
The Importance of Planning for Green Spaces

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Abstract: Green spaces are often perceived as a luxury, especially in rural areas in need of basic services and characterized by housing needs. Recent studies proof the necessity of providing green spaces, captured in terms of the social, environmental, health and economic benefits that such spaces offer to (urban and rural) communities, along with the core linkage to sustainability and enhanced quality of life. Acknowledging the constraints of providing green spaces including issues such as limited municipal budgets, conflicting development priorities, and increasing urbanization placing pressure on space for development, this paper explores the importance of planning for green spaces in terms of the direct and indirect benefits it offers to communities and to the sustainable development approach.

Keywords: Green Spaces, Benefits, Sustainability, Quality of Life

1. Introduction to Green Spaces

The aim of spatial planning is to plan and provide for sustainable living spaces, implying balancing the social needs of the citizens, the development pressure for economic growth and the surrounding environment. Current reality however, suggest of increasing unsustainability linked to diverse and complex reasons such as political, economic and social considerations. However, the prevailing approach to spatial planning is believed to be part of the problem as green spaces are often perceived as a luxury, and not a necessity, especially in rural areas where the value and importance of such spaces are under-prioritised in comparison to providing basic services and meeting housing demands [1]. The concept and importance of green spaces are undervalued in terms of spatial planning approaches. This paper aims to identify the indirect and direct benefits of green spaces in an attempt to enhance the necessity of planning and providing for qualitative green spaces within modern communities.

1.1. Defining Qualitative Green Spaces

Green space planning (and green spaces) refers to land in natural or undeveloped condition that is proximate and easily accessible from residential- and work places. It refers to public and private open spaces in urban and rural areas, primarily covered by vegetation, which are directly (active or passive recreation) or indirectly (positive influence on the

urban environment) available to a variety of users and communities. According to [2] green spaces are areas that have contiguous vegetated areas and spaces, such as artificially created city parks, stands with natural vegetation and land areas such as botanical gardens, as well as isolated street trees, street medians and private gardens. Green spaces also include school grounds and sports fields, which can again be divided into formal and informal green spaces [3]. The most common terms for green spaces include “open space”, “open areas” and “public space”. For the purpose of this paper, the term green space is used. Qualitative green space refers to such green spaces providing a specific function to communities. It recognises the environmentally beneficial role that green spaces may offer, as well as the social, economic and psychological or health benefits [4].

1.2. Planning for Green Spaces

Spatial planning is constantly faced with the challenge to balance “development” and “environmental” pressures. Environmental considerations have recently become an integral part of developmental thinking and decision-making and the green-environment is gaining more and more importance in political, social, and economic terms. There is an expanded scientific understanding that green spaces are substantially beneficial to urban communities [5].

Despite the vision of an integrated, holistic planning process, the current reality suggests that the environment and green spaces are often neglected, and sometimes sacrificed to

benefit and enhance development as a result of various factors such as limited municipal budgets, conflicting development priorities, increasing urbanization and the valuation of green spaces. Limited municipal budgets are linked to the perception that green spaces are considered a luxury, a visual attribute of the area and not a necessity to consider in terms of budgeting. It relates to the conflicting development priorities where urban development priorities, such as providing basic needs and services are higher prioritized than the green environment and green spaces with no actual proof of revenue. Increasing urbanization is furthermore placing pressure on space for development, resulting in green spaces being sacrificed. Cities cannot expand housing provisions without sacrificing open space and agricultural land in already populated areas, or on the periphery [6], [7]. The lack of value connected to green spaces are in terms of spatial planning approaches the greatest reason for the under-provision of green spaces in neighbourhood, as communities and local authorities are not aware of the benefits of providing such spaces. Often urban areas and urban developments are valued higher than green spaces; mainly due to the monetary value connected to urban development, reflected in property prices, revenue drawn from development, higher taxes and a better land value and market price, in contradiction to the indirect, immeasurable value of green spaces. Due to these factors, green spaces are often not prioritized in the spatial planning and decision-making process.

This paper highlights the benefits of green spaces in terms of social, economic and environmental benefits, in order to emphasize the importance of such spaces and the necessity to plan and provide green spaces within neighbourhoods.

2. Benefits of Green Spaces

Value is usually determined and quantified from an economic perspective, linked to a financial value. Green spaces, however, are more complex to value as it cannot always be related to a quantifiable economic value [8]. Unlike the market for most tangible goods, the market for environmental quality does not yield an observable unit price. However, in order to be able to compete with urban development, the value of green spaces need to be identified and measurable. "The goal is to translate the methods, theories and equations of urban economics and green economics into urban planning approaches which can lead to concrete decision making." [9]. In this way, green spaces will have more weight in the decision-making processes [10], and might be able to survive against the susceptibility to urban pressures [11]. Accordingly some of the social benefits, environmental benefits and economic benefits of green spaces are captured.

2.1. Social Benefits of Green Spaces

Social benefits of green spaces are related to leisure and recreation, the facilitation of social contact and communication, access to and experience of nature, issues influencing human physical and psychological health and

well-being and overall sustainability [12], [1]. These social benefits are measured in terms of aesthetic value, qualitative living environments, the positive perception of residents with regard to urban green-space-values, enhanced community cohesion and common interest as a result of green public spaces [13], [14], [15]. Human health and mental health are also part of the social benefits of green-spaces and research in environmental psychology suggested that contact with nature serves psychological restoration [16], [14], [17]. The proximity and accessibility of green spaces in relation to residential areas appears to affect the overall levels of physical activity [18], [19], [20]. Research furthermore proofed the restorative effects of green spaces in terms of stress relief [21], happiness versus aggression [22], [23] and especially the positive social impact on children [24]. Green spaces also contributes to enhanced community cohesion [13], [14], [25], social interaction, lowers levels of fear, less aggressive behaviour, and better neighbour relationships [17].

2.2. Environmental Benefits of Green Spaces

Environmental benefits provided by green spaces include ecosystem services [12] and ecological systems that provide a myriad of services to human societies and in terms of enhanced biodiversity [26]. It relates to storm water management and providing habitats for wild plants and animals [12]. Various studies have been conducted internationally, focusing on street tree costs (tree planting, irrigation and other maintenance) versus calculated benefits (energy savings, reduced atmospheric carbon dioxide, improved air quality, and reduced storm water runoff), to estimate net benefits of green spaces [27], [15]. Green spaces contributes to reducing pollution and enhancing air quality [28], microclimate and heat island effects [29], [30] and noise reduction [28]. Green areas can reduce noise pollution and the visual intrusion from traffic [18]. The greatest environmental benefit of green spaces is the impact on biodiversity and providing refuge to species that are disappearing from urban areas [31], [18].

2.3. Economic Benefits of Green Spaces

The economic benefits of green spaces relates to the economic and financial gain as a direct result of the provided green space, including aspects such as a favourable image for a place, the boost retail sales, increased tourism [32], enhance inward investment in the area [33], and encouraged employment (emphasizing the impact on production values). Economic benefits furthermore relate to the positive impact on property values [10], the value of open spaces and proximity of neighbourhoods to natural areas [34], [35], [36]. Research [35] proofed that proximity to large protected natural areas have a positive influence on housing values. Research conducted [37] on the outdoor environmental quality that contributes to house-buyers preferences were linked to the findings of [34] that concluded that natural parks have the largest statistically significant effect on home sale prices. Proximity to open-space was found to have a statistically

significant effect (positive) on a home's sale price [38] and houses that were within one half-block of any type of open space were estimated, on average, to experience the largest positive effect on their sale price [34]. In addition the value of proximity to open space was higher in neighbourhoods that were dense, near the CBD, high-crime or home to many children [39].

2.4. Quantifying the Benefits of Green Spaces

As there is no monetary value connected to green spaces, as it is hard to quantify and measure it in economic terms [40], [41]. Some researchers tried to address this problem by estimating the price of environmental quality using direct elicitation of willingness to pay, travel costs, advertising costs, direct monetary damages, the household production approach, or some combination of the above [42]. The most common qualitative evaluation methods include, but are not limited to the market price method, damage cost avoided, replacement cost or substitute cost method, contingent valuation method, contingent choice method, benefit transfer method, productivity method and the most familiar hedonic pricing method [43]. These methods can in limited ways prove that green spaces have economic value, although it is very case specific and still remains an estimate. Quantifying the value and benefits of green spaces should be explored in an attempt to prioritize green space planning and ensure the realization and implementation of direct and indirect benefits of such spaces within neighbourhoods.

3. Added Value of Green Space Planning

Incorporating green space planning (especially acknowledging the value of green spaces and positive contribution it have on the direct surrounding environment and communities) within current spatial planning approaches will enhance quality of life and contribute to sustainable development objectives, driven by a holistic planning approach.

3.1. Addressing the Sustainable Development Approach

The sustainability concept is increasingly being used to guide planning [48]. Sustainable development, as defined through roughly in literature, always includes the three dimensions of (1) social aspects, (2) the economy and (3) the environment, seeking a state of balance between these dimensions. The current approach to spatial planning and unequal prioritization between pro-development approaches and pro-environmental approaches is probably the greatest reason for not meeting sustainability objectives in urban and rural areas. [49] states that the heart of sustainable development lies in ensuring a better quality of life for everyone, and meeting the four objectives of social progress, effective protection of the environment, prudent use of natural resources and maintenance of high and stable levels of economic growth and employment.

The economy (along with development pressures) and the

environment (along with green space protection initiatives) should be planned holistic in order to reach a sustainable state. The approach proposed in this paper is to focus on the social, economic and environmental benefits of green spaces and integrate these benefits as part of the spatial planning process, this to re-establish the balance of sustainable development, in terms of all of the dimensions (social – with the focus to strengthen communities, environment – with the focus to develop spaces that will be attractive and economic – with the focus to enhance the marketability of the area). When all three dimensions are equally valued by local authorities, it can be assumed that it will reflect in the planning and budgeting processes as well. The proposed approach to strengthen the environmental dimension (and to regain the balance of sustainable development) will ensure that the value of green-spaces be more measurable and comparable to development revenues. This implies the identification of direct and indirect values of green spaces and the translation of indirect these benefits of green spaces into monetary values.

3.2. Enhancing Quality of Life in Rural Areas

During the last couple of years Economist tried to quantify the value of green spaces based on various approaches. However, most of these research were conducted in developed countries and proofed the provision of qualitative green spaces could be directly linked to an enhanced quality of life and quality of living environment.

Rural areas, especially, are often neglected in terms of qualitative green spaces, due to other needs being prioritized in these areas. Even though a number of strategies, policies and other implementation programmes are already in place regarding the effective integration and growth of rural communities, rural communities seem to be neglected, enduring great poverty and deprivation [44], along with other social challenges enforced by the strain of poverty, such as limited access to health care [44], [45], enhanced vulnerability [46] and a lack of clean water and qualitative green spaces. Ironically, the contribution of green spaces within rural areas could directly benefit social, environmental and economic challenges that form part of the current reality of these spaces.

The better the living conditions and the equality of life chances, the 'happier' the communities will be [47]. Green spaces, in this sense, can directly influence the sense of place and quality of environment within rural areas, having spin-offs in terms of social benefits, economic benefits and environmental benefits in these areas needed it the most.

In this sense, green-planning research and research regarding the value of green spaces, should be expanded to include the situations in developing countries and rural areas in an attempt to improve the quality of life and quality of environment.

4. Conclusion

The importance of urban green-spaces were known for decades; however, the relationship between urban liveability and green-spaces as incorporated in overall urban green

structures has become the focus of international studies especially during the last 10 to 15 years [50].

This paper suggest that the value of green spaces should be firstly identified, in terms of direct and indirect benefits, and secondly quantified and measured in order to be prioritized and comparable to urban developments and other development priorities such as housing provision and commercial developments. Green spaces provide many benefits that are well documented in literature and captured in the paper, as value are subjective to location and community needs, the value of specific green spaces within specific neighbourhoods and areas should be identified, in terms of the local context and characteristics. As there is no one blue-print for delivering sustainable development, there is no blue-print for valuing green spaces, it requires different strategies in different societies.

These identified green space values should then be articulated in monetary terms to compete with development pressures [11]. If the value of green spaces could be expressed in monetary terms, it would consequently have more weight in the development decision-making process [10], as development decisions are often based on comparisons of monetary values, such as cost-benefit analysis. This furthermore stresses the importance to supply public decision-makers (local authorities) with reliable, comparable valuations methods [51].

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