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30 ANOS DE ENSINO DE URBANISMO



30 ANOS
DE ENSINO DE
URBANISMO

NA UNIVERSIDADE

LUSÓFONA

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From green capital of Europe to sustainable city: steps through an urban transformative journey in Lisbon

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Resumo:

Whilst Portugal was, for centuries, mainly rural, 1/3 of its population now lives in Lisbon. The increase in its number of inhabitants (1,3 million in 1940; 2,5 millions in 1981) makes Lisbon a place of particular interest when exploring the evolution of urbanism. Having to face the influx of refugees fleeing World War II, rural populations escaping extreme poverty in the 1950s, and the return of a million Portuguese from ex-colonies after 1974, urban planners had to build in flexibility as soon as ‘*urbanismo*’ was recognised (Decree 33921 in 1944). From learning to organise a fast-growing multi-cultural city, they had to grasp the implications of Portugal joining the EU in 1986. Later, environmental objectives led Lisbon to win the title of green capital of Europe in 2020. A new context unfolded with the Covid pandemic. This article explores how urbanism in Lisbon evolved in the last 30 years and how moving from a green to a sustainable city could now challenge urbanism even further.

INTRODUCTION

‘Urban issues’, both as a management process, an academic approach and a real increase in city-inhabitants, has been a much more recent phenomenon in Portugal than in other Western European countries - where it emerged in the 19th c. as a response to industrialisation. The ‘urbanism’ approach developed as a response to the pace at which urban population in cities like Lisbon changed, and to the issues that these movements raised. In Portugal, the rate of urbanisation increased from 26,4% in 1970 to 59% in 2005 (Alberto, Fernandes & Seixas, 2018).

These changes were strongly affected by history: the movements of incoming and outgoing population throughout time reveal some real ‘Portuguese’ specificities. From 1950 until 1981 (when it reached its population peak), the number of inhabitants in Lisbon increased from 1,3 to 2,5 millions. This was a result of a flux of (more than 100 000 in a few months in 1941) refugees fleeing the Second World War and seeking a new home in a then politically neutral Portugal (Léonard, 2018); strong movements of

population coming from rural areas and fleeing extreme poverty (1950-1960) and also of the return of nearly a million Portuguese from ex-colonies (Angola, Cap Verde and Mozambique, in particular), after the revolution (1974). Such fast demographic changes led to the birth of 'clandestine neighbourhoods' in the periphery (Caetano et al., 2005) on pieces of land originally targeted at agriculture, tolerated by local authorities who were badly prepared for such changes. Although legal instruments such as Decree 174/76 of 1976 were developed to equip public administration with the necessary means to fight real estate speculation and to solve the accommodation crisis, the public administration hardly used them – partly because they didn't know them well and partly because of lack of financial resources to implement new measures.

Developing an understanding of such changes and managing them was very influenced by the political context. The term 'urbanism' has been attributed to Cerda (responsible for the extension Plan of Barcelona) who used it for the first time in 1856. From then on, urbanism has been considered an "intentional process, obeying specific techniques to construct territories and to give a holistic vision of the city and of the scientific production of space" (Camarinhas, 2011, p.10). In Portugal, '*urbanismo*' got its legal recognition with Decree 33921 in 1944. The system of urban regulation intended as "a social science interpretation of the organisation of a city, emerged from a democratic process only initiated in 1974" (Padeiro & Marques da Costa, 2013, p.8) and was influenced by the critiques of urban theories that emerged elsewhere in the 1960s and that highlighted the hybrid, eclectic and somehow confusing character of urbanism. As Camarinhas (2011) explains, the broaden participation of a variety of stakeholders and social groups in urbanism, as well as techniques to enhance such participation were developed to such an extent that, in the 1980s, it was thought that "urbanism became an impossibility since it emerged from the notion of 'the city' that does not exist anymore. (...) A new approach [was] needed to envisage the 'production of the city', based on trans-disciplinarity, the articulation of various scales, and of a plurality of actors. The introduction of new methods to produce what is 'urban' in the age of globalisation – what some called 'postmodern urbanism, democratic urbanism or 'trans-urbanism' – therefore [called] for a new major step in urbanism" (p. 17). In places, this led to a progressive move towards a more territorial type of land management or, in French, '*Aménagement du Territoire*', defined by Desjardin (2021, p.11) as "a collective and pro-active set of initiatives that aim at meeting political objectives through the transformation of the spatial and temporal organisation of the society". Authors such as Nunes da Silva (1993) stressed that the legislative and regulatory traditions relative to land management existing at the time was very new if not immature in Portugal. Despite this, in the 1980s, a strong consensus developed around the idea that Lisbon needed to be rehabilitated, giving itself the possibility to turn towards an international environment likely to "open profitable paths of expansion linked to progress and globalisation" (Breviglieri, 2019, p.12). It is in that period that our story begins, when Portugal joined the EU. In the 30 years that have passed, one could say that urbanism moved from one extreme to another, initially centred on the market, then enabling the city to be awarded the title of green capital of Europe, and now widening horizons towards understanding better how Lisbon could become a sustainable city. Whilst the first part of this chapter takes us through these historical steps, the second explores how urbanism can be articulated beyond green indicators in view of tackling all dimensions of sustainability and, in the process, of facilitating a new phase in urbanism approaches and objectives.

PART 1. THREE HISTORICAL STEPS IN URBANISM

1.1. Joining Europe; the neo-liberalism approach of urbanism as a ‘key to success’

From an urbanistic perspective, the rehabilitation of Lisbon in the 1980s was an ambitious and difficult task. It was tackled from two very different angles. On the one hand, the *concelhos* (municipalities) saw their margin of manoeuvre enlarged as a result of a general tendency towards de-centralisation, and became equipped with the ‘*Planos Directos Municipais*’ (PDM). The PDMs were created to encourage the harmonious development of the area covered by the *concelhos*, and used to guide land management, the transformation of the territory, and to envisage inter-communal perspectives through the grouping of municipalities to operationalise certain strategies – which happened very infrequently. However, at the time, the town administrations were not only very ill-experienced (Catita, 2009) but often confronted to private consultants in charge of the elaboration of the plans (Alves et al., 1993). As a consequence, the Portuguese approach to urbanism and *aménagement du territoire* therefore jumped wholeheartedly into a vision of both approaches that was very much centred on (second angle) the market – so much so that it made Luis Mendes assert that “the market and freedom to compete ferociously asserted themselves as the unique organisational principle around which the urban life and the territory were to be organised” (2017, p. 488).

It was therefore around this approach that the State, municipalities, property owners and real estate developers created a subtle and partially implicit coalition, leading to the neoliberal urban policies that prevailed for twenty years. Such alliance led to the management of very heavy investments aimed at acquiring, building, rehabilitating and ensuring that real estate would become profitable and possible to purchase privately. It also led to the transformation of Lisbon into one of the most creative metropolis at a European or even world scale, encompassing entrepreneurial poles, FabLabs, innovation centres, and numerous commercial centres. This phase of urban restructuring was very sudden and it has been difficult to measure their genuine social consequences as well as other impacts generated by a real fragmentation of the urban fabric, with urban empty spaces, wasteland, cultivated pieces of land right close to sets of flats, residential areas or commercial centres and the devitalisation of historic centres (dos Santos, 2011). Although, at the beginning of the 1980s, the State created the priority areas for urban development (ADUP) and the priority areas for construction (ACP) in view of controlling the very strong property speculation, the city centre of Lisbon lost 110 000 inhabitants between 1991 and 2001, and then 16 000 inhabitants between 2001 and 2011, whilst the rest of the Lisbon Metropolitan area gained 224 000 inhabitants and 160 000 in the latest decade. 46% of accommodation became vacant in the *Baixa* historical centre (EPUL, 2007).

1.2. More integrated approaches and Environmental movements in urbanism

Integrated approaches in urbanism

Progressively, such urban projects were required to develop some integration measures to ensure social cohesion and prevent social exclusion. In parallel, European strategies and funding started having a very strong influence; Portugal having joined the EU in 1986, embraced them wholeheartedly. As a start, the European Community specified that, for *concelhos* to be eligible to European funds, they needed to have developed PDMs, as well as urbanism plans (PU) and detailed plans (PP). Portugal also benefited from the EU Cohesion Policy through a number of programmes starting with the implementation of:

- the URBAN CI in the 1990s – focused, in Lisbon on six deprived areas -, described as an innovative way of addressing area-based urban challenges;

- the POLIS programmes (initial POLIS in 2000 and then the POLIS XXI programme during the following 2007-13 Cohesion Policy period) - an innovative initiative designed for integrating urban requalification and the improvement of the urban environment in cities;

- the implementation of 103 ISUDS in the 2014-20 period (Medeiros & van der Zwet, 2019).

The EU Cohesion Policy 2014-2020 period was characterised by a strong focus on integrated territorial and urban development, inclusive and sustainable urbanization, sustainable human settlement planning and strong participatory multi-level governance frameworks, borderless place-based solutions, the development of new organisational and governance models, and the combination of physical urban renewal measures with socioeconomic, environmental and urban planning interventions (Leipzig Charter on sustainable European Cities, 2007¹). Medeiros and van der Zmet (2019) concluded that such approaches positively contributed to improving physical and socio-economic elements in several deprived urban neighbourhoods but had limited impact in terms of changing socioeconomic paradigms in urban areas which are strongly affected by drug-addiction, lack of economic capacity, and low income levels. Nevertheless, they served as experimental policy platforms and their influence started being felt through the changes observed in urban planning and *Aménagement du territoire* (AdT) in Portugal.

As Abrantes (2011) explains, the end of 1990s saw a new turn with the development of a national strategy for land management (law 44/98), and of the legal status of the management instruments for AdT (Decree of law 380/99) at various scales and coordinated scales (p. 231). This legislation modified regional plans and management. In this context, the 'PROT' defined a strategy of regional development that integrated the options of national policies with the strategies of the *concelhos* in terms of local development. In addition, the PNOT (national programme of land management) put its hopes in the urban system acting as a catalyst for national sustainable development. Concepts of integration were then translated "through a stronger focus on inter-commune cooperation, which became the real challenge and target for that policy" (Abrantes 2011, p.239). In addition, citizens' participation was encouraged through the Lisbon's participatory budget at a municipal scale (2008) and the creation of participatory assemblies through an internet portal (www.lisboaparticipa.pt) in 2011.

The ways in which the EU influenced urbanism in Lisbon, through projects' funding, was also affected by broader agreements, signed by the government of Portugal, in view of aligning with other EU members on how to address important urban challenges such as climate change, water management and urban agriculture, for instance. Thus, Portugal submitted its national energy and climate plan (NECP 2021-2030) to the EU in 2019 - in line with the EU's binding climate and energy legislation for 2030 and transposed the EU Water Directive (2000) and Landscape Convention (2000) into its own legislation in 2005 (respectively through law 58/2005 and law 4/2005). The European Commission's 2030 Food initiatives and 2020 Farm to Fork Strategy, as well as Portugal's signing of the Milan Urban Food Policy Pact (2015) and programmes such as the EU COST programme on Urban Agriculture (UA) encouraged the recognition of the importance of 'green allotments' in cities and probably had a role to play in encouraging the 're-vamping' of the municipal plan of Lisbon, in favour of 'Parques Hortícolas municipais' and the creation of the 'legal allotment regulation programme' (regulation 162/2018) in Lisbon. These

¹ https://ec.europa.eu/regional_policy/sources/activity/urban/leipzig_charter.pdf

initiatives illustrated the insertion of Portugal into EU's tendencies and culminated with a concentration of efforts to transform Lisbon into a green capital of Europe.

Lisbon green capital of Europe

The greening of Lisbon, motivated partly by the wish to align with the EU's newest environmental aspiration, was also motivated by the fact that, since its entry into the EU in 1986, Portugal had experienced a re-orientation of its economic activities towards the secondary and tertiary sectors, itself accompanied by a rapid increase in urbanisation which triggered concerns regarding certain environmental issues - an increased dependency on energy, difficulties in providing efficient facilities for waste management and sometimes lack of access and quality of natural resources, in particular water and soil. Addressing these challenges led, in recent years, to the development of measures focused on waste recycling, the reduction of CO₂ emissions and the greening of the city.

Their success was recognised through Lisbon being awarded the title of 'Green capital of Europe 2020' in June 2018 (EU, 2020). In terms of CO₂ emissions and energy consumption, Lisbon was the first European capital city to sign the New Covenant of Mayors for Climate and Energy in 2016, after achieving a 42% reduction in CO₂ emissions from 2002 to 2014, surpassing the 40% initial goal for 2030; and reducing energy consumption by 28% from 2012 to 2017 (EU, 2020, p. 10). However, the overall environmental plan of the city went further. The changes made to the city's Master plan in 2012 (for 2012-2022) (CML, 2016) and the Lisbon Strategy (2010-2024) resulted in a considerable increase in green corridors, a strong emphasis on public transport, walking and cycling, and a Climate Adaptation plan including the planting of 100,000 trees to help reduce temperatures (Santos et al., 2015; Alcoforado et al., 2009).

If, in the context of the 'green capital endeavour', Lisbon saw its green space expanded to 350 hectares in 2022 (CML, 2016), it is now also experiencing the re-emergence of green productive spaces through UA, following a tradition dating back to the 16th century, with the '*quintas de recreio*' that provided the city centre with fresh products (Cancela, 2009). Through moments of economic hardship (e.g. in the 1970s, with the degradation of the economic situation and the return of people from former Portuguese provinces; and then with the 2008 economic crisis (Delgado, 2017)), subsistence agriculture has helped people to meet their immediate food needs. Santos (2011) pointed out that marginal spaces (roadsides, unoccupied urban areas) have been used for subsistence agriculture and that, even today, several squatter gardens still exist in Lisbon. The creation of 21 municipal horticultural parks and 750 allotment gardens for local organic farming (EU, 2020, p. 38) begs the question of whether the greening of the city couldn't (generally) be better integrated with its economic activities in a (more multi-dimensional) 'sustainability plan'. The question of linking the 'greening of the city' to 'meeting its citizens' needs' is certainly one which was raised during the Covid pandemic.

1.3. Urbanistic lessons to be drawn from the Covid pandemic

As Portugal was just recovering from the impacts of the financial crises of 2008 and 2011, the Covid-pandemic hit harder and differently, introducing new questions and perspectives on what urbanism should be about, what a sustainable, 'resilient' city is, and who could and/or should help to define such 'sustainability'.

Some of the most preoccupying effects that the Covid-19 crisis has had on inhabitants of Lisbon has included the loss of lives (22,163 up to now) and the realisation that people's health and

immunity are fragile (there were **3,798,079** infections since the pandemic began²), as well as loss of jobs³ and a brutal interruption in the momentum and impetus given to the economy through strategies based mainly on the touristic and industrial sectors.

In addition, new urban challenges appeared, emerged from the need to respect social distancing. Another immediate and very tangible effect of the crisis was a food crisis. At the end of April 2020, articles in the *Correio da Manhã* indicated considerable increase in food banks' activities and a 50% increase in calls for help in the form of charitable food donations in one month. Figure 1 illustrates how the vulnerabilities that were exacerbated or created by the pandemic, as well as the (positive) pressure put on governments by UN and EU institutions on finding ways of making cities more resilient, could contribute to answering the question 'what are the characteristics of a sustainable Lisbon?'.

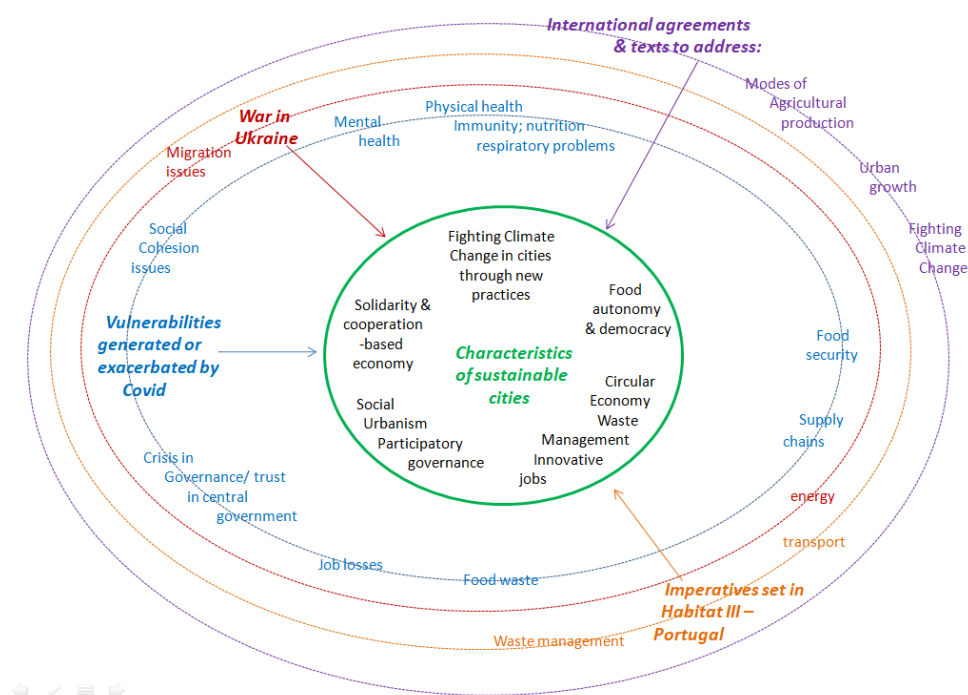


Figure 1. Creating a sustainable Lisbon: pressure points and change factors. Source: author.

This question had already been asked in a rapidly urbanising global context, with cities generating 70% of the greenhouses gases and 70% of the world's waste. The online meetings carried out by the UNESCO Cities Platform (UCP), in line with the pursuit of the UN SDG 11 and of the objectives of the EU expressed through its New Urban Agenda 2030, attempted to also respond to this question by identifying common challenges faced by cities during the pandemic as well as good practices, responses, and measures for recovery. One of its conclusion was that "immediate responses (when disaster strikes) had to involve focusing on basic needs (...) - the primacy of basic services such as food, in particular, soon became clear" (UNESCO, 2020, p.10). For this reason, the urgency of urban food provision and production has been re-introduced in the debate on sustainable cities. As the US American Planning Association (APA) explained, "among the basic essentials for life – air, water, shelter, and food – only food has been absent over the years as a focus of serious professional planning interest. This is a puzzling omission since, as a discipline, planning marks its distinctiveness by being comprehensive and attentive

² <https://graphics.reuters.com/world-coronavirus-tracker-and-maps/countries-and-territories/portugal/>

³ Silva, J., K. Kouhen, M. Gaspar and M.Leitao (2021) and Demony, C. (March 2021)

to the temporal dimensions and spatial interconnections among important facets of community life” (APA 2007, p. 1).

This is an important point to take into account when exploring how to transform cities into more sustainable ones in the future. As Cabannes and Marrochino explain (2018), delivering the sustainable development agenda will rely heavily on developing ‘healthy food systems’. The New Urban Agenda (NUA) adopted in Quito (2016) at the Habitat III Summit, also presented food security and nutrition as an integral part of the Declaration on Sustainable Cities and Human Settlements. Portugal’s commitment to various international initiatives (for instance to the Milan Urban Food Policy Act of 2014, various European health-focused programmes, and the UN sustainable development goals) has focused on changing ways in which we produce food and has attempted to reinforce national and local strategies on the subject, although changes are taking time to materialise.

The way in which the lessons drawn from the Covid crisis contributed to reflections on urbanism and ‘sustainable cities’ has therefore been a non-negligible general skepticism regarding globalisation and, with it, a whole series of economic dependencies that affect our natural environment and jeopardise the meeting of our basic needs. As EU (2020, p.56) stressed, “This major societal change is an opportunity to change the growth and development models that our societies are built on. Lisbon is collaborating with other cities around the world to share its ideas and shape policy for the recovery from Covid-19 through the C40 Cities Recovery Task Force”. Although the provision of food, discussed in this section, has been an obvious source of concern, other preoccupations have thus also been identified (e.g. the loss of jobs due to the collapse of the tourism industry; fragile immune systems partly due to changes in diets and problems of nutrition, etc.). At this point in time, “the economic shock of COVID-19 should trigger policies and shifting norms that could deliver de-carbonisation and progress towards other SDGs” (Tonne, 2021, p.2).

What matters is that, in the context of identifying characteristics that make a city more sustainable, it is clear that ‘greening the city’ alone, although necessary, cannot be a sufficient prerequisite.

PART 2. MAKING LISBON SUSTAINABLE – WHAT WILL IT TAKE?

There is a danger in assuming that greening a city makes it ‘sustainable’. The sustainability of a city goes well beyond its environmental health, also encompassing economic and social dimensions. It should also imply a certain resilience – an ability to bounce ‘back on its feet’ after suffering a shock, an achievement which, in the light of current Covid crisis, a ‘green capital’ such as Lisbon still needs to work on. The required transition towards a more sustainable state will need increased flexibility of the urban environment, more sustainable use and re-use of natural resources, as well as the adaptation of infrastructure systems (Skar et al., 2020).

One might wonder why give this chapter its title if our main objective is really to explore how feasible it is, from an urbanism perspective, to change Lisbon from being green to sustainable. In other words, why give so much focus to the first 2/3 of these last 30 years of urbanism, so much in ore with a focus on neo-liberalism, when the underlying principles of ‘sustainability’ are moving away from it and questioning it? The reason is because the current crisis in faith in globalisation that has emerged from the Covid pandemic is opening up important opportunities to explore to what extent economic strategies have influenced the way in which our cities grow, function, sustain themselves and facilitate the emergence of societal changes. It is therefore partly by exploring how the 1990s approaches opened an ‘un-sustainable path’ that reasons to investigate the relevance in choosing the ‘path less taken’ will become clearer. To do so, we chose to organise our thoughts around the three key dimensions of sustainability – ecological, social and economic.

2.1. The social dimensions of urban sustainability

The fact that the centre of Lisbon is losing its inhabitants, despite having been exposed to various 'integrating measures', 'sustainable urban development strategies', even, justifiably makes one wonder to whom these 'changes' benefited. In a scenario close to that adopted in Barcelona, the touristic industry took over and transformed the city to welcome millions of tourist and accommodate a new industry. But the pandemic raised some questions regarding the durability of such strategy. In parallel, the real estate market was given a powerful say in the way in which the city was being 'rehabilitated'. The challenges of meeting people's needs during the pandemic highlighted the absolute necessity to take the social aspect of urban sustainability into more consideration in urban transformations.

Towards social urbanism and participatory governance

In a rather critical piece, Roggema (2017, p.1) explained that "Most of current urbanism is based on a technological paradigm in which the quantification of elements such as housing, jobs and parking spaces, standards, and regulations seem more important than achieving resilience. These kinds of urbanism are strongly economically driven and money-based. Recent developments, such as smart cities, with their focus on data and technology, often deepen this technological paradigm, hence adding vulnerability to urban systems". The author, emphasising that urban planners and decision-makers need to be prepared to face exposure to different types of uncertainties, gave the example of 'complex problems' such as climate change and mass migration or 'enforced uncertainties', such as transitions enforced by international agreements and national policies. As she explained, "Looking at the city as a complex adaptive system, the capability to adapt to sudden, unprecedented changes and to deal with uncertainty is therefore essential" (2021, p.2) and the design principles she suggested (including using the landscape as the basis of urban growth or seeing citizens as (design) experts) are certainly opening new avenues in urbanism that are more socially and participatory centred, as well as interdisciplinary.

Such tendency towards considering cities as 'urban systems' whose complexity changes considerably, becoming much deeper and more diverse, based on production and consumer systems that are very flexible and decentralized but dependent on agents and local and regional factors, is in line with the growth of 'social urbanism'. Moving in this direction will require the existence of an urban governance system that is more social (Doyle, 2018) and participatory. In order to do so, authors such as Geekiyanage et al. (2021) and Krivy & Kaminor (2013) have suggested to critically revisit collaborative planning and contributed to the emergence of more inclusive and democratic decision-making processes through new participatory methods in urban development.

In Lisbon, the title of green capital of Europe awarded to the city was partly related to the EU recognising the growing role given to local authorities and individual entrepreneurs in improving the environment and developing innovative solutions in the city. In addition, the creation of the annual 'Participatory Budget', which allows citizens to propose and decide by voting on specific projects promoted by the municipality and that are "100% related to urban sustainability", was particularly acclaimed. "A decade of Participatory Budgets opened an ambitious process for public participation embracing all of society. A range of projects have been proposed by citizens

and implemented including 66 public space renovation projects, local gardens, urban allotment gardens, cycle-paths, cycle-pedestrian bridges and even a fruit orchard over the last ten years” (EU 2020, p.35).

Two examples highlighting the crucial social dimensions of urban sustainability

Despite the enthusiasm generated by the Participatory budget, changes in urban planning still need to be critically analyzed in view of understanding what can carry on jeopardizing a genuine transformation of Lisbon into a sustainable city.

Yagsi and Nunes da Silva (2021), for instance, focused on an urban space in the post-industrial zones of East Lisbon (Braço de Prata), in the context of large-scale transformation of brown fields regeneration projects. Joining critical discussions on the urban problems of this area triggered by the 1998 World’s Fair (carried out, in particular, in the *Jornal Arquitectos* (Ordem dos Arquitectos, 2018), the authors showed that, although inclusiveness and socio-ecological unity are common concerns with respect to the resilience of the urban environment, mentioned in many academic studies and reported on by international organisations and framed by international conventions, economic contingency is still prioritised over socio-ecological unity in many urban regeneration projects. With old brown fields having become attractive terrains for real estate developers more intensely from the mid-1990s on, “the international interest and macro-scale financialisation of large-scale projects disrupted the implementation of urban corridors that could become the spaces of integration (...), [despite] the municipality’s intentions, since the 1998 Expo, to revitalise the area” (Yagsi & Nunes da Silva, 2021, p.16). In the face-to-face interviews the authors carried out, most of the residents expressed their concerns about the accessibility of basic public services in privatised projects. Forums also revealed that “the environmental aspects of the large-scale transformation of brown field regeneration projects are prioritised and discussed as issues through the legal frames, mainly the ones that Portugal has become party through the European Union - concerns of the environmental impact assessment (EIA)⁴” (p.18). In line with authors such as Yagsi and Nunes da Silva, and Thomas (2003, p.63), we see the necessity to integrate a “user needs analysis in decisions regarding land use change in brown field redevelopments”.

Another interesting example deals with Urban Agriculture (UA) initiatives which, in Lisbon, have highlighted a number of social issues – such as poverty, problems of nutrition and health, of social cohesion and marginalisation of certain neighbourhoods and the need for a better and more practical integration of sustainability issues in the education system. UA can help to integrate citizens in an area of research that bridges natural sciences and socio-economic and political science and foster a sense of community, social integration (Cabannes & Raposo, 2013) as well as belonging to larger networks such as the international online Food-for-Cities network (2009) or else, locally, the PORTAU (Portugal Network on Urban and Peri-Urban Agriculture), created in 2011. UA can also allow be used as a response to market trends, such as recreation and tourism. Progressive changes in the PDML is illustrating a will to give more importance to UA and to legalise the use of land for its purpose. This logically follows the fact that Lisbon being the epicentre of food-related bottom-up and institutional initiatives, it has raised a critical mass, a key element for the transformation of the individual and the collective relationship with food. UA has consequently been mentioned in Lisbon’s “strategic goals” – aimed at promoting a sustainable and efficient city design. Through the importance of meeting people’s needs, the link between the food system and the city has therefore been initiated.

⁴ The EIA system is monitored by APA Ambiente, as Portugal’s National Environmental Agency was partly flexed with the involvement of private expertise bodies and developers, as defined in DIRECTIVE 2011/92/EU <https://eur-lex.europa.eu/legal-content/EN/TXT/?uri=celex%3A32011L0092>

2.2. The ecological dimensions of urban sustainability

Whilst some scholars define cities as the number of people within a defined politico-administrative boundary, such as municipalities and state territories (Minx et al., 2013), some others see them as socio-ecological systems (SES) either of interacting biophysical and socioeconomic components, or social and technical components (Folke et al., 2005). As Romero-Lankao et al. explained (2016, p.2), since the concept of Ecosystem-based adaptation was officially defined by the Secretariat of the Convention on Biological Diversity (2009) as “the use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people to adapt to the adverse effects of climate change” (p. 41) it has been considered as particularly useful in the field of urban climate change adaptation, leading to the development of initiatives such as the expansion of urban green and open space, vertical green and green roofs, to support temperature and water regulation in the city (Schneider et al., 2021, p.1).

In the context of cities’ management, these visions of urban development have emerged from that of urban metabolism, itself inspired by the way in which ecosystems function and self-organise. Whilst, for Broto et al. (2012), working with the notion of ‘urban metabolism’ which links the flows of materials with ecological and social processes, could generate the potential for change to sustainable patterns of consumption and production (Broto et al., 2012), the term was interpreted by Céspedes Restrepo and Morales-Pinzón (2018) as one that helps to see the city as using the biological notion referring to the internal processes by which living organisms maintain a continuous exchange of matter and energy with their environment to enable operation, growth, and reproduction. This ‘ecological stance’ has been crucial in seeing the city as a ‘living complex system’ and at improving the understanding of how it can be managed, kept ‘healthy’ and/or transformed.

In Lisbon, this approach manifested itself through the promotion of green infrastructure and green corridors. The notion of such green infrastructure network had initially been introduced by famous Portuguese landscape architect Ribeiro Telles who had suggested to transform and reform the city of Lisbon around a ‘skeleton’ of green infrastructure ‘holding’ together the natural living habitat of the city through a series of ‘green corridors’. As he explained, “the 21st c. citizen will neither be rural nor urban, but both. The city of the future will be re-integrated into rurality and agriculture” (1996, p. 19). As Lisbon’s Municipality Councilor in 1998, he strongly defended the idea of an Ecological Structure of the city. His efforts were recognized in 2007 with the approval of “Lisbon’s Green Plan”, and later integrated in the Master Plan for the city’s development (2012). The “Portuguese Association of Landscape Architects” (APAP), entity of which he was a founding member (1976), and President (2001 to 2005), still carries on the defence of a sustainable development model in which the sustainability of a city goes beyond its mere greening. Lisbon’s Master development plan (2014) and its Green Plan (2008), together with the Biodiversity 2020 Strategy, have promoted the extension of green infrastructure and corridors in the city. In addition, however, it is interesting to note that they are also promoting UA. In effect, as Skar et al. (2020) have shown, UA can contribute to minimising the effects of climate change by reducing the net discharge of CO₂, because plants and trees capture CO₂. As Deelstra and Giradert explain, “the captive capacity is [actually] at its highest in the growth phase of vegetation. Through agricultural activities in cities, urban ecosystems are kept continuously in their “primary production phase” (2000, p. 53). Much research is now exploring how urban agro-ecology and perma-culture could help to provide citizens with healthier food (Altieri & Nicholls, 2018), whilst helping combat climate change (Dubbeling & Halliday, 2019; Alcoforado et al., 2009). UA can have a positive effect on increasing biodiversity as well as improving the quality of life in urban areas. In order to do so most effectively, land use and spatial planning are crucial so as to obtain and maintain a supportive green infrastructure and to secure citizens’ healthy living conditions. In Portugal, several steps have been taken to include the food system within urban planning. Learning how to better use the

previously created PDMs has been promising since the PDM balances detailed projects and comprehensive strategies at national and regional levels.

Extending urban greening considerations to the actual production of food, in the city, by citizens themselves, is particularly interesting in the context of our reflection of how to encourage an urban transition towards sustainability because of the existing link between resilience and UA. This link has been explored by de Zeeuw and Drechsel, (2015, p.404) who explain that resilience is a measure of a household, city or nation's ability to absorb shocks and stresses. Examples include micro-gardens (which can provide an emergency food source in the context of disaster risk management) and rainwater harvesting systems (which help lessen the effects of flooding). Because UA can mitigate the adverse effects on the urban poor of financial and food crises through job creation; because it offers opportunities for small-scale income generation, increases food security, enables self-sufficiency and improves nutrition and health, it is clearly helping to operationalise 'urban sustainability'.

The way in which the ecological dimensions of 'urban sustainability' merge with its social dimensions (Berkes et al., 2000) is therefore also clearly leading to a 'bridge' with its economic dimension. Some authors concentrated on this 'bridge' by working on the concept of Continuous Productive Urban Landscapes concept (Viljoen et al. 2005), which describes an urban future based on the planned and designed introduction of interconnected urban landscapes defined by UA into existing and emerging cities. "A CPUL aims to interconnect urban food-producing landscapes within a city and to the citizens on the one hand and to connect these landscapes to the rural hinterland on the other hand". (Skar et al 2020, p.15). Other research simply aimed at highlighting the fact that the ecological approach taken through the 'greening of cities' and adopted by initial advocates of the notion of urban metabolism, for long dominated by natural scientists, now need to become much more interdisciplinary. Thus, for instance, Dijst et al. (2018) have developed a combined natural and social science perspective on urban metabolism through innovative approaches aimed at enhancing the understanding of the forces that shape urban metabolism, and how these forces affect urban living and the environment.

2.3. The economic dimensions of urban sustainability

Such conceptualisation of a city as an 'ecosystem', a metabolism, not only includes social and ecological considerations, but also economic ones. However, if such interdisciplinary, systemic, approaches (Simon, 2022) are advocated to ensure that urban planning becomes both more participatory and encompasses all dimensions of sustainability, our societies are also going to have the courage to question the interpretation of 'economics' we have favoured for so long – i.e. '*chrematistics*' (from the greek etymology : the 'art of making money') and to re-explore another interpretation of economics, '*oikonomia*' (from the greek etymology: 'the management of resources to meet the households' needs'). The *oikonomia* conception of economics is very close to the notion of circular economy, crystallised through the works of the Ellen MacArthur Foundation (EMF), and described as an alternative to the linear economy (a take-make-waste' approach).

Inspired by industrial ecology and cleaner production, the circular economy can be described as an example of a sustainability narrative with practical, transformative, potentials (D'Amato, 2021). For the EMF⁵, the benefits of such an approach are both social (it promotes 'green jobs' and eco-innovation), economic (improved productivity, efficient use of inputs and costs reduction) and environmental (reduction of raw material and energy consumption, of waste creation, of GHG emissions, improvement of soils' quality and diminution of land pressure).

⁵<https://www.ellenmacarthurfoundation.org/our-work/activities/circular-economy-in-cities>

In Portugal, the application of the European “Circular Economy Package” is in an early stage (Oliveira et al., 2021). In December 2017, the Action Plan for the Circular Economy (PAEC, in Portuguese acronym), the first legal document devoted to the theme in Portugal, was published and had a strong influence in the internship work by introducing the Regional Agendas and Local Agendas (Falcao Trovao Silveiro Marques 2018, p. 5). In an urban context, this is an important debate to have since cities generate 70% of waste worldwide. In Portugal, the management of waste was also one of the most preoccupying effects of an extremely rapid urbanisation. As EU (2020, p.36) stressed, waste and sustainable consumption are important challenges for Lisbon. Most of the city’s waste is converted to energy by incineration, while only 2.5% goes to landfill. The city has the best recycling and waste management rates in Portugal, presenting 26.1% of materials for reuse and recycling, but it wants and still needs to do better (Cavaco, 2016).

UA initiatives in Lisbon have created an important opportunity to open up a debate on circular economy principles based on a radical reduction (or complete elimination) of waste. As Dias and Marat-Mendes (2020) explain: “as primary consumers, cities must devise ecologically and socially responsible strategies to respond to their food demands and for that purpose, urban planning is strategic to account for the sustainability of the several systems that operate within the territory - including the food system, because it directly impacts on the productive spaces necessary to guarantee the food provision for the urban population” (p.157). In practice, through its ‘integrated characteristics’ in using other resources streams such as water, energy and waste, UA can be assimilated into a ‘circularity approach’. Indeed, as Deelstra and Girardet (2000) explain, very up-to-date methods for recycling urban wastes into nutrients for urban and urban-fringe farming and gardening have existed for a while. Thus, food-growing sites can be the repositories of much re-usable household waste, food growing sites can also make good use of recycled materials and organic waste (which accounts for 20% of household waste), when composted, can produce an excellent fertiliser. Besides, agricultural activities in cities can indirectly improve urban water management, because green spaces with permeable land surfaces allow rainwater and runoff to drain through the soil and manage potential flooding. This makes investing in UA just as necessary as developing a network of channels and drains.

UA therefore encourages us to think about waste and the feasibility of reducing it or valorising it in cities. In Lisbon, the most recent generation of UA projects actually started with one initiative called LIPOR which advocated using organic waste to generate compost and this led to the creation of a new set of allotment gardens spread around 50 different areas of the city and covering 6 hectares. This culminated in the definition of a National Strategy and Action Plan for Combating Food waste, in 2018. In parallel, the DGS tightened the connections between food and the environmental sectors and defined new criteria for the public procurement of food products (Law n.34/2019), which led to work related to food production capacity in urban areas (Cavaco, 2016), and initiatives to deal with surplus food distribution (e.g. Fruta Feia and Refood).

The circular economy concept encourages innovation and creativity, which itself can lead to the creation of new jobs, as well as ‘place branding’ (Doyle, 2018) and ‘reforming the urban foodscape’ (Dias and Marat-Mendes, 2020). In doing so, a transition could be initiated that encourages the relocation of the food system and a discussion on alternative, circular economic processes at the city level.

Encouraging such forms of cooperation, networks, entrepreneurship and solidarity would illustrate an important shift in the way in which a ‘successful, performing city’ is viewed. This would derive from a radical admission that sustainability and resilience do not necessarily have to go hand in hand with competitiveness and investments that are not consciously related to social issues and to interactions with ecological considerations.

CONCLUSION

Identifying a strategy following which a city can be ‘managed’ is a political decision that is highly dependent on the context but also on aspirations for the future. In this chapter, we reviewed how urbanism in Lisbon changed through times and how, in the last 30 years, it moved from being largely influenced by the market and neo-liberal approaches to choosing an environmental path and, more recently, exploring ways to create a sustainable strategy.

Although the 2019 Covid-crisis created much damage, it also gave rise to uncertainty and confusion “that can act as windows of opportunity in a world that, for decades, has been trapped on an unsustainable pathway, reinforced by mechanisms that oppose change, such as infrastructure with long lifespans, long investment cycles, and political inertia” (Tonne, 2021, p.2). In a world that is progressively valuing more and more networks (including of knowledge) over globalisation, sharing practices on how to transform cities into sustainable ones is becoming a crucial objective. One that Lisbon has already considered trying to meet when embracing the Green capital of Europe challenge which, as the EU stresses (EU, 2020, p.27) is aimed at ensuring that such capital “inspire and motivate other cities by promoting and sharing good environmental practices, experiences and spreading the ideal of the European Green Capital Project. Green cities – fit for life!”.

If it has already initiated such endeavour, in particular through the Lisbon Commitment - Climate Action 2030 charter, which allows signatories to set their individual goals to contribute to Lisbon’s sustainability targets around six themes (mobility; energy; water; waste and circular economy; air quality and noise; and awareness and public engagement), Lisbon also needs to facilitate a better merge between policy-making and urban planning processes, envisaging the city as a microcosm of the economic system and therefore acknowledging that a transformation of a city towards sustainability will both trigger changes in economic paradigms and make urbanism reach a new step in its evolution.

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