, the briefing or commissioning processes associated with an important project, or alternatively the temporary secondment of expertise into a team to help prepare policy, guidance or to provide dedicated design expertise on a challenging planning application.

And that's not all ….

Whilst such informal tools can be incredibly powerful for building an informed, responsive and creative design decision-making environment, none are amongst the most powerful tools in the box. That accolade belongs instead to tools in the formal category that are established in statute and backed by formal regulatory powers. There are three categories here, each with strong place-shaping capabilities (Carmona 2017) as part of a continuum from advice through to compulsion, or from lesser to greater intervention.

Guidance: Focuses on the 'positive' encouraging of appropriate development via the production of a range of plans and guides that give a direction for, but not an end solution to, design proposals. In other words, rather than a blueprint (as would be delivered through a fixed masterplan) they provide a trellis up which public design aspirations can grow. They include design standards (fixed technical and generic standards), design coding (three dimensional site or areas-specific codes), design policy (the focus of the 'Pink Book', namely flexible generic policy aspirations requiring case by case interpretation), and design frameworks (flexible spatial design propositions for particular areas or large sites). Of the formal guidance tools, standards and policy focus on setting out the parameters by which development will be negotiated and assessed, typically under statutory (enforceable) powers, whilst frameworks and codes are more propositional, shaping change in a more directive manner through advancing place-specific visions for change.

Incentive: Encompasses the active enabling of development seen to be in the public interest by contributing public sector land or resources to the development process or otherwise making development more attractive to landowners and developers. The critical task is not simply to incentivise development, but to incentivise high quality development. This can be done by adding 'design strings' to any state subsidy for, or direct investment within, development; in other words, making the state investment contingent on the quality of the outcomes. Process management of regulatory processes can also

[1] http://www.placestandard.scot/#/home

[2] http://www.builtforlifehomes.org/go/about

be used to encourage good design, for example by fast-tracking high quality schemes, and development bonuses can be offered in exchange for particular design outcomes (e.g. higher density in exchange for a high quality public realm).

Control: Represents the ultimate sanction of the state, care of the ability to refuse permission for development via regulation and enforcement, typically involving a range of overlapping regulatory regimes (not just planning). The category encompasses the negotiation of developer contributions, granting of development consents (e.g. planning permission, or listed building consents), adoption of highways and other infrastructure by the state, and the warranting of construction standards, through building control. Like other tools, control processes can be shaped in a manner that facilitates or hinders better design. Equally, if incentives are viewed as the 'carrots' for good behaviour then control might be seen as the 'stick', and as a disincentive to bad behaviours. Control is reactive in nature and often involves managing a complex bureaucracy. But whilst, in the UK, adoption and warranting typically relate to the imposition of fixed immutable standards, developer contributions and development consents involve the 'discretionary' weighing and balancing of public against private needs (including those relating to design) care of a highly skilled process of interpretation, typically against flexible policy and guidance. The key challenge when designing regulatory systems for design is to make the 'good' easy and the 'bad' arduous.

Moving to a more Propositional System

Whilst the research reported twenty years ago in the 'Pink book' focussed on just one of the tools – design policy – infusing the work was a larger argument around the need for positive engagement in design, reflecting the potential for a more proactive role for the public sector in shaping places, backed by the ultimate sanction of control. After the research finished I taught for three years at the University of Nottingham where I explored some of the ideas in the book via a module that required the class to create their own design chapter for a fictitious local authority. My example of 'what not to do' came from the suburban Nottinghamshire borough in which I lived at the time and whose sole design governance tool was a single 'Policy HO7: New Housing Development' from their 1994 Local Plan. This very short policy (just 7 lines), was even shorter on substance, and open to huge interpretation with highly subjective statements such "New development should be laid out so as to provide a high quality of built environment which is in keeping with its surroundings".

There have been two iterations of the plan in the intervening years. In 2004 the policy was re-named 'E1: Good Design' and was now part of the 'Local Development Framework'. In terms of substance, it was slightly longer (14 lines) with reference to a broader range of concerns, including aspirations for better accessibility, sustainable water treatment and a high standard of architectural and landscape design. Again, little clue was given about what this might mean in the context of the borough, with catch-all (and largely meaningless) statements such as: planning permission would not be granted without "The creation or retention of a high standard of amenity for all users of the new development" still very obvious. By 2014 local plans had returned, and the single design policy was now more ambitiously entitled: Policy 10: Design and Enhancing Local Identity. Longer again (now 28 lines), the policy includes statements such as: "All new development should be designed to: make a positive contribution to the public realm and sense of place; … permeability and legibility". But little more clue than the 1994 document about how this should shape the nature of the borough or what sort of place that should be. The results on the ground reflect this generally low ambition (Figure 4).

Figure 4. This recent infill housing development was listed on the council's website under the title 'The future of housing design' (Amy Tang)

The case is simply representative of an approach to design that, rather than seeking to enlarge the opportunity space for good design or to advance a coherent vision for the future, instead remains too focussed on the technocratic processes of allocating sites and regulating development in a reactive manner. As one commentator has argued about contemporary British planning: "Any attempts to re-introduce 'visioning' into planning have not been taken up by the system as a modus operandi"; he asks "Is this because it is too political to draw what is to become of an area?", and concludes "we need to rediscover the power of design when we plan?" (Mallett 2013). I agree, a 'place-based' understanding of the city is almost entirely absent in our development plans yet we expend huge amounts of resources worrying about and updating policies that, in fact change very little from

one decade to the next, as the Nottinghamshire example demonstrates all too clearly.

We Need Better Tools to do the Job

In the 'Pink Book' we argued:

- Design policies in development plans should be the foundation of a system of design governance
- Policies should be comprehensive and cover all the key design bases – architecture, urban design, landscape, conservation, and cut across all other policy arenas
- Policies should derive from a profound engagement with and understanding of context
- Policies should articulate a clear spatial / design vision.

Whilst I still hold to many of the book's conclusions, particularly those regarding the central position of design within the planning process, I now question whether the development plan is the right tool for the job. All the evidence suggests that we continue to struggle to deliver development plans that do most (perhaps any) of these things. They seem incapable of the level of sophistication that we ascribed to them in the book. Instead development plans remain too static, generic, uncontextual, and lacking in inspiration or vision to be effective in driving a coherent place-based agenda forward. They are too often what one interviewee at the time of the original 'Pink Book' research called 'barristers appendices' (designed to get through the long-winded and pseudo-legal process of inspection and adoption) in a vacuum of creativity and propositional planning.

Rather than static we need flexible, site- and area-specific rather than generic, place sensitive rather than uncontextual, and directive rather than lacking in inspiration or vision. In other words, planning needs to engage with the sorts of propositional tools that suggest it has something meaningful to contribute beyond its regulatory role. And something that the communities effected (both public and business communities) can engage with and understand.

Whilst the recent introduction of neighbourhood planning in England, Place Plans in Wales, and community planning in Scotland and Northern Ireland, goes some way to engaging communities, these tools are mired in procedural complexity, and tend to add to rather than cut through the policy morass. During the 2000s, by contrast, a proliferation of tools of a more directive nature were increasingly used: urban design strategies, urban design frameworks, design briefs, spatial masterplans, design codes, design protocols, area action plans, design charters, and so forth. In reality we can narrow these down to two core and essential propositional tools of design guidance, both of which have already been introduced: design frameworks and design codes.

Propositional tool 1: the urban design framework

Urban design frameworks are particularly valuable for setting out a clear coordinating vision for an area or site, setting out key spatial relationships, movement framework, density requirements, landscape, land uses, character areas, public amenities, landmarks, parcelisation, and so forth. Crucially they are also flexible enough to accommodate change. In London these sorts of flexible frameworks (not fixed masterplans) have been pioneered by the private sector, often working in close cooperation with public authorities, as was the case at the massive King's Cross development (Bishop & Williams 2017), and are proving successful in delivering high quality development within an adaptable framework. Outside of London, some of the best frameworks have been produced by the consultancy URBED, including the 2007 Liverpool University Urban Design Framework and later its Knowledge Quarter Plan (Figure 5), and in the same year the Nottingham City Centre Urban Design Guide3.They can be equally effective in complex historic areas of incremental change, such as the 6km Aldgate to Stratford stretch of arterial street in London that was covered by the High Street 2012 framework. From 2009, when it was produced, and in the run up to the Olympic Games, this loose framework guided a range of interventions (some successful, some less so) in the street with a particular focus on conservation, public realm improvement and the provision of cycle infrastructure.

At the same time the London Olympics Delivery Authority, and (post-games) the London Legacy Development Corporation adopted a similar flexible urban design framework in order to debate alternatives and set out a future strategy for the Olympic Park and its surroundings, and this has been very influential in guiding the radical transformation that is happening there. More recently, this has morphed into a whopping 250 page local plan, backed by 550 pages of ancillary documents, all of which replace clarity and vision for obscure policy stodge.

[3] http://urbed.coop/archive/Masterplanning/all

Figure 5. Extract from the Liverpool Knowledge Quarter, the Climax Plan (URBED)

My own research in London's Docklands (Carmona 2009b) convinced me of the validity of these tools. In the 1980s and 1990s the area to the south of Canary Wharf (the Millennium Quarter) developed in an ad hoc and incremental manner and largely without a coordinating plan. Learning from what had worked in neighbouring Canary Wharf, although this time for an area characterised by piecemeal mixed use development and multiple complex ownerships, the London borough of Tower Hamlets decided to address increasing pressure for substantial change through the publication of the 1999 Isle of Dogs Millennium Quarter Masterplan. Whilst called a masterplan, in fact this was a very flexible urban design framework within which a coordinating public realm was established, financial contributions agreed from the multiple competing parties, but flexibility allowed over the forms that buildings took in the light of market uncertainty. The framework was successful in helping to coordinate the massive investments that occurred during the 2000s until superseded in 2015 by the South Quay Masterplan (Figure 6). This second framework

includes a range of more specific three dimensional prescriptions for the sorts of podium and tower developments that have come to dominate the area, and reflects the drive to deliver more residential development at higher densities than the earlier framework had envisaged.

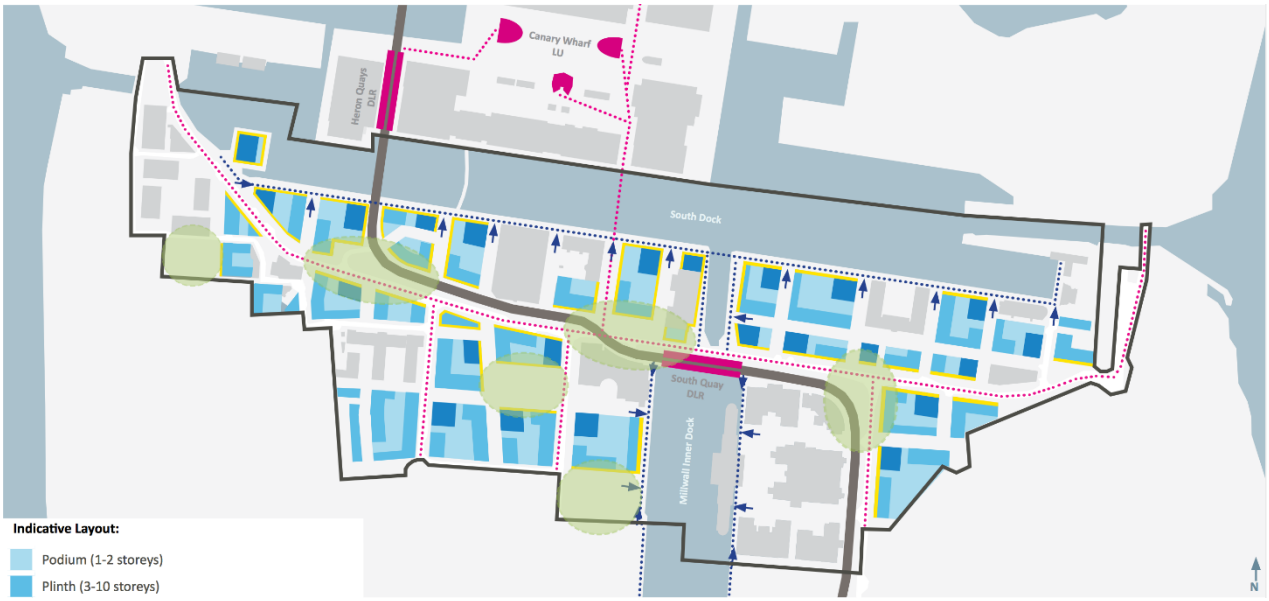

Figure 6. Extract from the South Quay Masterplan (London Borough of Tower Hamlets

Propositional tool 2: the design code

This brings us to the second key tool for a more directive and propositional planning, the design code. Design codes are:

- Design guidance for large sites or areas where specification of the whole is coded into parts
- Designed using a limited number of coded components that may be put together in different ways to generate a multitude of final outcomes.
- Usually produced to support the delivery of an urban design framework.

They are delivery (not vision-making) tools that are particularly suited to ensuring the coherent delivery of complex multi-phased schemes, which (ideally) focus on establishing and fixing the essential urbanistic components of place (Carmona 2009a), for example: plot coverage, building lines and setbacks, street widths, frontage treatments, public realm treatments, landscape components, building heights, forms and massing, and so forth (Figure 7).

In 2004 the British Government funded a pilot programme exploring the use and potential of design codes, work I was commissioned to evaluate. The intention of the research was to determine whether codes could help to deliver greater speed, certainty and quality in volume housebuilding and therefore help to provide an answer to the very poor quality of design in that sector. The research concluded that design codes can play a major role in delivering better quality development and a more certain design and development process. Also, if properly managed, they can provide the focus around which teams of professional advisors can integrate their activities, delivering in the process a more coordinated and consensus driven development process. Consequently – in appropriate circumstances – design codes are valuable tools to deliver a range of more sustainable processes and built developments, particularly in connection with large sites built out over many years by different development teams. The findings were captured in the practice manual: 'Preparing Design Codes'4.

Revisiting this work nine year later revealed some surprising results (Carmona & Giordano 2013):

- Approaching half of local planning authorities had required the submission of or actively commissioned design codes
- The use of design codes was advocated in policy in a quarter of local planning authorities (rapidly rising)
- Practice was becoming mainstreamed.

The follow-up work confirmed that design codes improve design quality by tying down the 'must have' design parameters – the urban DNA that holds the scheme together – irrespective of whether traditional or contemporary in character (Figure 8). In so doing they ensure consistency in the delivery of key site-wide design principles between the different phases of development whilst delivering greater certainly about outcomes and certainly to developers about the process

[4] https://matthew-carmona.com/reports-guides/

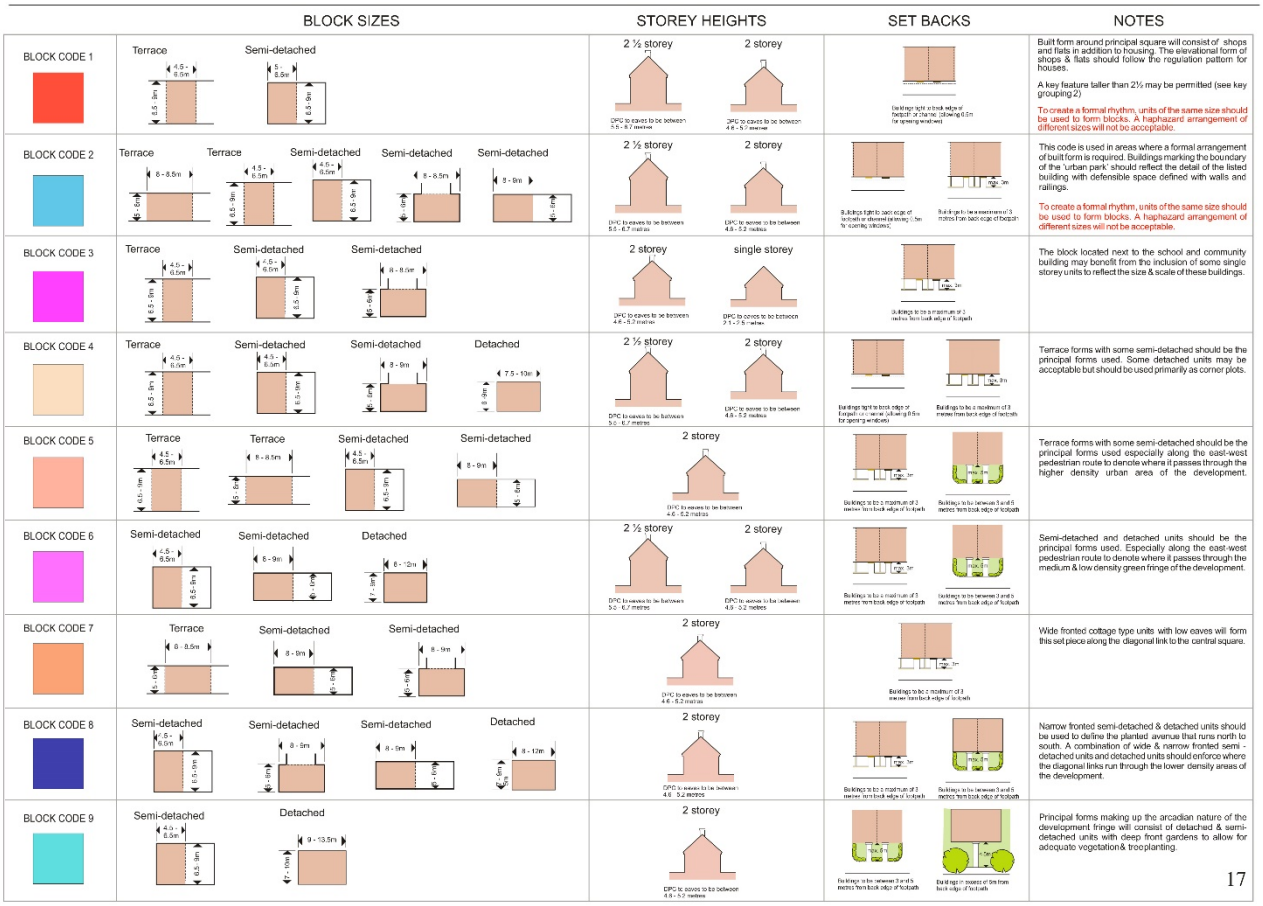

Figure 7. Extract from the Fairfield Park Design Code (Mid Beds District Council)

Figure 8. Newhall, Harlow, a high quality contemporary urban extension, coded by Studio REAL (Matthew Carmona)

So What does this Mean for Contemporary Planning Practice?

As I have already argued, good planning and good design are integral to one another, they are inseparable. Unfortunately, the design middle was long ago squeezed out of British planning and never made a convincing return, in any of the four home nations. Flexible urban design frameworks and design codes offer a potential to become that missing 'urban design layer' in our planning cake. Indeed, if we look internationally then some of the best international practice brings these two key tools together, for example Hammarby Sjöstad in Stockholm which is based on a clear but flexible urban design framework and detailed design codes to 'fix' the key design parameters at each phase. Of course it is also delivered by a public sector team with the means and capabilities to proactively engage through the full range of tools available to them (formal and informal), including: powerful incentive vested in enlightened land ownership; the use of design competitions at each phase of the development; a rigorous design review and evaluation process; and partnerships between the city and local development teams (Carmona 2010b) (Figure 9).

Figure 9. Hammarby Sjöstad, created through a skilled urban design process and now delivering long-term economic, social, health and environmental benefits to its city (Matthew Carmona)

In England, whilst I now question whether we placed too much faith in the development plan as a tool capable of addressing all (or perhaps any) of the potential ascribed to them at the start of this article, we need to remember that the 'Pink Book' came at the time when urban design was still in its prehistoric phase in the UK. Consequently, there were few alternatives to planning policy across much of the country for establishing a local design agenda and development plans were too often the only game in town!

Today, with the austerity-driven withdrawal of the state at both national and local levels from proactive planning and urban design, in many places the plan is once again the only game in town. As a consequence, even if just as a back-stop, there remains an important role for design policies in development plans backed up by intelligent development management to help deliver high quality places. But we will always need to be realistic about what we can achieve through such limited means, acting alone. Back in 1966 (the year I was born) J. Hope-Wallace, Under Secretary at the Ministry of Housing & Local Government, issued a new Governmental Circular – 28/66 – about the legitimate role of design in relation to planning. Amongst other sentiments he stated that the control of design can help to eliminate bad design, but by itself will not deliver good design. This clearly remains the case today.

To achieve good design, let alone great design, we need to engage in a creative, locally responsive design process. If planning is to bring its public interest raison d'etra to that party, it needs to engage in the sorts of proactive and propositional tools which I have outlined and which suggest that it has something to say. If it does not (or cannot because of cuts and timidity) then we deserve everything we get. In such circumstances planning will continue to be dismissed by the ill-informed as simply irrelevant or as a barrier to progress. That would be profoundly wrong!

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The Growth of Ecological Concerns in World Capitals

Ruşen Keleş

Faculty of Political Science, Ankara University, Ankara, Turkey
Email: *keles@politics.ankara.edu.tr*

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Abstract

The World population encountered an urbanization of unprecedented pace during the second half of the 20th century, which brought with it numerous problems of housing, infrastructure, transportation, land speculation, squatting and environment. Many capital cities are becoming more and more agglomerations of stone concrete, steel, glass and asphalt, with generally monotonous stretches of grass and wasteland of little use. The atmosphere and the ground have been polluted with noxious elements and emissions from industry, energy plants, traffic and private households. The problem of hazardous wastes in developing countries has been exacerbated by the transfer of products and technologies from developed countries. In a paper dealing with the Creation and Protection of a Pleasant Environment in Capital Cities, certain terms have to be clarified at the outset in order to avoid misunderstandings and methodological plausibilities. These concepts are the environment, the national capital city and the quality of urban environment. The approach of this paper is to perceive the concept of environment in its broadest sense. This is also the understanding of the Rio Declaration, according to which habitat and environment are inextricably linked. The promotion of cultural activities and the achievement of cultural democracy are integral parts of a sound ecological development. Full and active membership of the local community is becoming more and more important in a cosmopolitan world. Local leaders should find ways of providing cost-effective infrastructure and services, to prevent a further decline in the sanitary conditions, and to contain existing environmental hazards. Highest priority should be given to urban poor which are directly affected by the negative side-effects for urban dynamics. It is essential to modify the attitudes of developed nations towards satisfying themselves with lower standards of living as far as their habits of nutrition, clothing, housing, education, health, transportation and communications are concerned. This new society will be constructed from bottom-up, not from up to bottom.

Keywords

Urban Growth, Capital Cities, Urban Environment, Ecology, Sustainable Development.

Urban Growth and Its Problems

The World population encountered urbanization of unprecedented pace during the second half of the 20th century, which brought with it numerous problems of housing, infrastructure, transportation, land speculation, squatting, and environmental issues. This was an era where key public services were not being supplied in ample standards for billions of people in major world capitals.

The number of metropolises with over a million inhabitants has tripled during the last thirty-five years. In 1950, when only 78 cities were exceeding that size, in 1985, this number has reached 258 and estimated that there will be 511 cities of this size in the year 2010 and 639 in the year 2025. Accordingly, it was forecasted that the total number of metropolises with over a million inhabitants would be increasing from 110 to 153 in advanced countries, and from 146 to 465 in the less developed countries between 1985 and 2025. By the turn of the century, the developing world might have 37 cities with a population of over 5 million.

Over 130 million of the developing world's poorest poor live in urban areas and its great majority in capital cities. They cluster in slums and squatter settlements around the capitals or at the urban periphery. These areas are prone to hazardous natural and man-made environmental conditions, such as flood plains, slopes, or land adjacent to harmful industries. Most of the residents live and work in hazardous exposure situations. They have to contend with bad sanitation, contaminated water, floods, or chemical pollution. According to WHO, an estimated 600 million urban dwellers in the developing world would live in what might be termed life and health-threatening circumstances[5]. They are affected by water pollution, inadequate sanitation facilities, insufficient collection, and disposal of solid and toxic wastes, in-door and out-door air pollution.

The problem of hazardous wastes in developing countries has been exacerbated by the transfer of products and technologies from developed countries. In many cases, it is cheaper to relocate such industries to the developing countries than to meet the increasingly stringent environmental standards and regulations at home[2].

One of the most striking descriptions of environmental problems in the major cities of developing countries can be found in the Report called Our Common Future: "Out of India's 3.119 towns and cities, only 209 had partial and only 8 had full sewage and sewage treatment facilities. On the River Ganges, 114 cities each with 50.000 or more inhabitants dump untreated sewage into the river every day. DDT factories, tanneries, paper, and pulp mills, petrochemical, fertilizer complexes, rubber factories, and a host of others use the river to get rid of their wastes. The Hoogly estuary (near Calcutta) is choked with untreated industrial wastes from more than 150 major factories around Calcutta. Sixty percent of Calcutta's population suffers from pneumonia, bronchitis, and other respiratory diseases related to air pollution.

Chinese industries, most of which use coal in out-dated furnaces and boilers, are concentrated around 20 cities and ensure a high level of air pollution. Lung cancer mortality is high in the entire nation, which is largely attributable to heavy air pollution.

In Malaysia, the highly urbanized Klang Valley (which includes the capital, Kuala Lumpur) has two to three times the pollution levels of major cities in the U.S., and the Klang River system is heavily contaminated with agricultural and industrial effluents and sewage".[6]

Methodological Considerations and Major Concepts

In a paper dealing with the Creation and Protection of a Pleasant Environment in Capital Cities, certain terms have to be clarified at the outset to avoid misunderstandings and methodological plausibilities. These concepts are the environment, the national capital city, and the quality of the urban environment. Before elaborating on each of these terms, several assumptions would be made concerning the evaluations that aforementioned concepts will be based on. These may avoid any methodological errors and misunderstandings.

a) Almost all big cities in the world are prone to adverse consequences of environmental degradation. But the capital cities are more so, because of their size and the extra functions they assume. Therefore, what will be said about the great cities of the world may be valid to a great extent for the capital cities as well.
b) The great majority of the capital cities are also the primate cities of the respective countries with minor exceptions.
c) Capital cities in the third world countries have certain peculiarities which make them more vulnerable to ecological threats than the cities of the developed countries:

[5] Udo Simonis and Deonan Oodit, "Poverty, Environment and Development", and Agni Vlavianos-Arvanitis and Ruşen Keleş (eds.), The Bio-Environment, Vol.4, Athens, 1993, pp. 11-12.

[6] World Commission on Environment and Development, Our Common Future, p.240.

- Their population increases more rapidly than that of the capitals of developed countries.
- They are much less fortunate than the others in terms of financial means.

d) Most of the hardships faced by the inhabitants of the capital cities are imposed on them from above directly or indirectly by the central government or from outside by international firms or other organizations. Depending upon the degrees of centralization and upon the balance of the political forces, this may create extra problems for the capital cities and therefore the central governments should assume at least in part the responsibility to cure them.

Environment

The environment is defined by Charles Abrams as "the sum of all external conditions influencing the growth and development of an organism". Also, all that is apart from and surrounds an observer or something being observed. A distinction is commonly made between the natural environment (air, water, trees) and that made by a man (a room, a street, a city). Urbanists who used to be primarily concerned with the improvement of the man-made environment have become increasingly concerned with the dislocations caused in the natural one[7].

Ecology, on the other hand, is the study of the relationship between man and his environment. When it focuses on the urban environment, it is the study of spatial distribution in a community of people, groups, and inhabitants; the relationships among them; and the changes that come about in the distribution through adaptation, competition, and accommodation. Just as patterns of development in the natural world occur in a series of phases, so human communities are held to develop and evolve over time and in space. First, a certain balance among inhabitants is achieved, then this equilibrium is upset by some changes or intrusion, a new balance is subsequently achieved.

Etymologically, the word environment means 'that which environs (surrounds) us' yet, in this context, to be more precise, it refers to that which surrounds human beings. This anthropocentric vision is in line with the spirit of our civilization of which the sole reference is human beings and of which all actions tend to master the totality of earth.

This conception is one of the essential breaking points with ecological philosophy that perceives humankind as one organism among million others and considers that all forms of life have a right to an autonomous existence[4].

The anthropocentric (humanist) view of environment means what surrounds human beings; the periphery, but not the center. In other words, the environment is not considered as a subject of law, as an entity having an absolute value by itself. This is a view contradicting the observation of Gilberto Mastrinho, Governor of Amazonas State, who after the Rio Conference stated that " Ecologists care more about plants and animals than about people"[8].

On the other hand, the utilitarian view is somewhat different. According to this approach, it is necessary not only to search for the interest of people but to decrease the total hardships in the world more than to increase the quantity of welfare[9]. This view is well compatible with eco-centric approaches.

The approach of this paper is to perceive the concept of the environment in its broadest sense. This is also the understanding of the Rio Declaration, according to which habitat and environment are inextricably linked. It also recognized that peace, development and environmental protection are interdependent and indivisible[6].

One of the main environmental problems at present is the habitat of large numbers of the urban poor who lack accessible and secure land, water, sewerage facilities, healthy and basic services and access to financial and material resources to meet their basic needs. This implies the recognition of the right to a place to live in peace and dignity, and to healthy and affordable habitat. Therefore, as underlined in the Rio Declaration[6], the essential task is to eradicate poverty as an indispensable requirement for sustainable development.

Inspired by concrete facts and realities, İndira Gandhi, the last Prime Minister of India had declared in the Environment Conference of Stockholm in 1972: "Aren't poverty and unmet human needs the most important kinds of pollution? How can I explain the necessity of keeping the air, seas, and rivers clean to the masses living in their villages, in slums, while their lives are badly contaminated? The environment cannot be improved in the conditions of poverty."

National Capital Cities

Capital cities are the principal headquarters of legislative, executive, and judicial branches of governments. They are focal points of political and administrative activities essential to the daily lives of their residents. A second approach to perceive capital

[7] Charles Abrams, The Language of Cities, Avon Books, New York, 1972, p. 192.

[8] International Society for Environmental Ethics, Newsletter, Summer 1992, p.8.

[9] Luc Ferry, Le nouvel ordre écologique, Bernard Grasset, Paris, 1992, p. 33.

cities is to evaluate them by their multi-dimensional responsibilities. From this standpoint, capital cities perform economic and cultural functions, in addition to their political responsibilities.

The state capitals are not always the primate cities of the respective countries. But most of the time, both coincide. Yet, there are exceptions like Washington D.C., İslamabad, Riyadh, and Ankara which are scarce cases. With few exceptions, most of the capital cities are great cities or megacities in the words of Mattei Dogan and John Kasarda. A preferred site for the state capital in federal states would avoid over association with any component units. Existing major urban centers are usually avoided there. In contrast to centralized states, the national capital in federal countries is not the primate city or even, as in some federal states (like Germany and Switzerland) among the first several centers of the urban hierarchy[10].

Not only the size of the problems of capital cities increases but also their numbers do as the demands of people in various parts of the world for statehood become reality. The relative importance of the populations of the urban and total population is also a factor aggravating the dimensions of the problems, especially in the middle-income countries.

Table 1: The World Bank, (1993). World Development Report, Washington D.C., pp.298-299

Population in the Capital City as Percentage (%)		
	Urban Population	Total Population
Low-income countries	11	3
Middle-income countries	25	14
High-income countries	12	9
OECD countries	11	7

The Quality of Urban Environment

The quality of the urban environment is a highly complex concept. When talking about the performance of an urban system, it is not possible to disassociate a great many factors from a much larger environment, which encompasses all activities and resources of man, as well as his surroundings. The concept of a pleasant environment is closely related to the quality of urban life of which quantitative and qualitative dimensions often cause considerable difficulties in measurement.

It is only through using a combination of physical, functional, and administrative factors that one can see whether the quality of the environment deteriorates or improves over time. All the relevant indicators should provide information on the average situation in the capital cities in our context, as well as on deviations from the average[11].

Emphasis on numerical, quantitative indicators could be misleading. Value-reflecting, quality-oriented indicators measuring the divergence between desired states, or goals and current states are an indispensable supplement to strictly quantitative indices of nature and magnitude of changes in the capital cities. Yet great caution should be exercised when trying to aggregate many social phenomena into a single measure.

It seems that Resolution No: 234 of the Standing Conference of Local and Regional Authorities of Europe[12], Council of Europe (March 30, 1992), is highly helpful in better understanding and evaluating the normative characteristics of urban life in the capital cities.

The principles adopted by this resolution are grouped under the title of The European Urban Charter. The European Declaration of Urban Rights adopted similarly by CLRAE (Conference of Local and Regional Authorities of Europe) on March 18, 1992, enumerates the individual urban rights of Europeans.[13] Each right seems to be one of the foundation stones of a healthy and pleasant urban life and environment in world capitals. Indicators of such an environment as expressed in the Urban Charter are the followings: Security, an unpolluted and healthy environment, employment, housing, mobility, health, sport, leisure, culture, multicultural integration, good quality architecture and physical surroundings, participation, economic development, sustained development, services and goods, natural wealth and resources, personal fulfillment, equality and the like.

As it is seen from the above list, the environment is considered in the largest sense of the term encompassing not only the right to an environment free from various kinds of pollution and protection of nature and natural resources but also much broader elements are regarded as integral parts of a contemporary concept of a viable and pleasant environment.

The European Urban Charter concentrates on qualitative aspects of the urban environment and the

[10] Vienna is an exception. See Ronan Paddison, The Fragmented State: The Political Geography of Power, Oxford University Press, London, 1983, p. 122.

[11] U.N., Indicators of the Quality of Urban Development, New York, 1977, pp.4-6; and Harvey S. Perloff (ed.), The Quality of Urban Environment: Essays on New Resources in an urban Age, Resources for the Future the normative Inc.,Baltimore, 1969.

[12] It was renamed as the Congress of Local and Regional Authorities at the middle of the 1990's.

[13] The Council of Europe renewed the European Urban Charter in 2008, nearly 20 years after its first adoption, under the title of the European Urban Charter II: Manifesto of a New Urbanity. In the new text of the European Urban Charter, the concepts such as the role of citizens in local democracy, cities as center of sustainable development, the significance of adaptation to urban life and accumulation of scientific data attract the attention.

quality of life considerations. It identifies several universal guiding principles, readily applicable from country to country in the whole world where the problems of capital cities are very much the same in nature, if not in scale. It must be added that the Charter insists that such urban rights apply to all urban dwellers without discrimination, in respect of sex, age, origin, race, belief, socio-economic or political position, physical or psychological handicap.

The Case for Capital Cities

Since the major theme of this paper is the capital cities, but not the other metropolitan areas, the critical question is to know what makes the state capitals distinct from other metropolitan centers. The answer is given by the background paper (August 23, 1993), emphasizing that "the capitals retain many branches of government and establish themselves as the central focus of important political and administrative activities of national and international concerns." In other words, these critical political and administrative duties are reserved only for the capital cities.

Coupled with economic functions generated by their position in the national economy or as a part of the world economic system, their population size tends to increase abnormally. In a great majority of world capitals, the optimum size of the city is considerably surpassed. This, in turn, does not fall to bring about adverse consequences as expressed by such terms as "external diseconomies" or "urban pathologies"[14].

Increased population density is another source of the complaint. Sir Raymond Unwin had drawn the attention to the socio-economic costs of density and disorderly urban growth at the beginning of the 20th century in his well-known work entitled *Nothing Gained by Overcrowding.* Costs of density are considerable, and pollution alone from concentration exceeds physical capacities to absorb it. Density also increases the likelihood of contagious diseases. It also generates the need to substitute government for the social controls of family and kin. As a result, many improvisations and technologies are required in sewerage, sanitation, and disease control. High density makes it easier also to rope, steal, because of weakened societal controls and greater opportunity.

There are of course many examples of capital cities which function quite well and which provide their inhabitants with a satisfactory quality of environment. In these capital cities, a balance is struck between economic development and retention of high quality of environment. Most of the state capitals in the industrialized countries are in this category.

However, few would argue that the capitals of most of the Third World countries are good for all but a small number of their residents. Most of these capitals are not so well off and reflect a wide range of societal difficulties and painful adjustments, inner-city decay, deterioration of historic centers, excessive traffic densities, noise, air and soil pollution, shortage of good quality and affordable housing, high unemployment, unfamiliar and alien surroundings and neighborhoods. Some of them no longer meet even the most elementary requirements of livability.

Undoubtedly urban pathology is a relative and complex concept loaded with value connotations. Its manifestations are usually attached to particular values. Capital cities can be bad for human health, but good for national economic development; destructive of family life, but an effective means to assure human services; harmful to environmental conditions, but good for individual opportunities.

Similar relativity of the concept of the costs of urban pathologies may be attributable to the nature of the locality. The benefits of Los Angeles may accrue to the residents of Southern California, not the citizens of the city; the costs to the citizens of Paris may redound to France; Amsterdam may drain Western Europe; and Tokyo, whatever the losses to its residents for its huge size, may be vital to the world economy[15]. Therefore, suitability, livability, and pleasantness of capital cities have to be seen from many different angles.

Ecological Concerns and Sustainable Development

The world has passed through four main stages in the progress of ecological thoughts during the last two centuries[16]. The first was associated with the rise of romanticism in the early 18th Century. Poets and writers like Emerson, Muir, Chekov, and Tolstoy judged human activity to be ethically linked to natural processes and purposes.

The second phase occurred at the turn of the 19th Century following the economic depression of the 1920s. This was the era of the environmental manager who sought to manipulate the new understanding of natural processes in the interests of humankind. Nature was a usufruct, a substance capable of being transformed into economic and aesthetic wealth. They altered landscapes and intervened in natural processes to improve the well-being of man. In so doing, they regulated environmental damage and resource depletion in the interests of capitalistic enterprise.

[14] Henry Teune, "Growth and Pathologies of Giant Cities", The Metropolitan Era, Vol.I,A World of Giant Cities, (eds.), M.Dogan and J.D.Kasarda, Sage, Beverly Hills, 1088, pp.351-376.

[15] H.Teune, op.cit.,p. 363.

[16] Timothy O'Riordan, "Future Directions for Environmental Policy", Wissenschatzentrum Berlin, IIUG Discussion Paper, 84-14., Berlin 1984.

In the mid-1960s, a period of rapid economic growth and ubiquitous communications began. This was a period of institution-building, regulation, and the rise of politically articulate and legally active pressure groups. During 1968-1974, every major democratic nation saw the emergence of the new environmental scientists, a host of regulatory bodies and advisory committees. The ethos of romanticists was lost and skills of the environmental scientists were swallowed in interest groups lobbying and political indecision.

Finally came the modern era. This is the period of modern environmentalism. A very different picture is emerging in which coalescence of the 19th Century romantic ideals, early 20th Century technical expertise, and scientific understanding of the late 20th Century political lobbying and institution-building is taking place.

The concern of public opinion for ecology, in general, has grown tremendously during the last two and a half decades all over the world. Alerted by global problems of environmental degradation, the world public opinion expressed great concern for the globalization of environmental problems following the publication of *The Limits to Growth*, a report prepared by the Club of Rome.

Two important international conferences, the first in Stockholm in 1972, and the second in Rio de Janeiro in 1992 called the nations of the world, at the 20-year interval, to cooperate for the protection of the integrity of the global environmental and developmental systems.

In between, the Report of the World Commission on Environment and Development made it clear that there is the possibility for a new era of economic growth, one that must be based on policies that sustain and expand the environmental resource base. In other words, it was emphasized that sustainability is both necessary and possible. It is a process in which the exploitation of resources, the direction of investments, the orientation of technological development and institutional change are all in harmony and enhance both current and future potential to meet human needs and aspirations[17].

Global environmental problems caused by socio-economic activities in developed countries are the depletion of the ozone layer, global warming-induced by the increase of carbon dioxide, and acid rains. On the other hand, global environmental problems of developing countries are tropical deforestation, desertification, erosion, and various kinds of pollution, let alone poverty. Finally, extinction of wildlife species and marine pollution are some of the global problems caused by the activities of both developed and underdeveloped countries[18].

Rio Declaration proclaimed that "Human beings are at the center of concern for sustainable development. They are entitled to a healthy and productive life in harmony with nature"[19]. It is emphasized that the right to development must be fulfilled to equitably meet developmental and environmental needs of present and future generations[20]. Therefore, to achieve sustainable development, environmental protection should constitute an integral part of the development process and cannot be considered in isolation from it.

The Conference drew attention to the role of participation by emphasizing that "Environmental issues are best handled with the participation of all concerned citizens, at the relevant level"[21] . Therefore, each individual should have appropriate access to information concerning the environment that is held by public authorities, including information on hazardous materials and activities in their communities, and the opportunity to participate in decision-making processes.

The role of international cooperation is extremely important in this respect. To establish a new and equitable global partnership, the use of the sovereign right to exploit their resources should not cause damage to the environment of other States or areas beyond the limits of national jurisdiction.

The same spirit of global partnership requires the conservation, protection, and restoration of the health and integrity of the Earth's ecosystem[22]. Consensus has to be relied upon for taking the environmental measures addressing transboundary or global environmental problems. But the most important principle (No:14) is that states should effectively cooperate to discourage and prevent the relocation and transfer to other states of any activities and substances that cause severe environmental degradation or are to be harmful to human health.

Third world nations made it clear in the Conference that there was too much environment in the discussions and not enough development. Concern for nature directly was to be taken for an elitist luxury, an

[17] World Commission on Environment and Development, Our Common Future, Oxford University Press, London, 1987, p. 46.

[18] Japan Activities to Cope with Global Environmental Problems, The Ad Hoc Group on Global Environmental Problems, June 1988, Tokyo, pp.4-32; and Sylvie Faucheux and Jean-François Noel, Les menaces globales sur l'environnment, Reperes, Paris 1990, pp. 10-38.)

[19] Principle 6.

[20] Principle 3.

[21] Principle 10.

[22] Principle 7.

inhuman overlooking of the human poverty of the Third World. As mentioned above, Gilberto Mastrinho complained that "Ecologists care more about plants and animals than about people". This approach was at the source of many divisions and polarities observed in the Conference. It was expressing the just observation made by the Brundtland Report: "The Earth is one, but the World is not".

Aspects of Urban Ecological Issues in World Capitals

What is maintained in the European Urban Charter concerning ecological concerns is greatly valid for the capitals of the World. All the assertions laid down in that document may be said to be more correct and explicit in the capitals than in other localities.

The car dominates the capitals' transport policies and it degrades the whole public transport systems. Cars are killing the ecology of the capitals slowly, but surely. If nothing is done to change the status quo, road traffic will destroy not only the ecology of the capital cities but contribute considerably to the destruction of the global environment via the "greenhouse effect". Besides, cars threaten the capital cities through the noise, discomfort, psychological and physical insecurity, loss of amenity and social space, atmospheric pollution. As a result, the domination of cars in urban transport brings about cultural and social loss; and it contributes to the decline of town spirit as a place for living, for contact, and activities and culture.

Many capital cities are becoming more and more agglomerations of stone concrete, steel, glass, and asphalt, with generally monotonous stretches of grass and wasteland of little use. The atmosphere and the ground have been polluted with noxious elements and emissions from industry, energy plants, traffic, and private households. It must be kept in mind that nature and urban life are not mutually exclusive concepts.

How the townscape is conserved and developed and how inter-related issues of safety, comfort, convenience, and appearance are dealt with are important considerations in the pursuit of an improved urban environment in capital cities.

On the other hand, urban heritage constitutes an important and irreplaceable part of the urban fabric, crucial for the identity of the capital city and its inhabitants. It hands down to future generations a system of reference, composed of monuments, groups of buildings and sites. It is often threatened by disuse and deterioration.

Housing is an integral part of a decent environment. Access and the right to shelter is enshrined also in Article 25 of the Universal Declaration of Human Rights. If it is deficient or inadequate, as in the case of most of the Third World capitals, it is the key element in insecurity, violence, segregation, intolerance, and racism.

One of the fundamental rights of any citizen is free to access to all the social activities and facilities of the capital city without distinction of sex, age, nationality, and physical and mental ability. Categories of citizens experiencing momentary or permanent problems of adjustment are often ignored. It is also important to ensure that everyone has the right to participate in sports activities, thus improving their lives.

The promotion of cultural activities and the achievement of cultural democracy are integral parts of sound ecological development. Architectural creation, language, the arts, music, and literature are all expressions of the rich storehouse of history, and the collective memory of the urban center, components of the cultural heritage, and experience in the capital cities.

Full and active membership of the local community is becoming more and more important in a cosmopolitan world. However, this principle is not respected everywhere in our time. İmmigrant communities coming to capitals from other countries, minorities with different traditions, languages, and religions are not always accepted or integrated into the community. Their experiences of urban life are usually synonymous with exclusion, solitude, fear, and poor standards of living.

Leaders of large and capital cities have little power to make decisions on immigration policies laid down by national governments. This has a close bearing on the availability of employment opportunities in the capitals. Yet, it should be the right of every one of working age to participate through his endeavors in the fruits of what the capital city has to offer. The Third World capitals are far from providing a certain standard of living, let alone promoting the quality of environment.

Policies

Solutions at Micro Level

Local leaders should find ways of providing cost-effective infrastructure and services, to prevent a further decline in the sanitary conditions, and to contain existing environmental hazards. Given that national and international mass migration will continue at varying degrees in the near future, the only way to relieve the pressure on the environment is to ensure income growth and to alleviate poverty in the long run.

Since haphazard urbanization in developing countries turns economies of scale into diseconomies of scale, what is most needed now is a new paradigm for urban development, and ecological urban

restructuring, appropriate institutions, and a legal framework conducive to environmental city planning.

The highest priority should be given to urban poor which are directly affected by the negative side-effects for urban dynamics. They benefit little if at all from the industrial and commercial activities that degrade the environment but bear the full costs of their adverse effects. They are the primary victims of municipal sewage discharged in water, of solid and toxic wastes dumps[23].

1. Alternative Technologies

A full-scale attack on urban problems using conventional capital-intensive technology would require large increases in investments. At such costs, the crying need for urban sanitation cannot be met. Alternative Technologies which are much cheaper have to replace the conventional ones.

Several possibilities exist for indoor air pollution control. For example, charcoal or biomass when fermented to produce wood alcohol provides more energy per unit of fuel than raw biomass, and reduce air pollution at the same time.

Solid waste minimization can be achieved through modification of industrial processes and change in the design and use of products. Durable packaging instead of single-use packaging can be made mandatory. Various mechanisms for the implementation of user charges may be experimented. In changing behavior, instruments such as “pay per bag”, “charge per can”, “deposit refund system” can be successful in reducing solid waste. Usually, environmental costs are fully integrated into the price of a product. As a result, market signals do not provide sufficient incentives for waste minimization. Therefore, efforts need to be made for the full internalization of environmental costs also to promote new technologies.

2. Transportation

As indicated above, it is essential that the volume of travel, particularly by private car, be reduced. The highest priority should be given to public and collective transport, bicycles, pedestrians instead of individual transport of people and goods. The street must be recovered as a social milieu with the gradual elimination of extraneous noise. Local authorities have a clear responsibility to support and develop consciousness-raising campaigns, in order both to shift behavioral patterns and to inculcate in town dwellers the belief that the street belongs to them, it is a communal property and it must be used harmoniously, and respected.

Urban population problems are multiplying rapidly in the capitals of the Third World where automobile ownership symbolizes success and prestige. Chinese cities, with their traditional reliance on bicycles and buses for individual mobility, are perhaps the most efficient in their consumption of transport energy. Unfortunately, as Chinese living standards rise, autos are replacing bicycles, thus reducing energy efficiency and rising pollution levels[24].

It is much appreciated that in Japan which is one of the biggest car producers in the world, the use of the private car in the daily life of the capital does not have the highest priority. Rail transportation dominates the scene. Japanese rationality necessitated to a certain extent by the dearth of urban land, has to be taken as an example by other developed and developing countries.

Some of the European capitals like Stockholm and Vienna have already banned traffic from various parts of the central city. Virtually all European capitals have some restrictions on auto use in force. In Hong-Kong and Singapore as well as in Korean cities, taxes and financial disincentives discourage auto use and encourage walking and biking.

3. Environment and Nature

The principle of sustainable development requires that local and regional authorities accept fully their responsibility for dealing within their boundaries with pollution, domestic and toxic waste produced by them, rather than shifting them to other areas or leaving them as a legacy for future generations.

Capital cities should adopt policies to prevent pollution. Temporary, short-term measures, discharging solid and water wastes into rivers and lakes, burning or recycling waste, should be replaced by reduction of emission at source, application of clean technology, use of alternative fuels.

Establishing green belts within and around urban areas safeguards and increases local water supplies. A green belt strategy aimed at the permanent protection of open land within and between cities can also mitigate pollution problems and increase urban self-sufficiency.

Priority areas for nature protection should be established. Greening roofs, walls, courtyards, city farms, and study gardens for children can play a valuable role in the establishment of direct contact with nature. This is essential if a responsible relationship with nature and natural resources is to be created.

4. Physical Forms of the Capitals

City centers must be safeguarded as important symbols of cultural and historical heritage. The creation and

[23] Udo Simonis and D. Oodit, Op.cit., p.12.

[24] Lester R.Brown and Jodi L.Jacobson, The Future of Urbanization: Facing the Ecological and Economic Constraints, Worldwatch Paper, No:77, May 1987, p.41.

management of open space should be neighborhood-based, through a partnership between the city governments, community groups, and the population as a whole. Architectural characteristics of the city should be preserved as a sign of the quality of the urban townscape. Residential areas have to be protected against air, water, soil, and subsoil pollution. Environmental protection and buffer zones, parks, gardens should be established. Heavy traffic causing disturbance has to be avoided as much as possible.

5. The Protection of Architectural Heritage

A legal framework is needed to regulate respective rights, responsibilities, and conflicts between the public authorities and the private owners to ensure the protection of the heritage. In addition to the establishment of a comprehensive inventory of the urban architectural heritage, increased awareness among the general public and the individual owners of the heritage of its value is needed. Urban heritage must be interpreted into contemporary life via its incorporation as an essential element in overall planning.

6. Housing

Every person and family should be entitled to secure and salubrious housing. Capital cities should ensure diversity, choice, and mobility in housing. Since the rights of persons and families in the most disadvantaged categories cannot be safeguarded by market forces alone, capital cities must cooperate with the central governments to intervene in the housing market.

7. Disadvantaged and Disabled Persons in Capital Cities

All commercial, administrative and public buildings must be accessible to all people, whatever their disability or handicap. Policies for this category of people should aim to integrate and not to over-protect. It is also important that houses and workplaces are suitably adapted to the requirements of the disadvantaged and disabled.

8. Sports and Leisure

Policy for sport and leisure in the capitals should be directed: To remove all constraints which prevent many dwellers of the capital city from taking part in sport; to provide a network of basic sports facilities covering the whole of the city and to ensure that such facilities include small-scale units within easy reach of homes; and to plan in the city open spaces, wooded areas, playgrounds, stretches of water and cycle paths to foster and stimulate recreational activities.

9. Culture

The universality of cultural democracy is embodied in Article 27 of the Universal Declaration of Human Rights. Therefore, culture should not be treated as a domain of a privileged for few or an elite, but rather a vehicle for stimulating the creativity and imagination of all special groups in the capital. Cultural exchange, as a powerful bond between peoples of different nationalities, regions, and nations has to be encouraged. This should also include extensive collaboration between the capitals, other local authorities, community groups, the NGO's and the private sector.

Full and active membership of the local community is becoming more and more important in a cosmopolitan world. However, this principle is not respected everywhere in our time. Immigrant communities coming to capitals from other countries and minorities with different traditions, languages, and religions are not always accepted or integrated into the community. Their experiences in urban life are usually synonymous with exclusion, solitude, fear, insecurity, and poor standard of living. Yet the New Leading City concept requires that capitals must be open in all senses, within the limits of domestic and international law, reflecting global solidarity among people of the world.

10. Multicultural Integration

Capital cities should adopt or reinforce legislation against discrimination, to ensure equal access to all citizens-irrespective of race or ethnic origins to public places. This right should be guaranteed by joint bodies composed of representatives of the capital city, those of neighborhood associations, and the representatives of different communities. Central government policies should be revised accordingly.

At the beginning of the 21st Century, capital cities should be encouraged to put into operation at least of the principles of the European Convention on the Participation of Foreigners in Public Life at Local Level, which recognizes the right to vote and be elected in local elections for foreigners having legally resided in the capital city for a specific period of years.

Finally, multicultural integration implies the full integration of important communities into the social and physical urban environment.

11. Health

The urban environment in the capital city must be conducive to good health for all citizens. This can be done by developing a comprehensive urban environment policy; managing waste, monitoring air, water, soil, and subsoil pollution; by eliminating dangerous waste, by keeping the most sensitive urban areas and populations under constant review, by generally promoting community development and social renewal. A reliable and durable supply of goods, including a healthy and safe supply of drinking water, is a major factor in ensuring good health. Monitoring the supply and distribution of non-durable consumer goods, issuing precise regulations regarding the

manufacture of foodstuffs and the cleanliness of places where food is consumed, and by issuing precise policy statements regarding the priority of supply and distribution of major public utility infrastructure.

Broader Policies

Towards the last decade of the 20th Century, nations realized that economic development is important, but it is not everything. Economic and social development are inextricably linked, and the concept of sustainable development itself emanates from such a need. Sustainable development is striking a balance between economic development, environmental protection, and social improvement. Urban economic growth in world capitals concerning inadequate ecological consequences cannot contribute to the prosperity of mankind.

From the standpoint of human welfare ecology, sustainable development means not merely sustaining the natural resource base systems for human production, but also sustaining biological support systems for human reproduction. This is the reason why the stream of human welfare ecology has been so much critical of economic growth per se and the idea that science and technology alone can deliver humankind from the ecological crisis[25].

Numerous NGO's, including the Bio-politics International Organization, have been alerting the public opinion all over the world about the impact of technology and economic growth on the bio-environment and emphasizing that in the present meta-industrial era, society is undergoing a crisis of values, realized by everyone since it affects our daily lives[26].

The present destruction rate of the bio-environment threatens not only the aesthetic values but also the very essence of biodiversity on our planet. In the late 1960s, ecology was developed as a reaction to the destruction of the Ecos (the house, habitat), that was endangered. However, what is in danger nowadays is bios, life itself. Humanity has no right to destroy within one or two generations the gift of bios, the most precious possession on the planet[27]. Inhabitants of the capital cities are more than anybody else the victims of such degradations.

Then, it is only through the sustainable development that people living in capital cities can survive. Only under the conditions of sustainable development that eco-citizens, members of the eco-society, visualized by Joel de Rosnay, can benefit from the symbiosis of economy and ecology.

In other words, the sequence is from the primitive society, through industrial society to eco-society, or post-industrial society. This new society will be constructed from bottom-up, not from up to bottom. This society recognizes the private ownership of the means of production and state ownership at the same time. It accepts the adaptation capacity of free enterprise, but it puts it under the strict control of the community of consumers and users. Eco-society, in the words of Joel de Rosnay, is a participatory and decentralized society. Its cities are profoundly reorganized. The most ancient quarters are given to people, rescued off the cars, the atmosphere became breathable again and silence is respected everywhere. On the streets, in the parks, people take their time. Very little medicine is consumed; very infrequently people recourse to doctors. They go to hospitals in exceptional cases [28].

In the 19th Century, the mere size was regarded as a desirable attribute of the cities, and "the bigger, the better" was a maxim which embodied public opinion on the subject. There was little or no attempt to limit or control urban growth. Today, the overblown, dropsical city of elephantine proportions can no longer be regarded as desirable or even tolerable in present conditions. As pointed out by Robson and Regan more than twenty years ago, "The period of unqualified acceptance and unfettered growth of the metropolitan city is passing" [29].

An increasing gap exists between the fiscal and ecological costs of supporting urban development in its present context and the resources required to sustain it. All countries now need a new norm of urban development- one that embraces the concept of the city as an ecosystem in which population size and urban form are matched to available resources. The question policy-makers face now is how capital cities should be in a world that depends primarily on renewable resources.

It seems that the optimum city size will be reduced as the age of oil slowly fades and the age of renewable energy begs to unfold. Oil is a concentrated resource easily transported in huge quantities that large cities require. In contrast, renewable energy sources, whether firewood, solar collectors, or small-scale hydro, are more geographically diffuse. Both the

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[25] Robyn Eckerseley, Environmentalism and Political Theory: Toward an Ecocentric Approach, State University of New York Press, Albany, 1992, p.37.

[26] Agni Vlavşanos-Arvanitis, "Bios in the Next Millenium: Reversing the Crisis of Values", in A.V.Arvanitis and Ruşen Keleş (eds.), Biopolitics: The Bio- Environment, Vol. IV. Athens, 1993, pp.1-10.

[27] Martine Rémond-Guilloud, Du droit de détruire, Presses Universitaire de France, Paris, 1989, pp.11-56.

[28] Joel de Rosnay, Le macroscope, Points, Ed.Seuil Paris, 1975, pp.313-321

[29] William A.Robson and D.E.Regan (eds.), Great Cities of the World, Vol.I, George Allen and Unwin, London, 1972, p.125.

ecology and economics of these energy sources suggest that the future will favor smaller cities rather than the giant urban centers[30] .

The problem we face, on the eve of the 21st Century, largely emanates from rapid population growth, industrialization, and urbanization. Solutions must be searched for within the context of these and similar variables. David Hume has anticipated in the 18th Century that the ideal city of the future would not exceed 700.000 population. Jules Vernes, in his turn, saw the possibility of emerging big cities of nearly ten million inhabitants. It was only the contemporary Japanese architect Kenzo Tange, who, more realistically, talked about super metropolises of ten million each, comparable to Mexico City and Shanghai of the year 2.000, which are expected to reach 30 million and 25 million by then, respectively.

Certainly, we are now faced not only with a simple issue of numerical magnitude. What confronts us has widespread qualitative consequences as well. Despite all new developments concerning ideological differences between East and West, what seems to be almost certain is that only those countries with strict control over the ownership and use of resources, including the urban land, have a better chance to effectively grasp the ecological problems of present-day capital cities and human habitat.

Normally, the actual costs of unprecedented urban growth have something to do with surpassing the human scale in human habitats. That is why present-day city life in most of the capitals tends to alienate man from his environment. Planners of future societies have to design capitals, not for machines alone, but for the needs of human beings. As rightly put by Laborit, the French thinker, "Because the road we have followed has brought us to the conclusion that all serious problems confronting contemporary man could find their solutions only in the transformation of man's behavior [31].

On the other hand, one can find ways of striking a balance between the goals of economic growth and the environment by trying to modify lifestyles without being forced to accept the exaggerated view that these two variables are essentially contradictory objectives. As pointed out by Johan Galtung, this depends to a large extent upon self-sacrifice of industrialized countries, and on their formation of new lifestyles[32]

It is essential to modify the attitudes of developed nations towards satisfying themselves with lower standards of living as far as their habits of nutrition, clothing, housing, education, health, transportation, and communications are concerned. In other words, developed countries must visualize that they have certain responsibilities towards poor nations.

Not only the developing countries but also the developed world suffers from the overgrowth of their capital cities. Many searches for alternative settlement patterns to be created only following well-prepared long-term plans[33].

For example, Japan looked for alternative locations to remove its capital out of Tokyo in the recent past. In a gold-prize winning essay, submitted to a contest organized by the Daily Japanese newspaper Asahi some years ago, the authors seriously had recommended putting the functions of the capital city in several "giant ships", one ship carrying the legislative and executive departments of the state apparatus, to spend two years in each of Japan's major harbors around the islands, following 21st Century concept of "rotating capital"[34].

They recommended that the increasing need for the internalization of Tokyo must be met by the establishment of an economic ward (keizai-ku) and a world ward (sekai-ku), forming the basic spatial structure of the metropolis, in addition to the existing 23 wards (ku).

Let alone such science-fiction-like products of creative human imagination, it is a well-known fact that plans are in preparation for at least part of the rapidly increasing population and economic functions of the capital city to be settled on and under Tokyo Bay at the beginning of the 21st Century[35].

Some years ago, the urban land crisis in Tokyo reached incredible dimensions to involve even the works of several diplomatic missions, and some of them expressed even publicly their intention to close off their offices in the capital, to avoid the financial difficulties caused by increasing rents and speculated land prices.

Finally, a few nations have experimented in the past to transfer their state capitals elsewhere. Some of

[30] L.Brown and J.Jacobson, op.cit. . p.45.

[31] Henri Laborit, L'homme et la ville, Flammarion, Paris, 1981, p.201.

[32] "Perspectives on Environmental Policies in Overdeveloped and Underdeveloped Countries", pp.9-21: and Ignacy S.Sachs, "Developing with Harmony with Nature: Consumption Patterns, Time and Space Uses, Resources Profiles and Technical Choices",pp.205-227, in Bernard Gleaser(ed.), Ecodevelopment, Pergamon, New York, 1984.

[33] Tokyo Metropolitan Government, Protecting Tokyo's Environment, Tpkyo, 1985: TMG., 2nd Long-Term Plan of the capital city Metropolis, TMG. Library, No: 25, Tokyo, 1991.

[34] Asahi Evening News, Editorial, "Ease Congestion in Tokyo", January 7, 1988.

[35] Y.Yasoi, "Tokyo on and under the Bay", Japan Quarterly, Vol.35, No:12, April-June 1988, pp.118-126.

them are trying to decongest administrative offices, research institutions, and the like, that should no longer be located necessarily in the capital. However, the core of the problem is essentially an economic one, and it needs economic remedies. It is the large companies that are responsible for the tremendous land price increases in the capitals. Most of those companies anticipate enormous profits from land speculation game, to be realized as a result of new office building booms. Therefore, it seems that unless the governments are determined to intervene actively in the urban land market, proposals of decentralization and decongestion will remain ineffective. In this connection, it must be admitted that inherent conflict between the public and the private interests cannot be kept under control without a determined intervention of the state as an arbiter to correct imperfections of the market mechanism.

Environmental Ethics and the Capital Cities

The growth of ecological concerns in world capitals is closely related, in the final analysis, to the ethical responsibility of individuals living in the capital, towards the ownership and use of urban land and environmental assets. Humanity needs to find a social criterion to be used in his search for the rightest way between maximizing public and private interests. The trend from Aristoteles to Léon Duguit signifies progress from individualism and selfishness toward a system more or less socialized, where the public interest is in balance with private concerns, if not superior to it.

Contemporary formulations of the concept of intergenerational solidarity charge individuals with a social responsibility for future generations in their use of present-day values[36] . It is commonly recognized that the owner or user of an environmental value could not have an unlimited right over it if the use of that right injures the social interests represented by the state. A civilized society, explicitly embedded in the concept of the New Leading City mentioned above, demands more than any other, that people be guided by a sense of responsibility which extends beyond the duties exacted by law.

As Ciceron said several centuries ago, "You will not prevent the river from flowing, because it is a common good for all, and it belongs to no one (res nullius). It is so for the air, because it cannot be seized." The first task of justice should be to guarantee the use of these common goods by all the peoples of today" and by future generations.

What is morally right or wrong, good or bad, is ultimately determined by looking to see what happens to human beings, other living things, and the ecology. Therefore, an environmentally ethical action has to be understood as the one that seeks the greatest number of people and ecological values belonging to humanity.

Where the ethical guide to shaping the conduct of human beings, as the prime destroyer of the environment, can be found? From Montaigne to Fénélon, from Bentham to Léon Say, from Condorcet to Jules Perry, liberal thinkers always recognized a primordial role in human education. John Stuart Mill accorded undeniable importance to the development of moral and intellectual capacities of citizens through education, to ensure the operation of all political institutions.

All these observations are well substantiated by the fact that the countries which are the most successful ones in the protection of their environment are those which can educate their citizens adequately, using all means, to cope properly with the disposition and preservation of the national assets. Growth of concerns for the ecology in world capitals can only be evaluated safely in such a broader context.

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The Urban Megaprojects Paradigm in Qatar: A Holistic Criticism and Premeditated Prophecy

Ali A. Alraouf

HBK University, Education City, Doha, Qatar
Email: *alialraouf@gmail.com*

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Abstract

The paper suggests a new paradigm in Gulf urbanism that transcends the extensively consumed model of developing urban megaprojects within capital cities' fabric. With credible signs alerting to the necessity for going beyond oil and gas, Gulf States are obliged to abandon old strategies used during the financial abundance eras. Doha, the capital city of Qatar, is used as the main case study in this paper. Oil and gas, which represents Qatar's source of income are becoming replaceable with the growing global investments in renewable energy. As a result, Qatar in developing its vision for the future decided to adopt the knowledge economy as the new pillar for its economy and development. Hence, the paper focuses on examining the impact of the main mega projects which were constructed in Qatar and scrutinizes their contribution to a more resilient future for Qatari cities. The paper assesses the relative roles of such mega projects in preparing or hindering Qatar's inclination for the post-carbon paradigm. The projects are examined using multi-layered criteria which include achieving urban diversity, relevance to knowledge-based urban development, supporting diversification of the local economy, and accommodating multicultural society. The paper concludes that while most of the urban projects in Qatar were geared towards sustaining the knowledge economy shift but a transformation into a more realistic, humble in scale and resilient projects is the new paradigm for the future urbanity.

Keywords

Doha, Qatar, Gulf Cities Urbanism, Urban Megaprojects, Post-oil Urbanism, Knowledge-based Urban Development, Post-Carbon Paradigm.

Introduction

Since the 1970s, the small Arab states in the Gulf region have managed to transform themselves from primitive Bedouin societies into giants of economic growth and urban development. The Gulf States while mostly young and small, are the largest builders and developers in the world. Every single capital of the Gulf city is characterized by shopping malls, skyscrapers, artificial islands, gigantic airports, real-estate fantasies, and signature museums. Yet, they have come to realize that an alternative is required to transform an oil-based society into a post-oil one. With oil resources running out, a focus on the post-oil era is a priority. Assessing the pace of urban development in contemporary Gulf cities revealed some critical issues (Wippel, 2014). On one hand, the speed of development has a social cost, negative relationship with the past, and the claim for identity loss. On the other hand, such rapid developments contributed to economic diversification, cultural tourism, and city branding[37]. The overarching issue is exploring critically how the Gulf States prepare themselves for the post-oil era, by diversification of their assets,

[37] A more holistic understanding of the different strategies of city branding were discussed in City Branding: Theory and Cases (Dinnie, 2011).

boosting the real-estate sector, and creating a knowledge economy. Hertog (2016) illustrates how the Gulf Cooperation Council (GCC) oil monarchies have been using their oil wealth to buy the accoutrements of 'good citizenship' and 'progressiveness' in the international arena through costly policy projects that involve urban interventions like the building of international museums, universities and 'zero-carbon cities' – urban enclaves with an audience that is almost exclusively international. This interpretation is valid for some Gulf States particularly the Emirate of Dubai. The megaprojects reflect a desire to gain international recognition via exhibiting the full adoption of Western norms and influential principals. The case of Masdar City in Abu Dhabi which was declared as 'the first zero-carbon city' in the world and ended up with a deserted real-estate project is compelling evidence (Goldenberg, 2016). Yet, for a more holistic understanding, one cannot see all the cultural and educational projects in Gulf cities as a catalyst for Western recognition. For that reason, the case of Doha is stimulating as such interventions are made to pave the way for a new development vision structured upon the value of knowledge economy and knowledge-based urbanity.

By any measure, Qatar's growth is phenomenal; in the past decade the population has trebled, and the size of metropolitan Doha has increased fourfold. From its humble origins as fishing and pearling village, Doha has emerged as an expanding world city, where ambition and means are fuelling exciting experiments in education, health, sports, and culture (Framherz, 2012; Jodido, 2014; Alraouf, 2016). Evidently, in the last decade, a new pattern of planning interventions can be observed in the urban fabric of Doha. These new interventions are described as the city's megaprojects due to the size, location, the population they serve, and the visual and urban impact they create. The objective of the paper is to provide a comprehensive evaluation exploring the impact of such influential megaprojects on the urbanity of Qatar. Effective physical developments and infrastructural facilities are essential parts of the fabric of any progressive nation. Qatar has distinguished itself amongst fast-developing nations through its various development projects. With a very high income generated from oil and gas, Qatar has displayed excellent financial capabilities in rolling out very ambitious projects. Some of these projects are also essential for effective hosting of the FIFA 2022 world cup in Qatar (Alraouf, 2016). Methodologically, the analysis provided in the paper will cover five main mega projects selected to cover the whole development spectrum from real estate large scale interventions, knowledge, and education clusters to cultural districts. The selected projects for investigation are Education City for its direct relevance to the knowledge economy and knowledge-based urban development[38]. Msheireb Development "The Heart of Doha" as it provides a new concept of real-estate which combines reviving heritage areas with promoting sustainable values in architecture and urbanism. Then, the Museum of Islamic Art including MIA Park, the vibrant adjacent public space will be analysed. Aspire Zone and its recreational, commercial, and sports facilities context which includes the Aspire Park, the national stadium, and the thematic Shopping Mall. Finally, Souq Waqif and consecutive cycles of development and expansions as it represents a unique regional case in the search for reviving local identity in a rapidly globalized urbanity. Data used for the study were gathered through interviews with developers, planners, architects, city officials, and users. Additionally, field observations, analysing photographs, and extensive review of publications on the subject were implemented.

Figure. 1. The new Doha skyline suggests its arrival to the global stage (© Ali A. Alraouf)

[38] For a wide understanding of the Knowledge-based Urban Development concept, see the analysis provided in Yigitcaular (2008).

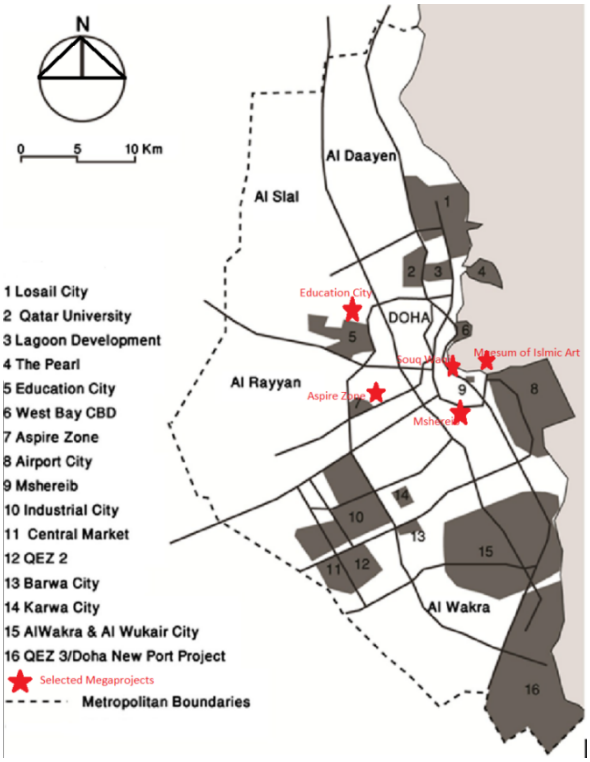

Figure. 2. Selected studied megaprojects within Metropolitan Doha showing its proximity to the other forms of development and settlements

Project One

Education City: Sustaining the Evolution of Qatar as an Education Hub

Improving education forms an essential part of the Qatar National Vision (QNV) 2030's main pillars[39]. QNV 2030 is a development strategy launched in October 2008 and outlines how Qatar will use the vast revenues from its substantial hydrocarbon resources to transform itself into a modern knowledge-based economy (QNV, 2008). Qatar was a forerunner within the Gulf context to pursue the post-oil globalization and diversification discourse despite being the third exporter of natural gas in the world. The need to diversify the state's economy and shift from a hydrocarbon-based economy to a knowledge-based one is a key stipulation of the (QNV) 2030 and the Qatar National Development Strategy (QNDS) 2011–2016[40]. Central to the Amir's vision is the recognition that, as plentiful as Qatar's natural resources may be, their value will one day be significantly diminished by the emergence of sustainable forms of energy production (Woodman, 2008). More significantly, the country's long-term development plan aimed at reducing dependency on hydrocarbons and creating a diversified economy driven by principles of the knowledge economy. Within this understanding, Education City (EC) was envisioned as a manifestation of the country's future vision. Over the past twenty years, EC grew from a single school to a multi-university campus with students from over 50 countries and an enormous research fund, offering endless opportunities for the advancement of knowledge and research across all disciplines (Jodido, 2014b).

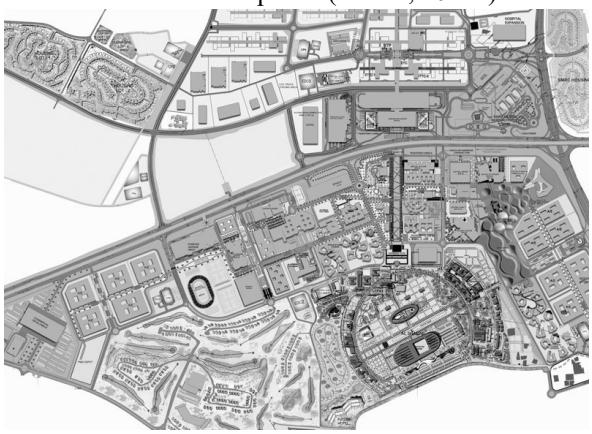

Figure. 3. The master plan of education city as finally crystalized after cycles of development (Source: Courtesy of QF.org)

Education City began with Qatar Academy, a single school offering primary, middle, and international baccalaureate diploma programs along with an early-childhood center, in 1995. The construction of the academy was followed by buildings for the Qatar Foundation Headquarters and a facility for Virginia Commonwealth University (VCU), all of which were designed by local architectural consultancies to resemble the traditional architecture of Qatar and the region[41]. Education City began with Qatar Academy, a single school offering primary, middle, and international baccalaureate diploma programs along with an early-childhood center, in 1995. The construction of the academy was followed by buildings for the Qatar Foundation (QF) Headquarters and a facility for VCU, all of which were designed by local architectural consultancies to resemble the traditional architecture of Qatar and the region (Ahmadi, 2015). The appointment of Arata Isozaki to develop the masterplan for EC resulted from the Qatar Foundation's commitment to ensuring design

[39] The Qatar National Vision 2030 (QNV2030) is a master vision and roadmap towards Qatar becoming an advanced society capable of sustainable development with the goal of providing a high standard of living for all citizens by the year 2030. The National Vision foresees development in four interconnected pillars; Human development, Social development, Economic development and Environmental development

[40] Both documents were published by the General Secretariat for Development Planning in 2008 (QNV 2030) and in 2011 (QNDS 2011-2016). Both available online at www.gsdp.gov.qa/portal/page/portal/gsdp_en

[41] The evolution of EC was critically discussed in 'Learning from Education City', a conference organized by QF in partnership with Columbia University's Graduate School of Architecture, Planning, and Preservation, and in collaboration with the American Institute of Architects Middle East Chapter, and was held at Hamad bin Khalifa University (HBKU) from 27-28 November 2015.

quality. This was further demonstrated through selecting internationally renowned architects to design the various buildings for the EC campus, including Ricardo and Victor Legorreta, Rem Koolhaas, Antoine Predock, and Cesar Pelli. It was expected that individual buildings should be able to express their own identity through their architectural theme while acting in synergy with each other. What has been achieved thus far in EC has been recognized as a unique national, regional and global destination that is currently designated as one of the four metropolitan centers for the greater city of Doha (Ahmadi, 2015, p.53). Connecting EC to various destinations across the city of Doha is also underway as part of the planned Qatar metro scheme, where four major stations will be located at the perimeter of the campus.

Figure. 4. The Architecture of Carnegie Mellon University blending with the external landscape particularly the backyard fountain (© Alraouf)

EC is an initiative of Qatar Foundation for Education, Science, and Community Development which was founded in 1995. EC is a cluster of Western universities that have established campuses there over the past two decades. It is planned and designed as a center for knowledge and innovation and spearheaded by Qatar Foundation (QF), a non-profit organization focused on education, science, and community development. With renowned architects contributing to the design of the campus's various buildings, EC became a national landmark signifying the role Qatar Foundation plays as a catalyst for the nation's transition from a hydrocarbon-based economy to a knowledge-based economy[42]. The campus is an organic realm of knowledge and cultural exchange, where a new generation is being nourished within a unique learning environment.

EC is located on the outskirts of Doha (Al-Rayyan area), it covers 14 square kilometers and houses educational facilities from school age to research level and branch campuses of some of the world's leading universities. EC provides various facilities to support its main function of efficient education, research, and knowledge dissemination. Facilities established within the education city can be broadly categorized into three distinctive areas. First, the principal education facilities which include: Qatar academy, Virginia Commonwealth University, Weill Cornell Medical College, Texas A&M University, Carnegie Mellon University, Georgetown University School of Foreign Service, Hamad Bin Khalifa University and Northwestern University[43]. The second component is the science and technology facilities which include Qatar Science and Technology Park, Sidra Medical and Research Centre, and Qatar Research institute. Finally, the third component of EC is community facilities which include EC community housing, Mathaf; Arab Museum of Modern Art, National Library, Al-Shaqah Equestrian Center, Qatar National Convention Centre, Qatar Foundation Headquarters, Al Shaqab Hotel, Solis Hotel, Oxygen Park and Health and wellness facilities (www.qf.org.qa).

Figure. 5. The College of Islamic Studies and Education city mosque allocated on the border of EC and attracting city dwellers to perform prayers and enjoy the adjacent parks

EC transcends the typical notion of the education cluster to pave the way for a vibrant knowledge center that integrates with the city and the community. The challenge of transforming EC into a gated community was faced with the insertion of several facilities and activities geared towards inviting community members with different cultural and social groups to use its spaces and places. In my fieldwork within EC, I have documented influx of community members particularly form adjacent neighborhoods and from the rest of Doha coming to use the other community-based facilities particularly the unique mosque at CIS and the Oxygen park. The relationship of the mosque with the

[42] In my interview dated 27th November, 2015, with Engineer Jassim Telefat, Group Executive Director, Capital Projects and Facilities Management, QF, he stated "To look at Education City is to see the proof that QF is fulfilling its mission of contributing to the building of a sustainable and prosperous society, and of supporting the transition of Qatar to a knowledge-based economy.

[43] Last year international media reported that QF's annual bill to cover operating expenses for the six US universities in Qatar surpassed $400m. The investment seems to be paying dividends: in the World Economic Forum's "Global Competitiveness Report 2016/17, Qatar placed 30th out of 138 countries, topping the GCC rankings for higher education.

adjacent Oxygen Park and Qur'anic Botanic Garden is another important factor in exploring different ways to relate community to knowledge, environment, and experience. Oxygen Park is an open invitation to the community to enjoy outdoor landscaped areas, while the Qur'anic Botanic Garden hosts botanca species mentioned in the Holy Qur'an and Hadith. Both express a didactic and innovative way to push for positive change and contribute to social development.

Project Two

The Aspire Zone: A New Concept for an Urban Community Park

Sports, Retail and Cultural Hub

The Aspire Zone, also known as Doha Sports City is a 250-hectare (2.5 km2) sporting complex located in Al Waab district. The project is a complete mega-development centered on the concept of branding Qatar as the sports capital of the Gulf. It was established as an international sports destination in 2003. The complex contains several state-of-the-art sports venues, mostly constructed in preparation for the 2006 Asian Games[8]. To complement what was perceived as a newly constructed vibrant urban center in Doha, different facilities and supporting amenities were added gradually. In 2004 Aspire Academy, an educational center for the development of sporting champions was opened. The zone embraces Khalifa International Stadium which was first built in 1976 and has long been the vibrant center of the country's sporting tradition. As the hosting nation of the World Cup 2022, the Stadium was subjected to a holistic renovation to be compliant with FIFA's stadium requirements. Attached to the stadium are the Qatar Olympic and Sports Museum which will be promoting the positive value of sports. The other sports facilities include Aspire Dome which is credited as the world's largest indoor multi-purpose court and Hamad Aquatic Center. To guarantee the holistic role of the sports zone, the project includes Aspetar, a specialized sports medicine hospital.

Fig. 6. A satellite map of the Aspire Zone with all its main components including the sports facilities, the park, the mall, and related community facilities (Source: Courtesy of Urban planning section, Doha)

The project also includes one of the most vibrant green and public spaces in Qatar; Aspire Park. It covers an area of 88 hectares and includes walking, running and cycling tracks, large green spaces, and children's playgrounds. To add to the comprehensiveness of the project, two accommodation facilities are constructed. First, the landmark of the project which is the Torch Doha Hotel, a distinctive skyscraper built for the 2006 Asian Games[44]. With its 300 meters' height, the tower is currently the tallest structure in Qatar. Additionally, the southern part of the zone is characterized by The Mövenpick Hotel which is designed to accommodate sports teams attending tournaments and training camps. Another significant element in the zone is Villagio Mall which was opened in 2006 to add retail, commercial, and recreational activities to the project.

[44] The tower was designed by architect Hadi Simaan & AREP and engineer Ove Arup & Partners.

After the opening of Villagio Mall, with its 150-meter long indoor water canal and gondolas tours, the Aspire Zone transformed to a prim destination for all Doha dwellers. Another crucial point about the project is its ability to speak positively to gender requirements within such a complicated cultural and social context. While women are so free to use all sports and recreational facilities at Aspire Zone, yet to consider the local social and cultural factors of the country and the region, two facilities for women only, are included, the Ladies Sports Hall which is designed to provide indoor facilities for court sport, and the Ladies Club specially designed for the recreational needs of women. The religious aspect was manifested in, the Aspire mosque with 1460 m², accommodating 850 prayers. The mosque is designed with architectural elements that portray dynamic movements associated with sporting activities and its modern design fits in harmony with the adjacent buildings.

Figure. 7. The Torch Tower and Hotel allocated in the center of the Aspire zone and acts as a landmark for the whole project

With such an integrated approach to mega urban projects, Aspire Zone is perceived not only as a sports destination, but it offers multi-function facilities serving different groups of people. It has been transformed into an urban center and one of the most visited destinations in Qatar. Also, the project provided an interesting pedestrian experience for the city dwellers. Finally, the place generates a high-density hub of diverse users from different social and cultural backgrounds. With all these aspects accumulated in the Aspire Zone project, a new sense of place was created in the city. A manifestation of the integration between the quality of spaces, pleasant memories, and a sense of belonging can be traced from the interviewed users interpreting the importance of the project in their relationship with the city[45]. Aspire Zone was successful in offering multi-function facilities that serve different socio-economic groups asserting the call for an integrated relationship between public space and cultural diversity as Low (2005) argues. The project offers diverse spaces that would satisfy the diversified user's needs confirming Jacobs' argument that public places should rely on a mixture of uses (Jacob, 1961). In the interviews conducted with Aspire zone users, more than 70% of the participants revealed that Aspire Zone including the park and Villagio Mall is the most visited urban space in Doha. The other three strongly competing places are Souq Waqif, the cultural village (Katara), and the waterfront. The success of the project is related to the diversified activities grouped in one territory allowing all sectors of the society to interact and enjoy which is a condition for creating and planning cities for people as Gehl argues (2010). To create a vital urban space within a Gulf city, diversity would be the primary determining factor. Populations in the entire Gulf States are a mosaic constructed from different ethnic and cultural backgrounds, values, and beliefs (Alraouf, 2014; 2016). Respecting such a distinctive feature of the Gulf States would bring life to city spaces and places. Insights on the importance of inclusive pluralism in cities and the significance of creating spaces for global cultures were highly articulated in the literature (Kihato, 2010; King, 2004).

Project Three

The Msheireb Downtown: The Narrative of the Heart of Doha

After the first oil boom in the 70s, Qatari Families moved rapidly from the old city center to the suburbs of Doha to areas where they can exhibit their wealth and enjoy the modern lifestyle (Al-Buainain, 1999; Alrouf, 2014). With time, the rich community in the area gradually migrated to other regions, leaving much of the historic neighborhood neglected. Undeniably, the mega real-estate companies in Qatar like Barwa, Qatari Diar, and Msheireb Properties, all with large government stakes, are shaping Qatar's urban development (Alraouf, 2016; Jodido, 2014; Gharib, 2014). The immense size of these companies' projects means that they will have a dramatic impact on the future sustainability of the Qatari built environment. For example, The Heart of Doha (Msheireb) in downtown Doha and Lusail City to the north of Doha's financial district, a new city for more than 250,000 residents, employees, and visitors will be analyzed. The Msheireb Downtown project aims to bring Qataris back to the severely abended old center of Doha. "Bringing people back to the heart of Doha", that was the initial slogan used to promote Msheireb mega mixed-used development when first declared in 2008

[45]I have conducted interviews with city dwellers visiting and using the project over a period of six month to cover the changeable nature of using open and public spaces which varied from summer to spring to winter due to sharp changes in wither particularly humidity and temperature.

by HH Sheikha Mozah Al Missned, the Qatari first lady of the time. The project aimed to bring local people back to their roots to rediscover a sense of community and togetherness[46]. As per the project slogan being the regeneration of an inner-city that will create a modern Qatari center imbedded in tradition, where global cultures will meet but not melt. A focus on challenges like social diversity and cultural relevance was considered in the evolution of the Masterplan (Law and Underwood, 2012). In doing so, the consultant and developers have incorporated traditional patterns of Gulf architecture and urbanism to create a contemporary Qatari architectural and urban language in a scheme that innovatively balances modernity with traditionalism. The project aspires to restore the lost shine to a location that is close to the hearts of all Qataris. Hence, it is crucial to bring it back to life. The project was also marketed as it aims to reduce the city's urban sprawl and revitalize the old center. The project, which was initially named "Heart of Doha", was described as a "city within a city" that merges the best characteristics of the past with the modern technologies. Most of the Gulf real-estate companies use slogans to emphasize the sustainable nature of their new projects. For example, Msheireb bills itself as the world's first sustainable downtown regeneration project, which uses traditional Qatari architectural language and aims to achieve one of the highest concentrations of LEED-certified buildings in the world. It remains to be seen whether they achieve this aspiration. The developers emphasize their commitment to using timeless techniques inherited from the traditional built environment. For example, concerning climate issues, the goal is to use old and new technologies to achieve maximum comfort with minimum energy use.

Figure. 8. The old center of Doha showing the Msheireb urban intervention dominating the old city center. (Source: Msheireb Properties)

Msheireb is a mixed-used development project comprising office space, retail, leisure facilities, different housing types, hotels, museums, civic services, as well as cultural and recreational places. According to Msheireb properties, Msheireb Downtown Doha is lying on 31 hectares but the gross floor area (GFA) reaches 76 hectares (760000 m^2). It is located in the Mohamed Bin Jassim District at the heart of Doha and adjacent to Amiri Diwan, Souq Waqif, and Al Koot Fort. The project consists of five main quarters comprising three extended governmental buildings including the National Archive. Msheireb project is designed as urban villages for future residents to be able to satisfy their needs within walking distance. The layout is planned to allow a pedestrian-friendly environment hence social interaction. As Gharib (2014) argues, the project is a step to move from locality to globalization as Qatar is consistent in balancing its local assets with global aspirations.

One of the strong aspects of the project is related to the urban and visual connectivity with the adjacent Souq Waqif, the most significant heritage area in Doha. The levels of connectivity can be seen in the architectural language extended from the facades of Souq Waqif and the Heritage quarter to the facades of Msheireb buildings but in a very abstracted and modernized way. Another level of connectivity is related to cultural amenities. From the galleries and cultural centers at the Souq, the connection is extended to the project via the presence of four museums occupying four traditional houses that were preserved and rehabilitated during the construction of the project. The third level of connectivity can be seen in the actual urban and movement relations between the Souq and the project. A major urban space is connecting the two projects and allowing for an excellent visual adaptation and preparation for a better perception of the project. While it can be argued that the project failed to fulfill its initial promise regarding bringing Qataris back to the heart of Doha nonetheless, it is providing an excellent case of a vibrant urban center characterized by mixed-use development, urban diversity. The significance of the project is related to its ability to provide a successful example of the needed mixed-use development coupled with transit-oriented development and open to the diversified community and users' groups. Such features are substantially needed for Qatar's plans for the future, particularly the principle of moving towards the post-carbon paradigm and more reliance on sustainable and people-friendly modes of development and urbanity.

[46] H H Sheikha Moza bint Nasser,. *Chairperson's Message.* n.d. http://www.msheireb.com/mobile/enus/msheirebproperties/chairpersonsmessage.aspx (accessed May 6, 2017).

Project Four

Souq Waqif: The Beauty of the Authentic Fake

Due to the urban impact of oil revenues in the late 70s and 80s, most Gulf countries have neglected and demolished their heritage in their accelerated effort to modernize their cities (Al-Buainain, 1999; Davidson, 2009; Formherz, 2012; Rabbat, 2014). During the last decade, Gulf cities realized the great loss of unique heritage include traditional markets (Souqs), and began implementing urban conservation schemes either by regeneration approaches or requalifying the destroyed built heritage (Alraouf, 2012; Mortada, 2013). Examples can be brought from almost every Gulf State including souqs like Bab Al-Bahrain in Manama, Al-Mubarakiya in Kuwait, and Al-Mutrah in Oman among others. The project of Souq Waqif is a unique architectural and urban revival of one of the most important heritage sites in Doha. The project aims to reconstruct the lost image of historic Doha through the rehabilitation of its authentic Souq, Protect the area of the Souq and its surrounding from real-estate development and create an open-air public area pedestrianized (Kaaki, 2008; Nafi, 2015). Souq Waqif was originally a weekly market for local Bedouins. The Souq acquired its name "Waqif," which means "standing" in English because merchants stood up to peddle their goods spaces were small, making it impossible to sit on either side of Msheireb Valley (Alraouf, 2012; Tichar, 2010; Atar and Abdullah, 2006). Doha was a mere village and Msheireb Valley was the main feature of its morphology. Coinciding with the emerging of modern Qatar, the souk developed to expand in space and activities. Additional shops were built, and a small hotel was constructed in the heart of the main alley called Bismellah in the middle of the last century, which was an indication of the souk's popularity back then. The restoration of the Souq has proved to be an escalating success[47]. It has become one of Doha's most popular sites. The success of the project was not generated from the decision to revive its narrow streets and unique traditional urban fabric. More critically, it was accompanied by a bold decision to pull down new buildings that were added earlier and harm the harmonious place character. Such boldness cannot be established without the support of the highest authority in the country. The recent construction of the new underground car parking in Souq Waqif enhanced Social activities. On top of the car park, there is a park with a water feature, where families usually gather, namely on weekends and in the evening, when the weather allows.

Fig. 9. The site plan of Souq Waqif Doha, as envisioned by Qatar Private Engineering Office and Designer and artist Mohammed Ali Abdullah (Source: Courtesy of AKDN.org)

Fig. 10. The daily and weekly events adding to the vibrancy of the souq and sustaining its status as a prime destination in Qatar (Source: Courtesy of AKDN.org)

In time for Doha's hosting of the 2006 Asian Olympic Games, and with Qatar's aim of presenting and preserving its heritage during prevailing globalization and modernization, the Souq was rebuilt anew to welcome visitors from all over. After the renovation, Souq Waqif becomes a showcase of traditional architecture, handicrafts, and folk art[48]. The Souq evokes the feeling of traditional Arabic heritage. Beginning in 2004, it was renovated according to traditional Qatari architectural principles and by using authentic materials (Tichar, 2010; Atar and Abdullah, 2006). The renovation has returned it to a typical 19th-century souq; an intricate maze of streets offers a

47 The renovation of the Souq started in 2004 using the expertise of the local designer and artist Mohammed Ali Abdulla and the consultancy expertise of the private engineering office (PEO).

48 To encourage stores offering traditional crafts in the first phase pf the project, store operators selling these crafts were given free rent, water and electricity according to the souq management policy initiated by Qatar government.

natural shelter from the country's harsh climate (Kaaki, 2008). The successful renovation highlights the nobility and wisdom behind the region's traditional architecture in the face of modern construction devoid of any cultural identity[49]. This traditional experience made Souk Waqif imperative and the prime place to visit for locals, expatriates, and tourists alike. The spatial experience currently provided is so unique. Strolling in the open air along the winding souk streets and the twisting narrow alleyways is itself an interesting journey; evoking a sense of connecting to the past and reliving Qatar's ancestors' lives before development (Abdullah, 2006; Nafi, 2015, Alraouf, 2012).

Souq Waqif was nominated for the prestigious Aga Khan Award for Architecture in the 2010 cycle (AKDN, 2013). It has been described as a revitalization project aimed to reverse the dilapidation of the historic structures and remove inappropriate alterations and additions. In complete contrast to the heritage theme parks that are becoming common in the region, Souq Waqif is both a traditional open-air public space that is used by shoppers, tourists, merchants and residents alike, and a working market. The souk has another crucial role which elevates visitors' artistic and cultural experience. Allocated in the center of the main alley is the Waqif Art Center. Different local and foreign artists display their creative handwork, especially in forms of photography, painting, and sculpture. It is also a place for conducting workshops for children and youth in different art subjects. The Souq's spatial experience is usually used to inspire participants. Additionally, it is a place for events such as cultural symposiums and lectures covering all subjects dealing with art and creativity. Periodically, evenings of celebrations and creative popular music recitals are artfully organized on weekends and national holidays. Among the successful events which have been held at the Souq included the Spring Festival, the Circus Festival, Eid Al Fitr and Al Adha festivals, concerts of popular Arab artistes, and musical events during weekends all catered to the multi-cultural population of Qatar and visitors. Additionally, Al-Rayyan Theater, located on the edge of the Eastern side, is a place for indoor traditional art performances. Al-Maawda (2009) argues that just as Khan El-Khalili in Cairo, was a strong source of inspiration for Nobel Prize laureate Naguib Mahfouz, Waqif Art Center strives to promote cultural awareness and a refined human artistic sense. The Souq generates a new urban experience in the city based on principles like diversity, usability, walkability, and connectivity.

Fig. 11. Souq Waqif, Doha as a space to rejuvenate diversified public life

Souq Waqif is set to further cement its reputation as Doha's tourist hub with plans taking place to establish new facilities including new hotels and additional parking areas. Ten new hotels are set to rise as part of the management's ambitious plans to further develop the already prominent Souq, said Mohammad Al Salim, General Manager of Souq Waqif (The Peninsula 23 May 2011. P: 2). In conclusion, using Eco's concept of Faith in Fake, it might be argued that Souq Waqif's development is an interesting urban experience that includes the authentic, authentic fake and the fake (Eco, 1986). As expressed earlier, the old core is authentic and goes back to Doha's original beginnings. Then the project moved to the authentic fake development in its first phase where references to architecture that were never in the context of the Souq were introduced. Traditional Gulf and Qatari architecture were used to shape new spaces and places in the Souq. However, the new phases of the Souq development are simply fake. The level of success that the project achieves, tempt decision-makers to extend it beyond authentic and authentic fake boundaries. Currently, the new additions of the Souq with its fake approach are stretching in every direction. The notion of small is beautiful which is the essence of traditional markets was ignored for the favor of the Souq becoming a prime destination. Limiting the Souq's growth is as important as developing it. Moving from a more authentic place to a fake one, precisely if new additions are functionless, is harming the project's success story.

[49] According to Mohamed Ali Abdulla (2006, p:13), the architectural designer of the Souq, the renovation and restoration plan was based on number of evidences and principles. A comprehensive study of Qatar traditional architecture, analysis of Ariel photos captured the Souq's urban fabric in the 40s and 50s of last century, archival records, building records and finally local elderly people narrative of place memories structured the renovation plan.

Project Five

Museum of Islamic Art (MIA): The Challenge of Engaging People

Fig. 12. The museum of Islamic art overlooking Doha's emerging urbanity (© Ali A. Alraouf)

Architecture and urbanism, as various researchers have suggested, used to be the physical representation of Muslim communities' creativity, and positive contributions in mankind's development (Hawker, 2008; Al-Hahtlul, 1981; Hakim, 1986). Specifically, art and architecture were seen in some historical eras as a manifestation of science, cosmology, and geometry (Brend, 1992; Hillenbrand, 1998; Grabar, 1983, Nasr, 1987). In the Middle East, museums were geared towards the elite and well-educated minority in addition to foreigners and tourists (Alraouf, 2016-B). However, museums are now using a different approach to blend in the cities where they are located and expand their target audience by engaging all segments of the local community (Hein, 2000; Anderson, 2004; Black, 2005). Within the Gulf context, the last five years have witnessed extensive and rapid growth in museum activity, with the regeneration of existing museums, the founding of major new ones, and the creation of international satellite museums (Bharadwaj, 2012; Erskine-Loftus,2013; Exell and Rico, 2014; Wakefield, 2015). MIA in Doha is an interesting example in showing how museums are moving from independent and isolated buildings to a vibrant urban entity where exhibition spaces, public places, educational facilities, and entertainment venues are blended harmoniously.

Part of Qatar's path towards knowledge-based urban development is manifested in efforts to transform Doha into one of the world's leading art and culture destinations soon (Alraouf, 2008). Qatar's plan for a world-class set of cultural facilities has made an impressive start with (MIA) in Doha designed by the reputable architect I.M. Pei. MIA opened its door to visitors in December 2008 (Merrick, 2008). Located on the Doha waterfront, the MIA gradually transformed into a cultural district composed of four main elements; MIA, the MIA Park, Al Riwaq Gallery, and the Bazar. It may well be suggested that these different spatial realms are crafting a cultural hub that presents visitors with a rich cultural, social, and spatial experience. A key player in this plan has been the MIA that marked the anchor point of this emerging project and created a dialogue between art, culture, history, and modernity. Pei took inspiration from the thrilling geometry of Ahmad Ibn Tulun Mosque in the heart of Islamic Cairo (Bharadwaj, 2012). The museum is a contemporary representation of generative architecture produced from applying three-dimensional geometrical complexities (Jodidio, 2009). Despite the building's size and purpose, the architecture seems positively modest. Humbleness and modesty are underlying values of Islamic architecture and urbanism (Hillenbrand, 1998).

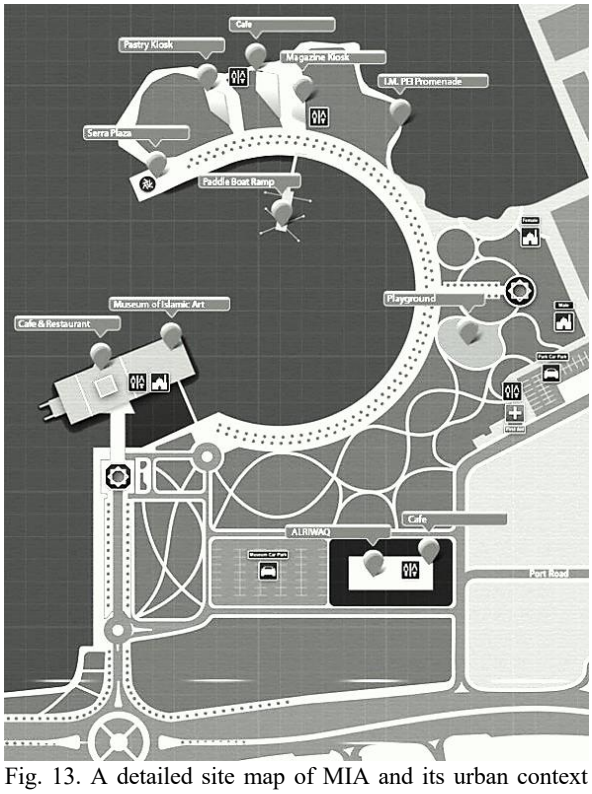

Fig. 13. A detailed site map of MIA and its urban context including the four main components; the museum, the park, the souq, and AlRiwaq gallery

Fig. 14 and 15. I. M. Pei was inspired by the architecture and geometrical poetics of Ibn Tulun Mosque in the heart of Cairo, Egypt. Such geometrical structure acts as an icon and a landmark in the visual fabric of Doha (© Alraouf)

Visually, the museum is located on a reclaimed island right in front of the city's main promenade "*Al Corniche*"[50]. By being sensitive to the project's context, Pei observed the unique morphology of the city waterfront and positioned the museum in a way that would engage city dwellers and visitors in an interesting visual dialogue with museum masses. The internal spatial composition on different levels is providing interesting glimpses towards the city's new development and vivid skyline. Additionally, a series of outdoor spaces and terraces were introduced to play the role of city balconies for museum visitors or even for pedestrians penetrating the garden spaces and strolling around the main building masses, courtyards, and external spaces. The architecture and outdoor spaces resulted in framing a series of city views. Pei's approach stimulated visual and then intellectual dialogues between past, present, and future in people's minds. To encourage visiting the museum, Qatar Museums (QM) have decided to keep the entrance to the museum to all local and expatriates from different gender and age groups free. This decision has helped towards strengthening the bond between the museum and the community. Getting into the museum is achieved through two different scenarios for pedestrians. Either from the main gate located directly of the city's promenade. From the gate, visitors will ascend gradually the link leading to the main plaza and then to the museum's main entrance. The other scenario is via the MIA park adjacent to the museum which opens towards the two sides of the museum's urban context; the city and the bay. The two scenarios have successfully intensified the pedestrian experience. More profoundly, they diffuse any physical or non-physical boundaries between, the building, the community, and the city.

The MIA Park proved to be the primary destination for visitors as it was concluded from numerous interviews carried out with park visitors. The compilation of MIA park visitors interviewed draws attention to an interesting fact. Most of the MIA park visitors came to enjoy the open spaces, green areas, waterfront promenade, and the city's astonishing holistic view. More interestingly, Park events like Jazz concerts, Park Bazaar, sports day celebrations, and other public and free events draw people first to the park and then to the museum. In other words, such events act as the hook to entice people to experience the intellectual content of the museum. It is acceptable to state that the purpose of museums for Qataris is not necessarily to merely view the collections, but to experience the space and socialize near the monumental architecture. The park features a display of some temporary sculptures and only one permanent artwork[51], striking views over the city.

Fig. 16. The vibrancy of MIA park and its promenade overlooking Doha's skyline (© Alraouf)

One of the vibrant components of the MIA Cultural District that encouraged community members to visit the place regularly is the Bazaar or the Museum Souq. Located right next to the museum and composed

[50] The "Corniche" is a road built along a coast". It is widely used in the Middle East, to indicate the waterfront promenade.

[51] Richard Serra's first public art piece in the Middle East called "Seven." Standing at the end of the MIA Park, the 80-foot vertical steel sculpture is arranged in a heptagonal shape that is inspired by a minaret in Afghanistan.

of a vibrant mix of approximately 150 stalls, the MIA Park Bazaar is a modern interpretation of the old traditional Souq that brings people together to browse and buy handicrafts, accessories, paintings, clothing, traditional food, jewelry, and photography. Held every weekend, the bazaar's products are usually unique to the Souq and are not found in the main shopping areas and malls of the city. This inclusivity adds a strong cultural flavor to the park. Al Riwaq gallery is the latest addition to the MIA cultural district. Sitting at the edge of the park, this modern gallery space hosts temporary and contemporary art exhibitions. Architecture then loses its presence to art and becomes a transparent shell for works done by artists such as Takashi Murakami and Damien Hirst. With every new exhibition, this venue's minimalistic architecture transforms the constantly changing advertising campaigns, coving its walls and giving it a new identity. Due to its strategic location, being close to the main street, these advertisements are always seen by most of Doha dwellers. Therefore, the gallery is helping in creating art awareness for the public.

MIA situated in Qatar on a global stage connected it to regional and local architectural trends and enabled it to display its adherence to the creation of KBUD (Alraouf, 2008; 2012). In the case of MIA, Pei succeeded in resolving this dilemma of Middle Eastern cities' architecture and urbanism and created an interesting balance between Doha's contemporary aspirations without neglecting the value of its contextual heritage that the city has acquired due to belonging to Arab and Islamic world. MIA worked to create a bond between the museum and the city dwellers and visitors by inviting students from schools and universities as well as local community members to attend continuous shows, public lectures, seminars, workshops, and exhibitions to construct the pillar of such a bond. Through these programs, it has emerged as a center of education and knowledge. The project also succeeds in representing a more contemporary understanding of heritage based on perceiving the traditional heritage as a source of inspiration rather than visual vocabulary to be copied and cloned repeatedly (Jodidio, 2008; Alraouf, 2016b). MIA is stating a profound example of how cultural facilities, especially in the Middle East, redraw or better remove the boundaries between people and places. The museum is becoming a destination for locals and expatriates alike living in Doha and Qatar. Additionally, it is becoming the prime destination for tourists and visitors hoping to get informed about the country's culture and identity. The strong connection between the MIA and its adjacent park facilitated establishing a new bond between people and the museum. MIA not only contributes to sustaining the local and ideological identity of Qatar but more critically it contributes positively to the country's strategic aspiration to transform Doha into a knowledge-based society.

Fig. 17. The holistic context of the MIA and its physical and visual connections to the city of Doha (© Alraouf)

Conclusion

The strategic objectives of megaprojects in Qatar are achieved via branding the State as a new destination for cultural events, sports international competitions. It is also achieved via establishing Qatar's new identity as a context for knowledge and creativity attracting knowledge workers from all over the globe. While all these projects succeed in achieving the future strategic goals of Qatar, yet, such a trend reached a reasonable end due to the continuous decrease in oil prices and the lessons learned from the siege on Qatar started on 5th June 2017. There is no need to invest heavily as before in megaprojects. The main objectives are already achieved, and conservative spending is inevitable. Enhancing the quality of life so knowledge workers can decide on coming and settling in Qatar is not only related to the success of megaprojects but also small scale interventions; streets, public spaces, diversified housing, and cities vibrancy. This paper has critically examined the most influential megaprojects in Qatar. The paper illustrates how most of these projects contributed to achieving the new vision of the State. Hence, the provided analysis suggests that Qatar is moving away from the typical understanding of identity as a representation of old traditions and styles that was crystallized earlier by numbers of scholars (Powell, 1983; Toniz, 2003). Projects like Education City and MIA are constructing a new identity for Qatar and help in going beyond the traditional comprehension of the State's identity as a historical reference rather than future contribution. Such projects reflect Qatar as a benchmark for globalization, seamlessly bringing together different influences and perceptions of modernity. The analysed projects demonstrate the aspiration to become centers of urban life for all citizens. They also provided evidence to a solid trend towards promoting sustainable urbanism by encouraging walkability, incorporating green approaches, and being inclusive and achieving the principles of the just city (Harvey, 2009; Soja, 2010). Qatar's new identity is articulated around the notion of knowledge and education. Therefore, investing in building universities, research centers, museums, and vibrant public spaces, is an investment in the intellectual, cultural, and knowledge capabilities of the society as a whole. For a more concrete validation of the study results, several interviews had been conducted with senior planners and decision-makers at Qatar national master plan, the think tank at the Urban Planning Department in the Ministry of Municipality. The interviewed urban planners and designers include Head of Municipals Spatial Plans Unit and Urban Centers Coordinator, and Megaprojects Coordinator who did not only assert the move beyond the megaprojects paradigm but also suggest a new tendency towards public-private partnership (PPP) model of development. Such tendency as explained would create more realistic, community-based, and resilient projects and modes of sustainable urban development. The analysis, provided in the context of the paper, illustrates that architecture and urban design of mega urban projects in Qatar are crucial factors in the success of such projects. Provocative and exciting architecture invites people to explore the spaces and to be engaged in new experiences. Connecting projects to public and open spaces by human-friendly and pedestrian-oriented urban design is another important factor in the matrix of successful mega urban projects in Qatar. From Education city to Souq Waqif, such projects are geared towards economic diversification, urban diversity, knowledge-based urban development, and social urban justice.

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The Town-plan as a Unifying Concept

Vítor Oliveira

CITTA Research Centre for Territory Transports and Environment, Porto, Portugal.
E-mail: *vitorm@fe.up.pt*

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Abstract

How to address something so complex as the physical form of cities? The question has been at the centre of morphological debate in the last decades. Many theories, concepts, methods and techniques have been proposed to scientifically describe, explain and prescribe urban form; some of these offering a thorough understanding of the main agents and processes responsible for shaping that form over time. This paper proposes a reinterpretation of the town-plan as a unifying concept to address different scales, different kinds of landscape, and different periods of formation, and also to relate the physical form of cities with urban life, and scientific research with professional practice. The town-plan is addressed through the Morpho methodology. Porto Metropolitan Area, in Portugal, is used as an example to illustrate the main arguments of the paper.

Keywords

Urban Morphology, Urban Form, Town-plan, Morpho Methodology, Porto.

Introduction

Urban morphology is the study of the physical form of cities and of the agents and processes that continuously shape and re-shape that form over time (Oliveira, 2016; Kropf, 2017). The origins of urban morphology are in urban geography, in Central Europe in the turning from the 19th to the 20th century (Whitehand, 1981). Over more than one century, this field of knowledge has been formulating, developing and refining a number of theories, concepts and methods to capture the main aspects of the physical form of cities and their transformation.

Criticism on morphological theories, concepts and methods has many times focused on their 'ability to do something in particular, and the inability to do it in a different situation'. Critics have addressed, for instance, the capacity to effectively address a small town and the incapacity to grasp a whole metropolitan area; the skills to understand a 'planned' landscape and the incapability to deal with a settlement whose form results of many individual actions; and, also, the ability to capture the physical characteristics of an historical kernel and the inability to morphologically characterize a 21st century area. In addition, these theories, concepts and methods have been many times described as having an exclusively physical focus, with no apparent utility for the life of ordinary citizens, and as being too difficult to implement in the daily routines of planning practice.

Whitehand (1967) and Serra and Pinho (2013) offer evidence of the ability of morphological tools that have been formulated, or redefined, in small towns – Alnwick and Gassin – to address metropolitan areas (or even entire countries as proposed by Serra and Hillier, 2019). Amato (2017) and Iovene (2018) explore the use

of concepts formulated in the analysis of consolidated Italian cities in the study of informal settlements of Latin America. Dibble *et al*. (2017) demonstrate the use of the same morphological characteristics to analyse different parts of cities of different time periods and to explain an evolutionary process of urban form. Talen (2018) and Silva *et al*. (2017) offer comprehensive reviews on the impact of urban form on two crucial aspects of our daily life, social segregation and energy consumption. Oliveira (2020) gathers a number of contributions on how to effectively apply scientific morphological research into professional practice on planning, urban design and architecture.

This paper addresses these critics as a whole by proposing a reinterpretation of the town-plan as a unifying concept, capable of relating these different perspectives. The town-plan has been originally proposed by M.R.G. Conzen as part of the tripartite division of the urban landscape (Conzen, 1960). The town-plan is made of streets (including squares and gardens), plots and the block-plans of buildings. The other two elements of the tripartite division are the building fabric and the land and building utilisation. The potential of the concept is fully illustrated in the seminal book of Alnwick, which despite Conzen's original intentions has remained a study on town-plan analysis (Monteiro, 2017). The concept offers the stage for the creation and development of other concepts that address the way urban form elements are combined on the ground and how they evolve over time, notably the morphological region (Conzen M.R.G., 1975; Whitehand, 2009; Oliveira and Yaygin, 2020) and the fringe belt (Whitehand, 1972, 2019; Conzen M.P., 2009; Ünlü, 2013). Conzen (2018) offers a notable synthesis on town-plan analysis as a method for understanding the physical evolution and the present character of cities.

In this paper the town-plan concept is reinterpreted and developed through the Morpho methodology. Morpho has been originally proposed as a methodology to address the physical form of cities and first applied at the street scale in the city of New York (Oliveira, 2013). It has been subsequently developed and applied at the city scale (Oliveira; Medeiros, 2016) and later in the comparison of a large number of cities (Oliveira; Medeiros; Corgo, 2020).

The potential of the concept and method will be illustrated in Porto Metropolitan Area. Porto is the second most important city of Portugal and the centre of its metropolitan area. According to the last national census (2011), the city has about 237.000 people, while the metropolitan area has around 1.3 million people. This paper considers, not the so-called Greater Metropolitan Area of Porto with seventeen municipalities (which is mainly an administrative creation) but, the group of nine original municipalities that is more accurate to the extant situation. These are as follows: Póvoa de Varzim, Vila do Conde, Matosinhos, Maia and Valongo at north, Porto in the centre, and Gondomar, Vila Nova de Gaia and Espinho at south (Figure 1). The city of Porto and the metropolitan area have, respectively, approximately 101.000 and 490.000 families, meaning an average size of 2,4 and of 2,6 people per family. The city and the metropolitan area are made of about 44.000 and 273.000 buildings, consisting of around 138.000 and 625.000 dwellings – corresponding to an average size of 3,1 and of 2,3 dwellings per building.

The paper is in seven parts. After this brief introduction it sequentially addresses the five main topics identified above: different scales, different landscapes, different periods of formation, interaction between physical form of cities and urban life, and relation between scientific research and professional practice.

Figure 1. Porto Metropolitan Area

Different Scales

Metropolitan scale

It is argued that the Morpho methodology is able to address urban form from the metropolitan to the city scale, and from this to the neighbourhood scale (Table 1). What should, then, be the most important urban form elements and characteristics to address at the metropolitan scale? It is claimed that the focus should be on the main stocks and flows of the metropolis.

Streets and plots – or buildings, if data on plots is not available – should constitute the elements of inquiry for this first layer of analysis. Furthermore, it is argued that the main variations of the physical form of the metropolitan territory would be justified by variations in the density of streets (or more specifically of nodes and segments) and in the density of plots (or buildings) per street-block. The former gives a potential of flows interaction and the later gives a potential of the diversity of urban actors and strategies. The analysis of the density of nodes (with a focus on 4-ways nodes) and segments can progress into an inquiry of the spatial accessibility of the street system (Hillier and Hanson, 1984; Hillier, 1996).

Figure 2 is the segment map of Porto Metropolitan Area, and represents integration at radius 25,000 (see also Table 2). Integration measures the distance from each segment of origin to all others in a given radius, highlighting the most important centralities. Figure 3 is the density of buildings per street-block, per hectare. Both maps make evident, with considerable detail, the central role of the city of Porto in the metropolitan area, and within the city, its central part limited by the inner ring road. Both maps highlight a number of axes (made of streets and buildings) leading to north, east and south. While in the segment map this is made of traditional and new streets (usually motorways), the map of buildings density reveals mainly the traditional structure, closer to what would be a map of integration calculated for a lower radius. Matosinhos, as a whole, and Gaia, in the northern part of the municipality have high values for both criteria. On the contrary, Vila do Conde (except for its central parish) has low values for both streets and buildings. The map of buildings density – but not the segment map at this scale, only at a lower scale – highlights the values of the central parishes (with the municipalities names) of Póvoa de Varzim, Vila do Conde and Espinho.

Table 1. The town-plan and the different scales of analysis

	Town-plan				Building fabric	Land utilization
	Streets	Street-blocks	Plots (or buildings)	Block-plans of buildings		
Metropolitan	Accessibility of streets, density of nodes	-	Density of plots (or buildings)	-	-	-
City	Accessibility of streets, density of nodes	Density of street-blocks	Density of plots (or buildings)	Coincidence plot / building frontages (density)	-	-
Neighbourhood	Accessibility of streets, density of nodes	Density of street-blocks	Density of plot (or buildings), width of plot frontages	Coincidence plot / building frontages (density)	Relation building height / street width	Land and building utilization

Table 2. Different scales: metropolitan, city and neighbourhood

	Integration of streets (r25,000)			Size of street-blocks (%)			Density of Buildings (%)			Coincidence building/plot front.	
	Max	Ave	Min	Sma	Med	Lar	Hig	Med	Low	C+MC	NC+MNC
Porto metropolitan area	8135.8	4136.6	172.5	31,1	21,4	47,5	20,0	22,8	57,2	-	-
Porto city	8135,8	6235.2	3858.5	47,8	23,5	28,7	38,1	24,7	37,2	48,3	51,7
Caxinas neighbourhood	2386.2	2096.9	1715.9	55,3	36,8	7,9	81,6	7,9	10,5	73,7	26,3

Accessibility of streets: Max – Maximum, Ave – Average, Min – Minimum
Size of street-blocks: Sma – Small, Med – Medium, Lar – Large
Density of buildings: Hig – High, Med – Medium
Coincidence between building and plot frontages: C – Coincident, MC – Mostly Coincident, MNC – Mostly Non-Coincident, NC – Non-Coincident.

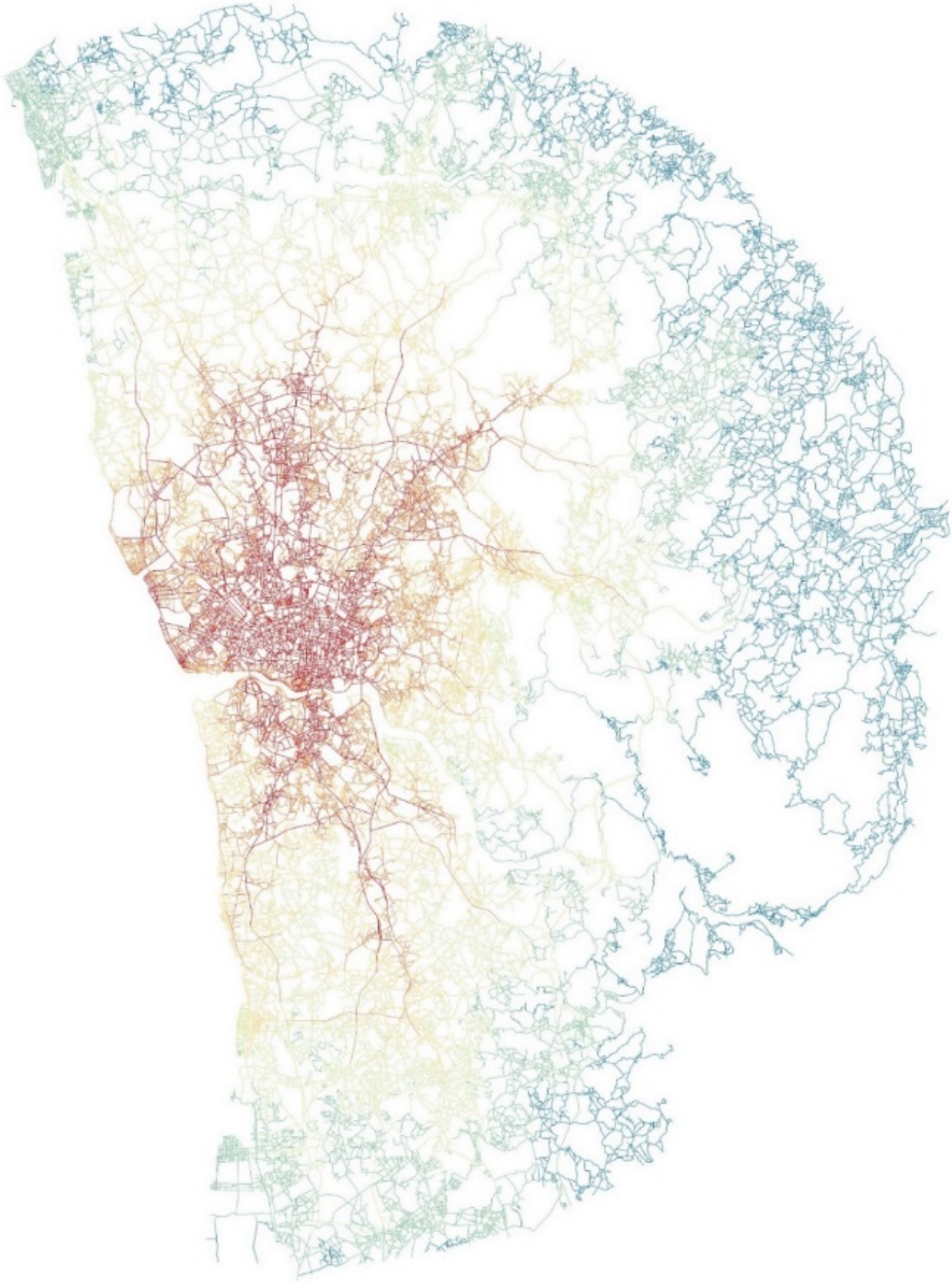

Figure 2. Porto Metropolitan Area: segment map, integration at radius 25,000. The colour range goes from red (highest values) to orange, yellow, green, blue and dark blue (lowest values). Source: the map has been kindly given by Miguel Serra; it has been published in Serra and Pinho (2013)

Figure 3. Porto Metropolitan Area: map of density of buildings, per plot per hectare. The colour range goes from black (highest values) to grey and to white (lowest values)

City scale

At the city scale, the analysis should encompass streets, street-blocks, plots and buildings (Table 1). Density continues to be the main characteristic under inquiry, in a direct or indirect way. Firstly, Morpho measures the accessibility of the street system, using again the method of angular segment analysis and the measure of integration. Secondly, Morpho addresses the density of street-blocks. It considers six classes of size: under 5,000 m², 5,000-10,000 m² (these two fall under Siksna, 1997, classification of 'small'), 10,000-20,000 m² ('medium'), 20,000-50,000 m², 50,000-100,000 m², and over 100,000 m² ('large'). Thirdly, Morpho focuses on the density of plots (or buildings, when data on plots is not available), considering the number of plots per street-block and dividing it by the area of the street-block (measured in hectares). Six classes are defined: fewer than 1, 1-5, 5-10 (low density), 10-20 (medium density), 20-50, and more than 50 (high density) plots per hectare in each street block. Finally, the coincidence between building and plot frontages is addressed. More particularly, in each street block, it measures the number of plots where building and plot frontage is coincident and expresses it as a percentage. Four classes are considered: Coincident / C, Mostly Coincident / MC (coincidence in more than 50% of plots in a street block), mostly non-coincident / MNC (less than 50%) and Non-Coincident / NC. In terms of measurement procedure, one building within one plot is considered aligned if more than 50% of the building frontage coincides with the plot frontage.

The application of Morpho to the city of Porto reveals that the integration core (considering the metropolitan area for calculation of a 3,000m radius) is made of a dense central area organised around two east-west axes (Constituição and Boavista) and a number of north-south axes – Figure 4. Both the western and (particularly) the eastern parts of the city have lower values of integration. There is a dominance of 'small' street-blocks – almost half of the total number of street-blocks (Table 2). Density of buildings is more balanced. Yet, almost 2/3 of the street-blocks has a high or medium density of buildings. Finally, considering the street-blocks that are mainly or exclusively residential, it can be said that the street-blocks with non-coincident or MNC is slightly higher than the street-blocks with coincident or MC building and plot frontages. Previous investigation (Oliveira; Medeiros; Corgo, 2020) shows that, against the background of the 20 main Portuguese cities, Porto holds, together with Lisbon and Beja (located in the Alentejo region) the highest results for these four criteria taken together.

Figure 4. Porto: segment map, integration at radius 3,000; map of density of buildings, per plot per hectare. Source: the segment map has been kindly given by Miguel Serra; it has been published in Serra and Pinho (2013)

Neighbourhood scale

At the neighbourhood scale, the analysis of the ground plan is complemented with an inquiry to the main elements of building fabric and of land and building utilisation. Caxinas illustrates the application of Morpho at the neighbourhood scale. Caxinas is a fishing settlement with a long urban history and a strong identity and character, located in the northwest part of the Vila do Conde parish, in the municipality with that same name (see Figures 1, 5 and 6). It is one of the places with the highest building density as illustrated in Figure 3.

The relief of this settlement has no significant variations. The spatial accessibility of Caxinas is very high, not only when considering it at a neighbourhood scale of analysis, such as a 500m radius, but also when considering it at an urban scale, such as a 3,000m radius. The area has 53 street intersections; 24 of these are 4-ways nodes, which reveals a certain balance between accessibility and privacy. The area is made of 38 street-blocks. More than half of these is 'small' and only three are 'large' street-blocks (Table 2). 4/5 of these street-blocks has a high density of plots; only four have a low density of plots. In many occasions plot width is less than 5m. Building and plot frontages are coincident, or mostly coincident, in ¾ of the street-blocks.

Most of the 1,500 buildings that make this area have one or two-storeys. ¼ has three or four storeys, and only a small minority has five or more storeys. Most streets have between 7,5 and 15m width. While 85% of the buildings have exclusively a residential use, only six of the 38 street-blocks are exclusively residential and two street-blocks remain empty.

The two most vibrant streets of Caxinas are the seafront and the first parallel street – Dr. Carlos Pinto Ferreira. The latter is 1,000m long. The west and the east sides of the street are made of, respectively, 108 and 130 buildings, opening their doors directly into the street – including single-family houses, multi-family houses, restaurants and coffee shops, supermarkets and fruit shops, hairdressers, banks, to name the most important. This means that on average, and one each side of the street, there is one new building each 8m (as mentioned before many buildings have less than 5m width, with a two 'bays' façade – two doors or one door and one window in the ground floor, and two windows in the upper floors).

Figure 5. Caxinas aerial view (source: Google Earth)

Figure 6. Welcome to Caxinas (photograph by the author)

Different Landscapes

'Planned' landscapes

It is argued that, because of its focus on the most structural aspects of urban form, Morpho can be applied in the description of very different urban landscapes, from 'planned' to 'unplanned' (adopting a simplistic duality). One of the most successful planning cases in the urban history of Porto has been the construction of a number of streets outside the 14th century city walls, in the second half of the 18th century. The Junta das Obras Públicas was responsible for the opening of these new streets and for the regularization of existing paths, designing a street network that would be able to structure the process of urban development of the city until the end of the 19th century. The most iconic of these streets is Almada (which has the name of the first president of the Junta) – Figures 1 and 7.

Rua do Almada is 800 m long and 10 m wide. It links two different squares, Loios in the south and República in the north (República located 50m higher than the former). The street is part of the integration core of the street-system at the neighbourhood, city and metropolitan scales (Table 3). The street has six intersections, four 4-ways nodes and two 3-ways nodes, somehow reflecting the adaptation of the street structure to the rugged relief. Almada is made of ten street blocks and of 344 buildings. Street-blocks are mainly small or medium, and have medium- to high-density of buildings per hectare. Building and plot frontages are coincident in all plots.

2/3 of the buildings in Almada are three or four storeys high. The largest street block of this set includes 121 buildings. 58 of these face the Almada street (the other facing the surrounding streets). In a significant part of these buildings, frontage is about 5m and depth ranges between 20 and 90m. Over more than two centuries in the 'life' of these plots, buildings were conserved recurring to small maintenance works. Yet, eight buildings erected in the last decades of the 20th century can be found in these 58 plots. However, even in this set of eight buildings, seven were built in the original plots of the 18th century, and only one building was erected on a plot resulting from plot amalgamation (of two different plots). In Rua do Almada the establishment of a particular type of plot, long and narrow, led to the emergence of a particular type of building. Due to the reduced dimension of the plot frontage, the building type had to adopt an in-depth organization, usually with more than 15m depth. This in-depth organization of the building has led to the location, in each storey, of one (or two) room (s) near the two facades and of a staircase, and of one (or more) rooms in the interior of the building.

There is a high mixture of utilization, with predominance of mainly non-residential buildings (almost 2/3). There is also a mix between traditional (including a large number of hardware and cutlery shops, some hotels and one cinema) and new establishments (comprising restaurants and coffee shops, and clothing stores).

Unplanned landscapes

Gens is a small settlement in the parish of Foz do Sousa, in Gondomar (Figures 1 and 7). While the settlement size has been considerably small until the 1950s – only 20 buildings of the period remain – the major stage of development took place in the 1970s and 1980s. The relief has a significant variation, between 70m in the south-west limit and 130m in the east limit. The streets of the settlement are segregated, particularly at the city scale. The only exception, when analysed at the neighbourhood scale, seems to be the triangle formed by Castanheira and Central de Gens streets, at the centre of Figure 7b. The street system is made of more than forty 3-ways nodes and only three 4-ways nodes, revealing a high discontinuity of streets – framed by relief constraints and by the original rural structure – being now overlapped by motorways and their accesses (down left, Figure 7b). Street width varies between 5 and 10m. Fifteen street-blocks have been identified; almost half of it being large street-blocks. About half of these street-blocks have low density of plots. While building and plot frontages are non-coincident or mostly non-coincident is all street-blocks, there is some coincidence in the two streets of higher integration (referred to above). Almost all 400 buildings have one to two storeys high (and 5% have three to four storeys). Gens is a residential area; almost all its buildings are exclusively residential.

Different Periods of Formation

Historical areas

Historical areas are different from new urban areas. The strengths, weaknesses, opportunities and threats each one has are singular. Yet, in physical terms, historical and new areas are made of the same elements – streets, street-blocks, plots and buildings. This sub-section focuses on the historical kernel of Porto. The first definition of the city, through a built wall (with four gates) was probably made in the sixth century. It comprised a church, a residential building for the clergy, a small market and a number of small houses. Outside the wall the land had mainly agricultural uses. In the fourteenth century, a new city wall (with sixteen gates) was built, including an overall area that was twelve times superior to the former. Contrarily to the former, built on the top a hill, the new walled area was in direct contact with the Douro river, that offers a notable setting for this urban landscape.

This analysis focuses on the area that was once contained by the second city wall (most of it demolished in the turning to the 20th century) – Figures 1, 8 and 9. Relief of this area, in a valley structure, has significant variations, ranging from the water level to 90m in the northeast part. The integration of these historical streets in the whole street system is high at the three scales of analysis considered in this paper, being slightly higher at the metropolitan and city scales than at the neighbourhood scale. The 'walled area' is made of 80 street-blocks and around 1,400 buildings. More than 4/5 of the street-blocks are 'small'– Table 4. 2/3 of the street-blocks have high density of plots; less than 1/5 has low density of plots – mainly made of open spaces and institutions, part of the 'inner fringe-belt' associated to the city wall 'fixation line', using historico-geographical terminology (Whitehand, 1981). Building and plot frontages are coincident, or mostly coincident, in all street-blocks (Table 4).

More than half of the 1,400 buildings is three or four storeys; 30% is one or two storeys, and 16% has five or more storeys. Street width is quite variable, being narrow in medieval streets and large in 19th and 20th century streets. Building height is usually higher than street width, creating the usual 'canyon' section of medieval cities. Mixture of uses exists in more than ¾ of the street-blocks; 14% is exclusively residential and 9% is exclusively non-residential.

While the tension between conservation and transformation should be seen as something that is not exclusive of historical areas, and should be framed by a coherent strategy for the whole territory, built heritage concerns should be higher in these areas (as in Rua do Almada addressed in the last section). It is argued that built heritage concerns should first focus on the town plan, maintaining streets, street-blocks, plots and the block-plans of buildings. Secondly, it should focus on building fabric promoting not only the conservation of facades but the elements that make the identity and authenticity of the building. The theme of prescription will be amplified in the sixth section of the paper.

Table 3. Different landscapes: 'planned' and 'unplanned'

	Integration of streets (r25,000)			Size of street-blocks (%)			Density of Buildings (%)			Coincidence building/plot front.	
	Max	Ave	Min	Sma	Med	Lar	Hig	Med	Low	C+MC	NC+MNC
Rua do Almada (Porto)	7113.7	6469.9	5856.4	40,0	30,0	30,0	40,0	40,0	30,0	100,0	0,0
Gens (Gondomar)	4185.3	3146.3	2528.5	40,0	13,3	46,7	26,7	26,7	46,6	0,0	100,0

Accessibility of streets: Max – Maximum, Ave – Average, Min – Minimum
Size of street-blocks: Sma – Small, Med – Medium, Lar – Large
Density of buildings: Hig – High, Med – Medium
Coincidence between building and plot frontages: C – Coincident, MC – Mostly Coincident, MNC – Mostly Non-Coincident, NC – Non-Coincident.

Table 4. Different periods of formation: historical and new areas

	Integration of streets (r25,000)			Size of street-blocks (%)			Density of Buildings (%)			Coincidence building/plot front.	
	Max	Ave	Min	Sma	Med	Lar	Hig	Med	Low	C+MC	NC+MNC
Porto historical kernel	7373.6	5928.8	4664.2	83,8	13,7	2,5	67,5	18,8	13,7	100,0	0,0
South Vila do Conde	2405.9	2175.5	1870.3	38,5	46,1	15,4	7,7	30,8	61,5	30,8	69,2

Accessibility of streets: Max – Maximum, Ave – Average, Min – Minimum
Size of street-blocks: Sma – Small, Med – Medium, Lar – Large
Density of buildings: Hig – High, Med – Medium
Coincidence between building and plot frontages: C – Coincident, MC – Mostly Coincident, MNC – Mostly Non-Coincident, NC – Non-Coincident.

Figure 7. Rua do Almada / Porto (a) and Gens / Gondomar (b) – aerial views, approximately at the same scale (source: Google Earth)

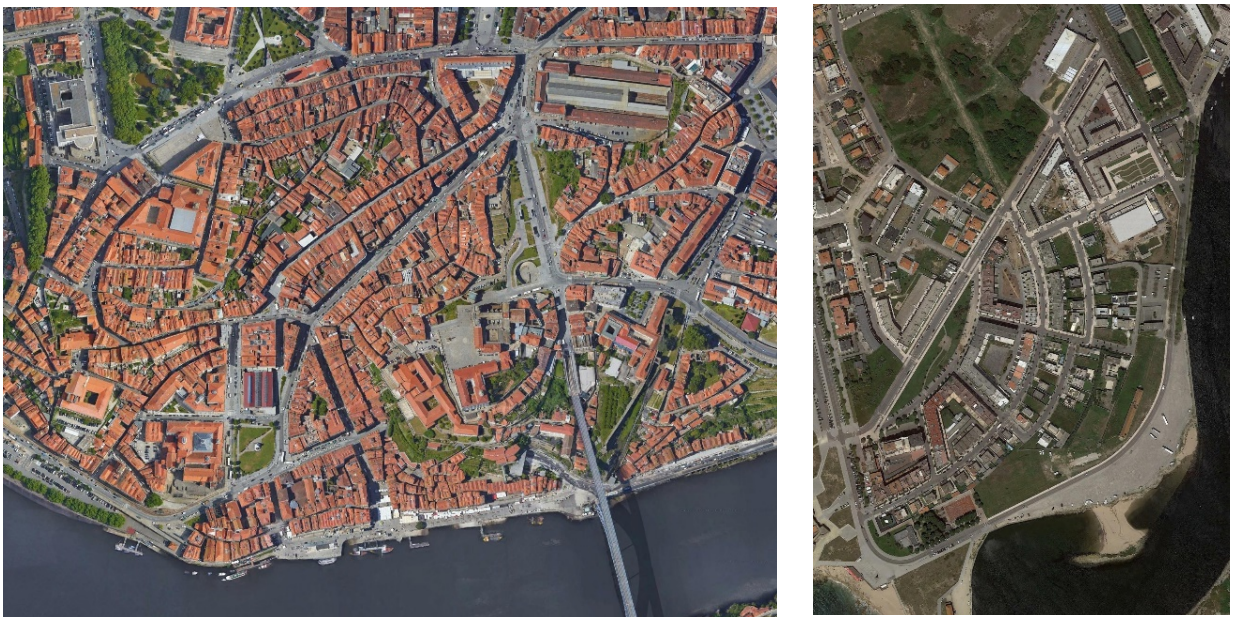

Figure 8. Historical area in Porto and new area in south Vila do Conde – aerial views, approximately at the same scale (source: Google Earth)

Figure 9. Historical kernel of Porto (photograph by the author)

Figure 10. Case studies 1, 2, 3 and 4 in Porto, from left to right: street views (photographs by the author)

New built-up areas

Porto Metropolitan Area is made of 130 parishes. In the most recent period covered by the national census, the parish with the higher number of new buildings was Vila do Conde. The analysis focuses on the southern part of this large parish, particularly at south of the diagonal axis Avenida do Castelo, developed in the two last decades (Figures 1 and 8). The natural setting for this urban landscape is exceptional, being at the river mouth of the Ave; relief is almost flat. Despite the close distance to Caxinas (a place of high integration), presented in the second section of this paper, the streets that make this area are poorly integrated in the whole street system in all three scales of analysis, particularly at the metropolitan scale (Table 4). The area is made of 26 street intersections, including only two 4-ways nodes, revealing the fragmented nature of the street layout. The area is made of thirteen street-blocks. More than 4/5 of these street-blocks are small- or medium-size. Almost 2/3 of these street-blocks have low density of plots. In more than 2/3 of the street-blocks buildings step back from the street.

More than half of these buildings are three or four storeys high; 30% have five or more storeys and 15% are one or two storeys. Street width is usually large, varying from 12 to 25m (in addition to the step back of buildings). Accordingly, street width is larger than building height, creating an 'open' section. In addition to the overall low number of plots, there is also a low number of building promoters creating a monotonous landscape. The area is almost exclusively residential. Only two of the 121 buildings have mixture of uses.

Physical Form of Cities and Urban Life

This section addresses the relation between urban form and daily life, based on the results of recent research (Oliveira, 2021). In particular, (Oliveira, 2021) focuses on the relation between the town-plan concept and a number of indicators of social and economic diversity and of environmental sustainability. Four small-scale case studies in the city of Porto have been selected for this exploratory analysis (Figure 10). Each case has a high homogeneity of urban form, and the four cases have a similar area, of about 16 ha. These cases have different patterns of urban form, and have been erected in different time periods – medieval (included in the historical area addressed in the last section), 19th century, first half of the 20th century, and second half of the 20th century.

Firstly, similarly to the previous sections, these cases have been described by a set of characteristics of town-plan elements – streets, street-blocks, plots and the block-plans of buildings. Secondly, the social and economic diversity and the environmental sustainability of the case studies have been investigated through the analysis of eight relevant indicators: diversity in education, employment and dwelling sizes; diversity in economic activities measured in terms of companies and workers; and consumption of land and energy. It was found that case studies 1 (medieval origin) and 2 (19th century formation), have higher values than cases 3 and 4, for both town-plan's criteria and social and economic diversity's and environmental sustainability's criteria. This exploratory research identifies this coincidence; it does not establish a causal relationship. To better realize the relation between physical form and urban life research needs to be extended to different scales and to different geographical contexts. Yet, these preliminary results encourage the development of this line of investigation, bearing in mind the understanding of the role of urban form in the promotion of sustainable places and communities.

Scientific Research and Professional Practice

It is argued that the elements applied in the description of different areas (in terms of scale, content and time formation), presented in the last sections, can be used in the prescription of their future transformation. Over the last decades, spatial planning has been mainly addressing land uses and some aspects of building volumes. Although these are important aspects, it is argued that these should not be the focus of planning practice. On the contrary, the focus should be on the most structural and persistent elements of urban form – streets, street-blocks, plots and the block-plans of buildings.

It is important to clarify that this two-dimensional view is far from the generic modernist 'plan' composition, usually simplistic, abstract and building-centred. On the contrary, this view recognizes the full complexity of the urban phenomenon. Firstly, in terms of the three-dimensionality of the natural support and of the plan influence on the building fabric and land uses. Secondly, in terms of the continuous accumulation of historical layers. All this is expressed with high permanence in the town-plan.

The way the system of streets, squares and gardens is organized in a city, as well as the density of its elements and its intersections, allowing more or less spatial accessibility, and thus favouring or hindering the flows of movement of its residents, workers and visitors, is a decisive factor in structuring a territory and in promoting effective urban cohesion. Each transformation of this system, given its high permanence in time, must be correctly evaluated. In the assessment of a new transformation, spatial accessibility should not be dependent of the regularity or the orthogonality (as opposed to curvilinear) of the

new streets, but on the way in which the new streets are proposed to be articulated with the existing system, reinforcing or weakening it. In addition, street design must change the focus from vehicles to people.

The definition of a street system is always associated with the conformation of a block system. In a way, the two systems correspond to the 'full' and 'empty' of the same object. The first system guarantees urban flows, the second provides support for the construction of building stocks. It is argued that urban stocks and flows should have high density. The smaller these blocks are (within certain limits), and the smaller the 'segments' defining the blocks are, the higher the possibility of spatial interaction is.

In each street-block, a high density of plots potentially corresponds to a high presence of agents and, as such, to a high diversity of urban strategies. The increase in plots size and the reduction in the number of agents has been one of the most significant changes that occurred in the 20th century in the physical form of Portuguese cities, with consequent losses in different aspects of urban life (author, 2020). In this sense, low density of plots per block should be avoided. On the contrary, the definition of small- and medium-width of plot frontages along a street corresponds to an effective valuation of each linear meter of contact between public (street) and private space (plot).

Each building to be erected on each of these plots will confirm its diversity potential. It should also actively contribute to the formal definition of the street as an attractive place for different modes of transport, particularly the pedestrian mode. In this sense, building and plot frontages should be as close as possible, or should be coincident. Additionally, this particular position of the building on the plot is the most advantageous option in terms of the definition of background open space.

After the definition of the main focus, it is important to identify the secondary focus. As above mentioned, planning practice has been primarily centred on the three-dimensionality of buildings and on land uses. In addition to a change in priorities (addressing firstly the town-plan), it is argued that these two issues (three-dimensionality and uses) must be reframed.

In relation to building fabric, the focus should be on the relationship between the height of buildings and the width of the street, introducing a concern with situations in which this relationship is excessively favourable to the second (street width, creating excessively 'open' sections – such as in the south of Vila do Conde parish, described in section 4) and exploring the possibility of a more favourable situation to the first (building height). Particular attention should also be given to the definition of the ground floor, due to its crucial importance for the definition of the street, as a central element of the physical form of cities. The density of doors along a street is a simple, but fundamental measure, to promote urban vitality. Also the presence of windows on the ground floor (possibly elevated, finding a balance between vitality and privacy) is another fundamental element to consider. The control of other elements related to the three-dimensionality of buildings, such as the design of the facade, the roof, the definition of materials or the structural organization of the interior (namely the position of staircases), should be done only in historical or urban areas of patrimonial interest – such as the historical kernel of Porto, described in section 4, or the 18th century's Rua do Almada, presented in section 3.

Finally, land and building utilization should also follow this logic of 'common sense', which is notably coincident with the results of scientific research. A phase of segregation of functions, developed throughout the 20th century, should be followed by a phase of functional mixture, that only safeguards the exceptionality of incompatible uses. This functional regulation should avoid the production of exclusively residential areas and exclusively non-residential areas, thus preventing the creation of areas without movement and, ultimately, without urban life.

Discussion of Results

It is not easy to address differences of scales, landscapes and periods of formation, and also the relations between physical form and urban life, and research and practice, in the scope of one single paper. Accordingly, the focus has been, and will continue to be, on the most essential aspects of these differences and relations.

The second section of this paper made evident the easiness of changing scales while maintain the focus on the town plan. Moving from the general to the particular, offering continuous detail of an overall perspective, the section started by briefly characterizing Porto metropolitan area, mainly based on the integration of the street system and on the density of buildings (Table 2, and Figures 2 and 3). This first metropolitan layer highlighted the central role of Porto. The zoom from metropolis to city revealed an increase of integration, and of the density of street-blocks and buildings. From the city, the paper then zoomed into a neighbourhood, Caxinas (one of the places with the highest building density in the metropolitan area). Maintaining the radius of analysis at 25,000, Caxinas has a lower average integration when compared with the average of the metropolitan area and the city of Porto. Yet, integration of Caxinas is very high when considering it at 500m and 3,000m radius. Caxinas has a higher density of street-blocks, and a much higher density of buildings and coincidence between building and plot frontages, when compared

to the metropolitan area and to Porto. More information was then added to the town-plan analysis of Caxinas, enabling a first characterization of its building fabric and land and building utilization.

One 'planned' landscape in the centre of Porto and one 'unplanned' landscape in the periphery of Gondomar have been addressed in the third section. Comparison of these two very different landscapes (Table 3 and Figure 7) made evident the strong differences between these two areas in terms of town-plan. The most expressive difference is the position of buildings on plots. Where in Almada all street-blocks have coincident building and plot frontages, in Gens is exactly the opposite. The difference in terms of integration in the street system is also expressive. Almada is one of the most integrated areas at any given scale, and Gens is always segregated, particularly at the intermediate scale of radius 3,000. Density of buildings and of street-blocks is higher in Almada than in Gens. Building height and mixture of uses is also higher in Almada than in Gens: the former is mainly made of three to four storeys' buildings of predominantly non-residential use; the latter is made of one to two storeys' residential buildings. It should be noted that while in this specific comparison, the 'planned' landscape holds higher values than the 'unplanned' landscape, that is not always the case. Just as an example, the southern part of Vila do Conde parish, presented in section 4, has a planned structure, and its values are lower than those of Almada.

Comparison between historical and new areas reveals more significant differences than comparison between 'planned' and 'unplanned' areas. Indeed, comparison between the historical kernel of Porto and the new area in the peninsula at south of Vila do Conde parish reveals significant differences in the four criteria under analysis: integration of the street system, density of street-blocks, of buildings and of coincident building and plot frontages, is much higher in the former than in the latter. Both areas are dominated by three to four storeys' buildings; while the former is predominantly non-residential, the latter is almost exclusively residential.

The application of the town-plan concept and of Morpho methodology in the detailed analysis of four small areas erected in different time periods enabled the identification of a coincidence (and not of a causal relationship) between higher values for town-plan characteristics and higher values for indicators of social and economic diversity and of environmental sustainability. This coincidence takes place at landscapes of medieval and of 19th century formation.

Finally, the sixth section explored, within the limited scope of a paper section, how to move from morphological description to planning prescription. It is argued that planning the physical form of cities must have a selective focus. One cannot, and should not, try to control everything. Attention should be paid to the most permanent elements of urban form – streets, street-blocks, plots (all these have been absent of mainstream planning practice) and the block-plans of buildings. In the regulation of these elements planning should be rigid. A secondary focus should be placed on the regulation of the building fabric and of the land and building utilization. In the former, planning should move from the control of architectural language to the control of more important elements such as the relation between the building height and the street width or the design of the ground floor. In the latter, planning should move its emphasis from segregation to integration.

Conclusions

The previous sections have made evident the ability of the town-plan concept and of Morpho methodology to offer a first morphological analysis of territories at different scales, with different landscape contents, and with different periods of formation. These sections also made evident the ability of the concept and methodology to start relating the physical form of cities with urban life, and scientific morphological research with professional planning practice. Future research should extend its scope into different geographical contexts and should continue to improve the technical and communicational aspects of the methodology.

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Land Readjustment: A Tool for Better Urban Planning

Glafkos Constantinides

Economist and Urban Planner, Independent Consultant (BA Sociology, BSc Economics, MSc Economics, MA Urban & Regional Planning).

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Abstract

The difficulty to work with market instruments is a gap in urban planning in many countries. A key objective is to influence the land market to ensure sufficient, timely and cost-effective supply of land in line with demand for housing development in designated suburban zones. Land taxation is unpopular, compulsory acquisition harms property rights, leaving planning without effective implementation tools. *Land Readjustment* (LR) works with the land market to capture land values increase to finance infrastructure costs benefiting local planning authorities, landowners and society. It has an old history but a renewed potential in urban planning in suburban and densely built central areas for new placemaking solutions. This Article presents *Land readjustment* in key countries and explores its potential in Cyprus where the Planning System needs to work with the market to release land for development in quantities, stages and costs for the implementation of strategic objective in Local Plans.

Keywords

Land Readjustment, Urban Development, Urban Planning, Land Economics, Implementation Tools.

Introduction

The significance of Urban Planning in producing results that matter depends on how well it corrects, adjusts, redirects or expands the working of the market to repurpose land uses, places and mobility towards greater efficiency, higher environmental quality and broader access to opportunities for housing in urban development. To achieve this, many 'factors of production' need to come together, mainly land, finance and planning powers. Within this broad perspective of the purpose of Urban Planning it is important to appreciate that the discipline has undergone changes over its recent history broadening its focus from land use meaning building development to land use understood to include the social and economic forces driving the demand and supply of land uses and places. These changes are indicative of the shift in the type of Urban Planning society works with to address urban development problems. The following definitions of urban Planning, representative of, and influential by, the periods they were written, illustration the shift in the meaning and scope of Urban Planning.

"Town Planning is the art and the science of ordering the land use and siting of buildings and communication routes so as to secure the maximum level of economic convenience and beauty." (Keeble L, 1969).

"Spatial planning goes beyond traditional land use planning to bring together and integrate policies for the development and use of land with other policies and programmes which influence the nature of places and how they function" (J. Morphet, J. et.al.2007, 2011).

Despite the impressive progress made, as indicated above, enabling Urban Planning to expend its outreach beyond the building the siting of land uses to include policies on urban growth management and land use economics, the delivery of actual outcomes does not match the sophistication and quality of integrated planning visioning and how to get there.

Urban Planning and the Supply of Land for Development

The limitations of Urban Planning to direct development in the right places at the right time and close to the right cost has been discussed many years ago leading to reforms that yet fell short of leading development in designated locations (HMSO, 1968, PAG Report,). Urban Planning was most successful in steered development towards specific planned outcomes in the immediate post Second World War years with the building of New Towns in the UK made possible by the establishment of New Towns Corporations empowered to acquire land, command financial resources and charge for the disposal of properties built (Buchanan, C. 1972, Hall, P. 1972). A coherent urban expansion strategy, key to the delivery of core planning outcomes, has been weak and incomplete ever since due to the absence of economic instruments essential for policy implementation.

The gradual but steady shift of planning practice towards building design and development regulation accentuated this weakness and limited the attention given to considerations of supply and demand for land and housing as drivers of development and vehicles for addressing the challenges of spatial expansion and the release of land for development. In this particular context, urban planning has to measure up to a threefold challenge: *first*, to facilitate the release of land for development in the right places, *second*, to provide or facilitate the development of infrastructure to support that development and, *third*, to ensure that finance will be available to enable local authorities to pay for the cost of infrastructure. These three crucial tools have become increasingly vague in urban planning despite the narrative about working for and with an integrated planning approach. (Gielen, Munoz Demetrio.2019, Morphet, J, 2011).

One of the main constraints in this context is the poverty of research in market-based implementation instruments as a part of the planning process itself. The application of simple economics in urban development is rare resulting in urban planning working with limited understanding of the forces behind demand for and supply of the 'factors of production' in urban development, particularly land. For Urban Planning to achieve significant results in accommodating urban population growth, as well as facilitating urban regeneration initiatives, strategies and policies need to work with the land market and the economy governing land, infrastructure and finance supply. The release of land 'at the right time, price and place' to echo the language of the Land Commission (HMSO, Land Commission Act, 1967) is crucial for implementation of urban planning policy and growth management. Without instruments mobilizing land and development finance the delivery of infrastructure and social services for housing at the right places falls short of expectations. What are the needs here? *First*, instruments for influencing the demand for development within mature and well infrastructure-served locations, and *second*, instruments for influencing the supply of land for that development in those areas chosen and planned for urban expansion. This article focuses on a specific planning instrument with versatile applications used in many countries and spatial settings to address land supply and infrastructure finance issues central to the effectiveness of Urban Planning in delivering better results.

The Tool of Land Readjustment (LR)

To direct development in the right places as part of an overall strategy for growth, or redesign, the competent authorities need to apply measures to incentivize the release of land using instruments beyond the old-fashioned powers of compulsory purchase. The instrument of LR has gained prominence in many countries at various stages of development, income and governance frameworks because it achieves three key objectives (1) ensure availability of land for new development without loss of value to the owners of land, (2) financial viability of covering the cost of urbanization and, (3) most importantly, consistency with the principles, objectives and procedures of planning policy and planning practice. LR, as will be seen later on, is bring successfully applied in developed as well as developing societies facilitating development solutions in conditions of upsurge of urbanization and demand for urban land, as well as in mature economies with stable urban population growth, declining inner city areas and rigid private land ownership markets. In both cases, local authorities suffer from budgetary constraints limiting their financial capability to meet themselves the urbanization or the infrastructure regeneration costs. The success of the mechanism hinges on the capacity it offers to local planning authorities to work with market forces and capture part of the value increment arising from infrastructure provision to fund that cost and, over and above, to set land aside for community services. If urban growth is to take place in the areas with adequate infrastructure and services ensuring sustainability, land readjustment can overcome the problem of land market rigidity because "land has unique determinants that make it difficult for supply to respond quickly to demand (Doebele, W. 1982).

How LR Works

The basic concept of LR is the effect of the conversion of rural to urban land upon the *supply* and the *value* of land. Value increase, often substantial, allows a certain

percentage of the original rural land to be set aside for public uses with the landowner owning, after LR, a smaller but serviced urban plot of at least the same value if not higher. Giving back to owners value-equivalent land, setting aside land for roads, schools, parks, and other public uses, avoids the need to impose any form of land tax to recover capital costs of infrastructure are the core deliverables of LR to the planning of urban expansion. Essentially, LR is about financing the cost of urbanization unlocking the planning policy opportunities and objectives. 'Henry George had long ago argued that the urbanization is wealth-producing process but public authorities undertaking the expenditure for the construction of the necessary infrastructure rarely have adequate capital resources. LR is used now to offer solutions to this paradox' (Doebele, W. 1982). It had been practiced for many decades in Germany and The Netherlands to restructure agricultural parcels for greater efficiency as part of the urbanization process. It had been 'exported' to Japan applied to the rebuilding Tokyo after the great earthquake of 1926 and used also for planned urban development in South Korea and Taiwan.

The following are the main characteristics of LR:

- Pooling together privately owned land parcels following agreement
- Readjusting their boundaries to form new plots with new shapes (New plots may be
- smaller but retain the previous value, owners do not lose value
- Infrastructure development increasing land values allowing obtaining land for community facilities
- Rural land without infrastructure and services are released for development, urban expansion is planned in chosen designated expansion areas
- Development of infrastructure and increase in the value of land, the cost of infrastructure and land for community services is self-financed
    - An Urban Planning tool for urbanization and urban design tool that: benefits all (landowners, the local planning authority and the community), ensures land release at the right plances, implementation of planning policy and urban design objectives, diverse application in fringe and central business locations through integrates finacial mobilization and land market mechanisms in the planning process.

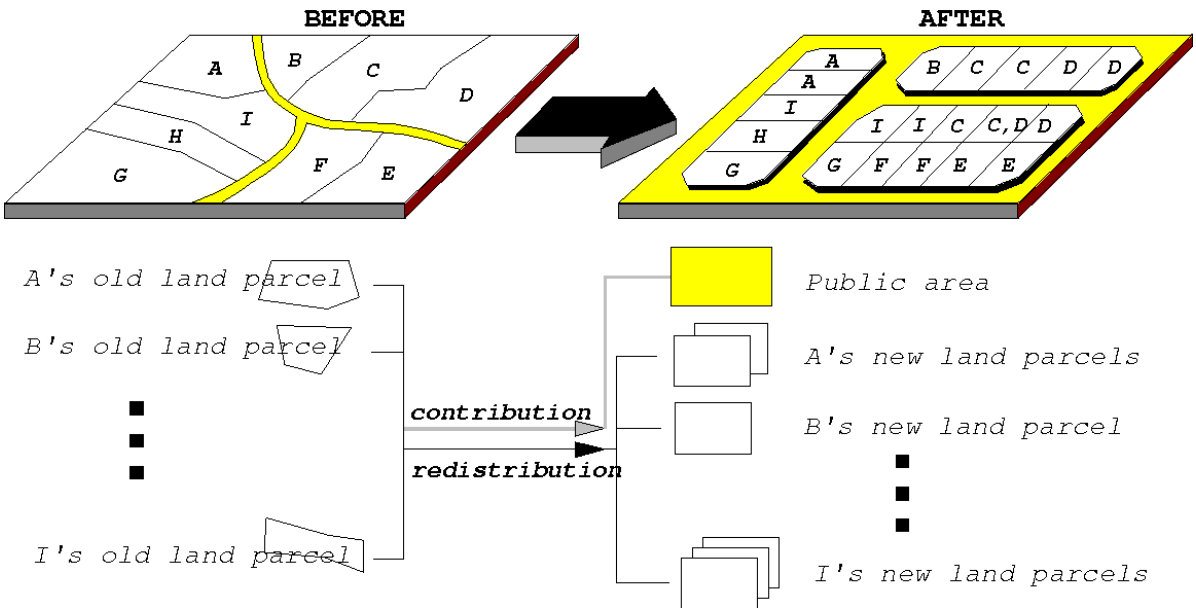

Figure 1. Source: Modeling the Spatial and Legal Processes in a Land Readjustment Procedure in Greece (Balla E., 2009, 2012)

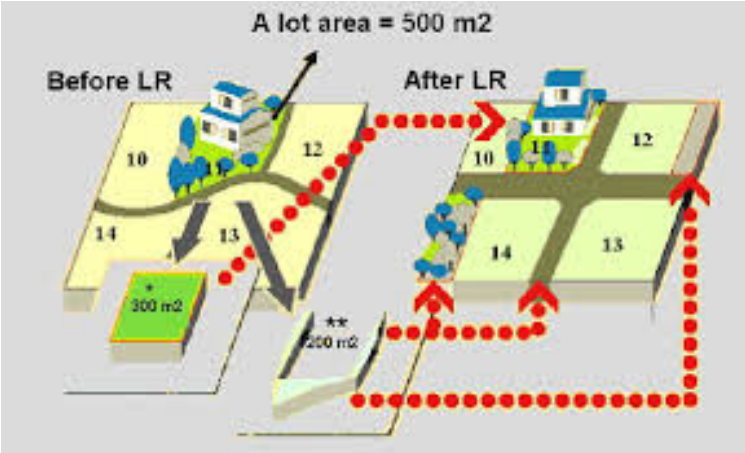

Figure 2. Source: Bayram Uzun and Tahsin Yomralioglu, 2005

Table 1. A simple numerical example of a Land Readjustment Scheme (source: Author, 2020)

	Before		After	
	Sq. meters	%	Sq. meters	%
Public land				
Roads and services	25,000	14.4	70,000	40.0
Open spaces	5,000	3.0	10,000	6.0
Rivers	2,000	1.0	2,000	1.0
Other	-		2,000	1.0
	32,000	**18.4**	84,000	**48.0**
Private land				
Private properties /plots	142,000	**81.6**	85,000	**49.0**
Land reserve / Land set aside	-		5,000	3.0
	174,000	100	174,000	100

The example above illustrates the basic principle of LR involving increase in the area used for roads, open pace and land reserve for community uses, and the reduction of the area taken up by private properties.

Historical Applications of LR Schemes

In 1791 the **United States of America** President George Washington with a small number of landowners applied a scheme of land readjustment to address difficulties in the development of a large rural area into a new federal city (Doebele, W. 1982; UNHabitat 2018). In **Spain**, in 1861, a mechanism was created for a redevelopment project in Barcelona by Ildefonso Cerda using tax finance to avoid expropriation (García-Bellido 2002). In **Japan**, 1870, farmers had developed a system to improve the productivity of their lands in Kobe. The objective was to readjust field boundaries to eliminate narrow access paths (Nishiyama 1992a). **Germany** implemented a more formal approach for developing new building land or redeveloping already developed building land. The approach was first applied in Cologne in 1885, and other cities near Frankfurt where Franz Adickes (1846-1915) the Mayor of Frankfurt started the first voluntary agreements with landowners in 1891, to reorganize the land structure of urban properties. In 1902, after approving the law for the transfer of lands in Frankfurt (Seele, W. 1982, Dieterich, H. 2006.**)** (known as "*Lex Adickes Frankfort-am-Main)* a compulsory process of land reorganization was initiated, hindered previously by older laws that were creating extensive and narrow lands difficult to use for development.

The Work of the International Organizations

The ***World Bank*** in 1972, defined the alleviation of urban poverty in the third world as top priority. The World bank understood that the problem involves three key challenges: To assemble fragmented rural landholdings for development in an organized form, to implement a plan incorporating urban fringe areas into the main network of existing or expanding urban infrastructure, and to apply a mechanism for capturing the increased capital values created by the improvements. The ***United Nations*** responded to the opportunities for developing and using LR in the first major UN meeting on urbanization in Vancouver in 1976 (UNHABITAT, 1976) while the concept was adopted also in the work of the UNDP. Pilot projects were implemented in Asia with variable success

triggering the October 1982 international conference in Nagoya on the details of the Japanese system and its applicability to Southeast Asia. The ***Lincoln Institute***, a renowned body of land policy research turned its attention to LR in the early years of 2000 by organizing influential conferences and research programmes (Souza, F. F., T. Ochi, and A. Hosono, eds. 2018)

Selected Country Experiences with LR

Each one of the following brief highlights of country applications of LR illustrates specific solutions to urban development problems and elucidate the diversity of benefits from its use. They also clarify that there is no uniform model but key elements that may be followed to blend with the planning system to improve delivery.

In Germany there has been from the beginning a clear recognition of the urban planning context of LR. The designation of development areas is done with a clear understanding of the need for landowners to develop their land into buildings plots with the necessary infrastructure. Paragraphs 45 and 84 of the Federal Planning Law (Dieterich, H. 2006). provide for the obligation readjustment of plots under a system of mandatory land readjustment (*amtliche Baulandumlegung*). The relevant German law does not recognize grounds for non-participation as it is considered inseparable part of the planning practice and the process of promoting the development foreseen by the legally approved Plans. The implementation of LR include the following five steps:

- Commencement of the procedure
- Definition of the area with reference to the Local Plan under implementation
- Freezing of the existing land uses and land sales in the area
- Registration of all properties and recording of all owners
- Registration of the commencement of the procedure in the official land registry

Germany

In Germany LR are formally mandatory and local planning authorities have the responsibility of implementation of LR schemes as part of the implementation process of the local Plans themselves (paragraph 45(1) (Dieterich, H. 2006). LR schemes are also implemented even in the absence of a mandatory Local Plan. Objections are rarely accepted because LR is defined and accepted as part of the planning process which does not affect the interests of the owners. Property owners who do not participate suffer reduction of their development rights. The law specifies two methods of redistributing land within the context of LR schemes: According to the criterion of *relative value* of the land and according to criterion of *relative area* of the land. (Dieterich 2006, 144–152). According to the first criterion of relative value every owner is entitled a new plot at least of an equal value with the original plot, if the plot received is of higher value the owner pays the excess value to the local authority in money. However, the local authority may withhold part of the land as reserve, financed by the increase in value up to the limit of 30% of the finally developed area under the scheme and 10% in schemes in areas where land is already developed. The practice of mandatory redistribution of land has been refined to such an extent that participation becomes voluntary as all participants stand to gain from it and all expenses covered by the scheme itself. LR schemes are essential instrument of land policy involving land valuation and land registration techniques (Seele 1982, 194–295). Court appeals are rarely approved, disputes are settled by encouragement and agreement.

Israel

In Israel the authority to undertake LR schemes is the local planning authority as commissions responsible for local outline or detailed plans. LR schemes are a part of a plan and, unlike in Germany, do not require a separate and special type of planning procedure. LR schemes are triggered by the economics of value increase following up-zoning enabling the financing of infrastructure and the land taken for common uses. LR is also applied in areas without development rights where land release is needed. As in Israel there are diverse land tenure rights LR take that into account. The Planning Law (Alexander, E. R. R. Alterman and H.L.Yone.1983) defines *owner* to mean not only freeholders but also long-term leaseholders and not only individual ownership but also condominiums. LR schemes are back to back with statutory plans and the regular planning bodies undertake LR together with other planning procedures including public hearing and appeals. The rights of public participation are safeguarded by the Planning Law providing for an additional layer in the public participation process and landowners can conduct informal negotiations from the initial stages. (Alterman, R. 1990, 1999, 2001)

This two-track system of participation in the Israeli experience is an important feature of LR. Article 121 (Alterman 2001) provides for two-tracks LR as regards participation: one with the formal consent of all the owners, and one with less-than-full consent. As with German law, if even a single landowner does not consent, LR proceeds with the non-consent track. The Planning Law sets out clear rules for the less-than-full-consent track. In both countries, Germany and Israel, most LR plans of significant size are undertaken

through the less-than-full-consent tracks. Israel makes an important contribution to the literature and practice of LR by applying this two-track procedure with regard to landowners' participation. In Israeli and in Germany obtaining formal consent may be less important than initially thought since in law an in practice the consent and non-consent tracks are not diametrically opposed as they may appear. What are the rules governing reallocation? The "pooling" stage is not a formal step in Israel, it is carried out on the drawing board and in the calculations of the land appraisers. Article 122 of the Planning Law (Dieterich, H. 2006) provides that valuation and reallocation for the non-full consent track does not require full consent, where for the full-consent track the landowners also need to agree on the reallocation rules. In practice the same allocation rules apply to both procedures, full-consent track and non-full consent track as set out in Article 122. Experience indicates that the rules prescribed by the legislation make sense in practice. Section 122 prescribes three key principles determining reallocation: (Schnidman, F. 1988).

- The proximity principle: Each reallocated plot should be as close as possible to the original plot.
- The proportionality principle: The proportionate value of each plot (whether vacant or built up) relative to the total value of all the plots in their original state should be as close as possible to its share of the total value of all the plots after reallocation. That is, the proportional share before and after the parcellation should be as similar as possible.
- The balancing fees: In cases where it is not feasible to keep the proportionate share of all the plots landowners who are in the 'plus' must pay the excess value to the planning commission, and landowners in the 'minus' have the right to receive the balancing fee from the local commission.

Japan

LR has been widely used in Japan for supporting the implementation arm of the planning system. However, important social, political, and planning reasons explain Japan's successful use of LR projects as a major urban development tool. Who have been the prime movers in planning, initiating, and managing projects and why was LR a central feature of the planning regime since the 1920s despite several changes in the political institutions, planning system economy, and national wealth? Japan is a particularly harmonious and consensus-oriented society has a long history. LR is widely used for many years particularly in Tokyo after the great disaster which had created great needs for massive redevelopment on land with old characteristics preventing efficient planned development. LR in Japan is applied within the context of the implementation of urban planning policy Sorensen, 1999, 2000) and is part of the planning law and of subsequent revisions of the law in the early 1980s for defining urban development promotion zones (*urbanization promotion areas - (UPA*) and areas of urbanization control areas *(urbanization control areas – UCA*). This planning practice is known as '*senbiki'* (defining the limit / line) and LR is applied as an instrument for strengthening the implementation of UPAs for the release of development land for the achievement of the objectives of the '*senbiki'* strategy. (Hebbert, 1994, Hebbert and Nakai1988; Nakai1988; Sorensen, 1999, Nishiyama, Y. 1992a.). Although the procedures pursued by the local authorities, owners' associations or government departments followed stipulated requirements and needs of each area, the backbone of the mechanism comprises a set of basic steps with which all forms of implementation comply: *First***,** the precise boundaries of the area are set by the local planning authority. S*econd***,** the implementing organization is determined by the board of directors and representatives of the landowners. LR schemes implemented by the initiative of associations of landowners the representation of landowners is higher. *Third,* all technical studies**,** road plans, land use plans, valuations and topographical maps are prepared usually by private consultants engaged including the economic / financial assessment requirements of the schemes. *Fourth***,** the approval of landowners is secured, for schemes implemented at the initiative of the landowners, the approval of 66% of the owners is required, while for schemes implemented directly by the local planning authorities such a majority is not required but the tendency is to seek approval by the maximum possible majority of owners otherwise the scheme is delays but not cancelled. *Fifth*, all LR schemes, as overall integrated packages, including the readjustment and redistribution plan, the financial plan, the land use and reserve plan and the implementation plan, must be approved by the local planning authority and at least 66% of the landowners. *Sixth*, the same procedure is followed for the construction of all services and, in most cased for the removal or relocation of existing unsuitable or obsolete buildings. *Seventh* when all the financial adjustments (balancing payments, bills, etc.) are concluded the scheme is completed. If a financial deficit remains it is covered either by the owners' association or the local authority, depending on the case, while in case of a remaining land or financial surplus it is made available for use in the area of the scheme.

Netherlands

The logic of LR in the Netherlands is fundamentally the same as in other countries central to which is the contribution of landowners to the financing of infrastructure through the capture of value appreciation. There are four formal types of land readjustment in the Netherlands: The *first* is the classical form of rural LR in rural areas where farmers exchange property rights among themselves making the parcels suitable for more efficient agriculture. The *second* mechanism is the transfer of the principles of rural LR to the redevelopment of an existing urban area facilitating better coordination in the redevelopment process without the use of compulsory purchase. The *third* form is when the main actor is a public developer (a Municipality) buying the land, constructing the infrastructure, readjusting the plots into shapes and sizes to suit the intended development and selling the plots in the open market. Compulsory purchase is used only when the landowners refuse to cooperate. Land assembly and self-financing are key elements widely practiced. It is different from the other types of LR as in this case the original landowners before the scheme may not be the same as the final landowners afterwards. The *fourth* form of LR is a recent and more open ended, private sector driven variant of the third type involving several housing developers buying land in a location designated for large-scale development and approaching the municipality to act as a pooling agent do that the housing plan will be developed more efficiently as a whole. When the building land is serviced, the developers take land out of the pool proportionately to the amount they contributed. Like the third type of LR, the financial objective is important in that the income from the disposal of the land should pay for the land acquisition and the improvements to the land. (Needham. B. P. 1992,1993, Yu-Hung Hong & Needham, B. 2007)

Greece

The legal basis of LR in Greece consists of Presidential Decrees: (Bella E. 2005, 2009, Aravantinos A., 2007) Decree 422/1994 for land valuation before and after schemes, decree 66/1995 for the transfer of land in the context of schemes and decree 93/1987 governing 'Building Associations according to Article 20 regulating building associations. Initiative for the implementation of LR schemes may be taken by the following organizations: Public Organizations, Public Administration Organization *(DEPOS)* (Bella E. 2005, 2009) Association of Owners, Cooperation – joint venture of Public Organization and Association of Owners. LR schemes are always formulated as part of the preparation and implementation of Town Plans. The procedure for LR schemes envisaged the following stages: (a) Establishment of a mandatory association of owners (b) Land registration of all properties (c) Preparation and approval of a detailed Town Plan for the area of the LR scheme including proposed land uses and spaces for public uses and facilities (d) Valuation of properties involved in the schemes and plan for the redistribution of the newly formed plots (e) Conclusion of the scheme and dissolution of the association. The contribution of property owners in the LR schemes varies according to the size of the plots from 10% for plots up to 250 m^2, 40% for plots between 1,000-2,000 m^2 and up to 60% for plots over 10,000 m^2. (Bella E. 2005)

LR as a land policy tools have not been successfully applied in Greece. The abolition of law 947/79 and the enactment of the new planning law 1337/83 (Bella E. 2005) was the main factor restricting LR by replacing specific provision for LR with a new general law which did not determine specific stages and steps to be taken for implementation. It is reported that in a few cases where LR schemes were attempted problems were created resulting from vague provisions and procedural uncertainties in the planning law about LR including conflict of legal provisions, unclear responsibilities and lack of political will for implementation.

Two cases studies described below very briefly illustrate the problems of implementation of LR: (a) *Glyfada scheme (Athens).* In 1960s a Building Association involving 600 landowners presented a plan for an area of about 35 ha in the slope of Ymittos mountain southeast of Athens. There was no approved development plan to determine the status of the area for residential development. The subdivision of the land was made by private stakeholders without obtaining official approval for the subdivision and distribution of plots to the participants. The landowners could not obtain permission to build according to an officially approved Town Plan. (b) *Pikermi scheme (Attica region)***.** In 1972 Military Officer's Building Association prepared a plan for an area of about 249 ha at the foothills of Penteli Mountain in Attica. (Bella E. 2005) The plan had an inappropriate shape of fields for urban development as the previous use was vineyards. 1988 the whole area of about 600 ha had been declared Residential Zone and 17 years later the area had not yet been approved for inclusion is the areas Town Planning Study Plan preventing implementation of LR scheme.

The limited success of LR in Greece, apart from the reasons alluded to above, relates also to the weaknesses of the planning system itself as the supporting policy context for LR. The main problems include:

- The general weakness of the policy for land use and housing development
- Widely practices unauthorized development
- Small scale of firms engaged in building and land development
- Wide fragmentation of land ownerships and widespread land ownership
- Overrepresentation in the land market of small parcels through subdivision and inheritance rights (Bella E. 2005)

Until 1983 there was no legal framework for the control of development and land use in areas outside the towns ('out of plans' areas). However, according to the 1975 Law (Article 24) the owners in areas designated as urban are obliged to set aside part of the land at the stage of development for open space and infrastructure. (Bella E. 2005) The subsequent Law 947/1979 (Law for 'Residential Areas') introduced three procedures for the development and building regulation by which land could be obtained for public purposes up to 30% in operational Planning Zones and Land Readjustment Zones) and payment up to 10% of the value of the land for towards the cost of infrastructure and open space facilities. The new law of 1337/ 83 introduced three levels of planning (Bella E. 2005 (General Urban Plan, Town Planning Study and Implementation Plan) which did much to improve the planning system and the clarity of goals and objectives facilitating implementation measures including versions of LR.

Turkey

LR was introduced legally by Article 18 of the *Zoning Law* of 1985 (Fikirtepe Sezen TARAKCI and Sevkiye Sence TURK, 2018) updating previous laws that referred to the legal mechanisms including the *Municipal Expropriation Act* of 1934 and the *Amnesty Law* of 1983 (Turk, S. S 2005) giving local government the right to apply zoning with specific areas for LR without the prior consent of landowners. Under the Zoning Law No. 3194 (Fikirtepe Sezen TARAKCI and Sevkiye Sence TURK, 2018) LR operates as part of a spatial plan where zoning parcels are created with landowners contribute up to 40% of the land area as development readjustment share for infrastructure (roads) and 10% for public facilities. The LR mechanism is reported to have many shortcomings as the increase in the value of building plots after the implementation is not equal for all owners creating objections by landowners in big cities and coastal areas encouraging court appeals and repeal of LR plans. It is also reported that there are long delays in the completion of infrastructure services and building construction, while pressure for housing encourages unauthorized development to spread controlled. It is argued that the LR mechanism can be improved by shifting from the area-based approach into value-based approach in the redistribution of the new plots. (Yesim Aliefendioglu & Rodrigue Bazame & Amani Uisso & Harun Tanrivermis, 2019).

The main advantage of the value-based approach is that value increase can cover the cost of implementation. This financial objective is not achieved limiting the effectiveness of LR as a land policy tool. However, many LR projects have been implemented in Turkey. In 2013, in the space of one year, 3,127 LR projects were implemented. Large Municipalities are the main implementers of LR projects, with about 60% of all projects implemented by Municipalities with a population of over 300,000. In most cases the procedure of LR includes the following: (1) The process is closely related to detailed local plans, (2) Contributions and benefits are determined in terms of land area, not land value, (3) Land contribution and its usage are determined in formal legal terms with a maximum contribution of 40%, (4) Land contribution for infrastructure and public service areas does not include the responsibility for financing the construction, (5) Municipalities utilize the in-house technical staff to prepare their LR projects, but may also tender or contract out the tasks to private surveying companies according to the relevant Public Procurement Law. .

A study LR in the Ankara Metropolitan Area, including district municipalities as well as other public institutions with zoning enforcement authority (such as the Ministry of Environment and Urban Planning, Housing Development Administration, Privatization Administration), reported the need to adopt the value based approach in LR schemes to promote implementation opportunities based on integrated technical, financial, valuation components and principles of equity. The results of the study increased awareness of the duties of the authorities and the responsibilities of the real estate valuation experts to promote this new approach. As illustrated by the *Ordu city case,* problems were encountered with the area-based approach due to owners' objections to the allocation process and also due to financial constraints facing local authority (Turk, S.S, 2018, Aliefendioglu Y. et. al. 2019.)

The limited success in both Greece and Turkey with LR to deliver win-win results illustrate the problem several countries have with urban

development and implementation instruments where simple land economics are not central to the planning system overshadowed by technical area-based considerations of development. Unless urban economics is integral to LR process to capture that the financial value of land appreciation for cost recovery of the infrastructure works and ensure sustainable financial arrangements, LR will most probably fail to operate effectively as a key land policy mechanism.

Table 2. Summary Table of International Experience of Implementation of Land Readjustment (Felipe Francisco De Souza,, 2018, Adjusted by the author for the purposes of this Article)

Country	Legal origin and status	Chronology of adoption
USA	George Washington promoted LR for consolidation of plots as a tool doe the development of the capital Washington DC	(1791)
Germany	Introduced in Mainz, but organized implementation started from law "Lex Adickes," about reorganization of land in Frankfurt, and later on a larger scale in the Federal Building code	1871, 1902, 1960, 1986, 1998, 2004
Austria	Introduced in the Building Code of the City of Vienna within the broader context of the Spatial Planning Laws of Low Austria	1930, 1960s onwards
Spain	Introduced in the Land Law - *Ley del Suelo de España, the implementation of LR was established under article of the* Law 6 - *Ley sobre Régimen del Suelo y Valorizaciones*	1861, 1956, 1998
France	Introduced and integrated in the Spatial Planning Law	1940, 1967
Switzerland	Introduced and integrated the Federal Spatial Planning Law	1979
Greece	Introduced and integrated in the Law for Residential Areas - land readjustment zones	1979
Sweden	Introduced and integrated in the Joint Land Development Act" - *Lag 1987:*11 which was repealed later	1987, Repealed in 2012
Finland	Introduced and integrated in the Real Property formation in Urban Areas Act Nº 101 - Real Property formation Act No 554	1960, 1995
Turkey	Introduced and integrated initially in the Regulation of Roads and Buildings Law Nº 1,663" of Ankara but formal integration followed in Article 18 of the Zoning Law	1864, 1930, 1985
India	Introduced and integrated Bombay Town Planning Act," - Maharashtra Regional and Town Planning Act - Gujarat Town Planning and Urban Development Act	1915, 1966, 1976
Japan	Introduced and integrated initially in the Arable Land Readjustment Act and later in the City Planning Law under Land Readjustment Law	1870, 1899, 1919, 1954
North Korea	Introduced and integrated in the 'Urban Planning Act', later in the 'Land Readjustment Act' which was later revised and merged into the specialized 'Urban Development Act'.	1934, 1966, 2000
Colombia	Introduced and integrated in the Planning Law ('Law Nº 9 on Urban Reform', Article 77, και 'Law No 388 on Urban and Territorial Development'	1989, 1997
China	Introduced and integrated in the Planning Law ('State Measures of Compensation for Housing Relocation and Resettlement in the Urban Areas')	2001
Argentina	Introduced and integrated in the Planning Law on 'The Province of Buenos Aires, Law No 14,449 on the Fair Access to the Habitat', Articles 89, 90 and 92	2012
Brazil	Introduced and integrated in the as a provision for the implementation of Land Readjustment in the Mmunicipal Master Plan of Curitiba.	2007, 2009, 2012

Notes: As shown by the experience of almost all the countries for which coherent bibliography is available recording the development of the practice of LR two important issues may be highlighted: First, LR is incorporated as an instrument within the framework of the existing urban planning policy as it operates in each country. Second, in each country the instrument operates according to the specific planning system and its requirements adapted to support and serve national or local need without immediate influence from a 'borrowed' model.

In addition, in all the countries LR combines several basic principles, such as protection of private property rights, public needs for infrastructure, planning objectives and the opportunities for urbanization cost recovery by working with the market utilizing value increase created by infrastructure development.

Case Study of Land Readjustment in Central Urban Areas

The Solidere Region in Beirut, Lebanon

A redevelopment initiative was undertaken in the centre of Beirut after the war (1975-91) to redesign the area. This scheme is an example of LR used as a tool for central area redevelopment within a framework Master Plan (1991) (RICS Research Paper, 2007) solving complicated fragmented property rights and complex tenancy structures. The scheme demolished 80% of the old city area and increased development density fourfold. *Solidere* acted as a real estate company responsible for the redevelopment and reconstruction of Beirut central district mobilizing development resources for abroad. The project was criticized for the destruction of local cultural heritage, buildings and archaeological sites. However, LR scheme itself was successful with regards to its plot redesign and readjustment objective which would not have happened otherwise demonstrating the application of LR in tackling redevelopment needs in developed central combined with a capacity for self-financing mechanism. (RICS, 2007)

London Docklands Development Corporation (LDDC)

This is an example of a variety of LR application in an old industrial site in London knowns as Docklands which lost its economic purpose and role and needed redesign and rejuvenation. In the early 19th century the Docklands in London were thriving, employing people in international trade, warehousing, the manufacturing industry and many other businesses. During World War II much of the docklands site and the old infrastructure was ruined leading to a steady decline with many jobs eventually lost. LDDC was set up in 1981 by the UK Government to regenerate the Docklands area of East London, creating London's Canary Wharf, London City Airport and the Docklands Light Railway. Residents and the local councils were initially opposed to the redevelopment but created new jobs and high value housing now considered a success story of large-scale city development and regeneration. LR was applied to bring plots of land to an organized patters reallocating ownership rights in a new alignment with the values created in an emerging real estate market. (RICS Research Paper, 2007, Church, A, Brownill, S. 2015)

The Case of Fikirtepe –Istanbul

This case study demonstrates the application of LR under planning legislation facilitating urban renewal (Law No. 6306) Fikirtepe Sezen TARAKCI and Sevkiye Sence TURK, 2018) and the potential of land value capture in the context of a local project in *Fikirtepe. Fikirtepe* was one of the first *gecekondu* areas in Istanbul, later declared a special project area in 2005 and a risky area under Law No. 6306 in 2013. 'The Transformation Law for Areas at Risk of Natural Disaster' (Law No. 6306) enforced as a legal tool for urban renewal.(Tarakci S. and Turk, S. S, 2018) The Urban Renewal legislation affords discretionary power to central governments and local administrations to designate renewal area, undertake planning, valuation, implementation and land expropriation. The scheme covers a total area of 130 hectares and comprises 61 plots. Agreement between developers and landowners has been achieved on 31 of these plots creating a plot (number 24) by incorporating 85 previous parcels. Land expropriation for roads was done according to a detailed local plan providing for road widening and public facilities comprising 25% of the total net parcel areas, an area as large as the roads remains as additional public service area. This Urban Renewal Project as the mechanism of land value capture was achieved by obtaining the area for public service free of charge through deduction, land contribution for infrastructure and value added tax. Infrastructure contribution was 35%, land acquisition 39% and value added tax at 26%. All development costs were covered by the contractor company at no cost to the property owner. The scheme is reported to be one of the first squatter settlements to be redeveloped according to a plan, declared as 'Risky Area' in 2013 and completed on the basis of land valuation rather than on the basis of area share. (Tarakci S. and Turk, S. S, 2018)

Cyprus

In Cyprus control of building development has been in place in all parts of the island ever since 1946 under the Streets and Buildings Regulation Law. More recently a vastly improved legal framework for planning and control of urban develoment has been put in place by both communities of Cyprus, the Greek Cypriot Community and the Turkish Cypriot community. In reality, the actual influence of urban planning policy and practice on building development has been very little as the prevailing land use patterns is the result of market forces and very little of planning authority actions. In both parts of Cyprus, development is subject to legal controls under separate sets of planning rules not vastly dissimilar as both parts draw upon common sources of regulation and shared planning principles which evolved through the cooperation of both communities in the landmark planning project 'Nicosia Master Plan (NMP)'. The NMP 1979-1985) produced a General Planning Strategy for Greater Nicosia as a whole and a Detailed Plan for the Central Core Area of Nicosia highlighting in the process the core issues

besetting planning policy also indicating common planning principle and policies adopted by both communities of Nicosia for organized urban growth and cohesive urban development. (Nicosia Master Plan, 1984, Final Report, UNDP Cyprus). The 'New Vision Project' which focused more closely on the central core area of all Nicosia followed up the main planning issues within the framework of the NMP and, like the parent NMP, dwelled on the weaknesses of planning to go beyond routine development control to deliver substantive planning result. (*New Vision for the Core of Nicosia, Diagnosric Report, 2004, Final Report 2004)*: In both communities planning operates as a building control system, rather than as a visionary strategy for achieving the best form of development for society and the economy. The core weaknesses of the planning system shared by both communities include the following:

- Enormous urban sprawl
- Degradation of the built environment
- Vacant land and building stock
- Lack of effective implementation mechanisms
- Administrative complexity
- Lack of finance
- Limited public awareness on the value of urban heritage

Particular attention must be given to three core characteristics of urban development in Cyprus more widely: (a) almost all land use development is carried out by the private sector, (b) land ownership is predominanty private and widely distributed, and (c) private property rights are legally overprotected preventing major interventions without (unaffordable) financial expenditure. (Dept of Town Planning & Housing, Cyprus National Report: UN Conference on Human Settlements, Vancouver 1976), These parameters continue to overshadow planning in both communities and over the years have deepened their influence on the Local Plans and the type of planning implemented including the following:

- Local Plans are open ended
- They are regularity than problem-based
- Have no control over the land market and the release of land for develoment
- Include zoning operating as an instrument for including overxpanded fringe areas in development areas rather than for directing growth in areas with infrastructure complementing already developed areas
- Lack clear spatial strategy unsupported by fiscal / financial instruments
- Include overexpanded low density and patchy suburban and periurban residential development zones with large numbers of empty building land
- Offer no basis for balancing demand and supply in urban land development becoming vulrrable to frequent expansions of the planning areas imposing urbanization costs. (Constantinides, G, 1973, Constantinides, G. 2018a). The Greater Nicosia Urban Area as a whole, falling within the scope of the two Local Plans covering the development policy for the respective southern and northern Nicosia regions, extends over an area of roughly 300-350 square kilometers with the lonest disttance south west to north east stretching over some 20 kilometers, Fringe areas on both sides are overwhelmed by newly designated residential zones crowded by large numbers of empty land and building plots without proper infrastructure services, most typically in the outer edges of Gönyeli (nortwest) and Hamitköy (northeast), Lakatamia (southwest) and Yeri (south east). Even though development within the Greater Nicosia Urban Area, as shown in the map below, is controlled by two separate plannng authorities both of them face similar challenges concerning the management of scattered low density housing development in the fringe locations. (Demetriou 2004)

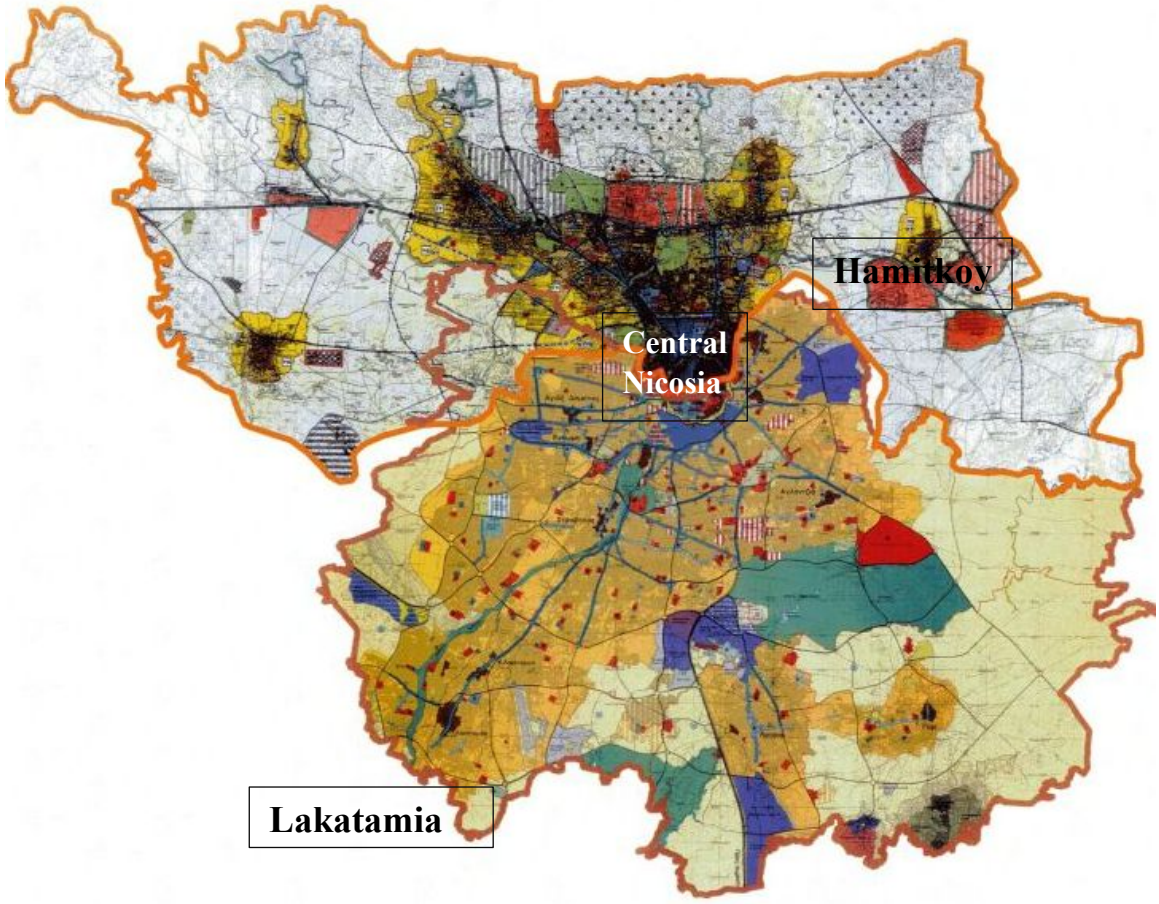

Figure 3. Greater Nicosia Urban Area (source Nicosia Master Plan: New Vision Project, 2004)

Essentially, even though housing development in Lakatamia, in the south west edge of the Greater Nicosia Urban Area, and Hamid Koy, in the north east edge, is controlled by two different palnning authorities the core problems on the ground are the same, namely: overzoning, patchy housing development on unserviced or partly serviced land and unreliable municipal finance for infrastructure. The costs to society of a planning system that fails to plan how the urban area will grow and expand are significant but hidden because its size and incedence involves different sectors and actors. Apart from the actual space econimics issues involved there are also methodological challenges of how to approach an calibrate the costs. The first step is to distinguish private and public costs, as well as local and city-wide costs. An outline of a possible analytical framework for the the costs of sprawl facilitating monetary valuation is offered in table 4.

It is not possible without further research to quantify all the cost of sprawl to a satisfactory degree of accuracy. However, it is useful to provide a costing framework to increase awareness of the initial approach to costing starting with identification and evaluation of the sources and scale of costs

Table 3. Taxonomy of costs of sprawl (Source: Author's research, 2019)

	Privare costs	**Public costs**
Local costs	-Road constuction -Utility connections	-Loss of agricultural land and production -Loss of landscape quality
City-wide costs	-Longer daily car trips -Tax burden on socirty	-Budget financed new road constrcution -Budget financed social services (schools, etc.) -Unused land and service capacity in centreal areas -High cost in inction for maitenance

The above framework highlights the two important distinctions that need to be made; the incidence of costs (public and private costs) and area creatring costs (local and city level costs). It is therefore useful to attempt provisional costing not to get an accurate figure for policy making but to demonstrate the approach to apply to get closer to what it costs society to operate with high cost growth choices resulting from a weak, underfunded and constrained planning system which exhausts itself in development control without capacity for strategic economic management of urbanization.

The main concerns about urban sprawl is not only costly growth patterns but also to use costing as instrument for improving poor planning powers to do a better job. Back to costing, some preliminary rough indicators may be cited below for illustration: Private cost for local road constrcution and on-site ulility provision works and connections is estimated at approximatrly €50 per square meter, meaning €500,000 per hectare. Loss of non-irrigated agricultural production is estimated at between €2,600-€5,000 per hectare depending on land suitability for alternative production patterns. (Constantinides, G, 2001). Loss of landscape value has not been estimated but indicators from various international studies provide values aprtoximating €250,000 per hectare. (Santos, M. H. 1998, Moran, D. 2005). With all the caveats and possible estimation errors the total local level cost is likely to be €755,000 per hectare, €500,000 private cost and €255,000 public cost (Constantinides G, 2018b)

The enormous expansion of the out-of-town, low density residential zones in the period 1990-2006 beginning with the enforement of the first Nicosia Local Plan (1990) (Nicosia Local Plan, 1990), followed the successive revisions of the Local Plan up to 2006, illustrates the expend of sprawl in the wider urban area of Nicosia. In that period the population of the Nicosia Local Plan Area grew by 35,000, from 172,000 to 207,000, while the residential zones were expanded by 1,500 hectars, from 7,000 to 8,500 respectively. This land area corresponds to net residential land (net of infrastrucutre services) of approximately 13,200 plots of 800 m2, representing housing capacity for a population of just over 46,000, assuming only low density housing development of one single story housing unit per net residential land of 800 m2. Actual population increase was only 35,000, of which a large propoertion of that growth was accommodated in the equally significantly expanded suburban mixed use zones explaining the persistent surplus of unserviced land in the residential zones within the Local Plan. City-wide public costs are far greater as they involve expensive road constrcution and othe infrastucture financed by taxes through the budget. City road together with the utility services cost about €500,000 per kilometer assumed here to serve an area of approximately 5 hectares, meaning €100,000 per hectare. Schools and other community facilities may be estimated at about €250,000 per hectare coming to a total of €350,000 per hectare. To this must be added the cost of mantaining idle infrastructure capacity in the central area which counting only the cost of maintenance may roughly be in the range of €50,000 per hectare per year. (Constantinides G, 2018a, 2018b)

To offer a historical context of the tendency in Cyprus for accumulation of emply land and outward growth the following table is cited showing the increase of empty building land in the Nicosia urban area between 1952 and 1958.

Table 4. Urban Nicosia Area including the suburbs around Nicosia Municipality (Source: Planning Report Vol 1, W. Morris, Dept of Town Planning and Housing, 1959 (W. Morris was the last colonial Director of the then Department of Town Planning and housing of Cyprus.

Year	Developed land area (donums=1,340m2)	Area of empty building plots (donums = 1,340m2)	Population
1952	8,722	3,291	63,000
1958	12,520	6,344	83,160
Increase 1952-1958	3,798 (43%)	3,053 (93%)	20,160 (32%)
Average annual increase	633 donums	509 donums	3,360 persons

Concluding on the above theme, the practice of designating rural areas as residential development zones far from offering choice of land for affordable housing achieves exactly the opposite effect of increasing the notional value of land way beyond theactual demand for housing land encouraging holdouts for future gains. The issue of empty building plots in suburban areas is to a major extent a creature of over-zoning which inflates land values, restricts affordability and stimulates holdouts. Land release for organized development remains a problem. LR can be introduced as a more realistic and effective mechanism for land release in development zones than land holding tax. The predominant type of development in prematurely designated peri-urban housing zones is low-rise housing on scattered individual parcels. (Constantinides, G, 2018a, 2018c)

Implementation of LR in Cyprus: A Tentative Proposal

Implementation would involve (the following (important steps (1) identification of an area already zoned by the relevant Local Plan as residential development zone with surplus empty land without proper infrastructure posing a constraint to development (2) communication with the owners involved and agreement reached for their preparation (3) preparation of a local development scheme showing the proposed layout of plots (4) registration of all properties in the proposed scheme (5) valuation before the scheme (6) cost analysis, cost recovery financial plan (7) identification and acquisition of the land area to be set aside for infrastructure and community services on the basis of the layout scheme (8 engagement of a contractor and construction of road and utilities (9) construction expenditure, contribution of private land for the above based on valuation after the scheme and redistribution of plots (10) possible objections and hearing procedure. A numerical example is cited below:

Table 5. Example of LR implementation in a suburban area around Nicosia

LR Scheme area	**Before the Scheme**		**After the scheme**	
	M2.	%	M2.	%
Public area				
Roads	10,000	4.0	75,000	30.0
Green open space	-	0.0	25,000	10.0
Water courses	5,000	2.0	5,000	2.0
Land reserve for community services	-	-	10,000	4.0
Contribution of land for the cost of infrastructure	-	-	10,000	4,0
Total	15,000	6.0	125,000	50.0
Private area				
Private properties / land plots	235,000	94.0	125,000	50.0
(Plots with planning permission)	(10,000)	(4.0)	(10,000)	
Total LR scheme area	250,000	100	250,000	100

LR Economic analysis

(1) Contribution of private land to the scheme

- Area before the scheme = 235,000 m2.
- Area after the scheme = 125,000 m2.
- Reduction (contribution of land) = 110,000 m2.
- Percentage of contribution of land for roads, community services against the cost of the scheme 46% (110,000m2 / 235,000m2)

- (2) Value increase
- Land value before the scheme = €70,500.000 (235,000 m2 x €300)
- Land value after the scheme = €93,750,000 (125,000 m2 x €750)
- Benefit = €23,250,000 (€93,750,000 – €70, 500,000) 33% value benefit
- (in an area close to dense urban developed and high demand for housing and high land values, say €850 per m2 instead of €750, the value benefit will be well above 55%)

- (3) Value of contribution of land for the construction of roads = 10,000m2
- Value of the contribution of private land 10,000 m2 x €300 = €3,000,000
- Value of the benefit of the construction of roads of 10,000 m2 X €750 = €7,500,000

- (4) Planning benefit / planning gain

- Integration of residential zone with town infrastructure as extension of the town
- Implementation of the objectives of the Local Plan
- Land release for new housing development in an area zoned for that purpose
- Land availability for low and lower cost housing
- Development of community services at the right places
- Costs financed by the scheme without budgetary costs

The example above highlights the approach to the implementation of LR schemes given the value prevailing in the specific area:

- The contribution of private land exceeds marginally the 40% mark
- The land area that needs to be set aside to finance infrastructure depends on the cost of infrastructure and the land values in the area (in this case €750-800 / m2) and the developer's profit on his investment
- The areas of roads relative to the area of the scheme.

LR Spatial analysis

From a spatial perspective the development capacity is a key factor. The planning capacity increase that LR can achieve after providing infrastructure in an area previously without services for development is illustrated in the following table concerning an area in the south west suburb of *Lakatamia* in Nicosia. It must be remembered that LR schemes must also take into account the demand for housing land in particular locations not to oversupply land and cause reduction of values.

Table 6. Example of planning capacity assessment a suburban area around Nicosia

Area of scheme	2,760,000 m2
Ara of infrastructure 35%	1,794,000 m2
Development density plot ratio 0.60:1	1,076, 400 m2 developed area capacity
Assuming housing development 80%	861,120 m2 housing developed area capacity
Average housing unit size 250 m2	3,445 housing units capacity
Estimated population capacity	12,057 (average household size 3.5 persons)
Existing development	200 housing plots + 50 housing units
Idle capacity released for development	3,195 housing units (3,445 – 250)

LR Social Analysis

The interactions with the landowners is a crucial part of the LR process which may encounter weaknesses as well as opportunities; the strong attachment to land may prove a weakness but the opportunity is the participation incentive of the benefits arising from the exchange of land area for infrastructure and the higher value of the new plot. Agreement for participation may be a slow process but the entrepreneurial attitude of landowners will ultimately prevail in the win-win social process of reaching agreement. A problem which may persit is the 'strategic holdout' by landowners hoping to benefit from the LR scheme without contributing land in which case a reduction of density rights should apply.

In the dialogue with the landowners it is helpful to point out the benefit after the LR scheme. The value of land of a plot of €750 m2 before the LR scheme, in this example, is €225,000 compared to €337,500 after contributing 40% land area to the LR scheme, a gain of 50%. If the location of the LR scheme is adjacent to an already developed part of the urban area with a higher demand for housing and higher land values the value the benefit will be correspondingly well above 50%. The basic economics are important underpinning factors in the social process of securing participation in LR schemes.

The gaps in the Urban Planning system are similar in both communities, in all areas of Cyprus. There has recently been keen interest in closing some of the gaps and serious debate has started in the Greek Cypriot community on the introduction of policy instruments with priority action on LR. In this context the Planning Board has commissioned a report to review the merits of LR and propose how it could be introduced into the planning system. (Constantinides, Gl. 2019). The main principles governing its potential application in Cyprus are set out below which could address the issues of land release in all parts of Cyprus.

Conclusions

LR offers opportunities for urban planning to achieve core objectives central to the agenda for sustainable, socially viable and cost-effective urban development. It works best within the framework of current planning policies in various countries, notwithstanding the diversity of institutional planning environments, while sharing common concerns for resource effective urban expansion and redevelopment initiatives. LR success lies mostly in working with market forces to produce planning outcomes that in most cases benefit the landowners involves, the local planning authorities and wider society. Underlying the use of LR and much of its effectiveness is the economic impact of infrastructure development on the value of land such that it enables financing solutions in urban development. The importance of value-based redistribution of land for achieving urban planning results is most clearly demonstrated in countries that have applied LR, whereas abortive application of LR is associated with either lack of consistency with Local Plans or use of the area-based rather than on the value-based principle for land redistribution to new owners

(most notably Greece and Turkey). In Cyprus where planning has not yet been a major driver in sustainable and cost-effective urban expansion, LR is drawing increasing attention as a land release policy instrument. This article proposes a framework for its application

In addition to land release and cost recovery urban finance supporting planning implementation, LR has yet another related merit as a planning tool particularly relevant for use in countries with an evolving spatial planning system; it brings together the two important processes involved in infrastructure development, that of development *expenditure* and that of *financing* the expenditure, conventionally separate and centrally pursued activities within the central budget and taxation systems. The bringing together *at the local level* expenditure and financing of urban services development increases the scope for local level visibility, accountability and viability of growth options and local resource mobilization in urban planning.

Table 7. A model for possible application in Cyprus - An outline of the procedure for the implementation of LR in the context of the Planning System

Actions	Implementation guidelines
1. Core problem and need for LR	-Inclusion of rural areas without infrastructure services in development zones -Accumulation of empty land in development zones remaining undeveloped -Shortage of budget funds to cover the cost of infrastructure provision (urbanization costs) creating an urban infrastructure investment 'funding gap'
2. Basic advantages	-Unlocking land in development zones -Promoting planning objectives along with the land and development market without the use of tax measures and compulsory acquisition for land supply
3. Integration within the planning system	-Incorporating LR in the Local Plan's and Priority Plan's land, housing and urban redevelopment policies -Implementation responsibilities with local authorities and landowners in consultation with planning authority for approval -LR schemes and design plans should include: -Topographical map of the area, proposed development and land use plan, land valuation, financial estimates, etc., landowners' interests and participation plan, supply and demand assessment and related problems to be addressed
4. Management and Monitoring	-Municipalities may identify and designate areas for LR scheme -The planning authority to exercise 'quality control' and assessment of compliance with Local Plan policies and locations
5. Identification of LR scheme areas	-Priority given to residential zones with large areas of un-serviced land -Other areas of policy and strategic importance for land supply may be designated for LR including central redevelopment or redesign areas
6. Start-up of LR scheme	-Preparation of LR plan with all legal, technical and financial details including the land reallocation rules (value based) -The local authority inviting tenders for construction works -Contractor informed on technical, financial and supply demand issues of LR plan (supply and demand will influence the value of new plots to cover costs)
7. Completion of LR scheme	-The LR Master Plan should obtain planning permission from the planning authority as a condition for the issue of new title deeds to the new owners
8. Incentives for participation	-For participation incentive 5% increase of plot ratio may be given applying also to plots with planning permission -Against non-participation for over 3 years, reduction of the existing plot ratio of 20% may be applied -LR action plan is recommended: preparation of a five-year action plan covering as much as one third of the residential zones in Local Plans areas without infrastructure

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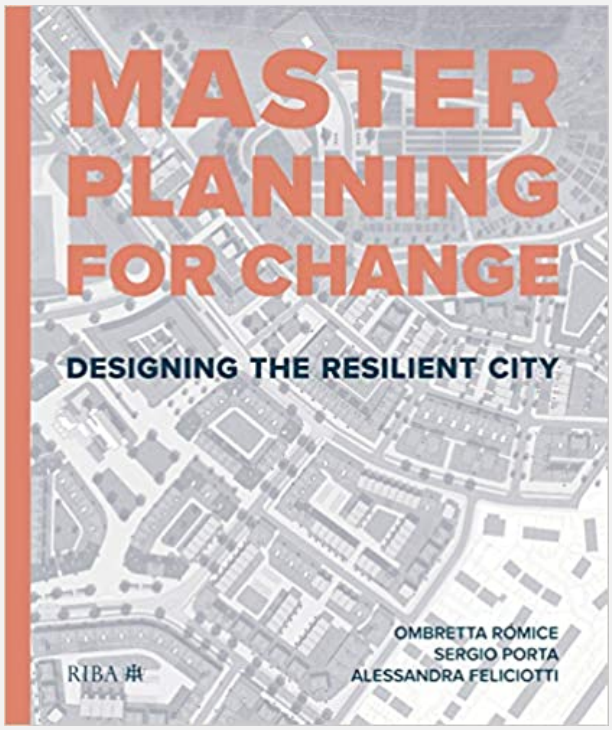
Book Reviews



Book Title: **Masterplanning for Change: Designing the Resilient City**
Author's Name: **Ombretta Romice, Sergio Porta, Alessandra Feliciotti**
Publisher's Name: RIBA Publishing
Reviewer's Name: **Prof Manoj Parmar, Dr. Binti Singh**
ISBN Number: **ISBN-10: 1859469264**
ISBN-13: 978-1859469262
Dimensions of the Book: **8 x 10 inches**
Hard or Soft Cover: **Hard**
Number of Pages: **192**
Order Address: **www.amazon.co.uk (and for price)**

KEYWORDS:
Change, Resilience Building, Design, Architecture

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2020, Vol. 1 78

https://ojs.emu.edu.tr/

The recent published book "Master Planning for Change" by Ombretta Romice, Sergio Porta and Alessandra Feliciotti (Urban Design Studies Unit, University of Strathclyde, Glasgow, UK) is a fresh take on resilience in contemporary times across the globe. Amongst several publications dealing with resilience strategies and adaptability for urban systems (which are made up of several parts), what sets this book apart is that it shifts the gaze of the urban discourse to "Cities as Living Systems" depicting a multitude of behaviors in transition or situational change.

The authors have set a few criteria while putting forth the discussion on cities and resilience. They consider cities as living systems and they treat them as such, not as a simple process with a singular aim. They elucidate the importance of 'planning better by planning less' and set simple frameworks for diversity rather than complex frameworks for a monolithic end. In order to take on the conversation forward, the authors begin to engage with the master plan in the making, transforming and adapting processes. As one reads through the chapters, the entire process of unraveling master planning and its transformative process from the perspective of resilience proves to be thought provoking.

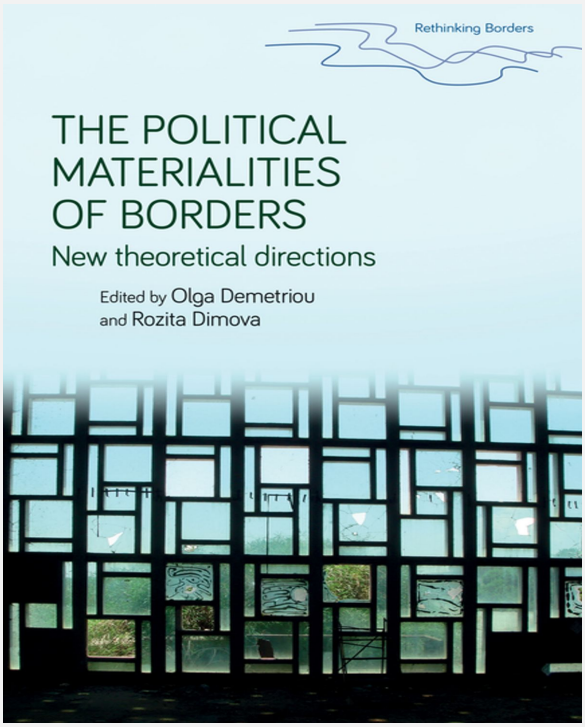
The first part of the book discusses the 'ecology of urban form'where the authors argue that "The thinking behind systems theory acknowledges that crucial real-world problems cannot be tackled by dissecting and analyzing their individual components as such, but only by holistically focusing on their mutual relationships in space". They put forth the 'theory of adaptive cycle' and 'panarchy' (system that encompasses all complex characteristics of ecology through four stages of transformation: exploitation, conservation, release and reorganization of the system). The second part of the book discusses the 'ecological process' together with the 'morphological process' of transformation and adaptiveness. The ensuing discussion highlights an important conversation on how urban form changes in similar patterns of ecology, economy while simultaneously discussing the attendant adaptive processes of change at various scales.

The second part takes on analysis and design recommendations with a methodical approach at various scales. The recommended components include transformation and adaptiveness of the morphological structure, street types, building types by use and density, networks, community spaces, public places, along with micro-climate control devices.

This timely and well researched work is an intellectual eye opener and a practical guide on the way contemporary master planning could be (re)imagined. The text is lucid, conceptualized methodically and is well-structured. The argument of morphological transformation is well woven with ecological understanding (exploitation, conservation, release, re-organization) and embedded in the larger argument that current cities are examples of adaptive

systems. As one reads further into the last chapters constituting WPs, one is reminiscent of Christopher Alexander's Pattern Language, that we assume, the authors have consciously attempted to re-contextualize in contemporary times.

Book Reviews



Book Title: **The Political Materialities of Borders - New Theoretical Directions**
Author's (Editors) Name: **Olga Demetriou and Rozita Dimova**
Publisher's Name: **Manchester University Press**
Reviewer's Name: **Kamyar Lotfi,** Eastern Mediterranean University, Cyprus
ISBN Number: **978-1-5261-2385-5**
Dimensions of the Book: **9.3 x 0.7 x 6.3 inches**
Number of Pages: **153**
Number of Illustrations: **8**

KEYWORDS:
Politics, Materiality, Ideology, Nation-State, Borders

Journal of Urban Research and Development
2020, Vol. 1 79-80

https://ojs.emu.edu.tr/

The recently published book "The political materialities of borders New Theoretical Directions" by Olga Demetriou and Rozita Dimova (Manchester University) is a new attempt on rethinking borders in terms of their qualities across time and space. This Ethnographic study involves the experiences and evolutions that occurred in borders.

In the first part of the study, authors have focused on the "relationship" between what borders are and what they do rather than the ontology of borders. They explore how the relationship between materiality and abstraction is established. As one reads through the chapters, it is visible that there is a framework for rethinking on borders to examine the implications of the material and non-material constitution. Its argued that conceptualizing borders as an object like materiality may not be proper approach; however, borders should instead be considered as processes.

In the second part of the book, author Olga Demetriou provides a different platform for approaching the borders political materialities. Evaluations clarify the role of two borders between Turkey and Greece as material structures and how the migration is being controlled in the last decades. Because of these borders important role as an entrance to European unions, Borders between Greece and Turkey come under increasing European check point. These happening cause two governments to define new strategies to set up some rules for migrants. The Buffer zone in Cyprus also has the same situation. The author aims to highlight the imbrication as a method to connect material and non-material without eliminating its political perspective.

Chapter three focuses on the border zone, which is under evolutions and changes in the Mediterranean area. It considers material and non-material subjects by referring to the relation between global agreements, memories, and geopolitical borders. The author argues about the friendship agreement of Libya and Italy as an example and how it works as a non-site of memory and a bordering technology.

In chapter four, the author Tuija Pulkkinen considers borders in an abstract sense, taking into philosophical perspective an also problems of ontology. She defines two different ontologies of thinking the productiveness of borders. Two contemporary philosophers Gilles Deleuze and Jacques Derrida are considered who both philosophize border in terms of what borders do when the focus is on productivity of borders. Two very different concrete historical cases of the activity of drawing borders take part in the discussion. A political border on the map of Europe in 1809 between Sweden and Russia, and the other being an epistemic border drawn in the discourses on sexualities in the late nineteenth century; both had multiple subsequent effects of terms of identities and differences. At the end, the author believes that Ontology, as a philosophical attitude, affects the thinking about borders. It is crucial because the one approach makes the creation of differences a matter of historical contingency.

In chapter five, the main argument is the idea of border as a line is part of a particular political concept of border. The author, Sarah Green believes that it is a historically and

ideologically distinctive concept rather than belonging to natural characteristic of borders.

She focuses on retaining the concept of line in thinking about contemporary borders to think through the material implications of imagining borders as lines and considering what kinds of material forms that borders not considered as lines might take. Using the ideas of lines, traces, and tidemarks, starts a debate about the diverse qualities of borders, or what could be called 'border-ness'. The author also mentions about the metaphor of traces which can have an important role to rethink about the complicated relation between symbolic, material, and legal forms. She discusses as an example of separation in Cyprus (Turkish Republic of Cyprus and South Cyprus) to clarify the differences between borders and lines in which cases are one-sided. The walls and checkpoints as geographical limits and physical elements have an additional role in materially controlling how these locations are maintained and crossed. The author finalizes this chapter with the significant role of maintaining a distinction between the abstract concept of lines and the materiality of borders.

Chapter six also reflects on the agency of abstraction and materiality in border work in terms of three different deconstructions that have been discussed by many and recent experts on border studies. The first one is 'thingist' approach, second one is the a-literalist critique of notions of borders as lines, and the last one is governmentality-oriented shift away from a territorial concern. Specifically, this chapter highlights the question of the consistency of the line-ness of borders. The author, Stef Jansen argues by dissolving the production of the Inter-Entity Boundary Line in capital Sarajevo in divided Bosnia and Herzegovina. It traces the making and maintenance of this polity border as a contingent process in which two not symmetrical political work to intercede between abstraction and materiality conflict over the relative line-ness of this border as a major aspect of state territorialization.

Chapter eight discusses the radical existence of the border. The author in this chapter has a productive framework to rethink borders by the idea of removing physical subject from border areas. In this sense, what would be the situation of borders if the checkpoints, barriers, and fences eliminated or what if the territory changes to water ground and liquid borders? Prespa Lake, where the Albania, Greece and Macedonia meet and divided, is studied in this manner. In the other section of this chapter, the concept of ghost problematizes time, character, and existence and finally, through the concept of the secret which lies at the core of power, examines the workings of power and governance.

Displaced borders are the main consideration of the author in the last chapter. The project on the center of the capital city of Macedonia, Skopje, shows how these borders are materialized by huge structures and buildings by referring to effectively signify the conflict over the classical past between Greece and the Republic of Macedonia which has started over a decade. Rozita Dimova evaluates the agency of size and magnificence that shapes perceptions and reactions of people to material aspect.

JURD

Journal of Urban Research and Development (JURD) is a peer-reviewed international and multidisciplinary academic journal published by EMU Press on behalf of Eastern Mediterranean University (EMU) Urban Research and Development Center (URDC), for urban and planning issues, covering a wider range of disciplines contributing to past, current and future concerns of cities and urban development. The journal welcomes contributions from qualitative as well as quantitative research including contemporary comparative urban perspectives and case studies.

Aims and Scope

Journal of Urban Research and Development (JURD) aims to provide a discussion platform for original research on urban and planning issues, covering a wider range of disciplines contributing to issues and challenges in urban development. JURD intends to be an easily accessible resource for researchers and practitioners in the fields of urban and regional planning, urban design, landscape architecture, human geography, urban sociology, urban economics, urban infrastructure, etc. as a unique platform for dialogue and exchange of ideas.

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The proficiency of the English language including the proper usage of grammar, uniform spelling must be checked prior to submission of the manuscript. Both American and British spellings are acceptable as long as it remains constant throughout the manuscript. If the manuscript does not pass the initial quality control, the author(s) will be advised to use a professional proofreading service before the reviewing process began. In order to accelerate the publication process, the authors are advised to ensure language proficiency prior to submission. The Journal uses a natural language and the usage of pronouns such as "I", "we", "our" should be avoided if possible. The manuscript must remain anonymous throughout the reviewing process, so all names (including the acknowledgement) must be removed before the manuscript is accepted for publication. The name of interviewed individuals, participants, and collaborators can be added only with a written contest. Please make sure that all supplementary materials (tables, figures, maps, charts, etc) are embedded in the text and submitted separately with the highest quality for print. Please follow the complete guideline for submission from our website.

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Contact

Corresponding address:

Journal of Urban Research and Development
Eastern Mediterranean University
Famagusta, Northern Cyprus
(Via Mersin 10 - Turkey), 99450

Phone : +90 392 630 2588
Fax : +90 392 630 2865
E-mail : jurd@emu.edu.tr or sebnem.hoskara@emu.edu.tr
Website: : https://ojs.emu.edu.tr/index.php/jurd/index

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IUDC 2020

CONFERENCE REPORT

For the 10th anniversary of the EMU Urban Design Graduate Program, the Department of Architecture organized an international virtual conference in collaboration with EMU's Urban Research and Development Center (URDC). This international virtual conference was dedicated as 'Young Researchers Forum @ Re-Discovering Urban Design' and occurred from the 9th through the 11th of December 2020.

The two-fold aim of the International Urban Design Conference was to provide overarching views on urban design education and research and a rich discussion platform for all participants to exchange ideas with senior mentors in urban design. Opportunities for interaction with the mentors included five keynote presentations by:

- Prof. Alex Krieger, Harvard University Graduate School of Design, USA
- Lect. Ombretta Romice, University of Strathclyde Department of Architecture, UK
- Prof. Nikos Salingaros, University of Texas at San Antonio, USA
- Prof. Deane Alan Simpson, The Royal Danish Academy of Fine Arts, Denmark
- Prof. Derya Oktay, Maltepe University, Turkey

In addition, two panel discussions allowed participants to make inquiries of eight practicing professionals: three alumni of the EMU urban design program and five doctors teaching urban design at their respective universities. Conference organizers also presented three virtual city tours to introduce remote participants to both historic and modern features of the Cypriot cities of Famagusta, Nicosia, and Girne. The tour presentations have been conducted by Department of Architecture professors.

Over the 3-day conference, 28 researchers representing 11 universities presented their studies and findings. The presentations were organized into eight sessions according to the four topics of Public Space, Urban Change/Redevelopment/Revival, Sustainability/Ecology, and Heritage/Culture. Each session was moderated by one of 13 moderators.

All of the featured presentations and topical sessions were followed by question-and-answer periods which were refereed by one of 13 moderators. Presenters addressed a variety of research about urban design from master, doctoral, and post-doctoral perspectives. In total, participants represented 22 institutions and 14 different countries. The breadth of urban design topics inspired riveting discussions, new insights, and fresh motivation.

The peer-reviewed abstracts of all accepted presentations are published before the conference in an open-access e-book of abstracts by EMU Press. All presented papers, after the process of a double-blind review process, will be published in the open-access Book of Proceedings and selected papers will be published in the Journal of Urban Research and Development (JURD) of EMU, in a Special Issue or in 2022.

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udconf.emu.edu.tr

IUDC 2020

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"Make cities and human settlements inclusive, safe, resilient, and sustainable."

The mission of Eastern Mediterranean University's Urban Research and Development Center (URDC) is to improve understanding of and deliver innovative responses to urban challenges by providing a forum of contributions to the quality of urban environment to promote sustainable urban settlements.

Since its establishment in 1999, committed to serving Cyprus, the Center follows its mission by stimulating research into urban and regional issues and contributing to the knowledge in the field of urban planning and urban design for and on behalf of other parties within Cypriot settlements.

The Center also aims to evoke awareness amongst local people concerning urban environmental issues and to collaborate with other institutions of similar interest and establish inter-disciplinary links both at the local and international levels.

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