

## **Do strategic spatial planners plan for sustainable development?**

A literature review,

Dissertation to attain academic degree of

***International Master in urban and regional planning***

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## Abstract;

**This dissertation seeks to realize** Whether existing theories underlying spatial planning are compatible with sustainable development? And which spatial theories is the most effective theory to contribute to achievement sustainable development in the communities.

So for answering the questions first of all sustainable development concept has been recognized, its attributes and essentials have been reviewed. After that the main and the most dominated theories in spatial planning including rational-comprehensive planning theory, communicative planning theory and strategic spatial theory have been selected and the process of planning, main players, their strengths and their weakness have been considered.

Consequently the five essentials of sustainable development in terms of spatial planning theory including 1- harmony with nature 2- liveable built area 3- equity (social justice) 4- place-based economy 5- responsible regionalism, have been selected for evaluating the spatial planning theories. The assumption is that each theory more support these essentials it has more potential in order to approaching the sustainable development.

This research have two aims; firstly to provide a literature review on the (Dis) connections between Sustainable development and strategic spatial planning theories and the other aim is to provide an assessment of efficacy of the spatial planning theories in related with sustainable development concept.

Finally it have been realized that every spatial theories (rational-comprehensive planning theory, communicative planning theory and strategic spatial theory) in some extent support sustainable development essentials however the most effective theory in compatible with sustainable development is strategic spatial planning theory.

## Acknowledgment;

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# Chapter 1 :

# Research Framework

## 1. Introduction:

The concept of sustainable development (SD) has emerged as a key guiding principle and action agenda for all form of environmental management, economic development, and social justice at international, regional, national and local levels. In order to approach to the sustainable development, urban and regional planners clearly can play a critical role in promoting the dialogue about sustainability and in conceiving concrete public policy solutions that promote community sustainability. In the last two decades, national governments (at least in the western world) have more and more used the planning system as a vehicle to make sustainability more concrete. However, for urban planners, the first step in order to approach to the sustainable development concept is attitudes change, and this change is happened in theories. Theories “provide a system of knowledge organization to clearly delineate the boundaries and parameters for each distinct subject, which provides a knowledgebase for the development of future research and the expansion of the field” (Abukhater, 2009). So theories can act as a monitoring system to help planners be aware of future impacts of their works. A compatible theory with sustainable development concept organizes planning process and leads planners to approach more and more onward sustainable development concept.

### 1.1 Problem definition:

Since the Global definition of sustainable development by the report of our common future (1987) from the United Nations World Commission on Environment and Development (WCED), more than two decades, have passed. After that use of sustainable development concept as an organizing framework, has been prevailed in many urban plans. In spite of more than two decade have been passed from emerging sustainable development concept in urban and regional planning literatures, as far as I have searched, there are a little research (or better to say no research) on relation between sustainable development and spatial planning theories. Although in practical dimension there are some articles and thesis which evaluate a special plan or plans according to sustainable development indicators (for example Berke, 2000, Zhang, 2006) but the efficiency and potentials of the different spatial planning theories have not been studied. If it is accepted that reaching to sustainable development is an inevitable aim in spatial planning, clarification that which theory can help more planners to

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approaching to the sustainable development, is necessary because the first step to move onward sustainable development is changing in attitude and this change is indicated in theories which we think and work according to them. Therefore each spatial planning theory depending to its efficiency can leads planners near or far from sustainable development. Thus it is highly critical task to realize ability, potentials and positive points of different spatial planning theories and also drawbacks, disadvantages and positive points, strength of each as well. Consequently with choosing the most efficient theory it enables us to organize our thinking view of spatial planning in order to reaching sustainable development.

In this research it is sought to know which spatial theory is most efficient in related with sustainable development concept.

## **1.2 Main questions of the research:**

In this research two main questions are supposed to be answered.

- Whether existing theories underlying spatial planning are compatible with sustainable development?

For answering this question, three main and most widespread spatial planning theories including rational-comprehensive planning theory, communicative planning theory and strategic spatial theory have been selected and evaluated according to sustainable development essentials in urban planning. After evaluating them it can be seen in what extent they are well-suited with sustainable development. Whether one of them are completely matched with sustainability and the other not or every of them in some dimensions promote sustainability?

- Which theory is the most effective approach to the sustainable development concept?

Consequently after answering first question, it will be tried to understanding which these theories (rational-comprehensive planning theory, communicative planning theory and

strategic spatial theory) have more potential to approaching to the sustainable development concept.

These two main questions, leads to arising following sub-questions;

- What is the sustainable development?
- What are the sustainable development essentials in related with spatial planning?
- What are the main characteristics of the spatial planning theories?
- In what extent rational-comprehensive planning theory is compatible with sustainable development concept?
- In what extent communicative planning theory is compatible with sustainable development concept?
- In what extent strategic spatial planning theory is compatible with sustainable development concept?

### **1.3 Aim of the research:**

Based on the problem definition and questions mentioned above, the aim of the thesis is to present and discuss the effectiveness of three main spatial planning theories in related with sustainable development concept.

The aims of this research are:

- To provide a literature review on the (Dis) connections between Sustainable development and strategic spatial planning theories.
- To provide an assessment of efficacy of the spatial planning theories in related with sustainable development concept.

### **1.4 The necessity of this subject:**

The research specifically tries to show relations between sustainability and spatial planning theories. So comparison of effectiveness of different spatial planning theories according to sustainable development essential would be interesting. Lack of study to determine how far away we are from sustainability from theoretical point of view and how can we rethink spatial planning theories to be more compatible with sustainable development concept are the main reasons for doing this research.

### **1.5 Methodology:**

The work is based on a literature review. The research will take place within a wider research programme on sustainability and spatial planning theories. In this study, first of all, the theories will be investigated through a literature study on the field of sustainability and spatial planning, which consists of web-based and library studies. After collecting data and studying related literatures in the above subject, it is time for analysis and assessment of the questions and hypotheses. The next phase will involve development and application of method for evaluating the data and information in order to delineate to what extent the spatial planning theories reinforces or contradicts the sustainable development promotion (evaluation method). After appraisal of this exemplary, the research would be able to address the issues and propose solutions, implications for practice and future researches.

### **1.6 Similar works:**

One of the first and most important works in terms of evaluation planning according to sustainable development is an article which was written by Berke and Conroy and was published in 2000 by APA journal.

In this article “are we planning for sustainable development?” they evaluated 30 comprehensive plans in relation with sustainable development. This article set forth a set of six principles that define and operationalize the concept of sustainable development. Using this six principles, a sample of 30 comprehensive plans was evaluated to determine how well their policies support sustainable development. The sample was selected among Cities with less than 1 million populations in U.S.A. Findings indicated no significant difference in how extensively sustainability principles are supported between the plans



that state an intention to integrate sustainable development and those that do not. In addition, these plans do not provide balanced support of all six sustainability principles, as they support some principles significantly more than others.

The other main work is an article “Green cities, Growing Cities, Just cities” that was provided by Scott Campbell and published by APA journal (1996). In this article Campbell defined a triangle named “planners triangle” with three fundamental aims in each corners and sustainable development in the centre. This centre cannot be reach directly but approximately and indirectly through a sustained period of confronting and resolving the triangle’s conflicts. He proposed planners would benefit both from integrating social theory with environmental thinking and from combining their substantive skills with techniques for community conflict resolution, to confront economic and environmental injustice.

## **1.7 Structure of the Dissertation:**

In this chapter, research design has been introduced including the problem, questions, aims of research etc. To be able to provide answers to the questions and aims, chapter 2&3 provide theoretical aspects of sustainable development and spatial planning approaches; in the first section sustainable development definition, characteristics, dimensions and essentials has discussed. In the second section spatial planning theories including comprehensive-rational, communicative and spatial strategic planning theories considering their main characteristics such as their contents, main actors, decision making process and criticisms related to each of them has been explained. In chapter 4 a framework for analysis and assessment of the theories will be developed and the two main research questions, based on theoretical studies, are answered. Finally chapter 5 reports conclusions and finding of the research. The structure of the research is also schematically depicted in Figure 1.1.

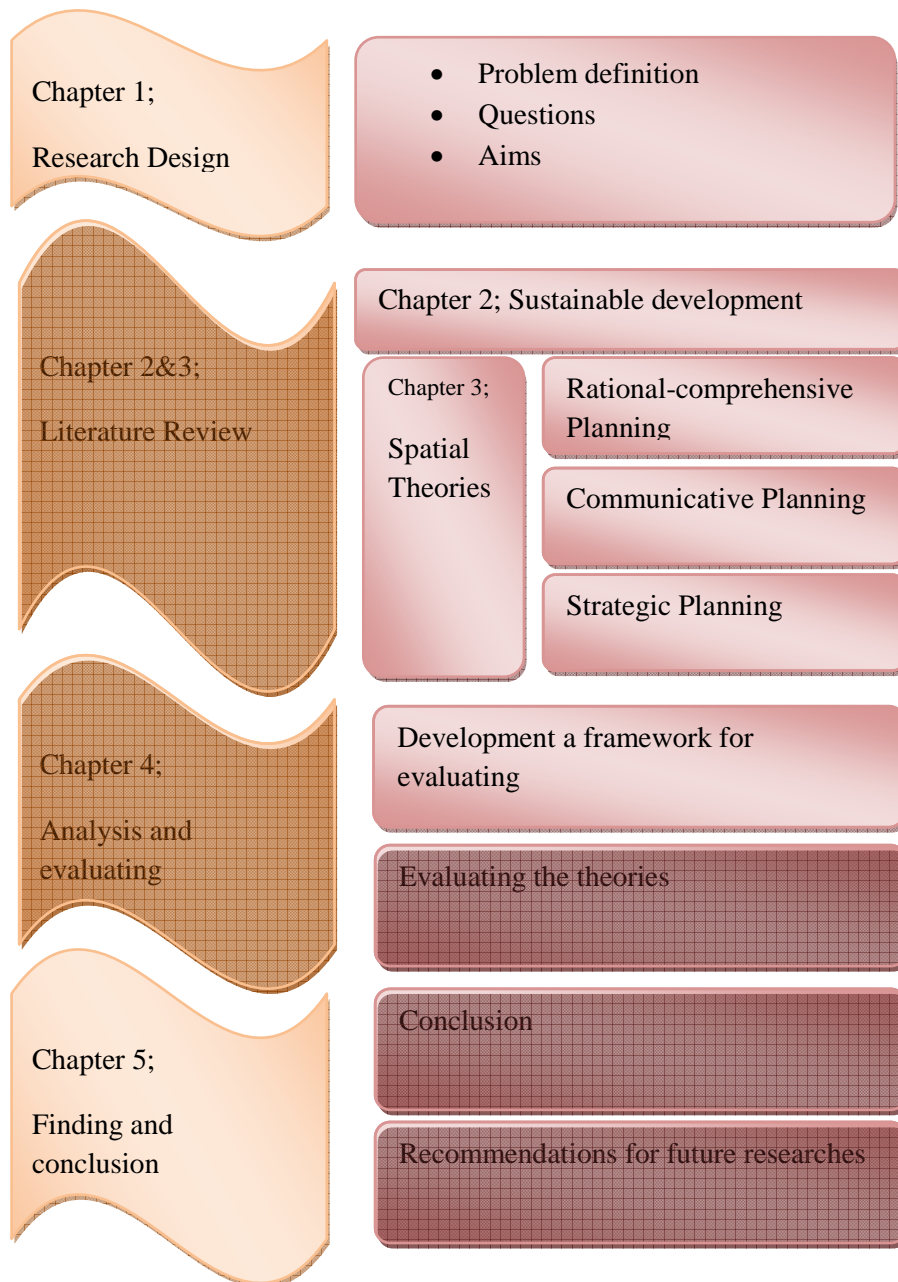


Figure 1.1 Research Outline

# Chapter 2

## Sustainable Development:

*Most of today's decision makers will be dead before the planet suffer the full consequences of acid rain, global warming, ozone depletion, widespread desertification, and species loss. Most of today's young voters will be alive.*

“Our common future”

## 2 introduction:

The concept of sustainability has emerged in the past 30 years as a leading framework for understanding economic development, community development and seems to draw more and more attention. The concept of sustainability has created an ideological home for development efforts seeking to address the relationship between human societies and the natural environment. Local, regional, national and global organizations have developed detailed policies to address the application of sustainability-based principles in society.

The idea of sustainability arose in response to the perceived lack of balance by the current capitalist economic system. At its core, sustainability proposes an alternative path from current economic, community, ecological and political development practices, and a path that cannot be measured by production. The theory of sustainability had been promoted in the private, public and non-profit sectors as an emerging model for community and business development. Sustainable development does not focus solely on environmental issues. More broadly, sustainable development policies encompass three general policy areas: economic, environmental and social. In support of this, several United Nations texts, most recently the 2005 World Summit Outcome Document, refer to the "interdependent and mutually reinforcing pillars" of sustainable development as economic development, social development, and environmental protection. Sustainability related concerns and issues are assuming an increasingly prominent place in planning throughout the world. Government, industry and community groups use the term with ever accelerating vigour. The vision statements of corporate and public sector organizations continue to explain sustainability related planning. Sustainability has gained greater international attention since the United Nations conference on environment and development (UNCED) held in Rio De Janeiro in June 1992 with the ensuing program for action on sustainable development agenda 21 (UN) 1992.

## 2.1 A brief history of sustainable development

If we overlook the period from 1960 towards 2010 from an environmental perspective we can divide this period in three periods:

- The first wave of environmental awareness, starting in the sixties and with the first UN conference on the human environment in 1972 as an important turning point:

Sustainable development became an issue of global interest after the publication of the Brundtland report in 1987. But already before this date there was considerable interest in environmental protection. The 1972 report “Limits to Growth” and the UN Conference on the Human Environment (UNCHE) of that same year stimulated world-wide debate on environmental degradation.

- The second wave in which the invention and start of the promotion of sustainable development culminated in the second UN conference in Rio de Janeiro in 1992

In the 1990's the – limited – cooperation between spatial and environmental policy was further elaborated. The Brundtland report served as input to the 1992 UN Conference on Environment and Development (UNCED).

What is special about the Brundtland report is that it explicitly links environmental degradation with social problems and economic stagnation. The Rio conference resulted, among others, in Agenda 21, an overall guiding document for sustainable development.

- The third wave stipulating the long-term aspects of sustainable development, starting around the third UN conference in Johannesburg (2002) and reaching its peak after the release of ‘The inconvenient truth’ on climate change and global warming, culminating in the Bali Conference in 2007 (zeijl-Rozema, 2011, 42).

Thanks to the climate change, the IPCC, a number of publications and Al Gore, long term issues returned on the political agenda and as an issue of concern in society. Generally speaking the new sense of urgency of long term (political) issues has produced a more positive political attitude towards the explicit and broad notion of sustainable development.

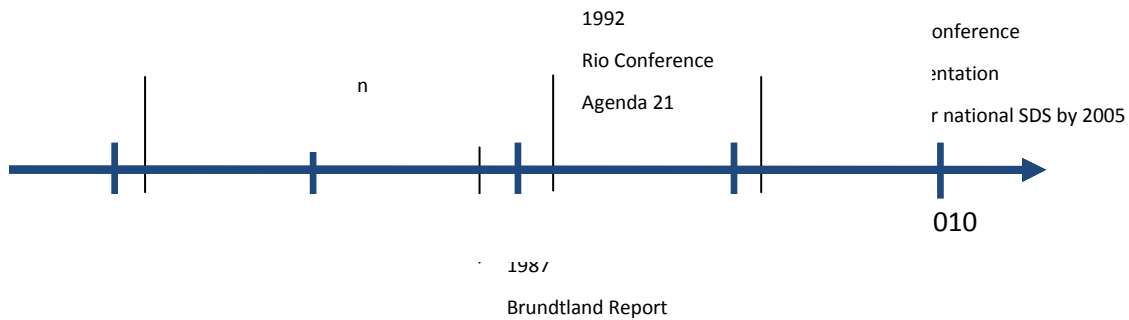


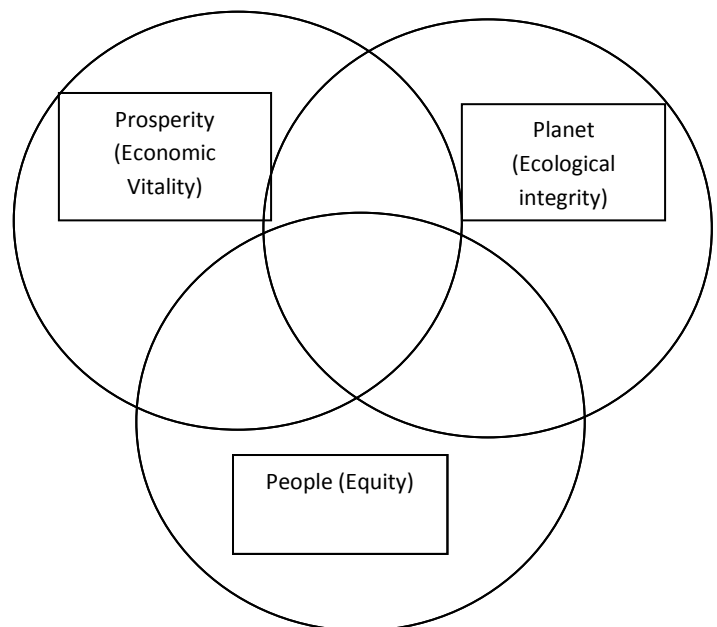
Figure 2.1 The timeline of sustainable development and events at United Nations (UN) (Zeijl-Rozema, 2011, 42).

## 2.2 Sustainable development definitions

What is sustainable development? One of the first and widely used definitions of sustainable development concept was offered by the 1987 Report, “Our common Future” from the United Nations World Commission on Environment and Development;

“Sustainable development is the development that meets the needs of the present generations without compromising the ability of future generations to meet their own needs” (WCED, p.8).

The WCED recognized that the conventional economic imperative to maximize economic production must be accountable to an ecological imperative to protect ecosphere, and a social equity imperative to minimize human suffering.



development as defined  
commission 1987

Cambridge Planning Board defined Sustainability as a guide to advance various initiatives at local scale. Sustainable development is “the ability of community to utilize its natural, human and technological resources to ensure that all members of present and future generations can attain high degrees of health and well-being, economic security and a say in shaping their future while maintaining the integrity of the ecological systems on which all life and production depends (Cambridge Planning Board 1993, 43).

The other definition was offered by Philip R. Berke and Maria Manta Conroy(2000); “sustainable development is a dynamic process in which communities anticipate and accommodate the needs of current and future generations in ways that reproduce and balance local social, economic, and ecological systems, and link local actions to global concerns” (Berke, 2000). This definition considered four key characteristics of sustainable development including “dynamic process”, “intergenerational”, “economic, social, ecological balance” and “link local actions to global concerns”.

Sustainable development can be conceptualized as a state of dynamic equilibrium between societal demand for a preferred development path and the supply of environmental and economic goods and services to meet this demand (Figure 2.3). Alternatively, an area develops sustainably when its well-being does not decline over time (Atkinson et al., 1997).

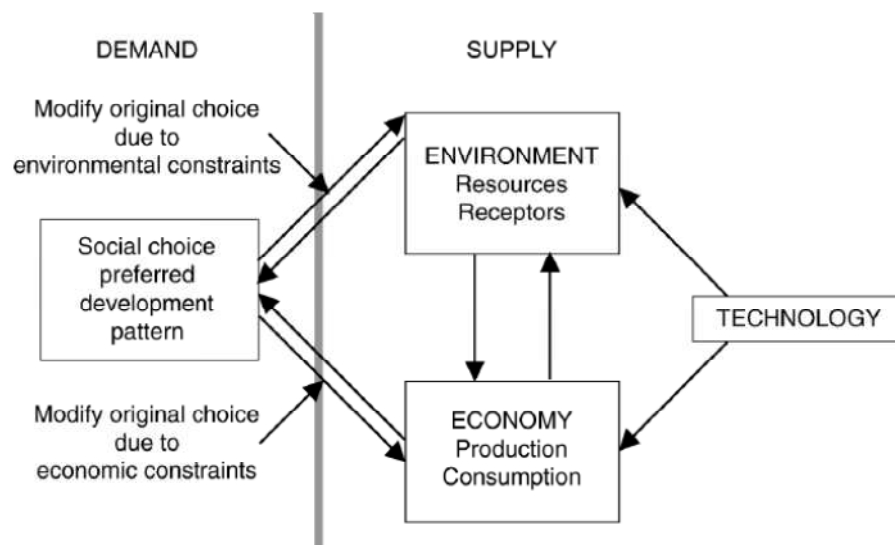


Figure 2.3. A schematic presentation of sustainable development

Benjamin A. Herman (2010) presented a simpler definition; “Sustainability is a balanced approach that considers people, planet and prosperity”. In this definition “people”, means community well-being and equity, “Planet” refers to the environment and resource conservation, and “Prosperity” means economic vitality. In the other word, sustainability means adopting human activities to the constraints and opportunities of the natural systems we need to support life.

In all definitions three cornerstones of sustainability are ecological soundness, economic viability, and social justice. Any system of development that is not ecologically sound eventually will diminish or destroy the foundation for its productivity, and thus, is not sustainable. Any system that is not economically viable will not be able to maintain control over use of its resources, and thus, is not sustainable. And any system of development that doesn’t meet the needs and expectations of society will not be supported by society, and thus, is not sustainable. The three are not separate goals or objectives, but instead are three separate dimensions of the same whole, as with the three dimensions of a box; height, length, and width. Any object lacking any one of those three dimensions quite simply is not a box. Any system of development that is not ecologically sound and economically viable and socially responsible just quite simply is not sustainable over time. All are necessary and none alone or any pair is sufficient to ensure sustainability.

Thus, sustainability requires that we look beyond the economics of short-run, self-interest to the broader set of issues affecting quality of life or human well being over time. Sustainability requires that we raise our economic thinking above short-run, self-interest to

Consider the long run health and productivity of the natural ecosystem, not just the optimum means by which it may be exploited for our short-run gratification. Sustainability requires that we broaden our economic thinking beyond self-interest to consider the well being of the community, or society, as a whole, not just the sum of the welfare of individuals who make up a community or society. The economics of self-interest is an important dimension of sustainability, but it is but one among three. Things ecological, social, and economic must be considered as complementing dimensions of the same whole, not as competing objectives that can be pursued separately.



In sum sustainable development can be defined as, “a process not an end-state that seeks to reconcile the conflicts among “Economic development”, “Ecological preservation”, and Equity in space scale (Local, Regional, State, National and International) and time scale (past, present and future)”

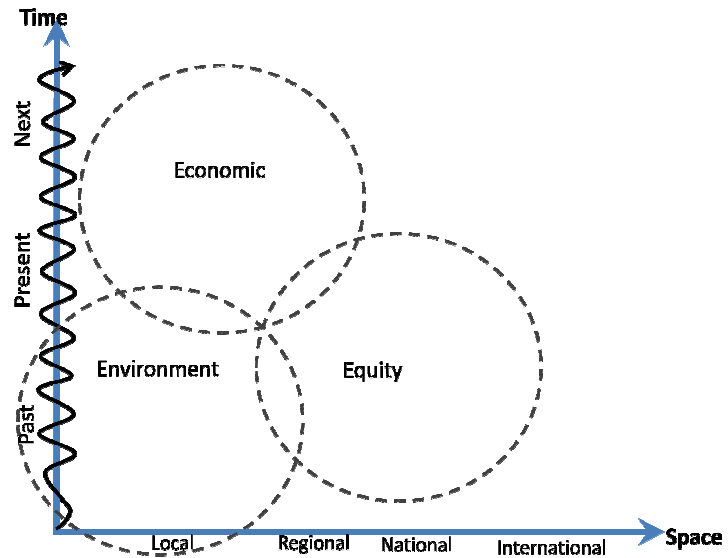


FIGURE 2.4. Elements and dimensions of sustainable development definition

## 2.3 Key conceptual dimension of sustainable development

An examination of these definitions and other from planning practice and scholarship reveals four key conceptual dimensions that can be used to derive a set of essentials: reproduction, balance, link local to global concerns and dynamic process.

### System reproduction:

Campbell (1996) defines sustainable development “as the long-term reproduction of a system to reproduce”. Neuman (2000) views sustainability, and by implication reproduction as the rate of change of any urban system that must be sustained over time without exceeding the innate ability of the surroundings to absorb the impacts of the process”. The term surrounding should be construed to local and global scales.

These notions of production should mean not only duplication of the status quo but also fostering of revitalization. Reproduction provides a useful guide to ensure that movement from past to present is in a sustainable direction, and current and future policies are on track to achieve progress. It makes clear that the long term consequences of contemporary development can only be remedied with sustained, comprehensive multigenerational efforts.

Accordingly, planners must foresee and shape the scope and character of future development, identify existing and emerging needs will be met and that communities will be able to continuously reproduce and revitalize themselves. By this definition built environments become more liveable; ecosystems become healthier; economic development becomes more responsive to the needs of place rather than furthering the profits of a powerful few; and the benefits of improved environmental and economic conditions become more equitably distributed.

### **Balance between Environmental, Economic, and Social values:**

A second dimension of sustainability is balance between environmental, economic and social values. Plans should reflect and appropriate balance between these sometimes competing, sometimes complementary values. Achieving balance entails coordination, negotiation, and compromise, as well as technical design-oriented knowledge about problems associated with cities and regions.

When all values cannot be represented, sustainability cannot be promoted by a plan. If environmental values are not accounted for, then the basic life support process on which a community depends cannot be sustained, then the fundamental source of community change and improvement is denied. If social values are not reflected in a plan, then places will be created that do not meet the life and work needs of local people and do not fairly serve all interest groups.

### **Link local to global (and regional) concerns:**

A third dimension of sustainability is that community planning must link local to global concerns. Communities that achieve and retain improvement in quality of life must not diminish the quality of life of the other communities, now and in the future. Sustainable development requires that communities reach beyond their individual interests in future development to account for global (and regional) need. Local plans should acknowledge that communities function within the context of global (and regional) environmental, economic, and social systems. Moreover, just as communities should not act in only their own interests, individual citizens and interest groups should be required to account for community, regional, and global interests.

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### Dynamic process:

A fourth characteristic is that sustainable development is a “dynamic process” that extends from the formulation of a plan. Sustainable requires communities to pursue an evolving and ever-changing program of activities, including a continuous process of evaluating current and emerging trends, an ongoing means of encouraging citizen participation and negotiating conflicts, and an updating of plans. These activities should be oriented toward searching for ways to continuously move communities in the direction of becoming more sustainable (Berke, 2002, p 31-32).

## 2.4 Sustainable development essentials

In related with urban planning, Berke and Manta Conroy’s (2000) determined six operational performance principles. Each principle refers to clusters of quality that have a common basis and are measured in a common ways. Following are these principles and an explanation of how they extend from the four conceptual dimensions of sustainability.

1. **Harmony with nature.** Land use and development activities should support the essential cycles and life support functions of ecosystems. Whenever possible, these activities should mimic ecosystem processes, rather than modify them to fit urban form. These activities must respect and preserve biodiversity, as well as protect and restore essential ecosystem services that maintain water quality, reduce flooding, and enhance sustainable resource development.

2. **Livable built environments.** The location, shape, density, mix, proportion, and quality of development should enhance fit between people and urban form by creating physical spaces adapted to desired activities of inhabitation, encourage community cohesion by fostering access among land uses; and support a sense of place to ensure protection of any special physical characteristics of urban forms that support community identity and attachment.

3. **Place-based economy.** A local economy should strive to operate within natural system limits. It should not cause deterioration of the natural resources base, which serves as a capital asset for future economic development. Essential products and processes of nature should be used up no more quickly than nature can renew them. Waste discharge should occur no more quickly than nature can assimilate them. The local economy should also produce built environments that meet locally defined needs and aspirations. It should create diverse housing, and infrastructure that enhances community livability and the efficiency of local economic activities.

4. **Equity.** Land use patterns should recognize and improve the conditions of low-income populations and not deprive them of basic levels of environmental health and human dignity. Equitable access to social and economic resources is essential for eradicating poverty and in accounting for the needs of the last advantaged.

5. **Polluters pay.** Polluters (or culpable interests) that cause adverse communitywide impacts should be required to bear the cost of pollution and other harms, with due regard to the public interest.

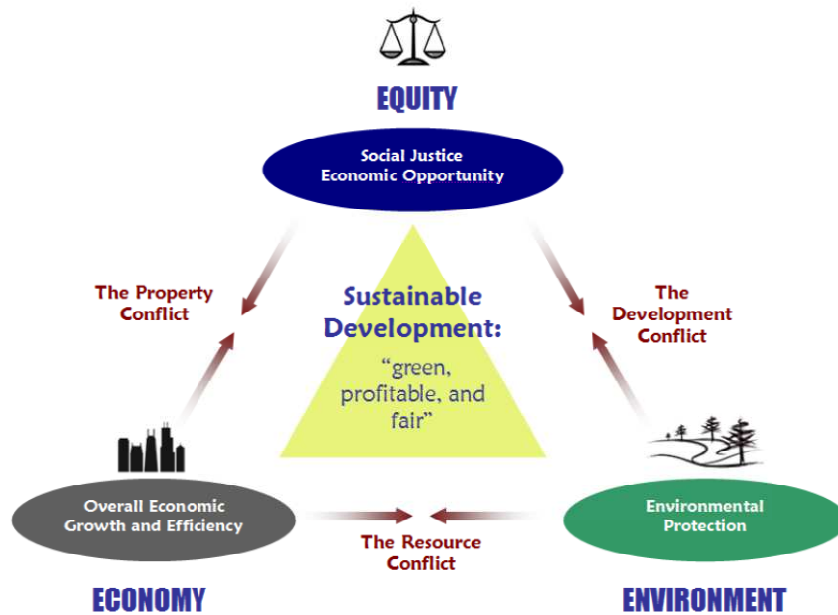
6. **Responsible regionalism.** Communities should not act in their own interests to the detriment of the interests of others, and they should be responsible for the consequences of their actions. Just as individual developers should be subject to the principle that polluters (or culpable interests) pay, a local jurisdiction has an obligation to minimize the harm it imposes on the other jurisdictions in pursuit of its own objective (Berke, 2000, p 23).

Given this conception of sustainability, principle 1 through 4 are associated with the “reproduction” characteristic, since they address the long term ability of community to sustain healthy local social, economic, and ecological systems. Principle 5 and 6 reflect the “link local to global concerns” characteristic, wherein communities (and individuals) act with a broader obligation to others. How well all six principles are represented in plan policies relates to the “balance” characteristic.

## **2.5 The roles of urban planners in reaching sustainable development**

On the surface, sustainable development is a simple concept. Current and future generation must strive to achieve a decent living for all people and live within the limits of natural systems. Despite this simplicity, there has been no general agreement on how the concept should be translated in to practice. Although there is no question that the concept of sustainable development is increasingly being used to guide planning, its implementation is not immediately apparent.

The contradictions among the goals of sustainable development have been highlighted in a penetrating critique by Campbell (1996), who illustrated them as a triangle with a goal at each point and conflicts occurring along the axes as a result of contradictions between them. The “property conflict” between economic growth and equitable sharing of opportunities arises from competing claims on uses of property as both a private resource and a public good. The “resource conflict” between economic and ecologic utility arises from competing claims on the consumption of natural resources and the preservation of their ability to reproduce, exemplified by the sustained yield concept. The “development conflict” between social equity and environmental preservation arises from competing needs to improve the life of poor people through economic growth while protecting the environment through growth management.



If the three corners of the triangle represent key goals in planning, and the three axes represent the three resulting conflict, then the center of the triangle are defined as representing sustainable development. Therefore the roll of planners is to manage and resolve conflicts and making balance between these three goals.

# Chapter 3

## Theories in Spatial planning:

*“All kinds of things can come together in the world and, in that process of encounter and settling down into at least a short-term equilibrium; they can creatively produce new kinds of organisation that are greater than the sum of their parts.”*

*(Magalef, 1968).*

This chapter is part of the literature review. It addresses spatial planning theories and thus answers one of the sub-question of the research; *what are the main characteristics of the spatial planning theories?* And it is also a base of study for the main questions of the research.

## 5. Spatial planning and its main theories:

Spatial planning is a very complex issue – it is a way that we intervene in the processes of spatial development in order to create a different and hopefully more sustainable structure. Planning actions and functions from past to the future are very different (see Table 3.1) Spatial planning operates at different scales: local, regional and increasingly at the transnational and cross-border level.

**Table 3.1. Planning actions and functions: from past to future , (Vasilevska, 2009)**

Therefore, it is a wide concept, it is "a political as well as technical process - it is political not only in the sense of the politics in the process, but the concepts and ideas that we use in spatial planning are also political" (Nadin, 2000).

Time orientation	Planning actions	Planning functions
Past	React	Operational
<div style="text-align: center;">↓</div> Present	Respond	Managerial
	Mitigate	
	Control	
	Manage	
	Adapt	
<div style="text-align: center;">↓</div> Future	Anticipate	Strategic
	Prepare	
	Change	
	Shape	
	Create	

In spite of the broad definitions of spatial planning, two dichotomy conceptual models are present: 1) spatial planning is land-use management and regional planning (in the traditional sense, as a branch of land use planning); and 2) spatial planning includes sectoral co-ordination through territorial strategy - an "umbrella" activity embracing the interests of various sectors with spatial policy impacts. Those currently in the field have tended to favor



the second model – spatial planning is a wider, more inclusive approach to considering the best use of land than traditional land-use planning. ‘spatial planning goes beyond traditional land use planning to bring together and integrate policies for the development and use of land with other policies and programs which influence the nature of places and how they function’ (ODPM, 2004).

Spatial planning according to the EPSON<sup>1</sup> aims to create a more rational territorial organization of land uses and the linkages between them, in order to balance the demand for development with the need to protect the environment, and primacy in the period of deregulation and privatization.

Three main theoretical planning approaches have dominated spatial planning. Traditionally, spatial planning has had a strong focus on the physical planning result. It was basically concerned with the location, intensity, form, amount and harmonization of the land development required for the various space-using functions (Albrechts, 2006). This approach is known as “Comprehensive-Rational planning” theory. After emerging environmental and social consideration, implementation of comprehensive-rational planning has been increasingly criticized. Today spatial planning is more dominated by two other approaches; “Communicative Planning” and “Strategic Spatial Planning”. In contrast to traditional spatial planning, more recent planning approaches focus on the participation, communication and interaction of the various stakeholders involved in the planning process and internal and external context as well.

The following section describes these three planning approaches in terms of content, objectives, methods and etc.

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<sup>1</sup> *European Spatial Planning Observatory Network Study Programme on European Spatial Planning*

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## **5.1 Comprehensive-rational planning theory**

### **5.1.1 Origin of Comprehensive-rational planning theory**

The development of rational-comprehensive planning theory can be traced back to Auguste Comte (1798-1857), often regarded as the “father of sociology”. Comte sought to apply the methods of observation and experimentation, familiar to the classical science of his time, to a field that we now know as sociology. He believed that persistent social problems might be solved by the application of certain hierarchical rules. With the aid of the science of sociology, Comte believed that mankind would progress toward a superior state of civilization.

Some key ideas introduced by Comte were maintained in the rational-comprehensive planning theory that gained ground in the 1950s and 1960s – the ideas which, to a considerable degree, are still at the core of urban planning thought. First and foremost, Comte’s association of the methods of classical science with the study of societies and social phenomena is central to the theory of rational-comprehensive planning. According to classical science, Measurements can always be made more accurate, more samples could be taken, more tests run, new variables taken into account. We may get closer and closer to the absolute truth, but we can never reach it. Knowledge of the world can never measure up with the information concealed in the world itself; it has to be a reduction. But the search for absolute knowledge was nevertheless the goal of classical science: more comprehensiveness in observation, experimentation and calculation meant better science. In classical science, more knowledge meant better predictability. The worldview of classical science is often described with the notion of ‘clockwork’: the world is seen as complicated clockwork with an infinite collection of wheels, screws and springs, and their mutual interactions – and as such it is seen, although complicated, still as predictable as a clock. The unpredictability is only due to the fact that you may never gain complete information of its mechanism.

Similarly, the theorists of rational-comprehensive planning thought that the more comprehensive the analyses of the planning problem were, the better the plan would be. The planner-analyst regarded himself as the neutral observer of the urban life and its various

problems. Through analyses formulated and undertaken by the planners themselves valid knowledge of the urban problems “out there” would be gained.

The lesson drawn in rational-comprehensive urban planning was that through profound analyses you may predict the long term development of towns and cities, and hence make long-term master plans with great accuracy to steer this development.

### 5.1.2 Content of Comprehensive-rational planning theory

Comprehensive-rational planning theory or Synoptic planning typically looks at problems from a systems viewpoint, using conceptual or mathematical models relating ends (objective) to means (resources and constraints) with heavy reliance on numbers and quantitative analysis.

The central assumptions of comprehensive-rational model are;

- There is always a right or wrong way of management, problem solving or development. In the positivist view this model assumes that it is possible to find this best way, the best solution to all planning issues.
- The environment is controllable by using scientific knowledge and modern technologies (belief in progress).
- There is a common public interest.
- Change has to be engineered from the top.

Therefore according to this view focus in planning analysis was on quantifiable factors, such as changes in population and age group rates, the amount of traffic in roads, the sizes and distances of public services in relation to their user base, technical capacities of infrastructure system, the disposition of apartment blocks in relation to the direction of sunlight and wind, etc. The factors were analyzed separately: like the clockwork the urban communities were seen as mechanisms of different elements in interaction. The Athens Conference of CIAM in 1933 had identified these “functions” of the city as ‘housing’, ‘industry’, ‘greenery’ and ‘traffic’.

So in this type of planning theory, for solving the urban issues, there are four general steps;

- Clearly define goals,
- set objectives that would specify measurable achievement of goals,
- collect information on all possible alternatives and associated costs and benefits,
- And select an alternative that provides maximal achievement of public goals at minimal costs.

### 5.1.3 Actors of Comprehensive-rational planning theory

In comprehensive-rational planning theory, Planning is considered as a scientific-technical process without any involvement of public. Public interest means planning solutions that were of common benefit. By means of scientific analysis the parameters of such solutions were to be defined: wide roads without traffic jams, equal access to services and green areas, clean air, sunlight and technical facilities for every dweller, etc. By the use of a scientific method the common good was to be defined.

There is no room for participation here. On the contrary, it would have been seen to distort the objectivity of planning analysis and thus jeopardize the realization of the public interest with subjective motivations. The business of defining the ends and means in planning was best left to the profession of planners, who, in their reliance to the scientific method, thought they knew better what is good for the citizens. Using John Forester's terms, the role of the urban planner was "Facts and rules": "Rely only on facts that have a scientific basis and on the authority and duties designated to your public office position" (Forester 1987).

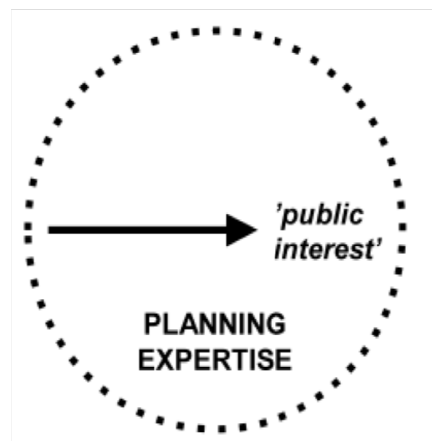


Figure 3.1 In comprehensive-rationalist planning the 'public interest' as the goal of planning is defined within the context of planning expertise

### 5.1.4 Role of planners of Comprehensive-rational planning theory

In this model planners believed that improving the rationality of decision making is one of their major contributions. Many planners consider themselves more rational than others with whom they deal-other professionals, certainly, politicians- because they could take a comprehensive, long-range view and a systematic, analytic approach.

In this model the planner is considered as “homo- economicus”. If he has collected and analyzed all necessary data his scientific and experience enable him to;

- Identify the common public interest
- Identify all solution options
- Evaluate them against specific criteria (especially economic one) and thus
- Choose the best solution to all planning issues (maximize benefits)
- Thus planner is considered to be the expert capable to cope with the complexity of the world by using special techniques and technologies to solve the relevant problems.



Figure 3.2. Planner as expert and scientific person in Comprehensive-Rational planning theory

### 5.1.5 Decision making process of Comprehensive-rational planning theory

Rational planning theory specifies that a planner should become aware of a problem, propose a goal, and carefully weigh all alternative means of achieving it and their consequences, and then select among the means according to estimates of their merit. Once a strategy is implemented, unanticipated consequences may be dealt with through a feedback process to inform a new goal or modify the old one. Rationalist models tend to posit a high degree of control over the decision-making situation on the part of the decision-maker or planner. Direction comes from the top, and planners, by implication, wield a great deal of expertise and authority.

The planning is carried out in a central way its process consists of six basic stages including;

- Defining goals and priorities,
- Formulation of strategy,
- Collection and analysis of information,
- Defining and evaluation of alternatives,
- Monitoring and
- Evaluation of realization in respect to the goals.

Several modeling and analyzing techniques are used, especially quantitative analysis.

### **5.1.6 Criticism of Comprehensive-rational planning theory**

Proponents of comprehensive planning perceive it as a necessary rational tool that incorporates multiple essential elements of planning including physical land use planning and social, economic, and environmental aspects to safeguard public interest and guide the city's long-range future (Friedmann, 1971). Conversely, accusations of comprehensive planning failure made by its opponents rely on a number of reasons in support of their argument. Opponents of integrative comprehensive planning approaches ground their argument on the practical difficulties in coping with multilayered problems and cooperating with multiple policy domains that makes crafting adequate plans prohibitively insurmountable. These difficulties stem from the limitation of individual planners and institutional settings that seem to be overwhelmed by numerous practical complications.

As such, integrative comprehensive planning is often accused of offering an impractical and overly ambitious approach. It reflects unrealistically ideal assumptions of human capacity and socioeconomic, structural, and organizational settings. The rational-comprehensive approach neglects quintessential characteristics of real-world decision-making situations, namely the fallibility of human comprehension ability, the limitation in resources, time, and access to information, the multiplicity of competing rational actors and power structure imbalance (Forester, 1989). The assumption of comprehensive intellectual human abilities is an invidiously problematic one. Humans cannot comprehend everything nor can they even fully comprehend one planning aspect (Lindblom, 1959). They tend to rely on simplification of intricate issues to reach satisfactory decisions rather than optimal solutions, based on which process important possible outcomes, alternative potential policies, and affected values

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are often neglected or overlooked (Lindblom, 1959). As such, planning comprehensively seems beyond human cognitive ability and institutional, technical and organizational capacity (Lindblom, 1959). It is also criticized based on its centric nature of decision-making which depends on a “one strategy fits all” approach. This hinders its ability to incorporate the diversity of perceptions, interests, and values into a single plan. Its pure instrumentalism of functional rationality and utilitarian and optimization tendency resulted in a lack of understanding of local needs and contextual differences and contributed to its inability to generate meaningful alternatives (Altschuler, 1965). As a result, critics of the rational-comprehensive planning stress the lack of political interest and commitment to implementation and the apparent public opposition to such plans which challenges planners’ false claims of representing the public interest (Friedmann, 1971). Stressing the need to develop alternative approaches, critics censure comprehensive planning for solidifying new forms of authority and power by way of technical elitism and universal rationality. This is precisely why comprehensive planning did not fully achieve its goals of serving the public interest, given that it is greatly diverse.

In summary the main criticisms of rational-comprehensive planning theories can be classified as follows:

- Limited human capacity for anticipating all alternative goals, means and consequences.
- undesirable ethical effects (planning as an objective activity without participation of the population on whom objectives and measures are imposed top-down cannot be considered ethically correct)
- undesirable environmental effects or no successful results (as local knowledge and practices are not incorporated in planning and management, the measures are not adapted to the specific conditions, the population does not support the measures ordered from the top, and no inter-jurisdictional cooperation is intended in this planning model)
- doubts on objectivity and rationality (data are not always available and difficult to analyze, nor are the attributes of the planner always made known)

## 5.2 Communicative planning theory

### 5.2.1 Origin of Communicative planning theory

The communicative model draws on two philosophical approaches— American pragmatism as developed in the thought of John Dewey and Richard Rorty and the theory of communicative rationality as worked out by Jurgen Habermas. The two strands differ somewhat in their methodologies. Neo-pragmatism tends toward empiricism, with its exemplars searching for instances of best practices within planning from which generalizations can be drawn. Thus, “The big question for the pragmatic analysts is how practitioners construct the free spaces in which democratic planning can be institutionalized. The idea is to uncover examples of planning that are both competent and democratic, and then to explore who the practitioners were who did it, what actions they took to make it happen, and what sorts of institutional conditions helped or hindered their efforts”. (Hoch 1996, p. 42) Communicative rationality starts instead with an abstract proposition. According to Patsy Healey (1996, p. 239):

“A communicative conception of rationality . . . replaces[s] that of the self-conscious autonomous subject using principles of logic and scientifically formulated empirical knowledge to guide actions. This new conception of reasoning is arrived at by an inter subjective effort at mutual understanding. This refocuses the practices of planning to enable purposes to be communicatively discovered”.

Pragmatism and communicative rationality emerge from different philosophical traditions. Whereas Dewey’s work comes out of British philosophical realism and empiricism, Habermas's original approach traces back to Hegelian idealism and Marxist critical analysis then later to Wittgenstein's scrutiny of language.



### 5.2.2 Content of Communicative planning theory

This planning style is commended as a respectful, interpersonal discursive practice adapted to the need of liberal and pluralist societies, where one social group cannot legitimately force its preferred solutions to collective problems on other groups. Communicative planning is an open and participatory enterprise, involving a broad range of affected groups in socially oriented and fairness-seeking developments of land, infrastructure or public services, guided by a consensus-building process designed to approach the principle of discourse ethics.

Central assumptions of communicative planning are as follows:

- There exist various interests within society.
- The interpersonal dialogue triggers a mutual learning process leading to an intensive communication about measures.

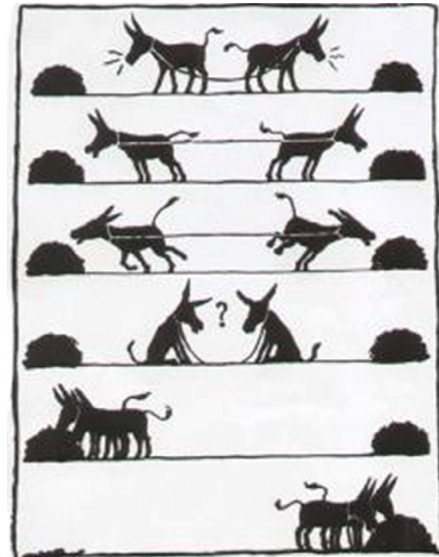


Figure 3.3. Conflict resolution through dialogue. (Naess, 2000., 515)

Healey (1997, p. 29) summarizes this theoretical turn as comprising the following emphases:

- (1) All forms of knowledge are socially constructed;
- (2) Knowledge and reasoning may take many different forms, including storytelling and subjective statements;
- (3) Individuals develop their views through social interaction;
- (4) People have diverse interests and expectations and these are social and symbolic as well as material;
- (5) Public policy needs to draw upon and make widely available a broad range of knowledge and reasoning drawn from different sources.

### 5.2.3 Objectives of Communicative planning theory

In communicative planning, communication and discourse are seen as main elements. The objective of communicative planning is to bring all stakeholders together in the planning process and give each of them an opportunity to present their own ideas and arguments. This debate is supposed to lead to a mutual understanding and empathy for each other situation and interest and finally to a collective meaning and consensus over the chosen solution.

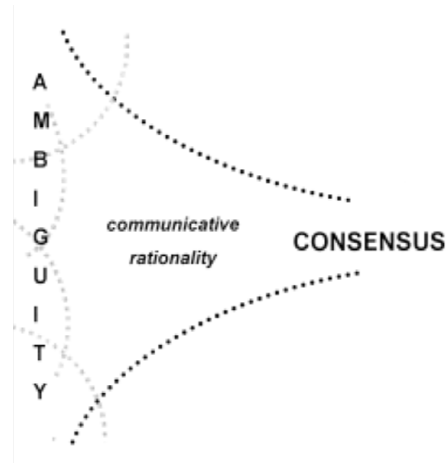


Figure3.4. making consensus between different interest in community (Mäntysalo, 2005)

### 5.2.4 Actors of Communicative planning theory

Communicative planning, also known as collaborative planning is seen as a way of achieving democratic and participatory style of planning and it emphasizes the interaction process between stakeholders at the level of developing strategies and frameworks. The concept of stakeholder is a central element in the development of the model of collaborative planning. The term referring to all those who have a stake in a particular place. The stakeholders, groups of investors, business organizations, the elected representatives of government, non-government organizations, and associations of the citizens have direct or indirect stake in the project. As they can affect or be affected by the actions, objectives, and policies, they bring their knowledge, interest and expert opinion into the process as well as innovative solutions. The selection of the participants and the level of participation depend on the type of problems under consideration. Involvement of stakeholders is necessary in the different stages of the process: formulation of the vision, selection of goals, priorities and alternatives as well as the plan implementation, not only in the stage of the public review

upon the completion. That active participation and reaching of agreements by different actors provides legitimacy to the decisions.

### 5.2.5 Role of planners of Communicative planning theory

In the communicative planning, contrary with Comprehensive-traditional planning, planners are no longer characterized as “designer”, but have a role as communicator and networker. This type of planning emphasizes the planner’s role in mediating among “stakeholders” within the planning situation.

Within communicative theory the planner’s primary function is to listen to people’s stories and assist in forging a consensus among differing viewpoints. Rather than providing technocratic leadership, the planner is an experiential learner, at most providing information to participants but primarily being sensitive to points of convergence.



Figure 3.5. planners as mediator in the communicative planning theory

- Planners act as supporters and participants among many.
- Equipped with technical knowledge, communicative and group-psychological skills, planners are able to reduce the disparities between the participants and reach consensus.
- Planners are the centre of systematic knowledge; they also mediate between different interests and communicate information between the actors in the planning process

### 5.2.6 Decision making process of Communicative planning theory

In communicative planning the form and character of decision making is “bottom-up” and decentralized decision making. Planning as an activity is changing focus from being rational and target-oriented into being increasingly occupied with the planning process. These processes include, and are based on, the different stakeholders affected—their interests and scope in participating in the communicative processes.

The process of communicative planning is open and is discourse-based. The discourse is upon four principles;

A) Openness as formulated by Habermas:

- 1- Every subject with the competence to speak act is allowed to take part in a discourse;
- 2- (a) Everyone is allowed to question any assertion whatever;
- (b) Everyone is allowed to introduce any assertion whatever into the discourse;
- (c) Everyone is allowed to express his attitudes, desires and needs.
- 3- No speaker may be prevented, by internal or external coercion, from exercising his rights as laid down in (1) and (2).

B) The communication between participants should be comprehensible, factually true, sincere, and legitimate within the normative context of public planning.

C) Nothing should coerce a participant except the force of the better argument.

D) Participants should be committed to reaching mutual understanding in dialogue free from strategic action (Sager, 2009).

### 5.2.7 Criticism of Communicative planning theory

The main criticism of communicative planning is that all stakeholders are considered to be equally empowered, while in practice resources are unequally distributed among the stakeholders. Communicative planners focus on power-neutral communication between stakeholders and rely on the possibility of finding consensus. They pay little attention to the position and resources of stakeholders and thus are little interested in

negotiation aspects, since negotiation always concerns deal-making which is related to resources that are unequally distributed among stakeholders.

Another criticism is that the process is based on citizens and stakeholders who gains influence and professional planner and the local politicians are not enough active and efficient in the process. The planning process is organized both to give opportunities for different stakeholders to meet and discuss proposals and to generate a formal plan for the future use of the physical setting. Communicative planning focuses on the former aspect of planning; thus, there is a threat that it would degrade the importance of the latter.

The communicative focus in the planning process raises expectations on the local actors and their community to act rationally in accordance with national and even international goals, like sustainable development. In reality, however, the everyday choices of individuals, households and stakeholders mainly come from individual and short term rationality.

“The collaborative and consensus-based planning models are characterized by a strong belief that dialogue can transform conflicts of interest into situations where both sides win. Unfortunately, not all conflicts are of this benign type”(Naess, 2000, p 515).

## 5.3 Strategic spatial planning

### 5.3.1 Origin of Strategic spatial planning

Strategy as mode of achievement for a general or specific goal has probably always been present in planning. Strategy as a response to external stimuli and as part of a complex process only enters the sphere of planning later. From this point of view, probably the first systematic use of the term of strategy and strategic planning in our discipline took place during the debates about structural planning, which has interested planners in Britain, the Netherlands, France and Germany (with different origins, implications and outcomes) since the beginning of the 1960s. Within this framework, strategy is not only meant as the development of long range visions, but also related to a process and inter-institutional interaction (Sartorio, 2005, 26).

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Before that the planners of the first part of the twentieth century, deep in architectural and engineering traditions, emphasised the concept of structure of a building. Urban areas were conceived as having “structures” that created frameworks to be filled in by detailed area-development schemes and specific building projects (Healy, 2007).

In the 1980s we witnessed a retreat from strategic planning, fuelled not only by the neoconservative disdain for planning, but also by postmodernist skepticism, both of which tend to view progress as something which, if it happens, cannot be planned (Healey, 1997a). Instead the focus of urban and regional planning practices was on projects (Motte, 1994;

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Secchi, 1986), especially for the revival of rundown parts of cities and regions, and on land-use regulations.

During the 1990s, the context changed again. The growing complexity, an increasing concern about rapid and apparently random development (Breheny, 1991), the problems of fragmentation, the dramatic increase in interest (at all scales, from local to global) in environmental issues (Breheny, 1991), the growing strength of the environmental movement, a reemphasis on the need for long-term thinking (Friedmann, 2004; Newman and Thornley, 1996) and the aim to return to a more realistic and effective method all served to expand the agenda. In response, more strategic approaches, frameworks, and perspectives for cities, city-regions, and regions had again become fashionable in Europe by the end of the millennium (Albrechts, 2004).

Table 3.2 The term strategy in planning and strategic planning contextualized interpretations (Sartorio, 2005, 26)

	Discourses	Main concepts	External influences
Origin of the term	Goal-oriented action and game	Assumption of both a <i>static</i> and a <i>dynamic environment</i>	Warfare sciences
1950s–1960s	Structural planning	Introduces the <i>process</i>	IOR Theories of decision making
1970s–1980s	Competition among cities Organizational planning	Introduces <i>uncertainty</i> and <i>performance</i> of the city as a system	Enterprise and organizational planning Policy analysis
1990s	Strategic planning Strategic behaviors	Introduces <i>interaction</i>	Governance

### 5.3.2 Content of Strategic spatial planning

The implementation-driven strategic planning approach is a planning concept based on the interaction process between the stakeholders that is needed to develop mutual understanding about the spatial problem, the relevant or strategic issues in the planning process and the way to achieve a solution. It adopts the philosophy that a planning approach needs to be based on an analysis of the context or environment of the project. In strategic planning, interactions among decision makers, strategic planning teams and task forces are seen as a means of sharing information, identifying ideas of strategic importance and building

coalitions of support. The interactions themselves clearly rely extensively on communication. Strategic planning, then, is seen as mechanisms for routinizing these interactions and communications (Bryson, 2000) and thus builds further on communicative and interactive planning. Strategic planning also includes contextual factors and focuses not only on the plan development but also the implementation. The objective of strategic planning is to search for an 'ideal fit' between the organization (with its strengths and weaknesses) and the project's context (with its threats and opportunities). The goal is not only to find the optimal solution in terms of issue-solving, but also to create commitment among the stakeholders. Strategic planning creates solid, workable long term visions and develops strategies at different levels, taking into account the power structures-political, economic, gender and cultural-uncertainties and competing values. It designs plan making structures and develops content, images and decision frameworks for influencing and managing spatial change (Albrechts,2006). Thus, beyond developing a shared vision about the process and the content, the strategic approach also tries to develop commitment among the stakeholders and to develop a joint strategy for further plan development and implementation. The stakeholders' vision is achieved by solving strategic issues. In using strategic planning in integrated area development, the focus is both on creating coherence between land use functions and on managing an integrated process with many stakeholders. Moreover, the context of the project is explicitly considered.

### **5.3.3 Objectives of Strategic spatial planning**

METREX (Network of European Metropolitan Regions and Areas) lists the functions of strategic Spatial Planning as below (METREX, 1999; Yildiz, 2006):

1. Strategic Spatial Planning puts development decisions through a general open strategy and integrated sectorial and regional policy, program and projects.



2. Strategic Spatial Planning considers the carrying capacities of ecosystems and it puts the most proper development strategies to provide protection and sustainability for natural, cultural and environmental values.

3. Strategic spatial planning determines future long term development strategies. In order to provide sustainable development, validity and affectivity of the determined strategy needs to be regularly revised.

4. Strategic spatial planning and development should also consider social, economic and environmental situations. In addition to this, sectorial and regional subjects should be integrated and they should be balanced with environmental values.

#### **5.3.4 Role of planners of Strategic spatial planning**

Strategic planners have on several occasions acted as catalysts, as counterweights, and as initiators of change. They mobilize and build alliances. They present real political opportunities, learning from action not only what works but also what matters. They substantiate change and refuse to function smoothly as neutral means to given and presumably well-defined ends.

#### **5.3.5 Decision making process of Strategic spatial planning**

Strategic planning is centered on the elaboration of a mutually beneficial dialectic between top-down structural developments and bottom-up local uniqueness. Strategic Spatial Planning process can be defined as below:

- It focuses on limited number of static keys. It adapts a critical view about environment which will put the strong and weak parts of opportunities and threats and it evaluates outer trends and current resources.
- It determines the main participants and brings them together (private and public).
- It gives opportunity for wide (multilevel governance) and different (public, economic and civil society) participation.
- It develops different levelled (realistic), long term mission/perspective and strategies; it takes power structures into consideration; it designs uncertainties and

competitive values planning structures and it develops the content; it creates vision and decision frames for Spatial change and management.

- It is related with forming new ideas and processes which will move forward. By doing so, it forms the agreements; it creates new ideas to affect different areas, make organization and provide movement capability.
- It has focused on both short and long term decisions, activities, results and application. It includes elements such as observation, feedback and revision.

### **5.3.6 Criticism of Strategic spatial planning**

The strength of strategic planning lies in its attempt to coordinate the various elements of an organization's overall strategy across levels and functions. Its primary weakness is that its excessive holism and control can lead to a loss of focus on the mission, strategy and organizational structure, and exceed the ability of the participants to comprehend the project and the information it produces (Bryson & Roering, 1996). However, the intention with strategic planning is generally to focus on only selected critical issues (Bryson, 2004).

# Chapter 4

## Evaluation of spatial Planning theories:

## 6. Spatial planning and Improving sustainable development

Sustainable development means development that meets the needs of present generations without compromising the ability of future generations to meet their own needs. Sustainable development involves a process of change in which the use of resources, the management of investment, the general direction of technological development and changes in institutions are harmonized with both future needs and present needs (in accordance with the definition of sustainable development of the World Commission on Environment and Development). Sustainable development requires improving the integration of three interdependent dimensions of development: economic, social and environmental. Spatial planning can be used as an instrument to coordinate socioeconomic development by preventing environmental problems and simultaneously protecting the natural environment and the cultural environment. The challenge for planning is to ensure the efficient use of limited land resources and to contribute to balanced regional business development and balanced use of resources, including natural and landscape resources, soil, water and air. Since spatial planning has a long-term perspective, it can also include important principles of sustainability.

Based on this, using spatial planning to promote sustainable development involves striving to view the concepts of development and protection as being complementary rather than contradictory.

Spatial planning is used to create solutions that are bound to specific geographical territories. Sustainable development cannot solely be achieved at the local level. Spatial planning enables various territorial dimensions to be considered: local, regional, interregional and global. Spatial planning as an instrument creates solutions that target specific geographical territories while the solutions are integrated with solutions in other larger or smaller territories.

Spatial planning can coordinate various aspects of socioeconomic development across the sectors of society: urban development, development in rural districts, urban-rural relationships, the development of infrastructure and environmentally sound use of land and natural resources. Planning procedures are based on and should be developed further to ensure the involvement of the public in a democratic decision-making process so that various societal interests can be weighed and balanced in decisions on development.

#### **4.1 Developing a spatial conceptual model in compatible with sustainable development**

Planning theory has been a source of analysis and debate, within the field of urban and regional planning, for at least the past 40 years. But no consensus has emerged over this period regarding a preferred planning theory or even what represent “mainstream” planning theories.

In related with sustainable development even the question gets more difficult and more ambiguous. How an urban spatial planning theory can help planner’s communities to plan in order to approach to the sustainable community? In the other words which type of spatial planning theory are more compatible with sustainable development? The aim of this section is to provide a set of attributes of an ideal spatial planning theory in compatible with sustainable development.

The conceptual model compatible with sustainable development has main concepts; Sustainable development and spatial planning theory.

Firstly sustainability requires that we look beyond the economics of short-run, self-interest to the broader set of issues affecting quality of life or human well being over time. Sustainability requires that we raise our economic thinking above short-run, self-interest to consider the long run health and productivity of the natural ecosystem, not just the optimum means by which it may be exploited for our short-run gratification. Sustainability requires that we broaden our economic thinking beyond self-interest to consider the well being of the community, or society, as a whole, not just the sum of the welfare of individuals who make up a community or society. The economics of self-interest is an important dimension of sustainability, but it is one among three. Things ecological, social, and economic must be considered as complementing dimensions of the same whole, not as competing objectives that can be pursued separately.

Now the question is how to measure progress to sustainable development? In the other words how we can understand which theory is more able to make balance between this three conflicts (economic, social and environmental aspects)? In the urban literatures for measuring progress to sustainable development, usually three distinct metrics are used:

A) Indicators (measurements used to demonstrate movement toward or away from a desired goal);

B) Benchmarks (a reflection of current conditions, used as a starting point to gauge progress); and

C) Targets (a desired outcome or goal that the plan's actions are intended to move toward).

Benchmarks and targets methods are more suitable for measuring practical works such as urban development plans. As, here, the aim is to show which spatial theories have more capacity to approach sustainable development essentials; therefore we can use indicators method;

For selection criteria's there is no universal set of indicators that is equally applicable in all cases. However, a small set of well-chosen indicators tends to be the most effective

approach. There are a number of selection criteria that can be applied when narrowing down the number of indicators. The selection criteria ensure that the indicators are useful and effective in their provision of information to the decision-makers. The indicators also must be direct relevance to objectives and clarity in design.

A number of requirements follow for finding indicators of sustainable development:

- Indicators of sustainable development are needed to guide policies and decisions at all levels of society: village, town, city, county, state, region, nation, continent and world.
- These indicators must represent all important concerns: An ad hoc collection of indicators that just seem relevant is not adequate. A more systematic approach must look at the interaction of systems and their environment.
- The number of indicators should be as small as possible, but not smaller than necessary. That is, the indicator set must be comprehensive and compact, covering all relevant aspects.
- The process of finding an indicator set must be participatory to ensure that the set encompasses the visions and values of the community or region for which it is developed.
- Indicators must be clearly defined, reproducible, unambiguous, understandable and practical. They must reflect the interests and views of different stakeholders.
- From a look at these indicators, it must be possible to deduce the viability and sustainability of current developments, and to compare with alternative development paths.
- A framework, a process and criteria for finding an adequate set of indicators of sustainable development are needed.

(Bossel 1999, P 7)

In this work, the aim is to realize relation between spatial planning theories and sustainable development. The criteria's are extracted according to Berke and Manta Conroy's

(2000) work. As it has been discussed in chapter 2 they determined six operational performance principles but since the “polluters pay” principle is not related with domain of theory (it seems more practical essential) it will be ignored in this study.

1. *Harmony with nature.*
2. *Livable built environments.*
3. *Place-based economy.*
4. *Equity.*
5. *Responsible regionalism.*

In the other side it should be known what is the role of a theory (spatial theory) in promoting sustainable development in a community.

Planning theories Directs program planning- why, what and how? And Direct evaluation as an integral part.

In related with sustainable development, as it has been discussed in chapter 2, there are always some conflicts between three dimension of sustainable development and from other side the main role of urban planning to promote community onward sustainability is making balance between economic, environmental and social goals in related with urban plans. Therefore each theory that leads planners to resolve contradictions and conflicts between economic, social and environmental aspects and finally cause planners to plan for sustainable community, can be more efficient theory for approaching sustainability.

As planning is a continues process (not static process), a spatial planning theory should be able to indicate its potentials in three dimensions;

- Contextual dimension
- Procedural dimension
- Outcome and implementation dimension



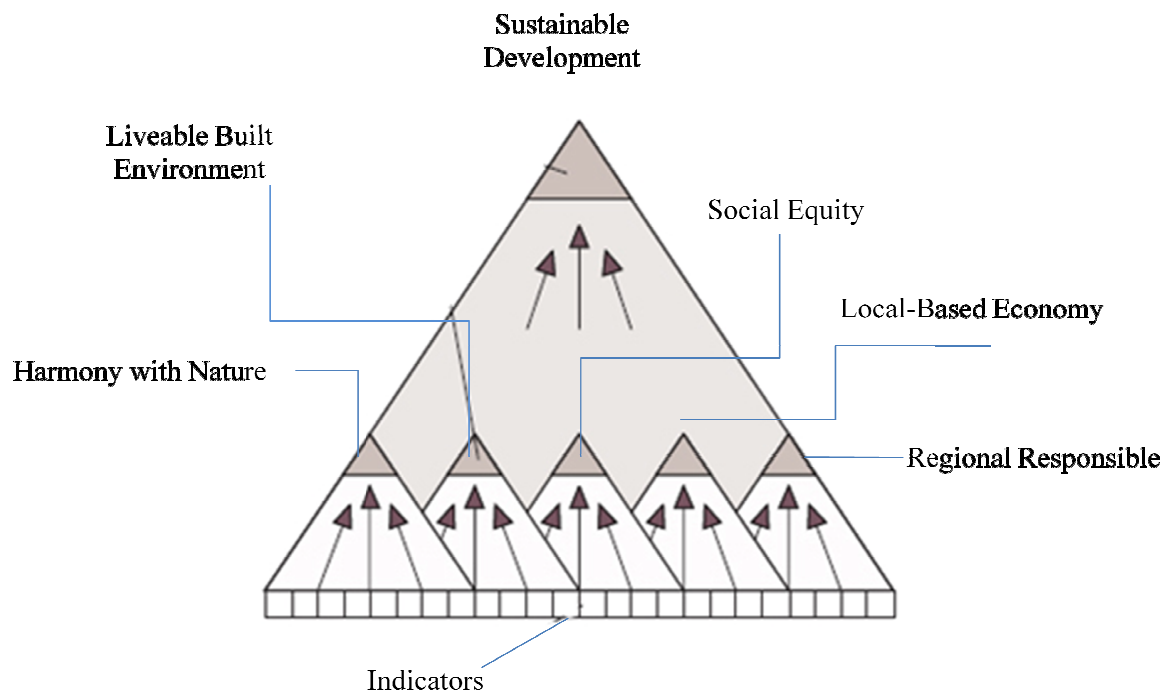


Figure 4.1 Conceptual model for reaching to sustainable development

## 4.2 Comparison Spatial planning theories according to sustainable development essentials

In the following section **Comprehensive-rational, communicative and strategic planning theory** will be compared according to sustainable development essentials including; *Harmony with nature, Livable built environments, Place-based economy, Equity, Responsible regionalism.*

### 4.2.1 Measuring rational-comprehensive, communicative and strategic spatial planning according to “Harmony with nature” essential:

ZHENGHONG TANG and NAN ZHAO (2011) developed a well conceptual local environmental conservation plan. This conceptual plan involves all influenced factors in order to more efficient environment conservation plan. An efficient spatial planning theory should mix two types of principles; Top-Down principles and bottom-up principles. In theory’s domain there are five variables which a theory must support them in order to promote plans onward the “harmony with nature”.

- Strategic conservation awareness
- Regional conservation analysis
- Local conservation actions
- Implementation commitment
- Community-based participation

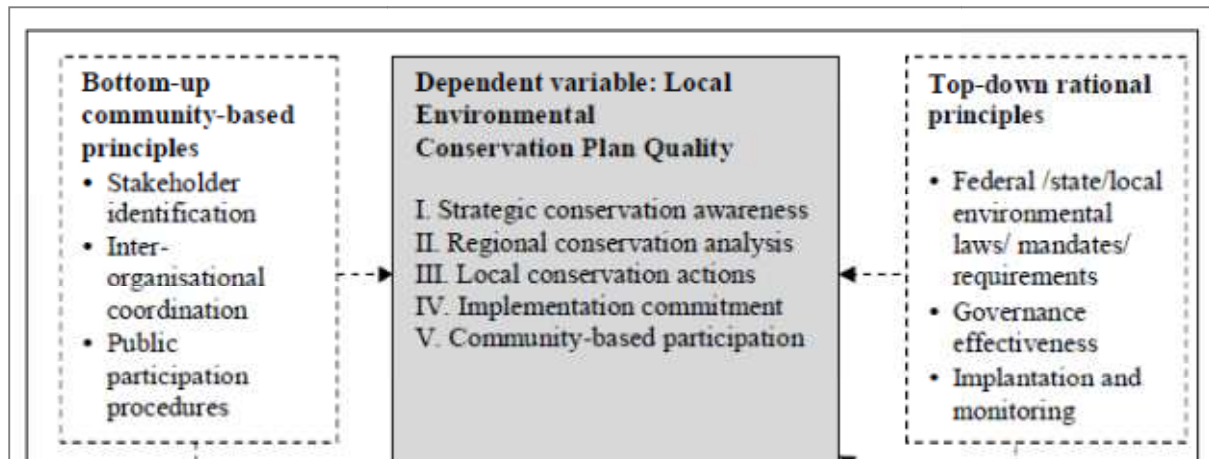


Figure 4.2 Conceptualising local conservation planning (TANG, 2011, 412)

In the follow part each spatial planning theory is studied according to these variables and potentials and weakness of each will be recognized.

#### 4.2.1.1 Strategic conservation awareness:

An effective local environmental conservation plan should be aware of strategic, long-term, inter-generational environmental issues (TANG, 2011, 413). All of these items are from outside the context of the projects and local plans.

Rational-comprehensive planning according to planners knowledge and other specialist involving with the plan making a chance to link local environmental conservation efforts with some global values, such as climate change and variability, greenhouse gas emission, and ozone layer depletion.

Strategic spatial planning considers threats and potentials of the external environment and it develops different leveled (realistic), long term mission and perspective and strategies. Thus strategic spatial planning can follow this variable.

Communicative planning relies on local communities and local government; However many environmental issues are beyond the spatial scale of concern of local governments, and exceed their local administrative boundaries. Additionally, the long-term nature of environmental conservation often does not mesh with the short-term mindset of local politics.

It is also an institutional challenge for local jurisdictions to translate political will as actual measurable responsibilities for coordinating environmental conflicts.

In general, many strategic and macro concepts, which can protect local long-term environmental value include sustainability concepts, biodiversity concepts, human disturbance, ecosystem integrity, environmental justice and social equity are not matter of local communities, participants and local agencies but rational-comprehensive planning with relaying on scientific approach and strategic planning with relaying on external environmental study consider to these concepts.

#### 4.2.1.2 **Regional conservation analysis:**

Regional conservation analysis should identify the sphere of influence of local development and cross-jurisdictional environmental problems. It brings regional guidance to place local development and conservation goals under a regional development umbrella. Regional environmental resources should be identified in local environmental conservation plans, including groundwater supply and aquifer depletion, hydrological regimes and aquatic environment, habitats and corridors/networks, watersheds and ecological regions, and regional transit corridors.

Again while environmental planning addresses cross-boundary issues as the geographic scale increases, collaboration becomes more complex (Lane and McDonald, 2005). Therefore, the communicative planning model is not a perfect model for regional environmental conservation. But strategic spatial planning can make link with cross-boundary as an external environment. Rational-comprehensive planning also has potential to study peripheral regions conditions with help of planner experts that it is according to their knowledge.

#### 4.2.1.3 **Local environmental conservation actions and community based participation:**

Not only should local environmental conservation plans identify local jurisdiction's physical setting, which is a foundation to make local environmental policies, but also some important local environmental elements should be appropriately addressed in local plans. Local

conservation plans generally should cover open space, air quality, water quality, urban forestry, community design, building codes, and areas of noise pollution.

**Community planning theories** pay great attention to local and community-level's conservation efforts. It is rely on stakeholder involvement, public participation, and inter-organizational coordination. Thus Communicative planning theory has potential to use the power of local government and jurisdictions to directly manage water quality, air quality and waste management, to make budget arrangements to set priorities that may relate to environmental conservation projects and etc. communicative planning also have potential to coordinate stakeholder's interests and solve potential conflicts. With help of communication planning theory it is possible to educate, persuade, and encourage participation and consensus, and also offer a vision of the future.

**In rational-comprehensive planning** local knowledge and practices are not incorporated in planning and management, the measures are not adapted to specific conditions and the population does not support the measures ordered from the top.

**Strategic spatial planning theory** looks community as internal context of the plan, in this context strategic spatial planning acts as bottom-up planning approach. It involves stockholders in the planning process, it make coordination between local organizations, and it emphasis on the public participation as well.

#### 4.2.1.4 **Implementation commitment:**

Another important element in order to be harmony with nature in the plans is the commitment toward implementation. To ensure the effectiveness of local environmental conservation plans in practice, they need to highlight major environmental laws and mandates as a legal foundation to manage local environmental resources. Additionally, the plans should clearly identify the leading agencies' responsibilities and give clear timelines. Moreover, the procedures for plan amendment and monitoring should be involved as a part of implementation commitment in plans.

Since local environmental conservation planning is a dynamic decision-making process, the duration of the conservation plans bring a lot of uncertainties for participation. The

communicative planning theory may face limited technical assistance and inconsistent data problems. It is also has strong emphasis on censuses building between stakeholders and participation, and sometimes the implementation step is neglected.

Strategic planning has potential to implementation commitment and monitoring mechanisms. Its focus on both plan formulation and plan implementation, and thus the transition from the first initiative to plan development, political decision-making, formal adoption of the plan and the actual implementation of the plan is possible. This approach offers a useful framework to achieve detailed insights into the plan development in integrated area development at the operational level.

Rational-comprehensive planning (as an approach from Top-down and a decision making process from the government) creates a basic administrative framework that can lead to:

- (1) Legal foundations,
- (2) Governance effectiveness, and
- (3) Implementation commitment and monitoring mechanisms.

The main potentials and limitations of the spatial planning theories according to “Harmony with nature” essential are summarized in the bellow tables.

Table 4.1. Rational –comprehensive planning theory in related with “Harmony with nature “essential

Rational –comprehensive planning	
Potentials	limitations
<ul style="list-style-type: none"> <li>• Creating link local environmental conservation efforts with some global values, such as climate change and variability, greenhouse gas emission, and ozone layer depletion.</li> <li>• Creating a basic administrative framework</li> </ul>	Lack of public participation

Table 4.2 Communicative planning theory in related with “Harmony with nature “essential

Communicative planning	
Potentials	limitations
<ul style="list-style-type: none"> <li>• With communicative planning theory some important local environmental elements appropriately can be addressed such as open space, air quality, water quality, urban forestry, community design, building codes, and areas of noise pollution.</li> <li>• Creating link with local government and Local jurisdictions</li> <li>• Involving stakeholder, public participation, and inter-organizational coordination.</li> </ul>	<ul style="list-style-type: none"> <li>• Many environmental issues are beyond the spatial scale of concern of local governments, and exceed their local administrative boundaries.</li> <li>• As the geographic scale increases, collaboration becomes more complex</li> <li>• Emphasis on decision-making process and uncertainty in implementation phase.</li> </ul>

Table 4.3 Strategic spatial planning theory in related with “Harmony with nature “essential

Strategic spatial planning	
Potentials	limitations
<ul style="list-style-type: none"> <li>• Creating link local environmental conservation efforts with some global values, such as climate change and variability, greenhouse gas emission, and ozone layer depletion.</li> <li>• developing different leveled (realistic), long term mission and perspective and strategies</li> <li>• Involving stakeholder, public participation, and inter-organizational coordination.</li> <li>• Potential to make implementation commitment and monitoring mechanisms</li> </ul>	

#### 4.2.2 Measuring rational-comprehensive, communicative and strategic spatial planning according to “*Liveable built environment*” essential:

##### 4.2.2.1 What make a community liveable?

The International Centre for Sustainable Cities in a paper (case study of the Greater Vancouver Regional District (GVRD) in Canada, 2005), showed 10 principle as liveable communities plans.

1. Design on a Human Scale; compact, pedestrian-friendly communities allow residents to walk to shops, services, cultural resources, and jobs and can reduce traffic congestion and benefit people's health.
2. Provide Choices People want variety in housing, shopping, recreation, transportation, and employment. Variety creates lively neighbourhoods and accommodates residents in different stages of their lives.
3. Encourage Mixed-Use Development Integrating different land uses and varied building types creates vibrant, pedestrian-friendly, diverse communities.
4. Preserve Urban Centres restoring, revitalizing, and infilling urban centres take advantage of existing streets, services, and buildings and avoid the need for new infrastructure. This helps to curb sprawl and promote stability for city neighbourhoods.
5. Vary Transportation Options Giving people the option of walking, biking, and using public transit, in addition to driving, reduces traffic congestion, protects the environment, and encourages physical activity.
6. Build Vibrant Public Spaces Citizens need welcoming, well-defined public places to stimulate face-to-face interaction, collectively celebrate and mourn, encourage civic participation, admire public art, and gather for public events.
7. Create a Neighbourhood Identity A "sense of place" gives neighbourhoods a unique character, enhances the walking environment, and creates pride in the community.
8. Protect Environmental Resources A well-designed balance of nature and development preserves natural systems, protects waterways from pollution, reduces air pollution, and protects property values.
9. Conserve Landscapes Open space, farms, and wildlife habitat are essential for environmental, recreational, and cultural reasons.
10. Design Matters Design excellence is the foundation of successful and healthy communities.

The following principles also have been suggested as basic to the liveable city by H. L. Lennard. (1997):

1. In the liveable city, all can see and hear each other. It is the opposite of the dead city, where people are segregated and isolated...
2. Dialogue is important...
3. The public realm offers many activities, celebrations, festivals that bring all of its inhabitants together, events that bring opportunities for its citizens to be together, not in the specialized roles and functions that they usually occupy, but as full human beings...



4. A good city is not dominated by fear, not by a conception of fellow human beings as evil and subhuman...
5. A good city offers the public realm as a place of social learning and socialization that is indispensable for children and young people. All of the inhabitants of the community serve as models and teachers...
6. Cities must meet many functions – economic, social and cultural. In so doing, however, there has been a trend for the modern city to over-specialize in one or two functions; other functions are being sacrificed...
7. All inhabitants confirm and value each other.
8. Aesthetic considerations, beauty, and meaning of the physical environment must have high priority. The physical and social environment is two aspects of the same reality. Just as it was a mistake to think that city inhabitants can have a good civic and social life in an ugly, brutal and physically inhospitable city.
9. The wisdom and knowledge of all inhabitants are appreciated and used. People are not intimidated by experts, whether architects or planners, but show a sense of caution and distrust of those who make decisions about their lives.

(H. L. Lennard. 1997)

#### **4.2.2.2 What are key factors for approaching liveable environment in theory domain?**

As mentioned in the above classifications of liveable environment principles, human scale design, sense of place, community identity, mixed use, verity, are the main general concept with related to liveability in built environment. Now how can a spatial theory support these concepts? In the other words with which theory approaching to liveable environment is more possible?

THE WORLD URBAN FORUM (2006 Vancouver Working Group Discussion Paper), determined five necessary concept to show How does liveability relate to sustainability? Thus with use of their work, it is supposed each theory which has potentials to support these essential prerequisites, that theory is more compatible to make plan according to it for approaching to liveable environment.

These key factors are the main prerequisites for reaching the environment liveability. In follow rational-comprehensive planning theory, communicative planning theory and strategic spatial planning theory are measured according to mentioned essentials.

- **A Systems Approach:**

A liveable city is an integrated urban system with social, economic, cultural and ecological dimensions. These dimensions and their interconnections need to be addressed as one system.

- **Long-term Perspective:**

It is essential to look beyond 30 to 50 years and anticipate the impact of current decisions, activities, policies and plans on future generations. To do so require consideration of long-term trends such as climate change, energy shortages, demographic changes et cetera. The long-term view allows participants to think outside of their usual boundaries and embrace novel ideas and approaches.

We are living today with the consequences of decisions about infrastructure and land use made a hundred years ago. 100-year time horizons for planning can provide the creative space for thinking beyond vested interests and current constraints towards visions of a liveable city for future generations.

- **As Uncertainty Increases, the Need for Adaptive Management Increases.**

A liveable city establishes monitoring processes that feed back into governance bodies and creates learning structures to enable adjustments to the unexpected and to unintended results.

Cities need to be flexible and responsive to the complexity of the modern urban system and to the pace of change within which a city operates. The uncertainty and unforeseeable side effects that result from seeking to advance liveability within this context require a learning approach that embraces monitoring and feedback, and adjusts strategies according to new information.

- **Resiliency**

A liveable city creates robust and adaptive urban forms and infrastructure. Resiliency is the ability of an urban system to be robust in response to stress and to be adaptable in light of changing circumstances and opportunities. Resiliency requires that the capacity of both individuals and institutions within a city is enhanced in order to respond to the increasing complexity of urban systems, unexpected shifts, and the accelerated pace of change. “Sustainability involves maintaining the functionality of a system when it is perturbed, or maintaining the elements needed to renew or reorganize if a large perturbation radically alters structure and function. The ability to do this is termed “resilience”.

**A Strategic Participatory Approach:**

A liveable city involves a diversity of stakeholders in an urban regime, an alliance that holds a core set of common values and works in concert to improve the quality of life of its citizens and monitor the results of their actions.

The process of striving for a sustainable quality of life is as important, if not more important, than the goals and implementation strategies established. Adopting a strategic approach involves creating the partnership networks, establishing the guiding principles, and establishing the learning structures that form the basis for a sustainable liveable city.

This strategic approach enables planners and citizens in a city to ensure that, where appropriate, all those who have a stake in the development of the city can come to the decision-making table. A strategic approach also facilitates the adjustment of specific goals and strategies while maintaining a core set of guiding principles and an overarching vision. This approach requires the establishment of conflict resolution mechanisms and moderation for the inevitable debates that arise around the implementation of a vision.

#### **4.2.2.3 Liveable environment factors and spatial planning theories**

The holistic approach, advocated by rational comprehensive planning, looks at the interrelationship between the whole person and his or her environment. This holistic approach neglects some specific details which are in the special context of a plan. In related with other key factor, long-term perspective, although rational-comprehensive planning

.....

usually plan for long time (15, 20 or more) but this perspective is highly sold and inflexible. There are always some uncertainty and unforeseeable side in the plans that no one can predict them, because a city is a complex and dynamic system. However in rational-comprehensive planning, it is supposed that all elements of the city can be understood by the planners and consequently they can predict future of the city. Therefore there is not option for adaptation the plans with future changes in the city. Rational-comprehensive planning defines plans in 4 steps; define goals, set objectives, collect information and select an alternative. After that planning process is finished. So this type of planning has weakness with uncertainty and it is not suitable planning type considering this factor.

Rational-comprehensive managing and governing combined human and natural systems (social-ecological systems), such as an urban system, have tended to assume that managers and planners are external to the system being managed and that predictions can be made about potential disturbances and opportunities. These assumptions do not hold in the context of managing urban systems for long-term liveability, sustainability and resilience.

The other key factor for promoting liveability in the cities is participatory approach, without citizen participation involvement in the all planning process steps, concepts like sense of place, community identity etc are not achieved. But the biggest weakness of the rational-comprehensive planning theory is also lack of consideration to citizen's participation. So rational-comprehensive planning is faced with a lot of limitation for enhancing the liveability of the cities.

Communicative planning approach has great potential in terms of participatory approach for promoting community liveability as participation is the main idea of this type of planning. In this sense communicative planning is very perfect planning style for making the community liveable. However communicative planning is criticized for not having Long-term Perspective, most of the time negotiation between stakeholders leads to short-term decision taken. In the other side communicative planning emphasis on the more specific matters (such as making agreement between stakeholders and ...) and sometimes community (or city) as a complex system are neglected.

Strategic spatial planning is according to system point of view. If we have a general look at the strategic spatial planning, it can be appreciated that all five key factors mentioned above are in this definition.

In general, strategic planning can be used to determine mission, vision, values, goals, objectives, roles and responsibilities, timelines, etc. Strategic spatial planning can be described as the systematic, integrated approach of policymaking, which takes into account context, resources and the long term (Dimitrou, Thomson, 2007). Strategic planning does not flow smoothly from one phase to the next. It is a dynamic and creative process. New points of view and facts that come to light today might very well alter certain decisions made yesterday. In strategic spatial planning, all the mentioned key factors are considered. As the bellow graph shows in strategic spatial planning theory, defining long-term vision, participation (contact with stakeholders) are the main elements in the strategic spatial planning.

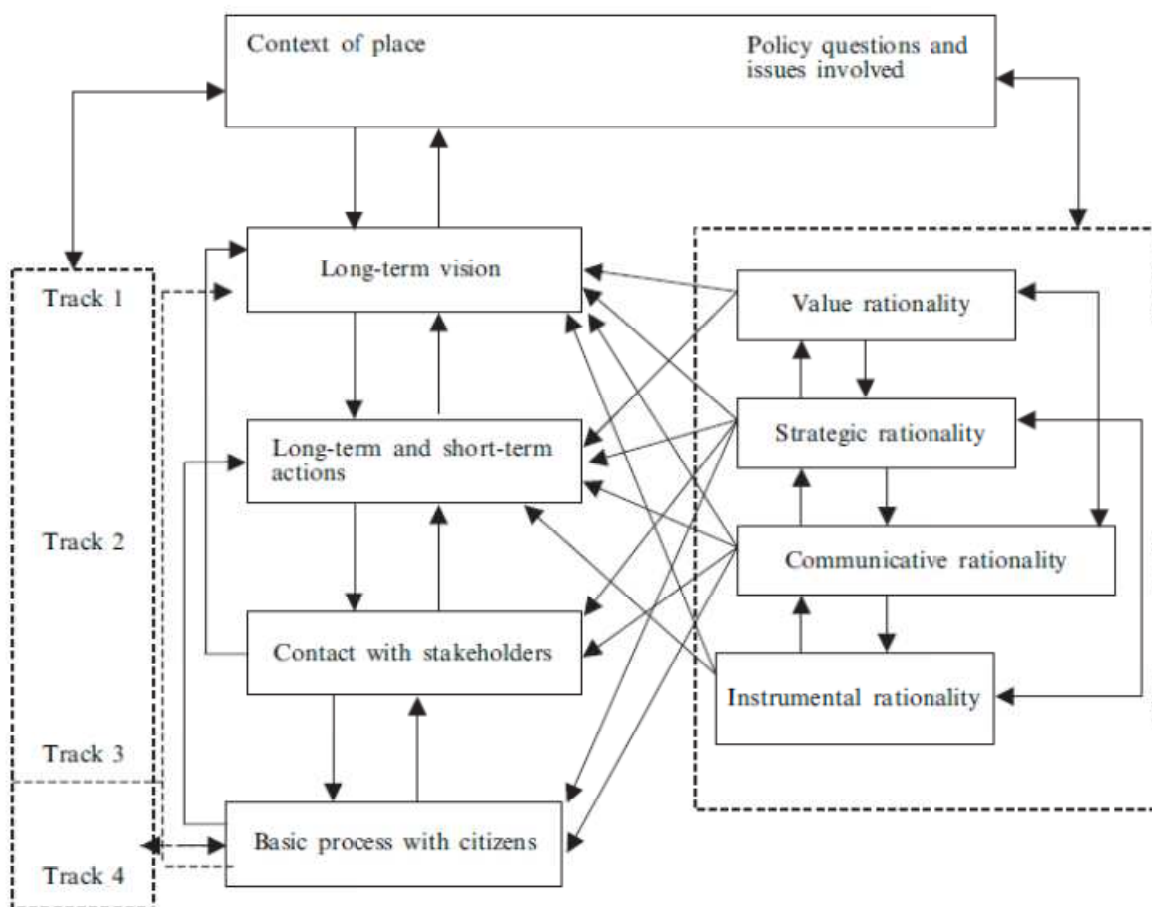


Figure 4.3. Strategic spatial planning theory process (Albrechts, 2004, p 753)

The main potentials and limitations of the spatial planning theories according to “liveable built environment” essential are summarized in the bellow tables.

Table 4.4 Rational–comprehensive planning theory in related with “liveable built environment “essential

Key factors	Rational –comprehensive planning	
	Potentials	limitations
System approach		neglects some specific details which are in the special context of a plan
Long-term Perspective	It has long term perspective	Its perspective is highly sold and inflexible
Adaptive Management		There is no option for adaptive management
Resiliency		It assume that every potential disturbances and opportunities are predictable, so resilience factor are not considered in the context of urban system
A Strategic Participatory Approach		lack of consideration to citizen’s participation

Table 4.5 communicative planning theory in related with “liveable built environment “essential

Key factors	Communicative planning	
	Potentials	limitations
System approach	It has system approach	
Long-term Perspective		It may neglect long-term Perspective
Adaptive Management		It deal with uncertainty weakly
Resiliency	With involving both individuals and institutions, capacity of them in terms of resiliency will be increased	
A Strategic Participatory Approach	Involves a diversity of stakeholders and citizens	

Table 4.6 strategic spatial planning theory in related with “liveable built environment “essential

Key factors	strategic spatial planning	
	Potentials	limitations
System approach	It is according system point of view and looks urban and regional issues as a complex system	
Long-term Perspective	Long term perspective is the main idea of strategic spatial planning	
Adaptive Management	Strategic planning does not flow smoothly from one phase to the next. It is a dynamic and creative process. New points of view and facts that come to light today might very well alter certain decisions made yesterday.	
Resiliency	Strategic planning consider unpredictable conditions and has vision and strategy for them	
A Strategic Participatory Approach	Participation is a main element of strategic spatial planning	

#### 4.2.3 Measuring rational-comprehensive, communicative and strategic spatial planning according to “Place-based economy” essential:

Place-based economy is based on the premise that a sustainable local economy must be planned and developed as an appropriate response to the possibilities and limitations of that particular place.

Place-based economic development:

- is rooted in a community’s interest in the “triple bottom line” of economic, social, and environmental returns on investment,
- is focused on unique features of a particular landscape or culture
- is locally driven and capitalizing on existing local assets,
- provides a balanced long-term approach to sustainability of resources, and
- Is dependent on creative entrepreneurship and long-range vision.

According to Berk (2000) local economy should strive to operate within natural system limits (it should not cause deterioration of the natural resource base) and it should create diverse housing and infrastructure that enhances community liveability and efficiency of local

economic activities. So which theory has potential to support place-based economy in spatial planning? Each theory that is rooted in community stressed, is focused on local condition, and provides long-term approach to sustainability of resources.

Table 4.7. Rational –comprehensive planning theory in related with “local-based economy” essential

Key factors	Rational –comprehensive planning	
	Potentials	limitations
Community interest		Rational –comprehensive planning theory is not according to community interest
Context-dependent		Rational–comprehensive planning theory is more according to universal values and beliefs and do not consider specific conditions of the plan context

Table 4.8. Communicative planning theory in related with “local-based economy” essential

Key factors	Communicative planning	
	Potentials	limitations
Community interest	Communicative planning is highly according to local interest	
Context-dependent	As community planning is deal with local community, it is possible to be aware of the specific conditions of the plan’s context	

Table 4.9. Strategic spatial planning theory in related with “local-based economy” essential

Key factors	Strategic spatial planning	
	Potentials	limitations
Community interest	Involving stakeholders in the planning process	
Context-dependent	Context-dependent is the main element of strategic spatial planning	



#### **4.2.4 Measuring rational-comprehensive, communicative and strategic spatial planning according to “Equity (social justice)” essential:**

For the purpose of this research equity or social justice can be defined as bellow;

Social justice is the striving towards a more equal distribution of resources among social groups across the space of cities and nations.

In order to determine potentials of each spatial planning theory for approaching to equity, the concept of equity has to be broken in some indicators. For this research, these indicators have been extract from a paper named “The Compact City and Social Justice” by Elizabeth Burton (2001). In this article for measuring social equity, bellow indicators have been used.

- Better access to facilities
- Poorer access to green space
- Better accessibility to jobs
- Better public transport
- Greater opportunities for walking and cycling
- Reduced domestic living space
- Poorer health
- Reduced crime
- Reduced social segregation
- Increased job opportunities
- Lack of affordable housing
- Increased wealth

However for the purpose of this research, as the definition of equity (in this research) is equal distribution of resources, only the indicators those have direct relationship with spatial planning will be studied.

**Table: 4.10 social equity indicators**

Social equity indicators	Nature of indicators
Access to superstores	Average distance to nearest superstore, from all wards, most deprived ward, and difference for most and least deprived wards.
Access to green space	Average distance to nearest green space, from all wards, most deprived ward, and difference for most and least deprived wards.
Job accessibility	Percentage of low -income employees working outside the district, in absolute and relative terms
Public transport use	Percentage of low-income employees who travel to work by public transport relative to high-income employees
Non-motorised travel	Percentage of low-income employees who travel to work on foot or by bicycle, in absolute terms and relative to high-income employees, and change
Amount of living space	Rooms per household (average, and for three-person, low-income households); extent of overcrowding; inequality in housing size.
Health	Percentage of residents with limiting long-term illness; death rate from mental illness and respiratory disease.
Crime	Cost of home contents insurance - all postcode sectors, worst sector, and difference between best and worst.
Segregation	Segregation, by ward, of ethnic households, owner-occupiers, local authority tenants, car-less households and single parent households, average across all groups, and change
Job opportunities	Number of low-income jobs per relevantly qualified economically active resident, in absolute terms and relative to high-income jobs
Affordable housing	Average price of lower-cost dwellings relative to average income of manual workers, and average local authority rent; level of homelessness.
Wealth	Increase in price of lower-cost dwelling, and increase relative to higher-cost dwellings.

(Burton, 2011)

In urban literatures, there has been growing recognition that social justice in planning requires a democratization of the planning and decision processes, and that this can often be attained through cooperative approaches (Ostrom, 1990). The success of such an approach depends, however, on building a capacity to participate, to identify and communicate one's own interests, and on developing sufficient mutual trust and other forms of social capital (including leadership) to keep the process going. The increased use of capacity building and consensus processes in a variety of planning applications (Innes, 1992, 1998) is an important start toward broader participation and democracy, and hence greater social equity, in planning. Therefore the most important factor to promotion equity in the cities is democracy and consequently participation. Each theory that can involve citizen's especially low income

citizens in planning process, that theory will be more succeed to approaching social justice (equity) as a one of main factors of sustainability.

Table4.11. Relation between rational-comprehensive planning and social equity

Social equity indicators	potentials	barriers
Equal access to main land uses like superstores, green space etc	Rational-comprehensive planning theory emphasis on land use planning and with use of variety techniques can provide access to main land uses	
Equal Job accessibility and job opportunity		Rational-comprehensive planning theory do not consider job location and opportunity especially low - income employees working outside the district,
Equal access to Public transport use	Rational-comprehensive planning theory has great potential for transportation planning but ...	It does not care about users of public transportation in terms of their economic conditions.
Residential conditions such as amount of living space, affordable housing, price of dwellings etc		Rational-comprehensive planning theory does not consider the quality of residential planning such as rooms per household, extent of overcrowding, inequality in housing size and in general economic and social conditions of dwellers and sometimes (especially in developing countries) with restrict regulation cause that low income citizens cannot provide shelter

Table 4.12. Relation between community planning theory and social equity

Social equity indicators	potentials	barriers
Equal access to main land uses like superstores, green space etc	As community planning theory is according to community participation, it has great potential to use participators ideas and interests for land use planning, therefore equal distribution of the land uses are more feasible in a participatory way.	
Equal job accessibility and job opportunity	Since communicative planning is closely dealing with people's daily lives, it has capacities in prompting accessibility and job opportunity for the dwellers.	
Equal access to Public transportation use	Through incorporating the ideas, knowledge, energy, and assistance of local people it is possible to make public transportation use more equally for all.	
Residential conditions such as amount of living space, affordable housing, price of dwellings etc	As all people especially low income dwellers are supposed to participate in all planning process steps, so they can get to consensus and plan according their economic conditions.	

Table 4.13 Relation between strategic spatial planning theory and social equity

Social equity indicators	potentials
Equal access to main land uses like superstores, green space etc	Strategic spatial planning theory considering to social equity has two main element that can act as potentials to approaching equity, First internal context and second its bottom-up approach that is according to citizen participations and stakeholders involving in the planning process, according to these two element strategic spatial planning has potential to make land use and infrastructures planning equally, it has potential to make equally access to public transportation use, to job opportunity and provide affordable housing for dwellers.
Equal job accessibility and job opportunity	
Equal access to Public transportation use	
Residential conditions such as amount of living space, affordable housing, price of dwellings etc	

#### **4.2.5 Measuring rational-comprehensive, communicative and strategic spatial planning according to “Responsible regionalism” essential:**

Communities should not act in their own interests to the detriment of the interests of others, and they should be responsible for the consequences of their actions. Just as individual developers should be subject to the principle that polluters (or culpable interests) pay, a local jurisdiction has an obligation to minimize the harm it imposes on the other jurisdictions in pursuit of its own objective.

A spatial planning theory must have capacity to make link between local efforts with larger areas like regional, national and international scales. The efficient spatial theory must find solution to be that can cover both global commons and local commons.

In regard with this essential of sustainability (Responsible regionalism) communicative planning have some limitation because as the geographic scale increases, collaboration becomes more complex. In community planning, most often citizenships, stakeholders and local governments act in their own interests and they do not regard to their decision's impacts beyond the spatial scale of their concerns. So in regard with responsible regionalism essential communicative planning theory is faced with this limitation.

However strategic spatial planning theory looks larger scale territories as external environment of the plans, and with study opportunities and treats in the external environment, make a relationship and balance between different geographical scales.

Rational-comprehensive planning theory also has potential to consider regional in peripheral of project context, because it is essentially a Top-down planning system and in this planning style regional, national and international issues are regarded and with consider of all this issues and according to planners experts knowledge, plan alternatives will be selected.

Table 4.14. Relation between rational-comprehensive planning theory and “Responsible regionalism” essential

	potentials	barriers
<b>Responsible regionalism</b>	Rational-comprehensive planning theory regards peripheral regions, national and universal issues and makes link between them	

Table 4.15. Relation between communicative planning theory and “Responsible regionalism” essential

	potentials	barriers
<b>Responsible regionalism</b>		In communicative planning, as the geographic scale increases, collaboration becomes more complex. In community planning, most often citizenships, stakeholders and local governments act in their own interests and they do not regard to their decision’s impacts beyond the spatial scale of their concerns

Table 4.16. Relation between strategic spatial planning theory and “Responsible regionalism” essential

	potentials	barriers
<b>Responsible regionalism</b>	strategic spatial planning theory looks larger scale territories as external environment of the plans, and with study opportunities and treats in the external environment, make a relationship and balance between different geographical scales	

Following Table( 4.17) is an attempt to evaluate the rational-comprehensive planning theory, communicative planning theory and strategic spatial planning theory according to sustainable development essentials in terms of spatial planning. The purpose of this comparison is to suggest the most efficient theory in spatial planning in order to approaching sustainable development.

**Table 4.17 comparing spatial theories according to sub-criteria of sustainable development**

Criteria	Characteristics and applications	Rational-comprehensive planning	Communicative planning	Strategic planning
1)Harmony with nature	Strategic conservation awareness	●		●
	Regional conservation analysis	●		●
	Local conservation actions		●	●
	Implementation commitment	●		●
	Community-based participation		●	●
2)Liveable built environment	System approach		●	●
	Long-term Perspective	●		●
	Adaptive Management			●
	Resiliency		●	●
	A Strategic Participatory Approach		●	●

3)Place-based economy	Community interest		●	●
	Context-dependent		●	●
4)Equity	Equal access to main land uses like superstores, green space etc	●	●	
	Equal Job accessibility and job opportunity		●	
	Equal access to Public transport use		●	
	Residential conditions such as amount of living space, affordable housing, price of dwellings etc		●	
5)Responsible regionalism		●		●



# Chapter 5

## Discussion and conclusion:

## 5.4 Review of the objectives and questions

In this dissertation it have been tried to address two main questions;

- Whether existing theories underlying strategic spatial planning are compatible with sustainable development?
- Which theory is the most effective approach to the sustainable development concept?

There are two main elements in these questions; first sustainable development concept and second spatial planning. So for answering the questions first of all sustainable development concept has been recognized, its attributes and essentials have been reviewed. After that the main and the most dominated theories in spatial planning including rational-comprehensive planning theory, communicative planning theory and strategic spatial theory have been selected and the process of planning, main players, their strengths and their weakness have been considered.

Consequently the five essentials of sustainable development in terms of spatial planning theory including 1- harmony with nature 2- liveable built area 3- equity (social justice) 4- place-based economy 5- responsible regionalism, have been selected for evaluating the spatial planning theories. The assumption is that each theory more support these essentials it has more potential in order to approaching the sustainable development.

This research have two aims; firstly to provide a literature review on the (Dis) connections between Sustainable development and strategic spatial planning theories and the other aim is to provide an assessment of efficacy of the spatial planning theories in related with sustainable development concept.

## 5.5 Main conclusions

For answering to the research questions and aims, a conceptual model compatible with sustainable development has been developed. Despite the differences between cities, a few general requirements for spatial planning theory to make progress towards sustainability have been identified; therefore the most effective spatial planning theory must include;

- **system point of view**

Sustainable development concept is a system. It has three main subsystem; Environment, Economy, Equity. Sustainable development is possible only if component systems as well as the total system are viable. In the other side the subjects in spatial planning (Rural area, urban area, regional area etc) are also high complex system of environmental, economical, cultural etc. These dimensions and their interconnections need to be addressed as one system. The whole cannot function properly and is not viable and sustainable if individual component systems cannot function properly. Thus an effective spatial planning at the first must have system point of view to the spatial issues.

- **Including short- and long-term objectives or vision of the future;**

The use of a planning system to influence communities forward sustainable development is a long-term mechanism. So there is need long-term strategic and integrated vision for the future based on an overall evaluation of strengths, weaknesses, opportunities and threats. However strategies must be developed immediately and in short-term as well in order to preventing the community movement far from sustainability.

- **Ensuring good understanding of the local context before preparing plans;**

Every community has specific conditions. A plan maybe is suit for a specific context but for another context maybe not. An effective spatial theory in order to contribute to achievement sustainable development must has potential to realize local conditions and according to

evaluation of strengths, weaknesses, opportunities and threats in related with the local community prepare the plans.

- **Promoting strong community involvement and participation;**

Sustainable development includes democracy, and public participation in decision-making processes is important. The process of preparing and adopting plans encourages public participation by including the publication of plan proposals, the opportunity to make objections, public meetings and an appeals process. The process contributes to ensuring that various interests in land use or in a specific type of development can be considered and balanced. The public can participate in decisions on the overall direction of development.

- **Consider cross- border issues (responsible to regionalism)**

For reaching to sustainable development, local plans need to fit with regional and national strategies or regulations. Local situation needs to be analyzed and a wider range of spatial or physical, economic, social and cultural challenges need to be considered before a plan is formulated. Each city must to find the most appropriate approach for the local situation, but each should consider how to join all globalization process.

- **Implementation ability**

To ensure the effectiveness of sustainable plans in practice, it is need to highlight major laws and mandates as a legal foundation to be able applicable. The effective spatial planning must not leads to uncertainty and unrealistic decisions, action plans, regulations etc.

*Question 1: Whether existing theories underlying spatial planning are compatible with sustainable development?*

Spatial planning theories for contribute to achievement sustainable development have to support these essentials;

- 1- Harmony with nature
- 2- liveable built area
- 3- equity (social justice)
- 4- place-based economy
- 5- responsible regionalism

According to conceptual model mentioned above and according to comparison the three spatial planning theories it have been realized that every theory in some extent support some indicators of these essentials but not completely. With regarding to major criteria's rational-comprehensive planning has potential to respond to "regionalism essential", however for the other essentials it has weakness. Communicative planning theory in terms of "liveable built environment", "Place-based economy" and "social equity" have great potentials nevertheless in face with "harmony with nature" and "responsible regionalism" is not fit theory. The only theory which has potential to carry all the criteria's is strategic spatial planning. Table 5.1 presents every spatial planning theory situation in related with these five major criteria's and the explanations will be followed.

Table 5.1 Comparison spatial planning theories according to major criteria of sustainable development

Major criteria	Rational-comprehensive planning	Communicative planning	Spatial strategic planning
Harmony with nature			●
Liveable environment built		●	●
Place-based economy		●	●
Equity		●	●
Responsible regionalism	●		●

Rational-comprehensive planning—being a more passive planning approach aimed at controlling land use through a zoning system and regulations—although it has potential to make link between local spatial issues with regional, national and international issues but citizen's who plans are for them are not taken in to account, in planning process. It has been criticized for not promoting public participation. Community groups, target beneficiaries and nongovernmental organizations are usually excluded from the process.

This is the main weakness of this kind of planning for reaching to sustainable development. The other negative points of rational-comprehensive planning are lack of potential regarding to local conditions, having strategic long-term vision. From implementation dimension most of the rational-comprehensive planning outputs are unrealistic and inapplicable.

In the other side communicative planning as bottom-up approach puts the stakeholders central, and focuses on communication among these stakeholders. It has great potentials for promoting liveable environment, equity and place-based economy since for reaching to sustainable in sense of these factor (promoting liveable environment, equity and place-based economy) participation is a vital prerequisite. However as the spatial scale is larger the participation and collaboration become more difficult and more complicated. Therefore communicative planning theory cannot deal well with cross-border issues. Communicative planning also in implementation phase has some uncertainty. Thus rational-comprehensive planning theory and communicative planning theory are not completely fit for approaching to sustainable development concept.

- *Second question; which theory is the most effective approach to the sustainable development concept?*

The most effective planning approach for promoting sustainable development is a hybrid-approach that mixes top-down spatial planning theory with bottom-up planning theory. Indeed, a mere top-down(rational-spatial planning) and centrally organized approach runs the danger of overshooting the local, historically evolved, and accumulated knowledge and qualification potential, whereas a one-dimensional emphasis on a bottom-up(communicative

planning) approach tends to ignore and underestimate importance of linking local conditions with structural macro tendencies. Bottom-up approach also has many uncertainties in implementation and executive step of spatial planning.

In conclusion the most effective spatial planning theory in terms of approaching sustainable development is strategic spatial planning. It is well matched with the prerequisite conceptual model in order to reaching sustainable development. And it is able to take in to account;

- A) Local participation (citizens, stakeholders, local government)
- B) recognizing internal condition (internal context)
- C) Awareness of peripheral geographic scales (external environment including regional, national and global issues)
- D) Having visions and long-term strategy
- E) Having potentials to execute the plans and actions (implementation)

Strategic planning is centered on the elaboration of a mutually beneficial dialectic between top-down structural developments and bottom-up local uniqueness.

Strategic spatial planning takes a critical view of the environment in terms of determining strengths and weaknesses in the context of opportunities and threats. It studies the external trends, forces and resources available.

It identifies and gathers major stakeholders (public and private). it allows for a broad (multilevel governance) and diverse (public, economic, civil society) involvement during the planning process;

It develops a (realistic) long-term vision or perspective and strategies at different levels, taking into account the power structures uncertainties and competing values; it designs plan-making structures and develops content images, and decision for influencing and managing spatial change, it is about building new ideas and processes that can carry them forward.

Strategic planning (both in the short and the long term) is focused on decisions, actions, results, and implementation, and incorporates monitoring, feedback, and revision.

Strategic planning is selective and oriented to issues that really matter. As it is impossible to do everything that needs to be done, 'strategic' implies that some decisions and actions are considered more important than others and that much of the process lies in making the tough decisions about what is most important for the purpose of producing fair, structural responses to problems, challenges, aspirations, and diversity. Strategic planning relates to implementation. Things must get done! This is seen as the pattern of purposes, policy statements, plans, programs, actions (short, medium, and long term), decisions, and resource allocation that defines what a policy is in practice.

## 5.6 Recommendation for future researches:

I believed that the research carried out in this dissertation was significant and useful from theoretical point of view. However there are limitations associated with this study also.

- The research is according to some sustainable development essential related with spatial planning theories that have been extracted from urban literatures. But maybe it can be possible to develop other essentials, criteria and indicators for evaluating these theories. Therefore the research result may can be changed with other criteria.
- Another central and important issue for further study is to examine some plans which they have prepared according to these three spatial theories (rational-comprehensive theory, communicative planning theory, spatial strategic planning theory) and then comparing the results, outcomes and impacts of plans according to sustainable development concepts.
- Another point is that this research has studied the relation between spatial theories and sustainable development in a general way. But for getting more accurate and specific results, it is needed to investigate each spatial planning theory with each sustainable development essentials. For example the relation between social equity and strategic spatial planning or the relation between communicative planning and liveability of built environment. It can be defined several topics in this matters that need to be studied in theoretical and practical point of view.



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