FUTURE DIRECTIONS IN URBAN PLANNING AND SPACE USAGE COMPENSATING URBAN GREEN SPACES

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ABSTRACT:'Green' issues might be very attractive, but where are the economic benefits? What difference will they make to jobs, health and the economic strength of areas struggling with deprivation and social problems? (Natural economy Northwest, 2007:2). What value do nature and landscape have for us? These typical questions enhance the importance of the value of nature and landscape, and the fact that it has to be considered from a different perspective for future directions in Urban Planning and space usage. The reality, however, is that urban development often takes place at the expense of green spaces. This is also the case in South Africa. Apart from this, there is a lack of planned green areas in South Africa due to various factors. 'Green planning' and the 'value of green spaces' are current buzz words in the international arena. The economic added value of a green space brings a whole new dimension to green planning – especially for third world countries like South Africa, where open spaces are taken for granted, and where qualitative green spaces are neglected because of the perception that green is a luxury and not a necessity. This paper evaluates the current perspective of Green Planning, the current constrains that third world countries face in terms of Green Planning and the green compensation concept – a possible way to ensure that green spaces are preserved and enhanced within the greater urban totality, guiding the future directions in Urban Planning and qualitative space use. The structure of the article is illustrated in Figure 1.
KEYWORDS: Green compensation, integrated planning, sustainable development.

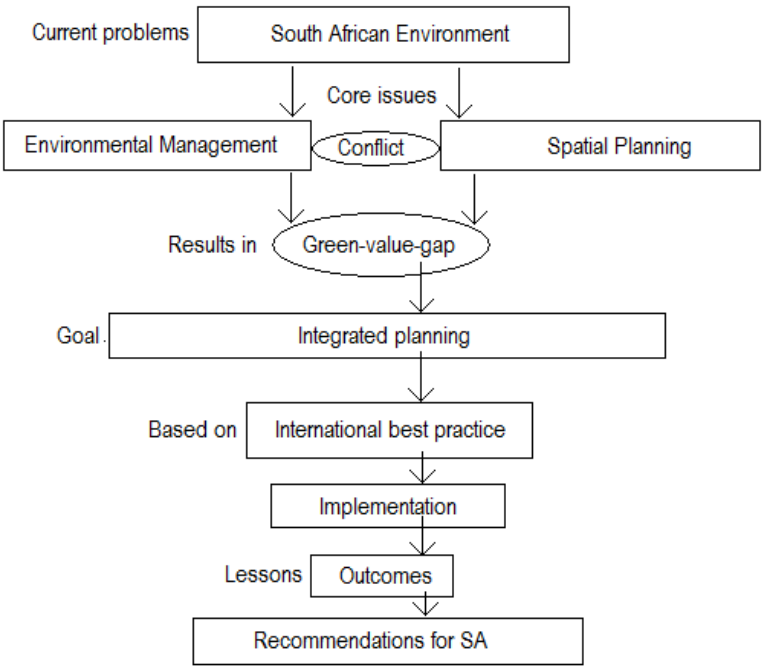

Figure 1: Structure of the article
Source: Own creation (2009)

1. Current reality in South Africa

South African cities are characterised by urban sprawl, fragmentation and unsustainable development and thus have very little chance of developing into efficient urban environments. The reasons for the poor environmental quality are undoubtedly diverse and complex, resulting out of current believes and perspectives. Urban development occurs at the cost of green spaces, despite the comprehensive environmental policies. The need never existed to plan or protect the green spaces in South Africa, as space was not limited, as in comparison to the European context. This contributed to the perception that green spaces have less value. Thus, the great availability of open green spaces resulted in either unplanned urban developments, or vacant spaces – leading to a decline of the quality of the environments. This problem is not being addressed in current policies as practice reveals that Spatial Planning and Environmental Management manifests as two opposing poles with different (sometimes conflicting) objectives. Town Planners and Policy Makers are now facing the challenge to integrate Urban Development (Spatial Planning) and Green Planning (Environmental Management) spheres to enhance sustainable development.

1.1 Urban Development

Urban green space management is essential to quality of life and sustainable urban development. Urbanization is an ongoing process throughout the world, however, hyper-urbanization without environmental planning is destructive, not constructive (Subedi, 2008). The aim of Urban Planning, internationally and nationally, is to create ideal cities in terms of competitive environments, qualitative environments and sustainable environments.

Since the promulgation of the Development Facilitation Act (Act 76 of 1995) the concept of integrated development planning formed the focal point of Spatial Planning in South Africa and integrated development planning had emerged as a distinct approach to planning. However, the integrated planning concept is found to be unsuccessful, in terms of Spatial Planning and Environmental Management objectives and implementation. This is mainly due to the lack of sufficient management structures and monitoring. A relevant example is the implementation of the Urban Edge concept, a planning tool used by municipalities to guide urban development and limit urban sprawl. The context of this tool was misinterpreted by authorities, resulting in an effective Urban Edge that manifests as a rigid line on paper, dividing urban and rural areas, thus separating Spatial Planning and Environmental Management initiatives. Although national policy enhances integrated planning; it is not effectively addressed on municipal level, due to the lack of knowledge, inefficient monitoring and the lack of an integrated vision and implementation plan.

During the Urban Development Conference held in Johannesburg (28 and 29 September 2005), the following five approaches were recommended to local authorities to enhance competitiveness, sustainability and quality in urban areas (Wilson, 2005:5):

1) Understand the urban context, the market, demographic trends, patterns of migration and liabilities.
2) Get the basics right in terms of competitive services, good infrastructure, a functioning land market and safe environments.
3) Build on the city assets by developing around employment clusters, economic sectors, and cultural institutions.
4) Build community wealth by creating inclusive cities where integration is critical.
5) Recognize and plan metropolitan growth across boundaries and between entities.

1.2 Green Planning

Public's demand for green space is becoming stronger in order to get aesthetic enjoyment, recreation, and access to clean air or quiet environments (Liu *et al*., 2007:1). People's everyday environments are of great importance to their stress levels and health (Stigsdotter, 2007:3) and impact on the greater social responsibility that urban areas offer to residents. This emphasise the need and necessity of Green Planning.

South Africa was slow to develop and institute formal procedures for environmental assessment. It was only with the enactment of the Environment Conservation Act (Act 73 of 1989) that provision was made to determine environmental policy to guide decision-making and to prepare environmental impact reports (Sowman & Gawith, 1994). The publication of a document entitled Integrated Environmental Management (IEM) in South Africa marked the introduction of the concept of Environmental Management in South Africa, and indicated a general approach that integrates environmental considerations across all stages of the planning and development cycle (Sowman & Gawith, 1994).

However, in order to plan for green-spaces, it should be clear what is countable as 'urban green'. South Africa have adequate private green spaces (almost all residential properties have their own private garden), but the focus of green space planning on this level mainly concerns public green spaces.

It is the public green spaces that are currently neglected in the South African planning environment. The grey-green continuum is used to illustrate the range of applicable public green spaces (Rics, 2006). Figure 2 illustrates the public green spaces as included in the South African perspective (Davies *et al.,* 2008). Elements that are classified as 'grey', but which contribute to the wider functioning of green infrastructure are also part of the green infrastructure network.

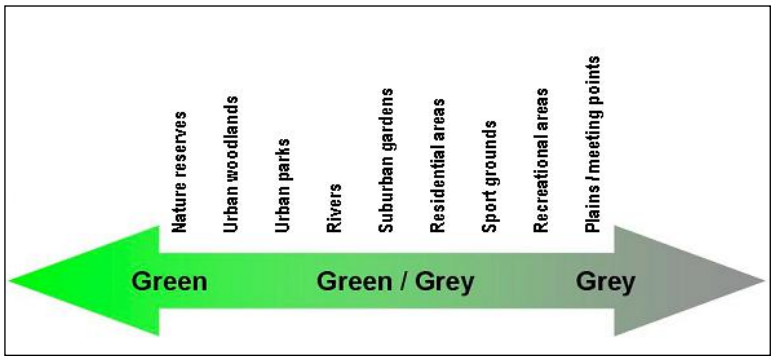

Figure 2: South African public green spaces
Source: Rics (2006)

1.3 The green-value-gap

The reality in South Africa is that, in many cases, green spaces are susceptible to land use changes and degradation of their environmental qualities. Urban green spaces are often sacrificed because of the dynamics of the urban area. This happen because urban-spaces are believed to be more valuable than other land uses, particular green areas, simply because of the economic (market) value connected to urban spaces. This phenomenon is known as the Green-Value-Gap, a difference in perspective and believes in regards to Green Planning. Economists need to understand the concept of Green-Planning and the spinoffs, and Environmentalists need to understand the importance of urban economic development and the benefits thereof to Green Planning, in order to minimize the green-value-gap. There is a need to ensure that green space are protected and enhanced where appropriate, but also a need to provide new space for development within regeneration schemes (Subedi, 2008). Table 1 illustrates the negative, as well as positive influences that development has on green spaces, as summarized from a study conducted by the Department of Environmental Affairs and Tourism. The recognition of these benefits and impacts are the first step to bridging the green-value-gap, and enhancing integrated planning in the South African environment.

Table 1: Understanding the development impacts

Development	Environment	
	Positive Impact	Negative Impact
Human settlement	- Enhances diversity - Improves quality of life - Addresses basic human needs	- Changes land use - Increases population density - Requires infrastructure - Promotes urbanisation - Unsustainable land uses
Transport	- Enhance economy - Movement of people - Movement of goods	- Greenhouse gas emissions - Fragment natural habitat - Risk to human safety

Agriculture	- Generators of foreign exchange - Alleviate household food insecurity	- Transformation of natural habitat causes fragmentation - Reduces biodiversity - Degradation - Lower sustainable livelihood
Spatial planning	- Conserve both built / natural environments - Influences direction of spatial development - Mobility routes and location specific - Influences intensity of land use	- Poor spatial planning can be disastrous for environmental management and urban sustainability

Source: Department of Environmental Affairs and Tourism (2008)

The Green-Value-Gap can only be bridged once all the stakeholders (Policy Makers, Municipalities, Residents, Urban Planners, Economists, Architects, Engineers, Urban Designers etc) understand the totality of the relevant concepts (Economic Development versus Green Planning). Stakeholders need to realise the need to create an interface between Green Planning and Economic Development, and seek for ways to enhance sustainable development, create a sense of place and ensure qualitative environments. The focus is thus to integrate Spatial Planning and Environmental Management objectives and to minimize the green-value-gap. In this regard, international case studies provided new insights.

2. International best practice

The Netherlands is possibly the country that is confronted most with space limitations. However, their success in ensuring qualitative developments, integrated planning and green management was the reason it was chosen as case study to guide the current South African green planning initiatives. The Dutch government introduced an ecological compensation principle in 1993. The concept of compensation has among others been formulated by Kaldor and Hicks (Dasgupta & Pearce, 1972). Their interpretation assumes: A new situation will be preferred to an existing situation if those who profit by the new situation can compensate the disadvantage of others in the new situation, after which profit remains for those who compensate. Those who would have had a disadvantage without compensation are now not worse off than in the old situation. This is a situation of net profit. But if the advantage of someone who prefers the new situation is undone by the compensation and nobody gains from the new situation the project does not make sense. Then, it is better to retain the existing situation (Kuiper, 2000:2). One objection connected to compensation is its aim to restore nature. The difference between environmental compensation and ecological restoration or habitat creation is that environmental compensation is associated with disadvantageous impacts on nature due to development (Cuperus *et al.,* 1999).

There is however a vital discussion regarding environmental compensation and the different philosophies behind it (Rundcrantz & Skärbäck, 2003:37). Green compensation is a way to estimate the green value and to be able to compensate for any loss of the determined green value. The use of compensation measures does not occur without controversy. Green compensation is defined as replacing or relocating ‘green-values’ in an urban area to ensure quality enhancement and urban green protection.

The Dutch green-compensation principle is a national initiative used when dealing with large-scale development projects. It stipulated green compensation measurements within urban areas (Cuperus *et al.*, 2001) and has two main objectives (Rundcrantz & Skärbäck, 2003:15):

- To increase the nature conservation interests in the decision-making.
- Ensure no net loss for nature when a development project is carried out.

This brings a whole new dimension to the current development perspective in South Africa as integrated planning approaches are enhanced by the compensation concept. Green is protected and enhanced by every urban development project, while at the same time the urban development project benefits from the green planning initiatives. Spatial Planning and Environmental Management is not longer conflicting issues, but integrated by means of compensation.

The compensation approach is illustrated in the following figure. The spatial impact is evaluated to identify the negative and positive impact on green value. If there is no negative impact, the development project should only adhere to the standard Spatial Planning Act provisions. Spatial planning with significant negative impact on green areas is not allowed. If there is a minor negative impact, it should be evaluated in terms of individual- and combined impact. Projects with an individual negative impact will only be considered if there are no alternatives and if it is supported by great public interest. An initiative in this case is to mitigate the negative impact and limit the remaining negative impacts. The remaining negative impacts can be compensated (as final step in this process) in order to reduce the damage (Ministry of Agriculture, Nature and Food Quality, 2007:17). If the project adds value to the spatial vision or enhance the holistic quality or value of an area, it will also be considered. Thus, it should firstly be determined if the project can be allowed (according to impacts and mitigation measures). All negative effects should then be compensated (Ministry of Agriculture, Nature and Food Quality, 2007:19).

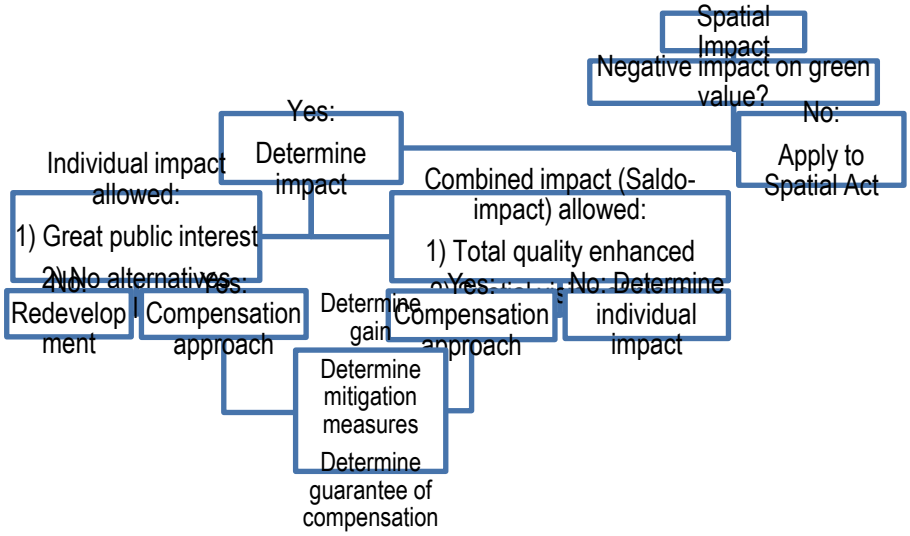

Figure 3: Compensation approach
Source: Ministry of Agriculture, Nature and Food Quality (2007:19)

It is important to develop criteria for green compensation in order to deal with impacts and create 'win–win' situations (Cuperus *et al.*, 1999). It enhances the importance of an integrative approach. The Local Municipality of Amersfoort (the Netherlands) created a planning tool, the Green Credit Tool, as part of the criteria for green compensation and to ensure the successful implementation of the green compensation concept.

2.2 Green planning tools

The municipality of Amersfoort created the Green Credit Tool, that is currently being tested in the VALUE (Valuing Attractive Landscapes in the Urban Economy) project (INTERREG IVB North West Europe, European Regional Development Fund). Although this tool is still being refined, their theoretical background, and possible benefits are useful to mention in this early stage of the South African Green Planning rethinking, as it enhances green compensation and contributes to the green planning perspective.

Amersfoort Local Municipality (2007) had a vision to protect the quality of the public green spaces while simultaneously stimulating economic urban development. The Green Credit Tool was introduced. The core aim of the Green Credit Tool was to enhance and protect the green totality and value of the area. It was furthermore used as a communication tool within public participation processes, to have better insight in the decision-making processes. The Green Credit method was applied to public green space as private 'green' is not control by the local municipality. The Green Credit tool comprises of three core elements, (1) the matrix – based on identifying the values of green within an area by means of surveys, (2) collecting values – based on public participation and stakeholder involvement and (3) compensation – an initiative to enhance and protect the urban green spaces. The details of the Green Credit Tool are not captured in this article as the focus is only to recognize the existence of this tool and the possibilities and advantages it has to offer the urban areas, in terms of green compensation and integrated planning. The core aim is to focus on green value within a development project. In this regard it should be noted that value is subject to location and also subject to people's perspective of value (Torresan and Lorandi, 2008:2).

3. Future directions in Urban Planning and space usage

The current perspective of Green Planning, the current constrains that third world countries face in terms of Green Planning and the green compensation concept were evaluated. The following conclusions and recommendations were drawn in order to guide the future directions in Urban Planning and qualitative space use in South Africa.

3.1 Current perspectives of Green Planning

- Conclusions: Green Planning is needed. Green Planning enhances urban development and can stimulate economic benefits. Quality of life is considered an important function of urban greenery (Van den Berg *et al*., 2007:13). Green Planning is thus much more than vacant spaces, it focuses on qualitative, planned, sufficient green spaces.
- Recommendations: The value of green spaces should be realized, protected and enhanced. Green Planning should be incorporated in current Spatial Planning initiatives. An interface should be created between Spatial Planning and Environmental Management in order to enhance integrated planning and to bridge the green-value-gap.

3.2 Constrains of third world countries in terms of Green Planning

- Conclusions: Third world countries neglected green spaces, due to financial reasons, the lack of relevance and the lack of need. Providing green spaces will contribute to greater social needs, which will result in effective and socially involved urban residents (Matsuoka & Kaplan, 2007:13). Policy is one of the greatest challenges that the third world countries faces, as the development policy must achieve world-class standards while proactively absorbing the poor, addressing crime, minimizing fragmenting, enhancing urban development and responding to infrastructure constraints.
- Recommendations: Perceptions need to change in regards to Green Planning and the added value thereof. Meaningful participation processes should be identified and implemented to ensure sustainable development. Authorities must take green planning seriously, recognising its

economic value and incorporating it into economic development strategies and policymaking (Natural economy Northwest, 2007:11).

3.3 Compensation concept

- Conclusions: Green compensation ensures that green spaces are perceived and enhanced. Green compensation guides Urban Planning and leads to quality space usage. Green compensation ensures qualitative green spaces within the direct surrounding environment, minimizing the decline of the urban area and the desire to migrate outwards. Green compensation initiatives will integrate the current Spatial Planning and Environmental Management policies, establishing a link between these two poles of development.
- Recommendations: Environmental compensation should be introduced in South Africa as a concept that can contribute to sustainable development despite exploitations. The creation of green spaces with economic value brings a whole new dimension to Spatial Planning. Green areas should attract the grey areas by offering it something worth the while. The concept of green spaces with economic value needs to be understood by all stakeholders, address the needs of all residents and protects the urban greenery. Possibly the best way to enhance the economic value of green spaces is by means of recreational areas.

Green compensation can be realized with the Green Credit Tool and will contribute to user qualities, perceptions, natural qualities, managerial qualities and land value. It should thus focus on the 'win-win' situation (benefits) it can provide to the environmental and economical sector, as illustrated in Table 2 (matrix used within the Green Credit tool). The goal is to create qualitative planned areas that will integrate and enhance urban development and green space planning.

Table 2: Development implications of the Green Credit Tool

	Elements	**Environmental benefit**	**Economic benefit**
User quality	Accessibility	Access enhances recreational and social well being	Access creates opportunities
	Management	Qualitative environment	Job creation via management structures
	Functionality (use)	Meaningful development will add environmental value	Meaningful development will ensure better profit margins
	Partnerships	Sustainability of the environment	Enhance the success of development
Perception	Experience	Value increases	Interactive planning ensure successful implementation
	Spatial perception	Enhances youth development and community building	Contribute to wider urban objectives such as job opportunities
Natural quality	Control	Reducing air pollution, controlling storm water runoff	Keep cities cooler, minimize air-conditioning expenses
	Sustainable resources	Pollution control	Farming expenses
	Green quality	Quality of life increases	The quality of residential areas are increased
Managerial quality	Urban design	Quality of landscape and soft open spaces	Public furniture, linkages and corridors, pathways and layout
	Integration	Nature ensures a more beautiful living environment.	Uplift the surrounding areas. Creates structure and character
	Attractiveness	People prefer natural over urban landscapes	Willing to pay more for green if it is close to the home
Land use	Priority areas	Manifests as cultural-, green-,	Urban nodes can be strengthened

		information nodes	via supporting nodes
	Attract people	Stimulating increased house prices	Good public landscape offers benefits to the local economy
Land value	Attract companies	Returns on conservation, maintenance, green expansion	Turnover and employment generated as result of nature
	Property prices	Upliftment of the totality of the area	Well-planned and managed public space has a positive impact
	Opportunities	Enhances the focus on quality of the area	Quality environment improve trading by attracting people

Source: Own creation (2009)

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