

Nº 34 FEVEREIRO 2024

## ESPAÇOS EM PÚBLICO: CULTURA E ESPAÇOS NA (DES)CONSTRUÇÃO DA CIDADE

ORGANIZAÇÃO  
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Universidade de Coimbra



UNIVERSIDADE D  
COIMBRA



Organização  
das Nações Unidas  
para a Educação,  
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Universidade de  
Coimbra – Alta e Seta  
inscrita na Lista do Património  
Mundial em 2013

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Centro de Estudos Sociais  
Laboratório Associado  
Universidade de Coimbra

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ISSN 2182-908X

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# AGRADECIMENTOS

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Esta publicação decorre das comunicações apresentadas nos eventos realizados no CES em 2020 - Cultura e Espaços na (des)Construção da Cidade e Espaços em Público. Assim, queremos agradecer ao CES e a todos/as os/as envolvidos/as na organização e operacionalização dos eventos. À coordenação e aos membros do núcleo Cidades, Culturas e Arquitetura (CCArq) pela forma como acolheram os referidos eventos. À coordenação editorial da revista Cescontexto pelo apoio e colaboração na realização desta publicação. E ainda aos/às pesquisadores/as interlocutores/as durante os processos de trabalho, e, do Sesc São Paulo, Anderson Marques, Flávia Carvalho, João Paulo Guadanucci, Mari Bilac e Marta Colabone. Muito especialmente, agradecimentos aos/às palestrantes e intervenientes dos eventos, nomeadamente: Danilo Santos de Miranda (in memoriam), Ciro Pirondi, Christine Greiner, Jorge Figueira, Nuno Grande, Nancy Duxbury, Claudia Pato de Carvalho, Ana Pais, Nathalie Nunes, Fernanda Curi, Carolina Quiroga, Marta Bergamin, José Maçãs de Carvalho, Danielle Araújo, Luísa Barreto; e aos/às convidados/as para a publicação, Sônia Gugisberg, Maria Julia Barbieri, Marília Veríssimo Veronese, Julice Salvagni, Victória Mendonça da Silva e Vitório Leite.

*Shirlei Torres Perez e Gonçalo Canto Moniz*

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## **CULTURAL MAPPING IN THE CITY'S CO-CREATION PROCESSES**

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### **ABSTRACT**

The H2020 project URBiNAT has adopted cultural mapping in its approach to co-create healthy corridors in the public space, based on the co-creation of nature-based solutions with citizens. This paper reports on work-in-progress in the integration and use of cultural mapping within this project. In Part I, the authors demonstrate how culture and cultural mapping can be interrelated with activities and thinking about sustainability in theory as well as in a diversity of practices. Part II documents and reflects on how cultural mapping has been applied in URBiNAT in the early stage of its co-creation process. The analysis provides evidence of the challenge of approaching cultural mapping as a means of supporting participatory planning and not as an end of interdisciplinary research and community development. Part III complements this application by means of reflections on action research experiences involving mapping. The authors also raise issues to be further explored in testing cultural mapping in the context of inclusive and innovative urban regeneration.

### **KEYWORDS**

cultural mapping, inclusive urban regeneration, participatory processes, sustainable urban development, action research

## **1. INTRODUCTION: CULTURAL MAPPING IN THEORY AND IN PRACTICE**

Cultural mapping is an emerging field of interdisciplinary research, as a mode of inquiry and a methodological tool in urban planning, cultural sustainability, and community development (Duxbury et al., 2015). Consisting of “a process of collecting, recording, analysing and

synthesising information in order to describe the cultural resources, networks, links and patterns of usage of a given community or group” (Stewart, 2007), it is widely strategically used by municipalities, neighbourhoods, and community organisations to bring a diverse range of stakeholders into conversation about the cultural dimensions and potentials of a place (Duxbury et al., 2019). Cultural mapping can provide an integrated picture of the cultural character, significance, and workings of a place, and thus help communities to recognize, celebrate, and support cultural diversity for economic, social, and regional development (Pillai, 2020).

Cultural mapping is allied with other mapping fields (i.e. deep mapping, community mapping, participatory asset mapping, counter-mapping, qualitative GIS, and emotional mapping), with which it shares a focus on bottom-up processes for making visible the knowledge of citizens/residents as well as topics of narratives, identity, histories, and local practices that bring meanings to places (Duxbury & Redaelli, 2020). But what makes cultural mapping distinctive is its specific focus on the cultural aspects and elements of a place.

Cultural mapping has proven very good at detailing tangible assets that can be counted, such as physical spaces, cultural organisations, public art, and other material resources, with a growing interest in mapping intangible dimensions of culture. These intangible dimensions are of particular relevance in current research, in artistic and architectural works, and in urban and community planning practices (Duxbury et al., 2019; Longley & Duxbury, 2016). The focus of these many initiatives and projects is to make visible the ways that local stories, practices, relationships, memories, and rituals constitute places as meaningful locations, through focusing on, for example, values and norms, beliefs, language, community narratives, identities, and shared sense of place (Duxbury et al., 2019; Duxbury & Redaelli, 2020).

The 5-year H2020 project URBiNAT, funded by the European Union (EU), has adopted cultural mapping as an approach to catalyse processes for actively connecting people and deepening knowledge of a locality (URBiNAT, 2019a). The present paper builds upon this work in progress by addressing how cultural mapping has been applied in URBiNAT, in particular in the early stage of its co-creation process. It also discusses issues and potentials of cultural mapping in the broader context of sustainable urban development.

The URBiNAT project, which started in 2018, tackles urban regeneration in seven European cities: Brussels in Belgium, Høje-Taastrup in Denmark, Nantes in France, Nova Gorica in Slovenia, Porto in Portugal, Siena in Italy, and Sofia in Bulgaria. Through its Community of Practice, which includes non-EU Observers, it also resonates in Iran, Brazil, China, Oman and Japan. Standing for ‘urban inclusive and innovative nature’, URBiNAT’s proposal is to co-create healthy corridors in the public space connecting social neighbourhoods or disadvantaged residential areas, based on the co-creation of nature-based solutions (NBS) with citizens, building up new urban, social and nature-based relations within and between different neighbourhoods.

URBiNAT’s co-creation process has four stages: co-diagnostic, co-design, co-implementation and co-monitoring. Between 2018 and 2020, the front-runner cities of Nantes, Porto and Sofia completed their local diagnostics, paving the way for the subsequent phases of the

healthy corridors' development, while coping with limitations to interactions with citizens and stakeholders due to the COVID-19 crisis. The follower cities of Brussels, Høje-Taastrup, Nova Gorica and Siena entered the co-diagnostic stage in 2020, but have been networking, sharing knowledge, experiences and interests since the beginning within URBiNAT's Community of Practice. Coordinated by the Centre for Social Studies of the University of Coimbra, URBiNAT's community of partners consists of an international consortium of 28 members, from 15 countries, gathering cities, experts, practitioners, companies, research centres and universities. As such, URBiNAT's partners bring together different perspectives, expertise and experiences in the academic, technical and political fields.

In relation to NBS, these are solutions that seek to respond to social, economic and environmental challenges through sustainable alternatives, which relate to actions inspired, supported or produced from nature, strengthening existing solutions or exploring new solution models (European Commission, 2015). The solutions address grey, green and blue infrastructures, but also social structures, relations and dynamics. URBiNAT's catalogue of NBS, as an initial input and inspiration for co-creation, challenges the conventional definitions of NBS by not only integrating solutions inspired by nature such as the territorial and technological ones (comprising products and infrastructures), but also including participatory solutions as well as social and solidarity economy solutions (comprising processes and services) (Moniz & Ferreira, 2019). It reinforces the dialogue between the physical structure and the social dimension of the public space, which happens through the dimensions of participation and social and solidarity economy. URBiNAT's healthy corridors take the full physical, mental and social well-being of citizens as its main goal. The project aims to co-plan a healthy corridor in each city as an innovative and flexible NBS, which itself integrates a large number of micro NBS emerging from community-driven design processes.

Cultural mapping was initially applied in URBiNAT as a participatory approach during the co-diagnostic phase, in order to map both tangible and intangible cultural assets, which are typically more qualitative in nature and not easily counted or quantified. Starting with cultural mapping in the early stages of URBiNAT and in its diagnostic tasks was methodologically strategic, as a particular ground methodology, to ensure that cultural dimensions of the neighbourhoods are integrated into the project. Beyond providing baseline data for thinking about places, people and resources, the knowledge obtained will be integrated into the co-design and co-selection phases as well as inform co-implementation and the development of installations and interventions. The cultural data and information collected through participatory cultural mapping processes are also useful for the ongoing monitoring and assessment of cultural vitality and community well-being by providing systematic evidence of, for instance, new cultural celebrations, production sites, intergenerational skills transfer, community public art and landmarks. Moreover, cultural mapping in URBiNAT is proposed as a participatory NBS, which can be associated with all NBS, since it gives support to the co-creation process as a whole, and provides platforms for discussion, engagement and empowerment through participation in the process (URBiNAT, 2021).

The current state of analysis on how cultural mapping has been approached and applied by URBiNAT's community of partners confirms the challenges as well as the opportunities

associated with this growing field of interdisciplinary research and methodological tool in participatory planning and community development, namely in terms of collaborations across research disciplines and transdisciplinary practices (Longley & Duxbury, 2016).

In this work-in-progress paper, the authors begin by addressing the relevance of cultural mapping for urban regeneration and to build a platform for participation, contextualising it in a broader perspective. They demonstrate how culture can be interrelated with activities and thinking about sustainability, considering also how culture has been put at the heart of sustainable urban development, both in theory and in a diversity of cultural mapping practices and results.

Next, the authors present the applications of cultural mapping in the local diagnostic stage of URBiNAT front-runner cities and analysing the results. This analysis makes visible the topics addressed as well as missing aspects, a consequence of not focusing specifically on cultural assets, including intangible cultural dimensions of urban capital. This analysis is also evidence of the challenge of having cultural mapping approached as a means of supporting participatory planning and not consistently as an end result of interdisciplinary research and community development in the preliminary stage of URBiNAT's co-creation process. The authors conclude that more robust cultural mapping processes and results require an interdisciplinary shift towards a common understanding and consensus among partners on specific actions to collect and analyse this type of information, taking advantage of the catalyst effect of cultural mapping for the later co-implementation and co-monitoring phases.

This is further explored by means of a personal research account that presents the opportunities of cultural mapping as an interdisciplinary exercise in the framework of action research. It is based on three research projects that were developed between 2014 and 2020, including practice and observation of the process of citizen participation within the URBiNAT project in Porto.

In conclusion, the authors raise issues to be further explored in testing cultural mapping in the framework of the URBiNAT project for an inclusive and innovative urban regeneration with NBS, and, consequently, broadening URBiNAT's research agenda.

## **2. CULTURAL MAPPING, IN CONTEXT**

### **2.1. APPROACHES TO CULTURAL MAPPING**

In general, there are two main 'ideal' types of cultural mapping, as presented in Figure 1. The first ideal type is an inventory approach, often the first thing that comes to mind. It is about identifying, counting and mapping, using small or large datasets and visualising these assets on a map. The example on the left in Figure 1, within this inventory approach, is from the initiative *Ottawa XYZ* developed by the city of Ottawa in Canada. The site consists of mapping all cultural organisations and businesses by type, cultural assets such as monuments and



historic buildings, sites of festivals, and related information, bringing it all together within the GIS map of the city, which enables this culture-related data to then be correlated with other types of information gathered and maintained by the city. Building on such inventories of information, some experimental research is taking quantitative data about, for instance, the locations of cultural organisations, combining it with demographic, economic and other trends data, and extrapolating it into the future to forecast where development is likely to occur (Buscema et al., 2019).

At the other end of the spectrum is what is being termed as a more humanistic and integrated approach, which prioritises public participation, pluralistic and subjective perspectives, and exploring community self-expression, self-representation and the felt sense of place. These types of initiatives are increasingly artist-led. The example in the right hand side of Figure 1, under this humanistic and integrated approach, is from the Islands in the Salish Sea project, and shows the participation of teenagers in a school class, who have identified what is special about where they live, and are painting a large map of their island combining their insights. Notably, the map features a border around it that incorporates a range of specific items the students have collectively chosen to highlight. The finished map will be publicly installed as a transit shelter mural, enabling the creators as well as the broader resident public to be reminded of what the youth see as important in and of their place.

An increasing amount of attention is being paid to community mapping, and cultural mapping can be seen as part of that. The distinguishing feature of cultural mapping, however, is its emphasis on cultural resources and assets, widely defined as something that has value because of its contribution to a community's creativity, knowledge, traditions, culture, meaning and vitality –altogether, quite wide in scope, as presented in Table 1 (see also Annex A). This covers both tangible cultural capital (i.e. things that can be counted and listed) as well as intangible cultural dimensions (i.e. things more qualitative in nature that are less easily counted or quantified). Regarding the latter, this can include identities, meanings associated with specific places, personal attachments to place, memories and stories, relationships, significant events, celebrations and rituals and how those are associated with the place, music and songs associated with places, images and symbols, languages, inventories of intangible cultural activities, rituals, craft skills, among others.

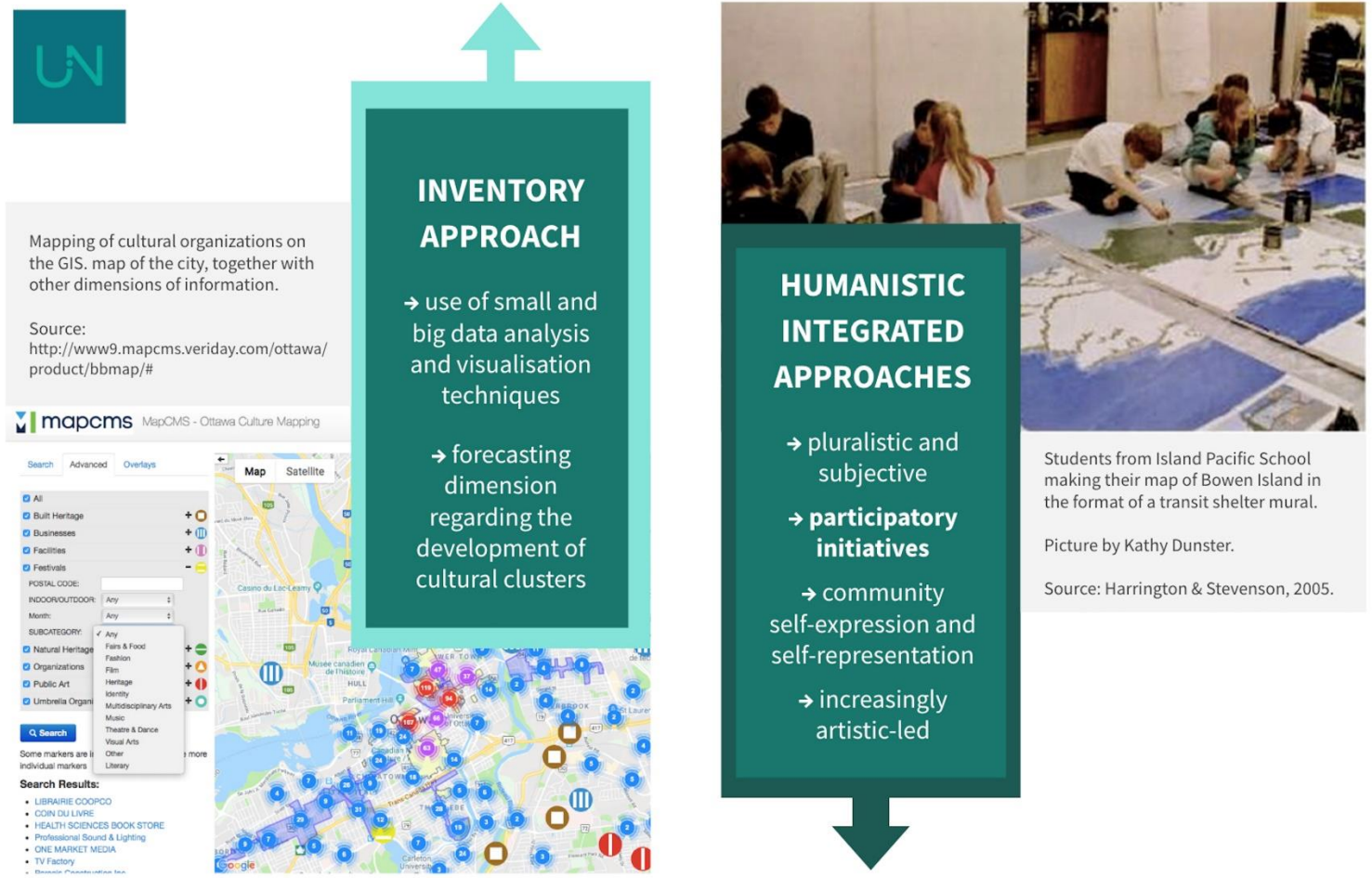


FIGURE 1. APPROACHES TO CULTURAL MAPPING, AS INTERNALLY SYSTEMATISED IN 2020.

Source: Nathalie Nunes

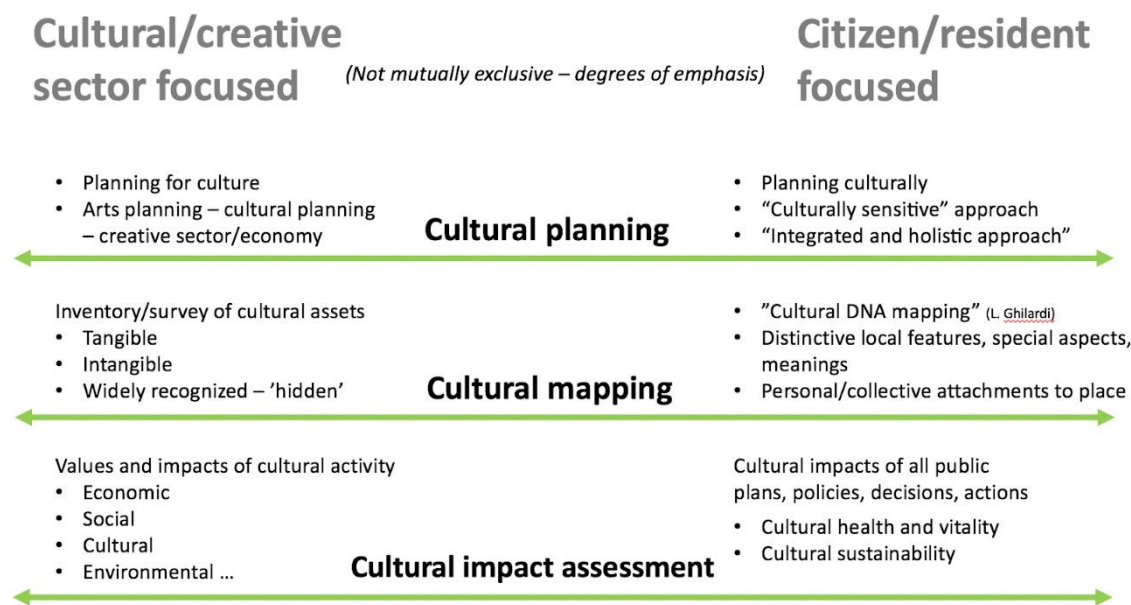
**TABLE 1. CULTURAL ASSETS: GENERAL DEFINITIONS OF TANGIBLE AND INTANGIBLE CULTURAL URBAN CAPITAL.**

<b>Cultural assets</b>	
A cultural asset is something that has value because of its contribution to a community's creativity, knowledge, traditions, culture, meaning, and vitality.	
<b>Tangible cultural urban capital</b>	<b>Intangible cultural dimensions of urban capital</b>
<p>QUANTITATIVE in nature, can be counted or listed.</p> <ul style="list-style-type: none"> <li>-places where cultural organisations present activities in a map (e.g. activities and offices);</li> <li>-sites of importance and landmarks;</li> <li>-cultural venues;</li> <li>-public art works, such as murals, sculpture, places;</li> <li>-memorials and markers;</li> <li>-solid things in general, such as buildings, halls, galleries, etc.</li> </ul>	<p>QUALITATIVE in nature, not easily counted or quantified.</p> <ul style="list-style-type: none"> <li>-shared sense of place;</li> <li>-values and norms;</li> <li>-identities;</li> <li>-meanings associated with places;</li> <li>-personal attachments to places;</li> <li>-memories and stories;</li> <li>-relationships;</li> <li>-significant events, celebrations and rituals;</li> <li>-music and songs associated with places;</li> <li>-images and symbols;</li> <li>-languages and local expressions;</li> <li>-inventories of traditional heritage and contemporary expressions, including people, organisations who embody/perform and keep local cultures vibrant;</li> <li>-rituals;</li> <li>-craft skills, etc.</li> </ul>

Source: Adapted from URBiNAT's protocol of cultural mapping and general guidelines for implementing participatory activities (URBiNAT, 2019a).

In recent years, a shift within cultural mapping has been evident, moving from a focus on mapping tangible cultural assets to a growing attention to the intangible aspects of a place and human attachments and relations with a place, aiming to discover what makes a place distinctive (Duxbury & Redaelli, 2020). In this context, participatory cultural mapping and counter-mapping of local cultural resources and assets are rooted in broader participatory 'collective action' community mapping traditions, including counter cartographies or 'alternative maps', citizen cartographies and people's atlases, and mapping for change (URBiNAT, 2019a), as exemplified in the diversity of practices presented in Annex A.

Moreover, cultural mapping can also be contextualised in another bigger picture, within sort of a spectrum of 'cultural planning, mapping, and impact assessment' type of public activities. The diagram presented in Figure 2 comes from a South Africa-European Union dialogue project initiated by the African Centre for Cities and the City of Cape Town, South Africa, which examined leading approaches to cultural planning, mapping, and impact assessment for sustainable and just urban development (Duxbury, 2020; Sitas & Sadie, 2020).



**FIGURE 2. SHIFTS IN CULTURAL PLANNING, MAPPING, AND IMPACT ASSESSMENT.**

Source: Duxbury (2020).

What is seen in general is a shift toward a more citizen –or resident– focused cultural mapping, planning, and impact assessment processes. Traditionally, cultural mapping has been typically a ‘cultural’ or ‘creative’ sector-focused activity –this continues and is still really important. This approach and focus is directed toward planning for the variety of subsectors within the cultural/creative sector, looking at what cultural assets are available (whether they are well known ones or more hidden), considering overlapping interests as well as gaps, and identifying the values and the impacts of cultural activity in the larger society. Some of the more humanistic approaches to cultural mapping are picking up from this point, and extending it to where one is pursuing urban and community planning with a more culturally sensitive approach, looking at cultural DNA mapping (Ghilardi, 2013, 2018), trying to identify the distinctive local features, special aspects of local meanings, and how people are personally and collectively attached to their place. Also, as part of this, there is an emerging and incrementally growing consideration of what impacts all public policies and decisions make on culture, that is, how public policies and public decisions in an array of sectors may also impact the cultural health and vitality of the current society, and cultural sustainability in a longer-term perspective.

**2.2. CULTURE AT THE HEART OF SUSTAINABLE URBAN DEVELOPMENT**

The broader context of cultural mapping is related to the international realisation and activities focused on articulating and understanding how culture is at the heart of sustainable urban development, as illustrated in Figure 3 with a mosaic of examples of local policy practices

1. Culture for peace and social cohesion as a basis for sustainable development



**MILAN, ITALY - FORUM DELLA CITTÀ MONDO**  
The City of Milano has an active platform that connects migrant groups.

2. Culture and economic development



**OUAGADOUGOU, BURKINA FASO - REEMDOOGO MUSIC GARDEN**  
Reemdoogo focuses on the artistic and professional education of city youth, linking multiple dimensions of culture: from its intrinsic values, to processes of employment creation, to social cohesion and urban construction of the city.

3. Culture in local policy-making



**CANADA – INTEGRATED COMMUNITY SUSTAINABILITY PLANS**  
These local, long-term community sustainability plans in Canada have considered culture as the fourth pillar of sustainability.

4. Citizenship, participation and democracy



**ANGERS, FRANCE CULTURE AND SOLIDARITY CHARTER**  
The Charter places the inhabitants of Angers at the centre of local cultural policies.

5. Cultural heritage



**BUENOS AIRES, ARGENTINA - EMILIO BALCARCE TANGO ORCHESTRA SCHOOL**  
In Buenos Aires, music, heritage, education, and neighbourhood revitalization go together.

6. Territorial planning, cultural infrastructure, and public space



**ZARAGOZA, ARAGON, SPAIN - EL GANCHO NEIGHBOURHOOD REVITALIZATION/RENEWAL**  
The inhabitants of the neighbourhood are the key actors of a major cultural event that has been a catalyst for local revitalization.

7. Culture and local communities



**MEXICO CITY, MEXICO FACTORIES OF ARTS AND JOBS**  
The four Faros of Mexico City include training, education, public spaces, and empowerment of the community.

8. Resilience and climate change



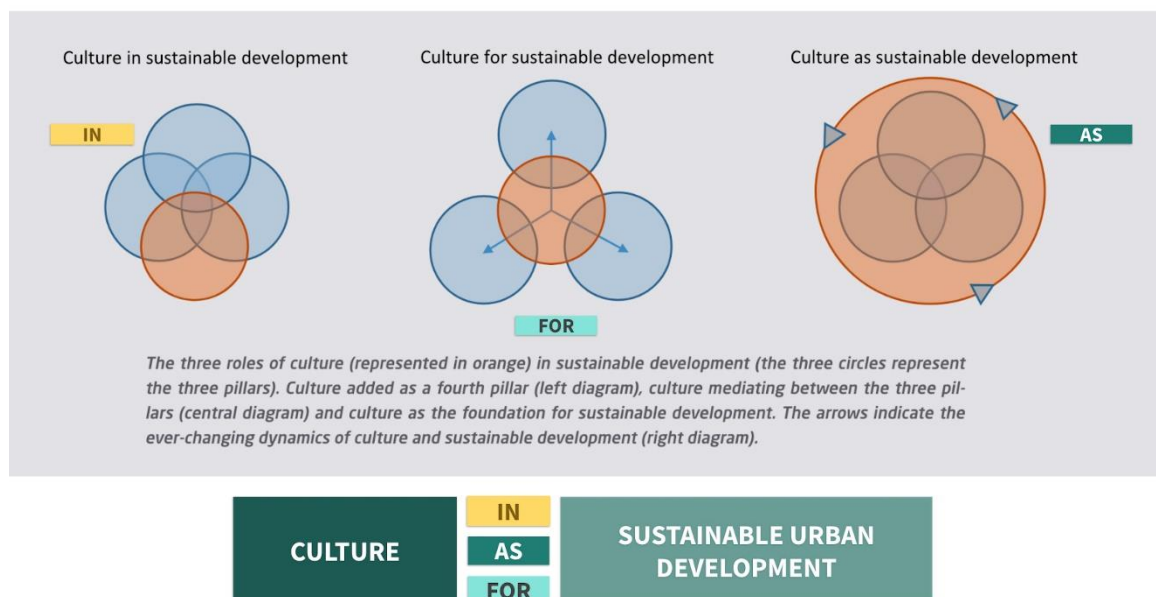
**CHICAGO, USA ENVIRONMENTAL SENTINAL**  
Within a major redevelopment of an abandoned rail line, a climate-monitoring artwork of 453 temperature-sensitive, native, flowering trees form a seasonal spectacle to engage citizens and scientists in understanding local microclimates and the effects of climate change.  
>> The 606 Project.  
>> Environmental Sentinal.

FIGURE 3. CULTURE AT THE HEART OF SUSTAINABLE URBAN DEVELOPMENT.

Source: Adapted from Duxbury et al. (2016).

Figure 3 illustrates various ways that cities have successfully been operationalizing culture in the context of sustainable urban development, impacting several of its dimensions and key issues, namely: social cohesion; economic development; policy-making; citizenship, participation, and democracy; heritage; territorial planning, infrastructure, and public spaces; local communities; resilience and climate change (Duxbury et al., 2016).

These implemented city practices are informed by, and inform, a broader array of work about how culture can be interrelated with activities and thinking about sustainable development or sustainability more generally. A recent EU-funded research networking project, the COST Action IS1007 Investigating Cultural Sustainability (Dessein et al., 2015), articulates three predominant models of how culture is connected to sustainable development (see Figure 4).



**FIGURE 4. CULTURE IN, FOR, AND AS SUSTAINABLE URBAN DEVELOPMENT.**

Source: Adapted from Dessein et al. (2015).

The first model, located on the far left of Figure 4, is that of *culture 'IN' sustainable development*, where culture (represented by the orange circle) is viewed as a fourth pillar or fourth dimension of sustainable development, as important as social, economic or environmental aspects and intersecting with these other aspects. This model emphasises the role of cultural expression and cultural dynamics in a society to bring it forward into a more sustainable future.

The second model, with culture positioned in the centre, emphasises culture as a perspective or a viewpoint. The idea behind *culture 'FOR' sustainable development* is that within

sustainable development processes and choices there are often trade-offs, for example, between environmental protection versus economic issues. Whatever the decision, the process through which it is made is through one’s own cultural lens and one’s own perspective. This is really about recognizing how central culture is as a mediating force for all perspectives and negotiations going forward.

The third model is about *culture ‘AS’ sustainable development*, considering culture as a foundation, and the collective work that is underway through which we are building a new collective culture for a more sustainable life on this earth and with each other.

These three different perspectives and discussions are not entirely mutually exclusive, but they are helpful for organising the various perspectives and approaches in documents and discourses related to culture and sustainable development.

### 2.3. CULTURAL MAPPING THINKING

In the case of URBiNAT, it has been useful to think about cultural mapping as a field of interdisciplinary research as well as a methodological tool increasingly used in the context of participatory planning and community development. In other words, to view it both as a process and a research methodology. Figure 5 presents how the three perspectives on culture and sustainability have informed the cultural mapping thinking of URBiNAT, in dynamic articulation with the advancement of the tasks of its work packages since 2018.

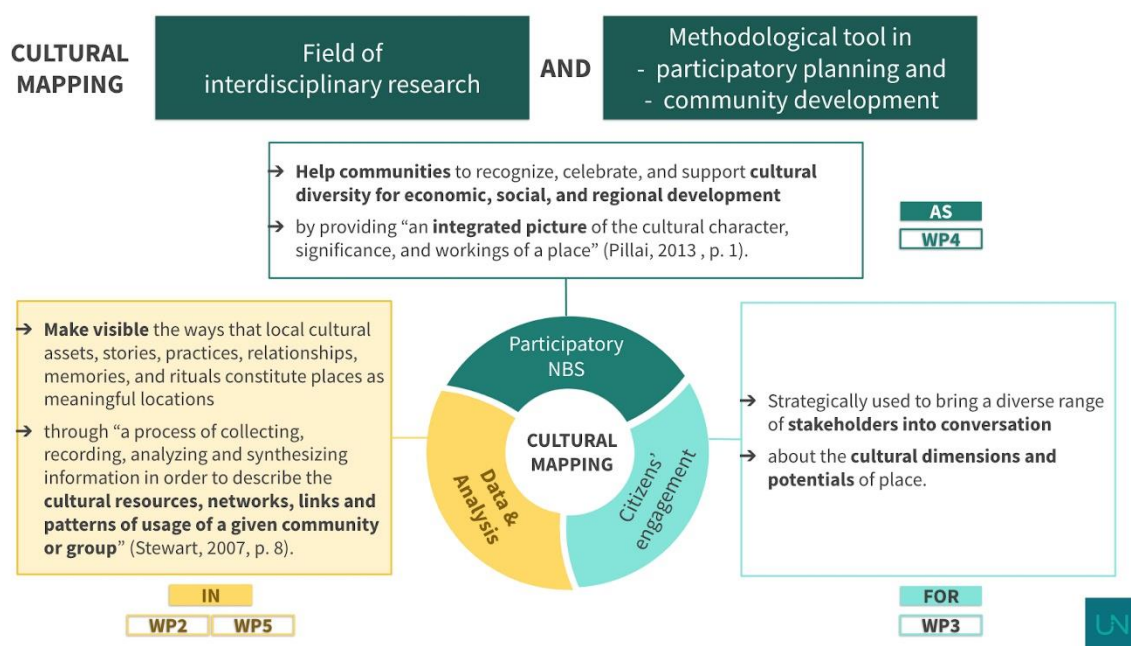


FIGURE 5. CULTURAL MAPPING THINKING IN URBINAT, AS INTERNALLY SYSTEMATISED IN 2020.

Source: Nathalie Nunes

The first (yellow) dimension on the left of Figure 5 translates into how culture is articulated or expressed within one society, or *'in'* sustainable urban development. In this context, cultural mapping is trying to identify and articulate those cultural aspects of a society, making visible the assets, stories, practices, relationships, memories, and rituals that constitute places as meaningful locations, as well as the patterns of usage of a given community or group and their cultural resources, networks, buildings, etc. Within the research structure and work plan of URBiNAT, this perspective fits into the data collection in the study areas of the project and the corresponding production of analysis. That is, in the contexts of the Living Labs of URBiNAT cities (work package 2) and URBiNAT's Observatory (work package 5), which supports the data collection in the intervention areas, establishes the tools and processes for monitoring and evaluation of the NBS implementation, and produces research on the key analytical dimensions of the project.

The second dimension of cultural mapping on the right of Figure 5 is that of a communications platform, prioritising individual and diverse perspectives, and using mapping as a place where people can come together to discuss shared community and bring them into conversation. This is about how to engage citizens and stakeholders in support of NBS (work package 3), to enable the co-creation of healthy corridors and establish community-driven processes *'for'* sustainable urban development.

The third dimension, on the top of the circle, is about building a new platform *'as'* sustainable urban development. In terms of cultural mapping, it is about creating this integrated picture of the cultural character, significance and workings of a place in order to help communities to recognize, celebrate and support their cultural diversity for their own development going forward in different aspects. This perspective projects cultural mapping into the NBS catalogue of URBiNAT (work package 4) as a participatory solution, that is, a process which constitutes itself as a means, by supporting the co-creation process, and as an end, by establishing platforms for empowerment as a result of participation in the process (URBiNAT, 2021).

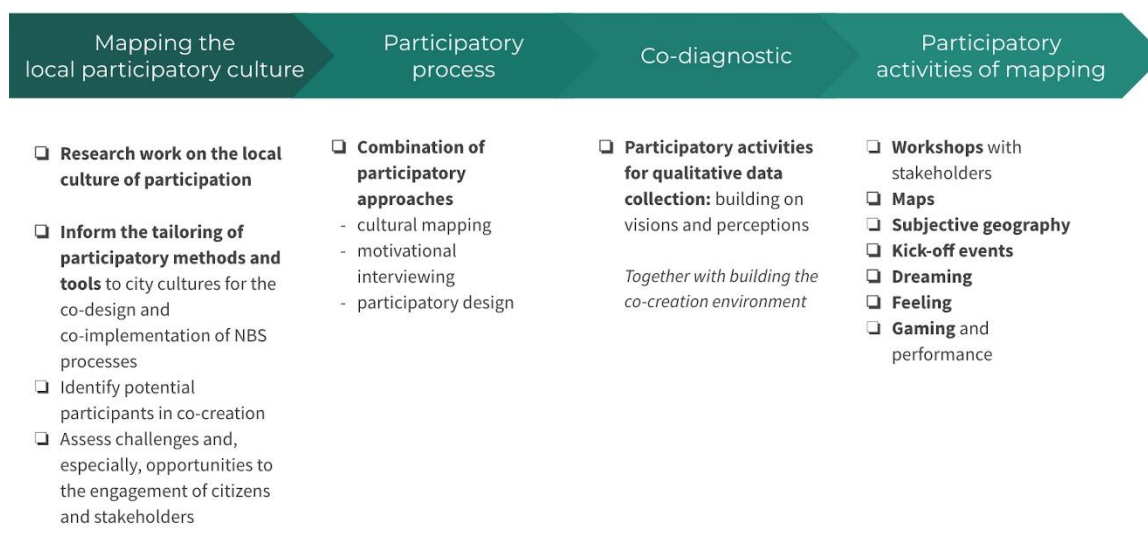
Cultural mapping thinking has been useful to explore its relevance for an inclusive and innovative urban regeneration with NBS as proposed by URBiNAT. However, in practice, as analysed in the second section of the present work-in-progress paper, it has been challenging to apply cultural mapping because of a lack of common understanding and consensus among partners on specific actions to focus on the cultural dimensions of the urban capital, both tangible and the intangible ones, and taking advantage of the catalyst effect of cultural mapping for co-implementation and co-monitoring. Contextualising cultural mapping in a broader context has been an opportunity to clarify the approach both in theory and in practice, which result in a wide variety of outputs, often much more than a map. To make these ideas more concrete, Annex A presents a diversity of cultural mapping practices, many of which translate into more than a map. Within the Annex, examples are presented in Table A, grouped according to key cultural mapping features.



### 3. LOOKING FOR CULTURAL MAPPING IN THE PRELIMINARY STAGE OF CO-CREATION

#### 3.1. PARTICIPATORY ACTIVITIES INFORMED BY CULTURAL MAPPING

URBiNAT initially introduced cultural mapping as a participatory approach in the strategic design of its participatory process, together with motivational interviewing and participatory design (URBiNAT, 2019a), as shown in Figure 6. Cultural mapping not only has the potential to catalyse processes for actively connecting people and deepening knowledge of a locality, but it also offers the possibility to be applied in different ways, combined with different approaches, or informed by other approaches (URBiNAT, 2019a). Its flexibility is of great methodological relevance, since participatory methods need to be adapted according to the local context and participatory specificities of each city. Indeed, cultural mapping is flexible according to the objectives, purpose and what one wants to map, for example, facilities, organisations, stories of places, historical sites, other aspects oriented towards the past (memories and landmarks) or aspects oriented towards the future (aspirational mapping), intended for the community or for outsiders (URBiNAT, 2019a).



**FIGURE 6. BACKGROUND OF THE CO-CREATION OF PARTICIPATORY METHODS IN URBiNAT, AS INTERNALLY SYSTEMATISED IN 2020.**

Source: Nathalie Nunes

In each city, the tailoring of participatory methods has been informed by original research on the local culture of participation to understand how participation works locally, to identify potential participants in co-creation, and to assess challenges and, especially, opportunities in regards to the engagement of citizens and stakeholders within URBiNAT (2019b). This

research consisted of identifying and collecting a wide variety of data and documentation, organising workshops, holding formal and informal meetings, and conducting semi-structured interviews. This was carried out by URBiNAT researchers and experts dedicated to citizen engagement. Their analysis paved the way to a strategy of developing municipal roadmaps for the healthy corridor to address the commitment of advancing innovation in the decision-making process of each city, and aiming to improve the quality of participation as a means and as an end (URBiNAT, 2019b).

The local task forces in each of the URBiNAT cities, which bring together researchers, experts and municipal technicians, kicked-off the engagement process in the intervention areas of the project by means of participatory activities, which were also aimed at collecting qualitative data, launching the first stage of the co-creation process, local diagnostics.

At the co-diagnostic stage, the combination of cultural mapping, as a participatory approach, with motivational interviewing and participatory design resulted in the creation of participatory activities of mapping in each of the front-runner cities of Nantes, Porto and Sofia (URBiNAT, 2019c). As illustrated in Figures 7 and 8, these activities included workshops with stakeholders, maps, subjective geography, kick-off events, dreaming, feeling, gaming and performance. The participatory activities of the local diagnostic stage also included applying other methods of data collection for qualitative research, such as photo-elicitation and walkthrough, in order to document and build on the visions and perceptions of participants.

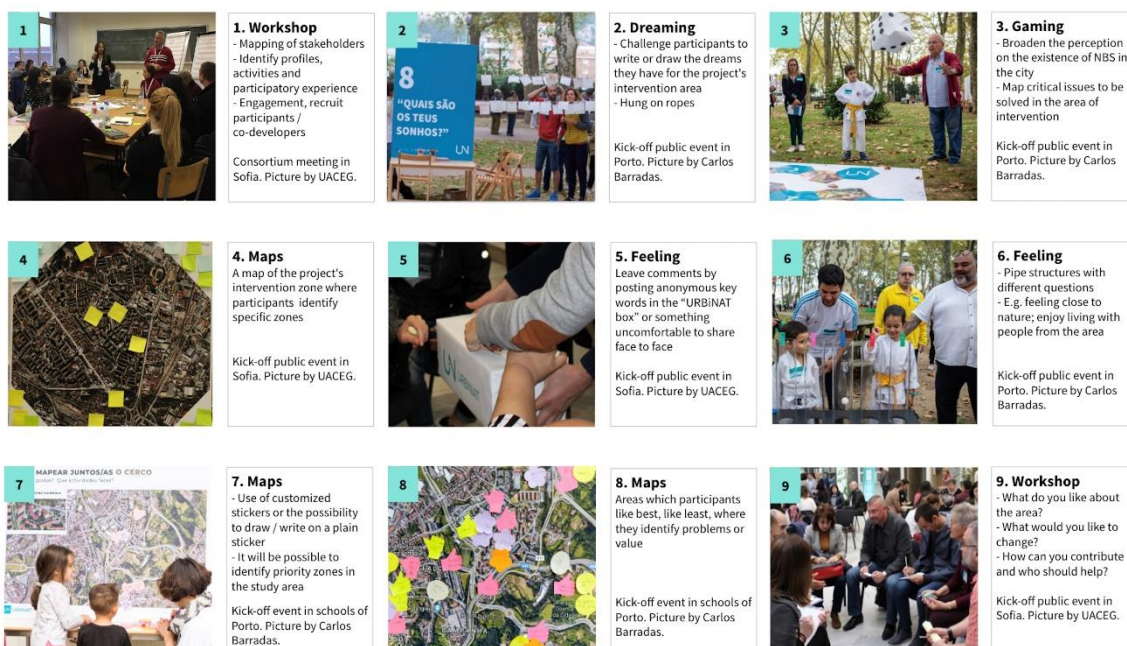
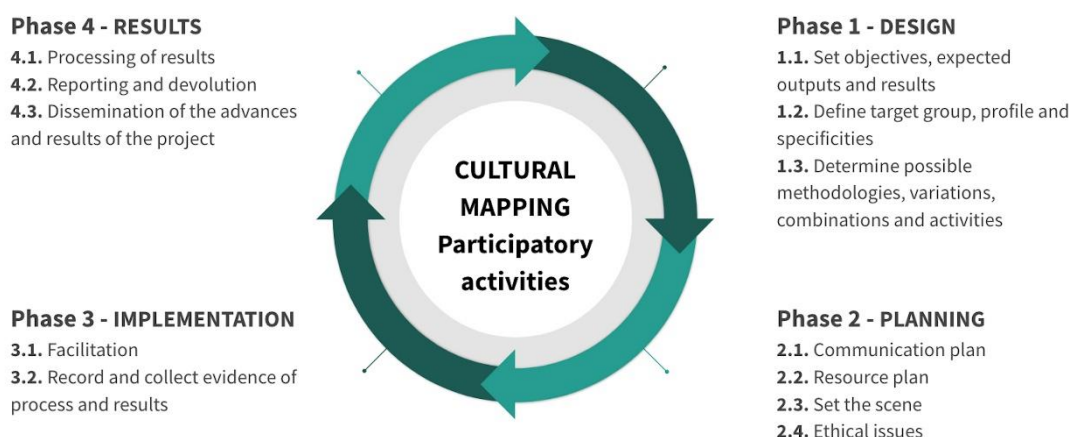


FIGURE 7. EXAMPLES OF PARTICIPATORY ACTIVITIES OF MAPPING ORGANISED BY URBiNAT IN 2019.

Source: Nathalie Nunes

Therefore, on one hand, cultural mapping informed and facilitated the initial engagement of citizens in the co-creation process, and, to this effect, it provided general guidelines for implementing participatory activities (URBiNAT, 2019a, Annex 1), as illustrated in Figure 8. On the other hand, and as a result of informing the implementation of participatory activities, cultural mapping also contributed to the participatory qualitative data collection component of the local diagnosis in front-runner cities, appearing in the list of nine methods<sup>1</sup> to collect new data in URBiNAT's intervention areas, reported in the methodological description of the local diagnostic report (URBiNAT, 2019c).



**FIGURE 8. PROTOCOL OF CULTURAL MAPPING AND GENERAL GUIDELINES FOR IMPLEMENTING PARTICIPATORY ACTIVITIES.**

Source: Adapted from URBiNAT (2019a).

However, having cultural mapping identified as a method that can be applied in the local diagnostic of URBiNAT's front-runner cities does not automatically translate to cultural dimensions being included in the methodological co-creation of participatory activities of mapping (also including the participatory approaches of motivational interviewing and participatory design), although it contributed to an overarching umbrella for the purpose of systematisation of methods. Indeed, in the case of the participatory activities of mapping, the cultural dimension was not the main focus, with the participatory mapping processes consisting of more open questions to start engaging and knowing local residents and other stakeholders, as well as making URBiNAT known to them at a very early stage of the process.

<sup>1</sup> Method 1: Cultural mapping; Method 2: Walkthrough; Method 3: Photovoice; Method 4: Focus group; Method 5: Face-to-face interviews; Method 6: Questionnaire; Method 7: Behavioural mapping; Method 8: Laboratory analysis; Method 9: Territorial mapping.

Overall, the main focus of the mapping exercises was to make visible what is not so evident or not tangible in and about the territory, perceiving it from local people, and learning it through meeting and interacting with people – approaches consistent with cultural mapping.

### 3.2. ANALYSIS OF LOCAL DIAGNOSTIC REPORTS WITH A ‘CULTURAL MAPPING LENS’

URBiNAT’s local diagnostics phase in the front-runner cities of Nantes, Porto and Sofia resulted in extensive reports, constituting a baseline of data and analysis, both quantitative and qualitative, for the design of and research on the healthy corridor (URBiNAT, 2019c). These reports include existing data on the territorial, social and economic profile of the intervention areas as well as at the city scale, collected by the municipalities, other institutions and organisations. They also include new data such as the information collected by means of participatory activities involving citizens and stakeholders of the intervention areas.

An analysis of the three diagnostics reports was conducted with a ‘cultural mapping lens’, as summarised in Table 2, focused on the following three dimensions: i) *the type of cultural information available*, i.e. what knowledge was made visible in terms of local cultural assets, stories, practices, relationships, memories, and rituals constituting places as meaningful locations; ii) *the mapping exercise performed*, i.e. how the process of collecting, recording, analysing and synthesising information was applied; iii) *presence/absence of topics expected to be covered by means of cultural mapping*, i.e. assessment of absent information that would describe cultural resources, networks, links and patterns of usage of a given community or group.

Looking for culture in these reports, the cities of Porto and Sofia provided information about history, local traditions and knowledgeable residents. There were some mappings of cultural facilities in the neighbourhoods that were selected, and one could identify pieces of cultural data and cultural information. The mapping exercises reported also capture different relevant elements. For instance, in the case of Porto, the mapping process(es) captured activities in the neighbourhoods, places enjoyed by residents, aspirations and ideas for the future, but meaningful details appear to be lost in the analysis and summarization processes. In the case of Sofia, the mapping process(es) also covered intangible aspects such as values, beliefs, perceptions, attitudes, relationships, traditions, identities, and shared sense of place, but the mapping results as they were reported do not allow any of these to be geographically identified and related to a printed map of the area.

When comparing the two first dimensions of analysis against what one would expect to see in a cultural mapping exercise, that is, typical aspects summarised or identified and articulated in a cultural map, many topics are not covered in these reports, namely: i) *cultural assets* – organisations, creative people/artists, activities, facilities, public art, monuments – when they are mapped, only cultural facilities are included; ii) *cultural referents/motifs* – linking to local identities, symbols; iii) *history, stories, narratives* – stories of the place, linked to specific places or areas; iv) *sites for rituals, cultural events, fairs*; and v) *meaningful places* – both where and why.

In other words, these are the sort of aspects that are missed in a typical diagnostics process. This leads us to the conclusion that specific actions are needed to address and to collect this type of information, building up a process which focuses specifically on the cultural dimensions. The inclusion of specific exercises and methodologies to focus on the cultural dimensions of a neighbourhood and its resident community seems necessary, especially when considering the importance of culture for urban regeneration and to build a platform of participation.

Building upon the local diagnostic reports of URBiNAT's front-runner cities, cultural mapping topics which are not evident in the initial diagnostics report could be made visible or better visualised (e.g. specific map) in similar reports for other cities. As well, information garnered through cultural mapping could be made visible through other complementary means, considering, for example, existing information not included in the local diagnostic reports or existing information collected after the local diagnostic reports; and information to be collected in upcoming participatory activities as part of the whole co-creation process of the healthy corridor.

**TABLE 2. ANALYSIS OF THE LOCAL DIAGNOSTIC REPORTS OF URBINAT'S FRONT-RUNNER CITIES, BASED ON A CULTURAL MAPPING LENS**

Dimensions of analysis	Porto	Sofia	Nantes
Cultural information	<p>Text describes history of the area in general terms, but historical sites and landmarks are not mapped.</p> <p>Text also refers to local traditions and residents with deep knowledge about territory and its potential. However, these are not clearly articulated nor mapped as part of the data obtained to date.</p> <p>Text mentions local organisations that produce theatre, dance and music projects = cultural assets. But where are they based? Where do they rehearse? Where are performances held?</p>	<p>Text describes historical details, and narratives of place names (name also mentioned as asset in cultural mapping exercise).</p> <p>Facility map includes cultural facilities –text mentions community centres; municipal cultural institute; centre for arts, culture and education for children.</p> <p>Text mentions cultural diversity –official stats seem to indicate this is limited in the study area but other texts indicate high diversity (re: religions, Chinese community with pavilion of peace).</p> <p>In cultural mapping exercise, mentions the holiday of the district –not elaborated nor date given.</p>	<p>City self-described as post-industrial reinvention with culture, so the concept of “reinvention” has local currency.</p> <p>Cultural facilities described and mapped.</p> <p>Other text on cultural facilities mentions: sociocultural centre; toy library; university theatre; centre for ‘do it yourself’ activities.</p>
Mapping exercise	<p>The mapping exercises seem to capture:</p> <ul style="list-style-type: none"> <li>- activities of the neighbourhood residents and where they occur;</li> <li>- places residents enjoy;</li> <li>- + and – of sites / likes and dislikes;</li> <li>- aspirations and ideas for the future.</li> </ul>	<p>Cultural mapping exercises are introduced as creating opportunities for dialogue and to diversify sources of information, and positioned as part of “mapping participatory culture” (which may be misleading).</p> <p>Identifies local assets –tangible and intangible. Intangible aspects described as: values, beliefs, perceptions, attitudes, relationships, traditions, identities, and shared sense of place.</p> <p>Mapping results reported do not allow any of these to be geographically mapped, though in one of the exercises, the assets were related to a printed map of the area.</p>	<p>Cultural mapping + walkthrough postponed to 2020.</p> <p>Sounds as though focus will be on (tangible) assets and points of interest on a predefined path.</p>

		Aspirations for the area include: creative space (participatory); improvements to libraries; museum; space for interaction between ethnic groups.	
Cultural mapping topics not evident	<ul style="list-style-type: none"> <li>x cultural assets –organisations, creative people/artists, activities, facilities, public art, monuments</li> <li>x cultural referents/motifs –linking to local identities, symbols</li> <li>x history, stories, narratives –stories of the place, linked to specific places or areas</li> <li>x sites for rituals, cultural events, fairs</li> <li>x meaningful places –why and where</li> </ul>	<ul style="list-style-type: none"> <li>x cultural assets –organisations, creative people/artists, public art, monuments [only cultural facilities mapped]</li> <li>x cultural referents/motifs –linking to local identities, symbols</li> <li>x history, stories, narratives –stories of the place, linked to specific places or areas</li> <li>x sites for rituals, cultural events, fairs</li> <li>x meaningful places –why and where</li> </ul>	<ul style="list-style-type: none"> <li>x cultural assets –organisations, creative people/artists, public art, monuments [only facilities mapped]</li> <li>x cultural referents/motifs –linking to local identities, symbols</li> <li>x history, stories, narratives –stories of the place, linked to specific places or areas</li> <li>x sites for rituals, cultural events, fairs</li> <li>x meaningful places –why and where</li> </ul>

Source: Nancy Duxbury (CES-UC), URBiNAT.

### 3.3. CULTURAL MAPPING IN THE CO-CREATION PROCESS AS A WHOLE

By definition, cultural mapping is not only a product nor only a method or service but a whole process. To systematically implement such a process within URBiNAT would require an interdisciplinary shift towards a common understanding and consensus among URBiNAT's partners on specific actions to focus on the cultural dimensions of the urban capital, especially the intangible ones. This would enable the project's cities and other partners to take advantage of the catalyst effect of cultural mapping for the co-implementation and co-monitoring phases.

As a participatory NBS, cultural mapping can be associated with all NBS, since it gives support to the co-creation process as a whole, and provides platforms for discussion, engagement and empowerment through participation in the process (URBiNAT, 2021), as summarised in Table 3. At each stage of the co-creation process, cultural mapping encompasses a specific focus and relevance. Starting with providing baseline data and knowledge for thinking about places, people and resources at the co-diagnostic phase, it can generate information that is not usually captured in standard statistics and profiles, nor in other standard qualitative methods. The cultural data and information collected are also useful for the ongoing monitoring and assessment of cultural vitality and community well-being, by providing evidence, for instance, of new cultural celebrations, production sites, intergenerational skills transfer occurrences, community public art and landmarks. Periodically returning to cultural mapping can also provide opportunities for adding new layers of information and new perspectives, perhaps inspired by the knowledge previously compiled.

**TABLE 3. CULTURAL MAPPING IN THE CO-CREATION PROCESS OF NBS**

Co-creation stages	Focus and relevance of cultural mapping
Co-diagnostic	<p>Mapping provides baseline data for thinking about places, people and resources.</p> <p>Participatory cultural mapping provides cultural information and data not usually captured in standard statistics and profiles, or other standard qualitative methods.</p> <p>The methods used and the information collected are also useful for ongoing monitoring and assessment of cultural vitality and community well-being, e.g. new cultural celebrations, production sites, intergenerational skills transfer, community public art and landmarks.</p>
Co-selection & co-design	<p>Incorporating meaningful symbolic elements, e.g. diversity of languages and cultures, historic objects and events.</p> <p>Sited in places that are meaningful to the community.</p> <p>Enabling cultural activities, such as festivals and other gatherings.</p> <p>Recuperating meaningful places.</p>



	<p>Incorporating and integrating art in installations and interventions, e.g. lighting features, street furniture.</p> <p>Developing public art.</p> <p>Engraving history and creating new landmarks.</p>
Co-implementation	<p>Initial cultural mapping at the co-diagnostic stage can inform the design and development of installations and interventions, and inspire the involvement of different community groups in the co-implementation process.</p>
Co-management & co-monitoring	<p>By promoting the sense of belonging, ownership and collective achievement, cultural mapping seeds the involvement of inhabitants in collective life.</p> <p>Co-management of the public space, including of the nature-based installations and interventions implemented throughout the co-creation process, will benefit from this catalyst effect.</p>

Source: Nancy Duxbury (CES-UC), adapted from URBiNAT, 2019a.

In addition, this data can integrate the co-selection and co-design phases, providing symbolic and meaningful elements (e.g. diversity of languages and cultures, historic objects and events) and highlighting places that are meaningful to the community. Cultural mapping also serves as a process of generating greater community self-knowledge and awareness, contributing to the catalyzation of a variety of informed actions, including enabling new cultural activities, recuperating meaningful places, incorporating and integrating art in installations and interventions (e.g. lighting features), developing public art, engraving history and creating new landmarks. Within the context of URBiNAT, it is important to highlight how the initial cultural mapping at the co-diagnostic stage can inform the development and design of installations and interventions. Moreover, by promoting the sense of belonging, ownership and collective achievement, cultural mapping processes can seed the involvement of inhabitants in collective life while, at the same time, benefiting co-management of the public space from this catalyst effect, including the management of the nature-based installations and interventions implemented throughout the co-creation process.

The analysis of the preliminary stage of URBiNAT's co-creation process has shown the challenge of having cultural mapping being approached prominently as a means of supporting participatory planning and not consistently as an end of interdisciplinary research and community development. Such a conclusion highlights the need to discuss with cities its implementation as a process, to co-analyze findings from the process, and to test it as an engaged methodology in the context of inclusive and innovative urban regeneration as proposed by URBiNAT. In this sense, section 2 provides a broader context for the cultural mapping of URBiNAT, reinforcing its relevance for urban regeneration and in building a platform of participation.

## 4. CULTURAL MAPPING AS AN INTERDISCIPLINARY ACTION RESEARCH

As analysed in the first section of this work-in-progress paper, cultural mapping as proposed by URBiNAT fits into the broader context of sustainable urban development. It is of great methodological relevance for an inclusive and innovative urban regeneration with NBS, as a flexible approach and diversity of practices making room for co-creation, according to the local context and participatory specificities of each city. Moreover, it is of interest for URBiNAT to think about cultural mapping as a field of interdisciplinary research, namely in the framework of action research, which is further explored in this section by means of a personal research account.

This section is written in the first person, by the researcher Fernanda Araujo Curi while a postdoctoral fellow at the Center for Social Studies of the University of Coimbra, associated with the H2020 URBiNAT project. It is based on three research she developed from 2014 and 2020, including her practice and observation of the process of citizen participation of the URBiNAT project in the parish (*freguesia*) of Campanhã in the city of Porto, Portugal. A parish is an administrative subdivision of the Portuguese municipalities. URBiNAT is developing a healthy corridor with inhabitants and stakeholders in the parish of Campanhã, aiming at connecting the neighbourhoods of Cerco, Falcão and Lagarteiro between them and with the rest of the city of Porto.

As an urban architect and museologist, Fernanda Araujo Curi's focus as a researcher is on the articulation between these areas, namely in the relationships between the public space, culture and territory. Taking the cultural facilities and green areas of cities as objects of reflection and analysis, her interest is in valuing the urban public space and its appropriation by people.

For this work-in-progress paper, she reflected on three research projects carried out in the last decade: "Ibirapuera, Uberlândia and Campanhã," a park, a city and a neighbourhood (or parish as used in Portugal). They are objects of very different scales and researched in different contexts, but they have, in common, the idea of "cultural mapping" as an interdisciplinary action research in the city's co-creation processes. The objective is to reflect how such mappings, flexible and adaptable to available resources, can take different forms: spaces for collective, creative expression and interaction between different groups; and platforms for dialogue, engagement, participation and empowerment. Fernanda Araujo Curi synthesises the processes in the first two cases and focuses a little more on Campanhã, which is the study area of the URBiNAT project in the city of Porto.

### 4.1. A PARK: IBIRAPUERA URBAN INVENTORY

My collaboration with URBiNAT began in 2018 with a brief contribution to the project's deliverable D1.2, a handbook on the theoretical and methodological foundations of the project (URBiNAT, 2018), which addressed some of the issues about public space investigated in my doctoral thesis, defended that year at the Faculty of Architecture and Urbanism of the University of São Paulo (Curi, 2018). The thesis was developed between 2013-2018 and is

entitled *Ibirapuera, urban metaphor. The public/private in São Paulo*. It is an analysis of the trajectory of social and institutional appropriations that have taken place in this symbolic public space in São Paulo over the last seven decades, which exposes the paradoxes of this city. As a large public archipelago divided into disconnected or privatised islands, Ibirapuera Park is both evidence and instrument of a public dimension of space that is defined by its coexistence with private interests, and generally weakened by them. This hypothesis was proven right after the end of this research, in 2019, with the official privatisation of Ibirapuera, promoted by the city of São Paulo, through a concession of the management, operation and maintenance of the park to a private company for 35 years.

In parallel to my PhD, I worked as a researcher at the Wanda Svevo Archive of the Bienal de São Paulo Foundation, located in Ibirapuera Park. It was in this archive that I found the first documents used in the thesis, based on thousands of primary sources gathered in dozens of collections. In addition to the archival documentation and its systematisation, issues relating to appropriate land and buildings, inside and outside the park area, were mainly confirmed by practices of direct observation, walking and cycling throughout this territory. With daily work in the archives and living just a few minutes away from Ibirapuera, ideas related to this park, this region, its problems and potentialities also emerged in an intuitive and empirical way.

The opportunity to share this experience and the partial results of the research took place initially through a series of 14 weekly workshops that I organised during the three months of the 31st Bienal de São Paulo, in 2014. As important as digging up piles of existing documents, was being able to create and share new documentation together with artists, students, staff, and park lovers. It was a crucial part of the research as it allowed powerful dialogues between very different but complementary perceptions and approaches, some of which were shared in a blog created by the participants (Curi, 2014). In a period of almost eight years dedicated to the Archive and Ibirapuera, it was possible to build a large inventory. An 'urban inventory' that relies both on the act of 'making an inventory' and on the act of 'inventing'. Developing narratives from a dialogue between primary and created sources has certainly given new life to the research object. Inventive narratives are not only interested in the past, but also in possible ways to (re)formulate content and reflect on current issues and concerns.



**FIGURE 9. MAPPINGS IN IBIRAPUERA PARK (CITY OF SÃO PAULO, STATE OF SÃO PAULO, BRAZIL).**

Source: Fernanda Curi.

## 4.2. A CITY: MINI-DOCUMENTARY ABOUT UBERLÂNDIA

Soon after completing my doctorate in São Paulo, I spent a year as a postdoc at the Faculty of Architecture, Urbanism and Design at the Federal University of Uberlândia, between September 2018 and August 2019. A relevant medium-sized city in the state of Minas Gerais, in the interior of Brazil, situated at a crossroads on the way to Brasília, Uberlândia hitched a ride on the wave of modern progressive development in the country's capital. Crossed by the Uberabinha river, the city grew with its back to the river that named it and like many other cities, in Brazil and in the world, it closed countless other rivers for the construction of avenues. Driven by the constant promise of progress and opportunities, it did not prioritise quality public spaces in its urban planning, thus being marked by a voracious expansion, verticalization and segregation.

This time, action research took shape within the scope of the optional subject “Public Space, Culture and Territory,” which I offered as part of the postdoc program and brought together a group of 25 undergraduate and graduate students. The proposal was to reflect on the city's public space, alternating theoretical and practical approaches. The methodology included the debate of key concepts (such as territory, heritage, public/private space, urbanity, resistance) with seminars, archival research, routes and mappings, in addition to a final collective work. The students decided to jointly produce a mini-documentary about Uberlândia (Curi, 2019). In the midst of a series of demonstrations and stoppages against the dismantling of education in the country promoted by the Brazilian government, the 5-minute video is a breath of

lucidity and an act of resistance, the result of a collective and prospective effort that very well synthesises the discoveries and analyses of this group of participants.

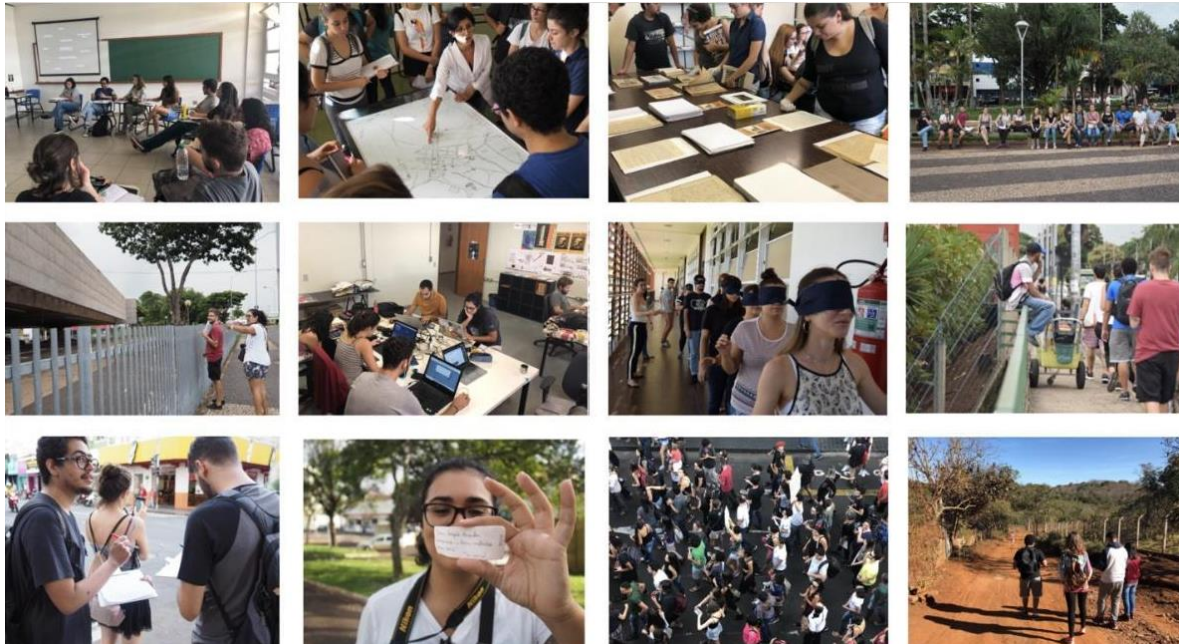


FIGURE 10. MAPPINGS IN THE CITY OF UBERLÂNDIA (STATE OF MINAS GERAIS, BRAZIL).

Source: Fernanda Curi.

### 4.3. A NEIGHBOURHOOD: CULTURAL PLATFORM IN CAMPANHÃ

These previous experiences brought me to CES, and to URBiNAT. After three first months in Coimbra, I moved in December 2019 to the project's study area, the parish of Campanhã, often referred to as the 'wrong side' of Porto. It is on the opposite side of what would then be, the 'right side', the side where the Douro river meets the sea, and where all the investments made in the city in recent years have been destined. Campanhã, an area that still remains very rural and authentic, concentrates the largest green area and most of Porto's social housing neighbourhoods, fragmented by a system of roads, bridges, viaducts and avenues. We could say that Campanhã is in the last moments of a pre-gentrification era. The premise, and the great challenge of a project like URBiNAT, is to promote opportunities to make this process less vertical, predatory and exclusive; and bring the university and public authorities together in the co-creation of this part of the city together with the people living and working there.

As analysed in section 3, it is important to contextualise that, before November 2019, at the co-diagnostic stage, the engagement adopted cultural mapping as a participatory approach

together with motivational interviewing and participatory design. There certainly was an intensification, moving from co-diagnostic to co-design, building upon the previous research on the local participatory culture and the relationships established. The cultural mapping approach thus enabled the introduction of 'proximity and informality' in the transition from co-diagnostic to co-design, key factors to make room for co-creation as well as to introduce interdisciplinary research and contribute to community development.

Since November 2019 we have organised and carried out a series of workshops, meetings and tours with citizens of all ages. Thus, together with the participants, it was possible to diagnose and design ideas and proposals to improve the parish; that articulate with the healthy corridor of URBiNAT, in the physical work or in the immaterial scope. The closer encounters, individually or in small groups, allowed for a more generous listening and a deeper exchange, essential in co-creation processes. The experience in the parish allowed us to assimilate a reality that is often not perceived in distant and more quantitative studies and analyses. Being close and available is very important.



**FIGURE 11. MAPPING CAMPANHÃ IN THE URBINAT PROJECT.**

Source: Fernanda Curi.

The continuity of the equally fundamental process was unfortunately broken by the COVID-19 pandemic, which distanced what was approaching. Even so, this whole process gave rise to excellent ideas that gave rise to a new catalogue of solutions based on nature, proposed by the citizens, for Campanhã. These ideas were subsequently presented and debated among municipal technicians, political representatives/councillors and citizens. Since then, ideas have moved into proposals that have been further detailed for implementation in 2021.

One of these proposals was in line with the “cultural mapping” tool of URBiNAT and the integration of the proponent as a local dynamizer was timely and necessary. The musician, dancer, and founder of the OUPA Association, Ricardinho Lopes, presented the necessary requirements to coordinate the cultural mapping activities in Campanhã: he is young, dynamic and with a genuine interest in local sociocultural issues, in addition to having a network of contacts and previous experiences in projects in the parish, with the involvement of different associations and communities in the neighbourhoods of Cerco, Falcão and Lagarteiro.

Since the beginning of June 2020, the local promoter has been receiving training and support from the URBiNAT team for the development of a cultural platform, named *Campanh’Up*. The research, preservation, communication and action platform aims to “raise Campanhã” and make the (re)cognition of citizens visible through the sharing of narratives, identities, histories and local practices that bring meaning to their places. The idea is for the cultural platform to be developed online and offline, functioning as a living laboratory of ideas and actions that allow us to know and question the reality that surrounds us; and to observe the spaces and places that we can occupy and (re)signify.

However, some questions arise. In pandemic and undemocratic times, with everything being re-signified –the public space, the local and virtual dimension, and almost all of our lives– it became even more urgent and necessary to create spaces and platforms like this one, to broaden the discussion and enable new dynamics in the processes of (de)construction of cities. If within projects such as URBiNAT, such platforms and cultural mappings originate from the need to build more inclusive and horizontal patterns of interactions, in an attractive environment for participation, how to create conditions and bet on this type of tool and its transformative potential, ensuring that it is possible to follow a freer, more creative and unencumbered path, without being constantly conditioned by long institutional approvals and unnecessary bureaucracy?

It is in the field of proximity and informality that we can communicate much more clearly, and create common sense. Doing this on a local scale –in the street, in the park, in the neighbourhood– is a human way of identifying and valuing individual and collective voices and experiences. And now, with one more challenge: proximity with physical distance. In this way, the mappings, inventories and imaginaries of the cities we want to live in are really fundamental; so that we can discover new consensuses, commitments and values of the society we want to be.

## **5. CONCLUSION: CULTURAL MAPPING FOR AN INCLUSIVE AND INNOVATIVE URBAN REGENERATION WITH NATURE-BASED SOLUTIONS**

If culture has been increasingly of interest and relevance for the sustainable development of cities, the road travelled encompasses a series of intertwined conceptual and operational challenges related to implementing local cultural policies and plans, namely: i) limitations

due to legislative frameworks, targeted policies, bureaucratic silos, and administrative reluctance; ii) the complexity of the cultural sector and the cultural features of the community; iii) inadequacy of indicators, measurement, and evaluation of progress and impacts; and iv) underlying issues of citizen participation, attention to gender, and overcoming segmentation (Duxbury et al., 2016).

In the framework of the co-creation process for an inclusive and innovative urban regeneration with NBS promoted by the H2020 project URBiNAT, cultural mapping has been adopted in its early stages as a participatory approach and ground methodology to ensure that cultural dimensions are integrated into the project. However, URBiNAT is no exception in facing the above mentioned challenges, which constitute, at the same time, research opportunities to be further explored. URBiNAT can definitely contribute by means of interdisciplinary action research to strengthen the emerging transdisciplinary field of cultural mapping and contribute to its generative potential, as an example of specific instances of practice on the ground (Longley & Duxbury, 2016).

URBiNAT's work plan includes a task dedicated to action research (work package 5, task 5.6) aiming at developing an EU-wide reference framework for NBS. Much effort has been already invested in developing the study case of URBiNAT's front-runner city Porto, where cultural mapping is taking shape as a participatory NBS. The other URBiNAT cities, in particular the follower ones who entered the co-diagnostic phase in 2020, also offer interesting and diverse developments in testing cultural mapping in their co-creation processes. Both types of situations are facing conceptual and operational challenges, but also finding opportunities in cultural mapping as a structuring methodology and flexible approach to engage with the field, and considering its catalyst effect for co-implementation and co-monitoring of the healthy corridor beyond the term of the URBiNAT project. The interdisciplinary and intercultural sharing and learning promoted within URBiNAT's Community of Practice, which also includes non-EU Observers, paves the way for an ecology of knowledges, based on the diversity of cultures and knowledge, and the recognition of difference, as argued by Boaventura de Sousa Santos (Santos et al., 2008). The development of such an ecology of knowledges can emerge from the co-creation process of URBiNAT's Living Labs, as well as inside and outside URBiNAT's consortium.

In the framework of an interdisciplinary action research project, the researchers' reflexivity can also bring to the surface some blind spots, considering both the reflexive method developed by Pierre Bourdieu (Grenfell, 2008) and the conceptual framework of the sociology of absences and the sociology of emergences developed by Santos (2016). Indeed, reflexivity is crucial to social scientists in the positions they adopt with regard to their research, asking knowledge producers to recognize their own objective position within the intellectual and academic field, and to objectify their practice by accounting both for what is at stake for them and for the implicit conditions and structures of their practice, a methodological process known as 'participant objectivation' (Grenfell, 2008; Deer, 2008). This is particularly relevant for an interdisciplinary shift towards a common understanding and consensus among partners on specific actions to address and collect knowledge about cultural resources and assets which would encompass both the tangible and the intangible cultural dimensions of urban capital.



Regarding Santos' conceptual framework, the sociology of absences contributes to identifying what has been made invisible, devalued, or rendered non-existent; and the sociology of emergences contributes to valuing the resistance of social groups and identifying in this resistance principles and practices of governance that point to other experiences (Santos & Mendes, 2020). Both sociological methods propose a constant ethical vigilance over the unfolding of possibilities, supported by basic emotions such as negative wonder provoking anxiety and positive wonder feeding hope (Santos & Mendes, 2020).

These conceptual frameworks are not only relevant to analyse the co-creation process of NBS as it has been unfolding in URBiNAT's Living Labs with citizens and stakeholders, but also to analyse the co-creation process in its foundations. In other words, to analyse its background or backstage, as it was framed by URBiNAT's partners, involving cities, experts, practitioners, companies, and researchers. In both URBiNAT contexts, making visible absences and valuing emergences may help in looping back to the conceptual and operational challenges related to implementing local cultural policies and plans for sustainable urban development, which is all the more relevant in the case of cultural mapping being a co-creation process (means) and a participatory NBS under co-creation (end). In this way, four aspects emerge we wish to highlight: i) limitations in the local administration/government systems versus innovation to adapt to or overcome them; ii) the complexities of existing versus new narratives about the cultural features of a community; iii) inadequacy versus innovation to adapt processes and tools for monitoring and evaluation; and iv) inequality issues versus equity measures regarding citizen participation, gender, and segmentation.

Cultural mapping, as it is being tested and analysed in the H2020 URBiNAT project, may contribute to advance an EU-wide reference framework for NBS. More specifically, this potential for change arises in relation to having culture at the heart of sustainable urban development for inclusive and innovative urban regeneration processes with NBS. On one hand, the *inclusive* dimension is promoted by means of applying cultural mapping as a methodological tool to support not only participatory planning but also community development. On the other hand, cultural mapping provides an *innovative* approach in the field of an interdisciplinary action research project on NBS by exploring: i) how understanding the local cultural ecosystem informs and influences the community's cohesion, vitality and well-being; ii) how cultural components are produced and reproduced in the context of the territory's urban regeneration; and iii) how cultural mapping functions as a communication, conversational and knowledge production platform.

Moreover, introducing reflexivity in analysing the co-creation process of cultural mapping as a means and as an end may also emphasise the interdisciplinary, transdisciplinary and intercultural nature of this field of research (Nunes et al., 2017). For example, by addressing cross-cutting dimensions of human rights and gender, and entering the field of sociology of law, one can more closely examine how inclusive and innovative urban regeneration projects handle a complex combination of societal challenges aiming at contributing to the right to the city. The reflexive analyses of cultural mapping presented in this working paper help to illuminate the intertwined complexities –social, cultural, economic, ecological, legal and political dimensions– of living in and understanding a place. These dimensions are also unveiled in the collective efforts required to co-design, co-develop and co-implement NBS

in an interdisciplinary, multi-stakeholder, participatory context in order to meaningfully and inclusively catalyse processes that can regenerate a neighbourhood to improve the quality of life and opportunities of its residents.

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**FUNDING**

This research was funded within the framework of the project 'URBiNAT – Healthy corridors as drivers of social housing neighbourhoods for the co-creation of social, environmental and marketable NBS'.

This project has received funding from the European Union Horizon 2020 research and innovation program under grant agreement No 776783.

## ANNEX A

### A DIVERSITY OF INSPIRING PRACTICES

In the context of providing a diverse array of cultural mapping examples for the cities involved in the URBiNAT project, we have assembled a set of cultural mapping projects which are presented here to illustrate different objectives, approaches, processes and outputs.

#### **1. Making information and perspectives visible**

In Table A, examples 1 to 4 present cultural mapping used to make information and perspectives visible. Invisible City (no. 1) from Australia aims to obtain teen or youth voices in order to understand their city from their perspective and how they feel in different places. The project results in a gradation of a wide array of different feelings, captured during walks with a cell phone and mobile app, by means of which teenagers identify how they feel in different locations and text additional comments while *in situ*. These are the types of perspectives that are very difficult to usually get in a planning context. The subjective geography map (no. 2) enables children to identify what is important to them in their community, making the result publicly known by means of printed maps and transit shelter posters. Forbidden Cities (no. 3) aims to make more visible women's perspectives on places that they feel are unsafe in their community. Women's footprint (no. 4) is a feminist historical perspective of restoring or making visible those places that are associated with women's struggles historically.

#### **2. Articulating personal attachments to place**

The community atlas of the Islands in the Salish Sea project (no. 5) aims to articulate personal attachments to place and, through multiple efforts, to articulate that collective attachments to place. The multiple island maps show what is special about that place to the people who live there. These special aspects can be cultural, but also environmental or historical, including both events/sites of public knowledge as well as aspects of one's personal history. In the context of a region that was being approached by both developers and resource extractors, this artist-coordinated project was also a political project. As the communities who live in the islands are the ones to really know what is special about those places, the mapping project became an expression of this knowledge and of their proactively assumed responsibility to document and articulate what was special about this place, so that there was a chance of this knowledge being communicated outward, especially to public agencies making policies and decisions about changes to the islands. In the face of multiple expected changes, the cultural mapping project became a tool to both articulate and defend their place (Harrington & Stevenson, 2005).

#### **3. Many formats of processes**

Examples 6 and 7 illustrate a whole process of cultural mapping, illustrating that there are many formats of processes. 'Favela é Isso Ai' (no. 6) was a project focused on the slum communities located around the city of Belo Horizonte in Brazil (Libânio, 2019). The cultural mapping involved an extensive series of events for community engagement, drawing maps,

articulating and listing a wide variety of cultural resources and assets, communicating with each other, communicating with other slum communities as well as communicating to the centre city about the cultural richness in these communities. The initiative resulted in a series of publications, as well as a website, and electronic map. It is a good example of a very open, participatory process, which evolves into outputs that could have never been imagined at the beginning, including a broadcasting service to let others know of the cultural vitality of these communities.

'Mapping creative Darwin' (no. 7) is a qualitative GIS project, targeted to the creators of the city of Darwin in the north of Australia (Gibson et al., 2010). It involved different artists and creators being interviewed with a standard printed map to identify where they live, where they work and, in particular, the places that inspire them and are worked into their cultural creations. All the maps were scanned together, demonstrating the places that were particularly important to preserve and to take care of, places that were inspirational for the members of the city's cultural sector.

#### ***4. More than just a map***

Examples 8, 9, 10 and 11 show some outputs of cultural mapping, that is, results from detailed processes of identifying, articulating, and collecting –collectively highlighting how cultural mapping can become much more than just a map. They include an urban art initiative with murals produced by street artists about sustainable development goals, the 'TOward2030' in Turin, Italy (no. 8); mosaics that have been created in the framework of locally resonant community art projects in Vancouver, Canada, namely 'Mosaic Creek Park' (no. 9) and 'Community Walls / Community Voices' (no. 10); a welcome bag to newcomers developed by the project 'Dig Your Neighbourhood' in Kelowna, Canada (no. 11), which aimed to articulate what is special about a community, to document this through a collection of items assembled or created in the project –including stories, histories, poetry, images and music, among other items– and to make the collection available for free to new residents that move into the neighbourhood.

#### ***5. Enabling community voices***

The Citizens Atlas of London (no. 12) emerged from grassroots organisation around the Livingmaps Network, gathering researchers, community activists, artists and others with a common interest in the use of counter mapping for social change, public engagement, critical debate and creative forms of community campaigning. The initiative is about enabling community voices in places that the City of London has identified for future development. The goal is to enable current residents to have a say, to foster public discussions about the community and where people would like to see it going in the future. In this sense, cultural mapping is not only about the past and the current, but also can be about looking forward into the future, and having a space for these conversations about the aspirations of the neighbourhood to take place.

TABLE A. CULTURAL MAPPING: A DIVERSITY OF PRACTICES AND FORMATS

Examples of practices and resulting formats	Cultural mapping features
<i>Making information and perspectives visible</i>	
<b>1. Invisible City / Australia</b>	<b>Feelings and places</b>
<p>- A research project exploring how young people experience the city.</p> <p>- Obtaining teen and youth voices in understanding the city from their perspectives and how they feel in different places.</p> <p>- Based on walks with a cell phone app, and associated database for later analysis.</p> <p>Useful links / Sources:</p> <p>- <a href="#">InvisibleCity, Western Sidene University</a></p>	
<b>2. URBiNAT – Vamos mapear junt@s! / Porto – Portugal</b>	<b>Subjective geography</b>
<p>- Children identify their community, what is important to them, where, and make it publicly known.</p> <p>- Understand how participants see and envision the city.</p> <p>- Inspired by subjective geography.</p> <p>Useful links / Sources:</p> <p>- <a href="#">Géographie Subjective of Catherine Jourdan</a></p> <p>- <a href="#">Participatory activities of mapping with schools and children in the framework of the H2020 project URBiNAT</a></p>	
<b>3. Mapa de la Ciudad Prohibida en los Distritos de Bilbao / Spain</b>	<b>Forbidden Cities</b>
<p>Making more visible women's perspective on places of a high physical/safety risk for them.</p> <p>- Making this information more visible for public governing institutions and people in general.</p> <p>- A useful tool to promote positive changes.</p> <p>- Example implemented by the <a href="#">Bilbao Women's Council for Equality</a></p> <p>Useful links / Sources:</p> <p>- <a href="#">Mapa de la Ciudad Prohibida en los Distritos de Bilbao</a></p>	
<b>4. El Mapa de las Huellas de las Mujeres y del Feminismo / Spain</b>	<b>Women's Footprint</b>
<p>- A feminist historical perspective of restoring or making visible those places that are associated with women's struggles.</p> <p>Useful links / Sources:</p> <p>- <a href="#">Zaida Fernández</a></p> <p>- <a href="#">Consejo de la Igualdad de Basauri, Marinea – Casa de la Mujeres de Basauri</a></p>	



<i>Articulating personal attachments to place</i>	
<b>5. Islands in the Salish Sea – A Community Atlas / Canada and USA</b>	<b>Artist-run and political project</b>
<p>- An archipelago of islands, approached by both developers and resource extractors.</p> <p>- Maps can be cultural, but also environmental and historical, including both public knowledge and personal history.</p> <p>- A chance for communities to communicate to public agencies what is special about those places, with changes expected to happen, or in the face of those changes to defend their place.</p> <p>Useful links / Sources:</p> <p>- Harrington, S. &amp; Stevenson, J. (Eds.) (2005). <i>Islands in the Salish Sea: A Community Atlas</i>. TouchWood Editions.</p>	
<i>Many formats of processes</i>	
<b>6. Favela é Isso Ai / Belo Horizonte – Brazil</b>	<b>Series of cultural mapping events</b>
<p>- Series of events for community engagement, drawing maps, articulating and listing cultural resources and assets, communicating with each other, with other favelas as well as to the centre city about the cultural richness in these communities.</p> <p>- The initiative turned into a series of publications as well as a website, and an electronic map.</p> <p>- Very open process, which evolves into outputs that could have never been imagined at the beginning, including a broadcasting service.</p> <p>Useful links / Sources:</p> <p>- Libânio, C. (2019). Cultural practices and social change: Changing perspectives of the slums in Belo Horizonte through cultural mapping. In N. Duxbury, W. F. Garrett-Petts, &amp; A. Longley (Eds.), <i>Artistic Approaches to Cultural Mapping: Activating Imaginaries and Means of Knowing</i> (pp. 162-187). Routledge.</p> <p>- <a href="#">Organização Não Governamental Favela é Isso Ai</a></p>	
<b>7. Mapping creative Darwin – Australia</b>	<b>Qualitative GIS project</b>
<p>- Different artists and creators being interviewed with a standard map to identify where they live, where they work and the places that inspire them.</p> <p>- All the individual maps were scanned together, showing the places that were particularly important to preserve and take care of, and that were inspirational for the cultural community and cultural sector.</p> <p>Useful links / Sources:</p> <p>Gibson, C., Brennan-Horley, C., &amp; Warren, A. (2010). Geographic Information Technologies for Cultural Research: Cultural Mapping and the Prospects of Colliding Epistemologies. <i>Cultural Trends</i> 19(4), 325-348. <a href="https://doi.org/10.1080/09548963.2010.515006">10.1080/09548963.2010.515006</a>.</p>	
<i>More than just a map</i>	
<b>8. Toward2030 / Turin – Italy</b>	<b>Urban art initiative / murals</b>
<p>- In order to disseminate and promote the Sustainable Development Goals (SDGs), an urban art initiative by Lavazza and the City of Turin.</p> <p>- From the town centre to the outskirts, each goal has been illustrated by prominent street artists.</p> <p>Useful links / Sources:</p> <p>- <a href="#">Lavazza Group – Toward 2030</a></p>	

<b>9. Mosaic Creek Park / Vancouver – Canada</b>	<b>Community art project / Mosaic</b>
<p>- This park was named for the creative community art project that gives this space its most distinguishing feature.</p> <p>- The idea for this project came from the initial public design process for the park itself by the Britannia Neighbours group.</p> <p>Useful links / Sources:</p> <p>- <a href="#">City of Vancouver</a></p> <p>- <a href="#">Mosaic Britannia Neighbours</a> by <a href="#">Kabu</a></p>	
<b>10. Community Walls / Community Voices / Vancouver – Canada</b>	<b>Community art project / Mosaic</b>
<p>- Over 300 volunteers representing a multicultural and multigenerational group worked with the artists for six months to design and create the mosaics in this project coordinated by the Native Education Centre.</p> <p>- The mosaics reflect the broad, multicultural community of Cedar Cottage and Trout Lake and highlight the Aboriginal community of East Vancouver. The theme of the work is Origins.</p> <p>Useful links / Sources:</p> <p>- <a href="#">City of Vancouver</a></p> <p>- Vancouver mosaic public dreams <a href="#">Flickr - Wendy Tanner</a></p>	
<b>11. Dig Your Neighbourhood / Kelowna – Canada</b>	<b>More than just a map / Welcome bag</b>
<p>- Creative writing and visual arts students created the package that includes: board game (local landmarks and trivia questions); book of poetry (celebrating trees); activity book for children (local flora and fauna); CD (music and soundscapes); calendar and postcards (student photography).</p> <p>- Residents and business owners were constantly supportive and engaged with the work.</p> <p>Useful links / Sources:</p> <p>- <a href="#">Eco Art Incubator, Dig your neighbourhood</a></p>	
<b><i>Enabling community voices</i></b>	
<b>12. Citizens Atlas of London / United Kingdom</b>	<b>Citizens Atlas</b>
<p>- In places in the city that have been identified for future development.</p> <p>- A space for conversations about the aspirations of the neighbourhood, through an ongoing creative project.</p> <p>- It emerged from grassroots organisation around the Livingmaps Network, gathering researchers, community activists, artists and others with a common interest in the use of counter mapping for social change, public engagement, critical debate and creative forms of community campaigning.</p> <p>Useful links / Sources:</p> <p>- <a href="#">Livingmaps Network</a></p> <p>- <a href="#">The Citizen's Atlas of London - YouTube</a></p>	

Source: Nancy Duxbury and Nathalie Nunes (CES-UC), URBiNAT.