



## Sustainable Urban Development

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**Abstract:** Sustainable development has long been Promoted as the best answer to the world's environmental problems. This term has generated mass appeal as it implies that both the development of the built environment and its associated resource consumption can achieved without jeopardising the natural environment. In the urban context. Sustainability issues have been reflected in the promotion of sustainable urban development, which emphasises the sensible exploitation of scarce natural resources for urbanisation in a manner that allows future generation to repeat the process. This article highlights attempts to promote sustainable urban development through an integration of three important considerations: planning, development and the ecosystem. It highlights the fact that spatial planning processes were traditionally driven by economic and social objectives. And rarely involved promoting the sustainability agenda to achieve a sustainable urban future. As a result, rapid urbanisation has created a variety of pressures on the ecosystem upon which we rely. It is believed that the integration of the urban planning and development processes within the limitations of the ecosystem, monitored by a sustainability assessment mechanism, would offer a better approach to maintaining sustainable resource use without compromising urban development.

**Keywords:** Sustainable development, world's environmental problems.

### INTRODUCTION

Urban planning can defined as the intentional interventions of a local authority in the urban development process, utilising a variety of mechanisms, including regulations, Collective Choice, and stakeholder participation. It has been widely acknowledged that urban planning originated as a response to the appalling living conditions widespread throughout the cities of the 19<sup>th</sup> century. From this public health-oriented beginning, planning started to shift towards promoting a more efficient use of land for human settlements and associated development activities. Ebenezer

Howard's garden cities concept proposed urban and rural magnets in the form of self-contained, employment-generating communities surrounded by agricultural activities. Cougill acknowledges that Howard's garden cities transformed urban planning 'from public health exercise to one which considered the detailed spatial arrangement of urban activities.... For the first time, the neighborhood became an integral part of urban planning activity within the modern urban planning context, such measures were introduced to achieve a desired outcome-improvement of the built environment.



As more than 50 percent of the world's population are currently urban dwellers, the concept of sustainable development and the examination of human settlement problems involve looking deeply into urban issues and seeking solutions that can facilitate the establishment of urban sustainability. Concerns about the unsustainability of modern urban development patterns have existed since the early 19<sup>th</sup> century when rapid growth in industrial cities led to an unsustainable consumption of the world's scarce resources from growth of these industrial cities in Europe through to current urbanization trends in Asia, the continuous expansion of cities and human settlements has resulted in an increasing consumption of resources; and whilst some are renewable, others such as land and minerals, are not. These trends also generated waste and pollution which have further increased environmental stress. Although the term 'sustainable development' has been in use since the early 1970s, its wider application within the urban planning profession was only recognised less than two decades ago. This recognition followed the Brundtland Report, which stated that humankind in consuming the world's resources unsustainably and called for more egalitarian and sustainable use of existing resources.

### **SUSTAINABLE URBAN PLANNING AND DEVELOPMENT**

Sustainable development is a process of change in which exploitation of resources, the direction of investments, the orientation of technological developments and institutional change are all in harmony and enhance current and future potential to meet human needs and aspirations. This term has generated mass appeal as it implies that

the development of both the built environment and its associated resource consumption can be achieved without jeopardising the natural environment. With sustainability concerns currently in advanced stages, especially in developed countries, sustainable development has become a major influence in the physical planning, the concept of sustainable development is strongly absorbed in the urban framework, which is comprised of centres of active economic, social and cultural development. Thus, cities are at the core of this urban framework, and are characterised by strongly transformed natural environments and highly developed complexes of infrastructure.

Whilst the Brundtland report has generated much literature on the centrality of urban sustainability Serageldin argues that there is conflict between ecologists, economists and sociologists in interpreting sustainable urban development. Choguill argues that the definition of sustainable urban development should include the minimisation in the use of non-renewable resources, the achievements of the sustainable use of renewable resources, staying within the absorptive capacity of local and global waste absorption limits, and meeting basic human needs. This definition has strong ecological underpinning, yet as the author argues, the importance of social, economic and environmental importance should not be underestimated. From an economic perspective, sustainable urban development is defined as the maximization of economic efficiency in the use of development resources (including goods and services provided by the natural environment); maintaining natural resource stock at or above their present level; social equity in the



distribution of development benefits and costs, and avoidance of unnecessary foreclosure of future development options. Viewing the matter from a planning perspective, Wheeler provides a helpful differentiation between the processoriented definition of sustainable development, described as development that improves the long-term health of human and ecological systems and that of sustainable urban development, referred to as development that improves the long-term social and ecological health of cities and towns.

The concept of sustainable urban development which obviously involves human settlements can be introduced at all levels of planning and policy making. To this end, when examining human settlements at the local level, sustainable urban development requires accentuating urban issues, as the world is now highly urbanized. However, prior to given these urban sustainability notions further consideration, it is important to have a conceptual understanding of how urban planning and development processes actually operate. The following section highlights three factors that can inform and affect the sustainability discourse. The first factor is the rational planning model and its application in modern urban planning. The second is the development process, specifically the property development process, using the event-based developments we depend on, and their interrelationships with planning and development processes.

### **Traditional Rational Planning Process**

The planning process has long been considered as a methodical and rational process. The public authority oriented urban planning of the 1950s is

based on rational planning, which refers to a set of planning processes for selecting and implementing the best possible plan from a number of alternatives. This concept, pioneered by Edward Benfield sets out a formal planning process denoted by a number of steps or courses of action. Schonwandt states that Benfield's model has four essential steps: (a) analysing the situation, (b) establishing goals, (c) formulating possible course of actions, and (d) comparing and evaluating consequences of actions. The rational model represents what planners believe to be planning with reason. According to Hoch rationality refers to how we use reasons to guide choices. He also argues that people will not support plans lacking reasons, because such reason justifies the content of the plans and offers rational advice for the future.

Lawrence argues that the rational planning concept has been central to the evolution of modern urban planning. Its wide application has resulted in the development of master planning or comprehensive planning. The concept offers a systematic forward progression from goal setting to forecasting the impacts of alternatives; from the selection of alternative that best achieve public goals to implementation. Finally, it allows for a repeat process through a feedback, loop. Using the same basic principles, different authors have designated these steps in different ways, some refining them more actually. Berke et al. for example, highlight the model as an eight step process involving issues identification; goals formulation, alternative consideration; objectives determination; plan evaluations; plan selection; plan implementation, and finally outcome monitoring.



Since its inception in the 1950s, the rational planning model has been a dominant planning paradigm and has received widespread support and application. The application of the model has not been limited to physical planning and has been extended to include social and economic planning, public policy, politics, and corporate planning. The model provides systematic, consistent connections and relationship between each step of the process. It utilises logic and evidence when analysing planning issues and proposals, and provides a commonsense way of anticipating the future through a process of continuous review. Proponents of rational planning also point out other positive characteristics of this model, including; systematic applications of reasoning, bringing forth unitary public interests, providing a controllable environment, and enabling the implementation of the final plan making process.

Opponents of the rational planning model argue, however, that while it has paved a way for modern planning, rationalism no longer holds a strong ground. Campbell claims that although comprehensive planning appears a laudable, holistic vision, it has limited applicability in modern planning. Wachs, for example, argues that plans based on the assumptions and logic of expert opinion, without public input, will have a tendency to invite public opposition as they may not be compatible with public opposition as they may not be compatible with public input, will have a tendency to invite public opposition as they may not be compatible with public concerns and values.

### **AN INTEGRATED SUSTAINABLE PLANNING AND DEVELOPMENT PROCESS**

The rational planning model and the event-based development concept show that, fundamentally, urban planning and development involve two distinct but interrelated cycles. The ecosystem approach on the other hand, reflects the growing concern for the sustainability of the urban development process. Proponents of ecosystem theory believe that the development process should take place within the limit of what the ecosystem can withstand. In other words, urban planning and development processes should operate within the limits of the ecosystem boundary in order to achieve sustainability in the long run.

The integration of these three important components-planning, implementation and ecosystem sustainability-would create a sustainable-oriented urban planning and development culture. In this regard, planners who historically see themselves as defenders of socio-enhanced-as reconciling agents in promoting economic growth; in ensuring physically balanced growth distributions; and at the same time, in ensuring the protection of the ecosystem. However, this is challenging as planners need some form of sustainability assessment mechanism integrated into the planning process. The purpose of such assessment is to determine whether the activities undertaken within each stage in the development process contribute to the targeted sustainability goals.

This integrated planning and implementation process follows a logical planning sequence of nine distinct stages. The first stage begins with defining the planning issues and goals, which may involve any one or all four aspects of sustainability (eco-nomic, social, environmental, and institutional). This



may necessitate a detailed investigation of the planning issues and goals. Once identified, the goals and objectives are refined in Stage Two where priority goals and objectives are considered. Where necessary, these goals and objectives are reformulated to reflect the aspirations of all parties. At this point, planners negotiating skills are crucial to mediate the different interests between stakeholders. In Stage three, based on the selected goals and intended objectives, alternative plans are identified and generated, and strategies formulated for each alternative. These alternative strategies may encompass more viable solutions to attain project objectives. Once alternative strategies are identified, the planning process moves to Stage Four, where each alternative will undergo an evaluation analysis. This evaluation analysis often reveals the more promising alternative plan to be implemented.

The success and feasibility of the planning process can only be determined through close observations of the effect and proficiency of the planning process. More importantly, as sustainable development is now becoming one of the overarching goals of development and is firmly embedded into the planning and development process, it is crucial at this point that the chosen plan includes this important development feature. Therefore, once the best alternative is selected it undergoes the first round of sustainability evaluation, with the purpose of ensuring that it meets the set sustainability criteria. More often than not, discrepancies and inconsistencies between planning objectives occur, because they are seldom perfect. Therefore, if any of the objectives falls short in this assessment, the selected

alternative/plan will be returned to the process stage (s) where the shortfall occurred. After revision, the alternative/plan recommences the planning process to identify and attain an improved solution. If, however, the selected plan meets the evaluation requirements, it will go directly to the implementation process where each phase of the process performs a pivotal role in the success of a development proposal.

The whole implementation process involves the coordination of not only diverse professionals such as planners, architects and quantity surveyors, but also of development agencies, including property development companies, financial institutions, construction companies and public sector agencies. The process begins with the initiation phase in Stage Five, involving a feasibility evaluation of the proposed development. The property development industry is dominated by the private sector, with profit maximisation as a fundamental objective. This does not mean, however, that projects need to be undertaken without due consideration to social and environmental improvement. Appropriate site selections are not only based upon the development concept and physical characters and constraints of the site, but must also be based upon ethical and sustainability ideals which endeavour to maximize development potential and improve existing land uses.

State six following a successful site selection process, the development concept is expanded into detailed design. The aforementioned professional disciplines all play crucial roles to conceive a detailed design that is not only financially viable to the fund manager and profitable to the developer, but that



also gives careful consideration to the relevant sustainability issues. It is here that the focus of the design is exposed; for example whether to achieve a high BREEAM (Building Research Establishment Environmental Assessment Method) or a Performance Certificate rating. The detailed design will then go through the planning approval process. As a result of this process, modifications to various aspects of the design may be required before final approval is granted.

The construction stage (Stage Seven) is perhaps the most crucial stage in the project development phase, where team work between the various players (headed by the contractor or the project manager (on behalf of the developer) plays an all important role to ensure that the project runs smoothly, on time, and within budget. At the same time, it is necessary to uphold quality levels (including sustainability measures) as stipulated in the project brief. Monitoring, in the form of an appraisal system, will normally be employed to guide the project manager and ensure that members of the professional team perform as expected and that buildings and construction standards are duly met. Upon satisfactory completion of the project, it will be delivered to the developer, normally via the project manager (Stage Eight). At this stage, the project manager must ensure that all necessary paperwork and administrative procedures, including safety for occupation approvals, are settled prior to delivery. Once delivered, a fixed monitoring period (between six to twelve months) is set for the newly completed and delivered/commissioned project (Stage Nine). Any defects/deficiencies in the buildings and associated services and

equipment arising from the construction of the project will have to be rectified by the contractor. In some cases, especially in residential and commercial properties, the clients/buyers will undertake some form of retrofitting of the newly completed properties before occupying their premises.

## CONCLUSION

This discussion on urban planning and development processes has shown that amid criticisms and alleged shortcomings, rational planning has been central to the evolution of modern urban planning, and is seen by planners as giving them well-defined roles and providing them with clear direction for future planning. To make rationalism more dynamic and more acceptable for application to modern planning, however, the integration of rationalism and consensus building is inevitable.

In the era of increasing concern for sustainability in the built environment, an integrated framework that incorporates both rationalized planning and development processes, executed within the limitations of the ecosystem, can be seen as one way of continuing the urbanization process in a sustainable manner. In addition, by having some form of sustainability evaluation throughout the process, people would be able to know whether sustainability elements exist at the planning and implementation stages and, if so, whether they have really been achieved and implemented, and appreciated by the end user. Furthermore, such an integrated framework would enable the community to create, implement and adapt plans that progressively guide change in ways that balance the multiple goals of sustainable urban development. Any



shortcomings identified in the evaluation stage can be rectified by re-evaluating the specific stage of the development process where the shortcomings emerge. Such scenarios will undoubtedly increase the chances of any development project being more sustainable, not only in its execution but also in its outcome. This will present a significant contribution to achieving a sustainable urban future.

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