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Sustainable Urban Governance and Participatory Planning Framework

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Sustainable Urban Governance through Augmented Reality (SUGAR)

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Executive Summary

The Sustainable Urban Governance through Augmented Reality (SUGAR) project aims to develop innovative best-practice protocols and guidelines on Sustainable Urban Governance and specifically Public Participation through Augmented Reality. Urban Design and Planning worldwide have long been criticised for their lack of meaningful public consultation and participation in the process of the making of our cities. Currently, the existing practices of consultation and participation are within the confines or council meetings, complex form filling and survey reports that most often than not carry little weight towards the decisions made by the planning authorities. For the last decades, the concept of Participatory Planning as an approach of designing has been heavily incorporated in many disciplinary fields. This project investigates the role of participation as the process that users, and other stakeholders, are actively involved in the decision-making process through the approach of achieving Sustainable Urban Governance and utilising innovative immersive technologies (specifically AR). We argue that the application of participatory design in the design process is essential to provide economically and socially sustainable outcomes. SUGAR aims to empower both citizens that seek ways to participate in the decision-making process for the design of their cities and neighbourhoods and stakeholders that would like to involve the public actively in the process of shaping their environment creating a lasting and meaningful impact.

This report is a deliverable of the project Sustainable Urban Governance through Augmented Reality (SUGAR), funded by the Cyprus Research Promotion Foundation RESTART 2016-2020 research and innovation programme. It presents the current research evidence on participatory planning, a summary of the Cypriot planning system with a particular focus on its provisions for public consultations, and participatory and design activities carried out as part of the project. All this informed the development of an evidence-based framework for participatory planning to support sustainable urban governance in Cyprus. The key factors identified by the review of the evidence as contributing to successful participatory planning are: creation, relating to level of participation, level of commitment and reasons for participation; process, relating to coordination of multiple views, inclusivity, long-term engagement and sustainability; and community, relating to bias and limitations. The summary of the Cypriot planning system and the participatory activities highlight specific issues related to current participatory practice in Cyprus. Finally, the Framework, presented in section 6, proposes actions to improve engagement in planning matters through trust building, a strategy for engagement and methods for participatory activities. The conclusions discuss the potential challenges that may be faced in the implementation of the framework and how these may be addressed.

Introduction

This report sets out the research carried out to develop a Sustainable Urban Governance and Participatory Planning Framework for Cyprus as part of the project Sustainable Urban Governance through Augmented Reality (SUGAR), funded by the Cyprus Research Promotion Foundation RESTART 2016-2020 research and innovation programme. The project aims to develop innovative best-practice protocols and guidelines on sustainable urban governance and, specifically, public participation through augmented reality. The research presented within this framework focuses on participatory planning and design approaches to decision-making for the development of planning policies, master plans and individual projects' design.

The framework was developed through a series of four research tasks, which covered desk-based work reviewing the state of the art on participatory theory and practice, a needs assessment for participatory practices in the Cypriot context, including consultation activities with local stakeholders, and design activities based on findings from the literature review to develop an AR prototype participatory application for testing on a selected case study in Cyprus. The tasks carried out were as following:

Task 1. Desk research and overview of existing material. The desk research comprised: a) a literature review of existing materials and approaches for participatory planning (PP) and design (PD), including peer-reviewed research papers and conference papers, as well as reports, focusing on the theory of participation, methods and key issues around participatory design, such as user groups, inclusivity, bias, large-scale projects, etc; b) a systematic review of literature of participatory planning and design case studies, including peer-reviewed research papers and conference papers presenting findings and results from actual projects; the framework aims to address effective participation in real-life design contexts, as such the systematic review focused on case studies.

Task 2. Needs assessment. Inevitably, the participatory planning process involves actors with conflict interests. In Cyprus in particular, where the planning system is relatively recent and participatory processes underdeveloped, it was necessary to assess how participatory practices are deployed within the current state of the planning system. The needs assessment reviewed how planning in Cyprus functions, what the key issues and challenges are, and what are the current provisions for public consultation and participation. Additionally to a review of existing planning documentation, conversations with planning professionals were held to assess gaps, failures and achievements of public participation experiences, and to identify how innovative technologies and activities can be embedded and implemented within planning to promote participation, multiperspectivity, empathy, critical thinking, cooperation, dialogue, active listening, problem-solving inquiry and respect for differences.

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Task 3. Sustainable Urban Governance and Participatory Planning round-table discussions. The framework is informed by two round table discussions, the first involving activists in planning issues, who regularly attend and respond to planning consultations; the second involving planning professional, who are involved in policy making and in organising and responding to public consultations. During each round table, participants were asked to share their views about participation in general, their experience of participatory activities in Cyprus and to suggest solutions for improving participatory practices, as well as ideas for how innovative technologies and activities could support a more sustainable urban governance approach.

Task 4. Design Sprint. A four-phase development workshop followed the structure of the Design Sprint, a design thinking methodology coined by Google Ventures and split into the following phases: understand, diverge, converge, prototype. The Design Sprint's objective was to develop a concept and design for a prototype application, based on the findings from the literature review, to be tested on a selected case study in Cyprus in order to assess the viability of embedding innovative technology in participatory practices to improve urban governance.

Sustainable urban governance aims at building and managing cities, which are inclusive, equitable, accountable to their citizens and support communities by strengthening the relations between citizens, civil society, elected authorities, and the public and private sectors. Cities face increasing uncertainties and transitions towards sustainable urban governance are needed to enable them to adapt to change, build capacity and resilience, and identify resources for innovation to address uncertainty (Ernstson et al, 2010). The key elements of sustainable urban governance are citizen engagement, transparency, continuity and capacity. In order for citizens to be engaged, they must have the ability to participate in decision-making processes by having access to information and the ability to influence decisions and enforce their outcomes. While engagement itself does not necessarily lead to sustainable urban practices, an environment, which provides formal and informal structures for engagement, is a pre-requisite for sustainable governance. Transparency is the means through which information is delivered and access to decision-making processes ensured in an equitable way. Sustainable urban governance is a continuous process, which should not be limited by political, governmental terms or individual projects' timelines: keeping all stakeholders involved in decision-making across electoral changes through appropriate procedural rights is a sustainable resource of local knowledge and capacity. Finally, while engagement and continuity are required to enable sustainable urban governance, institutional capacity of local governments to implement, develop and maintain projects and initiatives is vital to ensure policy embeddedness and improving urban quality of life through environmental sensibility and responsiveness to local needs. Sustainable urban governance is deployed through effective public participation beyond simply voting at elections: competent policy making requires participatory processes that support a meaningful dialogue between citizens, stakeholders and local authorities.

Participation is a general concept and the practice of it take place across a number of different fields, including health care, technology development, as well as planning and design. Demand

for public participation has grown over the last few decades, in the field of planning in particular, it has been embedded as a legislative requirement in many countries' policies. However, as the practice of it has become more common, there is a greater need to assess whether participation is effective and reflects its aims and objectives. As authorities are pressured to embed participation in their policies and practices, it is also needed to establish how and the extent to which it can be truly implemented, especially in countries, like Cyprus, where it is still somewhat of a novelty, and giving consideration to the practical implications and restrains of delivering efficient, high-quality, inclusive services and products in a timely manner.

In order to address the issue of balancing theoretical proposals with the constraints and practicalities of design, a literature review of participatory planning (PP) and design (PD) and a systematic review of case studies of PP and PD projects was undertaken with the aim of responding to pressing questions regarding criteria to establish how effective participation is implemented and evaluated in real-life contexts. The aim of the research is to inform the design of a participatory planning framework for Cyprus with the objective of producing an evidence-based framework, which is grounded on the evidence provided by the state-of-the-art, as well as consultation activities carried out as part of the project. While some of the research questions set for the literature review may seem mundane in theoretical terms, they remain critical in establishing what constitutes meaningful and effective participation, the key to sustainable urban governance. Specifically, the research carried out and this framework address and discuss what the state-of-the-art offers to respond to the following questions:

- How much participation is enough?
- How much commitment is reasonable?
- How can the participants be engaged in the process in the long run of participatory design?
- Should the reasons of participation be ethical or financial?
- How can multiple views and incentives be coordinated in participatory dialogues?
- What constitutes a sustainable outcome of participation?

The report presents the evidence from the literature review in section 3 highlighting key theoretical and practical issues around participatory planning and what constitutes effective participatory activities. The evidence from the systematic review of case studies is presented within section 3 including synthetic themes which summarize the common features of a diversity of issues. The description of the Cypriot planning system, its provisions for planning consultations and participatory activities, are described in section 4. The participatory design activities, which were undertaken as part of the project to inform the framework, and their outcomes are described in section 5. Finally, the framework with guidelines to embed and adapt participatory activities within the Cypriot context is presented in section 6. Some conclusions are drawn in section 7 highlighting the challenges and opportunities for participation in Cyprus and what next

steps are desirable to ensure effective implementation of the framework and to strengthen sustainable urban governance. All articles reviewed and referenced in the framework, as well as articles used in the systematic review are listed in section 8.

Methodology

The literature search was performed through the following databases: Web of Science, ProQuest, Social Science Research Network, RIBA Library Catalog, JSTOR, Scopus and EBSCO Art & Architecture Complete. Both peer-reviewed journal papers, conference papers and non-peer-reviewed articles were searched for through the search terms 'participatory design' and 'participatory planning'. Results were filtered by selecting the relevant subjects/topics pertaining to the field of the built environment and design more generally. These varied substantially between databases and ranged from architecture, design, urban studies, cities and development studies to social sciences, public administration, planning and sustainability. Only English-language articles were included in the search, which yielded well over 300 articles. A small number of articles were not accessible and once duplicates were excluded, a manual selection was done to identify the most relevant articles based on title of the article and topic of the journal or conference proceedings in which the article was published. Attention was given to selecting articles which related to the urban environment, included case studies, had a strong focus on design practices, provided reviews of methods and potential frameworks for participation. During the process of the review, further articles of relevance were retrieved through references given in the articles yielded by the search. A final set of 69 articles were reviewed, out of these 32 were chosen for systematic review. The 32 articles were those which presented findings from case studies strictly related to the urban environment or planning policy.

The articles selected for systematic review were analysed using QSR's NVivo 12 Pro software for qualitative data analysis. The articles were read by a single researcher and relevant text coded according to emerging themes; the resulting codes were: *level of participation, level of commitment, reasons for participation, coordination of multiple views, inclusivity, long-term engagement, sustainability, bias and limitations*. As the subjects of participatory planning broadly fall within the field of (applied) social sciences and the great majority of articles' methodologies fell within the qualitative type, it was considered not appropriate to perform a statistical meta-analysis. As suggested by Davis et al. (2014) for certain research questions, meta-analysis is not necessarily the best tool, if suitable and acceptable evidence comes through research strategies which do not include experimental research or randomized samples. In these cases, traditional narrative review, best-evidence, thematic or interpretive syntheses enable a broad review and provide the basis to answer specific questions. It was therefore decided that the most appropriate method for the analysis of this type of primary research was 'thematic synthesis', a type of thematic analysis of primary research adapted for use in systematic reviews (Thomas and Harden, 2008). Accordingly, all selected studies were entered verbatim into NVivo software. The first stage of the synthesis was to identify the findings of primary studies by extracting key concepts from the full text – it was sometimes difficult to identify these as qualitative research is characterised by varied reporting styles where findings can be located in different parts of the

text and labelled in different ways. In some cases, additionally to 'findings', 'results', 'discussion' and 'conclusions', findings were also placed within the description of the case studies or the activities undertaken. Text describing the case studies was also coded for reference purposes, text from literature reviews and syntheses of specific topics reporting other primary research was also coded to provide additional evidence material. Furthermore, text referring to the methodologies used for participatory activities was also coded in order to collate information about the amount and types of available methods and tools.

The second stage of synthesis involved comparing nodes of codes in order to assess how much overlap there was between different themes, running word frequency queries of codes in order to identify issues of particular relevance within themes and display these as word clouds to visualize them for reporting (queries were limited to 50 words with a minimum length of 4 characters). The frequencies were compared between codes to assess if similar issues were relevant to more than one theme; when the most recurring word featured in more than one theme, these were grouped together to generate word clouds. By combining the results of these analyses it was possible to develop descriptive themes comprising the evidence related to concepts directly addressed by the primary studies: the benefit of these is that they focus the evidence on one particular concept which can provide a framework when planning and implementing participatory initiatives.

The final stage was that of making inferences to answer the review questions based on the evidence collated through the search, coded through text analysis and reported through descriptive themes. As with all syntheses of qualitative analysis, this is the most difficult and controversial stage, since it is dependent on judgment and logical reasoning of the researcher. Within the scope of this study it was not possible to use more than one reviewer to make inferences independently in order to cross-check and validate this – it is a limitation of this study and the project addressed this through internal peer-reviewing within SUGAR's activities.

The evidence on participation

One of the most recurrent and consistent statement in the literature on participatory planning is that while globally there has been a paradigm shift toward participatory planning, there is still a scarcity of detailed reports and critical assessment of what constitutes effective participation (Andersen *et al.*, 2015) and no consensus as to how to achieve inclusivity and participants' sense of ownership over outcomes (Leyden *et al.*, 2017). The concept of co-creation within the field of participatory design has been used for decades, but its positive impacts are not necessarily self-evident (Lundström, Savolainen and Kostiainen, 2016) and it is not always clear what and how much community groups, especially in contexts of low resources and high inequalities, can gain from participatory processes (Refstie and Brun, 2016; van Holstein, 2018).

The definition of 'participatory development' by the World Bank's Learning Group on Participatory Development – "a process through which stakeholders influence and share control over development initiatives and the decisions and resources which affect them" – is sometimes used as a benchmark for ensuring and assessing participation in interventions (Ngah and Zulkifli, 2014).

Many other definitions exist which focus on somewhat different aspects of the process: the inclusion of all levels of society in decision-making (Bonilla, 2009), the continuum of activity in communicating and engaging with the public (Kotus, 2013), the openness and multiplicity of the process (Manzini and Rizzo, 2011), and its transformative and innovation potential (Manzini and Rizzo, 2011; Refstie and Brun, 2016). Existing definitions indicate that participation per se, the process and outcomes are the core features of successful participation; although inclusivity is given consideration, the extent and level of participation are not given much attention. The exception to this can be found in a specific theoretical framework to participation based on Actor-Network Theory. This does concern itself with 'practical' aspects, but in order to directly argue that how many, who, how and how often participants are involved is irrelevant because participation is a matter of concern rather than a matter of fact – as such, participants act directly and indirectly as components of networks and participation occurs aside of designated activities and is an existent aspect of the whole process: no form of participation is 'superior' to others, therefore there is no gold standard for it (Andersen *et al.*, 2015).

Acknowledging these premises, this review aims to give an overview of existing methods and of the evidence relating to key issues around participation. There are three main types of participatory planning: formal (or bureaucratic) participation, action research, and community-led or community-driven participation. Formal participation is led and implemented by state agencies or local authorities, normally as a legal requirement of planning legislation; it tends to involve classic methods of consultation such as surveys, meetings, hearings and sometimes workshops. This type of participation is the one that is most subject to criticisms of 'tokenism' – the undertaking of participatory activities purely to tick off legislative requirements. Such criticisms tend to be frequent when the public's suggestions are not taken up (Zhou, 2018), are dismissed as uninformed (Al-Nammari, 2013) or market powers ultimately direct decision-making (Turan, 2018). Action research is usually led by academic institutions implementing interventions with the aim of simultaneously pursuing impact, change or innovation through participatory practice and producing research findings to inform the project and to develop understanding of the process (Sanoff, 2012). Community-driven participation is, as the term implies, led by the community itself, embodied in more or less formal organizations taking up an issue or devising an intervention through campaigning initiatives or practical projects which may, at some point, require contact and involvement of the authorities. While these are often deemed as being more inclusive and their informal methods can be highly successful, concerns are also raised as to the true nature of inclusivity if the groups involved are not representative of the wider community, have specific interest or are not accountable for their actions (Hou and Rios, 2003). While all these types of participatory actions can apply to different scales, from the single, small regeneration or design project to metropolitan strategic plans, local and smaller-scale projects are often the domain of action research and community-led activities. Participation in large-scale and strategic consultative processes are normally still the domain of bureaucratic participation - a notable exception being the activities of REDWatch (Rogers, 2016). In reality most systems still work through a combination of the 'expert-rational' model, which gives planners discretionary authority to make decisions about urban development within a framework of democratically-elected authorities, and of the 'procedural-participatory' model, according to which the role of the planner

is to facilitate direct democratic processes by enabling citizens to give direct input into development plans (Carr, 2013).

The systematic review of literature provided the key emerging themes (codes) which relate to participatory planning: *level of participation, level of commitment, reasons for participation, coordination of multiple views, inclusivity, bias, long-term engagement, sustainability, implementation and limitations*. Out of the issues arising from the literature review, the first four are strongly related to our research questions. This is the reasons why the systematic review focused on case studies: because the aim is to find out what works in practice and this involves answering some perhaps mundane, but still critical, questions about what constitutes successful participatory planning: how much participation and commitment from the participant is needed, why they participate and how can multiple views be coordinated. Inclusivity and bias are strongly related and are about if and how broad participation can be achieved and how to ensure that participants as well as non-participants can gain equal benefits from participatory initiatives. Long-term engagement and sustainability are also related and are about the continuum of activity: how to ensure that participants remain on board throughout the duration of a project and how can outcomes be sustained in the long term, beyond the life of the project itself. Implementation and limitations come together and the evidence indicates that these are key to success. Political will, availability of resources and ability to implement the views and proposals of participants are the fundamental issues which 'make or break' participation. Sometimes authorities are unwilling, cannot or do not want to implement participants' ideas, based on practical, ethical or technical reasons. However, when implementation fails, it causes a lot of frustration and may defeat the aim of the initiative. One may wonder whether, if the outcomes of participation are not implemented due to whatever limitation, it is worth practicing it at all.

The theory of participation

"Participation is a general concept covering different forms of decision-making by a number of involved groups" (Wulz, 1986). The concept of participation is complex and the theory of it touches on a number of fields, which range from politics and democracy to social justice and design. Participation in simple terms – the involvement of users in decision-making – may be felt or deemed as threatening, cumbersome, ineffective and even undesirable by those who are normally in charge of the decision-making process. On the one hand, it is argued that, within design and planning, this does not impede the creative process, but rather requires the addition of new capacities to a conventional decision-making approach and encourages designers to broaden their views to create solutions which are representative of their users (Sanoff, 1988). On the other hand, it is often proposed that participation is and should be intrinsically political, that it is really a synonym for power and that it should be about the redistribution of such power to those who are normally excluded from political and economic processes; without such redistribution participation is meaningless and simply reiterates and validates the status quo (Arnstein, 1969).

In the 1960s and 1970s, the primary motivation of participatory design was linked to "the democratization of work life" (Schuler and Namioka, 1993, p. 251). It emerges as a reaction to the "mismanagement of the physical environment" (Sanoff, 2006, p. 140), growing dissillusionment

with the fruits of electoral politics and planners' efforts (Carr, 2013) and as an attempt to improve the quality of design and planning. Participation can also be seen as the right to take part in the planning of one's own future, as such it was categorised by Burns (1979) into four 'experiences' which can drive participants to converge to an agreement as to what the future should be: 1) *awareness*, or the discovery and re-evaluation of a situation which can give participants a common ground and language to discuss proposed changes; 2) *perception*, the understanding and sharing of the situation's impacts and ramifications as a resource for planning; 3) *decision-making*, the development of a plan for the situation based on participants' priorities for professionals to use a resource to envision alternative solutions and synthesize plans; and 4) *implementation*, as the continuation of responsibilities to deliver participants' desires within the know-how and final design of a plan or project.

Since public demand for participation in planning has grown, key factors in achieving meaningful and effective participation have been highlighted as *transparency*, in the sense that decisions are understood by participants, and *ownership over solutions*, in the sense that participants feel that they have influenced such decisions (Sanoff, 1988). As of the 1980s, a review of the theories and practices of participation was synthesized into the following statements:

1. There is no 'best solution' to design problems (Peattie, 1968).
2. 'Expert decisions' are not necessarily better than 'lay' decisions (Rittel, 1972).
3. The design of a planning task can be made 'transparent' (Rittel, 1972)
4. All individuals and interest groups should come together in an open forum (Sanoff, 1988)
5. The process is continuous and ever changing (Sanoff, 1988)

Today the democratic and pragmatic efforts of participatory design seem to be shifting perspectives (Sanoff, 2006). Sanders et al. (2010) argue that before someone attempts to customize participatory tools and techniques, they should firstly be able to understand the purpose and context of participation. Even though participatory literature offers a plethora of approaches, the core motivations of participatory researchers and practitioners have been identified and clustered in the following three areas: a) ethics (democracy), b) curiosity (theory), and c) economy (pragmatic) (Bergvall-Kareborn and Stahlbrost, 2009). Some authors argue that the spread of participatory practices and methods has come along with a loss of the significance of the values and meaning of participation, which hinders its potential to initiate sustainable social change (Smith and Iversen, 2018).

Participatory design is based on five fundamental points. First, *politics* in terms of people who are affected by a decision should have an opportunity to influence it; second, *people* in terms of being experts of their lives and having an influential role in design; third, *context* in terms of situations; fourth, *methods* as being the means of users to gain influence; and fifth, *product* in terms of the final goal of participatory design. The empowering quality of life that participatory design is meant to offer is hidden within that final goal (Halskov and Brodersen Hansen, 2014). Throughout the literature, participatory planning can be organized through three main themes consisting of varying approaches: 1) motives of deciding to engage in participatory design, 2)

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degrees of participation that may occur, and 3) types of participants who get involved in terms of networks and scale.

The degree of participation refers to a range of influence that participants have in the decision-making resulting to the final product. The level of participation that is required is a matter of 'subjective intention' (Andersen *et al.*, 2015). In its two extremes it can be viewed as no participation, where designers make assumptions of users' needs and requirements, and full participation, based on user-defined criteria of quality (Bergvall-Kareborn and Stahlbrost, 2009). The degree of participation can also be described as indirect or direct (Ives and Olson, 1984). In reality, the evaluation of many participatory research practices is somewhere in between the two extremes, focusing more on design with the users (Bergvall-Kareborn and Stahlbrost, 2009). Some scholars suggest that rather than focusing on who, how many and the extent to which users participate in design, concentrating on who initiates, directs and benefits from participatory activities is more relevant to understanding what participation is for, in what forms and contexts is implemented, and who shares control over design (Vines et al., 2015). However, the given theoretical process might provide an insufficient degree of realism that designers need to cope with, due to time and budget constraints. If it is to remain grounded to the practice of design, literature should be able to cope with barriers, and seek understanding beyond its conceptual approaches.

The criteria of what qualifies a participant is considerably broad (Schuler and Namioka, 1993). Usually there are many types of participants taking the form of individuals or groups, interacting either in face-to-face sessions or in online environments (Sanders, Brandt and Binder, 2010). The literature indicates that the types of participant involved are decided based on the scale of the project, the scope and the context in relation to place and time. However, it can be argued that the way participants are perceived by researchers is segmented (designers and participants as separate groups) rather than a collective (designers and participants as part of the same group). This raises questions regarding how different participants interact with each other and how their views impact on decision-making processes. Recent literature suggests that participants are not stand-alone subjects, but part of social networks (Andersen *et al.*, 2015). Viewing participants as networks (designers, users, stakeholders together), who are always partially integrated in the process and have to ability to cluster and interact, might provide the potential to displace the research focus and shift the participation paradigm. This perspective is supported by Smith and Iversen (2018), who suggest that participation should shift towards the development of networks engaged in social transformations.

Participatory Planning methods

Along with the variety of approaches to participatory planning comes a wider range of methods and even wider set of specific tools. The main methods retrieved form the literature review are presented here with a brief description and summary of how they performed in the case studies reviewed; it is not an exhaustive list of all individual tools discussed in the literature – many studies include and assess a variety of individual classic consultation tools – rather this list highlights methodological strategies which can embed a number of tools.

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1. Analytical Hierarchy Process (Abdalla, Elariane and El Defrawi, 2016). This method was tested in two urban areas in Greater Cairo and involves a ten-step approach to defining residents' preference and priorities and then evaluating urban areas and proposing methods of intervention. The tool aims at supporting professionals understanding residents' priorities for their built environment and their mobility patterns on the one hand, and evaluating existing urban settlement and designing new ones on the other hand. It comprises a computer-based system including both subjective assessments and objective facts to determine the relationship between residents' priorities and actual conditions of the environment. The authors suggest that it can be a useful pragmatic tool for designer and planners, though it may require significant resources to be implemented.

2. Change by Design (Frediani, 2016). This methodology was used as part of ASF-UK project of informal settlement upgrading in cities in Brazil, Kenya and Ecuador. It involved two-week workshops in each city using audio-video techniques to capture residents' experiences and aspirations. The author states that that the workshops supported communities to negotiate alternative solutions and influencing government authorities in engaging with participation and supporting upgrading schemes. They conclude that this method is most successful at mediating diverse interests (rather than conflict resolution) and at fostering learning and action towards urban social justice.

3. Charrette (Lundström, Savolainen and Kostiainen, 2016). This methodology is a collaborative planning and negotiation process; in the case study reviewed, it was used for the renovation and conversion of a university campus lunch restaurant redesigned to become a learning space. Charrette workshops are highly structured and facilitated involving drawing, creative and hands-on tasks. The authors conclude that this method is successful in embedding user perspective in design and provided a positive impact on the resulting premises, but not every part of the project was successful as some of the objectives for the new design were not achieved.

4. Informal Activities (Hou and Kinoshita, 2007). Rather than a methodological strategy, this study looked at a set of informal participatory activities that took place in Kogane, Japan, to assess their success in comparison to formal processes which took place in Seattle, USA. The authors acknowledge that many of the informal techniques developed by communities, such as walking tours, design games and social events, have already been incorporated into formal processes. Nevertheless, they are worth of attention because they seem to help overcome limitations of formal participation and negotiate difference. Animated interactions, experiential learning and spontaneity were the key factors in developing trust between stakeholders.

5. Iterative and Recursive Prototyping (Erixon Aalto, Marcus and Torsvall, 2018). This methodology was applied in the Albano Resilient Campus Project in Stockholm in order to produce knowledge and operationalize concepts of resilience and ecosystem services. The method involves a recurrent series of workshops with design sessions in between; the design outputs from each session are explored through generative matrix models to provide information of the potential performance on the proposed design and thus input into the next

iteration of prototyping. Comprehensive narratives were used throughout the design process to offer alternative views of socio-ecological processes. The authors conclude that the process is effective in introducing communication and feedback, generating questions and re-examining problems. While it did not necessarily provide solutions, it enabled actors to identify points of conflict and convergence, but can sometimes function in an excluding manner for actors entering the process in later stages.

6. Local Economic Development (Majale, 2008; Bonilla, 2009). LED is a process in which local people from different sectors work together to stimulate commercial activity to achieve a sustainable economy. It is characterized by the development of long-term public-private partnerships, the fostering of social networks, the mobilization of endogenous resources and a focus on a defined territory. In the case study reviewed of slum upgrading in Kitale, Kenya (Majale, 2008), it was shown that labour-based methods presented many advantages to participation in slum upgrading which can support sustainability through job creation and income generation. The author, however, points out that for such methods to have long-term impact, they must be accompanied by other activities such as training and capacity building. In a second case study of the Cordoba-Orizaba region, Mexico (Bonilla, 2009), the method was found to be effective in achieving consensus among stakeholders and agree strategic objectives for a common vision for the region. The author, however, points out that in this context, the methodology is subject to uncertainties at implementation stage due to mainstream political and economic culture, which does not legitimate participatory planning.

7. Participatory Rural Appraisal (Halkatti, Purushothaman and Brook, 2003; Sharmin *et al.*, 2013). PRA is an approach for shared learning between local communities and outsiders used to assess resources and skills, identify issues and propose solutions. This method was specifically developed for rural areas, but it has been tested in urban contexts as some of its tools are applicable to all environments. A benefit of PRA is that it does not require technical knowledge to collect data, as such it can be easily implemented in a variety of contexts. It the uses statistical tools to prioritize problems and identify their causes and effects. In the case study of Hubli-Dharwad (Halkatti, Purushothaman and Brook, 2003), PRA was successful in helping communities define and present issues and develop action plans; it was also used as an evaluation tool to compare the situation before and after intervention. In the case of Monipuripara (Sharmin *et al.*, 2013), it was found effective in fostering understanding between local people and outsiders, as well as easy to implement. However, when proposed solutions could not be implemented by the community itself, success rests with resources and commitment of local authorities and is thus not guaranteed.

8. Personal Construct Theory (Dayaratne, 2016). PCT was used as a framework for developing techniques to understand how people see and value their places. It was applied in a housing project in Haputale, Sri Lanka. Within this framework sorting and location tasks were carried out with residents and they were deemed successful in directly informing design, rather than just producing a set of issues or priorities for the architect to take into account, and achieving a closer correspondence between the way people conceptualized their space and the space

that was eventually constructed. No shortcomings or difficulties with the methods used are reported in the case study.

9. Role Playing (Valladares, 2017; Turan, 2018). Role playing is a specific tool which was used as part of participatory activities in the neighbourhood of Gowanus, NY (Turan, 2018) and in self-help house building and renovation projects in Old Havana, Cuba (Valladares, 2017). It is a tool that is used in a variety of fields and embedded in participatory activities along with other methods. However, it is worth mentioning on its own as the evidence from the Cuban case study highlights this as a particularly powerful tool to facilitate engagement, despite the fact that the evidence from the Community Architect Program in Havana displays mixed results with residents from more favourable socio-economic circumstances benefiting more than low-income groups.

10. Scenarios (Celino and Concilio, 2010; Chakraborty, 2011). Structuring scenarios were used to manage participatory activities to develop a long-term plan for the Delta of the Po River in Italy (Celino and Concilio, 2010); these scenarios are meant to evolve together with the decision system and aim at envisioning multiple possible futures rather than converging into a single solution. As these can continually evolve, they provide a good basis for long-term engagement and may enable the selection of a preferred scenario over another. However, the authors point out that they may not work in all planning situations as the scenarios might not be under the control of relevant authorities. When scenarios were in used in the Washington Metropolitan region (Chakraborty, 2011) they were found to be valuable in capturing issues for the future and creating awareness and knowledge – they have the potential for both quantitative analysis and feasibility testing, but also for engagement and generation of alternative objectives through qualitative methods. The author points out that the analytical process had limitations because of oversimplifying assumption and limited numbers of indicators, but the outcomes were still successful and provided a foundation to achieve tangible benefits.

11. Urban Living Labs (Puerari *et al.*, 2018). There are several definitions of ULLs, but these are generally understood as combinations of several tools to co-create solutions taking place in real, physical environments. A series of ULLs with different characteristics, aims and locations taking place in Rotterdam in the Netherlands were evaluated and were found to contribute significantly to production of local knowledge and were effective instruments in bringing different actors together and developing potential solutions to specific issues. However, as ULLs are usually set up with a specific purpose they do tend to be successful for a particular case at the scale at which they were set up to work, but they might not necessarily be transferrable or able to impact on a larger scale or beyond those stakeholders directly involved.

12. Visual Mapping (De Vita, Trillo and Martinez- Perez, 2016). This 'traditional' methodology was adapted for use in the case of Belfast by developing a taxonomy of urban elements to capture existing and hidden conflict. This adaptation was devised with the potential to support community planning in any rehabilitation project. The authors found that adding the taxonomy

to this method refined it in such a way that made it more effective for use in contested places such as Belfast.

13. Working Group (Al-Nammari, 2013). While WGs are used as a tool in various processes, in the case study reviewed of the Talbiyeh Refugee Camp Improvement Project in Jordan, it was used as the key method: an open forum where visions for improvement were developed and results of activities and interventions discussed. This particular project was fraught with limitations and failed implementations of agreed solutions due to its specific context of power-relations amongst stakeholders. Nevertheless, the author suggests that it can provide a step forward towards democratization of planning practices in contexts where participatory planning is rarely practiced.

The methods above, their advantages and limitations are summarized in table1.

Method	Case Study	Method	Advantages	Limitations
Analytical Hierarchy Process (Abdalla, Elariane and El Defrawi, 2016)	Two urban areas in Great Cairo, from the point of view of middle-class residents.	10-step process to define residents' preferences and computer-based analysis for decision-making.	Pragmatic too in facilitating resident's participation and understanding priorities to set allocation and distribution of resources.	It may require a large sample, and thus extensive time and human resources
Change by Design (Frediani, 2016)	Informal settlement upgrading in cities in Brazil, Kenya and Ecuador.	2-week workshops; audio-video techniques to get residents' experiences and aspirations.	Negotiating alternative solutions; influencing government in engaging with participation and supporting schemes; mediating interests.	Not necessarily achieving conflict resolutions.
Charrette (Lundström, Savolainen and Kostiainen, 2016)	Lunch restaurant conversion, University Campus, Finland.	Highly structured, facilitated workshops. Drawing, creative and hands-on tasks.	Embedding user perspective in design. Positive impact on resulting premises.	Some of design objectives not achieved as participants did not fully understand them.
Informal Activities (Hou and Kinoshita, 2007)	Set of community-led activities in Kogane, Japan.	Developed by communities: walking tours, design games, animated interactions, social events.	Overcome limitations of formal participation; negotiating difference.	Hidden bias.

Iterative and Recursive Prototyping (Erixon Aalto, Marcus and Torsvall, 2018)	Albano Resilient Campus Project, Stockholm, Sweden.	Recurrent series of workshops and design sessions; generative matrix models informing iteration of prototyping; narratives.	Communication and feedback; generating questions; re-examining problems; identifying conflict and convergence.	Not necessarily provide solutions; can be exclusive for those entering process in later stages.
Local Economic Development (Majale, 2008; Bonilla, 2009)	Slum upgrading in Kitale, Kenya. Regional planning in Cordoba-Orizaba region, Mexico.	Long-term private-public partnerships; social networks; mobilization of local resources.	Labour-based methods fostered sustainability; achieving consensus and common vision.	Need for additional activities. Need for political commitment at implementation stage.
Participatory Rural Appraisal (Halkatti, Purushothaman and Brook, 2003; Sharmin *et al.*, 2013)	Peri-urban interface in Hubli-Dharwad, India. Commnity-driven interventions in Monipuripara, Bangladesh.	Shared learning to assess resources, identify issues and propose solutions. Evaluation.	No need for technical knowledge to collect data; statistical tools to prioritise problems; developing action plans.	Need for resources and commitment by local authorities if solutions cannot be implemented by the community.
Personal Construct Theory (Dayaratne, 2016)	Housing project in Haputale, Sri Lanka.	Techniques to understand how people value their places: sorting and location tasks.	Directly informing design; correspondence between design and residents conceptualisation of space.	None reported.
Role Playing (Valladares, 2017; Turan, 2018)	Masterplan for Gowanus, NY, USA. House building and renovation, Havana, Cuba.	Role playing activities with neighbourhood groups or individual residents.	Powerful facilitation and engagement tool.	May have socio-economic bias.
Scenarios (Celino and Concilio, 2010; Chakraborty, 2011)	Long-term plan for the Delta of the Po River, Italy. Washington Metropolitan Region Plan, USA.	Development of possible scenarios as participatory management tool to draw long-term plans.	Can continually evolve; selection of a preferred scenario; capturing future issues; potential for quantitative analysis and feasibility testing.	May not be under control of relevant authorities; oversimplifying assumptions; limited indicators; no single solution.
Urban Living Labs (Puerari et al., 2018)	Series of projects in Rotterdam, Netherlands.	Several tools to co-create solutions in real, physical environments.	Production of local knowledge; different actors; solutions to specific issues.	Not necessarily transferrable; not necessarily able to impact on larger scale.

Visual Mapping (De Vita, Trillo and Martinez- Perez, 2016)	Framework for rehabilitation projects in Belfast, Northern Ireland.	Traditional mapping methodology with added taxonomy of conflict elements.	More refined tool for use in contested places.	None reported.
Working Group (Al-Nammari, 2013)	Talbiyeh Refugee Camp Improvement Project, Jordan.	Open forum to develop visions for improvement and discussion of activities and interventions.	Democratisation of planning practices in specific contexts.	Impact of power-relations amongst stakeholders can lead to no uptake of decisions.

Table 1. Summary of participatory planning and design methods from systematic literature review.

Participatory design methods are usually characterised by the aim of developing mutual learning between users and designers and by the objective of producing an agreed outcome. The methods share similar goals: the formulation of needs, the clarification of shared ambitions, interaction among stakeholders and the provision of practical tools. However, there are still few approaches, which embed tools and strategies for sustaining participation beyond the life of a project. Simonsen and Hertzum (2012) suggest that a sustained PD approach encompasses iterations of design and implementation, and distinguishes between an initial design outcome and unanticipated change to the outcome following evaluation and real use. To address this issue, they propose a framework, which involves identifying desired change, specifying and implementing changes, and evaluating through real use thus enabling further unanticipated desired changes.

Often participatory activities are aimed at and designed for adults with varied educational levels and skills. However, a variety of methods can be applicable to children and others can be designed for use specifically by the younger population to enable them to take part in planning and design activities. For example, card sorting techniques have been used to gain insight into primary school children's preferences for school building design (Mokhtarmanesh and Ghomeishi, 2019), participatory games, including embodied play and competitions, can also be used to engage children in setting shared goals and develop collective outcomes (Kumar and Tissenbaum, 2019). Design and digital fabrication education has even been successfully embedded in Danish primary and secondary schools as part of participatory design research (Smith and Iversen, 2018). Whilst there is scant knowledge on how to include children in the planning processes and very little practice of their inclusion, it has been recognised that their participation can "act as a catalyst for the transformation of planning practices into new, more sustainable and responsive constellations" (Nordström and Wales, 2019).

Large-scale projects pose particular challenges to participation, including accessing and setting appropriate conditions for participatory activities, managing implementation, synthesising multiple

streams of knowledge and conducting realistic, large-scale design prototype outputs (Dalsgaard, 2012). However, they also offer new opportunities for developing methods and technologies to offer stakeholders new and different ways to engage with a project, establish participation as a significant activity and encouraging institutional transformation.

Level of participation, level of commitment and reasons for participation

Level of participation in successful participatory projects ranges widely depending on the size and scope of interventions, its aims and objectives and the type of activities planned. Successful activities might have from as little as 20 participants (DiSalvo *et al.*, 2012) to over 100 organizations (Chakraborty, 2011) and over 1000 attendees to final project events (Manzini and Rizzo, 2011). However, some cases, where the number of participants may seem very high, are considered a failure in terms of level of participation when compared to the sheer effort and resources put into achieving such participation, as was the case for the Austin Tomorrow initiative (Busch, 2016). The key factor in achieving participation is that both the authorities or professionals and users or other stakeholders must be motivated and interested in committing to participation (Simonsen and Hertzum, 2012). This is the first challenge of participation: setting appropriate conditions for collaborating and co-creating solutions, which can be achieved through mutual knowledge of participants' ambitions and of what is required by the process (Simonsen and Hertzum, 2012).

Analysis of themes overlap reveals that level of commitment is directly dependent on level of participation, something which is perhaps intuitive as commitment cannot be gained unless participation is achieved first. Evidence shows that a physical and visible space where activities take place is a very strong factor in achieving participation and engagement (Puerari *et al.*, 2018). This does not diminish the potential that ICT tools may have to foster engagement, but the evidence from the reviewed case studies is mixed as to their impact with some showing very little engagement (Kotus, 2013), others a reasonable level of activity (Turan, 2018) and still others being highly successful (Rogers, 2016).

Most studies reveal that the primary and most powerful reason for participation is to develop a solution to a problem that affects the participants (Manzini and Rizzo, 2011), achieving their goals and aspirations of a better environment (Turan, 2018; van Holstein, 2018) and accessing needed resources (Al-Nammari, 2013). However, certain specific stakeholders have intrinsic economic reasons for participating (Leyden *et al.*, 2017) or may simply have a legal mandate to do so (Halla, 2005). It also has to be noted that while financial incentives were clearly not the main reasons for participation, the lack of such direct incentives may hinder participation, commitment and ownership over the outcome as well as causing conflict and resentment among participants in contexts of high disadvantage and socio-economic inequalities (van Holstein, 2018). Existing discontent among the population or certain groups, or the focus set on a specific topic, which may not be a priority for certain potential participants, can also hinder turnout and attendance at meetings and activities (Busch, 2016).

The synthetic theme for these codes (figure 1) reveals how the goal of creating something is the key factor in participation; stakeholders, actors, people, groups and communities given the opportunity to be involved in projects, activities, place-making, and social innovation through an appropriate process motivates them to participate and commit to design solutions to critical issues.
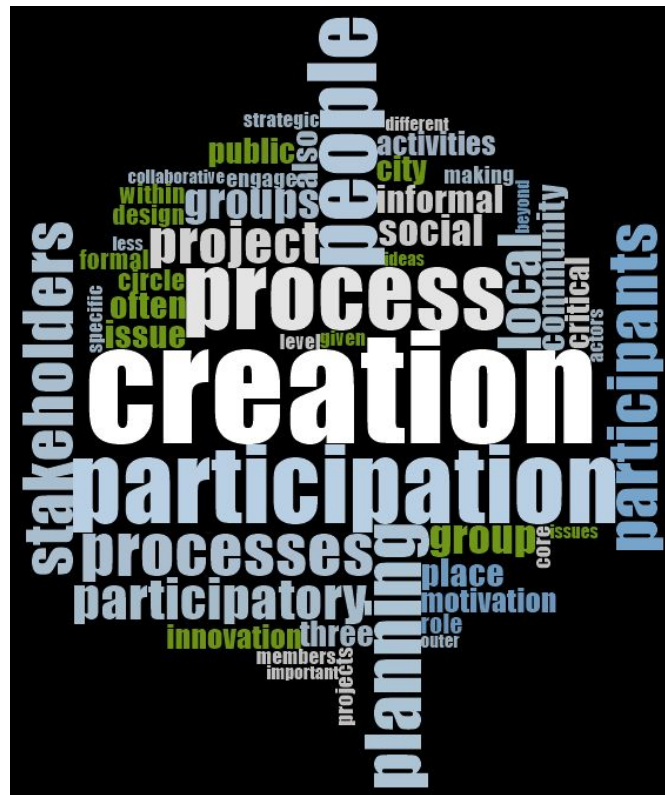

Figure 1. Creation: synthetic theme for codes *level of participation*, *level of commitment* and *reasons for participation*.

Coordination of multiple views, inclusivity, long-term engagement and sustainability

Evaluation of the impact of participation and its outcomes normally takes place during the participatory process itself and soon after the solution has been designed or implemented. Only a few studies assess the sustainability of the results of participatory design, despite the fact that it is a central aspect of participation and urban governance. The literature highlights that sustainability of participatory design initiatives is not confined to the individual project, but is in a way intrinsic to the concept of PD as a process of mutual learning (Iversen and Dindler, 2014). This provides participants, in particular professionals, with the opportunity to gain knowledge for future use (Bødker, Kensing and Simonsen, 2004) and develop expertise to be used beyond the life of a project (Bødker, 1996). Furthermore, studies suggest that PD initiatives can lead to sustainability through indirect channels, such as the creation of long-term personal and professional networks across individuals and organizations (Bossen, Dindler and Iversen, 2010;

2012). However, it remains uncertain the extent to which mutual learning and the development of networks are achieved in PD projects and what can be done to ensure that interventions are sustained following the end of a project. Iversen and Dindler (2014) suggest using four categories or 'types' of sustainability against which PD projects can be assessed in terms of whether sustainability is sought and/or achieved: *maintaining*, *scaling*, *replicating* and *evolving*. These four types of sustainability are characterized by context and the level of stability. Maintaining is a form of sustainability where the intervention and the context are both stable with the aim of sustaining an initiative to remain in same context and function in the same way after the completion of the project. Scaling is about extending the initiative to a larger group or area, as such the context changes, but the working model remains stable. Replicating is in some ways similar to scaling, since the way of working remains the same, but the context changes, not by extension, but by shifting it from one group to another or one place to another. Finally, evolving is the most 'flexible' form of sustainability, by which both the working processes and the context may change or even initiate a whole new participatory model. Understanding how these forms of sustainability are related to participatory practices is vital to assess if participatory methods embed sustainability. However, Iversen and Dindler (2014) suggest that a nuanced conception of how practices are related to sustainability is needed to enable adaptation of design strategies as projects progress and to identify whether any ideas developed during a project may become applicable to other contexts or scalable to larger contexts. The vocabulary provided by the types of sustainability can be used to articulate aims, goals and strategies of a project at its onset, but may also act as a means to reflect on the process, evaluate it and adapt it to assess the extent to which an initiative achieved sustainable outcomes against the original expectations or to tailor it to emerging prospects, new activities and interventions.

Managing and aligning the motivations and interests of diverse stakeholders is a major challenge for participatory planning and design (Simonsen and Hertzum, 2012). Often projects focus on coordinating the relations between designers and users, while, in reality, many other stakeholders, especially at the national and political level, have an influence on the process and the outcome. Managing participatory practice within a political environment is a particular challenge, especially when it comes to large-scale projects in the context of planning policy. There are two main approaches to coordinating multiple views in participatory planning: that of allowing for multiple perspectives and conflicting interests to coexist, such as in the cases of scenario building or iterative prototyping, or that of trying to achieve common agreed objectives as in the case of LED. At times, 'participatory simulation' techniques can be used (Kumar and Tissenbaum, 2019), enabling the participants to see the impacts of a potential solutions on themselves or other population groups.

Clearly, as the as the synthetic theme for this code reveals (figure 2), process is the key factor in how multiple views are coordinated and how sustainable outcomes are achieved. The processual dimension of developing both tangible and intangible outcomes is key in shifting from participatory practices focusing on creating predefined products to processes aimed at generating critical conceptions of outcomes and new sustainable cultures. Scenarios seems to be effective in developing long-term views rather than addressing pressing needs. However,

sustainability and long-term engagement more directly relate to commitment on the part of authorities to truly include participants' views in implementation plans and to the success of the events and people's sense of ownership over solutions, than to the methods used for the activities. Smith and Iversen (2018) suggest that coordination of multiple views should be done through *scoping*, the creation of a space where diverse participants can "explore and rehearse potential futures together and develop directions to suit (evolving) goals and aspirations" (p.10). Resolving ambiguities and conflicting interests when these seem irreconcilable, sometimes involves choosing among alternative views: there are no simple guidelines to make final decisions from diverging opinions. Baum (1998) suggests that planners can support the participatory process by supporting participants with a vision and an image of success rather than a specific outcome, as well as by contributing realism and enabling participants to look at their own community critically.

Figure 2. Process: synthetic theme for codes *coordination of multiple views*, *inclusivity*, *long-term engagement* and *sustainability*

Throughout the literature achieving broad participation from the early stages of the project was seen as a key factor in achieving inclusivity and long-term engagement. In fact, early stage participation is so vital that Smith and Iversen (2018) suggest that the focus should shift to a phase, which they call Stage 0, prior to the beginning of the project and during which participation is configured and users, including designers and researchers, are defined. Using specific strategies to maintain collaboration during all phases of a project, especially when it seems that participants have less to say, was recommended in the experience of some researchers (Lundström, Savolainen and Kostiainen, 2016). In order to achieve inclusivity certain

groups, such as women, youth and the poor should be specifically targeted (Halkatti, Purushothaman and Brook, 2003; Majale, 2008) and certain norms of communication should be followed (Kulözü, 2016). A commitment by the authorities to make planning truly participatory requires effort to identify and involve specific groups, who may not otherwise engage (Baum, 1998). While the involvement of multidisciplinary teams in participatory activities was shown to ensure social sustainability (Kandusová and Vácha, 2019). However, there is still no consensus as to how to achieve a completely participatory process (Leyden *et al.*, 2017) and it may be that an ideal state of participation may not be an achievable goal.

In order to attain long-term engagement and sustainability of an intervention it is suggested that rather than aiming at making immediate improvements (though this tends to gain participation at first) participatory programs should be designed to enable communities to make further improvements and accessing further support in the future (van Holstein, 2018), as well as enabling unanticipated changes to the initial design outcome (Simonsen and Hertzum, 2012). This should be a core value of participation: issues of empowerment and democracy are often neglected in favour of methods and tools (Smith and Iversen 2018). Such core values tend to still be found in small projects with such a specific concern (Smith, Bossen and Kanstrup 2017); however, values are highly depended on facilitators' and researchers' commitment to them, which often makes it difficult to sustain a project and long-term engagement (Iversen and Dindler 2014). *Scaling*, defined as the creation of opportunities to sustain projects across communities, domains and stakeholders, is an essential dimension of sustainability (Smith and Iversen 2018), which can turn project outcomes into sustainable transformations.

Bias and limitations

Political will and authorities' true commitment to participation are the key factors in developing and implementing interventions (Bonilla, 2009; Al-Nammari, 2013; van Holstein, 2018); weak local government institutions and lack of capacity among local authorities are cited as significant factors influencing limitations (Horn *et al.*, 2018). In fact, throughout the literature, social capital is deemed to be the most significant component in limiting bias, enabling activities and implementation and even mitigating lack of strong political will. This is probably why 'community' features so visibly in the analysis of bias and limitations (figure 3). In light of growing diversity and complexity of urban environments, community-led actions often seem to have fewer limitations than formalized practices, but as previously mentioned these can also come with their biases (Hou and Kinoshita, 2007).

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Figure 3. Community: synthetic them for codes *bias* and *limitations*.

Bias and limitations can occur even when authorities are ethically committed to inclusivity and implementation. It is often easy to raise concerns of tokenism or elitism towards authorities, but leaders encounter problems even when they act in good faith and are committed to participation (Baum, 1998). Despite this, it is clear that special measures taken to include specific, harder-to-reach groups, does lead to increased participation (Busch, 2016). Practical conditions, ambiguities about the world and ambivalence in human inclinations generate bias, a lack of clarity about who constitutes the community involved and anxiety about expressing views in public deliberations. There are often ambiguities as to what constitutes the community to be involved in planning: professionals have the difficult job of making judgements about who belongs to the community when they design initiatives and approach possible participants (Baum, 1998). Sometimes, the fact that different models of planning still co-exist, the top-down or 'expert-procedural' model along with the participatory one, enables decision makers to combine them and move between the models for political expediency. This may lead to planners using participation in the form of 'what the majority wants' to circumvent objections posed by specific groups or revert to an expert-rational model of 'the professionals know best' to dismiss disagreements (Carr, 2013). Sometimes, decline in the level and quality of engagement during a long participatory process may see initial successes stall and dampen dialogue and collaborative processes as projects move into more technical design phases (McGovern, 2013).

The literature suggests that in such cases, where the acceptance of participation is widespread and supported by political will, limitations can be addressed through clear rules and mandates for citizens that can sustain long-term engagement throughout the planning process into the more

technocratic phases (McGovern, 2013). Full transparency and accountability of the 'ownership' of planning decisions or really shifting authority to ordinary citizens to decide if and when a policy or project is implemented could provide a true democratic check on planning (Carr, 2013). The implementation of a set of rules and frameworks to ensure that visions developed with users are not later deemed as unrealistic and the planning and design phases used a 'corrective' tool may alleviate potential diversions from commonly established goals (McGovern, 2013).

The literature clearly shows that Western models of participation are often applied in the Global South without enough consideration given to the differing socio-economic circumstances. Analyses of participatory projects in Asia, Africa and South America show that bias is stronger in more disadvantaged communities and in areas with greater inequalities (Halkatti, Purushothaman and Brook, 2003; Refstie and Brun, 2016; Horn *et al.*, 2018; van Holstein, 2018). As the word cloud for this theme suggests (figure 3), the distribution of resources and power, economic conditions, institutional attitudes and interests all play a role in bias and pose limitations to participation. Even in cases hailed as highly successful processes of democratisation with changes towards urban governance policies based on social justice, limitations have been highlighted in the quality of participation, the impact of power relations and the level of success in breaking down traditional decision-making processes (Friendly, 2019). This is because administrations retain the power to ignore the results of participatory processes and existing inequalities among political and economic actors lead to disparities in how different groups are able to participate in and influence decision.

Reports of bias in Western case studies are less frequent, although these do exist (Luck, 2018; Puerari *et al.*, 2018), but as the reviewed literature often does not mention or assess this issue, consideration might be given to the fact that in Western, wealthier contexts assumptions may be made that bias is less frequent and is thus assessed to a lesser extent. Nevertheless, when bias is reported, it is linked to the fact that authorities fail to provide a collective vision for the future and rather than addressing truly pressing problems, they invoke the language of democracy while actually reinforcing existing inequalities between communities (Busch, 2016).

It must be noted that the synthetic theme for the codes 'bias' and 'limitations' is *community*, as the words 'participatory' and 'planning' (the search terms) were excluded from the word frequency analysis for methodological reasons. However, as can be seen from figure 3, this is the only case where 'participatory' is the most recurring word and 'planning' the second most-recurring word despite the fact that the search terms were the same for all articles and therefore relate to all codes. Perhaps, this is an indication that true, successful participation may really be about ensuring that there is no bias, and addressing and overcoming limitations.

Summary

As presented in the analysis, turning back to some of the research questions: level of participation, level of commitment and reasons for participation really rest with the creative power of interventions to deliver solutions. This is regardless of the type of participatory action, whether it is bureaucratic, action-based or community-led. Appropriate processes must be developed in order to coordinate multiple views, ensure long-term engagement and sustainability of projects: in

a strong democratic planning system, participants with different and conflicting interests should be able to engage in deliberations to identify shared interests and common purposes (Baum, 1998). In order for this to happen inclusivity is key, not just in terms of variety of groups involved in the process, but also with regards to the extent to which their views are taken into serious consideration, embedded in plans and finally implemented. Bias and limitations can be mitigated through active inclusive practices, but strong leadership and political will are the key factors in minimizing bias and reducing limitations (Gedikli, 2009), especially at implementation stage. A failure to understand the complexity of different groups' needs and wants, and to facilitate environmental justice can lead to failure (Busch, 2016).

Motivation to participate should and most often is related to aspirations, desired outcomes and a variety of social benefits, which people, community and groups can gain through activities. These are proven to be the most powerful forces to gain participation, commitment and long-term engagement. Therefore, while financial incentives are not usually a necessity and are unlikely to improve the process and outcome, they should be considered in cases where including disadvantaged populations may be problematic and in contexts of high inequalities.

The literature review revealed little research on participatory planning which specifically focuses on public space, but the methods reviewed are applicable to a variety of urban settings and case studies comprise scales, which include public spaces. It may be that there is scope for further specific research on public spaces, especially in light of the fact that physical and visible space is a very strong factor in engagement. Participatory processes are linked to sustainable development and sustainable urban governance through the benefits of mutual learning, capacity building, knowledge development and democratic practices. The main conclusion from the literature is that that replicating and, most importantly, scaling of activities from small, local projects to frameworks development and regional planning are the ways to achieve transformative sustainable impacts.

Participatory planning is an ethical principle which authorities must commit to if it is to move beyond a tick-marking exercise imposed by legislation. Recognizing the obstacles and predicaments encountered when designing and deploying participation in planning is the first step towards acting more ethically within a democratic participatory planning system. The evidence tells us that there is no gold standard for participation: success is contextual and dependent on the desired outcomes. Even when projects could be deemed as 'failures' when stated goals are not achieved, valuable secondary outcomes may be measurable which relate to sustainable transformational processes, such as the transformation of participants' roles within their working environment, situated learning and organizational change (Lundmark, 2017). This indicates that participatory processes are valuable practices even within the constraints of design and planning and regardless of the specific outcomes of an individual project.

Planning in Cyprus

The Cypriot planning system

The Planning System in Cyprus originated in the mid-1940s when the English Colonial Government founded the Department of Town Planning and Housing (TPH) to regulate development. During the following years and with the subsequent island independence in 1960, several endeavours were made to prepare the ground for a new planning system, which was not applicable due to absence of a legislative framework. In 1972, the House of Representatives approved the **Town and Country Planning Law**, therefore the 'Cypriot Planning System' was introduced through strategic-level planning studies. These included a general synopsis and recommendations, topic studies, sub-regional studies for each district, an **Island Plan**, and provisions to draft **Local Plans** for all cities and **Area Schemes**. While the original framework presented the Government's intention of a holistic approach to spatial planning and sustainable development, following the conflict of 1974, the implementation of the Island Plan was no longer feasible and the law was not enacted. The plan was eventually replaced by the **Policy Statement for the Countryside (PSC)** in 1982, which refers to all government-controlled territory, except areas where a Local Plan or Area Scheme is in place, but the law was enacted only in 1990. The PSC is intended to provide a general policy framework and development guidelines to ensure optimum utilization of the development potential of each region or territory and the protection of the rural environment.

The aforementioned development plans are based on the three-tier hierarchy:

a) the Island Plan, which refers to the island-wide context and to the regional distribution of resources and development opportunities;
b) the Local Plan which refers to the main urban agglomerations, areas of exceptional importance or areas undergoing intensive development pressures. These refer to a broad geographical area and set a range of provisions which refer to various types of development permitted in infrastructure networks and standards, authorised sizes and intensity of development; and
c) the Area Scheme which includes policy measures and provisions, much more detailed than those contained in the Local Plans, and generally relating to geographical areas smaller in size than those referred to in Local Plans.

To the rest of the territory where neither the Local Plan nor the Area Scheme are in place, the Policy Statement for the Countryside applies. Specifically, the PSC refers to rural settlements, areas with exceptional natural value as well as protected landscapes.

The planning system therefore takes a multi-scalar approach, which covers the whole spectrum of geographical territories resulting in subjection of each area to a certain development scheme. Development policy is exercised through the Planning Bureau under the authorization of the Ministry of Finance and through the Minister of Interior, which assigns some of his responsibilities

to the larger Municipalities, the Department of Town Planning and Housing and to the Planning Board. Control of growth is achieved through the process of monitoring planning applications determined by the Town and Country Planning Law. Municipal Councils function as the local policy-making bodies, with responsibilities including street construction, maintenance and lighting, waste collection, disposal and treatment, the provision of public open spaces, the protection and improvement of the environment and public health, along with additional activities in social services, education, the arts and sport. The larger municipalities are also delegated as planning authorities. However, municipalities do not lead the drafting of Local Plans or Area Plans, which are developed by the TPH in consultation with the municipalities. These are then in charge of implementing the plan, granting planning permissions and monitoring planning conformance – with the exception of very large projects, which are assessed and approved by central Government.

A Union of Cyprus Municipalities was established in 1981 in order to strengthen the political autonomy and independence of local authorities. The Union also acts as spokesman of local government interest, including presenting urban issues to the national government. Allocation and distribution of planning competencies between Central Government and Local Authorities, especially in relation to the development of Local and Area Plans, is an issue that remains highly debated and under examination and evaluation. Discussions have been ongoing regarding the responsibility for local plans to be moved to elected municipal councils in the future, so that the TPH can focus on more strategic-level plans, while local authorities can be more involved in the process and develop plans which better meet local needs, provided that suitable socio-economic studies and criteria are set. The Cypriot planning system is exemplified in figure 4.

Figure 4. Summary diagram of the current Cypriot planning system.

Issues and challenges of planning in Cyprus

Prior to the enactment of the Town and Country Planning Law in 1990 the profound characteristic of the Cypriot urban landscape was the scattered and subdivided plots with isolated residential units mainly in the outskirts of the major urban towns. The fragmentation of the land system has remained a substantial obstacle for the implementation of planning policy until today and, coupled with the withhold of vacant plots for speculative reasons, it created the conditions for the sprawling phenomenon which has emerged (Department of Town Planning and Housing, 2012). Another contribution to the centrifugal trend was also the aftermath of the 1974 war, through the sudden influx of refugees and the construction of refugee housing in the readily available plots situated in cities' periphery. Suburbanization in Cyprus started in the early 20th century through development by the British officers and residents of the time. It has continued and is still ongoing due to the process of land parcellation and the structure of the real estate market, social and cultural trends in terms of housing typologies and the dominance of car usage (Ioannou, 2016). Additionally, the development plan for residential areas, as such, does not favour dense growth of the city, since it prescribes that every building must be detached at least 3 meters from its plot's boundaries; therefore, it contributes to cities' suburban-style expansion.

The absence of high-quality road infrastructure and minimal public transportation facilities are also factors in the persistence and exacerbation of existing problems. The Cypriot planning reality, synoptically, has led to radial, ribbon development, with a lack of sub-centres within the wider metropolitan areas and no concentrations of varied land uses to support the development of neighbourhoods, due to low density sprawl and thus the insufficient number of users could keep sub-centres sustained and upgraded. This contributes to a vicious negative circle of a highly congested main roads, as commercial uses are peppered throughout these and dependent on car use for custom, while local neighbourhoods have not developed or formed any structure or identity and there is no provision of local facilities (Geddes, 2019).

Urban areas across Cyprus face a variety of problems. A general decline of historic city cores has occurred during the 1980s and 1990s. This was due to the sudden increase in population following the 1974 war, the spread of car use, the system for developing road infrastructure and the placing of certain land uses in areas at the edge of the city with easy vehicular access and parking provision. Lack of public transport and unwillingness of the private sector – as well as no incentives – to invest in the urban fabric (Department of Town Planning and Housing and EUKN, no date) also contributed to a decline of the inner-city centres and the insurgence of sprawling, speculative developments. Apart from the urban sprawl, there is an inadequacy of public open spaces in cities, although there are some policy measures, which have been taken since the 1990s onwards to improve the situation, such as the revitalization of existing parks and propulsion of new green pockets and playgrounds in residential areas, as well as securing a better interconnection to the green areas in the urban context. Planning legislation now requires a 5 percent of the total built area (plots exceeding 800m^2) to be preserved as an open public space. The percentage increases according to the size of the development. Urban equipment for

public use is also required for plots exceeding 10000m^2 (Ministry of Interior and Department of Town Planning and Housing, 2011). While the local authorities are trying to implement such a policy, they have scarce resources to create high-quality or well-maintained spaces for public use: often these remain empty, with no infrastructure and used as parking lots without providing any service to the community or benefitting the public realm. The provision and maintenance of any urban equipment is often viewed by the local administrators as a burden on their little resources. The private development sector is also required to provide public space and facilities in order to meet criteria to gain approval for plot divisions; this usually leads to the development of small playgrounds in largely undeveloped low-density areas far away from any residential concentration or other facilities, which again are of little use to the wider population. Recently, there has been more interest by the authorities in high-quality public space provision, however, this is focused on the city centres (for example the promenade in Limassol, Eleftheria Square in Nicosia, and Zuhuri Square in Larnaca) and aimed more at branding the city to tourists rather than provide the infrastructures which could serve local residential areas.

High-rise development has also become more common and is an issue of debate. A large number of high-rise proposals were put forward and approved as a counteract mechanism to the recession of 2013, and their impact to the overall cityscape and urban environment, as well as their contribution to minimize sprawl remains a topical issue for debate. Generally, the issues arising from the presence of tall buildings regard the scale of the development and the level of infrastructure they require. While the tools to implement densification across sparse residential areas are not yet in place, some planners and professionals defend the decisions to implement high-rise projects to combat sprawl and provide renewal to central areas. However, these high-rise projects are essentially commercial developments offering luxury office and holiday rental space and are not aimed at increasing residential densities across the board. The extent of the radical level of high-rise development is demonstrated by the fact that, for example, all the high-rise proposals in the city of Limassol have been shown to reach, cumulatively, a combined height way above that of other major European cities with populations of over 10 times that of Limassol (Mesh Spatial Design Studio, 2017); the question of high rise building has been said to have gone out of hand (Ioannou and Nicolaou, 2018).

Efforts to monitor the efficacy of the planning system have also taken momentum and there seems to be a general agreement that the Island Plan should be reviewed and strengthened in order to provide a more effective lead on key social and economic issues upon which the Local Plans are based (EUKN, 2015). Only environmental assessments are required in the case of large developments; traffic or commercial impact assessments are not compulsory. A variety of assessments is often sought to evaluate planning applications, however, these are not carried out by the authorities or independently, but by the developers themselves. Generally, the criteria for approving planning applications are therefore those set by the Local Plan itself, with no particular additional tools available. In practice, there is no system in place to assess the impact of a single development on the whole city and there are opinions that in many cases decisions

are made which do not reflect the requirements of the plans or the views expressed in public consultations (Geddes, 2019b).

In order to monitor policy results and develop more sustainable policy instruments, the TPH implemented the URBANGUARD project aiming at facilitating the incorporation of urban sustainability indicators in the planning process (Department of Town Planning and Housing, 2012). A set of indicators and monitoring tools were developed, and a pilot implementation and dissemination activities took place as part of the project. The information available as to the evaluation of the project reports its success in terms of the results against the project objectives and the raising of awareness amongst stakeholders, as well as the fact that "significant long-term sustainability benefits are foreseen to be achieved through the ongoing application of the URBANGUARD tool" (Department of Town Planning and Housing, no date). While local plans have since been revised to include clearer and more detailed provisions for the implementation of their planning policies, the impact of the project on planning practice, plan development and evaluation of plans remains unclear and an assessment of whether the tools and indicators are being used in practice has yet to be made.

Participatory planning in Cyprus

The Town and Country Planning Law of 1972 does not contain detailed procedures on how the public can get involved in the planning process. However, it cites how the public may influence the planning decisions in a two-phase process: the plan making stage and the stage of Plan's provisions inspection. In the former stage, the involvement has a consulting character, and it happens in presence of all the stakeholders who may be affected from the plan under consideration, including not only political bodies and agencies but also NGOs and group of citizens. In the latter instance, the public submits objections on the published Development Plan, which will be reviewed by the Council of Ministers and eventually the Approved Development Plan will be published until its new amendments. The process described above was evaluated by a EUKN Policy Lab, which addressed the ineffectuality of the Joint Board being constituted by a limited variety of stakeholders as well as the lack of awareness of planning issues by public audiences, which were deemed to often use the process to assert personal interests and gains.

Following the EUKN Policy Lab, the public consultation process was reviewed, and amendments were made to the law in 2007. Open meetings were substituted with public hearings where the public is informed about the strategies and plans before providing their contributions. The public participation project has led to the redesign of the structure of planning consultations, which has meant a strengthening of the role of local authorities in organizing consultations and influencing planning decisions made by Central Government, as well as a more effective system for the public to express views and opinions, including the ability to write directly to the Ministry in order to suggest proposals or object to ongoing projects. Public interest groups have become more actively involved in trying to influence development plans in recent years. This has been more so when the larger and more controversial plans have been proposed, such as the new Marina in

Limassol, Eleftheria Square, or the old Stadium Area in Nicosia. However, the feeling remains that a proper dialogue between citizens and planning authorities still does not exist and that often the requests and interests of land-owners are met to the detriment of the public good (Geddes, 2019b).

A wide range of formal and informal arrangements and measures are in place to encourage and to facilitate citizen participation in decision-making, including: open meetings of local councils; referendums; development of website;, right of access to information relating to the environment; public meetings at neighbourhood level; involvement of specialist groups; meetings with marginalized groups and public consultations. However, to achieve a greater understanding on how the public can be involved in decision-making it is worth analysing the planning consultation process step-by-step. Firstly, the Minister publishes a document explaining the policy around which the preparation or amendment of the Development Plan (DP) must be directed, and subsequently each Local Authority (LA), which belongs to the area of the DP, calls for the citizens' opinion in a public dialogue. The citizens' opinion together with the experts' opinion, employed by the LA, are put in front of the LA's Board to compose its suggestions for the plan. Afterwards, the suggestions of all the relative LAs are discussed together the relative NGOs in the Common Board (CB), which delivers its opinion to the Planning Board (PB) by its president. The CB and the PB are supported by the Town Planning and Housing Department. Each citizen also has the right to put their opinion in writing to the Minister (represented by the Planning Board) and present it in front of representatives of the PB in public hearings (since 2007). LAs can present their suggestions to the plan directly to the PB as well. If for the plan to be prepared, an environmental assessment is needed, then the PB, asks for an environmental study: having in front of it the suggestion of the CB, the people's opinions in writing, the public hearings and the presentations of the PAs, it prepares the preliminary plan, which is published for the opinion of the public at large, only for the environmental view of the plan. The PB, based on the environmental assessment and the comments collected from the public, can make changes to the plan, which is promoted to the Minister of Interior for approval and publication. In a second stage, people can put to the Minister their objections to the Plan. Thereafter, the Minister sets up a committee to study the objections and promotes its position to the Council of Ministers for approval and publication. This is the final approval and any disagreement to the plan, can be only directed to the Supreme Court. The process for the preparation or revision of development plans in summarized in figure 5.
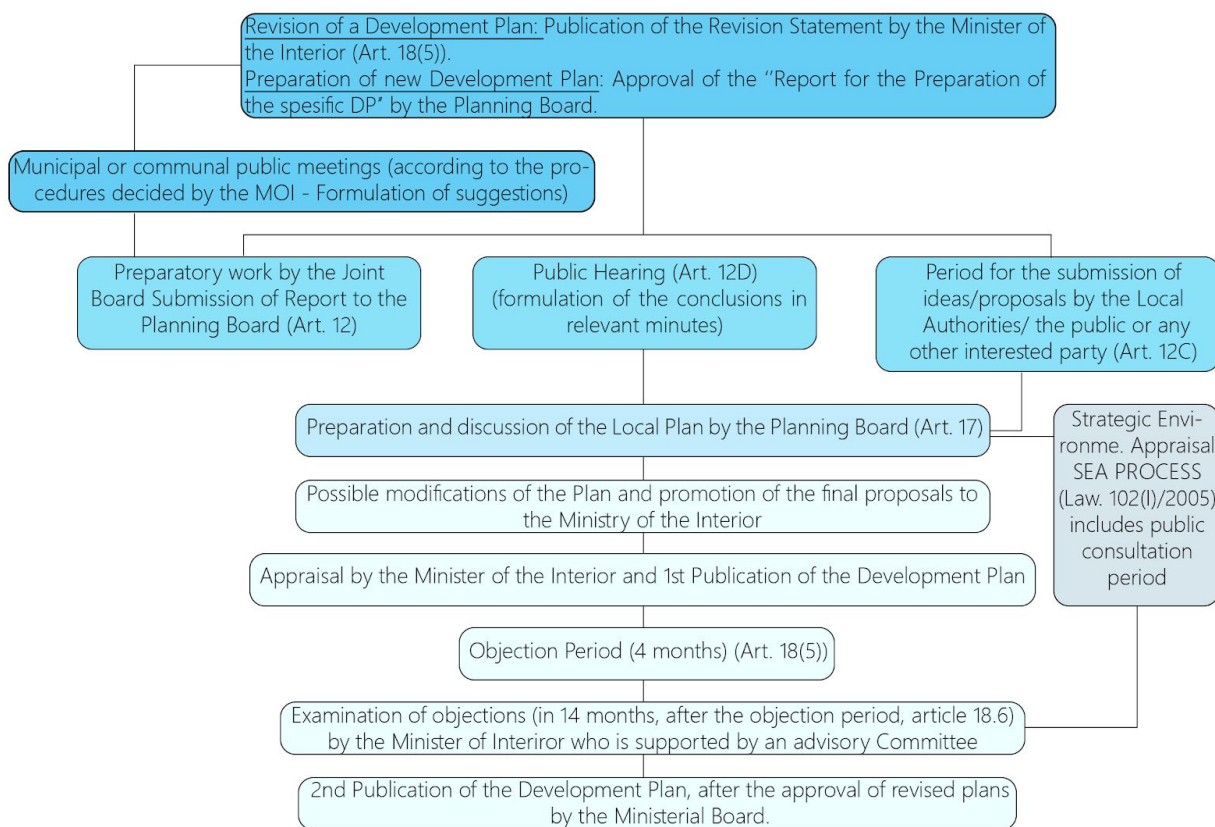
Research
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Foundation

Figure 5. Diagrammatic procedure concerning the preparation/revision of development plans. Source: Hadjimichael, 2012

For certain uses, according to the relevant regulations for submitting application for the granting of planning permission, publicity is needed as to ascertain the opinion of the public and also the opinion of the relevant departments or authorities. In a few cases of greater importance (applications concerning departure of the provisions of the law) or concerning safety or affecting amenities (amusement developments), a special form is delivered to the possibly affected neighbours, as to secure their opinion for the development. Moreover, for applications concerning departure of the provisions of the law, site notices and public hearings are needed.

Public participation in the development process in Cyprus is denoted in: a) the EU level, through the Treaty of the Functioning of the European Union and the related directions concerning development, environment or other related issues; b) the National level through the Town Planning and Country Law (1990-2013) and the related regulations, orders, mandates or directions; and c) the local level deriving from the public dialogue necessary for the preparation of the development plans, the granting of development permissions or the decision for action plans. The planning system is changing towards a direction conforming with the EU acquis, which includes a move towards greater sustainability through increased densities, the development of

public transport systems, support for sustainable modes of transport and development of green areas. Finding a balance of power between local authorities, central Government, the TPH and other interested parties, which reflects different opinions and priorities without giving in to exclusively private interests and respecting the mandate of elected powers while ensuring expertise and the greater public good are given full consideration, remains challenging and is highly dependent on political interest.

Participatory activities

Living Lab

The Voice of the Users.

The Living Lab was executed to motivate citizens and activists to express their concerns and ideas about the current participatory planning practices in Cyprus. Thirty-five members of the public expressed their interest in attending the Living Lab; these mostly included architects, planners, engineers and students, with a few respondents from other backgrounds, including public officers, politicians and artists. Out of who expressed an interest, five person actually did attend the Living Lab session. The list of those who expressed an interest is shown in table 2.

	Name	Profession
1	Alexandros Postekkis	Architect
2	Andreas Lefkatis	Software Developer
3	Anna Papadopoulou	Architectural Researcher
4	Charidemos Theocharides	Civil Engineer
5	Efi Dariou	Teacher, Civil and Environmental Engineer
6	Efi Xanthou	Political Scientist
7	Eirene	Artist
8	Elena Kalli	Public Employee
9	Elena Sofocleous	Civil Engineer
10	Eva Konstantinou	Architect
11	Georgia Papasozomenou	Architect and Lighting Engineer
12	Ioannis Fragkiadakis	Student
13	Katerina Pantazi	Architect
14	Konstantina Chrysostomou	Social Architect
15	Kostas Andreou	Academic
16	Kyriaki Fotiou	Postgraduate Student
17	Kyriakos Neoptolemou	Architect
18	Marcos S. Marcou	Architect
19	Maria Papadopoulou	Marketer
20	Maria Pavlou	Not Stated

21	Maria Petrou	Student
22	Maria Voniati	Not Stated
23	Marina	Architect
24	Marina Kyriakou	Architect
25	Marina Markides	Architect
26	Miltos Lakkotrypis	Architect and Urban Planner
27	Nicos Middleton	Academic
28	Panayiotis	UX Designer
29	Panis Pieri	Growth Marketer and Tech Blogger
30	Philip Fayad	Research Associate
31	Roubini Hadjicosti	Architect and Aspiring Planner
32	Savvas Alexandrou	Software Engineer
33	Styliana Gregoriou	Architect
34	Teresa Tourvas	Architect
35	Vanessa	Postgraduate Student

Table 2. List of users who expressed an interest in attending the SUGAR Living Lab.

To initiate the process, a case study involving the Municipality of Paphos and the Church was presented. The case involved a request by the Church of Paphos to construct a new Cathedral in the place of the Municipal gardens. The gardens belong to the Church, but the state minimized the building factor in the area in order to maintain the current use. The demands of the Church for the new cathedral were followed by a request of land near the old cathedral for its construction. The land there belongs to the state, which did not grant it to the Church, therefore the Church demanded the allowance for building permit in the area of the Municipal garden. The case study had received significant media coverage and had been highlighted as representative the unavailability of public involvement and power over planning decisions (figure 6).

Figure 6. An image of different approaches presented on media regarding the case study presented

While the presentation of the case study initiated the discussion among participants and reflected common concerns among them, they preferred to describe the issues they faced in participation in general terms or in relation to cases that they had been involved in or were more familiar with. Firstly, they thought it disheartening that many authorities claim that participatory processes are time-consuming and ineffective, and thus had a feeling that they tended to avoid them or minimise them as much as possible. They then proceeded to describe a series of such cases and expressed the most pressing issues and discontents that they face in their attempts to participate in and respond to planning consultations. The issues raised can be broadly grouped into three categories: trust, transparency and power; furthermore, the users shared their ideas for how the system could be improved.

Trust

The participants posed a series of concerns about contemporary matters involving the relationship of citizens and authorities. Matters such as the negligence of the timescape and the whereabouts of the public hearings, as well as the effective inclusion of the citizens in the

process, create a 'wall' between the public and the authorities. The lack of trust is also generated by the concern of the authorities for biased participants that express individual interests. The late stage or design phase that the public hearings are being executed, leads to no power over the design decisions that the citizens demand in the first place. Such concerns described the absence of empowerment given to the citizens, and the lack of trust it creates between both sides.

Transparency

The users were demanding a transparent process of planning that requires the involvement of citizens and systems to facilitate their participation and their understanding of the planning process. Even if the participant involved in the Living Lab had a high level of education and familiarity with the planning system, they still found it complex to navigate through the bureaucracy required to respond to public consultations. The citizens demand a series of cross-verified details regarding the authorities responsible to organize the public hearings. The information given for each project by the developers has to be edited and filtered to be unbiased, by certain individuals that examine, verify and respond to the public. The absence of such a team creates the gap of trust between the officials and the public. The users felt that they needed to assess the validity of information provided by the authorities regarding the planning process, as well as having to dedicate much personal time to develop the know-how to assimilate the technocratic tone of the information.

Power

The participants in the Living Lab expressed their concerns regarding the laws that surround the ownership of land. The public suggested that the law seems to be more lenient towards the government and the church than private landowners. The users also stated that the public has to understand the importance of each case that drives the interest of the citizens in private development. The ownership of the plot should not prevent public participation in each case. The users were also concerned regarding the power given to the developers to neglect public opinion, and the extent to which authorities are legally bound to follow what is expressed in the public meetings. As stated previously, the participants were concerned regarding the transparency of the actions taken by the public authorities.

Proposed Solutions

The participants of the Living Lab proposed a series of changes that would improve public participation in the design process. As stated, the users demand a trustworthy and sustainable urban governance, that provides to the public with the tools to visualise the possible output of a project, and creates a common understanding between the user groups and stakeholders involved. The users also underlined the significance of communication between the public and the authorities, that may be achieved by the usage of media to simplify the information given to

the public and through the provision of different participatory tools suitable to the participant groups. The role of the media was emphasised by the users as a key element that can mediate between them and the authorities, as well as help them to structure a more efficient and coherent model of public participation. It was also stated that media and technology could be used in planning consultation by digitalising maps, drawings and information regarding projects, to document progress of the planning process and provide feedback following consultations. Finally, the users asked for consistency of the public meetings regardless of the case or the place of interest.

The Voice of the Planners

A roundtable discussion involving architects, planners and representatives of the public authorities, was conducted to gain 'the other' perspective regarding the participation of citizens in the planning process (figure 7). Many of the matters expressed were overlapping and often antithetical with those of the users. The planners stated that they were putting a lot of effort in achieving participation in public hearings, but with disappointing results. They felt frustrated that while they made attempts to provide suitable days and times for the public to attend they received complaints that people could not give up their work to attend if organised during working days and times or they could not leave their family, get childcare or spare free time if organised outside of working hours. Consequently, they seemed to be getting to the conclusion that public hearings were a non-determining routine due to the absence of physical and qualitative presence of the public and their general lack of trust in the authorities and the skills and qualifications of elected officials.

Figure 7. Roundtable discussion involving architects, planners and representatives of the public authorities

Professionals were in general agreement with the users that the presentation quality and methodology for participation was not sufficient, and both the public and the officials need further education and training to communicate with each other effectively. Nevertheless, they still remained firm that in some cases, good design aiming for the benefit of the wider community is not an outcome of participatory planning, but of the skills and expertise of planners and designers. They believed that

in many cases public consultations endangered the quality of design and the timely progress of beneficial development because of people's opposition to the proposals simply to protect their individual interests.

They identified the key problems of participation as relating to *culture and education*, *over-democratisation* and *practicalities*. They also offered some ideas to improve participatory practices.

Culture and Education

The lack of education and planning culture was stated as one of the most important obstacles for the participation of the public in the planning process: citizens do not realise the importance of architecture in the quality of their lives, therefore they focus on unimportant personal issues rather than the bigger picture. This is shown by their tolerance of lack of public spaces in the cities of Cyprus and their persistence in demanding facilities for car parking. The planners also claimed that the public is not sufficiently qualified to decide on serious matters in Cyprus, and that this leads to suspicion towards the authorities and therefore the reluctance in listening to the reasoning behind decisions. Finally, it was stated that Cypriot citizens do not understand that their cities do not face significant problems such as other cities globally, and therefore have the potential and the opportunities for great improvment.

Over-democratisation

Another idea expressed at the planner's roundtable was the over-democratisation of many procedures, that loses the true purpose of the public hearings by just "giving people the say" for the sake of it. Firstly, society must have common visions of the public good, and involvement in different stages of the project depending on the topic and level of technicalities. It was also stated that sometimes, dogmatism and trust is needed, and not an uncertain wavering stance towards democratic practices. Good decisions and good design give good results, not necessarily participation, and this is exemplified through the historic existence of high quality designed cities that were built under non-democratic practices.

Practicalities

Finally, the planners expressed a series of practical obstacles that stand in the way of healthy participatory planning in Cyprus. Such obstacles included the absence of public space to host hearings, a fact that derives from the absence of structured public space in Cyprus. Another practical issue is the lack of funding, human resources and quality methods of presentation in order to create a productive model of participation.

Proposed Solutions

The planners hoped that sustainable public participation in urban design could be achieved by improving interest in public matters and the importance of good planning in education. This could lead to the cultural development of citizens, and therefore to the prevention of errors and conflict during public consultation. Finally, a more structured and well-designed participatory procedure, that aims to inform citizens ahead of public hearings, with the use of technological innovation and media, can simplify and enhance the need for participation in urban development and its meaning.

Design sprint

The SUGAR Design Sprint was a four-phase development workshop following the structure of the 'design sprint', a design thinking methodology coined by Google Ventures and split into the following phases: understand, diverge, converge, prototype. The Design Sprint took place at Harvard University as a 3-day structured activity that focused on a collective process of decision-making, prototyping and validating, by understanding the problem and the contextual elements of participation in Cyprus. The framework used to support divergent and convergent thinking is shown in figure 8.
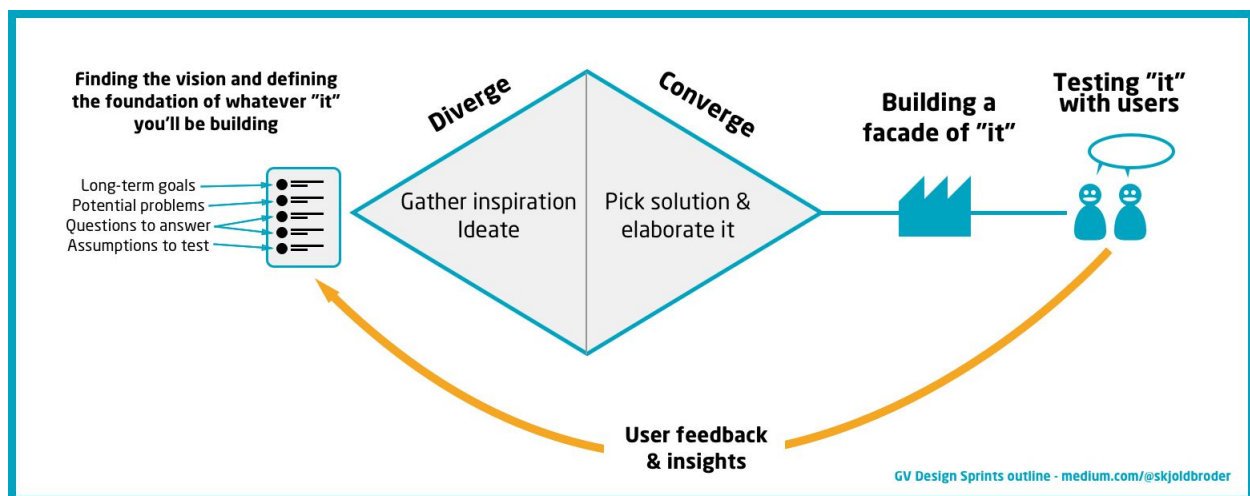

Figure 8. Framework for designing and prototyping.

The objective was to deliver a storyboard and prototype an application that uses Augmented Reality (AR) as a tool to engage participation in the planning process of a real-life project in Cyprus. The Design Sprint was informed by the literature review presented in section 4 and by an additional literature review on the use of IT and AR in participatory initiatives, carried out by Cyprus University of Technology. The prototype is to be tested on the selected case study in Cyprus in order to assess the viability and effectiveness of embedding innovative technology in participatory practices to improve urban governance.

The Design Sprint began with the introduction of the challenge, summarised in the statement: "how might we design a system/product/service that fosters planning participation in the decision-making process of urban planning projects?" The participants were then asked to listen to Lightning Talks and capture their emerging ideas on post-it notes. The Lightning Talks included: a short summary of the round table discussions with planners and users in Cyprus, presentations on the current state of planning legislation, the case study where the AR application is to be tested, and a series of case studies that exemplified to the participants the application of AR in participatory planning practices. Understanding the current situation in the planning system of Cyprus was essential for the Harvard partners to cooperate and contribute in the design process. In order to achieve this, the participants worked through and responded openly to any questions posed about the Cypriot planning system.

In the remainder of activities of day-1, the participants set a series of objectives that the project might address, which they grouped and listed as more or less important. A diagram describing the whole process of participation was constructed to inform the prototyping process (figure 9).
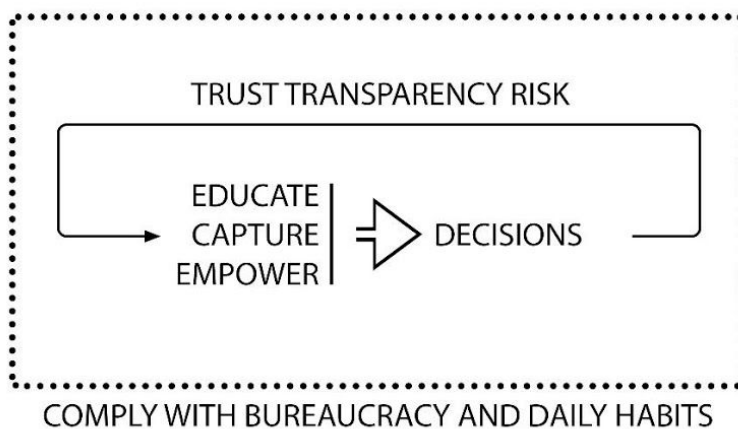

Figure 9. Diagram summarising the process of participation as understood by the Design Sprint team.

The team then created a user-journey for the application and brainstormed ideas for its design. Using affinity mapping (figure 10), the ideas were grouped into categories, each team member was then asked to vote for what they thought were the best ideas (each member had three votes). The ideas, posed as "how might we" notes, gave answers to the matters expressed at the Living Lab. The notes were not generic but not too broad, and aimed to express helpful ideas that create new challenges for the project. The notes were divided into categories based on the matter attended and the different 'actor' included.

Figure 10. Affinity mapping was used to group ideas into categories

Focusing on the most voted ideas, each participant designed a user journey, starting with a first step and moving on until the user completes the task. A description of each step, challenges and success metrics were included. All steps were investigated, from the point of turning on the app, through the phases of viewing, editing and presenting, until the final steps. The aim was to visualise the involvement of the application in the user's day. The team then moved on to sketching initial design ideas: each was asked to prepare a set of 8 ideas, present them and cast 3 votes for the sketches. Finally, each member selected their best idea to present on the following day.

The structure of day one followed a sequence of productive and entertaining activities that aimed at engaging collectivism and trust between the participants in order to execute the initial design in day-2. The participants used the interval between the two days to think and contemplate their own ideas in order to understand their qualities and disadvantages.

Day-2 started with a review of the previous day and presentation of the solution sketches. The following ideas were pinned and presented by the team (figure 11):

1. **pARticipate**: The idea uses Augmented Reality to create a 3D model by a generated palette of spatial elements used in different projects. The model is then shared through social platforms in order to create a circle of feedback.
2. **ARty**: This idea focuses on the editing and commenting by the public on uploaded work by the authorities. The aim is to provide continuous opportunities to users to express their feedback and become the designers.
3. **DESIGNbyPLAY**: This idea focuses on the creativity of designing and provides a user-friendly experience for all user profiles. Users with different ages can learn how to

get involved in public matters through uploading and watching otherss ideas on social media.

4. **design-ARt**: This idea also focuses on creativity as the motivator for users to publicly express their ideas, by sharing them with other citizens.

5. **grafitt-it**: The idea helps people to realise the city as a living organism, and buildings as a part of it. By allowing the users to use the art of graffiti with their phone used as a spray-head with unlimited options, as well as sharing their creations, grafittit aims for the public to claim the city by changing it.
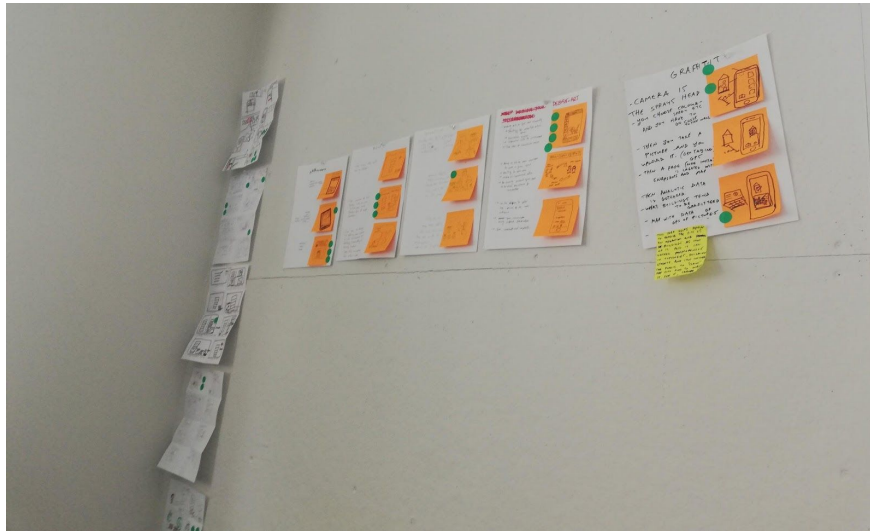

Figure 11. Ideas pin-up and presentations

The design sketches were pinned in a way that participants could distinguish ideas or note similar points. Following a recap of the criteria for selecting an idea to prototype, based on the challenge, goal, deliverables and success metrics, participants were asked again to cast three votes for the solution sketches. The ideas which received the most votes were merged into one, which would be developed into a prototype design. The idea was then deconstructed and mapped as a sequence containing the different stages of the application through a user test flow exercise. The steps were grouped and voted by importance in order to create and draw the storyboard of the application (figure 12).

Figure 12. Different steps organized the storyboard of the application

Once the storyboard was completed, the team assigned different actions to each participant for the prototyping. Day-2 concluded with the team starting the prototype and a preliminary design of the application interface. The guidelines for designing the prototype were to identify a solution to the problem, assess the quality of the ideas from the previous phase and making it realistic in order to be able to get a response from a potential user.

In Day-3 the team finalized the prototyping and began to validate the important elements of the design outcome. The storyboard was completed and a collective review of the key moments brought the participants together once more to discuss the usability and the effectiveness of the application, in order to conclude the Design Sprint. The prototype SUGAR app includes a user-friendly environment that generates a 3D model of the project and provides a series of specified elements to create their own proposal and view or comment other proposals. The app can be used as an educative tool for the citizens in order to be motivated and participate in public matters.

Framework for participatory planning in Cyprus

This framework sets out the vision for sustainable urban governance in Cyprus by proposing a structure for participation on three levels: setting the ground for engagement, a methodological strategy for participation, and specific methods for participatory activities for policy development and project consultations.

The ambition of the framework is to provide guidelines, based on the evidence presented in sections 3, 4 and 5, to establish a planning environment where information is easily accessible, transparent, and in a format that makes it simple for the public and other stakeholders to understand the nature, content and context of policy and proposals. The basis of sustainable urban governance is thus envisioned as a "unified political, communicative and designer endeavour" (Iversen and Dindler, 2014) in order to facilitate formal and informal structures for participation. Furthermore, the framework suggests the establishment of a methodological strategy for engagement, which should be implemented along with the existing procedures for public consultations. Within this strategy specific methods are given for participatory activities to inform the drafting of policies (local plans and area schemes) and to effectively manage public consultations for individual project proposals.

Acknowledging that within current legislative requirements, the framework cannot immediately or fully replace existing provisions for public consultations, it is suggested that the authorities should initiate effort to improve existing means of communication and engagement, which can support current activities. Additionally, new activities should be set in place to provide for greater and more meaningful participation, with methods appropriate either to the strategic level of policy making or to the design level of a specific project. While this may seem to pose a burden on the relevant authorities to input greater time and resources into an already difficult process, the proposed framework has the objective to make participation more effective and less conflictual in the long term. Authorities can therefore chose to develop a plan for the future based on this framework, implement it for testing according to available resource, and eventually review the legislative process based on an evaluation and outcomes of new activities.

The framework suggests creating means of communication in order to build trust among citizens and stakeholders, which will lead to greater engagement and more relevant debates on key development issues. Practical engagement activities should take place through the strategy of Urban Living Labs (ULLs), which will apply to all policy levels and projects; for each of these the specific methods are described. All outcomes of the activities should be feedbacked to the participants and the wider public in order to sustain trust and engagement through communication. The basic features of the framework are summarised in figure 13 and described in detail in the sections below.
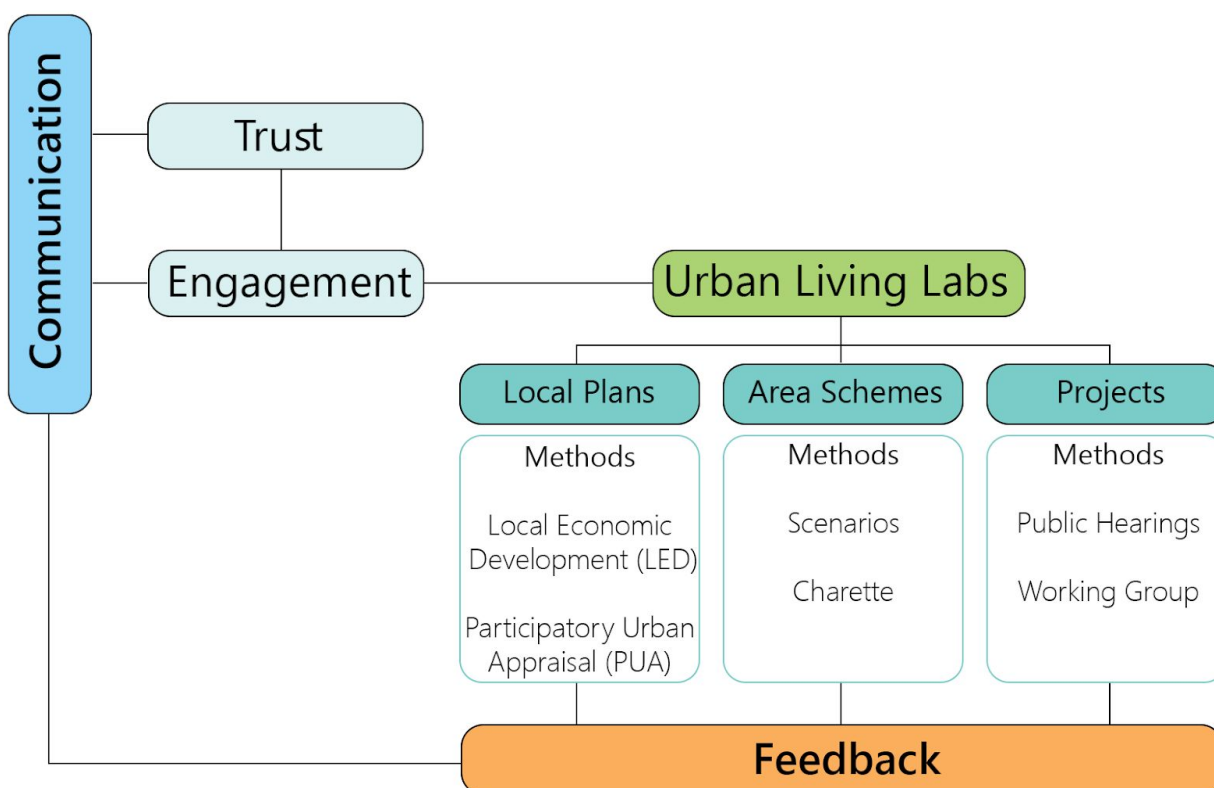
Figure 13. Participatory planning framework diagram

Setting the ground: developing trust for meaningful engagement

One of the key outcomes from the living labs presented in section 5 was that there currently is a deep lack of trust between the authorities and the public. Such lack of trust has been shown to lead to failures in participation (Busch, 2016), with outcomes such as poor engagement and reverting to top-down approaches to planning. The lack of trust in Cyprus is mutual: the public does not believe the authorities really want to engage them or will listen to them, while the authorities do not believe that engagement can be achieved or that the public will contribute anything more than personal interest.

The first step to secure engagement is to build such trust. This can be achieved through increasing public awareness about planning issues on the one hand, and providing accessible information on the other. The process of mutual learning between authorities and the public should be viewed as the basis as well as an outcome of participation. Transparent communication is vital to build trust; for this purpose, a user-friendly online planning portal should be developed for stakeholders to access information, be informed about activities, submit contributions and gain feedback on the outcomes of participatory activities. Firstly, such a platform should include clear and summarised information about current policies and legislation,

key issues for development in Cyprus, general evidence summaries which inform policy development and projects, as well as a list of all current plans and proposals under ongoing consultation. This part of the platform should enable authorities and planners to inform the public, state the evidence and rationale behind their decisions, and, more generally, provide educational content about the impact of development on citizens' quality of life, the environment and socio-economic factors. Secondly, the platform should provide a calendar of all participatory activities and consultation meetings, including location, time and format of the activity, as well as the aims and objectives of each activity. Documentation and information needed to participate should be provided here, along with feedback on the outcomes of the activities and relevant actions taken by the authorities, designers or developers. Finally, a submission system should also be included to facilitate greater engagement and enable those who cannot attend activities in person to contribute, while also providing space and time to question and discuss proposal outside of the pressure and time constraints of public meetings. This part could include facilities to submit general comments and suggestions for policies and projects, responses to specific calls for contributions in relation to public hearings and participatory activities, as well as embedding a system for the formal process of objections to the Minister. Additionally, businesses and research establishments could contribute data and evidence to support policy developments and projects' assessments through the portal. A diagram of the proposed system is shown in figure 14.
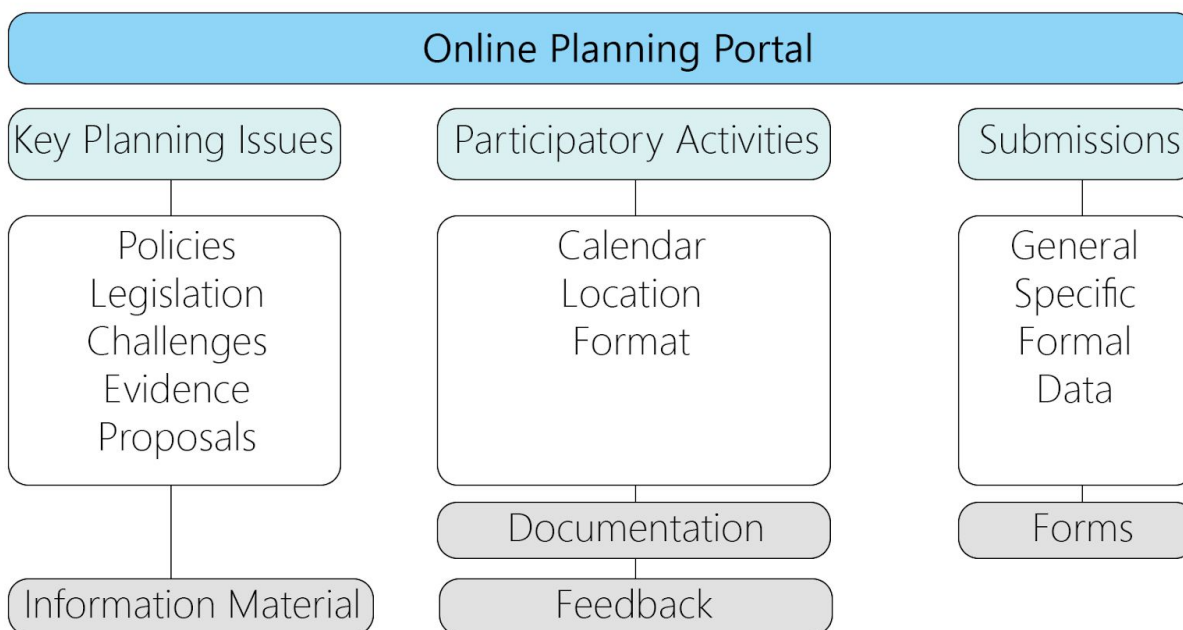

Figure 14. Diagram of a potential planning portal

While an online portal should aim to be comprehensive in nature, it should also remain simple and easy to navigate in order to facilitate users. At the same time, other existing formats of communication should be kept in place in order to ensure broad engagement and reach out to those groups who are less likely to access information electronically. The quality and efficiency of it will be dependent on the quality of the information provided within the portal. Therefore, the materials included should meet the needs expressed by those who have experienced current practices: the information should be concise, clear, devoid of technical language and provide easy-to-understand visuals when presenting specific projects.

It must be underlined that the portal itself and access to information does not necessarily ensure the building of trust. From the point of view of the participants, feedback will be the key factor in trust development, especially the specificity of information as to how their input was embedded in policy or design, as well as clear reasoning in case this was not. From the point of view of the planners, meaningful, informed and constructive input will be vital in trust development; for this to happen the evidence and information on key planning issues must be clear and convincing for the users, while the format for input should enable users to be constructive.

To facilitate users, it is very important that the portal should be a single-access point for all administrative areas and all policy levels. For this to happen it will need to be managed centrally with input from and feedback to each local authority with legislative powers. As such it will require the assignment of specific roles in various organisations and the willingness and ability to work across departments in order to produce a successful output.

A strategy for engagement: urban living labs

Urban living labs (ULLs) are effective instruments in bringing different actors together and developing solutions to specific issues. The production of local knowledge is one of the most significant outcomes of ULLs, which are flexible formats for participation and can comprise several methods and tools. Since ULLs were shown to be successful when set up for a specific purpose, case or scale, this framework suggests that rather than using a single format for all policy and design levels, ULLs should be designed and comprise specific tools for different levels of policy-making and for specific projects.

The key characteristics of ULLs is that they take place in real, physical environments. As such the online planning platform described in section 6.1 should only be a supporting feature for actual practical activities and not replace face-to-face participation. While it may seem obvious that a physical space is required for participatory activities, what is meant in the context of ULLs is that the activity should take place on the site of policy or design development. In the case of local plans, this would comprise a number of different venues or key public spaces across metropolitan areas; in the case of area schemes, they should take place within the area, ideally

on the specific sites where issues are present or development is due to take place; in the case of project proposals, they should happen on site, either in public space or within a venue that is comprised in the proposal.

Continuity of engagement and participation is a key element of sustainable urban governance and ULLs can be set up as a continuous process, at least for certain levels of policy making. When related to a specific project with a limited time frame, ULLs can take place in an extended form with activities starting prior to commissioning and design and finishing after completion as a form of post-occupancy evaluation, which should enable unanticipated change to the final product or solution if deemed necessary. This framework suggests that for the level of Local Plans, ULLs are run continuously once every six months regardless of the implementation stage of the plan. The content of these ULLs should be adapted according to whether the plan is undergoing the study phase, the drafting or being implemented: the strategic level of such plans requires regular input from stakeholders and activities can focus on assessments and consultations during the study phase, reviewing during drafting or evaluation and future planning during implementation. Such a participatory model can enable engagement for urban governance when it is deemed to be most necessary for sustainability: when users may be less engaged following an official policy output. Evaluation and future planning during implementation phases support trust building by providing feedback and ensuring that users are aware that they continue to have the ability to influence plans. Local Plans ULLs should change location regularly and take place in a variety of venues within the metropolitan area and at a variety of times to broaden and widen their accessibility. The same recurrent model of participation should be used for Area Schemes whenever these are in place, new ULLs should be set up prior to the study phase of a scheme for areas which did not have an existing one. In this case, however, if a specific area scheme is to remain 'dormant' for a substantial amount of time with no deadline set for its renewal, then consideration should be given to interrupting the relevant ULL, since requiring commitment to participate with no expected outcome in a reasonable time frame can be counterproductive, frustrating participants and burdening resources. When it comes to individual projects, authorities should initiate a ULL prior to a call for a competition or any discussion with potential developers, so that the outcomes of participatory activities can be embedded in the call and plan requirements, or as soon as it becomes clear that a proposal will be submitted to the authorities. In these cases, the ULLs should take place more intensively, according to the timeframe of the project, possibly ranging from once a month to once every three months. Having greater intensity of participatory activities in the early stages of a project should be considered in order to minimise conflict and objections in the later stages, as well as to minimise the potential of unanticipated changes that may be required to meet the expectations and needs of users after the completion of a project.

In order to make ULLs effective in terms of level of participation and inclusivity, as well as avoiding bias, the recommendations drawn from the literature review presented in section 3 should be applied. Aside for the support, engagement and trust building provided by an online platform, those in charge of organising activities should pay attention to reaching specific minority and disadvantaged groups, exploiting social capital to develop networks, which can relay information on activities to the ever more varied range of social groups present in Cyprus. An element of sustainable urban governance is understanding and catering for the community of the future, rather than the present (Baum, 1998); therefore, the planning of participatory activities should consider and take decisions on who constitutes the community that will inhabit the urban areas affected by policies and projects in the future. The ability to create a solution to problems which affect them remains the key factor in participation: ULLs should be designed to harness the creative power that users and stakeholders can contribute to address pressing urban issues. Coordination of multiple views can be approached in a variety of ways; the ability to diverge from common or official views and attempting to converge to a solution are the core elements and the ultimate aim of implementing participatory practices. The specific methods to be used in ULLs will be described in the next sections, but generally, it is important to be sensitive to the choice of facilitators for the ULLs. In many cases, these may need to be familiar and have experience of planning procedures and legislation, especially at the level of policy-making. In other cases, it may be best to have an impartial, generic facilitator, not necessarily an expert in the field, who has the skills to manage conflictual statements and behaviour and equitably distribute the opportunities to have a say and influence decisions; this may be a best option for specific large projects, which impact on stakeholders' personal and business interests.

Methods for participation

This framework proposes different specific methods for the ULLs according to the more or less strategic level of planning under consideration in the participatory activities. Broader, more structural methods of capacity-building, mobilisation of resources and production of knowledge are considered more suitable to the higher policy-making level of Local Plans. Such methods would enable authorities to gain knowledge of resources, identify issues and evaluate plans, without requiring stakeholders to get into the details of drafting and reviewing policies. At the same time, it enables participants to develop partnerships and networks, and mobilise capacity to influence decisions without needed to commit to learning technical language and procedures. For the lower level of Area Schemes, the framework proposes using methods which enable participants to develop a common vision for an area and alternative solutions. At the same time, the methods would enable stakeholders and communities to input their perspective into design and planning proposals, without necessarily having the technical skills needed by professionals. At the level of individual projects, the framework retains the existing legislative procedure of

going through public hearings as a means of embedding the formal process within the format of the ULLs and in order to facilitate a potential transition to another system in the future. However, an additional method is suggested to work along the existing one in order to improve outcomes and to extend the participatory process to a more comprehensive, longer-term, sustainable feature of urban governance.

Local Plans

The methods proposed for use in Local Plans ULLs are Local Economic Development (LED) and Participatory Urban Appraisal (PUA), adapted from the participatory rural appraisal (PRA) method for use in urban environments.

LED should aim at developing private-public partnerships, social networks and mobilisation of local resources. As such, it is more geared towards engaging businesses, from large companies to SMEs, NGOs, civic groups, knowledge and innovation industries. The aim of LED is to achieve consensus and build a common vision for the future of the city. It embeds labour-based and industry-based methods to foster economic sustainability, which is of great importance to achieve long-term engagement of private companies, unions, academia, as well as the public sector. For it to be successful, it requires commitment by the authorities at policy-making and implementation stage. This can be problematic if employed outside of formal public consultation structures, but as is the case for this framework, this would be built in existing policy-making procedures.

LED is deployed through workshops, where people from all sectors work together to stimulate local economic activity; it focuses on stimulating the labour market through the creation of high-quality jobs and improving quality of life for all by agreeing on environmental justice objectives. It was developed by the United Nations Human Settlements Programme (UNHS) and works through the process of researching present conditions, visualising the future, developing strategies and actions for implementation, and evaluating results and impacts. The methodology is summarised in figure 15.

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Figure 15. The LED methodology: ten steps to planning excellence (Source: UNHS and Bonilla, 2009)

The research phase of an LED aims at building a deep analysis of the social, economic and environmental situation of the area, coupled with surveys across municipalities and stakeholders to identify concerns, problems, ideas, resources and assets for socio-economic and environmental development. In the planning phase, participants firstly construct a vision for the metropolitan area, and set goals and strategies for development. They then determine collective approaches and partnerships to reach the goals. An analysis of strengths, weaknesses, opportunities and threats (SWOT analysis) is used to initiate discussion and to agree on fundamental values and principles for the future of the metropolitan area. Once a vision is developed, the main objectives of a strategy are set, the participants move on to design a plan based on available opportunities and to sketch specific projects, which would help meeting the objectives. Monitoring and evaluation takes place throughout the process and is based on feedback provided by research organisations and observatories.

PUA aims at developing shared learning to assess resources, identify issues and propose solutions, as well as evaluating plans and interventions. Its benefit is that it requires no technical knowledge to collect data, as such it is particularly suitable to work with users and the general public. The tools used in PUA are: rapport-building with the community to raise awareness of

planning and development issues, meetings and workshops to discuss the issues raised, involving the community in collecting and submitting information about different localities, specific sessions to engage minority and hard-to-reach groups, and working groups to co-develop action plans. For this method to be successful, it is vital to have the resources to process the data and information provided by participants and for the authorities to be committed to co-development of plans rather than dominating discussions or leading policy development.

The key element of PUA, however, is gaining insight from the community through group discussions, site visits and resources mapping, followed by an in-depth analysis to prioritise issues and find possible solutions. In some cases, this is done through diagnostic workshops with the community and other key stakeholders, including planning authorities; in other cases, statistical methods can be used for prioritisation. How the different elements of PUA interact to produce analysis, consensus and decision-making is summarised in figure 16.
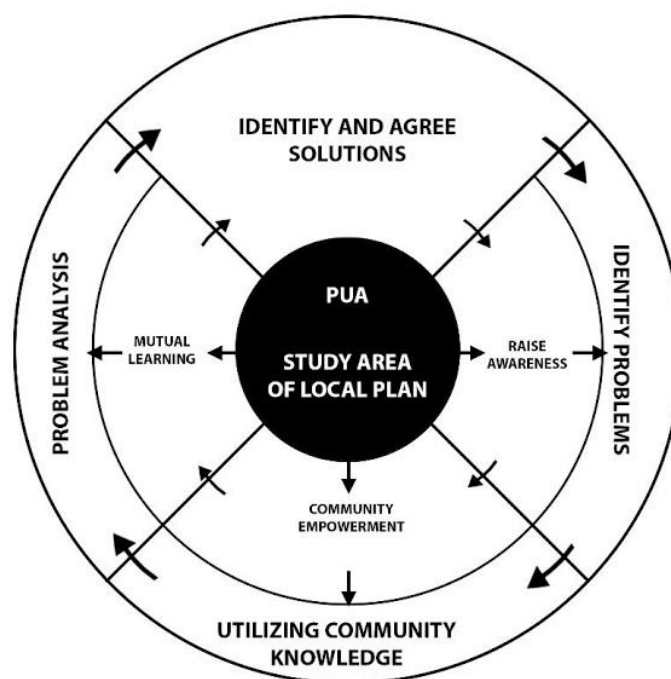

Figure 16. Interaction cycle among the different participatory urban appraisal (PUA) components (inputs) used for problem analysis, determination of priorities for development and community empowerment (outcomes). Adapted from Al-Qubatee et al., 2017

Area Schemes

The methods proposed for use in Area Schemes ULLs are Scenarios and Charrette. Rather than using methods to build a broad vision, at the level of area schemes, it should be possible to be

more specific and gain participants' input into developing relatively detailed scenarios for an area. Furthermore, ULLs at this level should facilitate embedding user perspectives into planning and design policies. The use of scenarios would enable the development of long-term plans, which can evolve as do the socio-economic characteristics of the area, and can help finding an agreed solution through the selection of a preferred scenario.

Scenarios are normally developed through opinion surveys and workshops, where leadership and assessment of data and resources is provided by the authorities, while the scenarios are developed by the participants through structured, expert facilitation, using mapping exercises, the construction of mock-ups and the use of IT applications for visualisations. The goal is to develop a collaborative environment and producing 'open contents' to embed in plans. The scenarios can be tested and evaluated for their feasibility either by the authorities or by research institutions involved in the participatory process. A structure for scenario building is shown in figure 17.
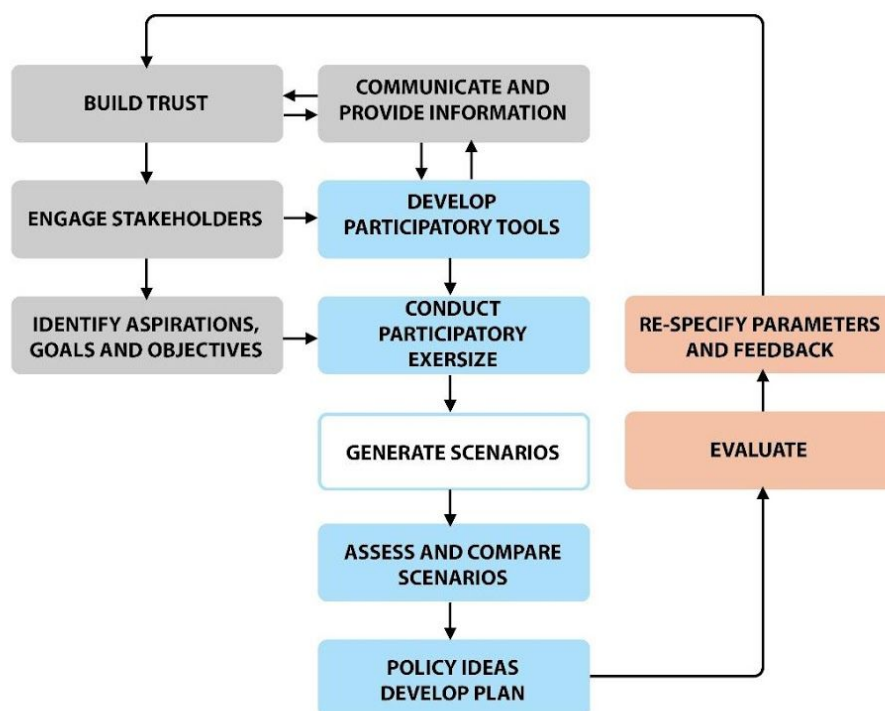

Figure 17. Process for scenario development. Adapted from Chakraborty, 2001.

One of the issues with scenario building is that it may not provide a single solution for an area. However, it offers the authorities a variety of views and resources to test and embed in plans while giving participants the ability to create a comprehensive solution for consideration by the planning authorities.

The Charrette works through highly structured, facilitated workshops, using drawing, creative and hands-on task. The benefit of this method is that it can be used in conjunction with or as a tool for scenario building; it is particularly suitable when scenarios for solutions require greater design input, but it is important that the participants fully understand the objectives of area schemes and of the proposed scenarios. Generally, a charrette works through four phases: visioning and concept design, data analysis, technical design, implementation phase and evaluation. The goals of the plan are agreed at the begging of the design process, infrastructural, practical and emotional user needs are assessed, and then the participants develop plans and designs for the area. As the scheme is implemented, research is carried out to assess its performance and then evaluated by the participants to set the ground for a new iteration of policy making.

Projects

The framework proposes that with regards to individual projects, the current system of public consultation should remain in place until a re-evaluation of the legislative procedure. However, it is proposed that this should work in parallel with the method of the Working Group to enable democratisation of planning practices in specific contexts. A working group should be set up, ideally prior to a competition call or the development of proposals, so that users and stakeholders can input their views in the earliest stages of a project. The benefit of a working group is that it develops a set of highly engaged and committed individuals, who are afforded the ability to gain information, analyse issues, consider a variety of views and propose solutions and alternatives outside of the limited time and framework provided through public hearings. This enables committed participants to develop understanding and ideas collaboratively, to question proposal aside of the pressures of public hearings, and to converge to possible solutions prior to public meetings. This can provide for a more constructive and fruitful dialogue between authorities, designers and participants, as well as building social capital for communicating the issues, details and technical aspects of projects. Sensitivity is needed in the set-up, facilitation and management of accountability of the working group for it to be inclusive and serve the need of the community, as well as acting as a resource for both the authority and the public. The use of this method should remain transparent to the wider public in order not to turn into a system for more powerful and resourceful stakeholders to steer the direction of public consultations

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Conclusions

The framework addresses the fundamental issues that are negatively affecting urban governance in Cyprus: poor communication and lack of trust between citizens and the authorities. The state-of-the-art highlights that achieving truly effective participation hinges on addressing bias and limitations. In particular, for the case of Cyprus, this means establishing a process that fosters a constructive dialogue between all stakeholders, so that policy makers and planning regulators find the activities fruitful and beneficial. This would lead to implementation of the outcomes of participation (addressing limitations) and would ensure that participants feel they have been included and power over planning decisions is distributed equitably (addressing bias). Sustainable urban governance through participation should emphasise citizens' choice around planning issues. This, however, does not mean that users are simply given the freedom to produce 'wish-lists'; planners should also limit and eliminate options transparently, so that the process does not construct unrealistic and undeliverable expectations. In fact, a renewed governance system should aim at "governing through participation" (Rosol, 2015, p.270) by addressing lack of planning knowledge with outreach, education and 'responsibilisation' through choice to set the basis for consensus-building (Rosol, 2015).

The framework aims to support urban governance and as such relates to policy making at the level of Local Plans and Area Schemes, as well as individual development projects; the Policy Statement for the Countryside is not considered by the framework as it mostly relates to rural areas. As the Island Plan was never implemented, this was also excluded from the framework. Proposed development plans under consideration for adoption in the future are: a redrafted Island Plan, Regional and Sub-Regional Plans, and Actions Plans. No details are yet available with regards to new proposed plans; most are at higher strategic level than Local Plans, while action plans may provide more detail in relation to the implementation procedure of the various policies. A framework for participation in policy making for new plans may follow what is proposed here, depending on the strategic level of the plan, but should be reviewed in line with the aims, objectives and scale of each plan.

The main challenge to the implementation of the framework will be the availability of resources to implement additional and more comprehensive activities, as well as the online platform needed for effective communication. Budgeting will need to reflect new and additional procedures; in order to minimise costs and maximise existing assets, current procedures can be adapted to match methods suggested by the framework. For example, the current period of submission of ideas and proposals (article 12C of the Town and Planning Law) can take place within the format of the ULLs, as can the municipal and communal meetings if changed procedures are agreed by

the Ministry of Interior, as well as some of the public hearings (defined in article 12D of the Town and Planning Law). Digitalisation of documents and of the procedure for objections can also make the participatory system more resource efficient in the long term.

Another challenge for effective implementation are the skills needed to run and facilitate participatory activities. The selection of appropriate and experienced facilitators will play a role in addressing this challenge. While training for the professionals leading the activities would be beneficial, it is expected that the organisations and individuals involved in the process will develop skills and build capacity through the experience of the system. Capacity-building, through the identification and development of social networks and social capital, will also be needed to identify the 'communities of the future' and those hard-to-reach groups, who should be involved in participatory activities. In this respect, action research led by academic institutions or NGOs can be a system to stimulate the mutual creation of capacity and sharing of knowledge and experience across stakeholders. Furthermore, strategies aimed at equitably distributing and managing the balance of power amongst actors will be vital in promoting and supporting the transformative capacity needed to achieve sustainable urban governance (Nordström and Wales, 2019).

As McGovern states "an inherent and unavoidable tension between technical expertise and citizen participation pervades any planning process" (2013, p.321). Perhaps such tension will never completely disappear, but a shared civic vision should be reflected in plans, policies and designs. This cannot rely solely on the good intentions of planners, municipal officers or politicians; clear mandates are needed for citizens to participate in and monitor planning decisions beyond an advisory role and throughout the planning process. A reform towards sustainable urban governance will take time. As suggested by Healey (2006), such a process is evolutionary and transformation can only be sustained through long-term commitment to shifting economic, socio-cultural and political relations through the institutionalisation of innovations in governance.

Appendix A: List of reviewed articles

Articles referenced and used in literature review

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