Balanced urban design process to create resilient and sustainable urban environments

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http://dx.doi.org/10.4324/9781315142074

Chapter 41

Balanced urban design process to create resilient and sustainable urban environments

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Abstract

Today, urban design plays a key role in the creation of sustainable urban environments in terms of the "triple bottom line," that encompasses the three dimensions of life—economics; social and environmental sustainability.

Even though urban design has a wider scope for achieving sustainability on all its three fronts, the current process of urban design has often become an obstacle to attaining this scope. The current urban design process is top-down and there are serious criticisms of this process as it may not touch the "ground" level community requirements. Accordingly, in order to overcome the drawbacks of the current top-down process, researches have discussed implementing a community oriented bottom-up process.

However, it is found that the bottom-up urban design process has its own negative features which can adversely affect the creation of sustainable urban designs.

Accordingly, it is illustrated that neither the current top-down process nor the suggested bottom-up process will address the critical issues for achieving the current scope of urban design and, therefore, a "balanced" community embedded urban design process was required to overcome the current research gap.

Accordingly, by adopting positive features of both top-down and bottom-up processes derived from literature, this chapter develops a new community embedded balanced urban design process framework.

41.1 Introduction

The international conference that took place in 1956 at Harvard's Graduate School of Design on the future of cities, pioneered the creation of the discipline Urban Design (UD) in the 1960s. Carmona et al. (2010[BIB-010]) state the profession was typified by the concept of city beautification by concentrating on the visual qualities and aesthetic experience of urban spaces, rather than the myriad cultural, social, economic, political and spatial factors and processes contributing to successful urban places.

Larice and Macdonald (2013[BIB-019]) specify the specific reason for the emergence of the profession of urban design in the 1960s as being the beautification of cities. Cities in the 1960s were heavily polluted due to 100 years of

industrialization and urban sprawl was seen everywhere in cities. In western countries industrialization had almost come to an end by this time and patterns of livelihood were changing to a more service-based economic sector. Therefore, there was an extensive need to regenerate cities from the increasingly deprived situations caused by declining industries and to bring life back into them. However, at that time, the architect's role was concentrated on designing buildings; urban planning was more policy-oriented and did not focus on specific town and street design. Therefore, there was no profession which could undertake the care of the aesthetic aspect of cities and concentrate on how to create beautiful cities. Consequently, an outcome of the international conference that took place at Harvard in 1956 was a discipline to bridge the gap between urban planning and architecture.

The discussion set out in this chapter reveals when and where the profession originated, its original scope and the key reason for the introduction of the profession. Section 41.2 will discuss the role of urban design in today's context and how it can contribute to the sustainable urban development.

41.2 Current scope of urban design and its role in urban development

In today's world, the scope of urban design is wider, endeavouring to enhance the socio, economic, and environmental life of a city. Urban design is the art of making

places in an urban context which involves designing groups of buildings and the spaces and landscapes between them and also creating frameworks for successful development (Urban Design Group 2011[BIB-028]).

There is a debate existing over the definition and scope of urban design and urban planning. In fact, the two disciplines are interrelated but there are certain features which distinguish urban design from urban planning. The urban planner perceives land-use, job creation, and equity in a two-dimensional sense whereas the urban designer thinks about how to make the area work as a place which is memorable and pleasant in a three-dimensional sense. As Madanipour (2006) states, "Urban planning and urban design are getting closer together" as urban design makes planning "more forward looking" and "by developing visions for the future of their area." However, it is important to distinguish between urban design and urban planning as this study is focused on urban design and not on urban planning. Accordingly, Table 41.1 distinguishes between urban design and urban planning:

Table 41.1 Here

As mentioned earlier, at the time urban design was introduced as a separate profession, city beautification was the fundamental purpose of urban design. Over time, the scope and objectives of urban design have changed so that now, urban design plays a vital role in city development. Today, urban design has become a

collaborative discipline that combines with others to create three-dimensional forms and spaces that function effectively for people.

Today, the concept of sustainability has become integrated with urban design. As Ritchie and Thomas (2013[BIB-025]) describe, sustainable urban design should share the values of social, economic, and environmental sustainability.

41.3 The urban design process (key stages in an UD process)

There are key stages in any urban design process. Roberts and Greed (2001[BIB-026]) state that the urban design process occurs in four sequential stages which are called the framework for urban design and cover the following:

- Defining the problem.
- Developing a rationale.
- Summary of development opportunities and constraints.
- Conceptualising and evaluating urban design options. (Adapted from: Roberts & Greed 2001[BIB-026])

As Roberts and Greed (2001[BIB-026]) discovered in the first stage, "defining the problem," the study area is defined, surveys of the study area are conducted and the urban form and activities are analyzed. Thereafter, the second stage, "developing a rationale," planning/socio-economic context, built form/townscape, land use/activity movement or access, physical and natural environment, socio-space and cultural space

and public realms are assessed by means of SWOT analysis or scenario development. Thirdly, the development opportunities and constraints are developed and then, the developed urban design options are evaluated before finalizing the scheme.

Similarly, Moughtin (2003[BIB-021]) describes the urban design process in line with the RIBA practice and management hand book of the time. He also explains that there are four main phases in the design process which are as follows:

- Phase 1 Assimilation: the accumulation of general information and information specifically related to the problem.
- Phase 2 General Study: the investigation of the nature of the problem: the investigation of possible solutions.
- Phase 3 Development: the development of one or more solutions.
- Phase 4 Communication: the communication of the chosen solution to the client. (Adapted from Moughtin 2003[BIB-021])

As Moughtin (2003[BIB-021]) explains in phase 1, "Assimilation," the background of the urban design process is prepared including information specifically related to the urban design problem in question. Thereafter, in phase 2, "General Study," the urban analysis is conducted while investigating some possible solutions. In phase 3, "Development," possible solutions identified at the previous stage are further developed before communicating them to the client. With the exception of

phase 4, “Communication,” the previous three phases are all similar to those discovered by Roberts and Greed (2001[BIB-026]).

Carmona et al. (2010[BIB-010]) introduce the urban design process in stages and have stated that each stage represents a complex set of activities, which, while generally portrayed as a linear process, is iterative and cyclical. Each sequential stage is presented below:

- Setting goals – in conjunction with other actors (particularly clients and stakeholders), having regard to economic and political realities, proposed timescale and client and stakeholder requirements.
- Analysis – gathering and analysing information and ideas that might inform the design solutions.
- Visioning – generating and developing possible solutions through an iterative process of imaging and presentation, usually informed by personal experience and design philosophies.
- Synthesis and prediction – testing the generated solutions as a means of identifying workable alternatives.
- Decision making – identifying which alternatives can be discarded and which are worthy of further refinement or promotion as preferred design solutions.

- Evaluation – (appraisal) reviewing the finished product against the identified goals. (Adapted from Carmona et al. 2010[BIB-010])

When critically evaluating the stages introduced by different researchers for the urban design process, it can be noted that all of them generate common stages but use different names. Accordingly, based on different viewpoints, the authors have established five key stages in the urban design process. In other words, the literature informed the urban design process framework described in the latter part of the chapter which has been developed and explained using these five key stages for the urban design process. The five key stages are as follows:

1. The preparation stage – A platform for creating a project team, deciding deadlines etc. This stage must take place before assessing urban issues.
2. Problem identification stage – This is the point at which initial urban issues and problems are identified.
3. Urban analysis stage – A detailed analysis of the urban environment takes place at this stage which can lead to a SWOT analysis etc.
4. Vision and strategy generation – This is the stage where initial solutions are developed, assessed and refined.

5. Design development stage – The stage where the solutions that have been developed are individually assessed to form solutions that are realistic and feasible.

41.4 Urban design process in practice

The current process employed in urban design is often seen as too top-down in method and there are serious concerns and criticisms over this issue. The main criticism is that a top-down process does not help to achieve sustainability indicators usually explored in today's urban context (Roy & Ganguly 2009[BIB-027]). The classic approach to urban development (top-down) generally provides early and high level planning. Greed and Roberts (2014[BIB-016]) ask the question, "Who are the real designers?" which prompts two sub–questions: "professionals?" or "community groups?" The urban professional already has a contextual base, i.e., the "place" that requires development; understanding of "place" is strengthened with the help and participation of concerned stakeholders. In fact, "place making" is now recognized as a vitally important dimension of urban design facilitated by community engagement.

As stated above, the current urban design process is mainly top-down and dominated by urban planners and designers and offers few opportunities for the community to partake. However, there is no rigid urban design process in practice as most of the urban design processes are tailor made to the particular urban context.

However, it is generally considered that the UD process is top-down where there are limited opportunities for the community. Roberts and Greed (2001[BIB-026]) describe how the urban design process occurs in four sequential stages based on the behavior of project team members in these four stages. As they discovered, during the first stage, "defining the problem," the planning or design team appraises the study area by conducting surveys associated with the urban form by undertaking an activity analysis. Thereafter, based on the analysis, the team develops a rationale with a summary of development opportunities and constraints. In the latter stage, area strategies and urban design options are evaluated by team members who then finalize an urban design strategy for the area. This indicates that, in practice, the current urban design process is stiff and directly indicates that it is a totally top-down process.

There are several other urban design processes which are explained by different researchers and practitioners; some examples are the UD process explained by Moughtin (2003[BIB-021]) in line with the RIBA practice and management handbook of the time. Boyko et al. (2006[BIB-004]) identified a more recent development in the urban design process which has a better role for the stakeholder engagement. The Department of Infrastructure & Regional Development Australia (2013[BIB-014]) has developed its own urban design process as a part of an urban design protocol for Australian cities.

Lawson (2006[BIB-020]) describes the current process of urban design, which follows a sequence of activities, as unconvincing. He argues that many designers learn about the design problems largely by trying to solve them. As he explained, the current process does not allow a clear platform for in-depth analysis of urban problems and the process is led by designers.

41.5 Urban design process in practice and its implications on sustainable urban design

As mentioned in Section 41.4, the predominant urban design process has a high level, top-down approach. However, it is not justifiable to totally reject the current predominant top-down approach without assessing its positive and negative features. Accordingly, this section seeks to identify and analyse the positive and negative aspects of the current process in order to identify the implications for effective community engagement and, therefore, for sustainable development.

Fraser et al. (2006[BIB-015]) state that design processes typically led by experts, simply comply with the funding agencies and this top-down process may alienate the community and fail to capture locally significant factors. The authors further state that projects designed using this top-down model do not necessarily engage community members nor ensure that indicators are relevant at the local level. However, as explained by the same authors, this type of top-down processes reduces the risk of

being time and resource intensive. Larice and Macdonald (2013[BIB-019]) specified that a top-down urban design process is less time consuming as the whole process is pre-defined and controlled by professional actors. Supporting the argument of Fraser et al. (2006[BIB-015]) regarding the alienation of locally significant factors in a top-down process, Roy and Ganguly (2009[BIB-027]) stated that a classic top-down process provides early, high level planning which may not deal with the real issues at ground level. As the same authors explained, a top-down process has no significant understanding of the specific issues, or their cause, at ground level. The Commission for Architecture & Built Environment (2000[BIB-012]) argues that a blanket policy of using a top-down process across all locations at all times is not suitable for urban design because each design solution should be distinctive and specific to each context in which it is to be implemented.

The distinctiveness of the place has been widely discussed by the seminal author Norberg-Schulz (1980) who particularly explained that each location has its own distinct features which is, in effect, the “genius loci” of that particular place. Accordingly, the findings of the Commission for Architecture & Built Environment (2000[BIB-012]) has been firmly entrenched with the findings of Norberg-Schulz (1980). Where Schulz identifies the distinctiveness of each place, the Commission for Architecture & Built Environment has gone one step beyond and explored the

negative implications of a top-down process on the identification of distinctive features in a local context.

Carmona et al. (2003[BIB-009]) maintain that the danger of the top-down process is the prior formation of the agenda which may lead to the manipulation of local opinion rather than addressing genuine community needs that emerge through effective participation. Supporting the argument of Carmona et al. (2003[BIB-009]), and adding to that argument, the Commission for Architecture & Built Environment (2000[BIB-012]) has stated that local stakeholders often have particular insight into specific urban design issues affecting a given context and, therefore, urban design solutions developed through a top-down process may not be accepted by the majority of stakeholders. While many authors have discovered the negative implications of the current top-down process, Larice and Macdonald (2007[BIB-018]) exposed several of its positive implications. Accordingly, the authors have asserted that in a top-down process, development options or proposals are already prepared, therefore, it is easier to focus on the community consultation process. Furthermore, they discovered that a top-down process is less time consuming due to the whole process being predefined and controlled by professional actors. In addition, Larice and Macdonald (2007[BIB-018]) argue that a top-down process is more effective in terms of resource mobilization because professional experts mobilise, co-ordinate and interpret community options.

Even though Larice and Macdonald (2007[BIB-018]) are positive about the current process of urban design, Cooksey and Kikula (2005[BIB-013]) argue there are more negative implications in the current process than positive implications. As they discovered, the key positive implications are: a top-down approach gives government planners and designers a sense of control and efficiency while donor agencies are keener to invest in projects which have a top-down process because they feel that budgets can be maintained along with pre-established targets and timetables. However, as has also been argued, there are numerous negative implications to the top-down process and these are presented below:

- Decisions are made centrally by organizations that are remote from the project area. Participation of stakeholders is limited to the provision of data or to approving and adhering to what has already been planned.
- Planners and bureaucrats proceed from a starting point of a clean slate and assume they are in possession of all the requisite knowledge for improving people's lives. In reality, they are making interventions in a well-established, community social system which has survived over generations of struggle and interaction with the local environment.

- Plans are generally based on quantitative data or numerical estimations collected through rapid diagnostic feasibility studies or project formulation missions.
- Planning (as well as implementation) follows a pre-conceived project design (a master plan) with a fixed time schedule often extending over several years and leading to rigid interventions that do not respect or consider environmental changes, local initiatives, and development choices.
- The process follows a predetermined project design usually based on assumptions of uniformity and cost-effectiveness regardless of specific conditions pertinent to the area where the project is to be implemented.
- Top-down process is usually based on poor assumptions of social and environmental behavior which are often proven to be incorrect because locality and social formations differ. (Cooksey & Kikula 2005[BIB-013])

Karsten (2009) describes the current top-down urban design process from the perspective of urban planning and city development. She states that three urban discourses exist: the attractive city, the creative city, and the emancipatory city. She has argued that all of these dominant discourses are top-down and tend to overlook the day-to-day life of residents and particularly, of family residents. She further stated

that top-down processes focus only on city centres and not the needs and aspirations of local districts and residents.

Bell (2005[BIB-003]) argued that to achieve good urban design, it is necessary to identify local features such as, social and cultural features, heritage, movement and access, environmental management, and so on. She also stated that the current process of urban design often fails to identify such features in the local context, and therefore, this makes creating a good urban design challenging. Accordingly, she suggests the need for a new progressive process for urban design which has the scope to include the local context. Directly supporting the argument of Bell (2005[BIB-003]), Boyko et al. (2005) stated that the urban design process must be transformed to create sustainable urban environments.

Similarly, the Technical Manual for BREEAM Communities (BREEAM 2012[BIB-007]) has also specified that to ensure the needs, ideas, and knowledge of the community are considered, it is vital to change the rigid top-down process model, and to ultimately, achieve sustainability in urban design. Based on the findings from the literature synthesis in this section, the positive and negative features of the top-down process model can be summarized as follows:

Table 41.2 Here

As described in Section 41.2, the current scope of urban design is to create sustainable urban designs. Sustainable urban design is about creating high quality

neighbourhoods for people in terms of the "triple bottom line." Therefore, as determined in this section, to create sustainable environments, the urban design professional needs to diagnose the urban environment properly and create design solutions which match the needs and aspirations of the community.

Based on the findings from literature, the question can now be posed: How can this be achieved without the full engagement of the community, in every aspect of the design process, particularly urban analysis and vision creation? Without an in depth understanding of place, the "genius loci," designers tend to begin with a "clean sheet" and risk bringing development strategies that do not link the past, present and the future effectively through the design solution. Therefore, as discovered in this review, using a top-down process may result in the roots of local problems and local significant factors being overlooked. When local significant factors and problems are not clearly identified in the urban design solutions developed by professionals, primarily working alone, there is every chance they will not fulfil the needs and aspirations of local communities. It can also be argued that a development solution, which does not fulfil community needs and aspirations, may not be acceptable to local communities.

In consequence, current problems and issues in the area remain unsolved and additional issues are created; loss of community commitment to the area could ensue,

thus devaluing buildings and land which in the long term, could result in an unsustainable area. Accordingly, it can be noted that the current top-down process has many negative implications for sustainable development. However, as this section has established, a top-down process does have some positive implications, but on the whole, many authors and researchers reject a top-down urban design process and suggest that a bottom-up process is necessary to achieve sustainability in urban design. However, a fully bottom-up process has also been criticized by many authors and researchers citing loss of control and ineffectiveness. The nature of the bottom-up process proposed by many authors is discussed and criticisms relating to the bottom-up process are presented below.

41.6 Bottom-up urban design process against the top-down urban design process

To overcome the constraints identified in the top-down urban design process, many authors and researchers have discussed implementing a bottom-up approach in order to deliver sustainable urban designs. Roy and Ganguly (2009[BIB-027]) support the development of a bottom-up urban design process and argued that its approach to designing makes more sense because a community intuitively understands their needs and aspirations better than professional actors. Therefore, the involvement of a

community from the beginning to the end of a project will help to deliver more sustainable solutions.

Fraser et al. (2006[BIB-015]) state that a proper bottom-up approach, where the community can engage actively in the development process, will capture locally significant factors and will help to achieve better results in relation to sustainability indicators. These authors (Fraser et al. 2006[BIB-015]) provided many logical reasons as to why we should move to a proper bottom-up approach. Some of the key points that they make are as follows:

- A bottom-up approach provides a comprehensive assessment of local social, environmental and economic issues which help to diagnose the local context in a detailed manner rather than relying only on quantitative facts and figures.
- A bottom-up approach fills the gap between the problems identified by the planners and the actual problems that exist in an area. It also promotes increased sensitivity to local issues.
- Solutions generated through a bottom-up approach are grounded in the locality, and therefore, address local issues and provide sustainable solutions.

- A bottom-up approach increases a community's capacity to manage their environment, and therefore, the community is empowered.

Moughtin (2003[BIB-021]) cites the Millgate Project implemented in Nottinghamshire by the Nottingham Community and Housing Association. This project adopted the fundamental theories of sustainable development and permaculture. The community was allowed to design their own homes. The impetus for this project came from Mark Vidal Hall, the vicar of Chellaston, Derbyshire, who argued that the methods used by the architects and planners to create communities were quite wrong. His criticism was that the professionals involved in the building industry put more effort into the physical structure rather than being concerned with the requirements of the community. In this project, the community took on many responsibilities in order to successfully complete it from beginning to end. They felt that the project belonged to them and that the development was not forcibly implemented from the "top."

Reed (2006[BIB-024]) describes a whole system approach is needed to achieve real sustainability beyond the so-called "green design." He states that the whole process needs a change in thinking and in this model, he emphasizes the importance of having a proper bottom-up approach to understanding a place. This approach has been referred to as "regenerative design" because it seeks to restore the physical, social, and environmental systems to "good health."

Batty (2009[BIB-002]) states that cities have been treated as systems, and in the last two decades, the focus of city treatment has changed more towards systems whose structure emerges from the bottom up. Consequently, the author stated, in a bottom-up process, cities are treated as an emergent phenomenon, generated through a combination of hierarchical levels of decision, driven in a decentralized fashion.

Greed and Roberts (2014[BIB-016]) state that there has been considerable discussion on implementing a bottom-up urban design process. As they discuss in recent times, community members, residents and minority groups have had a particular interest in urban design issues where they believe “the feel” of the area is understood by the people who actually live in the area. Therefore, as described by the authors, non-professionals urgently want to have their say and look to bottom-up urban design processes.

Boyko et al. (2006[BIB-004]) state that sustainability issues should be addressed early in the urban design process and therefore, people who live, work, and socialize in urban environments have a fundamental role to play in urban design. Accordingly, Boyko et al. (2006[BIB-004]) suggest the constantly changing social, functional, aesthetic, and emotional needs should be addressed in the urban design process by providing community engagement opportunities throughout the process.

All the above literature suggests that the key characteristic of a bottom-up urban design process is community consultation and involvement from the beginning to the end of the project. This indicates the importance of consulting with the community at the urban analysis stage, as the early involvement of the community helps to properly diagnose the area. Likewise, as indicated in the above literature synthesis, consultation with the community should continue through all the stages from the urban analysis stage through to strategy generation and up to design finalization; the professional actor's role needs to focus on helping the community recognize the problems and the potential of their area.

This indicates that there is still a need for a proper bottom-up urban design process which actually identifies community needs and aspirations and delivers sustainable solutions.

While there are convincing facts for the implementation of a bottom-up process in urban design, there are strong arguments about the negative features of a bottom-up process which refute the adaptation of a bottom-up process for urban design. The next section discusses the drawbacks of the bottom-up process.

41.7 Bottom-up process: Is it a solid solution?

As evidenced in Section 41.6, the key characteristics of a bottom-up process is community engagement throughout the urban design process. Furthermore, the

section indicated that a bottom-up process is more decentralized and operates in a more liberated manner. However, as will be shown, there are criticisms concerning a bottom-up urban approach to a design process.

Cliff (2014[BIB-011]) states that the powerful role played by the non-designers in the urban design process is welcome and appreciated. The author further states that in order to understand the local context, the role of non-designers is crucial. However, the author argues against a design process which is fully grounded without the iterative mix of urban design philosophies and language. Similarly, Cooksey and Kikula (2005[BIB-013]) state that a bottom-up process is ideal in order to understand the local context but it may reduce planners' and designers' control which will result in reducing the efficiency of the UD process.

On the other hand, the same authors speculate that donor agencies may not be particularly interested in projects which employ a bottom-up process as they are cautious that budgets and targets may not be pre-established. Larice and Macdonald (2007[BIB-018]) also stated bottom-up processes may be time consuming and ineffective if they are not controlled by professionals but operate in a more decentralized manner. Pissourios (2014[BIB-023]) argues bottom-up communicative planning lacks the crucial components of a typical planning theory. Consequently, he argues that bottom-up planning is more decentralised and community based rather than integrating essential

theoretical support for the process. He argues that basic features, such as maintaining planning standards and classification of urban users, are totally absent in a bottom-up planning process.

The argument of Oakley and Tsao (2007[BIB-022]) is quite different from other arguments that have already been discussed. They believe that it is extremely difficult to attract community contribution due to the enormous commitment required of them throughout the process. This indicates that in a bottom-up process, there are many instances when a project team needs to hold community participatory workshops or discussions which are sometimes ineffective at certain stages of the process. Larice and Macdonald (2013[BIB-019]) share a similar theory to that put forward by Oakley and Tsao (2007[BIB-022]) on the effectiveness of community engagement but are more focused on the management of the community. The authors have argued that in a bottom-up process, it is quite difficult to manage the community if the development options and proposals are not already prepared. Annibal et al. (2013[BIB-001]) assert that local people have a unique perspective on their needs, joining up settlements, managing change through community-led planning and delivery of innovative services but the authors have stated that the community needs to be organised, and therefore, a statutory service needs to be engaged which can identify local priorities, secure resources, and undertake responsibilities.

Based on the above discussions it can be noted that even though the bottom-up process has been proposed as a potential process for urban design, it has its own weaknesses which can adversely affect the quality of the urban design project or its processes. Therefore, a pure bottom-up process itself may not be a complete solution as a new urban design process framework. Based on this argument, the following section explores the need for a new urban design process framework for sustainable urban designs.

41.8 The need for a new urban design process framework

As has been explored in Sections 41.4 and 41.5, the current urban design process is mainly top-down and it has a number of negative implications for the sustainable urban design. Therefore, as explored in Section 41.6, researchers and authors have discussed using a bottom-up process in urban design. Nevertheless, as outlined in Section 41.7, bottom-up processes have their own negative features which may adversely affect the creation of sustainable urban designs. Section 41.5 has explored the positive features of the current top-down urban design process which may positively affect the creation of sustainable urban designs. In order to avoid the drawbacks of both processes, researchers and authors have argued the need for a "*balanced"* urban design process integrating the positive features from both the bottom-up and top-down processes.

Pissourios (2014[BIB-023]) suggested a combined bottom-up/top-down process for a broader context of urban planning. As the author argued, top-down process planning was approached mainly as a technocratic procedure of urban intervention and planning theory was explained in the political discourse. As a result of this, planning has become a subject that takes decisions based on technical aspects rather than considering the needs of people and their environment. On the other hand, Pissourios (2014[BIB-023]) argues the emerging communicative urban planning process lacks the crucial components of a typical planning theory. He argues that bottom-up planning processes are more decentralized and community based rather than integrating essential theoretical support for the process. He suggests the need for an integrated process specifically in the context of urban planning. Similarly, Cliff (2014[BIB-011]) has explored the need for an integrated process, but in particular, for the context of urban design. She argued that the involvement of the community in urban design is vital; it should be an iterative, community-based process combined with core design principles. For this reason, she emphasizes the need for a community embedded urban design process which has input from urban design professionals.

As Carmona et al. (2010[BIB-010]) explain, the producer/consumer gap is a key issue in urban design. In this context, the "producer" is the urban designer and the people are the "consumers." The lack of direct consumer input is a key reason for the

producer/consumer gap. Since the consumer does not have any input into the process, the producer produces “poor quality” developments serving narrower financial purposes. Accordingly, a combined methodology to bridge the producer/consumer gap is needed. Annibal et al. (2013[BIB-001]) also emphasize the need for a community-based development but argued that it should be within a framework managed by urban designers. It was stated that a community needs to be organised to achieve successful engagement and therefore, a statutory service needs to be engaged which can identify local priorities, secure resources, and undertake responsibility.

Sections 41.5 to 41.7 have explored the literature conveying many different viewpoints about the urban design process. All of the points of view expressed within these sections have emphasized the need for a new urban design process framework which provides guidance on the tasks to be undertaken and how each task should be carried out at key stages in the urban design process. Accordingly, there is a strong need to develop a new urban design process framework which emphasizes community engagement but encompasses the essential positive features of a top-down urban design process.

Based on this, the next section explores the key factors of a good urban design process which leads to the creation of sustainable urban designs.

41.9 Literature-informed potential urban design process framework

As decisively discovered in previous sections (41.5–41.8), a new urban design process framework is required. However, there is still a question which needs to be answered about what factors are required for an urban design process which leads to the creation of sustainable urban designs. In fact, these factors have already been mentioned or discussed throughout the literature synthesis, as part of various topics. Here, the author's intention is to further clarify these factors and present them concisely in this section.

Carmona (2014[BIB-008]) declares a dedicated role played by non-designers to be one of the key factors for a good urban design process which leads to the creation of sustainable urban designs. The author emphasizes the need for the community to have a strong say in the urban design process, thus supporting the argument of Carmona (2014[BIB-008]) and Boyko et al. (2006[BIB-004]) who feel that ownership of the process should be given to the community.

According to this argument, a community should have an influential role, particularly in diagnosing the urban environment. BREEAM (2012[BIB-007]) has stated that a sustainable urban design process should identify the needs, ideas, and knowledge of the local community. Adding to the findings of BREEAM (2012[BIB-007]),

Bell (2005[BIB-003]) also avers that the professional actors should be responsive to community views and he suggests providing equal opportunities for the community, including wider stakeholders, to participate in the process and also specifies that professionals should acknowledge their participation.

Similarly, Walton et al. (2007[BIB-029]) suggested in a sustainable urban design, stakeholders should have the opportunity to participate in the decision-making process. Adding to Walton et al. (2007[BIB-029]), Lang (2005[BIB-017]) argues that stakeholders should have opportunities for augmentation in the UD process. According to Cooksey and Kikula (2005[BIB-013]), stakeholders should have real decision-making opportunities rather than being consulted just to get data. Boyko et al. (2010[BIB-005]), maintain that in a sustainable process of urban design, the professional actors should understand the views of outsiders. The same authors (Boyko et al. 2006[BIB-004]) have further emphasized the need for involvement of a broader spectrum of stakeholders in the urban design process. Adding to this, Bell (2005[BIB-003]) stated there should be a cross-disciplinary partnership in the urban design process.

Based on these discussions, it is clear that two factors are required for the urban design process to create sustainable urban designs: they are the influential role

provided by the community and participatory opportunities provided to a wide range of stakeholders.

As Lang (2005[BIB-017]) described, in an urban design process there should be a leader who can control and manage the UD process. Supporting this argument, Carmona (2014[BIB-008]) stated there should be a project champion to lead and control the UD process. Similarly, Cooksey and Kikula (2005[BIB-013]) stated that control and efficiency should be maintained in the urban design process. According to Bell (2005[BIB-003]), there should be a comprehensive scoping procedure in the UD process and there should be a leader to comprehensively scope the UD process. Based on the above stated viewpoints, it can clearly be seen that leadership is another factor essential to the urban design process.

Fraser et al. (2006[BIB-015]) stated that to ensure sustainability in the UD process, it is necessary to assess the local context in a detailed manner using the qualitative facts rather than relying purely on quantitative data. Boyko et al. (2006[BIB-004]) have declared a similar argument and stated that urban analysis should be focused on the local context rather than relying on quantitative methods. Cliff (2014[BIB-011]) has also specified that a successful urban design process should be community based but should also be combined with design principles.

This section indicated another factor which is that a comprehensive urban analysis should be made based on both subjective and objective elements.

As Walton et al. (2007[BIB-029]) discuss, a sustainable urban design process should provide a pathway to an in-depth understanding of the physical setting and should also appreciate local dynamics such as community values, customs, local history and so forth. According to Roy and Ganguly (2009[BIB-027]), the urban design process should deal with requirements at ground level and in addition, Fraser et al. (2006[BIB-015]) discovered that capturing locally significant factors is one of the key success factors for a sustainable UD process. Similarly, Bell (2005[BIB-003]) stated that working with local cultures is also a success factor in the UD process. Accordingly, the two other factors that have emerged from this section are: “the need for conducting an in-depth urban analysis based on ground level facts” and “the need for addressing local needs in the design solutions.”

Cooksey and Kikula (2005[BIB-013]) argued that professional actors should not propose an UD based on pre-determined assumptions of uniformities. He particularly emphasized the need to understand specific local conditions in the UD process. In a similar way, Lang (2005[BIB-017]) says that professionals should begin the UD process with an open mind, avoiding the use of generalized solutions. The Commission for Architecture & Built Enviornment (2000[BIB-012]) has also specified the need for a fresh

approach and has stressed the importance of designers avoiding the use of a blanket policy in the urban design process.

The final factor that has emerged from this section indicates that designers should avoid early decisions in the UD process and should always work according to the nature of the urban entity rather than using blanket policies.

Based on the factors that have been discussed in Section 41.8, a literature-informed potential urban design process framework can be presented, followed by a short description of what is expected to be done at each stage of the UD process.

Figure 41.1 Here

The first key factor derived from the literature explains that a leader should be appointed to take overall control of the UD process at the preparation stage. This is supported by the next key factor from the literature review which explains that there should be a feeling of control and efficiency throughout the process. This indicates that the project leader should create an atmosphere of being in full control throughout the UD process. In addition to this, the third key factor reveals that comprehensive scoping should be undertaken in the UD process and the literature findings have revealed that to scope the project process and to make the process efficient, whilst also providing leadership, a project champion should be assigned at the preparation stage.

When it comes to the problem identification stage, there is a literature-informed key factor which advocates, “starting the problem identification with an open mind.” This key factor has been further supported by another sub-factor saying that problem identification should begin as a fresh process. Additionally, another key factor revealed by the literature at the problem identification stage, describes how locally significant factors should be captured at the problem identification stage by identifying the needs, ideas, and knowledge of the community through community views and the views of professional actors.

The next key factor discovered is linked to the urban analysis stage where it was found that the project team should avoid early decisions in the UD process. The sub-factor for this key factor further describes this proposal and it explains that the project team should not make decisions about the urban environment based only on the findings from the problem identification stage. Generally, this may happen if the problem identification has provided a large amount of information about the urban environment. The next key factor discovered in the literature review under urban analysis is about conducting an in-depth urban analysis based on ground level facts. The sub-factors aligned with this key factor indicate that it is necessary to consider locally specific conditions about culture, values, identity, existing physical settings

and so forth in the urban analysis by using data sources such as community members, professionals, local businessmen and secondary data.

The next key factor from the literature review indicates that the urban environment should be analyzed based on both subjective and objective elements rather than only relying on the quantified data analysed from secondary data sources.

The next two key factors in literature are concerned with the vision, mission and strategy generation stage. The first key factor has described how local requirements should be addressed in design solutions by providing decision-making opportunities to the wider community. There is another literature-informed key factor which mentions that it is necessary to "avoid clean slate design." The idea of this key factor, as identified in the sub- factor of the key factor, is that it is necessary to complement the existing economic activities in bringing new development solutions and furthermore, the use of a blanket policy in the area avoiding local specific conditions should be avoided.

Finally, for the design development stage, one key factor was discovered and it states that the design development stage should be an iterative community-based process combined with design theories and principles. Furthermore, the sub-factor of the key factor explains that community design ideas should be integrated with the core design principles. In fact, this is a common idea that many authors promote for

community engagement in urban development. According to them, they promote community engagement throughout the UD process without limiting it in certain stages.

41.10 Conclusions

The sustainable urban design/place making tradition is the newest and current tradition (scope) of urban design. Accordingly, in today's context the aim of an urban design project is to deliver a sustainable place which is socially, economically, and environmentally sustainable. In order to deliver sustainable urban design solutions, the urban design process plays a vital role. the current urban design process is mainly top-down, which is a professionally led process. This type of urban design process offered the community few opportunities, except in the latter stages of the urban design process. These top-down design processes are often critised and they have particularly emphasized the need for a pure-bottom up urban design process. However, this study revealed that the bottom-up process has also been criticized by many practitioners in urban design as well as some authors citing loss of control and ineffectiveness. Accordingly, this study revealed that there is a definite need to introduce a new urban design process framework to enable urban design to achieve its current scope. But, as revealed from the literature, neither a pure bottom-up process or a pure top-down process is not the sole solution to this issue. Therefore, based on

literature, this study introduced a new community embedded, but balanced urban design process framework for urban design. This new process is benefitted from positive features of both top-down and bottom-up processes. However, a further study has been carried out on this and accordingly, a new community embedded sustainable urban design process framework has been developed after triangulating this literature informed urban design process with empirically developed two urban design processes.

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Figure 41.1 Literature informed potential UD process framework.

1 Table 41.1 Distinction between urban design and urban planning

Urban Design	Urban Planning
Plans and designs streets, parks, transit stops on different scales such as at regional level, local level but does not plan overall scheme	Plans for larger regions, towns and villages as a whole
Orients designs for aesthetics as well as for functionality	Usually plans a utility
The treatment of space in urban design is three-dimensional, where vertical elements are as important as horizontal elements	Urban planning is customarily a two-dimensional activity where the majority of plans are visually represented from a two- dimensional view: not model, sectional, or elevation
More design and action oriented	More policy oriented
Urban design thinks about functionality – designs try to create houses as homes by mixing communities, using active frontages, etc.	Focus on land use rather than functionality (ex-planning identifies location for housing)
Urban design use visualization	Deals with known context
Make action-oriented strategies	Makes space-oriented strategies

2 Table 41.2 Positive and negative features of a top-down urban design
3 process

Positive and Negative features of a top-down urban design process	
Positive Features	**Negative Features**
A top-down process gives planners and designers good control over the design project	Alienates local community members and fails to capture locally significant factors
Community consultation is easy in top-down process as the plans are already prepared	Provides early and high-level planning which may not deal with the real requirements at ground level
Less time consuming	Does not identify specifically the uniqueness of the local entity

Effective use of resources	Could lead to manipulation of local opinion rather than addressing genuine community needs that emerge through effective participation
Donor agencies are keener to invest in projects which use a top-down approach	Planners and bureaucrats proceed on the assumption that they possess all the knowledge required for improving people's lives. In reality, they often fail to understand the social system
	May not be accepted by the majority of the community
	Participation of stakeholders is limited to the provision of data or to approving and adhering to what has already been planned
	Generally based on quantitative and numeric analysis rather than identifying particular facts in the local context
	Often fails to identify the specific conditions of the area in which the project is to be implemented
	Usually based on poor assumptions of social and environmental behavior
	Overlooks the day-to-day life of residents and particularly of family residents
	Fails to capture local knowledge

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