
Promoting sustainable urban development in the Palestinian cities – A framework for physical development

Abstract

The Palestinian occupied territory encounters considerable challenges characterized by high population growth rates, scarcity of land, and rapid urbanization. Due to the political instability in the country and the absence of an effective Palestinian planning institution, urban development and expansion in the Palestinian cities did not follow perceptive planning schemes, which led to a number of conflicts in the structure of cities and adversely affected land use, provision of urban services, and the quality of the living environment.

This research explores the options for future urban development of the Palestinian cities following the concept of sustainable urban growth. It promotes visions and prospects aimed at fulfilling the needs of the people while conserving the scarce land and limited natural resources. The notion of a more sustainable urban development in the Palestinian Territories is promoted through adopting new physical development patterns.

Conceptually, this study aims at exploring the challenges and potentials needed for defining sustainable development in the Palestinian context. Accordingly, several key aspects which steer the physical development in cities towards the path of sustainability were investigated together with the conditions and requirements needed to change the common perception of the built environment and promote a more sustainable urban development. Through introducing a new visionary way of thinking about the Palestinian urban environment, this research seeks to elaborate new concepts that help to conserve the land in order to promote a better living environment for the present and future generations.

Both theoretical and empirical analysis were combined to guide the methodological approach for tackling the research problem. The case of Ramallah was analysed highlighting the context, problems, driving forces, potentials and challenges facing Palestinian cities in general, and Ramallah City in particular. A scenario approach was used to describe a sustainable future and outline the means by which change can take place to achieve the challenging targets.

The outcome of this dissertation is portrayed in the form of conceptual proposals suggesting compactness, mixed land use, efficient public transportation, and enhanced green structure as guidelines for sustainable physical development in Palestinian cities. Moreover, this study recommends general strategies, including the restructuring of the Palestinian planning institutions, developing a national sustainable development strategy, modifying planning policies, and adapting an integrated planning approach, as a basis for promoting and implementing a more sustainable urban development in Palestine.

Key words: Palestinian cities, sustainable urban development, rapid urbanization, physical development, future scenarios.

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I have had the fortune to meet many wonderful and competent people, where each of them has given me so much and deserves my deepest gratitude. Many thanks and heart-felt appreciation to all of those who paved the way and supported me in this work.

- Lubna Shaheen

Preface

The idea behind this study emanates from one fazing question: what will be the shape of the Palestinian cities in the future? This question started floating in my mind as I was observing the rapid transformations and changes occurring in the Palestinian cities, where the old images from childhood time had become distorted, and new, unappealing pictures of the cities today had replaced them. In the last few years, the physical characteristics and the urban structure of the Palestinian cities have changed dramatically due to the rapid and uncontrolled urbanization. Many driving factors are influencing the development process in the Palestinian cities instigating these dramatic changes – and most probably will continue to affect the development of the cities in the future.

In 2001, I attended a summer course in Boston about sustainable development organized by the University of the Middle East (UME). This was an important event to start me looking at development issues from a different perspective, and this was the moment when the initial thoughts and ideas came to me about connecting the sustainable development concept to the changes and developments in the Palestinian cities, which was subsequently to be formulated into the theme of this research.

The concepts of sustainable urban development and sustainable cities have been broadly discussed in the literature, with many examples and experiences from the developed and developing world. However, these concepts are still new for the Palestinian cities, and only very few pieces of research have touched on aspects of these concepts. Therefore, this study brings together a good deal of new thinking, and provides a practical model for linking strategy to action, and proposes an alternative approach based on sustainable development to steer the future physical developments in the Palestinian cities. This study provides both a vision – an organizing framework – and a set of practical approaches.

Conducting this research was a thorny undertaking because of the complexity of the Palestinian context. The scarcity of scientific sources and relevant data discussing the related themes of the research, in addition to the political constraints – which hindered the free movement and accessibility to different areas and sources – have striven to find a way to overcome these obstacles. The study relied on both qualitative and quantitative information, and greatly benefited from the valuable discussions and interviews with a number of local experts and professionals, in addition to the use of different media (maps, photos, illustrations) to draw a picture about the context of the Palestinian cities. A case study analysis and a scenario approach were very useful to demonstrate in practice the real context and to stimulate future alternatives derived from the sustainable development concept and from the local context of the Palestinian cities.

Within the limitations of this research, it was only possible to focus on the physical aspects (form and structure) of urban developments in the Palestinian cities, which leaves a variety of domains for further future exploration.

Eventually, through this study, a new approach has been introduced and the first step has been taken to promote sustainable urban development in the Palestinian cities. I hope that Palestinian planners, practitioners, professionals, researchers, and governmental officials can build upon the research concepts and ideas, believing in the constructive forethought of John Pierpont Morgan:

“The wise man bridges the gap by laying out the path by means of which he can get from where he is to where he wants to go.”

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Acronyms

ARIJ	The Applied Research Institute - Jerusalem
CBO	Community Based Organizations
CEC	Commission of the European Communities
CEP	Centre for Engineering and Planning
GDP	Gross Domestic Product
GNI	Gross National Income
JMCC	Jerusalem Media and Communication Centre
MAS	The Palestine Economic Policy Research Institute
MEEnA	Ministry of Environmental Affairs
MOPIC	Ministry of Planning and International Cooperation
NGO	Non Governmental Organizations
OECD	Organization for Economic Co-operation and Development
ORTEE	Ontario Round Table on Environment and Economy
PCBS	Palestinian Central Bureau of Statistics
PES	Palestinian Environmental Strategy
PNA	Palestinian National Authority
SCP	Sustainable Cities Program
UNCED	United Nations Conference on Environment and Development
UNEP	United Nations Environment Program
UNCHS	United Nations Centre for Human Settlements - Habitat
WHO	World Health Organization
WRAP	Water Resources Action Program

Chapter 1

Prologue

Rapid urbanization and high population growth rates are problems facing many countries in the developing world. Cities are expanding, urban population is increasing, and more people are moving to the cities looking for job opportunities and better living conditions. The rapid pace of change increases pressure on infrastructure, land and resources; in addition, it generates many environmental, social, and economic problems. Many future challenges are facing cities around the world; the Palestinian cities are not an exception. Although Palestine is a small country, it is a composite of numerous elements reflecting an environment of significant ecological, cultural, historical and religious values, in addition to a great diversity in its topography and landscape. Nevertheless, it faces enormous future challenges manifested by its high population growth rates, scarcity of land, and rapid urbanization, among other political, social and economic challenges.

In the last decade – and before the Second Intifada erupted – there was a short period of economic recovery that has been noticeably reflected in the Palestinian cities, which consequently experienced a phase of physical transition, development and expansion. Many factors contributed to the transformation of the Palestinian cities, namely, the establishment of the Palestinian Authority, the spread of peace expectations after the signing of the Oslo Interim Agreement between the Palestinians and Israel, the return of many Palestinians to their homeland, and the increase of internal migration to the cities. The evolution of these new factors encouraged building and construction activities in the Palestinian cities. Inevitably, these developments were rapid, and in physical terms, they expanded to the surrounding agricultural lands and natural landscapes. As a result, the cities plunged into a state of flux, which gave rise to many social, economic, environmental and physical conflicts.

It is important to note that the pace of the rapid development has not been accompanied by the provision of suitable infrastructure: social, institutional and system building to cope with and organize the speedy construction and building revolution. Accordingly, the Palestinian cities became overloaded, with increased pressure on the infrastructure, environment, transportation and employment market. Owing to the political instability in the country, the absence of an effective planning institution and clear planning policies and regulations, the urban developments and expansions in the Palestinian cities did not follow studied planning schemes, which consequently put stress on urban services, fragmented and weakened the local traditional communities due to the migration of new inhabitants, depleted natural resources, and exploited cultural and historical sites, thus changing the image and structure of the cities.

Likewise, the rapid and uncontrolled physical expansions in the Palestinian cities and the neglect of the eco-development imperatives have given rise to a number of conflicts and contrasts in the structure of cities. These conflicts very adversely affect the land uses, provision of services and the quality of the living environment. Hence, these rapid urban developments did not follow the natural process of urbanization; therefore, the outcome was a form of “retarded urbanization” as it has been described by Khamaisi¹.

¹ Dr. Rassem Khamaisi is a Palestinian planner who has several publications discussing planning issues in Palestine

In the light of what has been described above, the story of this research starts with the question – *What will be the shape of the Palestinian cities in the future?* Especially if we assume that a political agreement is achieved, peace has prevailed, and many refugees were allowed to return to their homeland, then – what will happen? Will the developments continue to annex and exploit the land? Will the Palestinian cities be able to provide a suitable living environment to their inhabitants? The answers to these questions depend on the direction and approach the Palestinian planning institution will adopt, and the degree of cooperation and commitment between the different actors.

Nevertheless, this research explores the options for future urban developments in the Palestinian cities in an attempt to search for alternative development approaches which cope with the future factual challenges, fulfil the needs of the people, and at the same time conserve the scarce land and limited natural resources of Palestine. The idea of this research is to investigate the possibility and viability of promoting a more sustainable development in the Palestinian cities through adopting new physical development patterns, which in the long term can steer the cities to become more sustainable.

To attain the goal of this study, there was a need to combine both a theoretical debate and an empirical analysis as backbones to support this research. In addition, the current political conflict in Palestine, and the corresponding future uncertainties, make any attempt to create predictions for the future extremely difficult; therefore, there was a need to set a presumption², assuming political peace and stability in the country in order to facilitate developing alternatives for promoting a more sustainable physical development in the Palestinian cities.

Within the limitations of this research, the outcome of this study is conceptual propositions that suggest guidance for the physical development in the Palestinian cities towards sustainability, as well as general strategy recommendations that enable the promotion and implementation of these conceptual propositions.

Research objectives

In the context of the Palestinian cities, this research intends to:

- highlight the different challenges affecting the urban development process in the cities;
- analyze the pattern of urban development in the cities and clarify its future impacts and consequences;
- conceptually explore the challenges and potentials for defining sustainable development in the Palestinian context;
- explore the different aspects which can steer the physical development in cities towards the path of sustainability;
- investigate the conditions and requirements needed to change the perception towards the built environment and promote a more sustainable urban development in the cities.

The different research objectives revolve around introducing a new and visionary way of thinking about the urban environment of the Palestinian cities, and seek to elaborate a new concept that helps to conserve the land and offers a better living environment for the present and future generations.

² See: the research Presumptions and suppositions

Significance of this research

The need for this research stems from the crucial transformations occurring in the Palestinian cities, particularly the physical changes and transformations taking place in the cities. The future consequences of these transformations are dramatic and irreversible. Accordingly, this research strives to draw attention to the future challenges facing the Palestinian cities, and the need that the Palestinian people rethink their attitude towards the way their cities develop and expand.

On the other hand, this research tries to explore other possible alternatives which can assist in re-orientating the pattern of physical development towards a more sustainable one, taking into consideration the different challenges confronting the Palestinian cities. This research proposes concepts and ideas which can be adopted and developed by the Palestinian planning institutions, planners and professionals. Finally, owing to the scarce scientific and academic studies dealing with planning and development issues in Palestine, this research aims to fill some of this gap and contribute to the existing knowledge.

Presumptions and suppositions

Peace, non-violence, freedom, democracy, social and economic justice, and respect and care for the community are all principles³ of sustainable development. Therefore, political stability, peace and security in Palestine are prerequisites for promoting and achieving favourable sustainable development.

This research from the preliminary stages is built on the assumption that a peace agreement will be achieved between the Palestinians and Israel, and an independent Palestinian State will be established. Under these conditions, it is possible to launch sustainability issues in the Palestinian cities, where Palestinians will have full sovereignty and control over their land, borders, resources, and economy; otherwise, the vision of having sustainable development will never be realized. However, this does not mean that the Palestinian stakeholders, politicians, planners, professionals and researchers should wait until peace is established; on the contrary, plans, studies, alternatives and visions should be developed. Hence, this study can be considered as a small contribution towards planning the future physical developments in the Palestinian cities.

Caveats and limitations

Sustainable development is a broad and fuzzy theme, and is often used as a label to stick on whatever is done. Nevertheless, the importance of this concept lies in its complexity and multidimensionality as it combines different sectors, issues and concerns.

At the beginning of this study, it was important to set some boundaries, especially under the limitations of time and resources; therefore, the decision was made to focus on the physical aspects of the sustainable city concept and its application to the case study context, bearing in mind that the different dimensions of the concept are connected and interrelated. A more detailed study for the other aspects and dimensions can be undertaken in future further research. On the other hand, the core concept of sustainability is mainly about long-term thinking. Therefore, this study discusses and explores issues which might be difficult or even impossible to deal with in the short term because of the special complications of the Palestinian context.

³ These principles are derived from the Earth Charter principles for sustainable development

Research organization

The research contents and structure are organized as follows:

In Chapter One, a general introduction to the research theme, objectives, significance, assumptions, and limitations are presented. Whereas in Chapter Two an overview is given about the context of the Palestinian cities, its environmental, social and economic settings, in addition to the urbanization trends and the existing planning system.

Chapter Three broadly discusses the context and the main challenges facing the urban environment from a theoretical point of view. This chapter highlights the relationship between urbanization and the rapid population growth, and pinpoints the different driving forces which influence and affect the urban environment and urban dynamics.

Chapter Four focuses on the theoretical framework which underpins the sustainable development concept and its relation to urban development and urban environment. Moreover, it investigates the sustainable city concept, its definitions, characteristics and criteria, and how it can be operated and monitored. This chapter resembles the guiding theoretical framework upon which the investigation, analysis and application of the concept to the context of the Palestinian cities in general are built, and the case study city in particular.

Chapter Five presents the methodology applied in this study, as well as the research questions, propositions, strategy and design.

Chapter Six discusses how sustainability can be defined in the context of Palestinian cities and analyses the different driving forces affecting the Palestinian urban environment and development. Subsequently, it elaborates a conceptual definition for sustainable development in the Palestinian cities and draws a set of criteria for endorsing sustainable physical development in the Palestinian cities. This chapter can be considered pivotal, which connects the theoretical debates with the research setting (Palestinian context).

Chapter Seven examines empirically Ramallah City as a sample case study. A detailed analysis of the city's pattern of development and its actual physical characteristics is set out in this chapter. Moreover, an assessment of its physical structure is demonstrated according to the sustainable city criteria, and the gaps, breaches, and potentials are identified before developing future alternatives for sustainable physical development in the city.

Chapter Eight envisions two scenarios for future physical developments in Ramallah City, and expands the 'sustainable development' scenario to visualize the possible application of the sustainable urban development concept to the Palestinian cities.

Finally, Chapter Nine presents a substantive and comprehensive framework for promoting more sustainable urban development in the Palestinian cities by highlighting the prerequisites and the steps needed for this change.

Chapter 2

The state of the Palestinian cities

“A new nation with limited land and natural resources and with rapidly growing population needs strategic regulations covering land use, transportation and the physical consequences of economic and social development.”- (A.B. Zahlan)

The Palestinian cities are expanding rapidly, and, in physical terms, they are extending to the surrounding agricultural lands and natural landscapes. Such uncontrolled city expansions obviously put stress on urban services, fragmenting and weakening the local traditional communities. Accordingly, the cities have entered into a state of flux which gives rise to social, economic and physical conflicts. The rapidly growing population of Palestine, the limited land available for development, and the absence of clear planning policies and effective planning institution led to the spread of uncontrolled urban developments, the depletion of natural resources and the exploitation of landscapes and cultural and historical sites.

The aim of this chapter is to give a general background which illustrates the context of the Palestinian cities, in order to investigate afterwards the future challenges affecting the urban developments and the possible alternatives that can steer these developments towards more sustainable ones – which will be discussed in the following parts of this study. To understand the context of the Palestinian cities, it should be seen in the light of their political and socio-economic structure, as well as their development and urbanization processes. Therefore, this chapter is divided into five main parts: *the first part* provides general background about the physical settings of the country, its geo-political location and population. An expanded overview is presented on population growth rates and distribution, since the demographic changes play an important role in affecting the development process in Palestine.

Subsequently, *the second part* discusses the environmental, social and economic settings of the Palestinian Territories – as main pillars for sustainability. Whereas *the third part* reviews the transformation and urbanization process in the Palestinian cities, and appraises the different factors affecting it, in addition to the current urbanization trends in the country.

Due to the successive ruling powers in the country, from the Ottomans to British Mandate, and subsequently Jordanian and Egyptian rule in the West Bank and Gaza Strip respectively, followed by the Israeli occupation – which still exists today – a maze of legal rules and regulations have been created, making the planning system complex and inefficient. Therefore, *the fourth part* reviews the different planning systems, their role and influence on the development process, in order to understand the currently prevailing planning system, which appears to be an accumulation of previous systems. The *last part* focuses on land use and land ownership, since land is a critical issue in Palestine, in both the political and physical terms.

Finally, it is important here to draw attention to the fact that the particularity of the Palestinian context refers to its political complexity. Being under different rules and occupations for a long period of time has politicized the whole context. As will be clarified later, the long years of colonial occupation by Israel have created obvious adverse physical, political, economic, social and cultural effects, which in a negative way led to radical transformations of the Palestinian society and affected every single aspect of the development process, which cannot be neutralized. Thus, in this regard, only facts and

scientific analysis has been presented. Hence, understanding the context of the Palestinian cities is the starting point in looking to the future and developing solutions for better, liveable and more sustainable cities.

Physical background

Palestine consists of two physically detached areas, the West Bank and Gaza Strip, which are separated by the state of Israel. Its total area amounts to approximately 6,210 km², with the West Bank covering 5,844.5 km², and being surrounded by Israel on the west, north, south and the Jordan River on the east. The West Bank is divided into eleven districts: Jericho, Ramallah, Bethlehem, Hebron, Jerusalem, Nablus, Salfit, Tubas, Qalqiliya, Tulkarm and Jenin. Gaza Strip covers 365 km² and is a coastal area located at the east of the Mediterranean on the edge of the Sinai Desert. Gaza Strip is surrounded by Israel to the east and north, Egypt to the south and the Mediterranean Sea to the west (Arij 2001).



Figure 2-1: West Bank and Gaza Strip (www.usaid.gov/wbg/maps.htm)

Demography and population growth

The Rio Declaration in 1992 paid attention to human beings and their well being as the central concern for sustainable development: “*Human beings are at the centre of concern for sustainable development*” (UNCED 1992:1).

Demographical change is an important factor for sustainability; it affects the consumption and production patterns in the society. Accordingly, a rapid growth rate can be unsustainable as it creates extra pressure on land, infrastructure and available resources.

According to the Palestinian Central Bureau of Statistics, approximately 3.7 million Palestinians live in the Palestinian Territories, of which around 1.4 million are in Gaza Strip⁴. Forty percent of Palestinians living in the Occupied Palestinian Territories are refugees from 1948, and approximately four million Palestinians are refugees in the neighbouring Arab countries.

Growth rate

Palestine is a small country but has rapid population growth, which is a by-product of the extremely high fertility of the Palestinian people in the West Bank and Gaza Strip. The health survey in 2000 indicates that the fertility rate in the Palestinian Territory amounted to 5.93 births, with 6.81 births in Gaza Strip and 5.52 births in the West Bank⁵ respectively – which is about three times the world’s average.

Rapid population growth has highly negative consequences, especially because of the very large numbers of children: it severely hinders the capacity of poorer cities to increase infrastructure per head, to provide adequate number of jobs or homes or school places (Hall & Pfeiffer 2002).

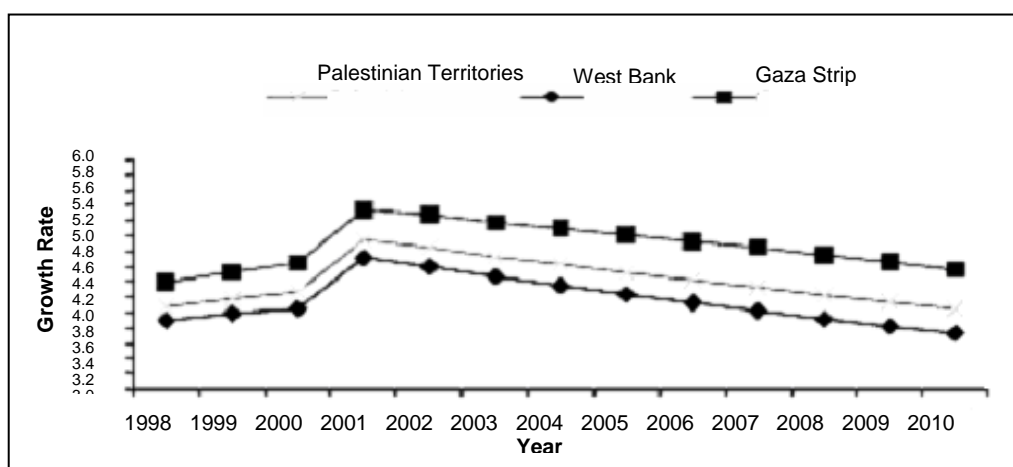


Figure 2-2: Projected annual population growth rate by region 1998-2010
(<http://www.mop.gov.ps/en/facts/population.asp>)

Though the projected population growth rates in Palestine show a slight decline (see Figure 2-2), it is still one of the highest growth rates in the world⁶. This high birth rate creates a host of problems for the Palestinian State; for example, given the poor condition of the infrastructure and the limited natural resources (most especially land and water), rapid population growth will stretch the ability and increase the costs of provid-

⁴ See: The Palestinian Central Bureau of Statistics electronic publications
http://www.pcbs.org/populati/list_demd.aspx

⁵ See: Palestinian Central Bureau of Statistics (PCBS) - Health survey 2000 - <http://www.pcbs.org/health/object.aspx>

⁶ See: United Nations Development program (UNCH), (1996b), an urbanizing world: global report on human settlements, New York, Oxford University Press.

ing basic resources (water, sewerage, transportation) to Palestinian residents. Similarly, the Palestinian populations' extreme youth (see Figure 2-3) will burden the physical and human capital required to provide essential services, such as education, health care, and housing, as well as placing a heavy financial burden for funding these services on a disproportionately smaller working-age population. Finally, the Palestinian government will be hard-pressed to provide jobs not just for its current workers but also for the rapidly growing number of young adults who will be entering the labour force.

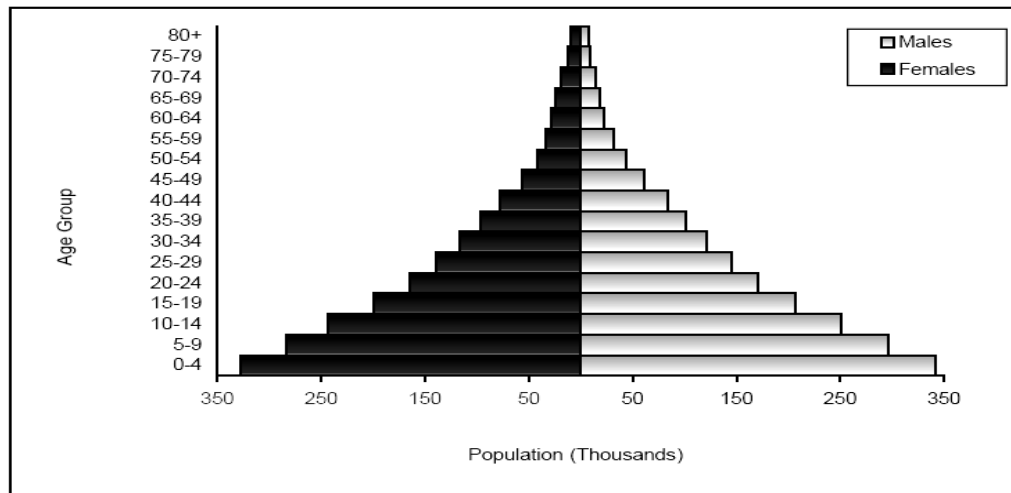


Figure 2-3: The population pyramid in the Palestinian Territories in 2004 (PCBC 2004 unpublished data)

Population distribution

The population of Palestine has been always located principally in towns along the Mediterranean coast and in villages in the north-south Highland ridge, i.e. within the area of highest rainfall and therefore with the greatest agricultural productivity (Coon 1992). In general, Palestinian population is distributed between large numbers of communities with quite small populations. There are few (relatively) large cities: Jerusalem, Nablus, Hebron and Gaza. The distribution of population in relation to the area is to some extent balanced, except in Jericho region, which has low population density, and the refugee camps in Gaza, which have one of the highest densities in the world. Nevertheless, the other regions have relatively similar population densities. Table 2-1 shows the population distribution in the different Governorates.

The demographic change in Palestine is an important factor to be considered. According to the population growth forecasts that have been made by the Palestinian Ministry of Planning, three scenarios of future population development were investigated in order to assess the population growth and the demand for land, natural resources and infrastructure (MOPIC 1998):

- Scenario A: “natural growth” or the “zero-alternative” – slightly declining birth and death rates as current tendency, no in-or out-migration.
- Scenario B: “towards sustainable development” – more substantial decline of birth rates converging to 1.7 per cent annually by 2020.
- Scenario C: “a Palestinian State” – developed by the same birth and death rates as for scenario A, but taking into consideration that the Palestinians living abroad will have the opportunity to return. Within 10 years, from 2005 onwards, 780,000 immigrants presumed to settle in the West Bank Governorates.

On the base of a scenario that assumes peace between the Palestinians and Israel, Scenario C, can reflect the state of future demographic changes in the country. Consequently, any strategy for land development should consider the upper growth level in order to meet future needs and demands.

Table 2-1 Area of Governorate, population and population density of Palestinian Territory by Region/Governorate for the year 2005

Region\Governorate	Governorate Area (km ²)	Population	Population Density (people \ km ²)
Palestinian Territory	6,020	3,762,005	620.9
West Bank	5,655	2,372,216	418.7
Jenin	583	253,965	435.6
Tubas	402	46,453	115.6
Tulkarm	246	167,770	682.0
Nablus	605	326,752	540.1
Qalqiliya	166	93,523	562.7
Salfit	204	61,830	303.1
Ramallah & Al- Bireh	855	277,898	325.0
Jericho	593	42,057	70.9
Jerusalem	345	414,900	1167.8
Bethlehem	659	174,033	264.1
Hebron	997	532,479	522.0
Gaza Strip	365	1,389,789	3745.4
North Gaza	61	259,475	4253.7
Gaza	74	492,848	6525.0
Deir Al-Balah	58	198,494	3422.3
Khan Yunis	108	269,657	2464.9
Rafah	64	169,315	2551.8

Source: PCBS Web site <http://www.pcbs.org/populati/demd1.aspx>

Social, economic and environmental settings

Social settings

Understanding the social fabric, structure, culture, behaviour and values is essential to monitor the development process in society and then be able to outline its needs and priorities.

Decades of transformations have shaped the current realities of the Palestinian society. Nowadays, the Palestinian society is going through voluntary and forced transformation processes that tend to imitate in some cases and to modernize in others. Under such pressures, both traditional community structures (institutions) (e.g. tribes, clans, extended families, urban, rural, familial and sectarian linkages and religious institutions) and modernized ones (e.g. political parties, charitable societies, trade unions, women's associations, developmental NGOs and media) play an active part in protecting and consolidating their positions against internal and external attempts of dissolution and

alienation. Currently, Palestinians are directly involved in the unfolding of social and geopolitical events which are transforming their society from being a Diaspora and Intifada-based society to a civil society with recognized leadership (Human development report 2004).

Social structure

Traditionally, the Palestinian society was rural and mainly engaged in agriculture (rural population in 1967 was approximately 60%). With the occupation and its policy of economic annexation and land confiscation, the ratio of rural to urban population fell.

Nevertheless, the Palestinian society can be classified according to the level of urbanization into peasants, refugees, Bedouins and urban population, and according to economic class, which shows that the Palestinian society is divided, as many other societies, into three inhomogeneous classes varying in their economic capability, social status and their influence on decision making. Lately, a new group has been added to the Palestinian social fabric, namely the returnees⁷ who returned to Palestine after establishing the Palestinian National Authority (PNA); this group has a big influence in affecting the decision-making process, also in decisions related to regional, spatial and structural planning (Khamaisi 1999).

Table 2-2 Social indicators overview - 2003

Social overview	2003
Population under 15 (percent)	46.5
Fertility rate (percent)	5.6
Infant mortality (per 1000 live births)	24.2
Average life-span (years)	72.2
Literacy rate (percent)	91.9
Recorded crime (criminal act)	17,565

Source: Derived from MAS social monitor, 2005, and PCBS 2004

Social character

Palestinian society is characterized as a youthful society with 46.5 percent of the total population in 2003 below 15 years of age and the average family size – in the same year – estimated at 6.1 (5.8 and 6.8 persons in the West Bank and Gaza Strip respectively). On the other hand, the Palestinian society can be characterized by its harmony and contradictions, the harmony through the high solidarity in facing the occupation and the strong traditionalism to maintain identity, and the contradiction in the clashes of power between the locals versus the returnees and between the different political fractions.

As a conclusion, we notice that the social structure and dynamics of the Palestinian society are highly affected by the political and economic changes. Moreover, the transformation process of the Palestinian society, in both rural and urban areas and in the West Bank as well as in Gaza Strip, has drawn its social character from, and has been accompanied by, the development of the Palestinian civil society. Nevertheless, the Palestinian society suffers from a lack of sovereignty, freedom and independence, in

⁷ Returnees: are the Palestinians who were banished by Israel or born in exile. The term is usually referred to PLO members in exile. After PNA establishment, thousands of them returned to West Bank and Gaza, and they were term returnees.

addition to several other problems like high population density, high unemployment rate, high levels of poverty, and difficulties in access to different services like schools, universities and health centres.

Economic settings

The Palestinian economy is diminutive and largely dependent on Israel and foreign aid. Palestinian Gross National Income (GNI) of \$5.2 billion in 1999 yielded a per-capita income of nearly \$1,800 annually, placing the West Bank and Gaza in the range of lower-middle-income countries. A significant portion of GNI (about 17%) over much of the past three decades has been derived from wages paid to Palestinians employed in Israel (PCBS 2004).

The Palestinian economy is geared mostly to providing services and producing goods, as well as being highly dependent on trade. Israel is Palestine's main trading partner, and trade flows between them are slanted. Israeli control has made the Palestinian economy very sensitive to economic and political shocks emanating from Israel. Many of the measures that Israel has implemented have severely impeded the economic activities in the West Bank and Gaza Strip, such as imposing very large additional transaction costs on business activities. The complex and cumbersome system of permits, fees, security checks, and special transportation procedures has constrained the movement of both goods and people. Furthermore, the geographical fragmentation between the West Bank and Gaza and within the different Palestinian areas through checkpoints, closures and curfews continue to disrupt business, commerce and routine social exchange; they have raised transport and production costs, severed vital economic links between villages and urban areas and lead to significant decline in economic activities (MAS 2005).

Economic indicators

– GDP & GNI

A major economic indicator to determine development is the country's Gross Domestic Product (GDP); improvement of GDP increases the ability of the country to allocate investment for development, basic infrastructure and social services. In order to achieve a positive improvement in the living conditions of the people, the level of GDP should be above the level of population growth (Salman 2000).

Since the onset of the Second Intifada, the Palestinian economy has gone into a serious decline. The World Bank estimates that real GDP per capita has declined compared to pre-Intifada level. Real GDP growth declined from 8.9 percent in 1999 to negative 5.4 percent in 2000 and further to an estimated negative 14.5 percent in 2002. Moreover, in 2002, the GNI was only 60 percent of its 2000 level, and the total losses in GNI from September 2000 to December 2002 ran to \$5.4 billion, equivalent to the West Bank and Gaza's entire GNI in 1999 (World Bank 2004).

Table 2-3 Economic indicators overview - 2003

Economic overview	2003
GNI (current US\$)	3.7 billion
GNI per capita (current US\$)	1,110.0
GDP (current US\$)	3.5 billion
GDP growth (annual %)	-1.7
GDP per capita	-5.6
(% of GDP)	
Value added in agriculture	6.2
Value added in industry	12.0
Value added in services	81.8
Exports of goods & services	10.0
Imports of goods & services	49.0
Gross capital formation	2.5
(% of population)	
Unemployment	31.3
Poverty	63.3

Source: PCBS 2004

– Unemployment

Unemployment⁸ is another indicator that reveals the well-being and socio-economic conditions of population. In the Palestinian Territories it is one of the major factors in the present economic crisis causing the dramatic deterioration of living conditions. In the mid-nineties unemployment fell, but has sharply risen since the beginning of the Second Intifada in 2000. From 11.8% in 1999, it grew to 25.5% in 2001 and to some 31.3% in 2002: this underscores the fact that the Palestinian economy is operating below its potential (RAND 2005, World Bank 2003). It is worth noting that 57% of the Palestinian population are below 20 years old, and the young people are particularly hard hit by unemployment; 37% of young people were unemployed at the end of 2003 compared with 14% on the eve of the Intifada in September 2000 (MAS 2005).

In the mid-nineties, the majority of the new jobs were either in Israel or in the Palestinian public sector, and the real wages did not register a significant increase; instead they fluctuated immensely. After the Second Intifada, the excessive Israeli restrictions – mentioned above – and the new Israeli policy to substitute the Palestinian labour force with an imported foreign one, had enormously reduced the number of Palestinian workers in Israel and significantly raised the number of unemployed Palestinians.

– Poverty

Economic development is an important factor in reducing poverty⁹ and in generating the resources necessary for human development and environmental restoration. The devastation of the Palestinian economy has had direct repercussions on the impoverishment of people. Consequently, the high unemployment rate in the Palestinian areas, and the in-

⁸ Unemployed persons (according to the ILO standards) are those individuals (15 years and above) who did not work at all during the reference week, who were not absent from a job and were available for work and actively seeking a job during the reference week

⁹ The poverty threshold used by the World Bank to measure poverty in the developing nations is US\$370 per person per year

sufficient number of jobs that meet the needs of the growing population, give rise to the number of people living below the poverty line¹⁰, which increased from 650,000 to one million (from 21% to 32% of the total population). In 2001, the number of people living below the poverty line based on \$2 a day doubled from 1 million to 2.1 million people, (65% of the total population – 57% in the West Bank and 80% in Gaza Strip) (PCBS 2001).

As a conclusion, it is clear that the living standards and economic indicators reflect a collapse in living conditions in the Palestinian Territories. The levels of poverty and unemployment are high and deteriorate since the beginning of the Second Intifada. The Palestinian economy is dependent on Israel and on external assistance, and clearly affected by the nature of military policies of the Israeli government in the Palestinian Territories; the continued siege and closures imposed by the Israeli occupation of the Palestinian areas, as well as the persistent destruction of property and livelihoods, have resulted in the decline of Palestinian people's ability to meet basic needs and, consequently, hinder any possible economic growth and independence.

In order to achieve sustainable growth, Palestine must have free access to markets and control over its monetary policy, and the living standards of the population should at least meet their basic needs.

Environmental settings

The environmental conditions in Palestine can be described as disastrous ones in continuous deterioration. During the last 50 years, there was a lack of serious attention to environmental issues because of the Israeli occupation of Palestine and the absence of a Palestinian planning body responsible for environmental affairs. Moreover, the demographic momentum – as demonstrated above – continues to put pressure on the environment. On the other hand, the people have a low perception and awareness towards their environment, which is reflected in their daily behaviour. Accordingly, the Palestinians today are faced with an accumulation of environmental problems.

The main causes of environmental damage are emerging from different resources, such as shortage of water, air pollution, solid waste and sewage, lack of vegetation in urban areas, and lack of zoning regulations. Consequently, these issues are leading to serious health hazards and degradation of the urban environment in Palestinian cities and their surrounding areas (Sansour 1997). The following (Table 2-4) exemplifies the different issues affecting the Palestinian environment causing its deterioration.

The Palestinian Ministry of Environmental Affairs (MEaA) has developed a national environmental strategy and a national environmental action plan¹¹, which identify and analyse the current environmental problems, define targets and propose prioritised measures required for meeting these targets. They have classified the priorities into nine environmental themes: depletion of water resources, deterioration of water quality, depletion of natural resources, land degradation, air and noise pollution, shoreline and marine pollution, depletion of biodiversity, landscape degradation, and threats to cultural heritage.

Most of the environmental themes are transboundary in nature, and affect both the Israelis and the Palestinians alike. Consequently, the efforts of the Palestinian environ-

¹⁰ The official Palestinian poverty line corresponded to NIS 1,800 (approximately \$410) per month per a family of two adults and four children (source: PCBS, Impact of the Israeli measures on the economic conditions of Palestinian households, 7th round).

¹¹ See: National Environmental Action Plan (NEAP) - MEaA, 2000c. National Action Plan, Ministry of Environmental Affairs, Palestine.

mental authorities are still unfeasible, as the action part is hindered by the current political and administrative constraints, in addition to the general priorities of the Palestinian agenda, which focuses more on economic developments, institution building, reforms and maintaining the peace process.

Table 2-4 Issues causing environmental deterioration in the Palestinian Territories

Issues	Causes of environmental deterioration
Clean water shortage	The Palestinian areas suffer from water shortages, especially in summer. The main cause of the water crises lies in the fact that water resources are controlled and diverted by Israel (UN 1992). In addition, most municipalities have old and defective water distribution networks with high levels of water loss.
Solid waste dumping	Solid waste dumps are located within urban and rural areas causing a serious threat to residents' health. Wastes are dumped in a primitive fashion, by open dumping, which creates serious air pollution hazards as the wastes are lit and a smouldering fire ensues. Smoke carrying all sorts of pollutants drifts into the flanking areas.
Inadequate sewage system	Most municipalities have inadequate sewage collection systems. Moreover, sewage treatment facilities are not available for many urban and rural areas. Many households use the system of septic tanks. Within a short period of being constructed, these tanks fill up and leak downhill into other residential areas or open fields, and cause seepage into the underground water.
Zoning regulations	Zoning laws are not being adhered to, because municipalities are ineffective in enforcing them. As a result, industrial activities have been located within residential areas. Though industrial pollution is still limited, this could increase rapidly if the effects of industry are ignored. Likewise, it is common to find livestock farms in the midst of towns and within residential areas, creating a breeding ground for flies.
Polluting emissions	Polluting emissions from the burning of fossil fuel in vehicles and home-heating systems are the major sources of air pollution.
Lack of vegetation	Most Palestinian urban areas suffer from the lack of greenery and dedicated public parks. In cities, buildings are replacing vegetation; this has a clear effect on the well-being of people. Absence of vegetation affects the urban environment and increases the level of air pollutants.

Urbanization – development and trends

Until the last two decades, urbanization in Palestine followed a relatively slow mode, unlike many developing countries, where rapid urbanization has usually been due to the massive population movement from the rural towns and villages to the major urban centres as a result of the mal-distribution of resources, employment opportunities and services. The complexity of the political, social and economic conditions that have prevailed in Palestine prohibited such rapid urbanization trends – *until the last two decades*. Instead, urbanization in Palestine has generally been characterized by the natural growth of the urban cities and gradual transformation of some towns and villages to semi-urban communities. The later communities generally tended to acquire increasing urban functions while maintaining a dominant traditional life-style (CEP 1992).

Traditionally, most of the population has lived in towns and villages; these villages and towns are surrounded by land owned by people of the particular village. Their prosperity and population growth depended on the agriculture productivity. Villages were compact, and the traditional form of building was massive stone construction with vaulted stone roofs.

The process of urbanization – movement from villages to the larger towns – has not advanced far in the West Bank. Indeed, during the period of Jordanian rule (between 1948 and 1967) urban population increased by only 45%, whereas the rural population increased by 111%. Palestinians, instead of leaving their villages to move to larger towns, generally commuted to work in neighbouring towns or emigrated to work abroad – mainly in the Arab Gulf countries or the United States – often leaving their families behind, and sending them money to live on and to construct new houses. These people played a role in introducing new technologies and modern life-styles.

A significant number of the Palestinian people were forced to leave their original communities and live in refugee camps because of the Israeli occupation of the Palestinian land in 1948 and afterwards in 1967. There have been two consequences of the Israeli occupation, which, one can say, have encouraged urbanization in the Palestinian areas: the first, is the confiscation of the Palestinian agricultural land, which, as a result, forced many people who were dependent on agriculture for a living to move to urban areas in search of job opportunities and sometimes settling there; the second is the greater difficulty of obtaining building permits in the villages than in the cities, and this refers to the fact that building permits in rural areas *at that time* were issued by the Central Planning Department of the military government, which was responsible for planning outside the municipalities. The majority of its staff were engaged in organizing the demolition of Palestinian buildings which had no permits. The High Planning Council, a group of Jewish soldiers appointed by an Israeli military commander, abolished the local village planning commissions and district planning commissions. In the cities, municipalities retained some of their power of granting permits and preparing plans; nevertheless most municipal councils were appointed by Israel and did not have the freedom to develop or expand their areas (Coon 1992).

Urbanization trends

In order to identify urbanization trends in Palestine, according to the Centre for Engineering and Planning report (1992) “Master planning the State of Palestine”, communities are divided into four categories on the basis of population size, functional role and dominant life-style. Still, these categories have overlapping characteristics, which makes it difficult to draw the dividing lines between them. The four categories describe the present community structure: respectively, urban, semi-urban, rural and refugee communities, see Figure 2-4, (CEP 1992, PCBS 2004d).

- *Urban communities*: includes all communities with population exceeding 10,000; these have definite urban role, and clearly perform administrative, commercial and services functions. Under this category fall the cities of Jerusalem, Jenin, Tulkarm, Nablus, Ramallah, El-Bireh, Bethlehem and Hebron in the West Bank, and the cities of Gaza, Khan Yunis, and Rafah in Gaza Strip. The urban population is estimated at 41 percent in both the West Bank and Gaza Strip.
- *Semi-urban communities*: includes all those with a population between 5,000 and 10,000; these comprise a number of rural towns and villages, which are increasingly acquiring urban characteristics due to their functional role, location and economic activity. Examples are Qalqiliya, Birzeit, Tubas and Salfit. The semi-urban population is estimated at 16 percent.

- *Rural communities*: includes all communities with population less than 5,000 people, and which are predominantly active in agriculture and have no significant administrative, commercial or services functions. The rural communities are estimated at 28 per cent.
- *Refugee communities*: includes all communities residing in refugee camps. Members of these communities generally work outside the camps, in neighbouring towns or in Israel. The refugee communities are estimated at 15 per cent.

The following table shows a projection of the Palestinian Territory population by the type of locality in 2005 according to the Palestinian Central Bureau of Statistics (PCBS):

Table 2-5 Population projections of Palestinian Territory by type of locality - 2005

Palestinian Territory	Type of Locality			Total
	Urban	Rural	Camp	
	2,127,658	1,064,126	570,221	3,762,005

Source: PCPS 2005

The population growth and the improvement of the living standards in the second half of the twentieth century gave rise to a dramatic surge of developments, which also occurred elsewhere in the Arab World. Developments expanded beyond the compact traditional villages and towns at lower density, often sporadically, and extended along the main roads. Buildings were much larger than previously, and with two or more stories.

Correspondingly, the pace of development increased very rapidly in the seventies – the period when large numbers of Palestinians found employment in Israel, and when remittances from abroad were increasing. Over the following ten years the rate of development showed a modest overall increase until the beginning of the First Intifada in 1987, when there was a dramatic and sudden decline in construction because of the terrible deterioration in political circumstances, and the Israeli closure, which had affected the economic condition of the people.

After the beginning of the peace process between the Palestinians and Israel in 1994, and the signing of the Oslo Interim Agreement, the pace of development rapidly accelerated and many geo-political, economic and social changes took place in the West Bank and Gaza. These changes were visibly reflected in the physical developments of the cities and towns located within areas (A) and (B)¹².

¹² The division of the Palestinian territories according to Oslo agreement to Areas A, B and C, where in areas (A) complete autonomy over administrative and security issues rests with the Palestinian Authority, in areas (B) the Palestinians have full control over civil affairs while Israel continues to have overriding responsibility for security, and areas (C) are under Israeli control

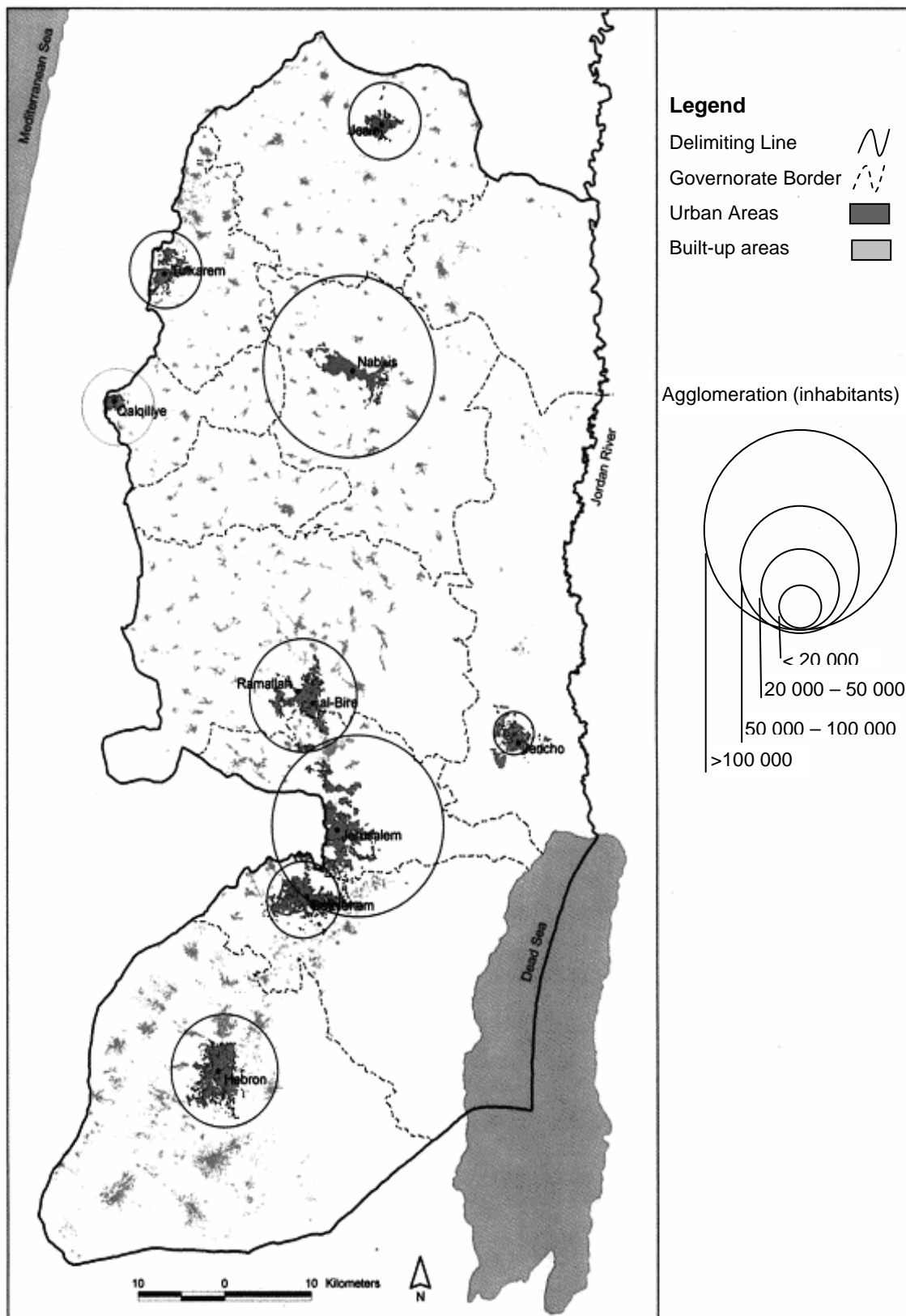


Figure 2-4: Urban structure and agglomeration in the West Bank (MOPIC 1999)

In this transitional period, a huge wave of building and construction expanded not only inside the cities, but also extended to the peripheries and agricultural lands. New high multi-storey buildings were constructed – which contradict the traditional local architectural style. The land market and the scarcity of land in the areas under Palestinian control contributed in the emergence of this new style, in addition to the high revenue for owners, and the affordability for many renters.

Many factors affected this rapid development process; these factors can be summarized in the following:

- The spread of peace expectations among the Palestinian people encouraged them to use their savings and invest in building, whether for private use or for leasing as investment.
- The establishment of the Palestinian National authority (PNA) and its urgent need for buildings and headquarters to accommodate its institutions.
- The return of many Palestinians with the PNA, and their need for homes and services.
- The inauguration of many non-governmental organizations (NGOs) and foreign institutions, which were situated in the main cities, and the need for offices to host their activities.
- Internal immigration of many people from rural areas to the cities or from one city to another – as in Ramallah city, where many people from the northern and southern parts of the West Bank move there looking for job opportunities.
- The flourishing of the economy due to the relative political stability, and the ensuing international financial support and donations to support the peace process.

Subsequently, the pace of the rapid development has not been accompanied by the appropriate infrastructure: social, institutional and system-building infrastructure to cope with and organize the speedy construction and building revolution, and the rapid increase of population. As a result, the Palestinian cities became overloaded, with increased pressure on the infrastructure, environment, transportation and employment market. Hence, during this period the Palestinian cities underwent a phase of transformation towards a more urbanized and developed form. However, this rapid development did not follow the natural process of urbanization; therefore, the outcome was something of a rural/urban complex, which can be described as “*retarded urbanization*”¹³, where the society has not progressed to the level of an urban city society.

With the launching of the Second Intifada in 2000, there has been a radical deceleration of the construction and development process, as well as of economic development. The political instability has slowed down the accelerated pace of development to bring in an economic slump and period of stagnation, which continues to this day.

In tracing the process of urbanization and development in Palestine through time, we notice that the political changes and uncertainties in the country have always influenced this process, in addition to the nature of the Palestinian people, who have the ability to adapt, interact and reflect on any changes. This leads to the conclusion that whatever future development may arise in the peace process and regarding political stability, a new phase of rapid development will emerge, especially if there has been an agreement on the refugees issue, where many Palestinians then will have the right to return to their home land, and, consequently, the need for housing, infrastructure, transportation, education, health, and cultural services will rise. Therefore, there is a vital need for early

¹³ This term was used by Dr. Rassem Khamaisi, a Palestinian planner, in the course of an interview for this research.

and visionary planning on the different levels and sectors in Palestine if sustainable development in Palestine is desired.

Planning system

As a result of the past 100 years of deficiency and dispersal, Palestinian institutions have been weakened and marginalized; the dispossession of Palestinians included being stripped of the institutions which could provide identity and sustain continuity. They consequently found themselves with weak institution as a truncated country fragmented by Israeli settlements and continuing military occupation.

Institutions in Palestine have been prevented from functioning properly for a long time. The occupying forces have set up a civil administration in their place, which was to a large extent a military administration. This has had a devastating impact on physical planning, which has been used as an effective tool to limit the economic development of the Palestinians (Khamaisi 1997, Tougan 1995).

The successive occupations and authorities in the West Bank and Gaza Governorates have created a maze of legal rules and regulations, making the planning system complex and inefficient. The existing laws, regulations and orders characterizing the legal planning system in Palestine derive from:

- The Ottoman Turks between 1516 and 1917;
- British Mandate laws between 1917 and 1948;
- Jordanian laws in the West Bank Governorates between 1948 and 1967;
- Egyptian administration and orders in the Gaza Governorates between 1948 and 1967;
- Israeli military orders for the West Bank and Gaza Governorates since 1967;
- Orders issued by the Palestinian National Authority since 1994.

Under the late Ottoman administration, the state was divided into several hierarchical units, from the neighbourhood or the small village at the bottom of the scale to the region at the top. Several laws determined the responsibilities and relationships between the different units. These laws provided very simple procedures for the administration of infrastructure provision customs, education, large development projects and the observation of law and order. They contained no direct spatial policies and they did not constitute a comprehensive planning system (Mahrouq 1995).

During the British Mandate, the occupation authorities prepared new legislation for town planning based on the British experience during the first decade of the twentieth century, when the term “town planning” first appeared. The planning institution set up by virtue of the 1936 town planning order was composed of three levels: local committees, regional committees, and the central level. The planning institutions, at that time, may have been scattered as to location, but performance-wise they were centralized; the town-planning consultant had great authority to plan, approve and amend.

The plans of the British Mandate were established on the basis of imported concepts, which were developed in an industrial society like Britain. The British mandate in Palestine transposed and implemented them through its control over space and the issuing of building permits, since Palestinian society was mostly an agricultural and rural society, developing at a relatively slow pace, and functioning on the basis of rural concepts stemming from their own values and customs. Hence, the effect of regional planning on the villages was limited, with the exception of roads. As for the towns, local plans were

prepared and approved¹⁴; they were implemented through municipal authorities, which became local organizing committees, responsible for issuing permits, for planning and control as well as for space development within the area of the town. The regional plans only represented a very strict intra-regional statutory framework to control land use and development in the Palestinian Territories; they had nothing to do with the location and relocation of population, resources and economic opportunities (Mahrouq 1995).

Throughout the Jordanian mandate, the Jordanian authorities did nothing to amend the planning system established by the British Mandate. Where planning is concerned, they only devised structural plans for some towns and supervised constructions. With only few exceptions, they did not prepare any plans for the villages.

Jordanian structural plans were barely modern and disregarded the future economic and social requirements of the population, as well as the demographic development and needs (Abdulhadi 1992). These plans were established along the same lines as those established under the British Mandate. It can be said that the Jordanian period brought no noticeable development in the field of planning and construction, perhaps due to the limited development in the Palestinians villages and towns. Despite the importance of planning, its perception was weak, both among the public and among the authorities¹⁵.

During the Israeli occupation, use was made predominantly of military orders, and the planning institutions became essentially centralized; the local village and town levels became weak and directly under the control of the supreme council of the occupier, which had full control of the building process. This total control transformed the law in force into an efficient mechanism to restrict Palestinian urban growth, limiting construction by refusing to grant building permits and by reducing the land assigned for industrial and economic projects. Planning was used as a tool for the military government to prevent expansion, and to set vast areas of land for Jewish settlements in the Occupied Territories (Shehadeh 1988).

The Israeli policy aimed to dominate the Occupied Territories, restricting Palestinian urban expansion and development, and increasing the dependency of the Palestinian economy on the Israeli economy. Palestinians were prevented from participating in decisions concerning the development of their space; while, on the other hand, the door was wide-open for developing Jewish settlements in the Palestinian areas.

As a result for the successive occupations, the consequence was a breakdown in Palestinian professionalism and capacity. The entire field of physical planning is disrupted, encouraging an attitude of disrespect toward physical planning, especially on the private level, regarding building permits and controls (Benvenisti & Khayat 1988, Coon 1992, Khamaisi 1997).

After the beginning of the peace process in 1994, the Palestinian Ministry of Planning and International Corporation (MOPIC)¹⁶ took the responsibility to get to grips with the deteriorated situation in the West Bank and Gaza Strip. In late 1994, a distinguished project – *Physical Planning and Institutions Building*¹⁷ – funded by the Norwe-

¹⁴ Regional Town Planning Areas were designated in 1945 for all Mandatory districts of Palestine. "District Regional Outline Town Planning Schemes" were afterwards prepared for some districts. From these schemes, Jerusalem (RJ5), Samaria (S15) and Gaza (R1) District Regional Outline Town Planning Schemes are significant because they continued to be implemented in the West Bank and Gaza Strip (Gaza) after 1967 although the two latter schemes have never been publicized for the Palestinians (Mahrouq, 1995).

¹⁵ Despite the fact that no regional plans were prepared for the West Bank under the Jordanian rule, and that the Jordanian period brought no noticeable development in the field of planning, the Jordanian laws and legislation (law No.79 of 1966) are still used and applied in Palestine to this day

¹⁶ After establishing a separate ministry for Foreign affairs, MOPIC became MOP – Ministry of Planning

¹⁷ See: MOPIC, 1998, The regional plan for the West Bank, MOPIC, Ramallah, and MOPIC, 1996, The emergency plan for the protection of natural resources in Palestine, MOPIC, Ramallah

gian government – was started in (MOPIC) to develop the physical planning system and planning processes.

Very complicated problems arose from the lack of integrated regional spatial policies and a strategic national framework. Although several initiatives attempted to outline a national spatial framework for the West Bank and Gaza Strip, the complication of the recent geographic interrelationships and the uncertain political future hindered any actual outcomes. These problems are considered real constraints for promoting future sustainable development in the Palestinian Territories as it will be discussed in the later parts of this research.

Land use and land ownership

Land use

Land use and land development are generally influenced by the prevailing soil characteristics, topography, climate, population distribution and density, availability of water and other natural resources and the type and level of economic activity (CEP 1992).

In Palestine, land use has been affected by the political conditions and changes in the country. The absence of an influential Palestinian planning system and the lack of control and sovereignty over land from the Palestinian side – as mentioned earlier – have led to a status of random developments, without much consideration for the preservation of natural resources, agricultural land or sensitive areas, and without any concerns about future development needs and the availability of land and resources.

The destructive actions of the Israeli occupation, such as the confiscation of Palestinian land, the construction of Jewish colonies, military areas, bypass-roads, a segregation wall and related infrastructure on Palestinian land, have resulted in obvious deleterious environmental and ecological effects. Moreover, the severe restrictions imposed by the military occupation on all aspects of Palestinian development have constrained the proper development of land use in accordance with the social and economic needs of the Palestinian people (ARIJ 2001, Dudeen 2004).

After the Oslo Agreement between the Palestinians and Israel, and the divisions of areas A, B and C, according to the different control authorities and regulations classification, we notice that the main Palestinian development activities took place mainly within areas A and B, which are approximately (12%) and (22.6%) respectively of the total area of the Palestinian Territories (Dudeen 2004). Areas A and B are mainly urban with small agricultural areas. This restriction has led to sprawl on agricultural land and to disordered developments within these areas.

In the West Bank and Gaza Strip, there is no single source which provide all the required data about land use patterns, lately, the Palestinian Central Bureau of Statistics (PCBS) in cooperation with other research institutes and ministries, has developed a land use classification system, which constituted of the following categories: agricultural land, forests and wood land, built up areas, water, and occupied land (settlements, military areas and bypass roads), the following (Table 2-6) shows the area and percentage of the different land uses.

Table 2-6 Land use classifications in the West Bank

Land use	Area (km ²)	% of total area
Palestinian built-up areas	367.6	6.3
Natural reserves	292.2	5.0
Military bases	38.7	0.7
Israeli colonies	108.4	1.9
Forests	38.5	0.7
Closed military areas	1,214.7	20.8
Dead Sea	195.2	3.3
Others*	3,583.0	61.3
Total	5,845.9	100.0

* Others represent cultivated areas, grazing areas, and unused land

Source: ARIJ 2001, PCBS 2000.

In the West Bank there are 580 Palestinian built-up areas, mainly located in the mountainous area, whereas Israeli colonies and military areas occupy the Jordan Valley, near the green line and around Jerusalem. By analysing the land-use pattern inside the Palestinian urban areas, we notice that it is often random and mixed; for instance, we find industrial activities in the middle of residential areas, dumping sites close to inhabited residential areas or urban expansions into agricultural land.

Land ownership

Land was always the substance of conflict between the occupying forces and the Palestinians and symbolized the sense of belonging for the Palestinian people. Land embodies their pride and honour, and the relationship between the Palestinians and their land is not only a matter of physical characteristics, but also of history, culture and identity.

The complexity of the land-ownership issue in Palestine started when Palestine was under the Ottoman rule, with some Ottoman laws still being applied in Palestine today. The Ottoman Land Law had divided land property into: *Privately* owned land, *Waqf*¹⁸ lands, *Abandoned* land, *Wasteland* and *Amereya*¹⁹ land. Privately owned land was divided into areas within towns and villages, and *Amereya* land was divided into land granted on proprietary bases (Thaher 1997, Sha'ban 1997).

It is important to note here that the Ottoman Land Law was established in conformity with the conditions existing at that time in the Ottoman State. These laws deal with issues that no longer exist. The Ottoman Land Law has been used by the successive ruling forces in Palestine to control land; for example, many legal rules contained in the Ottoman Land Law helped the Israeli occupation to plunder Palestinian lands, especially as it considered the *Amereya* land to be public land.

On the other hand, as a consequence of cultural tradition and heritage, the ownership of land shows that land is subdivided into small units, and land is also co-owned, which makes the situation even more complicated.

There are significant problems relating to land ownership which have an influence on the national development. Anthony Coon (1997) has classified the problems of land ownership in Palestine as described in the following; all of the problems listed below,

¹⁸ Waqf: means that the land may not be given to any person as private property, and its returns are used for the benefit of poor people or for some charitable purpose

¹⁹ Amereya is that land the ownership of which remains with the Treasury House of the Moslem people

except the first two, are also found in other countries. In the case of Palestine, most of them have been made worse by Israeli occupation. The main problems are summarized since a detailed discussion of these problems is beyond the scope and focus of this research:

- The seizure by the Israelis of more than two-thirds of the land, and the denial to Palestinians of the benefit, use or access to this land.
- Land ownership patterns are uncertain. Less than half of the land has been formally registered. Moreover, the land registry is not available to Palestinians.
- The categories of land ownership established under Ottoman administration are confusing and inappropriate to present needs.
- The pattern of ownership is very complex and highly fragmented. Also, much land is under multiple ownership.
- There is little or no market in land. This, together with the previous point, constrains the rate of urban development and the manner in which it takes place.
- Very little land is in public (i.e. Palestinian) ownership; and

The uncertainty and instability of land ownership, a conflict of interests between Palestinians and the occupying forces and explicit or implicit political interests has caused discrepancies between land ownership, organizational laws, and regulations. Today, the Palestinian Authority is facing a real challenge between the fears of the Palestinian people and the uncertainties of the political situation. Land ownership has a significant influence on development, and many issues, such as land registration, land release and the return of seized land, have been deferred to the final status negotiations between the Palestinian Authority and Israel.

Conclusion

From the previous general description to the state of the Palestinian cities, their social, economic and environmental settings, structure and development trends, as well as the planning system, it is evident that the current form and structure of the cities are the results of different accumulations and conditions – political, social, cultural and economic – which have sometimes encouraged the development process and at other times controlled it. Strategic and urban planning did not play the optimal role in directing the development of the cities; therefore, the outcome has been a complex of random developments with an entanglement of problems.

The demographic and political prospects in Palestine indicate that future challenges might lead to remarkable changes on the physical level, as well as on the socio-economic and political levels. Only early preparation and planning can steer the course of future developments away from further depletion and deterioration of the land and environment, and orientate them towards sustainability, as will be discussed in the following parts of this study.

Chapter 3

Urban environment: context & challenges

“Space is the expression of society. Since our societies are undergoing structural transformation, it is a reasonable hypothesis to suggest that new spatial forms and processes are currently emerging.” – (Manuel Castells)

Understanding the urban context and urban environment which we are dealing with is necessary before starting the planning process. The urban environment encompasses the interactions of population growth, city management, and the built environment with the natural environment (ecological system) in which the city is located. On the other hand, it links other pieces of the urban puzzle, such as health, infrastructure, energy, transport, and land use.

Within the continuous dynamic and evolution of cities and urban areas, there are remarkable impacts on the urban environment and on human well-being. In order to underline these impacts, their roots and consequences, it is essential to understand the development process of a particular urban context, the pace of urbanization and urban growth, and the driving forces affecting the urban environment.

The following sections discuss briefly and illustrate the different factors influencing the urban environment and the various dimensions of their impacts. This discussion is essential to analyze the urban environment of the Palestinian cities, as well as the driving forces affecting it, as will be discussed in Chapter 6. On the other hand, this basic information has to be considered when discussing the concept of sustainable development. Sustaining the growth and the development in cities, whilst maintaining a balance of benefits, is considered a fundamental dimension of sustainable development, as will be clarified in Chapter 4.

Development and the urban environment

The concept of development is largely related to, and defined as, an economic process in which wealth and economic growth improve living conditions and safeguard the environment. However, in the real world economic growth on its own is not a sufficient condition to initiate a socio-economic change and improvement (Hassan & Zetter 2002). Nevertheless, ‘development’ can still be seen as a multidimensional process towards desirable objectives. Pearce (1990) argues that what constitutes development depends on what social goals are being advocated by the development agencies, governments, advisers or planners. In the same context, he describes development as a list of attributes which society seeks to achieve or maximize, such as:

- increase in real income per capita;
- improvements in health and nutritional status;
- educational achievement;
- access to resources;
- a “fairer” distribution of income;
- increases in basic freedoms.

Looking at development in the urban context, we notice that urban development today, from one perspective, responds to complex forces, in which both modernization and

tradition play a part, while from another perspective it exerts tremendous pressure on local urban environments and their surrounding regions and natural resource base, creating enormous and growing problems related, for instance, to water supply, sewage, solid waste, fossil fuel dependency, public health problems, etc. (UNEP 2002).

Urbanization and rapid urban growth

Urbanization has become the dominant trend in the growth and distribution of the world population. Its development is linked to a high natural growth rate and to heavy migratory pressures. Moreover, urbanization can be described as both a characteristic and a consequence of economic development.

The current patterns of urbanization and urban growth pose enormous challenges that might lead to profound environmental degradation, the collapse of basic services, and social conflicts (Pinderhughes 2004). Likewise, urbanization affects the use and management of natural resources in and around the cities, causing pressures and extensive depletion of water and natural resources. The implications of urbanization are not substantial in terms of demographic numbers alone. The urban transformation affects the physical concentration of people, patterns of land use, social structures and interactions, and the nature and scale of economic production. Each of these dimensions of change affects the lives of individuals and the requirements for resources and governance (World Bank 2000).

Two aspects of urbanization, beyond the economic aspect, have been dominant in the minds of analysts: the first is natural resources, and the second is behavioural parameters. These aspects have led to environmental and social concerns in cities, in response to which the key factors of technology and culture have tended to dominate urban policy. Their interaction has influenced the conventional meaning of development itself, and affected the policy goals.

The pace of urbanization is a major factor of difference in trends between industrial and developing countries. While cities in the former show slow change, within already highly urbanized national frameworks, the latter exhibit rapid increases in what were, until recently, predominantly rural settlement patterns. Likewise, urbanization in the industrial countries took many decades, permitting a gradual emergence of economic, social and political institutions to deal with the problems of transformation, while the process in the developing countries was very rapid, against a background of higher population growth rates and lower incomes (Hassan & Zetter 2002).

According to the World Bank (World Bank 1997; Hassan & Zetter 2002), rapid urban growth can threaten health and seriously constrain urban productivity and economic development. Fast urban growth and the lack of capacities to accommodate people lead to high concentrations of people in cities with highly insufficient food provision, housing, services, etc. In addition, rapid urbanization has many environmental consequences stemming from resources consumption and waste disposal. The critical environmental problems facing rapidly growing cities – mainly in developing countries – are the deteriorating living conditions and increasingly serious health problems caused by inadequate water, sanitation, drainage, poor urban and industrial waste management, and air pollution, in addition to land degradation, loss of green and natural spaces, urban sprawl, land contamination, transport and traffic congestion, as well as social inequalities.

However, the challenge for many rapidly urbanizing countries is to sustain economic growth, while at the same time avoiding or minimizing environmental problems that can arise from growth.

Roots and causes of urban environmental problems

Urban environmental problems can be defined as poor access to basic environmental infrastructure and services, pollution from urban wastes and emissions, loss of resources, environmental hazards, and global environmental impacts. These problems vary according to the spatial scale of impact, the ecosystems surrounding a city, the city's level of economic development, and the institutional settings. However, environmental deterioration is not caused simply by economic development and urban growth; its real causes are deeper. The underlying causes of environmental degradation include factors such as (Leitmann 1999, HABITAT and UNEP 1998):

- Lack of public awareness and participation: people must be aware of the existence and consequences of the environmental risks they face, and participate effectively to express their concerns and demand improvements in urban environmental quality.
- Inadequate governance: governance can become inadequate and worsen environmental problems when there is a lack of transparency, limited accountability, minimal participation, and low institutional capacity, in addition to insufficient political will and responsiveness.
- Poor policies: inadequate regulatory policies, unclear property rights and inefficient economic policies can hinder the ability to solve urban environmental problems.
- Insufficient knowledge: lack of knowledge about the existence, extent, impact and cost of urban environmental problems can make it difficult to achieve public consensus about what should be a priority.

Driving forces influencing the urban environment

Cities are affected by a number of economic, demographic, social, political and natural factors that shape the urban environment and act upon urban sustainability. These factors are the key driving forces influencing the current and future situation in an urban environment and propelling the system forward. Moreover, the driving forces themselves interrelate with each other in a complex way (Leitmann 1999); for instance, the political process itself is one of the drivers: it can help to shape the way the economy, society, technology and culture develop (Hall & Pfeiffer 2000).

In general, some of the interrelationships between driving forces are predictable: for example, the rising per capita income usually linked with falling birth rates, though conversely, high population growth reduces the possibility to increase income per head. Likewise, lower rates of population growth raise the chances to improve life quality. Yet, not all these interrelationships can be predicted. However, driving forces are not inexorable or irreversible: they only have to be translated and dealt with as preconditions for growth. According to Hall and Pfeiffer (2000), the secret is how to use the driving forces positively in order to be able to promote local developments.

Demographic Factors

Population growth and migration pressures

Leitmann (1999) notes that rapid urban growth or demographic change can be a main driving force which can cause pressure on housing, trade, industries, energy consumption, transportation, water generation and other environmental factors.

Rapid population growth has two highly negative consequences: first, it severely restrains the capacity of poorer cities to increase infrastructure per head, to supply an ade-

quate number of jobs or homes or school places. Second, the survival problems of the rapidly-growing young generation tend to supersede all other considerations; only when survival problems are solved will people turn their attention to the quality of life and future generations (Hall & Pfeiffer 2000).

In developing countries, population growth, in recent days has been closely related, on the one hand, with the improvement of health care and consequent decreases in death rates, especially in the cities. On the other hand, it is related to high birth rates and increased life expectancy, mainly due to reduced infant mortality. Moreover, as cities offer the prospect of jobs, albeit insecure and poorly rewarded, migration is another source for population growth in urban areas, which creates a pressure on cities. In many developing countries, migration to capital cities is the main reason for internal population movements. Many incentives encourage migration to the cities:

- Mechanization of many agricultural activities, lack of arable land and over-exploitation of land allow fewer and fewer farmers to sustain their jobs.
- Lack of resources, access to credit and social services in rural areas.
- Natural disasters and environmental degradation in rural areas.

Consequently, these incentives, among others, have pushed rural–urban migration, in search of better living conditions and opportunities.

Countries and cities enter into a phase of demographic transition because of urbanization and an urban culture that produce a sharp fall in birth rates. The number of births per woman is shrinking and will shrink further, with improved education of women, urban living conditions and life-styles and women's higher participation in the labour force, in addition to the high investment and time costs of rearing children and providing for their security. Providing care, attention, supervision and services for children has become extremely expensive in the cities (Bartone et al. 1994). In developed cities, birth rates are low and in some cases fertility rates have fallen below the replacement level. The continuing medical advances in high-income countries benefit older groups and change the pyramid of age structure. The high increase in the number of older people in society adds to the economic burden through their need for health and medical care in an economy with a declining proportion of working people.

Economic factors

In seeking to understand the driving forces behind urban development, the local economy and its relation with the national and global economy, employment and technology are crucial areas that need to be addressed (Ozkaynak 2004). Economic growth has been for a long time seen as the main means by which unemployment is to be reduced and incomes increased; meanwhile, it was always difficult if not impossible to combine these with significant falls in the consumption of non-renewable resources and the generation of greenhouse gases. Economic growth has always contributed – with other social, environmental and political factors – to shaping the urban environment (Satterthwaite 1997).

Urban economic base, market forces and economic activities

An important aspect in the development of cities is their level of economic performance. Thus, it seems that the classical vision of economic growth within a system of increasing global competition continues to be the driving force of development strategies and policies through local agendas as well as international ones. Globalisation and trade

liberalization are leading production to shift away from many traditional urban centres to cities that can demonstrate market advantages (World Bank 2000). This, of course, influences the local development strategies as cities, forced to compete for investment, often adopt an entrepreneurial style of management, which is quite different from those traditionally associated with the activity of local governments, primarily representing the public interest. Therefore, a discussion needs to take place around the question of whether the free market can lead to urban sustainability.

Market forces can favour economic priorities at the expense of social and environmental policies and safeguards (Zetter & Hassan 2002). For example, Naess (2001) argues that there is little reason to hope that a sustainable urban development will emerge as a result of uncontrolled market forces. As such, it is possible to argue that urban sustainability requires a fundamentally new relationship between production, consumption and the environment. Therefore, for a consistent and effective urban sustainability policy, there is a need to integrate the economic development issues with social and environmental strategies and bring economic organization under social control.

Sector trends and the role of technology

Hall and Pfeiffer (2000) have pointed out that, whereas a century ago growth meant industrialization and a shift away from agriculture, today industrial employment has begun to decline in sequence with the increasing importance of the services sector, which includes legal services, management consultancy, information handling, accountancy, media, advertising and marketing. Lately, research has become a new growth industry, while information has become the production factor that symbolizes the end of the twentieth century and the start of the twenty-first.

Depending on the dynamics of urbanization and economic development, there is also a flourishing informal sector, which is characterized by ease of entry, reliance on indigenous resources, family ownership of enterprises, small-scale operations, labour-intensive technologies, skills obtained outside the formal educational system, together with unregulated and competitive markets. The informal sector exists not only in developing cities, but also in developed cities, providing flexible opportunities for migrants, unemployed workers and young people. Hence, both in developed and developing world, cities are experiencing permanent technology-related and sectoral evolutions, which are seen as important driving forces of change in urban environments (Taschner 1992).

The visible driving forces for urban change are raising productivity through new technology and higher capital per person, consequently rising income. However, rapid population growth tends to reduce the potential for increasing capital intensity, including investments in human capital. Therefore, cities need to provide the necessary basic preconditions for private accumulation of capital, through a combined effort of good local government, the right business environment (including more social equity) that will attract foreign direct investment, and the ability to harness the loyalties and enthusiasms of their people (Hall & Pfeiffer 2000).

Social factors

Uneven development and equity trends

Uneven development and equity trends are important issues affecting the urban environment. Gallopin (1997) pointed out that there has been a growing stratification be-

tween rich and poor both within and between countries. Broadening equity gaps and increasing poverty within a society interact with the urban environment in two ways: first, the actions of low-income groups who migrate to cities result in the expansion of the informal sector, squatting, social volatility and other consequences for the environment. Second, environmental deterioration results in increased poverty as the economically deprived are excessively affected by many environmental risks and problems. Urban studies indicate that the mortality and illness are notably higher for the urban poor than for other residents (Leitmann 1999, World Bank 2000).

Viederman (1994) argues: There can be no real sustainability without equity, within and among the nations of the world. Without equity there is no social and political stability. Therefore, the causes of increasing inequities – both structural and governance related – should be tackled in order to move towards urban sustainability.

Values and life-styles

In any city we find that personal preferences, individual life-styles, local patterns of activity and inherited values all influence the social behaviour and the social fabric. The key features, which interact, are the role of the family, the environment of women in the labour force, and the movement from the informal to the formal economy.

Values systems are not often considered as being important when forecasting the future. It can be contended that social values and priorities at the local level define the amount of investment that societies are ready to make for sustainability (Gallopín & Rijsberman 2000). Thus, the examination of shifts in values in the urban environment, together with globalizing life-styles and cultures, are very important as they have the potential for significant change. Hall and Pfeiffer (2000) list a few dominant trends which could be influential in different cities: declining household size, changing values, different structure of professions, higher levels of education, higher mobility, declining density of urban development, greater wealth, increased flows of information, in addition to a few dominant trends, like growing suburban life-styles or increasing relevance to single or childless people. Around these dominant trends, one can observe a mass of individual differentiations based on social milieu and specific values.

In developed cities and with the new life-styles, cities may increasingly become the residence choice only of single people and childless couples, who prefer to live close to their jobs, and whose life-style depends on the availability of public space in the form of shops, restaurants, and meeting places, reducing the significance of the private home.

Economic growth and social change

The strong factor in social change is economic change; it influences different sectors of the urban economy. Thus, economic growth is still an important indicator for change in an urban society and for the tensions created in the process of development. Moreover, income differences remain the most important indicator of inequality. For instance, side-by-side we find regions with high-income growth next to regions in decline.

Likewise, rapid growth is a sharp rise in overall living standards and the creation of a new middle-class, which brings with it more home ownership and more real-estate ownership. However, economic growth does not automatically trickle down to the least fortunate. Urban development can exclude large numbers of undereducated, disintegrated, unconnected people (Hall & Pfeiffer 2000).

Cities mirror societies and social change. Good urban design is not possible in a fragmented and unequal urban society. As Gallopín (1997) notes, “social transition is difficult, especially without a widely-shared positive vision of the purpose of change

and why it is necessary". In this context, there should be more focus on cultural and educational backgrounds, which will ensure and expand sustainability in the longer term.

Environmental factors

Cities are concentrations of buildings, production, consumption and transportation. They need labour, capital, technology, natural resources and space inputs for working and living. Following Hall and Pfeiffer (2000), there is, at least, a triple relationship between nature and cities. Consequently, nature is, first, a resource input, second, a location space, and third, a shelter for human emotional and physical existence as a consumer good. This complex relationship has shaped urban environments in the past and will continue to be influential in the future.

Resource depletion, energy and land-use patterns

Despite the hopes for better natural and physical environments in urban areas, the tendency historically has been towards over-exploitation of renewable resources and depletion of non-renewable resources. Increasing ecological degradation and loss of ecosystems and biodiversity have negative effects on both human health and quality of life. The implication of this trend is that the world is far from solving its energy-source problems and that of atmospheric emissions.

Notwithstanding that cities are economical users of land, they constantly need more resources and are continually growing, from the urban core into suburbs and from suburbs into exurbs, changing the land uses and placing more and more distance between people and the natural landscape. In addition, the tension between spatial urban growth, the increasing scarcity of resources, and the need to reverse ecosystems, gives rise to one of the deepest contradictions. It can be said, from an environmental viewpoint, that cities are both a problem and an opportunity. They are a problem because the high concentration of people and production, and the consumption of energy, water goods and services put huge stress on the local and global environment. At the same time, cities are potential solutions – or at least have advantages: dense concentrations of people, production and buildings offer the opportunity to economize on scarce environmental commodities. High-density living increases the return on energy-saving actions and makes them economically more feasible compared to areas of scattered urban development (Hall & Pfeiffer 2000).

International demand for social and environmental concern and greater public awareness

Urban environmental problems, such as air pollution, the overuse of water resources, climate change, and resource degradation, cross all city borders, threaten health, prosperity and jobs and affect the whole urban environment.

Given that environmental problems have become more obvious and worldwide, it is argued that there is, both locally and internationally, an increasing interest in environmental issues and recognition of the necessity of environmental sustainability. Therefore, one of the current policy issues in local economic development is how to match the growth of interests in environmental issues and sustainable development with the perceived need for employment and income generation (Gibbs & Healey 1995).

Political factors

Due to a trend encouraging the decentralization of authority and decision-making, built on transparency, trust, accountability and institutional capacity, there is an increasing diversity of actors influencing urban policies and economies. Consequently, the new actors range from central to local government, on to financial institutions, NGOs, the media and the private sector, with both its national and multinational levels, formal and informal constituents of citizen groups. In this framework, coalitions between powerful groups play an overriding role in determining societal norms and shaping the urban environment. Likewise, Gibbs and Healey (1995) argue that in the future a powerful local sustainable development strategy will basically be implemented, though the actions of local authorities as they are ideally located at the most convenient level to coordinate multi-level strategies. They can deal with economic, social and environmental issues in an integrated way at both the city and regional levels. Correspondingly, McGill (1998) sees a vigorous local government as the essential driving force to integrate, both horizontally and vertically, all the players in the urban sustainability process.

A variety of issues, such as limited political considerations, personalized authority and corruption can confront good governance. There need to be local institutions with competency to organize actions, and an institutional environment that would allow social actors to discuss different facets of problems. It is recognised that opening the political processes and institutions to the participation and monitoring of civil society strengthens the presence of underrepresented interests and concerns within the decision-making process (Devine 2002). Of course, public participation, by itself, does not guarantee sustainable development. It is possible for a participatory and accountable policy to go for short-term goals rather than long-term urban sustainability.

There are two preconditions for efficient public participation to happen. First, full and effective participation can occur only when the information is available to all parties affected. Thus, increasing the amount and quality of information given, and improving its distribution and accessibility by the local governments, for instance, is crucial (O'Neill 1998). Information provision to all parties is important to guarantee accountability, transparency and to combat corruption. Second, effective dialogue, negotiation and participation can only be between equals. In this context, power imbalances are one of the major obstacles to integrate environment and development policies. Bargaining power inequalities have a serious potential for hindering ~~concerns~~ **It is essential to emphasize** the fact that the deficiency of civil society and related institutions harbours serious risks. Jacobs (1997), for example, points out that the expansion of decision-making powers of local governments without the social monitor of civil society can lead to increased corruption, environmental destruction and the disrespectful treatment of cultural heritage rather than solving local problems. Per se, urban planning and management can easily lose its rationality in the face of political and self-serving interests.

Conclusion

As our understanding of the urban context and environment increases, it becomes clear that there are complex urban environmental challenges to face as well as many factors influencing them. According to what has been discussed above, cities are affected by a number of demographic, economic, social, environmental and political factors, which shape and influence the current and future condition in their urban environment.

The different driving forces affecting the urban environment are interrelated in a complex way, while having multidimensional outcomes and impacts. Being aware of these challenges is crucial and essential if solutions for the problems of the urban environment are to be accomplished. Therefore, dealing with the urban environment should be comprehensive, and based on joint-cooperation and coordination between various sectors and actors, as well as on the different levels of action, in order to be able to address these challenges effectively. Hence, a concrete analysis of the different driving forces affecting the Palestinian urban environment and their implications will follow up in Chapter 6.

Chapter 4

Sustainability and urban development

“Sustainability is a vision and a process, not an end product.” (Newman & Kenworthy)

The previous chapter has broadly discussed the main challenges facing the urban environment in the cities, and highlighted the different influential driving forces and their impacts on the urban environment. This chapter will proceed further in the discussion to investigate the relationship between the urban environment, urban development and the concept of sustainable development, in order to clarify the characteristics and the different dimensions and criteria which lead to sustainable urban development and sustainable cities. This chapter will also investigate the debates on the form and structure of the sustainable city, and discuss how these concepts and models can be operated and monitored at the different levels.

Sustainable development – An old/new notion

The concept of sustainable development is the product of long-term discussion around the world. Moreover, it is a major concern of all nations in view of the need to preserve the global environment and sustain a better life for people everywhere. With the rising interest in sustainability, the term sustainable development also has an influence on various fields, such as policy and planning, law, science, design, economics, philosophy, history, ethics, and political science. The history of thinking about sustainable development is closely linked to the history of environmental concerns and people’s attitudes to nature. Both represent responses to changing scientific understanding, and changing knowledge about the world and ideas about society (Adams 1990).

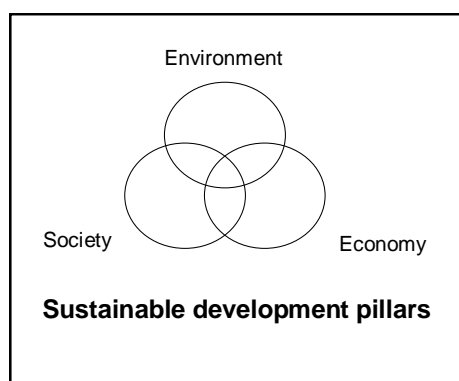


Figure 4-1: Sustainable development pillars

Sustainable development has become a fashionable word in environmental conservation groups and in many of the world’s international development organizations. It received its most popular exposition in 1987, in the significant Brundtland Report *“Our Common Future”* of the World Commission on Environment and Development (WCED), which called for emboldened and dramatically new conceptions of development that advanced the material needs of the present generation without depriving future generations of resources required to satisfy their needs. Nevertheless, sustainable development as a concept had already been promoted in the World Conservation Strategy (WCS), which

was created by the International Union for the Conservation of Nature (ICUN) (Pearce 1990).

The term 'sustainable development' has different meanings to different people: to some it is a contradiction difficult to achieve, and to others it is a strategy and a holistic vision of the future. The commonly accepted definition of sustainable development came in the Brundtland Report (WCED 1987:43) as:

"Paths of human progress that meet the needs of the present, without compromising the ability of future generations to meet their own needs".

This definition is based on two concepts: the first is the concept of needs, in particular the essential needs of the world's poor, to which overriding priority should be given; and the second is the idea of limitations on the environment's ability to meet present and future needs. Consequently, sustainable development is not a fixed state of harmony, but rather a process of change in the exploitation of resources. *Our Common Future* is significant because it places elements of the sustainable development debate within the economic and political context of international development (Adams 1990). Sustainable development, according to the Brundtland Commission, combines ethical norms of welfare, distribution and democracy, while recognizing nature's ability to absorb human-made encroachments and limit pollution (Naess 2001).

Despite the simplicity of the Brundtland Commission's definition of sustainable development, five dimensions can be distinguished in this concept (Brown 1991, Allen 2002):

- *Ecological sustainability*, which is understood as the rational management of natural resources, and of the pressures exerted by the waste produced by societies. This implies that non-renewable and other natural resources are not depleted for short-time improvements. Furthermore, ecological sustainability is linked to the potential of urban regions to extract natural resources, and the management of the productivity of these resources.
- *Economic sustainability*, defined as the ability of the local economy to sustain itself without causing irreversible damage to the natural resource base on which it depends. It implies maximizing the productivity of a local economy (urban and regional) not in absolute terms (e.g. increase of economic capital) but in relation to the sustainability of the other four dimensions and their respective capitals.
- *Social sustainability*, defined as a set of actions and policies aimed at the improvement of quality of life, but also at the fair access to and distribution of rights over the use and appropriation of the natural and built environment. Moreover, it implies the improvement of local living conditions by reducing poverty levels and increasing the satisfaction of basic needs.
- *Physical sustainability*, defined as the capacity and aptitude of the urban built environment and techno-structures to support human life and productive activities.
- *Political sustainability*, understood as the democratisation and participation of the local civil society in decision-making processes. This concept refers to the sustainability of urban governance, i.e. the ability of local society to use its political capital in regulating the relationship between the previous four dimensions.

According to Brown (1991), effective approaches to sustainable development must: a) optimise the use of resources that are available locally; b) minimize dependence on resources that must be brought in from outside; c) not seek improvements for which continuous infusions of existing or new resources are needed; and d) conserve those resources that are needed for improvements over the long term.

Mitlin and Satterthwaite (1994) have developed a further elaboration on the Brundtland Commission's definition of sustainable development in order to clarify which needs should be fulfilled without compromising the ability of future generations to meet their own, and how these multiple goals of sustainable development are applied to cities. The following (Table 4-1) summarizes these ideas:

Table 4-1 The multiple goals of sustainable development as applied to cities

Meeting the needs of the present ...
<p>Economic needs: Includes access to an adequate livelihood or productive assets; also economic security when unemployed, ill, disabled or otherwise unable to secure a livelihood.</p>
<p>Social, cultural and health needs: Includes a shelter which is healthy, safe, affordable, and secure, within a neighbourhood with provision for piped water, sanitation, drainage, transport, health care, education and child development. Also, a home, workplace and living environment protected from environmental hazards, including chemical pollution. Also important are needs related to people's choice and control – including homes and neighbourhoods which they value and where their social and cultural priorities are met. Shelters and services must meet the specific needs of children and of adults responsible for most child rearing (usually women). Achieving this implies a more equitable distribution of income between nations and, in most, within nations.</p>
<p>Political needs: Includes freedom to participate in national and local politics and in decisions regarding management and development of one's home and neighbourhood – within a broader framework which ensures respect for civil and political rights and implementation of environmental legislation.</p>
...without compromising the ability of future generation to meet their own needs
<p>Minimizing use or waste of non-renewable resources: Includes minimizing the consumption of fossil fuels in housing, commerce, industry and transport, plus substituting renewable sources where feasible. Also, minimizing waste of scarce mineral resources (reduce use, re-use, recycle, reclaim). There are also cultural, historical and natural assets within cities that are irreplaceable and thus non-renewable – for instance, historical districts and parks and natural landscapes, which provide space for play, recreation and access to nature.</p>
<p>Sustainable use of finite renewable resources: Cities drawing on fresh-water resources at levels which can be sustained (with recycling and re-use promoted). Keeping to a sustainable ecological footprint in terms of land area on which city-based producers and consumers draw for agricultural and forest products and biomass fuels.</p>
<p>Biodegradable wastes not overtaxing capacities of renewable sinks: (e.g. capacity of a river to break down biodegradable wastes without ecological degradation).</p>
<p>Non-biodegradable wastes/emissions not overtaxing (finite) capacity of local and global sinks to absorb or dilute them without adverse effects: (e.g. persistent pesticides, greenhouse gases and stratospheric ozone-depleting chemicals).</p>

Source: Satterthwaite (1997), after Mitlin and Satterthwaite (1994).

However, although “sustainable development” has become something of a “buzzword” in development circles, it appears to have replaced such esteemed concepts as “growth”, “modernization”, “progress”, and even “accelerated development” as the unifying concept for worldwide development activities, (see Figure 4-2).

William Rees (1988:279) developed a comprehensive definition for sustainable development in which he encompassed the different scopes of the concept as follows:

“Sustainable Development is a positive socio-economic change that does not undermine the ecological and social systems upon which communities and societies are dependent. Its successful implementation requires integrated policy, planning, and social learning process; its political viability depends on the full support of the people it affects through their government, their social institutions, and their private activities”.

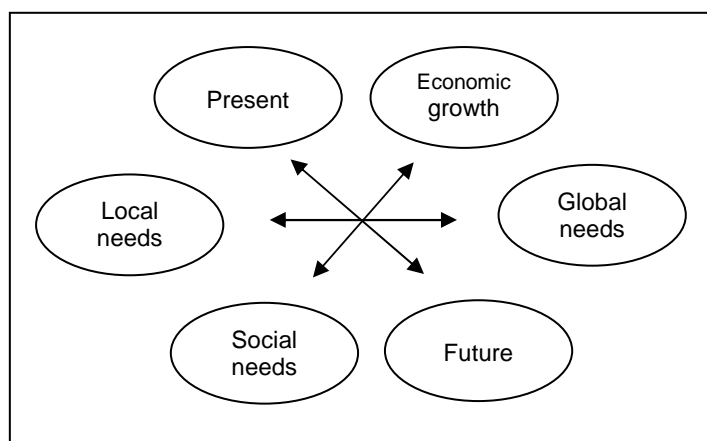


Figure 4-2: Sustainable development balance and opposing goals and values (Ravetz 2000, based on WCED 1987)

Since the beginning, sustainable development was promulgated as the concept that could (Estes 1993):

- provide a new vision for national and international development;
- unify the disparate elements that make up the development community;
- ease the unbearable pressures on the planet’s fragile ecosystems in rich and poor countries alike;
- lead to the formulation of new solutions to the recurrent socio-economic needs of the world’s least developing countries;
- support significantly improved relationships between the governmental, business and voluntary sectors; and,
- provide greater assurance that contemporary approaches to development would not deprive future generations of the resources needed for their development.

Principles of sustainable development

Sustainable development has general principles that contain elements which address the main three aspects of sustainability: environment, economy and society. The following (Table 4-2) presents these principles according to their respective interest. However, in order to implement these principles successfully, there is a need to resolve the conflicts of the three interests: economic growth, social equity, and environmental protection. Generally, the term sustainable development focuses on the relationship between man

and, nature, natural resources and their ability to meet the needs of man, and the conflict between this coverage and the protection of natural resources. The main challenge is to find a way to secure sustainability on earth and achieve the desirable balance between needs satisfaction and environmental protection.

Table 4-2 Principles of sustainable development

Interests	Principles	
Environmental protection	Protection of natural environment Minimal use of non-renewable resources and reduction of waste outputs	<ul style="list-style-type: none"> - This activity must respect and preserve biodiversity - Development should be harmonious with a landscape context - Increase of pervious surfaces and inter-connectivity of critical mass of land are other ways of the protection - Developers or polluters should be liable for the cost of pollution and other harms - Natural resources should be used only at the rate at which they can be regenerated - Waste has to be reduced and recycled
Economic growth	Place-based economic vitality and diversity. Satisfaction of basic human needs.	<ul style="list-style-type: none"> - Economic activities should be related to the natural resources of the region and should not harm its ecosystems - Instead of excessive and huge development, the development should meet basic human needs, such as appropriate home size, security, safety and healthy social environment
Social justice (equity)	Social equity (intra-generational and inter-generational equity)	<ul style="list-style-type: none"> - Consideration for the low-income population and not deprive them of basic property rights - Consideration for future generations' rights to use natural resources and land

Source: Park 2001

The urban agenda

Within the process of advancing urbanization, mainly in developing countries – where it is estimated that 61% of the world population will be living in cities by the year 2025 – and the ‘counter-urbanization’ or outward migration in many developed countries, threatening the viability of both urban and rural areas, the need has emerged for a local, national and international responsibility to promote more sustainable development in both rural and urban areas.

The following is a general review of the main activities and documents created by the United Nations programmes on the urban agenda:

The United Nations Development Programme (UNDP)

The UNDP programme has been an important contributor to changing shifts in urban policy. This new policy is based on an understanding that urbanization is a complementary process of economic development (UNDP- Cities 1990).

The Human Development Report focused on the following main items (UNDP - Human 1991):

- Alleviating urban poverty by promoting income-generation activities and transforming the role of the informal sector;
- Promoting enabling and participatory strategies for the provision of urban infrastructure and affordable shelter;
- Improving the environmental conditions in urban areas by:
 - Promoting energy efficiency in the short term,
 - Developing alternatives to fossil fuel in the longer run,
 - Shifting to other forms of mass transit,
 - Improving the efficiency of waste-collection and disposal systems and extending waste-collection services to the urban poor.
- Strengthening the capacity of local government and administration;
- Expanding the role of private sector and NGOs.

The United Nations Centre for Human Settlements (UNCHS)

In addition to initiating debates and assisting in securing the cooperation of member governments on the human settlements and sustainability issues, the UNCHS has been actively involved in two programmes that concern urban environmental management.

The first programme is the *Urban Management Programme (UMP)*, which focuses on capacity building, especially in relation to environmental management at city level as well as national level. The second programme is the *Sustainable Cities Programme (SCP)*, which focuses on improving the environmental planning and management capacity in municipal authorities, and on enhancing the continued availability of natural resources and reducing the environmental hazards that threaten the sustainability of growth and development.

Agenda 21 – Earth Summit

“Promoting Sustainable Human Settlement Development” is the title of Chapter 7 in Agenda 21 of the Earth Summit. This document raised the following issues to the status of programme areas (UN 1993):

- Providing adequate shelter for all;
- Improving human settlement management;
- Promoting sustainable land-use planning and management;
- Promoting the integrated provision of environmental infrastructure (water, sanitation, drainage, hazardous, and solid waste management);
- Promoting sustainable energy and transport systems in human settlements;
- Promoting human settlement planning and management in disaster-prone areas;
- Promoting sustainable construction-industry activities;
- Promoting human resource development and capacity building for human settlement development.

There is a clear linkage between urbanization and Agenda 21, and this is the focus of other global meetings like the ‘Habitat II’ and ‘Istanbul +5’. Such meetings are essential for building networks and spreading ‘best practices’.

The success of Agenda 21 depends on its ability to influence the local context and provide a policy framework directed to desirable political, economic and social objectives. The Agenda should represent a national commitment to a new set of policies that local pressure groups can use to persuade their governments to take concrete steps towards sustainable development (Hassan & Zetter 2002).

Urban environmental sustainability

The urban environment is a dynamic and multi-faceted phenomenon with its history, built form and at least four different forms of capital – economic, social, ecological and cultural. The interaction between these different capitals/dimensions makes urban sustainability a type of challenge where the increasing intricacy of urban environment means that urban sustainability cannot be addressed from one perspective or one scientific discipline (Munda 2001). In order to clarify the link between sustainability, urban environment and cities, Ravetz’s approach (Ravetz 2000) to defining sustainable urban development has been followed, this approach starts with three linked definitions²⁰:

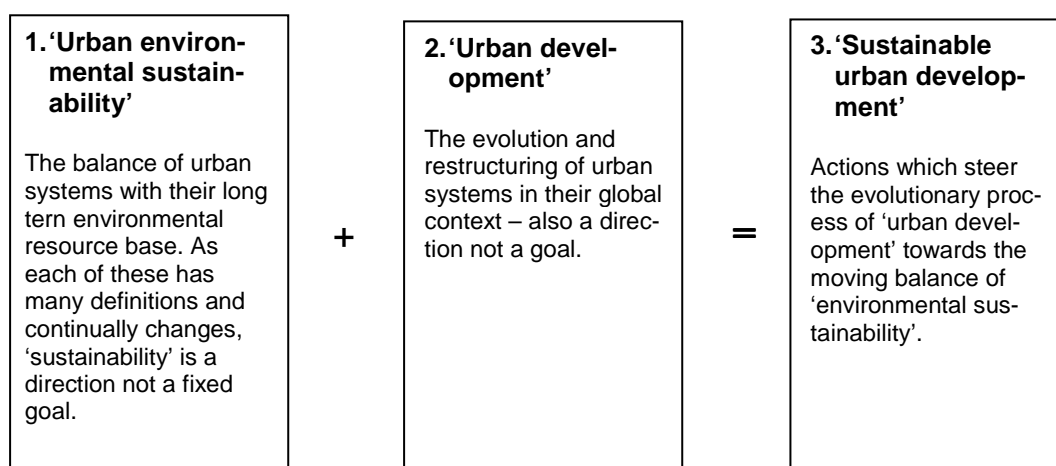


Figure 4-3: Ravetz approach to defining sustainable urban development (Ravetz 2000)

However, urban environmental sustainability is not a fixed plan; cities continue to evolve and interact at both local and global levels in a world running in a state of flux, and in an endless race for economic growth.

Sustainable urban development

The conception of ‘sustainable urban development’ brings together ‘environmental sustainability’ with ‘urban development’ – indeed a rich combination, as mentioned above. This concept has come to be used frequently in the literature, especially during the 1990s, where urban sustainability as a practical definition is surrounded by assumptions and value judgments. According to the UN-HABITAT (2002:4), sustainable urban development is defined as:

²⁰ In this section the term ‘urban’ is taken generally to mean a city or a city-region system

“A dynamic, multi-dimensional process covering environmental as well as social, economic and political-institutional sustainability. It embraces relationships between all human settlements, from small urban centres to metropolises, and between towns and cities and the surrounding rural areas.”

Urban sustainability means the creation of an urban environment providing opportunities for social interaction, cultural enrichment, economic efficiency and a high quality of life. Sustainable urban development may also be understood as the maximization of efficiency in the use of resources, maintaining natural resource stocks at or above their present level, social equity in the distribution of development costs and benefits and the avoidance of unnecessary foreclosure of future development options. Urban sprawl, congestion, increasingly poor air quality, and shortage of land for affordable housing are some of the symptoms of unsustainable urban development (Keles 2001).

Drakakis-Smith (1995) argues that any discussion on urban sustainability has to address issues of equity, social justice, basic human needs, environmental awareness and integrity at the philosophical and ethical level as well as addressing issues like employment, poverty, health, urban physical environment, infrastructure and institutions at the policy level. He suggests that the following requirements must be satisfied in order to report sustainable urban development in an urban context: 1) equity, social justice and human rights; 2) basic human needs; 3) social and ethnic self-determination; 4) environmental awareness and integrity; and 5) awareness of inter-linkages across both space and time.

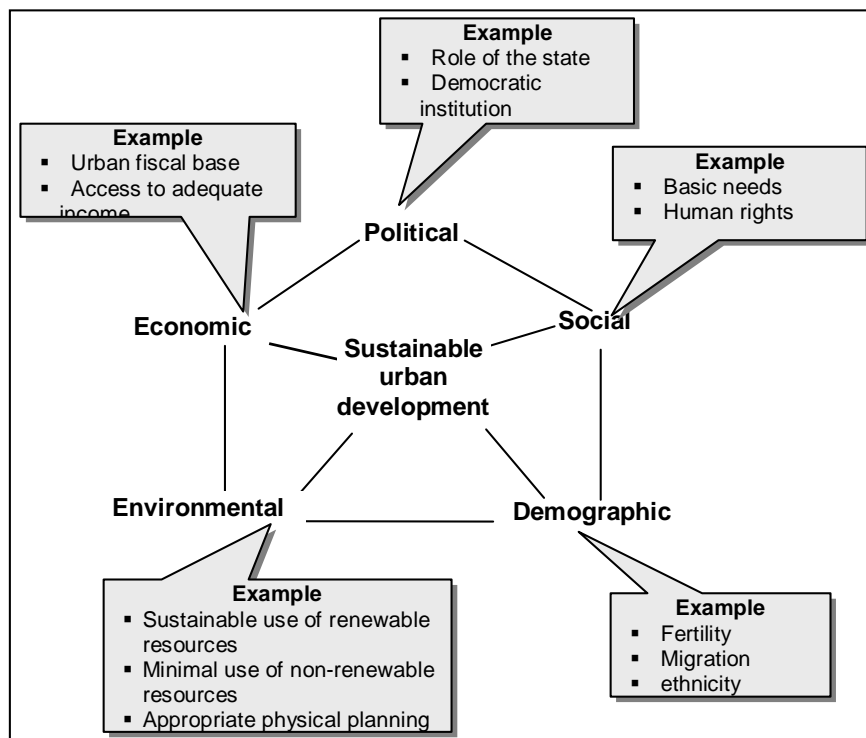


Figure 4-4: Components of sustainable urban development (Drakakis-Smith 1995)

However, it is important to notice that different communities are likely to develop slightly, or even significantly, different conceptualisations of urban sustainability, depending on their current economic, environmental and social circumstances and on community value judgments (Maclaren 1996). Likewise, Frey (1999) draws attention to the fact that each individual city may have its own very specific structure, socio-economic and historical conditions. This means that the path of an existing city towards

sustainability depends upon the characteristics of that city, and there is no standard blueprint for building a sustainable urban development.

Principles of sustainable urban development

Sustainable urban development is based on certain generic principles which are used in managing resources over space. Essential to the concept are two inter-related components: human beings and the natural environment. Demographic stability in terms of fertility rates, migration patterns and ethnic compositions, as well as a respect for the ecosystem are essential to uphold sustainability.

Reverence for the ecology goes beyond an ethical utilization of natural resources and demands intra- and intergenerational equity (WCED 1987). Additional principles can be derived from these two vital ones. Intra- and inter-generational equity cannot be attained without long-term economic affluence and a pluralistic society defending social and geographic equity. The latter is related to the carrying capacity of a place and conservation of natural resources. In other words, a city's wealth should not be measured in economic terms alone; social and environmental capitals are also important. The following (Figure 4-5) shows these basic and derived principles of sustainable urban development in an urban context. Moreover, it illustrates long-term views and approaches which can truly combine horizontal policies at different geographical levels and new modes of governance that encourage discourse and collective learning. Accordingly, these demand changes in laws, public administration, market practice, and the socio-cultural mindset within society.

Requirements for sustainable urban development

Before operating the concept of sustainable urban development at the city level, there are certain requirements (prerequisites) that have to be fulfilled. These requirements are summarized in the following:

- the existence of a national policy of sustainable development, decisions on levels of achievement of sustainable development for the different sectors or cities;
- the resources are appropriately priced, and the resource rights are unambiguous;
- coordination across the different sectors and among different institutions is possible;
- it is possible to “conserve” or “decrease” natural resource use through policy intervention;
- projects appraisal systems, discount rates and other decision criteria are suitable to take into account the environmental costs and benefits of development actions.

Accordingly, the fulfilment of these prerequisites constitutes the supporting settings which assist in carrying out and operating a more sustainable approach to urban development in the cities.

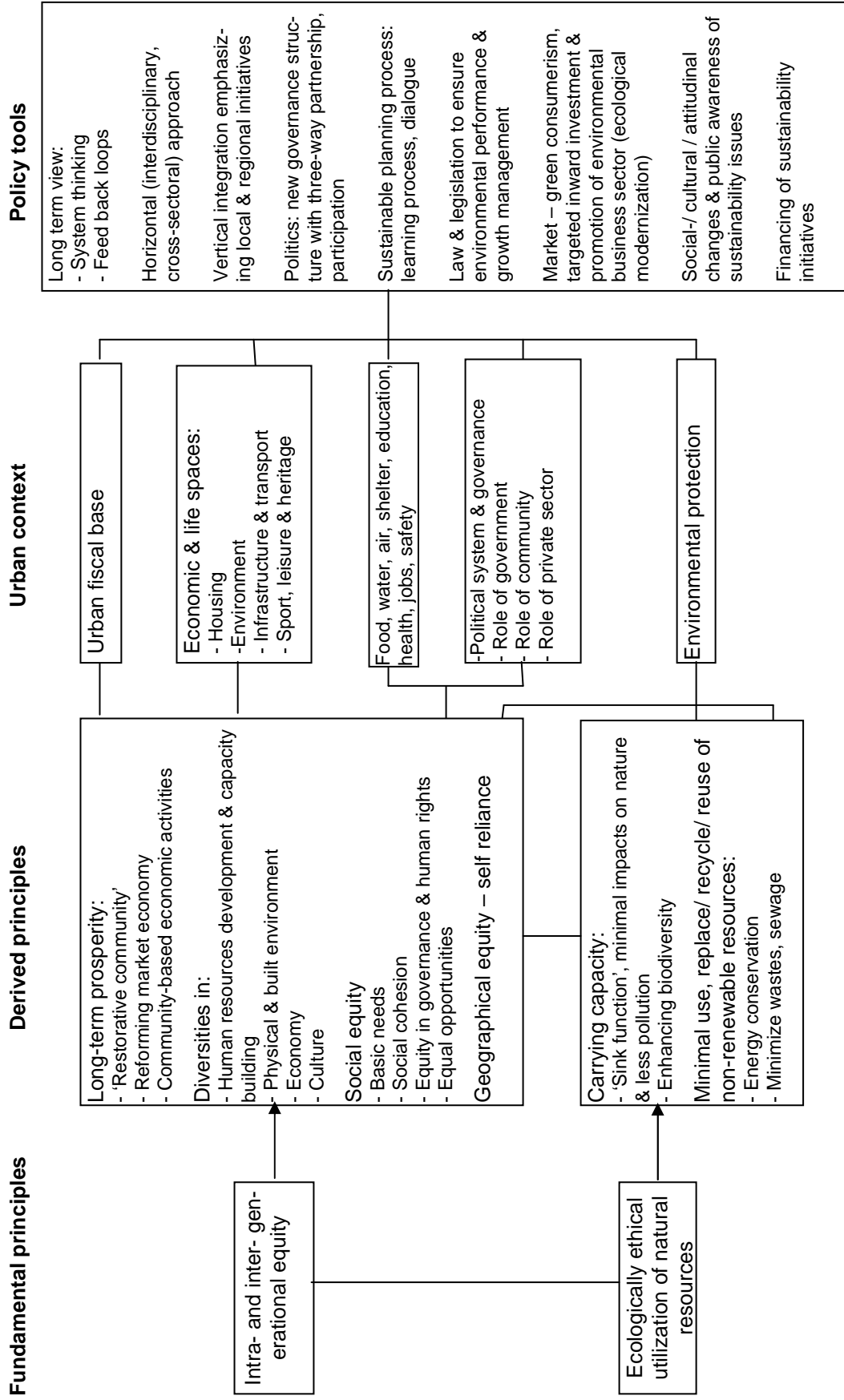


Figure 4-5: Sustainable urban development principles (Drakakis-Smith 1995)

The city and sustainable development

Cities play an important role in meeting the goals of sustainable development. As trends indicate the great majority of world population in general and developing countries in particular, will be living soon in towns and cities. In order to perceive the relationship between sustainable development and the city, it is substantial to conceive the city context, structure and function, and how the different factors affect its future developments and transformations.

Generally, *the city* can be described as an artificial, non-natural environment, but embedded in nature and which must have an ecological balance. Cities damage the natural environment and exploit natural resources in an unsustainable manner, which can risk long-term prosperity and social well-being. As noted in the Brundtland Report (WCED 1987), worldwide, city-based producers and consumers are responsible for most of the renewable and non-renewable resource consumption and waste generation. However, cities are also essential for economic opportunities and social interaction, as well as cultural and spiritual enrichment. Looking at the city as a socio-economic system, it confronts the challenge of sustainability at both the local and the regional levels and acts as a window on the interaction between institutional arrangements and local actors and between the environment, economy and social structure. Therefore, the successful city in sustainable development terms is one where many different goals of its inhabitants and enterprises are met, without passing costs over to other people or other regions.

Sustainability has become an aspect of city development which has become more significant through the modern way of life, modern communication facilities, modern technologies and innovations, and through national and global interaction (Finco & Nijkamp 2001). On the other hand, cities are not static phenomena: they are always in a state of flux, and urban life is in an incessant dynamic which may change the roles and functions of the cities and lead to variable performance patterns. According to Finco and Nijkamp (2001), transformations in cities are usually driven by economic processes and by the emergence of the new information technology paradigm, in addition to the socio-cultural values of the local and national community, which shape the transformation process in the long term. Paradoxically, and under this momentum of change and transformation, what does sustainable development mean, if anything, in cities? In addition, can cities be sustainable? These basic questions are difficult to answer since there is as yet no city that has proved to be utterly sustainable. However, in order to mediate this vagueness, it is useful to review the general definitions, principles and characteristics of the sustainable city, as well as its form and structure, as they are presented in literature, keeping in mind that there are many different debates.

Defining the sustainable city

In general, there is no clearly agreed definition as to what the terms “sustainable cities” and “sustainable human settlement” mean. A diverse range of environmental, economic, social, political, demographic, institutional and cultural goals have been said to be part of “sustainable development”. According to the UNCHS – Sustainable Cities Programme – the *sustainable city* is defined as “a city where achievements in social, economic and physical development are made to last”. In an advanced explanation of this definition, a sustainable city is elaborated as one which “has a lasting supply of the natural resources on which its development depends (use at sustainable yield) and a lasting security from environmental hazards which may threaten development achieve-

ments (allowing acceptable risk)” (UNCHS 1996). Correspondingly, the Habitat agenda suggests that sustainable human settlement should: “make efficient use of resources within the carrying capacity of ecosystems and take into account the precautionary principle approach, provide all people, in particular those belonging to vulnerable and disadvantaged groups, with equal opportunities for a healthy, safe and productive life in harmony with nature and their cultural heritage and spiritual and cultural values, and ensure economic and social development and environment protection, thereby contributing to the achievement of national sustainable development goals” (HABITAT 2002).

Characteristics of the sustainable city

Several sets of principles and characteristics of the sustainable city have been developed, for instance the guiding principles for sustainable spatial development of the European Continent²¹, the Aalborg Charter²², and the Melbourne principles for sustainable cities²³. The different charters and principles have many close similarities and provide a simple set of statements on how a sustainable city would function. For example, the Melbourne Principles (UNEP 2002) were developed to guide thinking and offer a strategic framework for action. Bearing in mind that these principles are not prescriptive, they only assist cities to develop sustainable solutions that are relevant to their particular circumstances. In addition, they can help the decision-makers and citizens to come together and cooperate in transforming cities to sustainability. As general common characteristics of the sustainable city, the Melbourne principles are listed here:

- Provide a long-term vision for cities based on sustainability, intergenerational, social, economic and political equity, and their individuality.
- Achieve long-term economic and social security.
- Recognize the intrinsic value of biodiversity and natural ecosystems, and protect and restore them.
- Enable communities to minimize their ecological footprint.
- Build on the characteristics of ecosystems in the development and nurturing of healthy and sustainable cities.
- Recognize and build on the distinctive characteristics of cities, including their human and cultural values, history and natural systems.
- Empower people and foster participation.
- Expand and enable cooperative networks to work towards a common, sustainable future.
- Promote sustainable production and consumption, through appropriate use of environmentally sound technologies and effective demand management.
- Enable continual improvement, based on accountability, transparency and good governance.

The vision of the Melbourne principles confirms again that sustainability is an integrated whole. It is not just about a clean environment, or economic development that minimizes environmental destruction. It concerns itself also, by necessity, with social

²¹ These principles were adopted during the European Conference of Ministers Responsible for Regional Planning (CEMAT) in Hanover in September 2000

²² The Aalborg charter was adopted at the European Conference on Sustainable Cities & Towns in Aalborg, Denmark in May 1994

²³ The Melbourne Principles for Sustainable Cities were developed at an International Charrette held in Melbourne in April 2002, and organized by the UNEP

and governance systems. The previous definition and characteristics of sustainable cities reflect an ideal image which every city tries to achieve despite the differences and particularity of each city, whether it is in a developed or developing country. In addition, it is essential to keep in mind that these principles have little value unless they are modified for the particular city and supplemented by decision-support tools which can assist cities to become more sustainable. According to Keles (2001), the transformation of cities to sustainability requires cooperation between different levels of government, resource managers, the business sector, community groups and all citizens. Such collective and individual contributions are fundamental in improving the sustainability of cities.

Form and structure of the sustainable city

Urban form and structure are important factors for determining sustainability, i.e. the shape, size and density of settlement patterns (spatial organization). Intense efforts have been made to find a city form and structure that causes no environmental strain is socially not stratified, and functions optimally and economically. In the spatial planning literature, there are several debates about which city form and structure is more sustainable; a brief review of these debates is included here to clarify the spatial and physical dimensions of the sustainable city.

Debates about the sustainable city form and structure

In the search for the form and structure of the sustainable city, there are many debates on which type of city can be more sustainable. Frey (1999) has exemplified the different arguments that are related to city form and structure. He sorted these debates into three groups, the “*Centrists, the Decentrists and the Compromise positions*”. The first group has defended the “Compact City”²⁴ concept, and it includes, for instance, the Green Paper on the Urban Environment²⁵ (CEC1990), Jacobs (1961), Newman and Kenworthy (1989), Elkin et al. (1991) and others. They argue that the compact city has environmental and energy advantages and social benefits: for example, a compaction of urban development results in a high population densities and consequently preservation of the countryside; affordable public transport increases general accessibility and mobility and reduces vehicular traffic volumes. The feasibility of mixed uses and compact population densities are seen to be more efficient with regard to energy use due to the lower consumption of fossil fuel, and also have health benefits. Likewise, compaction provides a potential for social mix when supported by a broad range of dwelling types. In addition, the concentration of local activities in communities and neighbourhoods can result in a high-quality life, safe and lively surroundings (Jenks 1996).

Nevertheless, there are many who also opposed to the Compact City concept and supported the “Decentralized Concentration” concept. This model is based on a multi-nucleated city or even city region; in contrast to the compact city, the different uses are not concentrated in the mono-core, but are dispersed into a number of smaller centres forming the heart of urban districts, towns or villages (Frey 1999).

²⁴ The concept of the Compact City has been dominated by the model of the densely developed city core. This idea is to some extent based on urban containment to provide a concentration of socially sustainable mixed uses that will concentrate development and reduce the need to travel, thus reducing vehicle emissions (Jenks, Burton & Williams 1996).

²⁵ Green Paper on the Urban Environment published by the European Commission in Brussels, which highlights the functional, social, economic, and environmental problems of today’s cities and puts forward objectives and directives towards a more sustainable urban environment (CEC 1990)

The third group, which represents the compromise positions (Breheny 1996; Scoffham & Vale 1996), proposes that the community of individual neighbourhoods should develop a strong identity and control over local resources. Nevertheless, this concept demands a degree of local autonomy based on two convictions: first, the people in a neighbourhood know best what their needs and aspirations are, and, second, they can take more responsibility in developing their neighbourhood, (see Figure 4-6).

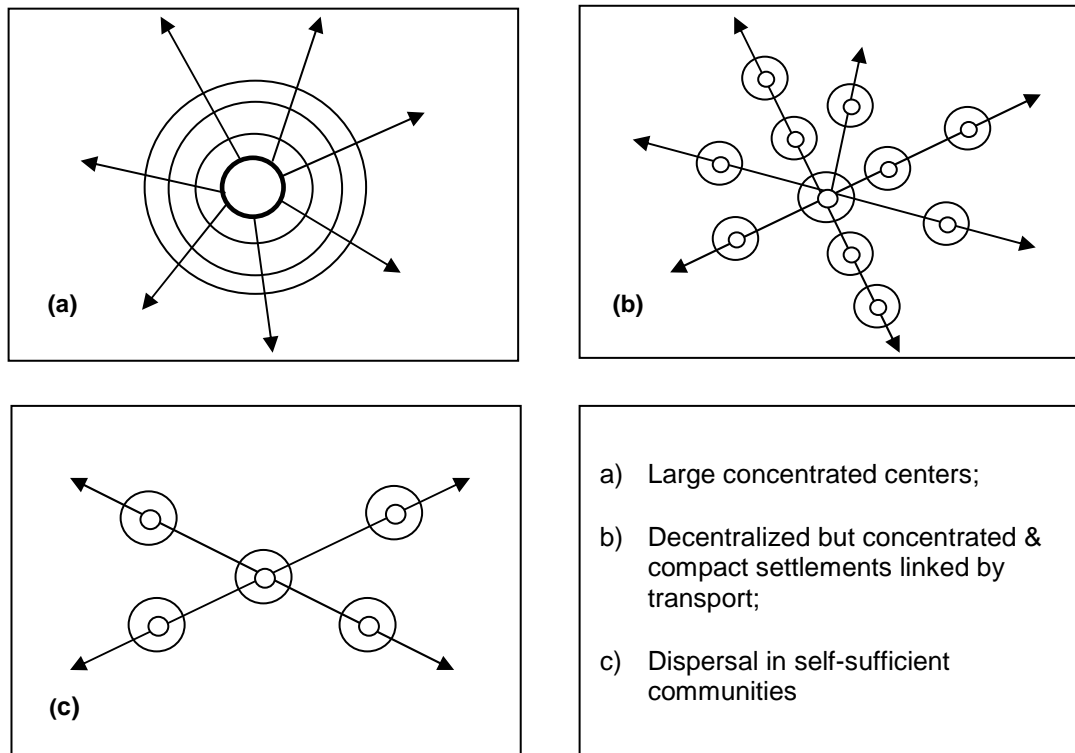


Figure 4-6: Alternative forms for sustainable cities (Haughton & Hunter 1994)

Frey's conclusion to the debates was that there is no confirmation that any of the city models is associated with considerably higher or lower levels of energy consumption, and that investigations of the correlations between transport systems, population densities and energy consumption are to a large extent inconclusive (Frey 1999).

Criteria for sustainable city form and structure

In the literature, there are many debates about what qualities a sustainable city should have. However, bearing in mind that each specific city has its existing morphological, climatic, topographical and socio-economic conditions and properties, it is still possible to recapitulate the different features of the sustainable city debates, and to come up with criteria and characteristics that are *generally* valid and do not depend on the specificity of a certain city, location or place.

The explanation of what makes a sustainable city or city region has followed a somewhat inconsistent and, in some cases, rather disorganized sequence of arguments and counter-arguments. Frey (1999) has evaluated the performance of different city models and, based on the generally agreed sustainability criteria that resulted from the

review of the sustainable city debate, he proposed the following criteria for a *more sustainable city form and structure*²⁶:

Table 4-3 Commonly agreed criteria for a more sustainable city-region form and structure

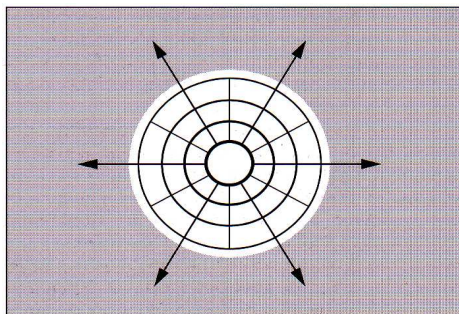
- *Physical properties of the city / city region:*
 - Degree of containment (compactness) of development
 - Population density relative to land needed
 - Viability of mixed uses
- *Provisions of the city / city region:*
 - Viability of public transport
 - Dispersal of vehicular traffic
 - Access to services and facilities
 - Access to open spaces (parks, countryside)
- *Environmental and ecological conditions*
 - Environmental conditions (noise, pollution, congestion, crime)
- *Socio – economic conditions:*
 - Potential for social mix through variety of housing
 - Potential for local autonomy
 - Potential of self-sufficiency
 - Degree of adaptability
- *Visual-formal quality:*
 - Imageability of the city (the physical entity) as a whole
 - Imageability of parts of the city (neighbourhoods, districts, towns)
 - Sense of place and centrality

Source: Frey 1999

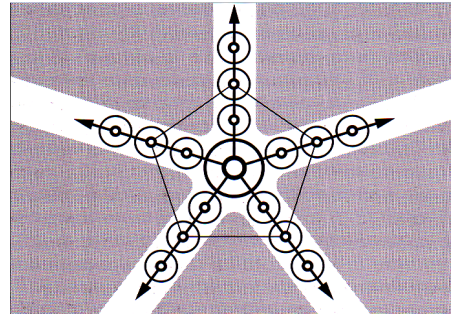
Comparison of the performance of different city models

Frey (1999) has compared six models of the settlement forms presented in Kevin Lynch's *Good City Form* (Lynch 1985) and evaluated their performance on the basis of the generally agreed sustainability characteristics – mentioned above. The following (Figure 4-7) illustrate these different models:

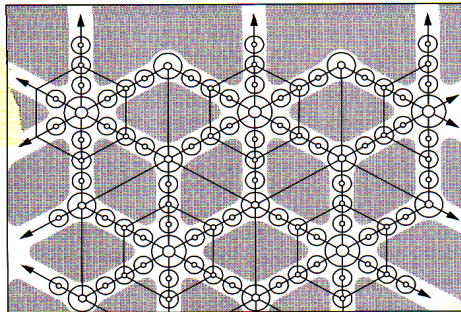
²⁶ For more details on the characteristics and the performance of city models refer to Frey, 1999



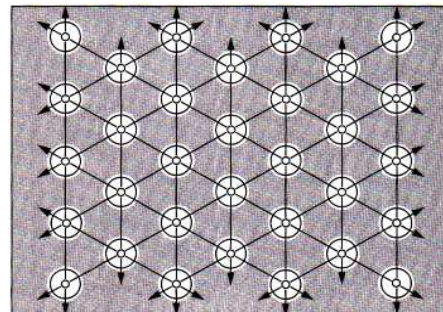
The Core City



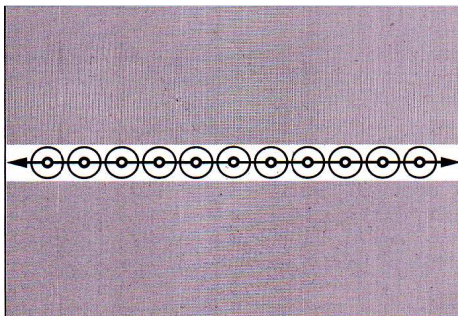
The Star City



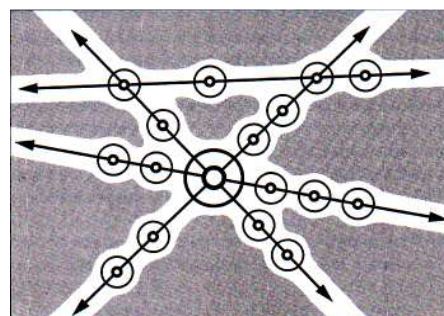
Multi-star city structure



The Galaxy of settlements



The Linear City



The Polycentric net / Regional City

Figure 4-7: Models of settlement forms (Frey 1999)

The evaluation results of the expected performance of the six city models are presented in the following (Table 4-4):

Table 4-4 Comparison of the expected performance of the different city models

Criteria	Core city	Star city	Sat. city	TOD's TND's	Lin. city	Reg. city
Degree of containment of development	+	+/-	+/-	-	-	+/-
Population density relative to land needed	+	+/-	+	+	+	+
Viability of public transport	+	+/-	+	-	+	+
Dispersal of vehicular transport	-	+/-	+/-	+	-	+/-
Viability of mixed uses	+	+/-	+	-	+/-	+/-
Access to services and facilities	+/-	+/-	+/-	-	+/-	+/-
Access to green open spaces (parks, countryside)	-	+	+	+	+	+
Environmental conditions (noise, pollution, congestion)	-	+/-	+/-	+	+	+/-
Potential of social mix through variety of housing	-	+/-	+/-	+	+/-	+/-
Potential of local autonomy	-	+/-	+/-	+	+/-	+/-
Potential of self sufficiency	+	+	+	+	+	+
Degree of adaptability of city to changing conditions/needs	-	+/-	+/-	-	+/-	+
Imageability of the city (the physical entity) as a whole	+/-	+/-	+/-	-	-	+/-
Imageability of parts of the city (neighbourhoods, districts, towns)	+/-	+/-	+/-	+	+/-	+/-
Sense of place and centrality	+/-	+/-	+	-	-	+
Equal weights	-1	+2	+6	+1	+1	+6
Weighted (bold)	-4	+1	+2	0	0	+3

Note: Sat. = satellite, TOD = transit-oriented development, TND = traditional neighbourhood development, Lin. = linear, Reg. = regional.

Source: Frey 1999

Frey's (1999) previous comparison and evaluation indicates that the regional city model – that is to say a composite city form, perhaps as a combination of smaller core, star, satellite and linear cities – can take on practically any configuration and can respond to local conditions. It would therefore, seem to be the most appropriate urban model, potentially with the lowest degree of rearrangement required.

Debates for the regional city model

The regional, composite or 'net' city model has a notion of continuity over the areas of an entire region and includes open countryside within its structure. In addition, it combines a hierarchical microstructure of neighbourhoods, districts and towns, and an integrating transport macro-structure allowing the parts of the microstructure to form urban regions, which seems to offer opportunities for the regeneration of existing cities. The 'net' may consist not only of cities of equal status, but of a combination of independent neighbourhoods, districts, towns or villages, which may be more or less densely integrated, or more rural or more urban.

According to Frey (1999), many potentially significant advantages can be achieved by the regional city model in terms of sustainability:

- In formal and spatial terms, it may provide a sense of place and a focus for a sense of belonging for the inhabitants of the individual elements of the net.
- In socio-economic terms, the decentralization of some of the central city functions into towns and district cores (if not neighbourhood centres) is likely to achieve a mixture of uses, and a high degree of interaction with and access for communities.
- In environmental terms, the inclusion of open countryside in the city structure would enable the building up of a symbiotic relationship between city and countryside.
- In functional terms, the regional city model would allow the formation of small and large conglomerations of settlements of more rural or urban character by applying the principles of hierarchical and network structure.

The ability of the regional city model to respond to changing conditions and requirements is high due to its flexibility; the structure is likely to be adaptable to most local conditions, and applicable to many already partially decentralized cities and areas.

Operating the sustainable city concept

Operating the concept of sustainable city requires active intervention to reduce the environmental impact of urban areas, improve the health of residents, and increase economic productivity while lowering the incidence of poverty. The success of such interventions depends clearly on three major background determinants (Leitmann 1999, Finco & Nijkamp 2001a):

- *Institutional factors* (management and organization of the urban energy sector, public-private modes of cooperation etc.);
- *Attitudes and behaviour of citizens* (lifestyles, mobility patterns, environmental awareness etc.);
- *Urban structure and morphology* (population density, urban form, transportation networks etc.).

In addition to the previous background determinants, there is a need for a national sustainable development strategy which can steer the course of development at the different levels towards more sustainable city development – as will be clarified in the following section.

The need for a national sustainable development strategy

A national sustainable development strategy indicates the way in which the country is addressing the challenge of progressing towards its goals of sustainable development. Therefore, there is a need for a national sustainable development strategy to direct developments on the different levels (national, regional and local) on the path of sustainability. This strategy, however, should be based upon the following elements (OCED 2001, Leitmann 1999, Finco & Nijkamp 1999):

- Integration of economic, social and environmental objectives, and balance across sectors, territories and generations:
 - Linking local, national, regional and global priorities and actions
 - Linking the short term to the medium and long term.
 - Linking the national, regional and global levels

-
- Linking different sectors
 - Coherence between budgetary and strategic priorities
 - Broad participation and effective partnerships
 - Institutionalized channels for communication
 - Access to information for all stakeholders and effective networking
 - Transparency and accountability
 - Trust and mutual respect
 - Partnerships amongst government, civil society, private sector and external institutions
 - Country ownership and commitment
 - Strong political and stakeholder commitment
 - Sound leadership and good governance
 - Shared strategic and pragmatic vision
 - Strong institution or group of institutions spearheading the process
 - Continuity of the national sustainable development strategy process
 - Developing capacity and an enabling environment
 - Building on existing knowledge and expertise
 - Building on existing processes and strategies
 - Focus on outcomes and means of implementation
 - The means to assess and agree on priority issues in place
 - Coherence between budget, capacity and strategy priorities
 - Realistic, flexible targets
 - Linked to private-sector investment
 - Anchored in sound technical and economic analysis
 - Integrated mechanisms for assessment, follow-up, evaluation and feedback

However, in order to have an efficient sustainable development strategy which guides developments towards more sustainable city development, this strategy should be practically reflected in:

- Legislation (policies and regulations),
- Mechanism (tools and instruments),
- Integration (cross sectoral and cross regional),
- Enforcement (implementation), and
- Commitment (continuity), which operate on the national as well as on the regional and local levels.

For instance, policies addressing the sustainable development of cities should cover multiple fields like urban rehabilitation, urban land use, urban transport systems, urban energy management, urban architecture and conservation policy, and urban cultural policy. In due course, measurable indicators, including minimum performance levels and critical threshold levels, will then have to be defined, estimated and used as forecasting tools to improve awareness of sustainable development issues in cities. Subsequently, local authorities will have to share their tasks with all other actors in the urban

space, including the private sector, in imposing and maintaining these critical thresholds (Finco & Nijkamp 2001a). Eventually, an effective national sustainable development strategy should be based on timely action, and should recognize and reconcile necessary trade-offs, while constantly seeking win-win outcomes.

Operating sustainable development at the community level

In practice, the objective to move towards becoming a sustainable city needs to be set in the context of a broader sustainable society. The effectiveness and viability of having sustainable development in the cities are based not only on having national sustainable development strategies and policies, but also on the local communities and their awareness and sense of responsibility towards their cities. According to Richardson (1994) "Making our communities sustainable", and based on ORTEE²⁷, there are twelve principles to be considered by communities that are beginning to address the question of sustainability. These principles characterize the sustainable community and neighbourhood, and summarized in the following points. The sustainable community:

- recognizes that growth occurs within certain limits and is ultimately limited by the carrying capacity of the environment;
- values cultural diversity;
- has respect for other life forms and supports biodiversity;
- has shared values amongst the members of the community (promoted through sustainability education);
- employs ecological decision-making (e.g., integration of environmental criteria into all municipal government, business and personal decision-making processes);
- makes decisions and plans in a balanced, open and flexible manner that includes the perspectives from the social, health, economic and environmental sectors of the community;
- makes best use of local efforts and resources (nurtures solutions at the local level);
- uses renewable and reliable sources of energy;
- minimizes harm to the natural environment;
- fosters activities which use materials in continuous cycles;
- does not compromise the sustainability of other communities (a geographic perspective);
- does not compromise the sustainability of future generations by its activities (a temporal perspective).

Although governments can help communities to move towards sustainability, the initiative and the continuing cooperative effort must come from within, reflecting the character, the determination, and the consensus of the community itself. In addition, the best starting-point is the development of a community's common vision, a shared picture for their city in the future.

Monitoring and evaluation

Regular monitoring and evaluation are essential in the process of shifting towards more sustainable urban development, and more sustainability in cities. Moreover, monitoring

²⁷ ORTEE is the abbreviation for the Working Group of the Ontario Round Table on Environment and Economy

helps to identify the emerging urban environmental, social and economical issues, thus, they can be addressed before they become costly emergencies. On the other hand, monitoring helps in assessing the implementation of action plans so that they can be adjusted and improved. Monitoring can be done by using a set of *indicators*, whereas evaluation entails the periodic analysis and assessment of these indicators and other information to identify emerging problems and measure the impacts of implementation. Thus, such indicators, on the one hand, should represent a balance between the necessary quality of information and the costs involved, and, on the other hand, have to be related to economic, social, spatial and cultural dimensions of the city. The results of monitoring and evaluation can be used for improving the performance (Leitmann 1999).

Indicators can be divided into two categories – purely physical indicators, which are typically chosen from existing data sets that are already accessible, and policy indicators, which can be either physical measures or process indicators that are specifically selected to determine whether a city is achieving a policy objective (Society for Development Studies 1997). Based on different experiences, and in addition to being developed in a participatory manner and linked to the urban development process, a useful and realistic set of urban *indicators* should have the following characteristics (Young and Ryan 1995, Society for Development Studies 1997):

- *Measurable*: indicators should be quantifiable.
- *Based on existing data*: they should be extracted from reliable existing information to speed up their use and minimize costs.
- *Affordable*: the financial cost and time required to assemble and analyze indicators should be prescribed by a predetermined budget.
- *Based on a time series*: the same indicator should be collected over a regular interval so the change can be evaluated.
- *Quickly observable*: indicators that can be developed soon after data collection are more useful than those that require lengthy processing.
- *Widely accepted*: indicators must be understood and accepted by users.
- *Easy to understand*: indicators should be reported in a simple fashion so that a wide range of people can understand them.
- *Balanced*: indicators should be politically neutral and allow for measurement of both positive and negative impacts.

One example of an urban sustainability indicators framework is the PSR (Pressure – State – Response)²⁸ framework, which developed in the early 1990s by the OECD (Organization for Economic Co-operation and Development) and now forms the basis for environmental assessment and reporting. Indicators form an integral part of the PSR framework.

The OECD (1994) has drawn up a long list of elements which are decisive for urban environmental quality and which would have to be included in such an indicator system, such as housing, services and employment, ambient environmental nuisances, social and cultural concerns, etc., as illustrated in (Figure 4-8).

²⁸ Pressure: refers to the pressure the human society puts on the environment as a result of human activities, trade and consumption.

State: is related to the condition (typically of the environment) that results from the pressures, such as pollution levels or degree of land degradation

Response: relates to actions taken by society or the authorities to prevent negative impacts on the environment, to conserve resources, or to correct existing damage

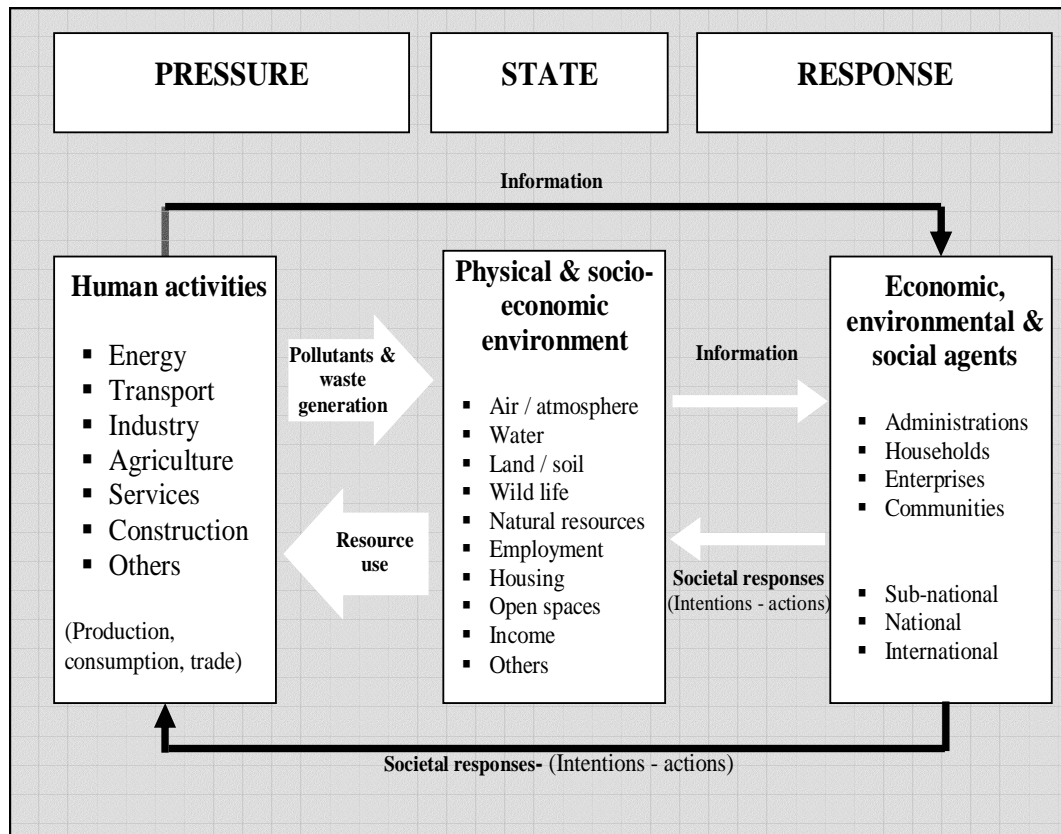


Figure 4-8: The PSR conceptual framework for urban sustainability indicators (OECD 1994)

Conclusion

Sustainable development is not a new concept; it is an evolution of many preceding environmental and conservation movements, which have always called for the protection of nature and conservation of resources. The significance of sustainable development as a concept lies in its multidimensionality and durability, as it connects different issues, actors, times, and spaces, as well as seeking balance between economic, social and environmental aspects. Sustainable development, despite its vagueness, has become the central concern of many national and international agendas.

In order for the sustainable development concept to beyond being a slogan, it should *first* be defined in the specific context (country, region or city level). *Second*, it should be translated into a more practical and applicable form. *Third*, it should also become a base for the national, regional and local development strategies; it should be embedded in legislation, policies, and implementation mechanisms. Each country should develop a *vision* of its sustainability that is based on its own needs and priorities, beyond the international concerns.

Obviously, there is increased concern in the sustainability of cities and urban developments. Different concepts have been introduced, such as sustainable urban development, the sustainable city, and sustainable urbanization, which, despite their different overlapping terminologies, share a main common notion and concern with the well-being of people and the protection of the environment.

Different planning debates argue that the form and structure of the city influence its sustainability, although there is no optimal city form that causes zero environmental stress, is socially not stratified, and functions optimally and economically. Nevertheless, some general criteria – such as the degree of compactness, population density, viability

of mixed uses and public transport, as well as the provision of and accessibility to open and green spaces – can indicate the performance and the sustainability of the city.

Eventually, promoting and operating sustainable development in cities requires high-level and long-term political commitment, integrated thinking and planning, effective public involvement and participation, as well as constant monitoring and evaluation.

The theoretical framework and debates presented in this chapter can be used as a supporting reference and starting point in introducing, defining, and promoting the concept of sustainable development in the context of the Palestinian cities. Understanding the different dimensions of sustainable development concept and its applications in cities is the base for defining what sustainable development means in the context of the Palestinian cities, as will be discussed in the following chapters.

Chapter 5

Research methodology

After having presented a general overview of the state of the Palestinian cities and the different theoretical debates about the sustainable development concept and its application in cities, before proceeding in the detailed analysis and investigations it is now important to highlight again the research problem and the guiding questions and propositions. Moreover, it is essential to illustrate the methodologies employed and the logic of the research strategy and design, as well as the analytical research approach adopted and its validity, as will be demonstrated in the following sections.

Problem statement

Palestine is a small country, but one which is facing major future challenges symbolized by the high population growth rates, scarcity of land, and rapid urbanization. The Israeli occupation to the Palestinian Territories and the absence of an independent and effective Palestinian planning system have led to the deterioration of the physical environment of the Palestinian cities (among other economic, social, political and ecological aspects).

Urban development in the cities was not based on perceptive strategic plans considering the present and future needs of people. Therefore, the result was more random city growth, expansion into agricultural land and natural landscapes, depletion of natural resources and cultural heritage sites, and the distortion of the image and skyline of the cities, amongst other social and environmental problems. The political changes in the country affect the mode and pace of urban development in the cities. For instance, looking at experience after the Oslo Interim Agreement in the early nineties, the Palestinian cities have witnessed a huge and rapid development process. On the other hand, if any peace agreement between the Palestinians and Israel is achieved, then the question of the Palestinian refugees who might return to their home country will be raised. The demographic changes and the increase in the already high population growth rate have to be considered, and, accordingly, also the development and urbanization process in order to meet the needs of the population. Past experience and the different challenges facing the Palestinian cities, in addition to the future uncertainties, provoke questions about future developments in the Palestinian cities, their pattern, form, and structure.

Research questions

From the above stated research problem, it is evident that this research revolves around the future physical development of the Palestinian cities under the pressing challenges – among others – of land scarcity, rapid urbanization and high population growth rates, and how future developments should meet the needs of the Palestinian population as well as being environmentally sound. This knot leads to consideration of the concept of sustainable development (see Figure 5-1) and raises the following questions, which this research attempts to answer:

- What are the driving forces affecting the urban development process in the Palestinian cities?

- In the context of Palestinian cities, conceptually, what does sustainable development mean, and how can it be defined?
- How can physical developments in the Palestinian cities be reoriented towards a more sustainable city development?
- What are the prerequisites for promoting a more sustainable urban development in the Palestinian cities, and how can such a concept be promoted in the Palestinian context?

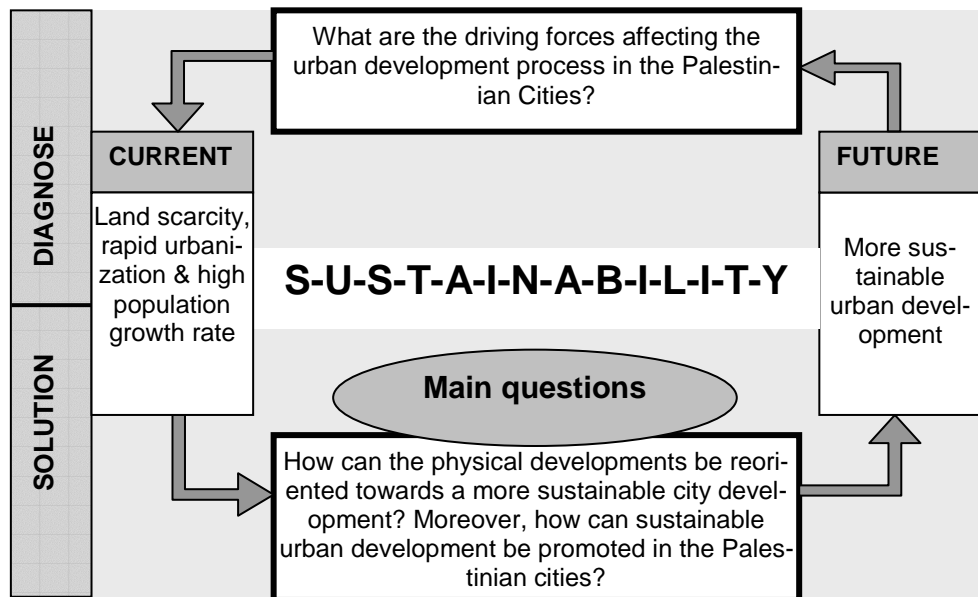


Figure 5-1: Formulation of research questions

Research propositions

The early formulation of the research propositions is important because propositions represent the reference point against which the collected data is collated and results generalized (Yin 1993). The formulation of the propositions in this study is derived from the socio-economic and political changes in Palestine, and their reflections on the urban environment and physical development in the Palestinian cities. Moreover, it is based on the reviewed literature, and the author's observations and own experience as a researcher coming from the research context area.

This study proceeds from the statement that “efficient urban development and planning in cities (i.e. land uses, land management, form and structure of urban development) lie at the heart of an independent and effective planning institution”. Obviously, the political conflict and instability in Palestine affect the physical development process in the cities. The main issue of this research is to investigate the alternatives for the future physical development of Palestinian cities, and then to explore how the development process can be reoriented towards sustainability. The main propositions on which this research focuses are:

- The political conflict in Palestine, the absence of sovereignty over land and resources, and the non-existence of an independent and effective planning institution have led to the deterioration of the urban environment and the physical structure of the cities, in addition to the depletion of sensitive and agricultural land.

-
- To control the rapid urbanization, protect the limited and scarce land, and meet the challenge of high population growth rates, there is a need to rethink the attitude and perception towards the environment, and to change the pattern and form of urban developments in the cities.
 - Promoting a sustainable development approach, and steering urban developments towards more sustainable city development, may be a possible alternative to cope with the future challenges facing the Palestinian cities.

As it is clear from the research propositions, the problem of this research is influenced by several variables – political, social, economic, physical and environmental ones – and, according to Yin (1993), if the phenomenon being studied is influenced by several variables, it may be incomprehensible if these variables are left unbounded. Therefore, there is a need to analyze and combine the different issues in this research.

Research strategy and design

In its nature, the composition of this research is descriptive, illustrative and explorative. The exploration of a new concept for future physical developments in the Palestinian cities is supported by the descriptive analysis and illustration of the context of Palestinian cities, the urban development pattern, and the driving forces influencing the development process. From the various possible social-science research strategies, such as survey, histories or archival analysis, a case-study approach was chosen as the most suitable one to conduct this research.

The case-study approach here affords special opportunities and allows the investigation of real-life events within a specific context (the real and actual context of the Palestinian cities); moreover, it investigates a contemporary phenomenon (Yin 1994). The complex nature of the urban development process in terms of what factors are influencing this process, why and how, rules out any attempt to use methods other than case study. Through the case-study approach, the specific context of cause-effect relationships can be applied and detailed investigation of the phenomenon carried out.

In this study, one Palestinian city (Ramallah City) has been chosen as a sample (model) city through which the context, problem, driving forces, potentials and challenges facing the Palestinian cities in general, and Ramallah City in particular, have been illustrated. Looking at one city in depth can help to show the linkages between many problems and solutions. Ramallah City is, of course, a unique mix, but not unlike other Palestinian cities. The core themes, if not the fine detail, will be relevant to most cities in Palestine or elsewhere in the region, or in some developing countries. This approach can to some extent be compared with the fascinating study by Jane Jacobs ‘The death and life of great American cities’ (1961). This book addresses the survival conditions of American cities, but, in her empirical case, it sufficed to address mainly New York City as the archetype of other American cities. Although her analysis centred around New York City, she offered the building bricks for a comprehensive general idea of urban dynamics. Thus, through the analysis of Ramallah City, a general concept applicable to other Palestinian cities has been developed.

The main objective of this research is to investigate the future challenges facing urban development in the Palestinian cities and the different aspects which can steer the physical development towards more sustainable city development. This is a holistic and long-term perspective, and to help achieve this methodologically, there was a need to utilize a supplementary approach, an envisioning and back-casting approach, which assists in describing particular desired futures, and outlining the means by which change can take place towards achieving the challenging targets set. The use of the scenario

techniques was a 'methodology' of future thinking which challenged my own mental interpretation of the future physical development in the city, and then worked back towards policies and strategies.

Therefore, after having developed the future goals and objectives for physical development in the Palestinian cities, scenarios were generated to show the different pathways that would lead to specified goals. This approach again can be compared with the interesting study by Joe Ravetz, 'City region 2020 – Integrated planning for a sustainable environment' (2001). Ravetz has used scenario techniques in the comprehensive case-study project of Great Manchester to develop a detailed sustainable development scenario and policy framework and as a demonstration for other cities and regions in the developed world.

Case-study rationale

Flyvbjerg (2006) has suggested some principles for case-study selection; these principles comprise cases which are information-rich, reasonably accessible, and pragmatic. Generally, all these principles apply to the selected case study (Ramallah City); nevertheless, the accessibility issue was a main reason behind selecting Ramallah City as a case study. The political instability in Palestine and the high restrictions imposed by Israel on the movement and travel of the Palestinian people ruled out any possibility for the researcher to even think about any other cases.

Fortunately, the chosen case clearly demonstrates the different symptoms of rapid urbanization and physical development, and reveals the various issues stated in the research problem statement. The pace of developments in Ramallah City is fast, and the changes in the city are dramatic. This provides the opportunity to forecast and predict the changes that may occur in the other Palestinian cities, which are already taking place but at a slower pace. The distinctiveness of Ramallah City as a case study is described in detail at the beginning of Chapter 7.

Data collection and analysis methods

The case-study approach adopted in this research is not restricted or limited to any specific method of data collection (Yin 1993). Owing to the complex and diverse nature of the research themes, data for this research were collected using both qualitative and quantitative methods. In order to draw upon a comprehensive range of information, and adequately address the research themes and variables, the study makes use of a variety of primary and secondary sources, directly collected in the field (interviews, discussions, and on-site observations) and from other documented sources, such as reports, census data, maps and studies.

Fieldwork study was conducted in two phases. The first field survey covered the collection of preliminary data required for assessing the context of the Palestinian cities and the performance of urban development. The second field survey concentrated on collecting specific data and information about the pattern of urban development in the case-study area (Ramallah City), the physical problems in the city and the future prospects and expectations regarding the city development and expansion. Thus, all these issues correspond to the key research questions propounded earlier.

Primary and secondary data sources

Primary data was collected mainly by two major methods, namely interviews and on-site physical observations, whereas secondary data included information and figures from census documents, planning reports, publications, and visual materials.

Interviews

Semi-structured interviews with a wide range of planning officials, experts and key informants were used. This qualitative approach offered an in-depth and complementary understanding of the study area context. All the interviews and discussions were conducted verbally. Checklists in the form of key and sub issues relevant to the major study themes were prepared and used to guide the discussions. The interviews were flexible enough to discuss important and relevant issues raised by respondents. These interviews were a very important source of data, and were conducted with officials and experts from²⁹:

- Ramallah City Municipality
- Ministry of Planning
- Ministry of Local Government
- Land department
- The Palestinian Economic Council for Development and Reconstruction (PECDAR)
- The Palestinian Housing Council
- Ministry of Environmental Affairs
- Planners, professionals and experts from the private sector and research institutes.

In most interviews, tape recording was used in addition to shorthand notes and catch-words. After each interview, a summary of the main issues raised and concepts uncovered was made. Afterwards, the analysis of the interviews was based on a recursive process of content analysis according to which elementary concepts found in the recordings and transcript of interviews were noted, and then these concepts were grouped together into thematic categories. The contents of each interview were treated as a different commentary of the same subject, which made it possible during the analysis to detect the emerging themes, correspondences and contradictions. The final report does not detail the interviewees' individual comments by means of references or quotations, but it organizes and delivers their perspectives on the complex network of issues by using descriptive qualitative and quantitative methods, such as tables and graphical presentations to illustrate and complement the discussion.

Personal observations

Observation is another technique used in collecting qualitative data. The on-site physical observation was considered as a vital source of information, especially during the first fieldwork survey. In addition to the researcher's former familiarity with the study area, purposeful walking around the city, looking at the different neighbourhoods, buildings, land uses, transport system, open spaces and green areas helped to experience the on-going process of development and the quality of the living environment, and to sense the apparent conflicts and problems in the city. Many observations were documented by photos or by writing short notes and comments.

²⁹ See Appendix I: List of interviewees

Secondary data sources

Documented data sources about the pattern and mode of urban development in the Palestinian cities, the urbanization process or land uses, among other themes, are very scanty in Palestine, owing to the short history of the official Palestinian planning institution and the limited number of experts, professionals and research institutes. Nevertheless, some documents were found and used in this study, mainly census data from the Palestinian Central Bureau of Statistics (PCBS), where many socio-economic statistics were used and interpreted to draw up some information and conclusions. Other documents, such as studies undertaken by the Ministry of Planning and the Ministry Local Government were also used, in addition to reports prepared by the planning department in Ramallah City Municipality. Local and international studies, journals, books and internet sources were also used to support this research.

In the same vein, visual materials such as photos, aerial photographs, and maps were collected. The use of the different visual materials was important in order to analyze the city's development pattern, expansion, land uses, density, form, transport system, open lands and green areas. Very often the data collected was out-dated, based on estimations, contradictory, or lacking in reliability; therefore, triangulation has been applied to assess the amount of convergence among the different sources of information and data collected.

Internal validity

Generally speaking, researches depending on a case-study approach face the challenge of how to ensure that the conclusions made represent causalities and that the explanations derived from different information sources are not attributable to other factors or are accidental (Chambers 1997). Despite the fact that the approach of this research is more an exploratory one and the final outcome is more a conceptual deduction, nevertheless, different sorts of data and methods were used to describe and analyze the context of the study area. Caution was required to ensure the authenticity of data used; therefore, two complementary strategies were employed to minimize threats to internal validity.

The first strategy is that data on the same issue were collected from more than one source and afterwards were corroborated and triangulated to test convergence or divergence. In a few cases, some data sources, especially statistical ones like population and demography or urban density information, showed large divergences, and in these cases extra effort was taken to find or derive more divergent and reliable information. The second strategy was to get feedback from the key informants to assess whether interpretations made by the researcher, or conclusions drawn, accurately reflect the perspectives of the informants. This complementary strategy was essential, especially when discussing issues which are not documented or published, for instance in the attempt to draw out the different factors influencing the urban development process in the Palestinian cities. Finally, the researcher's familiarity with and local knowledge of the study area context and the reliability of different information sources helped to screen and exclude dubious data.

External validity

The aim of establishing external validity is to go beyond the specifics of the particular case at hand and confirm that the processes identified and conclusions drawn can be

generalized beyond that case, which is particularly so in most applied research. However, some critics argue that case-study observations cannot be scientifically generalized because the case-study approach lacks rigorous techniques. Yin (1994) opposes these critics and articulates the view that “case study research is essentially research focusing on the inference of general or transferable findings and is thus also a matter of optimal experimentations”. Moreover, he argues that, unlike survey research, the logic in the case-study approach is theoretical rather than statistical. Thus, in terms of general applicability, one should be cautious that findings from one case might only be transferred into other cases if the context that affects actions in those other cases is replicable.

Despite the fact that the research strategy was based on examining one illustrative case (Ramallah City) – as mentioned above – the research theme targets Palestinian cities in general. The overall approach of this study is an exploratory one, which means that at the end the general outcomes are conceptual strategies applicable to similar cases with a similar context. To a large extent, the Palestinian cities have an analogous context³⁰ and share similar characteristics and challenges, which influence their development processes. Therefore, the analytical approach and the inferences drawn from the case study can be generalized and transferred to the other Palestinian cities or to other cities with comparable contexts in the region or in the developing world. For instance, the general set of criteria for sustainable physical development (see Chapter 6), which were developed from both the theoretical debates and the challenges facing urban development in the Palestinian cities, can be used in other comparable cities. They were demonstrated with reference to Ramallah City in order to exemplify their possible applicability. In the same manner, the other concepts and ideas can be generalized.

³⁰ Each city may still have its specific issues that should be considered, however, at the research’s conceptual level; the comparison is kept on the general context framework

Chapter 6

Challenging sustainable urban development in Palestinian cities

“An opportunity exists for the radical transformation of the urban character of Palestine... we have to initiate a far-reaching debate among Palestinians about what type of urban environment to choose.” (A.B. Zahlan)

How can the concept of sustainable development be defined in the Palestinian context? And what does it mean to have sustainable urban development in the Palestinian cities? The literature does not provide one agreed definition for sustainability and sustainable development; therefore, and to establish a common ground, we take sustainable development here to be a process that enhances well-being by means of improvements in economic and social conditions allied to protection and enhancement of environmental quality, while minimizing environmental impacts elsewhere.

According to Beatley (1995), context is critical when attempting to define what “sustainability” or “sustainable development” mean in a planning environment. Furthermore, sustainability may be easier to define in certain contexts than in others, and the indigenous stakeholders may be able to develop the most appropriate definition.

The Palestinian context is considered a unique one because of the distinct political, geographical, economic, and demographic conditions affecting it. However, it still has many common features that exist in other contexts. The aim of this chapter is to look for a definition that comes from and fits the Palestinian context. Methodologically, the derivation of such a definition is based on two main supporting elements: the first is the theoretical debate about the concept of sustainable development, which has been presented in Chapter 3 and Chapter 4. Whereas the second is comprehensive knowledge of the state of the Palestinian context, which has been described in Chapter 2 and is further elaborated in this chapter. The combination of these two elements forms the backbone for challenging and introducing the sustainable development concept in the Palestinian cities, (see Figure 6-1).

In order to be able to develop the intended definition, it is important to analyse the driving forces affecting the urban environment in the Palestinian cities. According to Leitmann (1999), a number of factors shape the urban environment in cities and influence its existing and future situation. Therefore, *the first step* was to determine the driving forces affecting the Palestinian urban environment, their current impacts and future consequences. The designation of the driving forces is based on a combination between the general driving forces often discussed in planning literature, for instance in Hall and Pfeiffer (2000), and Leitmann (1999), as presented in Chapter 3, and the analysis of the Palestinian context through reviewing the available studies, statistics, and interviews with Palestinian stakeholders and professionals. *The second step* was to elaborate a definition which is derived from the theoretical debate of defining sustainable development in cities and corresponds to the challenges of the designated driving forces and needs of the Palestinian community. Thereupon, the approach of Satterthwaite and Mitlin (1994) in applying the commonly used Brundtland Report’s definition of sustainable development in cities was followed and applied to the Palestinian cities. It is important to clarify here that the application of the definition was developed on two levels; a general one overviewed the different aspects of the sustainable development concept and its general application in cities; in addition, a more exhaustive level investigated the

prospects of physical sustainability in the Palestinian cities as the focus of this work. In turn, after the development of a general conception about what sustainable development can mean in the Palestinian cities, *the third step* was to see what are the constraints hindering the promotion and achievement of sustainability in Palestine. After having established a comprehensive notion of sustainability in the Palestinian context, *the last step* was to search for certain measures which can help to evaluate the performance of the physical development in the cities, whether they reveal any progress towards a more sustainable city development or not. In this sequence, and based on the set of commonly agreed sustainability criteria for cities and city regions (see Table 4-3) developed by Frey (1999), four basic criteria to assess the physical changes in the form and structure of the Palestinian cities were determined, as is shown in the following figure (Figure 6-1).

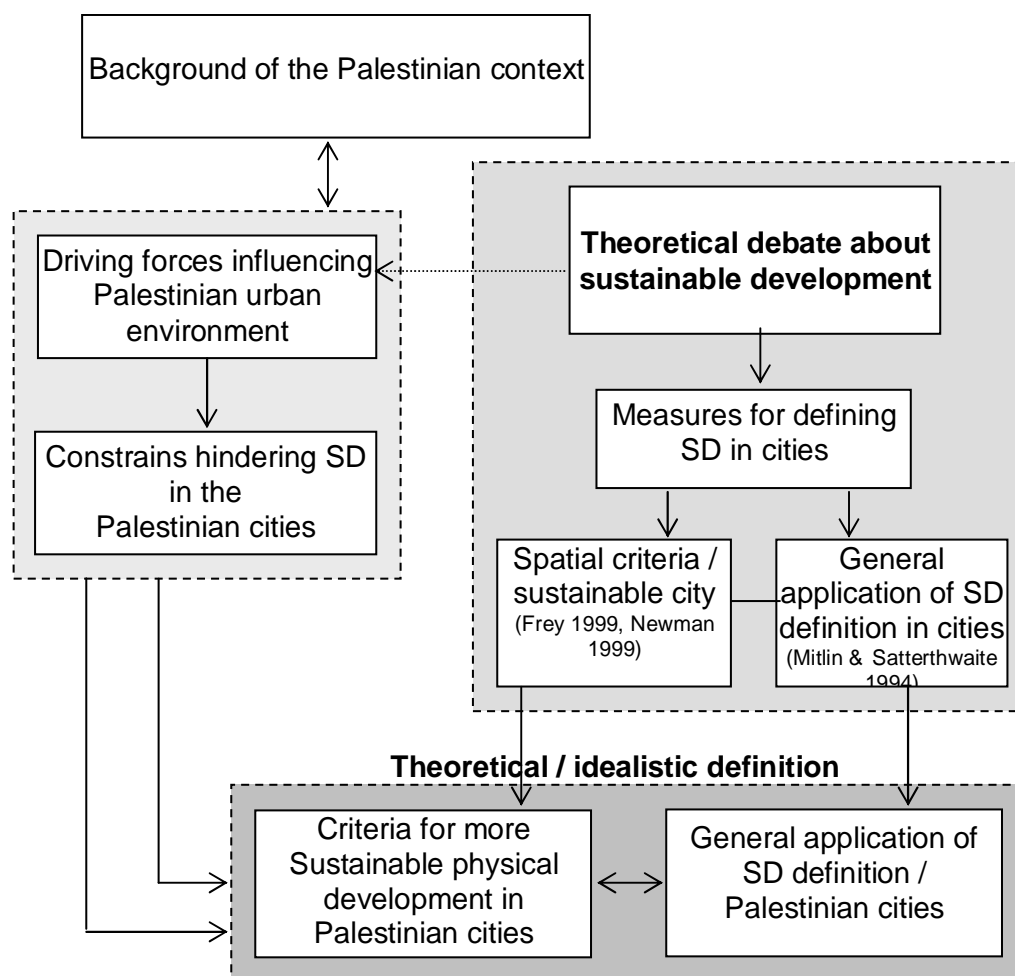


Figure 6-1: Defining sustainable development in the Palestinian cities

Driving forces influencing the Palestinian urban environment

In cities, the economic, demographic, social, political and natural factors are common factors that affect the urban environment and shape the current and future patterns of developments. However, each city may still have its particular and unique conditions, i.e. its specific driving forces. The Palestinian cities are affected by a number of driving forces which affect and determine their urban environment. Nevertheless, they exhibit a very distinctive and particular condition that does not exist in other cities. The following

section will describe and analyze the common and specific driving forces affecting the urban environment in the Palestinian cities. Likewise, it will discuss their present impacts and future consequences. Based on the facts described in Chapter 2, the statistics and the interviews with the stakeholders and key informants, in addition to the general driving forces framework³¹ the following key driving forces have been found to affect the urban environment in the Palestinian cities.

Demographic growth

Demographic growth is one of the main driving forces affecting the urban environment in the Palestinian cities. The Palestinian population is a rapidly growing population. The rapid demographic growth in Palestine is straining the Palestinian government's ability to provide basic services, employment and housing over time. The fertility rates in the West Bank and Gaza Strip – 5.6 and 6.9 children per woman respectively – are among the highest in the world. In 2005, around 3.6 million people lived in the West Bank and Gaza Strip – which is only 40% of the total Palestinian population worldwide.

Accordingly, the demographic projections estimate that by 2015 the Palestinian population in the Palestinian Territories will be over 5 million. Moreover, assuming that a final peace agreement is achieved in the country, then, according to the Palestinian Central Bureau of Statistics, there is a possibility that some hundred thousands of refugees will return to Palestine. The returned refugees would severely increase the need for housing, education and employment. The total population of the West Bank and Gaza Strip by 2025 will reach around 8.1 million people (RAND 2005, PCBS 2002).

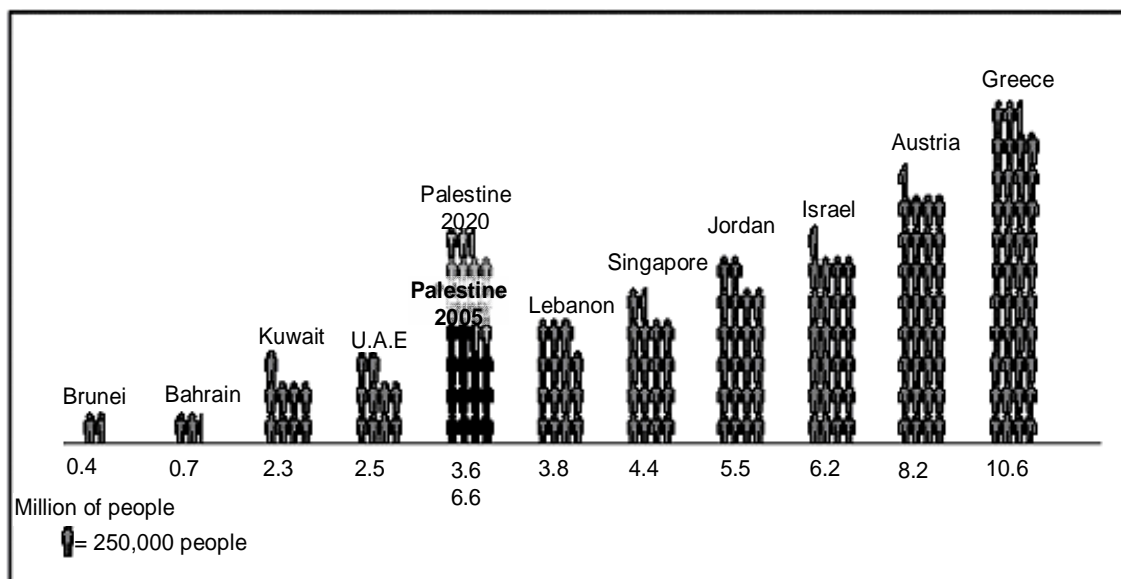


Figure 6-2: National population compared (Suisman 2005)

The prospects for future population growth hinge on the future course of fertility and migration. Currently, there are some signs that the fertility rates in the West Bank and Gaza Strip are declining; however, the rate of that decline is uncertain. According to the various demographic studies and projections, it is apparent that in the short run, regardless of any decline in fertility rates, the number of births will continue to increase. Nonetheless, in the long term, fertility rates will begin to decline. The degree of decline will depend mainly on the increase in education and awareness levels of Palestinian

³¹ See: Chapter 3, Driving forces influencing the urban environment

women, as well as their involvement in the labour force (Suisman 2005, RAND 2005, and PCBS 2004).

Economic fragility

The economic forces are one of the major drivers affecting the Palestinian urban environment. The Palestinian economy is a fragile economy, largely dependent on Israel, and very vulnerable to Israeli policies and decisions. Many challenges are facing the Palestinian economy; these challenges derive from demographic trends, past economic activities, and the lasting effects of the Second Intifada, whereas others result from the terms of the economic agreement between the Palestinian Authority and Israel, the geographic shape of the Palestinian State, and the future economic and political arrangements.

Since the start of the Second Intifada, the Palestinian economy has been severely damaged. In 2003, GNI per capita was \$1291.6, only 70% of its 1999 level (General Consultant & Training Group 2005). The poverty rate rose to 60%, up from 20% in 1999. Moreover, because of a 9% population increase in the West Bank and Gaza, real per-capita income in 2002 was only half of its September 2000 level (RAND 2005). The remarkable drop in income is mainly a result of, firstly, the drastically reduced employment of Palestinians in Israel, secondly, the constraints on movement for people and goods within the West Bank and Gaza, and, thirdly, the destruction of the Palestinian infrastructure. In addition, the Israeli closures of the Palestinian Territories also affected Palestinian trade. For instance, Palestinian exports between 2000 and 2002 declined in value by 45%, whilst imports contracted by a third. At the end of 2002 the unemployment rate was between 42 and 53 percent of the workforce (PCBS 2004). On the other hand, the emergency donor aid to the Palestinian Authority has provided some relief through the provision and maintenance of some social services, but it has not helped to stabilize and assist the Palestinian economy.

It is important to note that the high rates of population growth have generated an abundance of young people approaching working age. In the coming decade, the number of people reaching working age is expected to be seven times the number of people reaching retirement age (RAND 2005). These new competitors on the labour market will be searching for employment in an economy that has been overwhelmed by the Intifada.

Consequently, the Palestinian economy is facing significant challenges in dealing with the insecurity and instability of the political situation, the increasing pressure of the growing labour force – much of which is currently unemployed, the underdeveloped economic sectors, the immature economic relations with neighbouring countries, the poor and insufficient infrastructure, the limited private-sector access to capital, in addition to the undeveloped institutions of government.

Social transformation

Social aspects are important drivers which influence the urban environment. The social characteristics and structure of the Palestinian people have undergone dramatic transformations due to the recurring forced emigrations caused by the Israeli occupation, and afterwards the return of some of the banished Palestinians from exile after the signing of the Oslo Accords. These transformations, in addition to the natural dynamics of the society, have created an increasingly inharmonious social mixture between people from West Bank and those from Gaza Strip, between long-term residents and returnees, and between different local identities. In addition, the gap between the different social classes (based on economic status) has increased, or between the ruling class and the citizens.

From a different perspective, an important aspect that drives Palestinian society is being highly politicized and nationalistically motivated, which is clearly reflected in its social behaviour. The interminable political conflict has left its marks on society. However, since the establishment of the Palestinian Authority, a new challenge is facing the Palestinian society revealed in the transformation from a traditional tribal society living under occupation into a democratized, institutionalized civil society. Moreover, inserting other concerns, attitudes and priorities – such as environmental protection, resources management, and participation – creates new challenges and learning processes for the Palestinian society.

Environmental degradation

Since Palestine is a small country with limited natural resources and high population growth rates, the stress on Palestine's resources is exacerbated. The pressing demands on natural resources, in addition to the lack of environmental public awareness, have increased the tendency towards over-exploitation and depletion of natural resources. Likewise, the scarcity of urban land has led the people to build and expand on sensitive and agricultural land, thus changing the land use and the character of flora and fauna.

The physical infrastructure in the Palestinian cities is grossly inadequate, particularly for electricity, sewerage and water. Palestinian water consumption on average is around 55 litres of water per day, slightly more than half the WHO standard for minimum consumption of 100 l/d (PCBS 2003). Accordingly, the unavailability of water for drinking and domestic use affects the general health of the population, the agricultural sector, and consequently the economic condition of a large segment of the society. The inappropriateness of the physical infrastructure and the depletion of natural resources are also related to the long absence of a Palestinian environmental law and an active authority that frames environmental laws and controls the implementation.

Institutional deficiencies

As has been reported in Chapter 2, the West Bank and Gaza Strip were for many decades under the control of different ruling authorities. Until the establishment of the Palestinian Authority in 1994, an independent Palestinian institution and planning system did not exist. Accordingly, all plans and schemes were undertaken by the occupying authorities to serve their own interests, and not for the development of the Palestinian community and territories. The newly established Palestinian institution and planning system, like any new systems, are still tenuous and lacking in experience and qualifications. Moreover, they have limited financial resources, they are based on inherited laws and regulations, and they have limited authority due to the political conflict.

Yet many critical issues can be identified in the performance of the Palestinian planning system. The first is the lack of coordination and cooperation between the different ministries, departments and institutions, which causes an overlapping in efforts, as well as interference with each other's tasks and responsibilities. The second is the absence of an active executive system that follows up the implementation of plans and the enforcement of laws. The third is the absence of a national strategy and guidance plan, and, consequently, clear compatible strategies which provide orientation and guidance for the different planning actions and authorities at the different levels (national, regional and local levels). And the last critical issue is the distribution and division of roles and responsibilities. For instance, the role of the local authorities, such as the municipalities and local councils, is limited on the provision and management of services. Hence, all these issues are currently restraining the efforts being undertaken by the Pal-

estonian planning institution, and correspondingly, are reflected physically in the urban environment.

Political conflict

The political instability caused by the Israeli occupation of Palestinian land was and still is the main driving force that fuels the other factors mentioned above. In addition to the oppression and restrictions on the Palestinian economy, borders and people, the Israeli policy in the Palestinian Occupied Territories has many physical consequences that affect the Palestinian urban environment, and in many cases change its original character. Israel has followed a policy of land confiscation from the Palestinian Territories, and then used the confiscated land to build colonies, military areas and bypasses. This policy has cut up the Palestinian areas and disturbed their continuity, creating small cantons separated by Israeli colonies and military areas, which makes any national or regional planning under these conditions impossible. This policy also has other consequences: it has limited and restricted the physical expansion of the Palestinian cities, towns and villages. However, Israeli control is not limited to the Palestinian land but also extends to the natural resources, especially water, leaving the Palestinians suffering from restricted access to water resources. It is important to mention that there are negative environmental impacts attributable the occupation, such as the disposal of the colonies' solid wastes and sewerage on Palestinian land, which leak into the underground water, polluting it and contaminating the soil.

Correspondingly, the Palestinian infrastructure has also been affected by the Israeli occupation. During the Israeli invasions into the Palestinian areas, they have severely destroyed the basic infrastructure in the cities and towns by damaging the water pipelines, cutting the electricity and telecommunications networks, as well as removing the roads and uprooting the trees.

Rapid physical developments

The most direct way of describing the physical challenge in Palestine is to measure the number of people relative to the available amount of land. With more than 3.6 million people in just 6,210 square kilometres, Palestine today has more than 621 people per square kilometre. Consequently, the challenge is to provide adequate housing, transportation and other infrastructure to support this population.

The high population growth rates and the rapid physical development, in addition to the absence of efficient planning institutions, have all contributed to the drastic deterioration of the urban environment. As a result, random and uncontrolled developments have expanded in the cities and around the fringes of towns, encroaching on to agricultural land, and increasing the pressure on the already deteriorated infrastructure. The construction boom which pervaded the Palestinian Territories in the middle of the last decade has dramatically affected the real estate and land market raising prices to an unrealistic level, especially in the main cities. Furthermore, a new architectural style characterised by the high-rise multi-storey buildings has emerged mainly in urban areas to cover the increasing demand for residential apartments and offices, especially after the homecoming of Palestinian returnees. The urban centres have become more crowded, the number of cars has risen and almost doubled³², and consequently the pressure on roads network and junctions has also increased, generating unfriendly and polluted city centres.

³² There is no accurate data about the number of cars in the West Bank and Gaza because they are not all officially registered

The following (Table 6-1) summarizes the different driving forces, their impacts and the corresponding consequences:

Table 6-1 Driving forces affecting Palestinian urban environment

Driving forces	Impacts	Consequences
Demographic growth	<ul style="list-style-type: none"> - High fertility and birth rates - Rapid population growth rates - Internal migration - Young population - Possible return of thousands of refugees from Diaspora 	<ul style="list-style-type: none"> - Increased pressure on land, infrastructure and resources - Concentrations in specific cities (e.g. Ramallah City), unbalanced development - Need for job opportunities, education and housing - Urgent need for absorption of returned refugees
Economic fragility	<ul style="list-style-type: none"> - Economy dependent on Israel - PNA dependency on foreign aid and donations - Controlled market (through Israeli – Palestinian economic agreement) - Limited private-sector investments 	<ul style="list-style-type: none"> - Insecure labour market in Israel - Tentative and limited economic growth and prosperity - Foreign aid helps but no productivity - No free export and import - Little industrial and technological development
Social transformation	<ul style="list-style-type: none"> - Changeable and alterable society - Nascent (new) social mixtures (e.g. returnees, locals, migrants, etc.) - Politicized society - Social classes 	<ul style="list-style-type: none"> - Transformation from traditional community structure (tribal one) into modernized institutionalized one (parties, civil society, trade unions) - Inharmonious social mixture - Politics dominates social interests, neglect of other social issues - Segregation and unbalanced social classes (new benefited class)
Environmental degradation	<ul style="list-style-type: none"> - Limited natural resources - Water conflict - Scarcity of land (controlled by the PNA) - Weak environmental laws - Lack of environmental awareness 	<ul style="list-style-type: none"> - Depletion and inefficient use of natural resources - Scarcity of water for drinking, domestic use, and irrigation purposes - Expansions on to sensitive land - Changing the natural flora and fauna - Changing the land-use patterns - Pollution (from cars and toxic industries)
Institutional deficiencies	<ul style="list-style-type: none"> - Weak planning institutions - Lack of coordination and cooperation - Inherited laws and planning system - Lack of experience and qualifications - Absence of executive system - Ineffectual local authorities (mainly municipalities and local councils) 	<ul style="list-style-type: none"> - No clear division of tasks and responsibilities between different levels and actors - Overlapping and interference between different institutions and departments - Outdated laws and regulations, which are often incompatible with current

Driving forces	Impacts	Consequences
	<ul style="list-style-type: none"> - Limited financial resources 	<ul style="list-style-type: none"> needs - Absence of clear strategies - Absence of comprehensive and integrated planning - No clear national plan or guidance to be followed by different planning levels (general umbrella for development) - Weak implementation and law enforcement - Role of municipalities limited to services management and provision - Limited budgets hinder planning and implementation of plans and projects
Political conflict	<ul style="list-style-type: none"> - Israeli occupation of Palestinian land - Control over land and borders - Control of natural resources - Restriction on Palestinian people and movement of goods - Palestinian economy controlled by Israel - Oppression 	<ul style="list-style-type: none"> - Conflict and struggle over land and sovereignty - Confiscation of Palestinian land - Disempowered Palestinian Authority - Division of Palestinian Territories into unconnected cantons - No free access to natural resources (e.g. water) - Hindrance of free movement for Palestinian people and goods - Hindrance of economic development - Severe political constraints on Palestinian development and expansions - Destruction of existing Palestinian infrastructure - Control and hindrance of Palestinian industrial and technological developments - Spread of refugee camps - Highly politicised Palestinian society - No freedom
Rapid physical development	<ul style="list-style-type: none"> - Incompetent development plans - Weak enforcement of laws, regulations and plans (if existing) - Rapid physical development - Risk of vertical expansion 	<ul style="list-style-type: none"> - Random and uncontrolled developments - Expansions on agricultural and sensitive land - New architectural style (multi-storey buildings) - Unrealistic increase in land prices - Increased pressure on infrastructure - Increased pressure on roads network and transportation - Retarded urbanization

The previous analysis has shown the different driving forces that influence and shape the urban environment in the Palestinian cities, whether by affecting its physical environment directly, or by inciting the socio-economic and political conditions. Understanding these driving forces and their consequences forms a good foundation for the unique context of this research. Correspondingly, this analysis can help to extract a general idea about the needs of the individuals, the community and the cities they are living in. In the following section, combined with the previous analysis, and building on the literature review of the sustainable development debate and its application in cities and urban contexts, a conceptual definition for sustainable development in the Palestinian cities is elaborated.

Elaborating a sustainable development definition for Palestinian cities

Nowadays there is an increasing global recognition by environmentalists, governments and industries of the need to promote and apply the principles of sustainable development to the cities. These principles and their application in cities have been outlined in Chapter 4. Relying on the different international attempts to develop sustainable cities programs – like those done by the Organization for Economic and Cultural Development (OECD), the European Community, the UN Habitat programmes and the World Bank – a conceptual elaboration of what sustainable development means in the Palestinian cities context has been developed. The followed methodology is based on the theoretical approach used by Mitlin and Satterthwaite (1994)³³ in breaking down and applying the Brundtland Commission's commonly used definition of sustainable development in cities. Mitlin and Satterthwaite (1994) have followed the two main ideas in the Brundtland Commission's definition – meeting the needs of the present, and inter-generational equity in meeting these needs. Subsequently, they have added flesh to the bones by listing and classifying what the basic needs of the present generation can be, and what can be done to guarantee that future generations will have an equal chance to fulfil their own needs. Following the same approach, a conceptual elaboration to define sustainable development in the Palestinian cities has been produced. Nevertheless, the theoretical approach was supported by a factual empirical analysis reflecting the context of the Palestinian cities and the Palestinian people.

What are the needs of the Palestinian people?

Internationally, there is a common agreement and understanding that shelter, clothing, nutrition, basic education, safety and health care are basic human needs that should be fulfilled and satisfied. However, the type and level of needs in each country and community may vary and range from very fundamental ones, like those mentioned above, to more complementary and luxurious ones. In order to be able to proceed in defining sustainable development in the Palestinian context, the basic needs should be identified; however, an accurate determination of these needs will require more in-depth psychological and socio-economic studies, which are beyond the limitations of this research. To overcome this obstacle and since the discussion here is on an abstract level, general information about what are the basic needs of the Palestinian people are attained through, firstly, using recent statistics produced by the PCBS on the perception of the Palestinian population towards the socio-economic conditions and the basic needs of households and the community; secondly, by extracting indications from the general

³³ See Table 4-1 - The multiple goals of sustainable development as applied to cities

background presented in Chapter 2, and from the analysis of the driving forces – presented above – and their impacts and consequences on the Palestinian urban environment. Accordingly, this information is also supported by the comments of the Palestinian stakeholders and experts who were interviewed throughout this research.

The different information sources indicate that economic needs, like job opportunities and secure incomes, are on the top of the priorities ladder for the Palestinian people; then come the need for an adequate infrastructure, such as water supply, sewage disposal, roads and transportations networks, health care and schools (PCBS 2005). The following (Table 6-2) shows the rank of the most important needs for Palestinian households:

Table 6-2 Palestinian households' most important needs distributed by region

The most important needs	Gaza Strip %	West Bank %	Palestinian Territories %
Create jobs	75.7	47.2	58.0
Health services	3.1	8.7	6.6
Food assistances	3.9	5.6	4.9
Education services	1.4	5.2	3.7
Infrastructure project	13.9	18.0	16.5
No need	1.8	12.3	8.3
Don't know	0.2	0.3	2.0
Total	100.0	100.0	100.0

Source: PCBS 2005

Nevertheless, it is important to bear in mind that the basic needs of the Palestinian people are not only materialistic and physical ones, but there are also other social, cultural and political needs. For instance, sovereignty, freedom, accessibility, expression and participation which are essential for the well-being and development of the community. It is argued that a society with a welfare deficit is likely to be characterized by unrest, and therefore will not be sustainable.

Putting it together

After having developed a general idea about the Palestinian context and the basic needs of the Palestinian population, it is now possible to proceed with Mitlin and Satterthwaite's (1994) approach and apply the sustainable development definition to the Palestinian cities. As is made clear in the following (Table 6-3), Mitlin and Satterthwaite have classified 'the needs of the present' into main 'key' needs, the economic, social, cultural and health needs, as well as political needs. From this they have sub-derived more concrete and specific sub-needs. The same key classification, as a general framework, has been followed in the Palestinian context; however, the specific sub-needs are drawn from the discussion above and based on the analysis of the Palestinian context. The sustainable development definition and its general application to cities, as introduced by Mitlin and Satterthwaite, and the parallel definition applicable to the Palestinian cities, are illustrated in the following (Table 6-3):

Table 6-3 Application of sustainable development definition to the Palestinian cities based on Brundtland Report and following Mitlin and Satterthwaite

Application of definition to cities, as introduced by Satterthwaite and Mitlin (1994) ³⁴	Application of definition to the Palestinian cities
Meeting the needs of the present...	
<p>Economic needs</p> <ul style="list-style-type: none"> - Access to an adequate livelihood or productive assets - Economic security when unemployed, ill, disabled or unable to secure a livelihood 	<p>Economic needs</p> <p>(At household level):</p> <ul style="list-style-type: none"> - Secure employment that guarantees adequate living and sustenance <p>(At national level):</p> <ul style="list-style-type: none"> - Independent economy - Secure labour market - Balanced (inter-regional, environmental) economic development and growth - Productive economic activities - Free market (import & export)
<p>Social, cultural & health needs</p> <ul style="list-style-type: none"> - Shelter which is healthy, safe, affordable and secure - Provision for piped water, sanitation, drainage, transport, health care, education and child care - Living environment protected from environmental hazards and pollution - Meeting the needs related to people's choice and control, including neighbourhoods which they value and social and cultural priorities which are met - Shelter and services must meet the needs of children and adults - More equitable distribution of income between nations and within nations 	<p>Social, cultural & health needs</p> <ul style="list-style-type: none"> - Affordable housing which is healthy, safe and secure - Development and updating of existing infrastructure (water, sanitation, drainage, transport, education, health care, etc.) - Living environment protected from environmental hazards and pollution - Access to clean water - Protection of people's culture and identity - Provision of housing, services and open spaces must meet the social, cultural, religious and recreational needs of the community - Stable employment and more equitable distribution of income within population
<p>Political needs</p> <ul style="list-style-type: none"> - Freedom to participate in national and local politics - Participation in decisions regarding management and development of one's home and neighbourhood within a broader framework - Respect for civil and political rights and implementation of environmental legislation 	<p>Political needs</p> <ul style="list-style-type: none"> - Independence and freedom from occupation - Freedom to participate in national and local politics - Participation in decisions regarding management and development of one's home and neighbourhood within a broader framework - Respect for civil and political rights - Implementation and enforcement of laws and legislation (including environmental) - Good governance, and effective, powerful and transparent institutions - Sovereignty over land, resources, borders and national economy

³⁴ See: Table 4-1: The multiple goals of sustainable development applied to cities

...without compromising the ability of future generation to meet their own needs

<p>Minimizing use or waste of non-renewable resources:</p> <ul style="list-style-type: none"> - Minimizing consumption of fossil fuels in housing, commerce, industry and transport <p>Substitute renewable resources where feasible</p> <ul style="list-style-type: none"> - Minimize waste of scarce mineral resources - Protect the cultural, historical and natural assets within cities, which are irreplaceable and thus non-renewable, such as historical districts and natural landscapes 	<p>Minimizing use or waste of non-renewable resources:</p> <ul style="list-style-type: none"> - Minimize the use of land and encourage more compact land-uses - Minimize consumption of fossil fuels in housing, commerce, industry and transport - Minimize the misuse and depletion of agricultural and sensitive land - Substitute renewable resources where feasible - Minimize waste of scarce mineral resources - Reduce the destruction of cultural heritage sites, old cities cores and cultural and natural landscapes (e.g. olive terraces) - Minimize depletion and polluting water resources - Control the destruction and cutting of trees and forests - Protect the biodiversity and indigenous flora and fauna
<p>Sustainable use of finite renewable resources:</p> <ul style="list-style-type: none"> - Use the fresh water resources sustainably (by promoting recycling and re-use) - Keep to a sustainable ecological footprint in terms of land area on which city-based producers and consumers draw for agricultural and forest products and biomass fuels 	<p>Sustainable use of finite renewable resources:</p> <ul style="list-style-type: none"> - Use the fresh water resources sustainably (by promoting recycling and re-use); and protection of ground water aquifers and springs, the main sources of consumed water - Minimize overgrazing - Encourage sustainable tourism in natural areas - Encourage more water-efficient micro-irrigation technologies - Keep to a sustainable ecological footprint in terms of land area on which city-based producers and consumers draw for agricultural and forest products and biomass fuels
<p>Biodegradable wastes not overtaxing capacities of renewable sinks:</p> <ul style="list-style-type: none"> - Example, capacity of a river to break down biodegradable wastes without ecological degradation 	<p>Biodegradable wastes not overtaxing capacities of renewable sinks:</p> <ul style="list-style-type: none"> - Control the disposal and leakage of biodegradable wastes into groundwater, rivers, ravines and valleys
<p>Non-biodegradable wastes/emissions not overtaxing (finite) capacity of local and global sinks to absorb and dilute them without adverse effects:</p> <ul style="list-style-type: none"> - Such as, persistent pesticides, greenhouse gases and stratospheric ozone-depleting chemicals 	<p>Non-biodegradable wastes/emissions not overtaxing (finite) capacity of local and global sinks to absorb and dilute them without adverse effects:</p> <ul style="list-style-type: none"> - Control and minimize the use of agro-chemicals (fertilizers and pesticides) - Control disposal of solid wastes and provide proper municipal landfills - Control the waste-water treatment plants and the sludge in landfills to limit leaching to groundwater and soil - Upgrade and develop the existing sewer system and treatment plants - Restrict and control the polluting industries

The previous application of the definition of sustainable development to the Palestinian cities covers the wide, inter-related dimensions of the concept. Moreover, it sets up a general framework for *an optimal situation* that secures inter- and intra-generational equity, as well as economic prosperity and development, without depleting the natural resources and jeopardizing the living environment in the country. However, there are still many constraints that hindering the promotion of sustainable development in the Palestinian cities. The following section discusses the main constraints and their origins.

Constraints hindering sustainable development in the Palestinian Territories

Lack of regulations, laws, public awareness, information and professional capacity, as well as institutional gaps, are common factors negatively affecting the local environment, especially in developing countries (ARIJ 2001). Most of these problems can also be found in Palestine; however, the Palestinian case differs from other cases because the Palestinians are under occupation, and thus do not have full sovereignty over their land, resources and economy, as clarified in Chapter 2.

In order to define sustainable development in the Palestinian context, it is essential to search for the main constraints affecting Palestinian urban environment and hindering its sustainability. From the analysis of the driving forces affecting the Palestinian urban environment (see Table 6-1), some major constraints are extracted. Obviously, these constraints are multi-dimensional and interconnected; therefore, maintaining the link between them is essential for a comprehensive and thorough overview. The following paragraphs highlight and analyse these constraints.

Absence of control over land

Absence of control over land is a main constraint affecting the state of Palestinian urban development and environment. The result of long years of Israeli occupation is the absence of an adequate urban planning system, as well as the absence of adequate environmental infrastructure in the Palestinian areas, including waste-water collection and treatment plants, and sanitary landfills – and, consequently, a polluted environment.

Likewise, the geographical division of the Palestinian Territories into areas A, B, and C³⁵ in the West Bank, East Jerusalem and Gaza Strip, with different control authorities and regulations, makes any plans proposed by the Palestinian Authority difficult and even impossible to implement. Despite the on-going peace talks between Israel and the Palestinian Authority, Israel continues to confiscate Palestinian land in order to expand and build new settlements, industrial zones, the segregation wall, military areas, as well as bypass roads to connect the settlements with Israel. These actions impact negatively on the Palestinian physical environment.

On the other hand, economic development as a basis for human well-being is one of the main sustainability pillars. However, the Israeli occupation is playing a major role in hindering the development and growth of the Palestinian economy, and subsequently the well-being of people. The political instability has discouraged investors from investing in the Palestinian Territories, and thus reduced tourism, one of the important economic sectors in Palestine. Sovereignty over land, borders, resources and economy are rudiments for sustainable development in Palestine.

³⁵ The division of the Palestinian land according to the Oslo Accord, refer to Chapter 2, Urbanization trends

Institutional shortcomings

Lack of inter-sectoral coordination is one of the main problems facing the Palestinian planning system and institution. Up to now there is still a lack of clear or written mandates and a distribution of responsibilities among stakeholders in the planning sector, which so often results in effort duplication, the waste of resources and confusion. The institutional deficiency hinders the development of comprehensive strategies, policies and national plans for future sustainable development, and even if these plans have been developed, implementation and enforcement are still major problems. The legislative and executive authorities do not have sufficient power and the financial resources for enforcement and implementation. Promoting and operating sustainability requires high levels of cooperation and commitment among the different stakeholders. However, these issues cannot be seen in isolation from the political instability, weak economy, vagueness and uncertainties about the future.

Out-dated and inappropriate planning laws and regulations

Promoting more sustainable development is an objective on the agenda of many countries worldwide, whereby achieving this objective requires the comprehensive updating of existing laws, regulations and policies to support this aim. However, in Palestine the inherited, old-fashioned set of laws and regulations is not on an appropriate level to address and cope with the principles of sustainable development, on the one hand, and equally do not correspond to the actual needs and challenges of the Palestinian people. Only few years ago, the Palestinian Legislative Council approved the updating of some new laws, such as the Palestinian environmental law. The legal framework is indispensable since it can support and facilitate the planning process, or, when inconvenient, it can also hinder and impede potential plans.

Incompetent professional capacity

Palestinian people are highly educated in comparison with neighbouring countries in the region or even worldwide; however, many of them lack practical experience. The availability of Palestinian personnel with specialized expertise in planning and environmental management is limited within those working in the Palestinian Authority. The gap between academic and the practical experience is attributable to the special political conditions in the Palestinian Territories. The long years of occupation and the absence of an independent Palestinian planning institution hindered any possible opportunities to acquire practical professional experience and capacities. Nevertheless, in the last ten years, and since the establishment of the Palestinian ministries of planning, local government and environment, some experience has been acquired through “learning by doing”, or by having some external professional support and training, such as the Norwegian professional assistant to the planners in the Ministry of Planning.

Lack of public education and awareness

The level of environmental awareness in the West Bank and Gaza Strip is quite low. Popular perception to the environment is not at a level to make people aware of the consequences of environmental degradation and the depletion of resources. Programmes for awareness have been limited to just a few initiatives of Palestinian individuals and institutions. For example, the Water Resources Action Program (WRAP), which has conducted some community awareness programs on the preservation of water resources and the environment (ARIJ 2001).

In terms of environmental education at school levels, recently the Palestinian Authority has started introducing a Palestinian curriculum that includes environmental and health education. However, promoting environmental education and public awareness is a process which should be coordinated among the different stakeholders, governmental institutions, civil society, and NGOs.

Social behaviour towards the environment, as well as the legal system and planning institutions are major determinants which are instrumental in achieving more sustainable development. The deficiency and indolence of any of these determinants can hinder the efforts to promote more sustainable development, and consequently, contribute to the unsustainable present.

Yet, overcoming these constraints is not impossible; however, it needs time and calls for collective efforts from the governmental institutions, as well as from the community. From the discussion above, we notice that some of these constraints will inevitably be dissipated by the settlement of the political conditions in the country, i.e., when the Palestinians have full sovereignty over land, borders and natural resources. Nevertheless, addressing the other constraints calls for planning and organized educational processes on the different levels in order to increase the institutional capacity, on the one hand, and public awareness on the other. However, without a clear and efficient national strategy, overcoming these constraints will be quite difficult.

Land scarcity and the challenges for sustainable (urban/physical) development

In the first part of this chapter, a general idea has been developed about what sustainable development means in the Palestinian context. In the following part, a more detailed investigation is presented of the physical applications of the sustainable development notion in cities, or, as it is frequently referred to in literature, the concepts of sustainable urban development and the sustainable city.

As has mentioned earlier, Palestine covers a very small area of land and is densely populated. Land is considered crucial to Palestinian development (Khamaisi 1999), especially under the current demographic pressures where only 6,210 square kilometres accommodate around 3.7 million people. According to “*The Arch*” study, produced by Suisman et. al. (2005), Palestine is one of the most densely populated places in the Arab world at 595.8 people/square kilometre. Gaza Strip, if taken separately, has a population density of 3,745 people/square kilometre, making it one of the densest areas in the world, compared to the Netherlands, Europe’s most densely populated country, which has 488.5 people/square kilometre, and Bangladesh, the world’s most densely populated country, which has a density of 895.5 people/square kilometre. Within the next 15 years, it is expected that Palestine’s population will increase to more than six million people, and consequently the population density will rise to 966 people/square kilometre, surpassing even Bangladesh, (see Figure 6-3).

Land is scarce, and it will become scarcer as the population increases; the pattern of urban development which the Palestinians will follow is thus critical. Will they adopt the Californian style (Zahlan 1997), which has been blindly adopted in many Arab cities, encourages distances between neighbourhoods, and makes the car essential to daily life? Or will they choose a more sustainable way for their future urban developments? However, answering this question depends very much on the approach and policies the Palestinian planning authorities will follow. The concern of this research is to investigate the second part of the question – to find out how a more sustainable form of physical development can be achieved in the Palestinian cities under the tight constraints of land scarcity and high population growth rates.

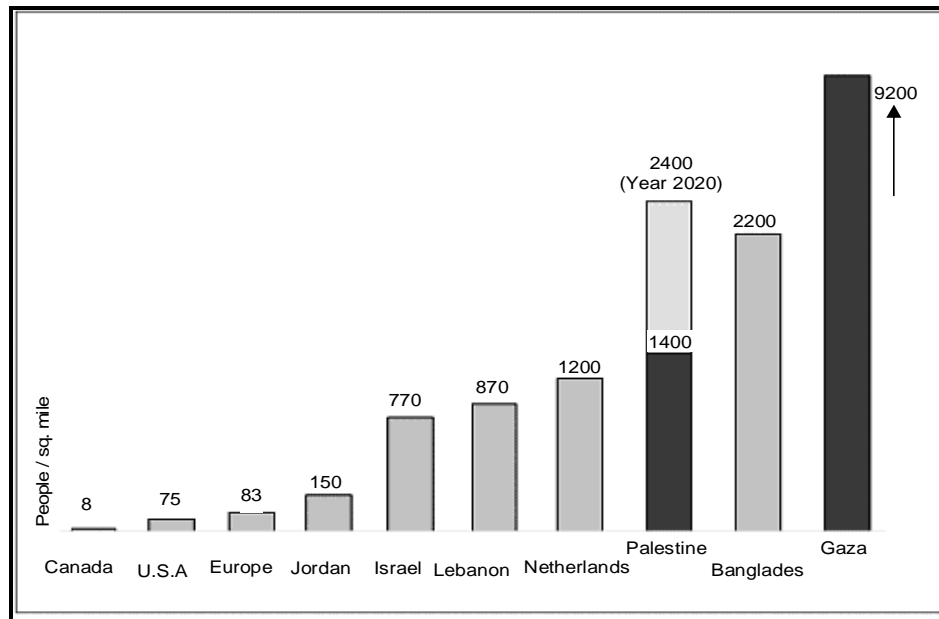


Figure 6-3: Population densities compared (Suisman 2005)

Suisman et. al. (2005) argue that examples from around the world show that high population density is often connected with overcrowding, diseases, poverty, congestion, environmental deterioration, and economic anaemia, as in the case of Bangladesh, which suffers from a poor economy and living standards. However, other countries with high population densities, like Singapore, Taiwan and Netherlands, have much better economic and living conditions, which prove that high population density by itself is not necessarily a disadvantage or a reason for national malfunction.

Actually, there are many researchers who suggest that cities with higher densities perform better than those with lower densities – in different domains, such as sustainability, environmental performance, reduced energy consumption, liveability, and social equity. Indeed, three critical factors are associated with these cities; these are a compact urban form, high-density housing, and good public transportation.

Newman and Kenworthy (1999), in their book *Sustainability and Cities: Overcoming automobile dependence*, argue that the key to better performance and efficiency in cities is the combination of higher urban density with a reduced dependence on the car and other private vehicles. Transportation systems themselves strongly reflect and influence the population density of cities and nations. Wherever automobile-based systems dominate, densities are dramatically lower. In a different reference, Newman & Kenworthy (1989) suggest an optimal net urban density of 300 people per hectare (11,583 people/square kilometre) in order to support the public transport system and to have services and facilities within walking distance.

Consequently, are densification, compactness and transit-based transportation alternatives for future urban development in the Palestinian cities?

According to Kostoff (1991), three main factors have shaped the cities: cultural priorities, economic priorities, and transportation priorities. However, these factors are inter-linked and they can help us to understand how cities have developed, and hence, how it is possible to contemplate changing them into more sustainable forms.

From the analysis of the Palestinian context, there are many aspects suggesting that higher density, compactness and transit-based transportation could be suitable and successful for achieving more sustainable urban development in the Palestinian cities.

Looking at the residential density in the Palestinian cities, we find that it is rooted in several cultural preferences. Customs differ widely according to favoured or acceptable housing types, ranging from freestanding villas or houses, to rows of attached houses, to courtyard houses for extended families, to apartments in low-rise or even high-rise buildings. There are several reasons for these diverse preferences: some of these reasons can be related to marital and family traditions, domestic habits, attitudes toward the natural environment, architectural traditions, as well as responses to climate, economic prosperity, property law, and banking practices. Regardless of the reasons behind the different types, the mixture of these housing types has a profound impact on the urban form.



Figure 6-4: Mixture of different house types

In many countries, the cultural preference toward the detached house has encouraged urban sprawl, whereas in Paris, for example, two centuries of middle-class adaptation to apartment living has sustained remarkably high densities with more than 80,000 people per square mile (30,888 people / km²) within the central city (Newman and Kenworthy 1999).

Throughout the Middle East, and especially in Palestine, there are several rich traditions of higher-density residences, from the traditional *hosh*³⁶ to a range of courtyard buildings and urban apartment residences (Bianco 2000). In many cases, these housing traditions are embedded in social arrangements and cultural norms, but besides that, they are also connected to the region's climate and topography. The prevalent effects of the semi-aridity, strong winds and hilly terrain have contributed to a pattern of compactness for hundreds of years. Even the small villages have displayed high residential density and compactness in their structure, which is nowadays linked to sustainable urban form. This traditional compactness helped to preserve open spaces in the surrounding areas, mainly for agriculture and natural reserves (see Figure 6-5). On the other hand, the fact that the Palestinian cities and towns are relatively small in their areas, and that the main commercial activities and services are located in their centres,

³⁶ Hosh is the Arabic name for the courtyard inside a complex of residential houses in the old core urban structure

makes it possible and easier for people to move around inside them by walking or taking just a short ride. Moreover, private-car ownership in Palestine is still relatively low, and many people depend on public transit for travelling, especially between the cities and the surrounding rural areas.

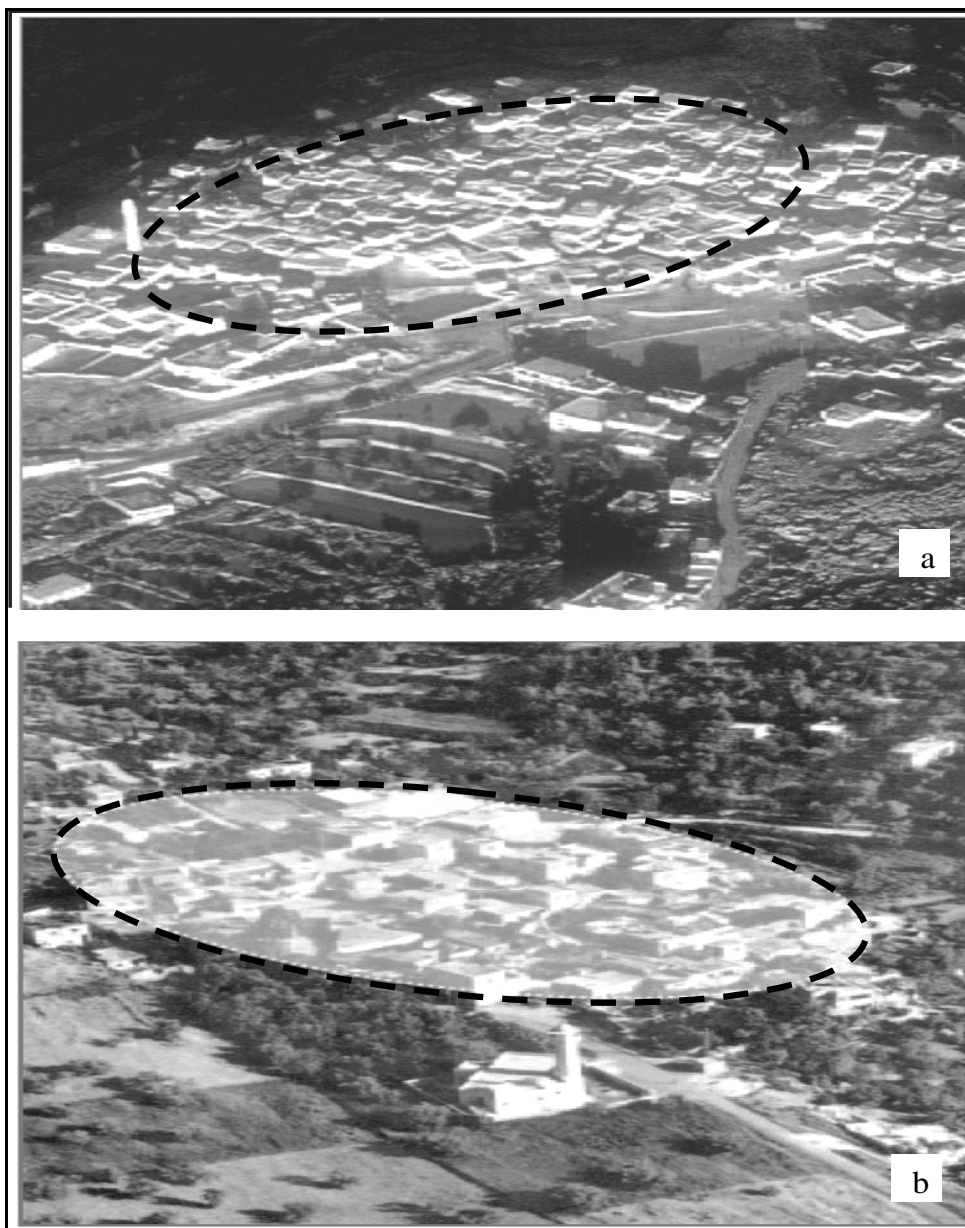


Figure 6-5: Sustainable form of Palestinian towns (a), Urban compactness preserves open spaces (b) (photos © Baron Wolman)

From the discussion above, it is obvious that the traditional form of the typical Palestinian town has relatively high density and compactness; moreover, it is walkable, mixed in its uses and closely fitted to the terrain. All these features are consistent with the compact-city concept, which encourages relatively high density, mixed uses, an efficient public transportation system, and dimensions that encourage walking and cycling (Burton 1996). Therefore, under the pressing challenges of land scarcity and rapid population growth, a more compact city approach can be an alternative for future urban development in the Palestinian cities.

Criteria for sustainable physical development in the Palestinian cities

Frey (1999) in his review of the sustainable city debates has deduced a set of commonly agreed sustainability criteria (see Chapter 4) to evaluate and assess the performance, urban form and structure of cities. His aim in setting these criteria was to search for the city structure that enables a high degree of mobility and access to a large variety of different services and facilities without causing congestion. It should also allow a symbiotic relationship between city and countryside, enable social mix, a degree of autonomy of communities and self-sufficiency, and generate highly identifiable and imageable settlements form.

Following Frey's approach, the commonly agreed sustainability criteria (see Table 4-3) will be used as a base to develop a set of criteria for the Palestinian cities to measure their sustainable physical development, notwithstanding that Frey's criteria are comprehensive and cover the different physical, environmental and socio-economic aspects of the sustainable city. However, within the framework of this research, and its focus on the physical side of city development, it will be difficult to cover all the aspects exhaustively; therefore, the application will be mainly for the physical criteria. Nevertheless, the interdependencies will in principle be taken into consideration. What is hoped to be achieved here is to bring about a clearer understanding of the form and structure of Palestinian cities that per se achieve a considerable improvement towards more sustainable urban development. Consequently, after having investigated in the previous section which urban development approach the Palestinian cities should adhere to, the following set of basic criteria can be used to appraise the physical performance of the Palestinian cities:

- *Density and compactness*: a reasonably high population density in the city can help to achieve viable local services and facilities, i.e. a high level of activities and exchanges and thus lively settlements and places, and feasible public transport, which consequently lower fossil-fuel consumption and increase energy efficiency. Furthermore, relative compactness in the development within the city reduces sprawl and thus preserves land to a tolerable degree, avoiding the unnecessary development of agricultural and natural areas. This can be fostered through the reuse of underused and derelict land, reuse of infrastructure and previously developed land, as well as following a land-infill approach between the built-up areas.
- *Mixed land use*: in mixed land-use areas more activities are accessible within a small radius. And having a mixed-use environment increases the accessibility to basic services and facilities, especially when they are concentrated around the public transportation nodes, or in small urban 'cells', within walking distance from people's place of residence or work. Moreover, this generates a vibrant environment, a sense of community and interaction – especially when the population are also mixed regardless of their incomes – and reduces to some degree the need to travel and car dependency.
- *Public transportation system*: to increase access to services and facilities, help reduce car dependency and thus congestion and pollution. Moreover, to achieve a reduction of energy consumption and help maintain a high level of energy-efficient and environment-friendly mobility inside the city or between the different cities and regions. An affordable and efficient public transit system can increase the mobility and accessibility of the urban population, especially when it has a hierarchy of services and facilities of different capacities and scales, from small local urban 'cells' or 'units' to central provision from higher level urban districts.
- *Green structure and open spaces*: access to green open spaces, for recreation and sports, city farming, forestry, and natural reserves form the city's green lungs. Apart from improving the living climate, the conservation, development and optimisation of green structures may make a major contribution to the ecological integration and

interaction of an urban area into the environment. The sustainable nature of cities may be improved by combining green structures with the intensive use of space. In addition, green structures in the city have an aesthetic and visual value in shaping the city as an entity and the parts of the city, the neighbourhoods, districts and towns.

The previous four basic criteria are linked, and together determine the shape, structure, form and function of the physical environment in the city. The compactness of cities can reduce the costs of provision of infrastructure and public transport, while, on the other hand, it is considered efficient in terms of energy and fuel consumption, reduction of emissions and pollution, and, accordingly, promoting better health.

The mixed land uses and diverse urban fabric keep automotive travel to a minimum level through short distances that reduce the need to travel; they might also help to encourage social interaction and increase the viability of the city. Short distances also mean greater opportunities for walking, as well as public transit or a combination of both, especially if the district or the neighbourhood has pleasantly landscaped pathways and open green areas. Nevertheless, the value of green structures in cities goes beyond the recreational and the aesthetic: they are important for the ecological cycle and greatly influence the migration and perpetuation of wildlife in cities (Hough 1989).

In addition to this, the spatial layout of a city (the density and degree of compactness), the type of the land uses, the mode of transportation system, as well as the percentage of the green structure and open space spread throughout the city, are also critical factors for the urban environmental quality. They give indications of the performance of the physical urban structure of the city, and point out whether it is more or less sustainable. Likewise, this kind of evaluation can give a sign to identify where the failings and potentials are.

Consequently, the current and projected high population density in Palestine, if combined with certain patterns of higher-density urban development, affordable public transportation, and a good green structure, could be an asset in the search for more sustainable physical development in the Palestinian cities. However, this argument will be the base for the next chapters, where the above-mentioned criteria will be used as a basis for conducting and analyzing the case study – Ramallah City – and illustrating empirically the different aspects discussed earlier.

Chapter 7

Ramallah City – Urban development and rapid growth

“Ramallah of the cypresses and the pine trees, the swinging slopes of the hills, the green that speaks in twenty languages of beauty.” (Mourid Barghouti)

As explained earlier, the focus of this study is to investigate how physical developments in Palestinian cities can be re-oriented to become more sustainable in the face of current and future challenges. After having elaborated the sustainable development and the sustainable city concepts in the Palestinian context (see Chapter 6), it is now important to illustrate their applicability in and validity for an existing (sample) city. Ramallah City is selected for this purpose. The reasons for this choice are that Ramallah is a city which clearly demonstrates all the symptoms of rapid physical development, has an inefficient public transportation system, has expansions which encroach on to open land, and displays rapid population increase. These reasons are also found in the other Palestinian cities; however, Ramallah is distinguished by its:

- Geographical location: Ramallah is located in the heart of the West Bank, and close to Jerusalem – the (symbolic) capital of the Palestinian people. Due to the Israeli closure and restrictions, which prohibit Palestinian access to Jerusalem, Ramallah has become the administrative, economic and political capital.
- Political role: after the signing of the Oslo Accord in 1994 and the establishment of the Palestinian Authority, Ramallah became the centre for the Palestinian ministries, governmental offices, presidential headquarters, in addition to many consulates and foreign representations.
- Administrative role: many organizations, banks and institutions have their headquarters or central offices in the city.
- Economic role: it has become an economic centre, depending mainly on the administrative, commercial and services sectors. The existence of many non-governmental organizations (NGOs), national and international institutions and many private firms in the city has created more job opportunities and even attracted internal migration.
- Social fabric: the political changes in the country to date since the beginning of the peace process have had clear impacts on the social structure and fabric in Ramallah City. With the establishment of the Palestinian Authority, many returnees who lived in the Diaspora have returned to Palestine, and the majority have settled in Ramallah, which has created a new social group in the city. Also many Palestinians from other Palestinian towns and cities have moved to Ramallah looking for better job opportunities, which has produced small social groups mirroring their original town or city. The way that the city has embraced these different and new social groups has changed the original social fabric.
- Cultural role: the city is distinguished by its active and distinctive cultural performance, which maintains direct interaction with the community, and which is not so clear in other Palestinian cities.

These reasons have influenced the development process in the city, and have given rise to a huge construction movement. The sudden demographic increase and the need to provide housing, offices and services have fuelled urban development. Moreover, the general atmosphere regarding the expected peace has encouraged the people to use their savings to invest, mainly in the construction sector. Most of the Palestinian cities have gone through this stream of rapid development but at a different pace. In Ramallah, the changes introduced by this rapid development have been clearly evident. Therefore,

Ramallah is a good example to analyse the pattern of development, the growth dynamics, and the impacts of socio-economic interventions on the physical environment.

The aim of such analysis is not only to understand the physical development mode and pattern of the city, and then put forward workable solutions for future sustainable development. The analytical process is to be understood as exemplification of arguments and approaches to introduce sustainability as an alternative for physical development in the Palestinian cities which might help to reduce pressure on land and resources, accommodate the increased population, and achieve better-functioning cities.

Of course, when taking Ramallah as a model city, the illustration is inevitably place-specific and reflects the specific characteristics of the city's past and recent history. The concept and approach introduced are nevertheless believed to be generally applicable, though different cities will have their special contexts and characteristics.

It is not expected that the reader will be familiar with Ramallah City, its urban form and structure. Therefore, following the introduction to the conceptual approach for promoting sustainable physical development, the subsequent sections provide a short description of the major characteristics of the city, and its context as the largest city-region. They also provide some explanations for the city's foundation and development. This introduction provides an opportunity to reflect not only on the city's development pattern but also on the main socio-economic changes and development phases in the city's history.

City-region: Ramallah & El-Bireh District

Ramallah & El-Bireh District is the central district in the West Bank and lies about 18 km north of Jerusalem; it extends from Jerusalem District in the south to Nablus District in the north, and from Jericho District in the east to the green line, the boundary with Israel to the west, (see Figure 7-1). Geographically, the district is divided into two regions, east and west of a mountainous spinal cord. The eastern region slopes towards the Jordan Rift Valley and is considered semi-arid, while the western region slopes westwards towards the Mediterranean coast and therefore considered semi-coastal.

Ramallah & El-Bireh District measures approximately 843.621 km² – 14.5% of the West Bank's total area. Like in the rest of the Palestinian districts, the population of Ramallah & El-Bireh District is distributed among the three categories: urban, rural and refugee camps, and is spread over 76 built-up areas (ARIJ 1996, CEP 1995). Only seven communities – Ramallah, El-Bireh, Silwad, Bani Zeid, Birzeit, Deir Dibwan and Betunia – are designated as municipalities; other built-up areas are governed either by a village council or by village *Mukhtar*³⁷.

Around 297,330 inhabitants are living in the district, occupying only 4.35% of the total district area, in comparison to the Israeli settlements in the district that occupy 1.63% of the district's total area. The limited nature of the Palestinian built-up area is the result of the tight restrictions imposed by the Israeli authorities on giving building permits to Palestinians. On average, the gross population density in Ramallah & El-Bireh District does not exceed 285 persons/km²; the rest area of the district is mainly hilly terrain planted with olive trees, (See Table 7-1).

³⁷ Mukhtar: usually an (elderly) person from the village assigned by the government as a chief to represent the village and look after its affairs'

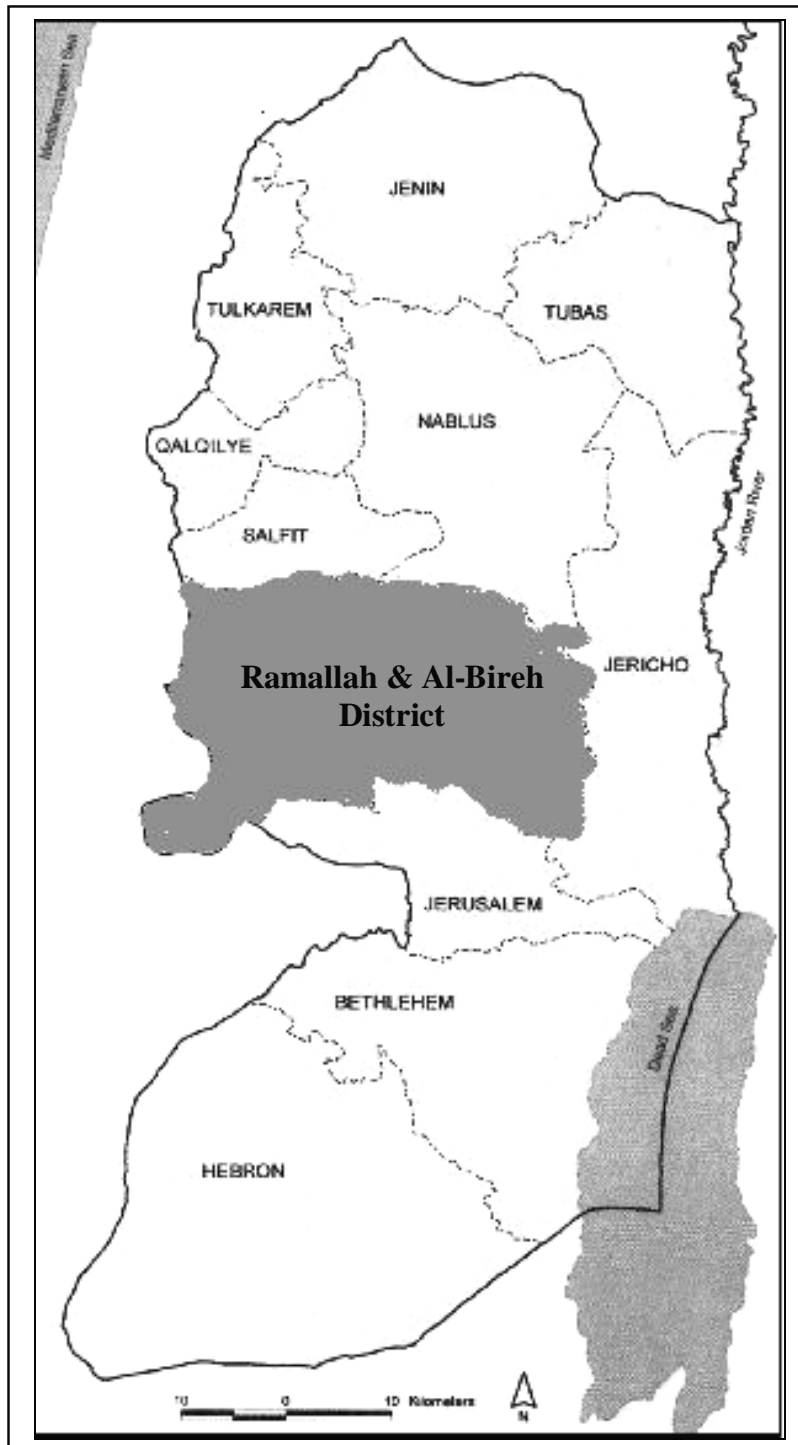


Figure 7-1: Location of Ramallah & El-Bireh District in the West Bank (MOPIC 1999)

The main distinguishing characteristic of the demographic situation in the district is the historical pattern of migration and mobility. Since the turn of the twentieth century, an active immigration process to the United States has taken place. Ramallah City and a number of rural communities became associated with this process. Moreover, in the 1948 War, a forced internal migration movement, from the central parts of pre-1948 Palestine towards Ramallah & El-Bireh District, was underway. This movement had a number of implications regarding the nature of the society and community living in the district (CEP 1995).

Table 7-1: General overview on the different characteristics in Ramallah & El-Bireh District

General characteristics - Ramallah & El-Bireh District	
Population (2005)	297,330
Percentage of rural population	59.5%
Percentage of urban population	34.1%
Percentage of refugee camp population	6.4%
Percentage of population < 15 years old	43.2%
Natural growth rate in the district	5.3
Area of Ramallah district	84,362,1 hectares
Percentage of built-up area in the district	4.35%
Percentage of Israeli settlements area/total area	1.63%
Population density (2001)	285 person/km ²
District's population's access to infrastructure & services	
Access to clean water network	91.6%
Connection to electricity	97.1%
Connection to public sewage network	19.1% (only in urban areas)
Socio-economic indicators	
Unemployment rate (2004)	22.6%
Percentage of illiterate people	11.9%

Source: derived from PCBS 2002, ARIJ 1996, PCBS 2004 and ARIJ 2005

Land availability in the Palestinian case determines the sustainable development of the Palestinian community, but as is the case in the entire West Bank and Gaza Strip, Ramallah & El-Bireh District was also divided according to the Oslo Accords in 1994 into three different geopolitical areas³⁸ (see Figure 7-2) as follows:

- “Area A” includes Ramallah and El-Bireh Cities and covers 1,957.1 hectares, about 2.3% of the district’s land.
- “Area B” is the populated villages, towns and the built-up area of the hamlets. It accounts for approximately 22,429.3 hectares, about 26.6% of the district’s total area.
- “Area C” covers 71.1% of the district’s total area, and includes the Israeli settlements, military areas and bypass roads (ARIJ 1996).

The division of Palestinian land into areas A, B and C hinders the potential for dealing with the Palestinian areas as one geographical entity and has high impacts on the economy, environment and physical development. In Ramallah & El-Bireh District, under these divisions, it is impossible to make any regional plan that covers the whole district³⁹.

³⁸ For more details about land classification according to the Oslo Accords, refer to Chapter 2, section Urbanization trends

³⁹ Information gathered from interviews through the empirical research with key persons in the Palestinian planning authorities

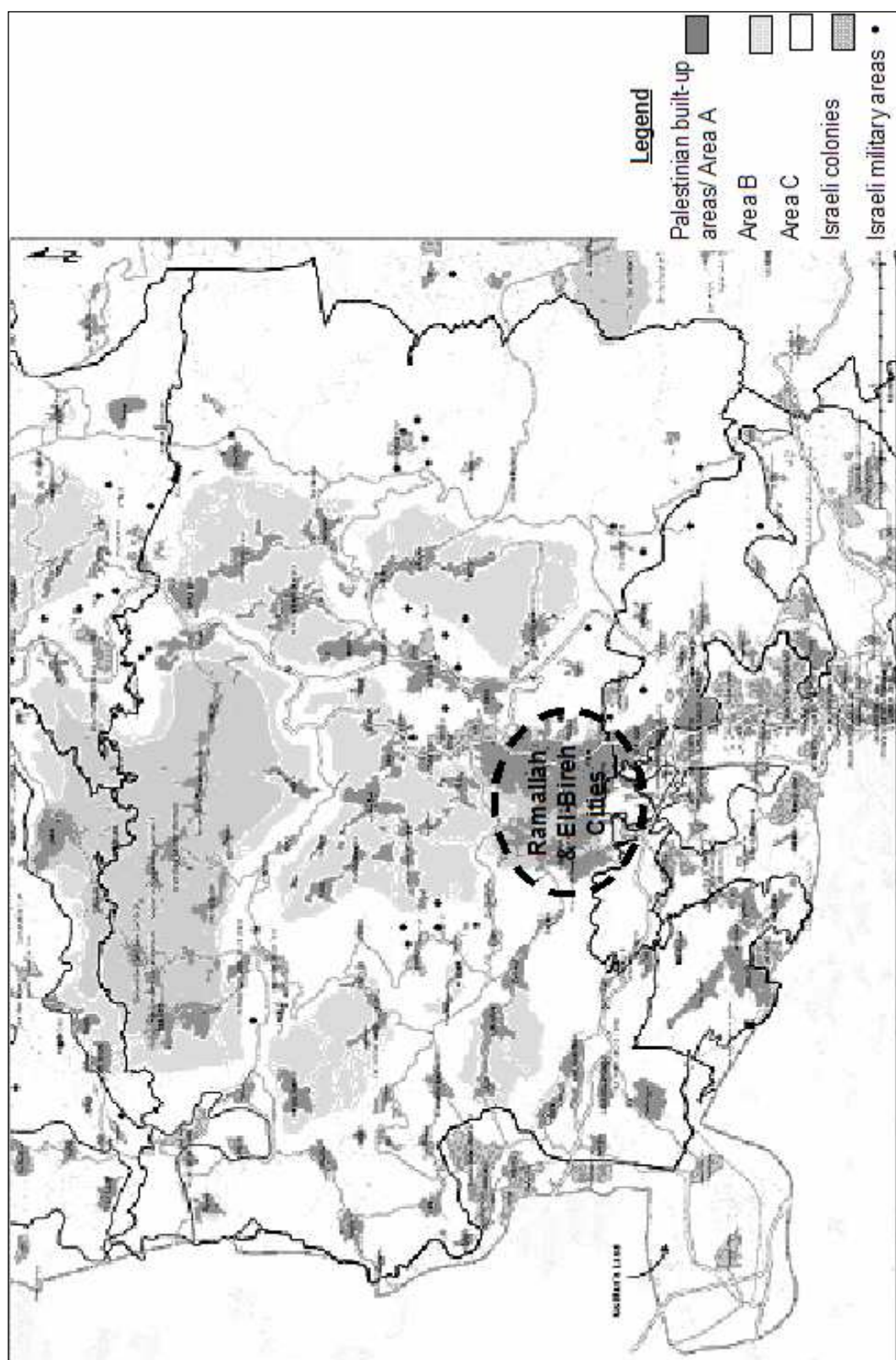


Figure 7-2: Ramallah and El-Bireh District (MOPIC 1999)

Functionally, there are seven major land-use classifications within the boundaries of Ramallah & El-Bireh District. These land uses are: the Palestinian built-up areas, Israeli settlements and military areas, natural reserves, cultivated areas, forests and industrial areas (ARIJ 1996). Table 7-2 shows the area of the different land uses in the district.

Table 7-2 Land uses in Ramallah & El-Bireh District

Land uses	Area (km²)
Agricultural land	172.933
Forests	10.543
Industrial & commercial areas	1.033
Limited water surfaces	0.226
Israeli military areas	5.610
Israeli settlements	18.241
Quarries	3.291
Open land	298.545
Palestinian built-up areas	53.972
Pasture land	105.438
Orchards	178.964
Total area	848.796

Source: ARIJ 2005

Economically, the economic base in Ramallah & El-Bireh District is dependent on three main sectors: agriculture, industry and services. Agricultural production is concentrated in the northern and western regions of the district, whereas the industry and services are concentrated in Ramallah and El-Bireh cities. In general, the economic base of the rural communities in the district is dependent on the Israeli labour market, remittances from immigrants mainly in the United States, and some commercial and agricultural activities. The economy of Ramallah & El-Bireh District does not differ from the economy of the rest of the Palestinian Territories, and suffers from a severe crisis, reflected in the following characteristics:

- The unemployment rate rises and falls according to the political changes, and highly affected by the closures and restricted access to Jerusalem. According to the Palestinian Central Bureau of Statistics (PCBS), the unemployment rate in the district rose from 12.7% in 1997 to 22.6% in 2004 (PCBS 2002, 2004).
- The agricultural sector is facing many obstacles, mainly irrigation and marketing. Agriculture is dependent on rain-fed cultivation – and because of the Israeli control on the water resources, it is difficult to change to irrigated cultivation.
- The service sector is underdeveloped, and dominated mostly by the informal sector.
- There is a high dependency on foreign transfer payments and donations.
- The industrial facilities in the district are dependent on Israel providing the raw materials needed. Likewise, the frequent closure of the West Bank stops the flow of goods and materials to the territories, interrupting the continuity of these facilities.

It is worth mentioning that there is a high inter-dependency between the rural areas and the urban centres in the district. The urban centres provide many of the basic services which are still lacking in the rural areas, such as health centres, banks, educational institutions, governmental and social services, etc., whereas cities depend on the employment coming from the surrounding rural areas. Therefore, future development of the urban centres in the district has to be seen within its regional context.

Ramallah City – the heart of the District

Ramallah City is the main urban centre in Ramallah & El-Bireh District and is located at the heart of the West Bank. Ramallah City is built on the top of a flat plateau around 880 meters above sea level, and surrounded by deep steep valleys. Looking at the city's topography and slopes, we notice that the city is located on a hard mountainous chain. Urban developments in the city have covered the relatively flat areas and expanded to the versants, where the slope in these areas exceeds 20% (see Figure 7-3). The distinct topographical formation of Ramallah City is reflected in the planning outcomes as this formation affects the direction of roads network, infrastructure and population densities.

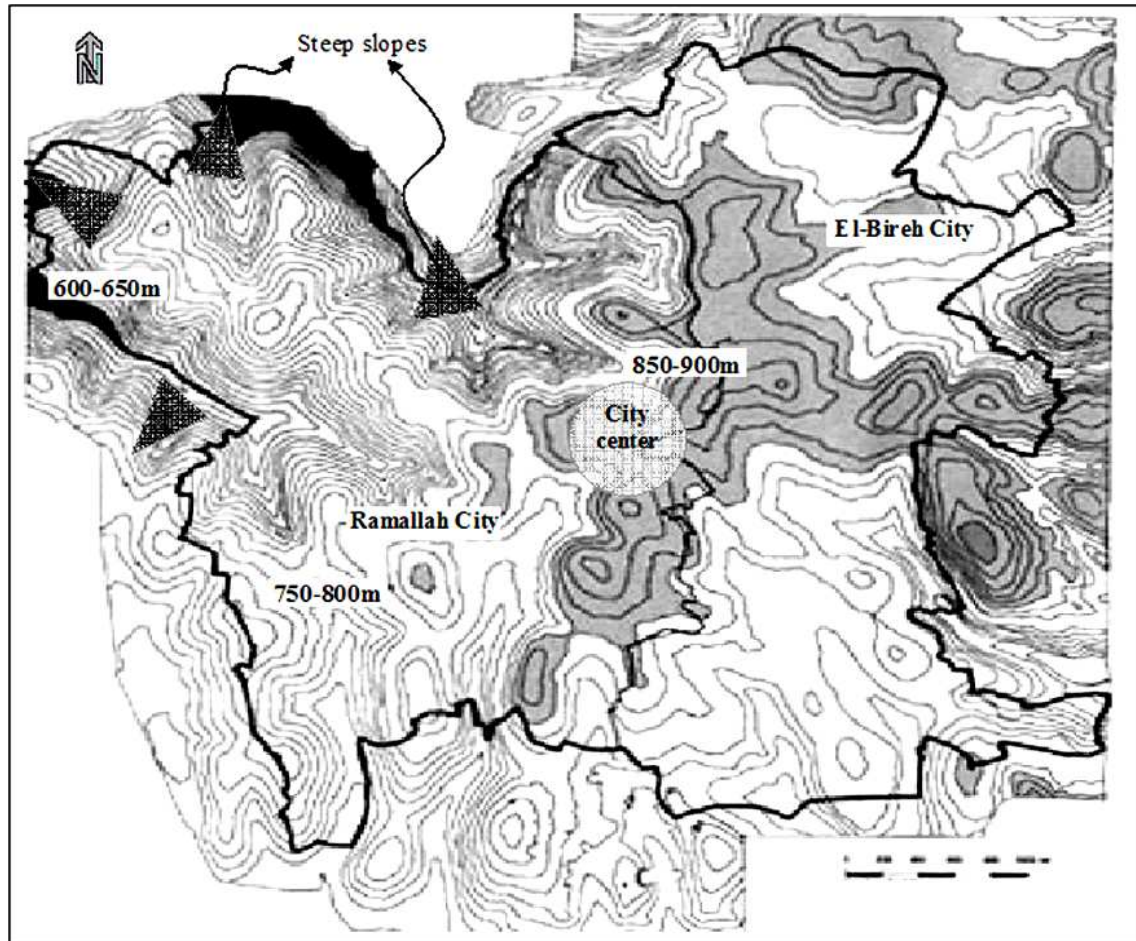


Figure 7-3: Ramallah City-s topography (MOPIC 1999)

Ramallah City is attached to El-Bireh City on the eastern side as twin cities. Both cities are completely attached in terms of their urban fabric and transportation network. The urban expansion of Ramallah City on the western side has extended to reach Betunia City. On the southern side, both Ramallah and El-Bireh extend to connect with *Qalandia* and *Kufur Aqab* to the north of Jerusalem City, forming one continuous, uninterrupted urban fabric.

The central location distinguishes Ramallah City; it is only 12 km from the centre of Jerusalem City, only 3 km from Jerusalem International Airport in *Qalandia*, 52 km from the Dead Sea, and 50 km from both Nablus City to the north and Hebron City to the south. Moreover, Ramallah City is situated on the axis of the historical and religious Palestinian cities.

Socio-economic conditions

Population & demography

The demographical changes in Ramallah City were always connected with economic and political developments. In addition to the natural growth rates, there have been some peaks of increases and decreases in the city's population. Comparing the city's population in 1961 and in 2005, estimated at 14,759 and 26,104 inhabitants respectively, we notice that the city's population over 44 years did not double. This is attributable to the various policies imposed by the Israeli occupation, such as the expulsion of many inhabitants in the 1967 War. Nevertheless, in 1994, after the establishment of the Palestinian Authority – which took Ramallah as an administrative centre – there has been an obvious increase in the city's population and its annual growth rate.

The following (Table 7-3) shows the city's population increase between 1931 and 2005, in addition to the annual growth rates.

Table 7-3 Population in Ramallah City between 1931-2005 and the average growth rate

Population between 1931 - 2005⁴⁰	
Year	Population
1931	4,286
1961	14,759
1997	18,017
2005	26,104
Population growth rate	
1931 - 1961	4.21
1961 - 1997	0.56
1997 - 2005	3.97
Age structure in 1997	
Age	Percentage (%)
0-14	34.2
15-29	31.2
30-44	17.6
45-59	10.0
60+	7.0

Source: Amro 2005

From the previous table, we notice that the percentage of inhabitants less than 15 years old is 34.2%, and the inhabitants between 15 and 29 years old make up 31.2% of the city's total population. This reflects the fact that the city's population is relatively young, with elderly people representing less than 7.0%. Accordingly, in the near future Ramallah City will experience a high increase in its population, because of the fact that a high percentage of its inhabitants are or will be of marriageable age. Consequently, there will be an increasing need for more housing, job opportunities, education and health services to cope with the rapid population growth. This growth takes account only of the city's natural population growth without including the possible return of thousands of Palestinian refugees, some of whom will settle in the city. It is impossible

⁴⁰ Population including the inhabitants of Qadura refugee camp, as part of Ramallah City's urban fabric

to estimate the exact number of refugees who might return to the city as this depends on the final political negotiations and agreement between the Palestinians and Israel. Nevertheless, the return of thousands of refugees has to be considered. Therefore, the demographic factor in Ramallah City should be given special attention, especially when developing plans for the future. The city should be able to absorb the population increase and to fulfil the future needs of its inhabitants.

Sources of population increase in the city

The main source of population increase in the city is natural growth – as clarified above – and this is estimated at 3.53% annually (Amro 2005). Nevertheless, other factors contribute to increasing the population of the city, such as:

- Returnees: many of the Palestinians who returned to Palestine and work in the different institutions of the Palestinian Authority have settled in Ramallah City.
- Internal migration: the centralization of the main governmental and administrative institutions in the city encouraged many people from other Palestinian areas to move to the city looking for job opportunities. In addition, the increasing pressure of the Israeli occupation and the closure and checkpoints policies – which hinder free mobility on the part of many Palestinians – forced many Palestinians who used to commute on a daily base to Ramallah City for work or study to move and live in the city. This created two types of internal migration: the first is full migration, by moving the whole family and settling completely in the city; whereas the second is partial migration, where member(s) of the family live in Ramallah during the week and return to their hometowns or cities at the weekends or when it is possible.
- The social and cultural tolerances and conviviality that distinguish Ramallah from other Palestinian areas have encouraged many intellectuals, artists and educated people to move to live in the city.

The previous factors are currently considered the main contributors to the population increase in Ramallah City, which is clearly – as in many other sectors – significantly connected to the political circumstances. There are no concrete studies about the demographic changes in the city, but, as mentioned in a study done by the city planning team, the annual increase caused by migration – since the beginning of the peace process – is around 4%, and is expected to increase to reach 7%, if real progress is achieved in the peace process (Khamaisi 1998).

Social structure

In general, Ramallah's society shares the same settings and characteristics as the Palestinian society in general. Nevertheless, the social structure of Ramallah City has been influenced by the different migrants and people who came and settled in the city, as well as by those who studied or worked in foreign countries and returned with different perceptions and knowledge. The diverse social mixture in the city has favoured the development of a receptive community that accepts people from different origins and with divergent cultural sensitivity. The division of the city's inhabitants according to their origins is classified into four main forms:

- Original inhabitants
- Migrants from different Palestinian cities and villages
- Refugees
- Returnees

As for the classification of social classes, the city's inhabitants are distributed as follows: one-fifth belongs to the upper class, three-fifths to the middle class and the last fifth to the lower (poor) class. Furthermore, the division of the different neighbourhoods in the city is mainly culturally and economically based, and not tribally based. During a later phase of the city's development, some neighbourhoods were established on the base of the profession of its inhabitants – for example doctors' or engineers' housing projects. Accordingly, the high percentage of educated people in the city affects its social and cultural performance.

Ramallah City has a higher level of urbanization in comparison to other areas in the West Bank⁴¹. Despite its relatively small area and population, it offers services for the surrounding towns and villages in the District, which contributes to its urban and social development.

Economic profile

Tracing the economic base in Ramallah City, we find that the city has switched from being dependant on agriculture in early stages of its history, to rely more on industry and trade, and lately on construction and services. Nowadays, Ramallah and El-Bireh Cities⁴² represent a focal point for all kinds of establishments, including NGOs, international, private, and public institutions. Many headquarters (of banks, insurance companies, key manufacturing firms, NGOs, international agencies, ministries and other public institutions) are located in Ramallah City, which reflects the critical economic role of the City in the Palestinian economy.

After the establishment of the Palestinian Authority, many new job opportunities have been created in the public sector, services and through private-sector investment. Ramallah City has an industrial area which serves the whole district though its location. The environmental conditions are open for criticism from the planning point of view, but its importance as an income generator for many people is still considerable. In Ramallah City there are about (2,758) establishments, 44% of which are in wholesales, retail and repair, the main economic sectors in the city. Followed by the real estate, renting and business activities sectors, and the manufacturing sector, which constitute 12% and 11% respectively (General consultant & training group 2005). Private investments have increased in the city over the last ten years, where many investors have started their own businesses and built many new commercial centres and housing projects. The role of Ramallah as a central city and point of attraction for many locals and foreigners has mobilised tourism in the city to become one of its economic sectors. The increasing number of hotels, restaurants and cultural centres in Ramallah is consistent with the receptive mentality of the city's inhabitants, and with the old image of Ramallah as a tourist resort. In view of the fact that tourism creates job opportunities for many people, and contributes to the city's economic base, tourism is a potential economic sector for the future that should be considered.

Looking at the distribution of the labour forces in the city⁴³ (Table 7-4) in comparison with the rest of the West Bank, we notice that there is a focus on the services, construction and trade sectors, which characterize Ramallah as a central city in the West Bank.

⁴¹ Jerusalem is excluded here because it is more urbanized and developed than the other Palestinian cities.

⁴² El-Bireh City is mentioned here as a twin city of Ramallah; it is hard to separate and distinguish between the economic activities in the two cities, especially in their centres, which compose one physical unit.

⁴³ There is no specific data for Ramallah City alone; the only available data covers the whole district, but can be considered as a good indicator for the distribution of the labour force in the city as the main urban centre in the district.

Table 7-4 : Distribution of labour force in Ramallah & El-Bireh District according to the main sectors in comparison with the West Bank - 2004

Sector	% Ramallah & El-Bireh District	% West Bank
Agriculture & forestry	6.0	16.9
Manufacturing & quarrying	16.5	14.0
Construction	17.4	13.0
Trade, hotels & restaurants	19.5	20.9
Transportation & communication	5.7	5.7
Services & others	34.9	29.4
Total	100	100

Source: PCBS 2004

However, the economy of Ramallah City is affected by the political situation in the country. Therefore, any fair peace agreement in the country can guarantee the prosperity of the Palestinian economy, not only in Ramallah City but also in the whole country.

Urban development and city expansion

Between 1917 -1994

Ramallah was originally a small agricultural village, inhabited by the Haddaden family, who settled on the hilly area near El-Bireh City, which nowadays is known as the Old Town of Ramallah. The city passed through different stages, which have left imprints which are still visible to this day. The main causes of these shifts appertain to the political, as well as to the economic situations the country passed through in the last century⁴⁴. This section focuses on the physical changes and urban developments that took place in the city, which, of course, cannot be separated from the other political, economic and social changes in the city.

In order to understand the pattern of development in Ramallah City, we have to go back to the history of its spatial distribution and expansion. It is remarkable that during the Ottoman rule there were no significant changes recorded in Ramallah, except for the natural growth of population. The image of the city at that time was like any typical Palestinian agricultural village with compact traditional spatial structure, accompanied by a unique and distinct architectural fabric that is manifested through the town's structural elements and shapes and the integration of both. The old town is composed of a number of adjacent yards (*Ahwash*⁴⁵), which are in harmony with the rocky curved environment, and functioned as semi-private courtyards. They were used mainly by women and children since they are located in the heart of the residential area, unlike the vegetable market plaza, which was used mainly by men. Usually, the demarcation between the private courtyard in front of the house and the public plaza is a low rubble-based stone-wall – called *Sinsila* (RIWAQ 1998).

The old buildings are centred around and to the west of the church, and located around the narrow paths – the *Qasabah*⁴⁶. The expansion of construction was random

⁴⁴ Refer to (Shaheen 1992), (Shaheen 1982) and (Qadura 1999).

⁴⁵ Ahwash are courtyards inside a complex of residential houses in the old core urban structure

⁴⁶ Qasabah is an Arabic name for the main path in the old core urban structure

and depended on family relations and ties, clustering around the small yards (*Ahwash*), or spread outside the old quarter toward the agricultural fields (see Figure 7-4).

The first shift that influenced the city development was at the beginning of the twentieth century, when the first wave of emigration to the United States occurred, and some of the city residents went there striving to develop their standard of living. A few years later, the money from these immigrants started to pour into the village, which led to growth and development in the construction activities in the city. Until that time, the city was still a small agricultural village, and its residents worked in cultivating the surrounding fields. It started taking on a different dimension when the Ottomans made it an administrative centre for thirty surrounding villages, which turned it into a focal point for these villages. Limited commercial activities started to take place, and contributed to the city development, which started to expand around the narrow paths.

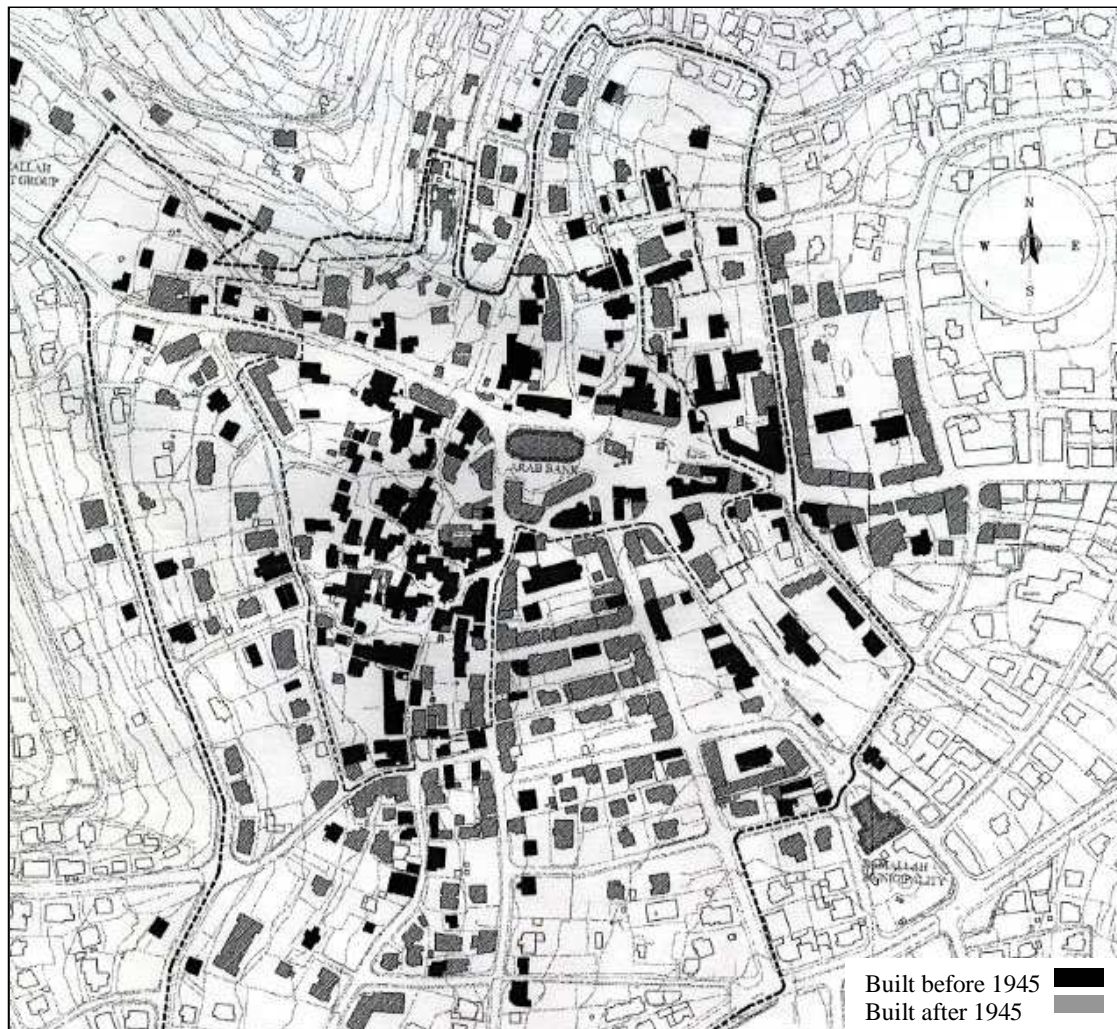


Figure 7-4: Ramallah City's old core (RIWAQ 1998)

An important event at that period was the entry of the Christian Predicatory Missions, which came to the city and participated in building and establishing schools and churches. These new public buildings were located on the fringes of the old core and on the main road connecting Ramallah with El-Bireh City, which encouraged the city to expand towards them.

When the British Mandate came to Palestine in 1917, a new distinctive architectural style, influenced by the English style, appeared in the city. This style was exemplified by the new fashion of separated villa houses surrounded by well-maintained gardens; the new style was conceptually totally different from the traditional previous one. Many of these houses still exist today and clearly contribute to the image of the townscape. Obviously, the new developments came as a result of the improvement in people's living conditions and the prosperity that came from the new job market in the police, railway, education and citrus trade, which were created and developed under the British Mandate. On the other hand, the municipality of Ramallah City – as it was at that time – played an important role in improving the landscape inside the city by encouraging the people to plant trees in their yards and gardens, and on its part, it set about planting trees in the roads and alleys. In that period, Ramallah City can be described as a garden city because of its spacious layout, the integrity between the surrounding natural and cultivated belt, the private gardens and yards inside the city, and the linkages of the tree-lined streets (Qadura 1999).

The British Mandate was interested in city planning, so it worked with the municipalities on drawing up structural plans for the cities. The first structural plan for Ramallah was produced in 1940, but it took several years to be implemented. It is important to note that in 1943 the government of the British Mandate, in cooperation with Ramallah municipality, worked on a proposal for city regulations and suggested allocating a piece of land as a small wood, in addition to a public plaza, City Park and children's playground. This proposal did not see the light of day because of the regression in the country's political conditions.

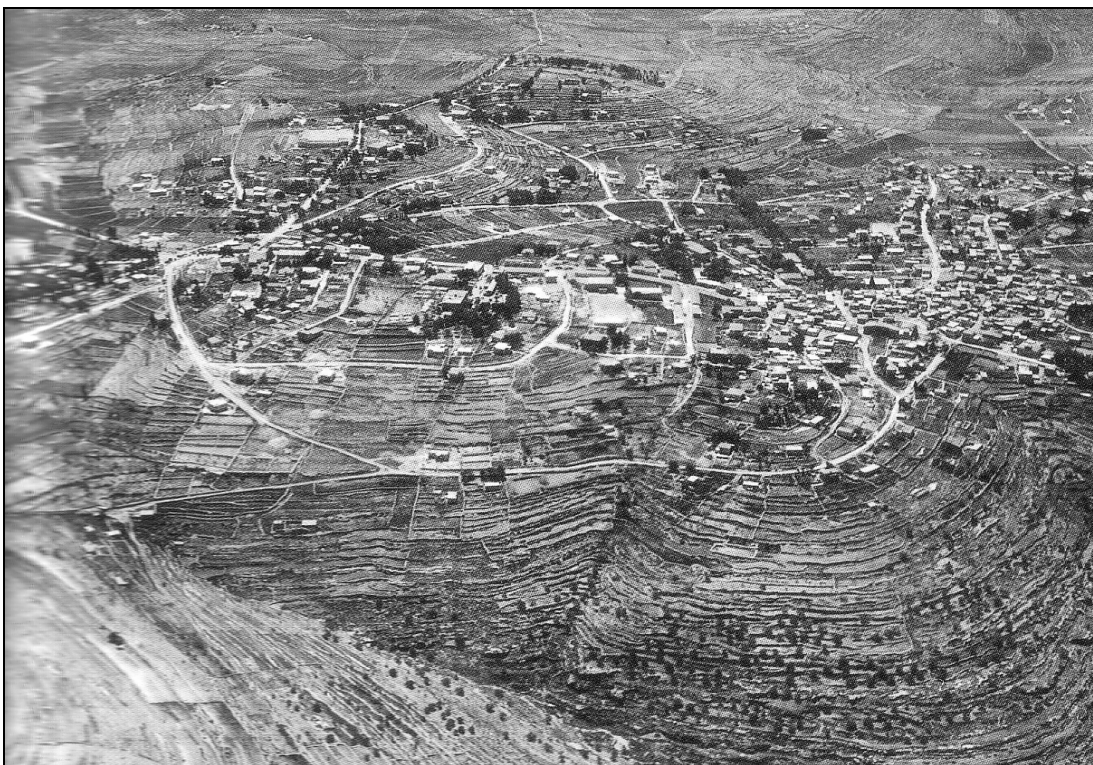


Figure 7-5: Ramallah City in 1948 (Kedar 1999)

The second shift that affected physical developments in Ramallah City was after the 1948 War, when the Palestinians from the coastal cities migrated to the mountainous areas. Huge numbers of immigrants came to Ramallah from Jafa, El-Lud and El-Ramleh cities. After this event, the population had increased enormously in size – Ramallah's

population in 1945 was 5,080, by 1952 it had risen to 17,145⁴⁷. Hence, for Ramallah City that was the turning point from being a small town into becoming a city, in both physical and demographic terms. The need for new houses and public facilities led the city to expand. However, this expansion occurred in two different forms:

- The first form is the emergence of the refugee camps; this is a new settlement form meant to be temporary, but which with the deterioration of the political situation and the existence of the Israeli occupation has turned out to be a permanent residence for many of the refugees to this day. Three refugee camps – *El Jalazoun*, *El Ama'ri* and *Qadura* – were built in and around Ramallah City to accommodate the refugees. One of these camps is located outside the municipal borders; while the others are located within the municipal borders but outside the old centre of Ramallah City. Today these camps are at the heart of the city centre and part of its urban structure, despite the incomparable quality of the living conditions (see Figure 7-6).



Figure 7-6: *Qadura refugee camp*

- The second form of the expansion came with the spread of buildings in a central circular form in all directions around the old town. However, this form soon afterwards slowly started to take on a linear expansion form, mainly in two directions; the first was directed to the east towards *El-Manara Square*⁴⁸. This expansion line has been directed along the line that connects the old town of Ramallah City with El-Bireh City. On this expansion line, new commercial buildings were constructed, in addition to some public buildings, such as the police station, the Hashemite School, and the radio station. This shift created a new architectural style in the residential buildings to serve the low-income population. The second expansion line was directed to the southwest, along Ramallah–Jaffa road. Until the late sixties, that was the prevailing pattern of the city expansion. During the seventies, the city expansion started to fill the areas around the old core and around *El-Manara Square*. The development of the industrial area in 1973 led the construction movement and expansions to the western side of the old town. Moreover, the developments started

⁴⁷ Refer to (Khamaisi 1998).

⁴⁸ El-Manara Square is an old square developed with the first developments outside the old town of Ramallah City; today it is located at the heart of the commercial city centre

taking place in a new area – at that time – toward *El-Tirah* and along the way to *Ein-Areek* village. Gradually, the expansions broadened to connect with Betunia City from the south-western side, and to overlap with the development of El-Bireh City, forming a meshed urban fabric to the north- eastern side (Khamaisi 1998).

During the eighties and early nineties, the urban expansion and development of Ramallah City can be summarized in the following directions:

- Destroying the old buildings located close to the city centre (*El-Manara*) and consisting of one or two stories, then replacing them with new multi-storey and multi-function buildings.
- Filling up the empty plots in the built-up area: densifying the built-up area through building additions to the existing buildings, or by constructing completely new buildings.
- Expanding along three main axes:
 - *Birzeit* axis towards the north along the *Ersal* Road.
 - *Ein-Areek* axis towards *El-Tirah* to the northwest.
 - Betunia-Ramallah axis to the west, south along *Jafa* Street.

From the previous description, we notice that the process of urban expansion in Ramallah City started towards the east, then expanded in a radial form around the old town and the new commercial centre (*El-Manara*), and then started to take an axial form of expansion along the main roads in the city, (see Figure 7-7).

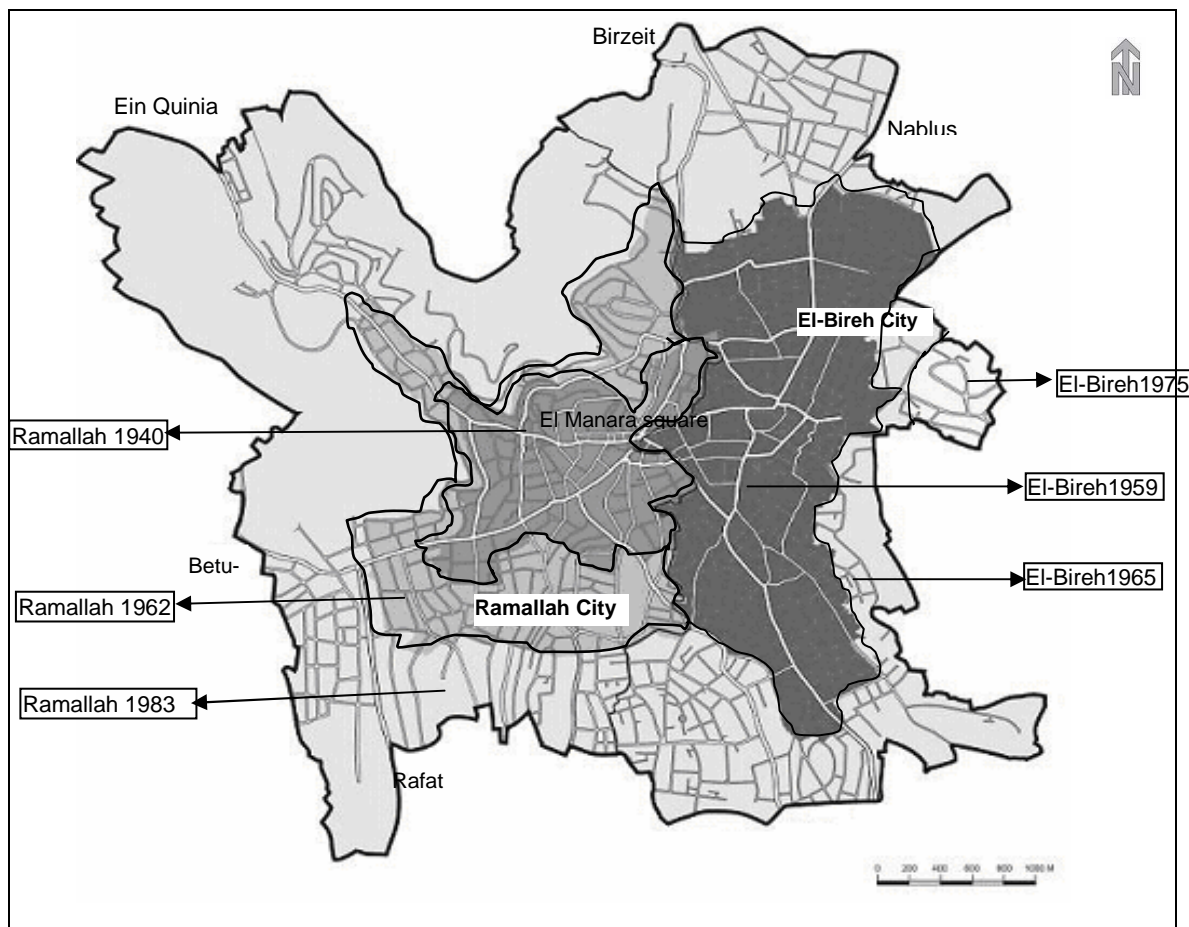


Figure 7-7: Ramallah City's development at three stages (Background map MOPIC)

It is important to add that the period after the 1967 War had witnessed deterioration in the economic situation, which forced many people to immigrate to the neighbouring Arab countries, particularly to the Gulf States looking for work in order to support their families. The money that came from these emigrants helped to develop the living conditions, and contributed to the city development, by once again activating investment and construction movement. The city entered a second period of prosperity, which turned Ramallah City into a touristic centre attracting people from different countries, who came and spent the summer with its mild weather.

As mentioned in Chapter 2, the different planning systems in Palestine affected the development process⁴⁹ in the country. During the time of the Israeli occupation, there were and still serious limitations and restrictions on the issuing of building permits, which obstructed the development of the cities. Moreover, the Israeli occupation issued orders to confiscate land from Ramallah City to build Jewish settlements⁵⁰. These settlements blocked the city's expansion and interfered with the city's contiguity with surrounding villages⁵¹. However, the construction process continued, but not at the same rate, and some infrastructure projects were also executed.

Post Oslo developments (after 1994)

The third shift in the city's development came at the end of the First *Intifada* and the beginning of the peace process between the Palestinians and Israel, with the signing of the Oslo Accords in 1994 and the establishment of the Palestinian Authority to be the first authority run by the Palestinians themselves. With these political changes and the arrival of some returnees in their homeland, many social and economic changes occurred in the country in general, and in Ramallah City in particular. These changes were translated physically through the huge construction movement that took place in the city.

The following part presents a more detailed analysis of this phase of the city's development, since Ramallah City is still encountering the consequences of this shift in development. On the other hand, there are many expectations which assume the occurrence of a similar development boom as soon as the political situation improves, and a peace agreement is achieved. Therefore, in order to understand the characteristics of this phase, we should analyze the driving forces that have influenced this period, the resulting outcomes, and the expected consequences. The following (Table 7-5)⁵² illustrates the sequences of the newly emerging circumstances, their associated developments and the consequences of the developments in this phase.

From (Table 7-5) we perceive that the newly created situation has influenced the whole country with many substantial changes that were associated with many developments on the different levels. The remarkable issue is that there have been no preparations to cope with this pace of rapid political, economic, social, institutional and physical changes. This, as a result, has been reflected in a deterioration of the existing physical and urban environment of the city.

⁴⁹ See: Chapter 2, section: Planning system

⁵⁰ See: www.palestine-encyclopedia.com/EPP/chapter18.htm

⁵¹ See: www.brightonpalestinecampaign.org

⁵² The information and conclusions presented in the table have been deducted from the interviews done with the different stakeholders in the city.

Table 7-5: Analysis of the transformations post Oslo Accord in 1994, and their impacts on Ramallah City

Emerged circumstances
<ul style="list-style-type: none"> - Change in the political situation: the end of the first Intifada and the beginning of the peace process negotiation (in general) - Return of many Palestinians from exile: the Returnees, mainly those working with the Palestinian Authority (in general) - Establishment of the Palestinian Authority (physically located in Ramallah) - Division of the Palestinian territories into areas A, B and C according to Oslo Accord (general) - Increase of the financial support from donors and international community to build the new Palestinian state (general).
Associated developments in Ramallah City
<ul style="list-style-type: none"> - New private and public investments - Physical establishment of the Palestinian Authority (main governmental headquarters and ministries buildings and offices were centralized in the city) - Location of many international representative offices and diplomatic missions in the city - Increase in construction activities, mainly in housing and office buildings - Emergence of new job opportunities - mainly in the governmental sector (army, police, ministries, etc.) - Establishment of many non-governmental organizations (NGOs) and relocation of others in the city - Settling of many of the returnees and people working in the Palestinian Authority in the city
Consequences of these developments
<ul style="list-style-type: none"> - Physically: <ul style="list-style-type: none"> - Rapid growth and construction boom - Pressure on the existing infrastructure - Pressure on land - Deteriorated quality of newly constructed buildings (commercial construction) - Urban expansions to the surrounding natural and agricultural areas - Destruction of green structure in the city (for building and investments) - New architectural style – high multi-storey buildings - Change in the city’s skyline - Destruction of historical buildings and cultural heritage sites - Socio-economically: <ul style="list-style-type: none"> - Slight improvement in the economic situation - Unrealistic increase in land prices - Inflation in rents and living costs - Internal migration to Ramallah City (searching for job opportunities) - Increase in population (returnees plus people from other regions) - Social incoherency (new social mix between different social groups) - Increased pressure on services and utilities (health care, education, etc.) - Environmentally: <ul style="list-style-type: none"> - Depletion of natural resources - Deterioration of natural landscapes and agricultural land - Pollution (air pollution, water pollution, soil contamination, etc.)

Hence, the huge developments that took place in Ramallah have fuelled the city's growth, but there were no detailed plans and future visions to control and steer this growth. Consequently, this led to several problems concerning the city's form and structure, from both the architectural and planning perspectives. For example, a remarkable feature of this stage is the vertical expansion represented by the large number of high-rise (multi-storey) buildings that changed the skyline of the city from being composed of harmonized low-rise buildings, separated by a dense green structure, into a city dominated by high-density construction and rising buildings. These developments have left only little open space inside the city, especially in the city centre. Most of the formerly open areas are now filled with huge buildings. The investment mentality led to the destruction of the image of the sloping, hilly city by levelling the hills to gain extra floors in the buildings. The accelerated mode of developments also increased the pressure on the existing infrastructure in the city. Therefore, the result was a vast deterioration in the city's environment and landscape, with little respect for planning considerations, which are supposed to pay regard to the eco-system, sustainable development and the aesthetic values of the city.

Since the onset of the Second *Intifada* in September 2000, the pace of development has declined due to the deterioration in the political situation and the successive invasions by the Israeli forces. The exacerbation of Israeli desecrations and restrictions in the Palestinian Territories led to a situation of instability and insecurity. This has been clearly reflected in the reduction in construction and investment activities, which have continued but at a slower pace and at greater risk. Table 7-6) shows the decline in the number of building licenses issued since the beginning of the Second Intifada:

Table 7-6: Comparison of the number of issued building licenses between 1994 - 2004

Year	No. of building licenses issued
1994	125
1995	119
1996	120
1997	195
1998	207
1999	198
2000	205
2001	139
2002	86
2003	169
2004	149

———— Beginning of the 2nd Intifada

Source: Ramallah Municipality, building licenses statistics 1994 - 2004

Impacts of post-Oslo developments on the land market

Economic concepts of demand, supply, cost and competition have important influences on land uses and land prices. Increased demand inflates prices, whereas rapid urbanization creates demand for more housing, and thus influences land conversion for this purpose. The political changes after the Oslo Agreement and the partial authority transfer from Israel to the Palestinians have been followed by social and economic changes in the Palestinian Territories, especially in the larger urban centres, such as Nablus, Ramallah, Hebron and Gaza. The return of many Palestinians and international missions to

Palestine increased the need for housing and offices, which fuelled the construction movement in the cities, and pushed up the housing prices and rental rates considerably. In Palestine, land and real estate are privately owned, and the land market is not controlled or restricted. Therefore, the land prices have risen dramatically without any control, especially in areas (A)⁵³.

For a long time, land tenure was the secure means for protecting wealth, whereas land property is an honour for the Palestinians and had a great historical and cultural significance. More recently, a small group of brokers and investors has introduced new concepts. Ramallah City, because of its centrality and its new role as a centre for the Palestinian Authority, has become an attraction for many investors from inside and outside Palestine, who have rushed to buy land inside the city and invest mainly in real estate. As a result, this has led to a radical raise in the land prices – especially near the city centre and alongside the main roads – making the land prices unrealistic.

Several factors have contributed to the raising of land prices in Ramallah City. These factors can be summarized as follows⁵⁴:

- Scarcity of land: most of the areas under the Palestinian control (areas A) are built-up areas with few vacant plots for development.
- The increased demand for land: many returnees have settled in Ramallah; also many investors are interested in buying and investing in the city, which has increased the demand for land.
- The political changes: the political stability has always led to rising land prices. However, in Ramallah City the deterioration of the political situation did not lead to a fall in land prices; on the contrary, they continued to rise because of the constant demand.
- Manipulation and easy profit: many land brokers and dealers have played their part in raising the land prices through manipulation and by giving unrealistic prices and information. Furthermore, they gained easy profits by buying and selling land in a short time.
- Affordability: in Ramallah, around 80% of land sales have been to Palestinians living in the United States, who can afford to pay high prices, and are willing to invest in their home country after the increased restrictions on Arabs after September 11th.
- Guaranteed savings: the banks in Palestine do not give high returns on savings. In addition, the taxes on land are still relatively low. Therefore, many people prefer to invest in buying land as a secure means of saving with retained value, especially given the political uncertainties in the country.
- Weak planning: the planning authorities have no clear restrictions on land a use, which allows any uses that raise the land value.

The previous factors are dramatically affecting the land market in Ramallah, and rapidly changing the physical, social and economic character of the city. Land is a main form of capital and a scarce resource which has been misused and manipulated. Therefore, the specialized authorities should introduce new actions and regulations to provide orientation for the land market. For instance, changing the land taxes system, and controlling land uses and building licenses, in order to be able to promote more sustainable development and controlled future expansions in the cities.

⁵³ Areas (A) are those under the complete autonomy of the Palestinian Authority according to the Oslo Accord's land classification

⁵⁴ These factors are conducted from the interviews and the discussions with officials from the land authority department and Ramallah Municipality, in addition to the author's personal observations

Physical characteristics of the city today

The size, density, form and structure reflect the performance and efficiency of cities, parallel to the existing land uses, transportation system and open spaces and green structure, as discussed in Chapter 4 and Chapter 6. In the previous sections, the different phases of Ramallah City's development have been illustrated. In this section, the city's present form and structure will be analyzed by using the selected criteria for measuring sustainable physical development in cities, which have been introduced in Chapter 6. This set of criteria will be employed here to assess the physical performance of Ramallah City. Subsequently this assessment will help to develop future scenarios for the city's future physical development.

Urban form and density

Different factors determine the form and density of urban areas; some of these factors are natural ones, like the topography, climate or the geographic location, whereas others are man-made, such as building regulations and plans, as well as the social, economic, political and cultural factors. In the previous sections, the different factors that contributed to shape Ramallah City from its establishment up to its current form have been described. The following paragraphs will describe the built-up structure and the built-up density of the city.

Built-up structure

The built-up horizontal structure of the city follows a radial form, emanates from the city centre – the commercial area and the old core – and spreads along four main axes: the northern axis towards *Birzeit* Town, the southern axis towards *Rafat* Village, the south-western axis towards Betunia City, and the north-western axis towards *Ein-Qinia* Village (see Figure 7-8). The proximity of El-Bireh City on the eastern side has limited the city's expansion in that direction. Correspondingly, the built-up vertical structure has a pyramidal shape, which decreases gradually from the city centre and along the main roads – where most of the high buildings are constructed – moving outwards in the direction of the city's outskirts (Khamaisi 1998).

The city's master plan and the municipality building regulations⁵⁵ in the different areas restrict the height, the function and the density⁵⁶ of buildings. For instance, in the residential areas, classified as (Villas area), the minimum area of the land parcel should not be less than 1,000 m², with the allowed percentage for building standing at 20% (for the basement floor) of the total land area, and 50% (as total villa area). Likewise, the maximum height of the villa should not exceed 9m (See Table 7-7). Nevertheless, sometimes there is a lack of compliance to the regulations, which leads to the transgressions and violations seen in the city.

⁵⁵ Ramallah Municipality regulations classify the residential areas into three categories A, B and C, where each category has a certain criteria determine its allowed area, height and offset from neighbours

⁵⁶ Density here refers to the allowed percentage of built up area from the total land parcel area

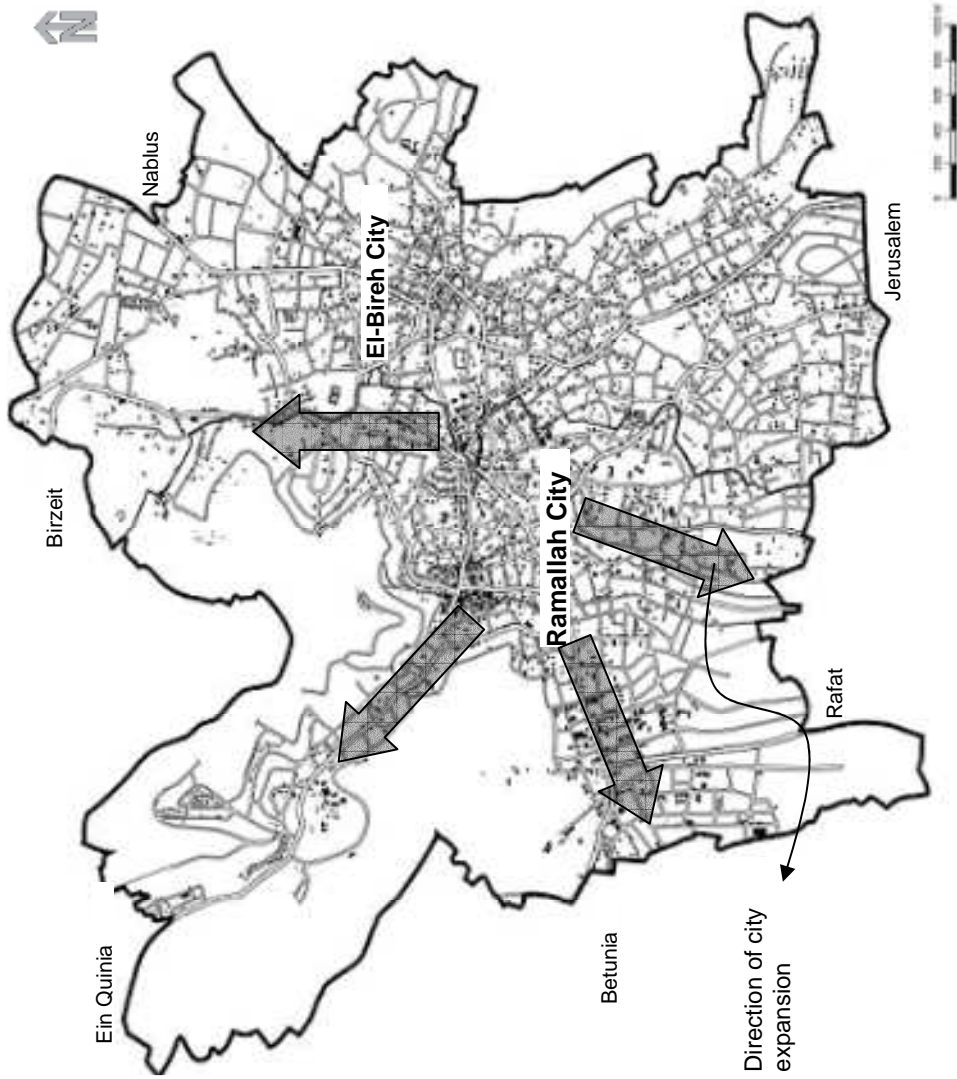


Figure 7-8: Ramallah City's built up structure (background map MOPIC 1998)

Table 7-7: Ramallah municipality's building regulations in the different areas of the city's structural plan

Use	Min. area of land parcel (m ²)	% of floor area of total land area	Building height	Offset from land parcel boundaries		
				Front (m)	Side (m)	Back (m)
Housing (A)	1000	36%	12*	5	4	5
Housing (B)	750	42%	15*	5	3	4
Housing (C)	500	48%	15*	4	3	4
Villas	1000	30%	9	5	5	5
Handicrafts & light industries	1000	50%	15	5	5	5

* Building height can be increased if the land parcel area is more than 4 Dunums; then it is allowed to build a multi-storey building with the approval of the municipality

Source: Ramallah Municipality building regulations, (Khamaisi 1998)

Urban density

The density of the built-up areas in Ramallah City has increased remarkably in the last decade, because of the political changes, and the associated demographic and physical changes, as mentioned earlier. The total city's administrative area is (14,706 km²), whereas the total built-up area is (6,756 km²) (PCBS 2000). During the period between 1989 and 1994, there was an increase in the total built-up area estimated at 16.1%, with an annual area of expansion of 0.397 km². During the period between 1994 and 2000, the increase was estimated at 24.5% and the annual area of expansion at 0.585 m² (ARIJ 2005). By analyzing the demographic changes in the city and the associated urban developments, it becomes clear that there has been a considerable change in the density of the built-up area. The urgent need for housing to accommodate the rapid increase in the city's population encouraged the building and construction movement. Since the area designated for building within the boundaries of the city's master plan is relatively limited, there has been a densification in specific areas, such as the commercial city centre, and some residential neighbourhoods, as shown in (Figure 7-9).

According to the Applied Research Institute of Jerusalem (ARIJ 2005) and the Palestinian Central Bureau of Statistics (PCBS 2000), the built-up density in Ramallah City continues to increase; the following (Table 7-8) shows the increase in the gross density⁵⁷ and the built-up area net density⁵⁸ between 1997 and 2000:

Table 7-8: Ramallah City's gross and net densities in 1997 and 2000

Year	Population	Total city area (km ²)	Built-up area (km ²)	Gross density (Per./km ²)	Net density (Per./km ²)
1997	18,017	14.706	5.909576	1,225.2	3,048.8
2000	21,488	14.706	6.756184	1,672.7	3,180.5

Source: derived from ARIJ 2005 and PCBS 2000

⁵⁷ Gross urban density calculates the number of people per square kilometre of the total city area including the open and agricultural land

⁵⁸ Built-up areas net density calculates the number of people per square kilometre built-up area, excluding the open and agricultural land

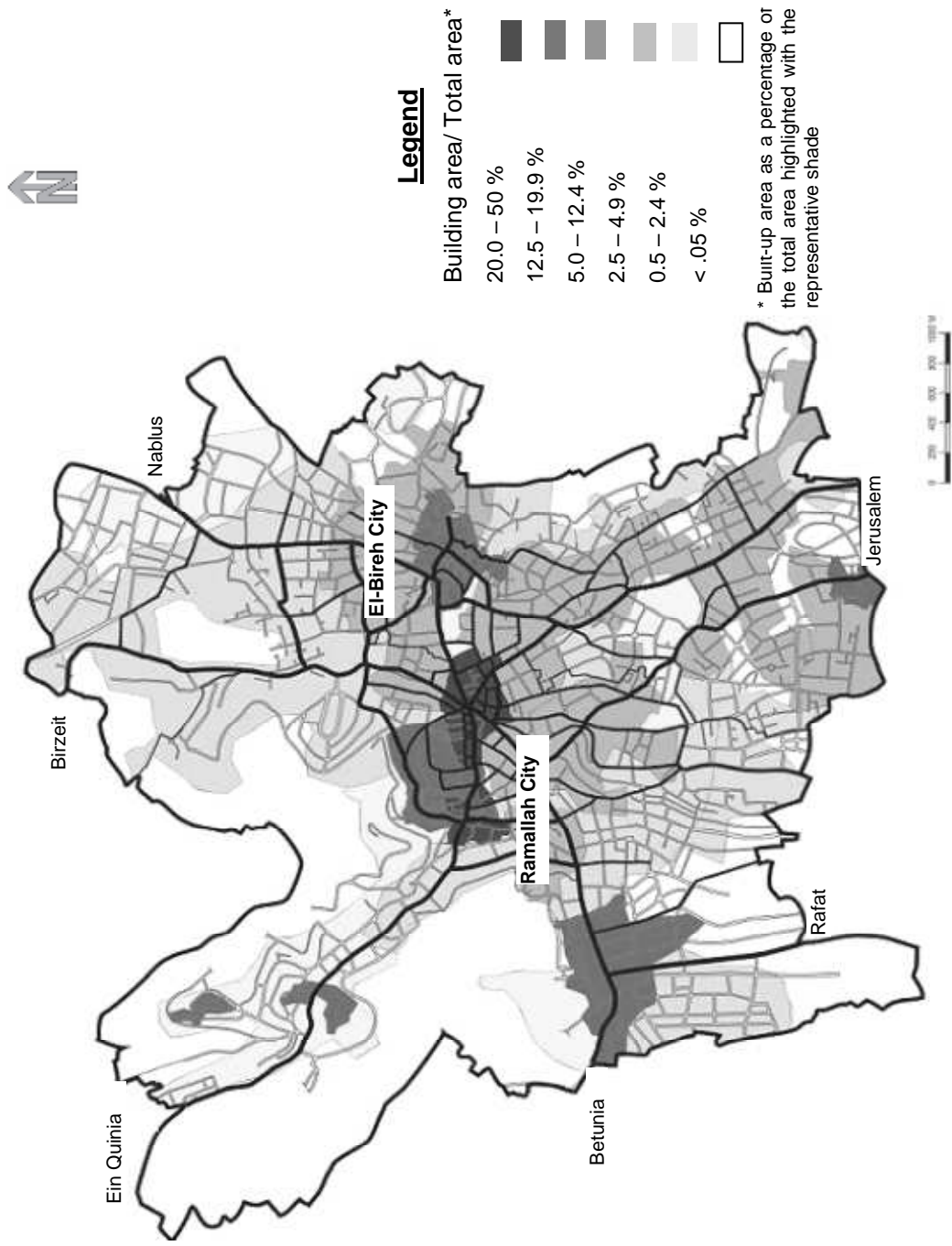


Figure 7-9: Ramallah City's built-up area density (background map MOPIC 1998)

However, the urban population density in Ramallah City is relatively moderate, if compared with other Palestinian cities, such as Nablus and Jenin, where the urban population densities are (10,811 person/km²) and (7,722 person/km²) respectively. Nevertheless, from the projected demographic growth in the Palestinian Territories, and in this case in Ramallah City, the densification of urban areas will become a substantial issue.

Land uses

The land-use types are usually categorized according to their position and functional characteristics, and are often predetermined through master plans. However, there are many factors influencing land uses and changing them, such as rapid urban development and the sudden increase in population, which is the case in Ramallah City. The fact that most of the land in the urban and rural areas in Palestine is privately owned means that the main developments and construction are often done by the landowners themselves for private uses or for investment purposes, which makes dedicating land for public services and facilities somewhat difficult. In addition, the scarcity of land suitable for development or within the boundaries of the city's structural plan also influences the land uses inside the city. Looking at the land-use map of Ramallah City (Figure 7-11) reveals four main land uses found in the city; these are described as follows:

– Residential neighbourhoods

Residential neighbourhoods form the main land use in the city because of the urgent demand for housing. Residential areas are spread all over the city and vary in their characteristics according to the municipality classification for the different building areas in the master plan. Nevertheless, these areas can also be classified according to their quality, architectural style, location, density, price and accessibility. The residential neighbourhoods extend from the old core of Ramallah City, and spread mainly into the southern and eastern parts of the city, due to the steep topography on the northwestern side (See Figure 7-3).



Figure 7-10: Different residential areas in Ramallah City



Figure 7-11: Ramallah City's Land-use map (background map MOPIC 1998)

The housing types in the city vary in their forms, from single-family detached houses – the city’s traditional style of housing – to multi-storey residential buildings – the new housing trend that emerged in the last decade. The quality of buildings and residential areas also varies. Some areas are relatively dense and mostly inhabited by low and middle-income residents, like Em-Elsharaiet area, which is located in the south-eastern part of the city. Other areas have a mixture of villas and multi-storey buildings, like El-Masyoun and El-Tirah areas (see Figure 7-10). In general, the residential areas suffer from the lack of neighbourhood open spaces, gardens and playgrounds. However, this refers, first, to the private ownership of land and the scarcity of public land for such community facilities (as mentioned earlier), and second, to the lack of municipality resources to purchase land for these purposes. Nevertheless, the basic facilities like grocery shops and pharmacies are found in these areas.

– Commercial centre

The main commercial activities in Ramallah City are concentrated mainly in one area, which has developed as an expansion from the old core centre and extends along the main roads toward *El-Manara* Square (See Figure 7-12), which connects the twin cities of Ramallah and El-Bireh. The commercial centre can be described as the heart of the city, and the junction where the city’s radial road network meets. The city centre has mixed land uses, dominated by commercial activities, but also residential, educational and services facilities. The commercial city centre has a relatively dense structure dominated by multi-storey buildings that extend along the main roads and branch roads to create minor conglomerations. Green structure and open spaces are sporadic; the only open spaces in the centre are the vacant undeveloped sites.

The rapid urban expansions in Ramallah City encouraged the development of a number of sub-commercial centres, which extend along the main roads, like *El-Ersal* Street, that connect Ramallah City centre with the residential neighbourhoods in the northern part of the city.



Figure 7-12: Ramallah City's commercial center - (*El-Manara* Square)

– Industrial zone

In Ramallah City there is one industrial area located in the south-western part of the city, on the way to Betunia City (**Error! Reference source not found.**). The expansion of Ramallah City and Betunia City towards the southwest and northwest respectively surrounded the industrial zone with residential areas, which has created a residential/industrial mixed-use area. This area is considered problematic because of its negative environmental impacts and the degree of pollution caused. Also since the prevalent wind in Palestine is north-western, it carries all the smoke and smells from the industrial area to the residential neighbourhoods located on the top of the hill that overlooks on it from the eastern side. Moreover, directly behind the industrial zone there is an open dumping site, which causes severe environmental degradation and pollution.

Inside the industrial zone there is no trace of any greenery; the only thing that can be seen is the rubbish and trash piled alongside the streets and in front of the factories and workshops.



Figure 7-13: Ramallah City's industrial area

– Green areas

According to the land uses in Ramallah City, there are two types of green areas: the first are the small parcels of woods between the build-up areas, whereas the second are the open natural and agricultural landscapes which embrace the city from the western and the north-western sides. The amount of green areas in the city is decreasing because of the encroachment of the urban expansions.



Figure 7-14: Ramallah City's green structure

Land- use conflicts

From the previous description of the major land uses in Ramallah City, some remarks are drawn about the existing land-use conflicts in the city⁵⁹. The causes of these conflicts once again are to be found in the absence of an effective and influential local planning institution, as well as in the political conflict in the country. The following summarizes the various land-use conflicts:

- Scarcity of land suitable for development led to expansion on to the agricultural land and into natural landscapes. It also led to the destruction of some valuable buildings that represented part of the city's cultural heritage in order to allow investment on their sites by constructing multi-storey buildings.
- The high land prices in Ramallah City pushed the people out from the central areas towards the city fringes, which created a conflict with the surrounding landscapes.
- The prevalent private land ownership restricts the ability of planning authorities to set up development plans freely without taking into consideration the fact that land is privately owned.
- The Israeli occupation and division of the territories into areas A, B and C⁶⁰ has affected Ramallah City and limited the city's development to area (A) only, which, consequently, has affected the land uses.
- The locations of the industrial zone and the dumping sites have hazardous environmental impacts threatening people's health.

⁵⁹ The land use conflicts are extracted from the ongoing "Metropolitan Ramallah Project" carried out by the Ministry of Local Government in cooperation with the Ramallah Municipality, the Ministries of planning and environment.

⁶⁰ See Chapter 2 , section: Urbanization trends

- The lack of regional and cross-boundary planning between Ramallah City and its adjacent cities and villages has caused conflicts in land uses in the boundary areas, for instance around the industrial zone between Ramallah and Betunia Cities.

These conflicts should be considered when developing the future expansion and development plans for Ramallah City and its adjacent communities.

Transportation

Transportation, traffic modes and travel distances are directly related to the sustainable urban development debate. Planners are discussing the issues of a city's compactness, non-motorized travel modes and short travel distances to reduce fuel and energy consumption, as well as the amount of pollution resulting from motorized traffic. In Palestine, cities and towns are relatively small in size and travelling distances are short, in comparison with other countries where people have to commute for long distances everyday to reach their working places and different destinations.

The roadway network forms the backbone of the transportation system in the West Bank, including Ramallah & Al-Bireh District. Ramallah City has a radial roadway network, starting from the city centre (in *El-Manara* Square) and spreading in all directions to connect with the regional roads of the West Bank. The local roads inside the city serve local traffic within the commercial, residential and industrial areas. These roads extend from the main node or branch out from the radial roads which originate at the central node (see Figure 7-16).

Since 1995 traffic has increased by 197%, according to the number of registered vehicles in Ramallah & El-Bireh District. This has intensified the traffic congestion problems inside the city (Universal group for engineering & consulting 2005). Moreover, the orientation of roads towards the city centre as part of the radial road structure and the limited capacity of the roads within the central area, have increased the pressure on the existing roadway network.

Given the rapid increase of the city population and the high dependency on motorized traffic, three major conflicts are found in the city:

- Shortage of parking places: there is a considerable shortage of parking places especially in the city centre. According to the municipality engineers, new parking areas and parking garages have been constructed. Nevertheless, people do not use them because of the weak enforcement of on-street parking restrictions, which encourages drivers to park illegally and disrupt the traffic flow.
- Unorganized public transport: there is a lack of public transport to facilitate the internal movement of people inside the city; neither buses nor shared taxis serve the various areas and neighbourhoods. In addition, the level of public transport provision that connects Ramallah City with the surrounding towns and villages is also low; operations are not well organized or governed by a schedule. According to the Ministry of Transportation, bus companies currently operate only 20 to 30 percent of their vehicles due to economic hardships. Therefore, buses currently play a relatively minor role in the provision of public transport.
- Lack of pedestrian areas and non-motorized modes: one of the major problems in the city centre is the lack of adequate facilities for pedestrians. The existing narrow sidewalks are not sufficient, and do not always exist along the sides of the streets. Moreover, there are no pedestrian and auto-restricted zones within the city centre, where heavy pedestrian movement takes place.

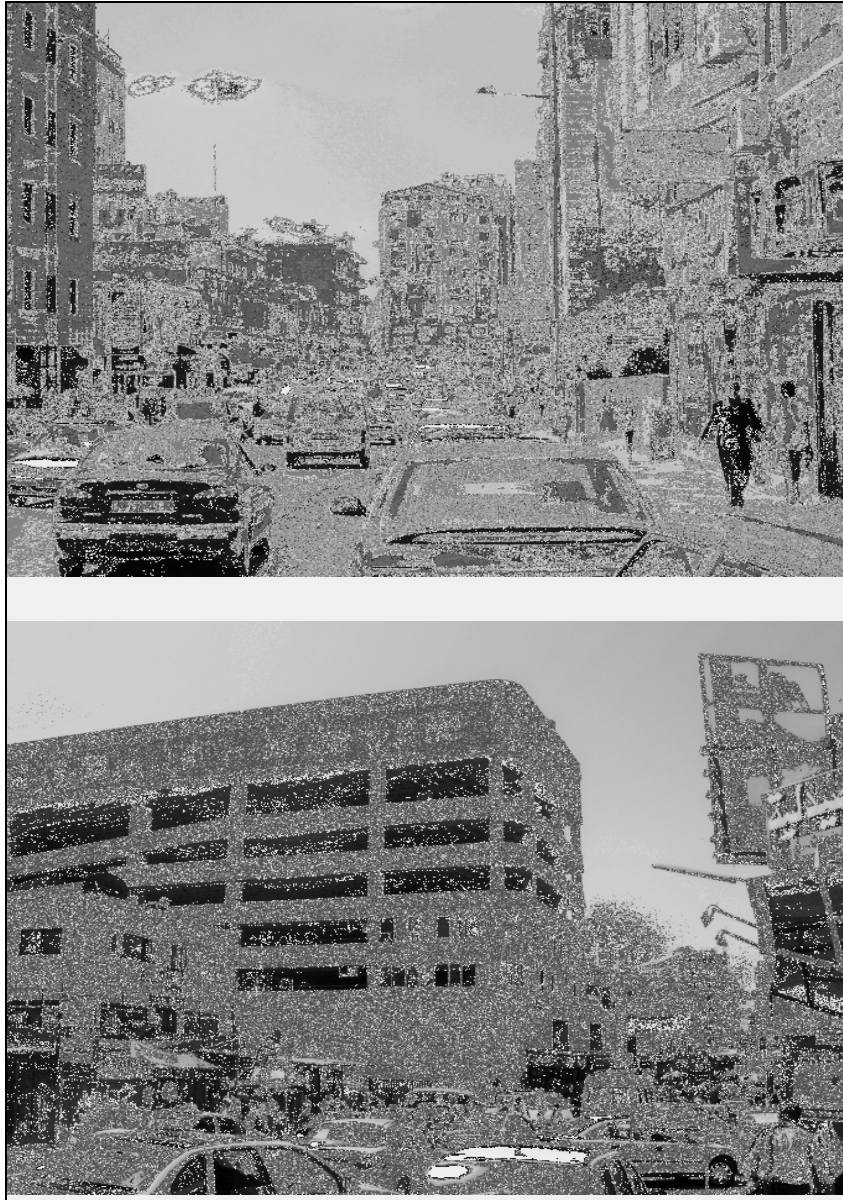


Figure 7-15: Traffic in Ramallah City centre

Ramallah City needs better traffic and transportation management which can create free or restricted automobile zones in order to reduce congestion in the city centre, as well as to improve the air quality through reduction of polluting emissions. Moreover, organizing and operating an efficient public transport system is essential to facilitate the movement of people inside the city. Newman and Kenworthy (1999) propose different approaches and techniques to reduce automobile dependency; some of these proposals can be studied and applied to Ramallah City.

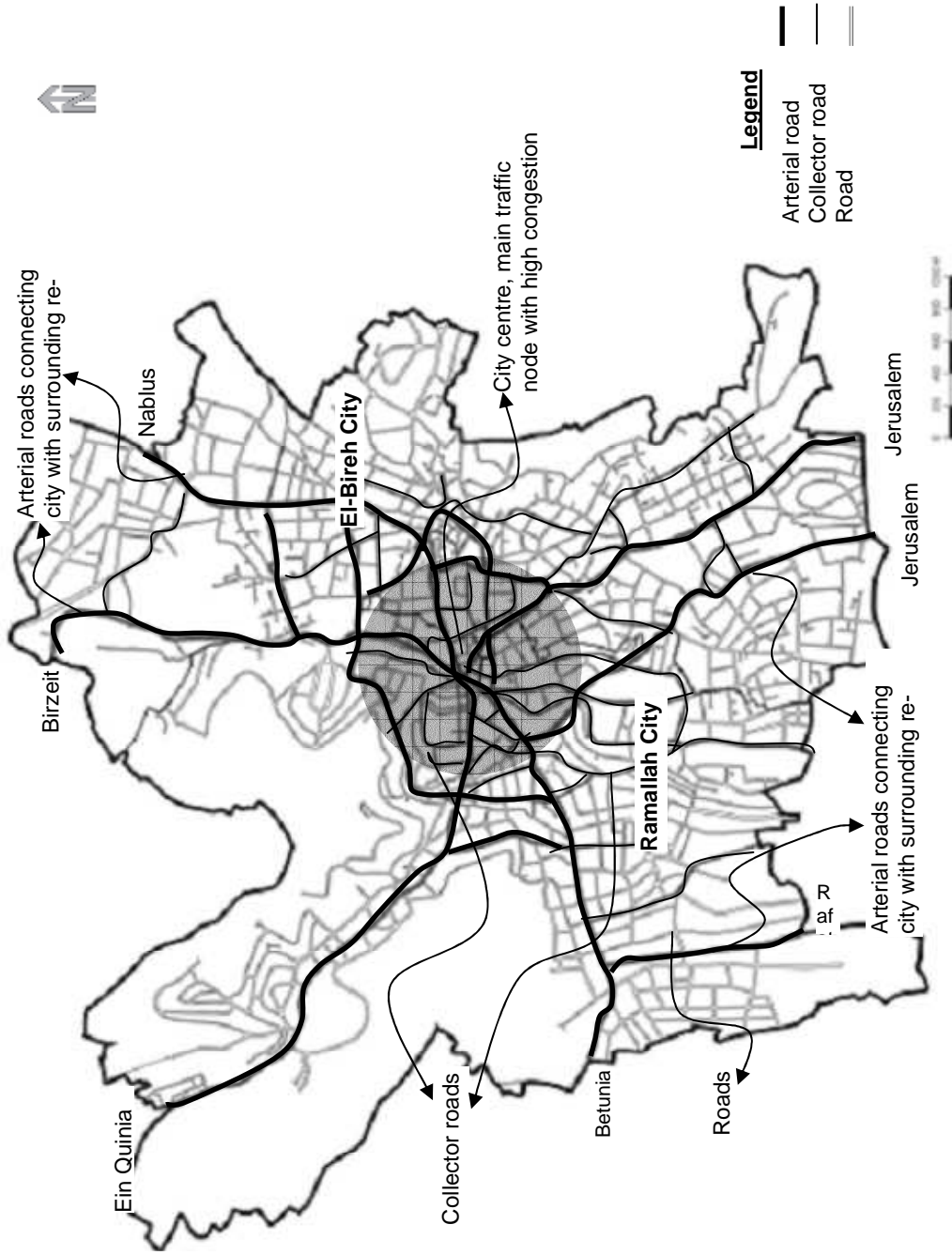


Figure 7-16: Ramallah City's road structure (background map MOPIC 1998)

Green structure and open spaces

Green structures and open spaces are important elements for ‘sustainable’ cities. In addition to their support for recreation and nature, they are essential to improve water and air standards, as well as to provide general enhancements to living quality. Open spaces consist of a composite structure of formal and informal sites, some of which are specially designed for public recreation, and others which have accidentally acquired an amenity or environmental function (Selman 1996). Variations the amount, type and structure of green spaces appear to make some urban layouts more efficient than others in the way they interact with the environment. Therefore, the “urban landscape structure zones” for Ramallah City are analyzed in this section to assess the nature, amount and quality of these spaces in the city.

Ramallah City during the '50s and the '60s was known as the ‘bride of Palestine’ for its location and its charming natural scenery. For many years, it was a destination that attracted many tourists from inside and outside Palestine, especially during the summer time, because of its distinctive hilly nature, cool breeze and unique red-roofed houses, which can be seen in the poetic description by Mourid Barghouti (2000, p. 37) ⁶¹:

“Ramallah of the cypresses and the pine trees, the swinging slopes of the hills, the green that speaks in twenty languages of beauty.”

However, the past image of Ramallah, as an agricultural village – as mentioned earlier – with olive-trees terraces and the tiny pinewoods, has been changed by time. Nowadays, increasingly, piles of stones and construction are invading the open landscapes around and inside the city (see Figure 7-17).



Figure 7-17: Urban expansions to the open landscapes

⁶¹ This poetic description of Ramallah City has been cited from Mourid Barghouti’s book “I saw Ramallah”.

Nevertheless, some open spaces and green areas are still to be found in the city. However, before classifying the types of green structures that exist in Ramallah City, it is important to mention that the absence of a Palestinian planning system has also affected the availability and form of green structure in the city. The designation of green areas and open spaces for recreational purposes was not taken into consideration; in addition, the restrictions on building and expanding to the natural landscapes were not effective.

The classification of the green areas and open spaces in Ramallah City is based on the concept mentioned above by Selman (1996). Thus, the following types are represented in Ramallah City's green structure (see Figure 7-18):

- Gardens and parks: private gardens are the main green structure in the city. These gardens are mainly found around the old houses – which are preserved in their traditional form and style – and around the newly constructed detached houses or villas. These gardens vary in their area and vegetation. Mainly, they are dominated by local vegetation and plants. In Ramallah City, there are no parks, children's playgrounds or open green areas for public use, except for a very small municipal park adjacent to the city's municipality building.
- Roadside vegetation: some trees and street vegetation are to be found on the sides of the main roads in the city, and those at the entrances to the city. Despite the municipality's efforts to maintain this greenery, it often suffers from lack of maintenance and drought.
- Cemetery: only one of the city's cemeteries is distinguished by being located in the middle of a small pinewood.
- Empty parcels inside the city and open landscapes in the city fringes: the vacant, undeveloped lots also contribute to the city's green structure. Usually they are planted with fruits, olives, figs and cypress trees. The open terraced landscapes around the built-up areas are planted with olive orchards retaining its original image – in areas not yet reached by expansions.

The previous description indicates that the percentage of the existing green structure and open spaces inside Ramallah City is relatively low (see Figure 7-18), and mainly maintained by the city's inhabitants. In contrast, on moving outwards to the city fringes, we can still see the natural terraces planted with olive trees, as well as the first buildings sprawling in their direction (see Figure 7-17).

Thus the green structure in Ramallah City is threatened and liable to destruction as long as the construction movement continues to expand at the expense of open spaces and natural landscapes. The future environmental risks will be noticed – as in many other cities around the world – when the amount of air pollution and smog increases, and the environmental quality of city life decreases. Therefore, it is essential to be aware of the future consequences of the disappearance of the green structure, and the importance of having open spaces and green structure inside the cities.

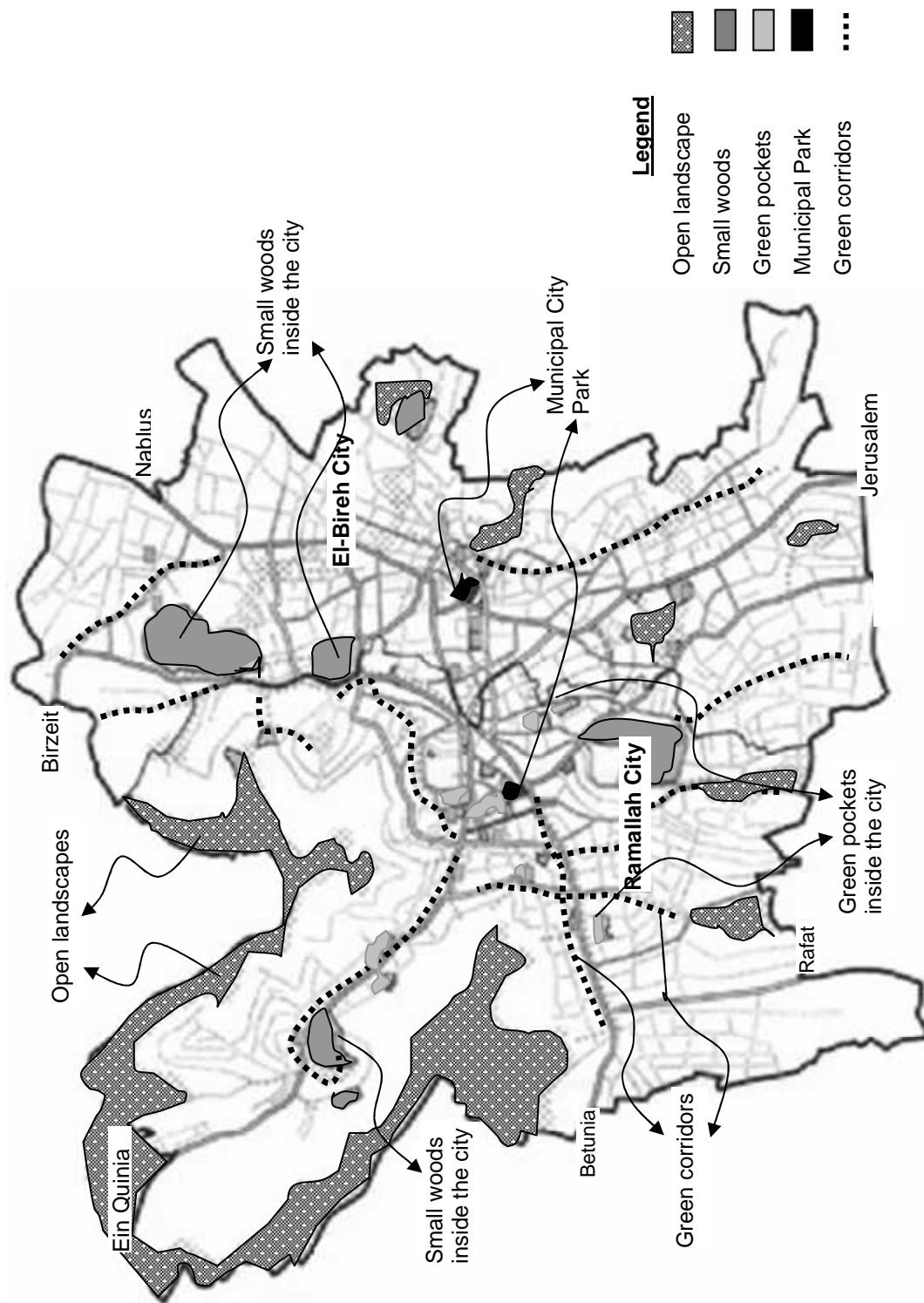


Figure 7-18 Ramallah City's green structure (background map MOPIC 1998)

Seeing it all together

The physical characteristics of Ramallah City show a changing pattern of dynamic urban development which reflects the socio-economic and political changes in the country. From the previous description of the actual physical characteristics of the city, we notice that the different criteria are interrelated. Though they are categorized and classified individually, the land uses are connected to the distribution of the different zones, along with the availability of open spaces and green areas. Likewise, the accessibility of the residents is related to the viability of public transport, while the efficiency of the public transport system is dependent on the optimal density in the different areas; therefore, it is essential to see it all together.

There are many critical issues which can be extracted from the actual physical conditions in Ramallah City, and necessarily, will have irreversible consequences in the future. The prediction of these consequences is not easy, especially as it concerns an unclear future. Nevertheless, there are some indicators upon which future assumptions can be built.

The demographic projections for Ramallah City indicate that within 22 years' time the city's population will double (Amro 2005), which raises a very big question for the future: 'Where should the people go?'

Knowing that the average size of household in Ramallah City is projected to reduce from 5.2 to 4.6 persons per household, the number of households may rise by 4,500 over the next 20 years. This means that the need for land, housing, services, and employment will double and put high pressure on the city. Having these projections in mind, and assuming that the actual physical situation in the city will continue in line with current trends, what will the city look like in 20 years time? In addition, what will be the physical consequences of the high population increase in the city?

To a certain extent, these questions might sound provocative; nevertheless, they can tell us in which direction the city's urban development is heading in the future. The next chapter seeks to find some answers to these questions by presenting two contradictory but indicative visions – the *business as usual* scenario and the *sustainable development* scenario. Through demonstrating two different patterns for the future physical development in Ramallah City – one follows the current pattern of development, whilst the other follows a more sustainable pattern – a conceptual alternative for a more sustainable city development is elaborated, as will be seen in the following sections.

Chapter 8

Visions for future physical development in Ramallah City

'Prediction is never easy, especially where it concerns the future.' (Paul Dirac)

In order to deal with the uncertainty of future possibilities, we need 'scenarios' – asking the question 'what if' certain trends are followed with certain actions in certain conditions. In this case, 'scenarios' are an approach which can help adapt to and respond to change as it emerges. There are a number of possible planning scenarios which could shape the cities in the future. However, allowing cities to continue to grow without strategic forethought can only result in more dispersed cities characterized by deterioration of the urban environment, economic stratification, high infrastructure costs, inequitable access to resources, and problems in provision of public services.

According to Robinson (1990), there are two kinds of scenarios: one type is based on forecasting and projects forward from current trends as far as these can be sensibly taken; the other type is based on 'back-casting' – a more creative envisioning of future possible conditions which then informs back to policies or actions which may enable such possibilities. The two kinds of scenarios are used here to contrast one type with the other – in other words, the trend projections of the 'business as usual' scenario with the goal-seeking 'sustainable development' scenario.

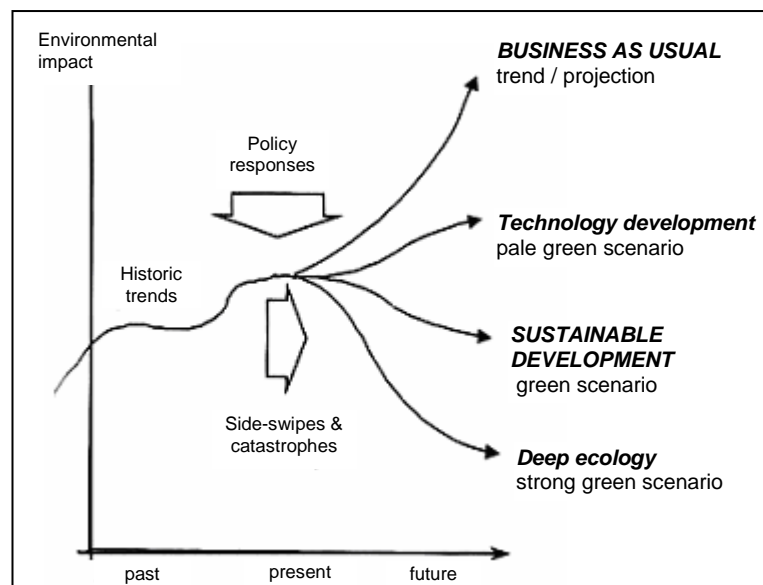


Figure 8-1: Alternative scenarios (Ravetz 2000)

In the Palestinian context in general, and in Ramallah City in particular, any future development scenario is highly dependent on the changes in the political and economic conditions in the country, as discussed in the previous chapters.

For the 'business as usual' scenario, the assumption is that the current political instability that is resulting from the Israeli occupation of the Palestinian land, and the associated economic deficiencies, as well as territorial and physical division and segregation, will continue in the same manner or might even worsen.

The ‘*sustainable development*’ scenario postulates the success of the peace process between the Palestinians and Israel, because political stability is a prerequisite for sustainable development⁶². Accordingly, this scenario assumes firstly that the Palestinian economy will develop very favourably in the Palestinian Territories, and the area of Ramallah City will benefit through this development. Secondly, it assumes that there will be a physical continuity between the different Palestinian cities, towns and villages according to the 1967 borders, with the elimination of the Israeli settlements, military areas and checkpoints. Finally, a solution will be found to the problem of Palestinian refugees, with the prospect that many of them might return to Palestine.

‘Business as usual’ scenario

The current trend, or the ‘business as usual’ scenario for Ramallah City in its general direction, assumes that physical development in the city will continue in line with the current trends⁶³ – rapid physical development, expansions on natural and agricultural land, moderate urban net density, and destruction of the city’s green structure.

From the previous analysis of the different physical characteristics and trends of the city’s development, it can be predicted that sectors like building and construction will continue to grow in order to cope with the high population growth. Consequently, the built-up area will expand into the undeveloped land on the city fringes. Likewise, the problems resulting from traffic congestion, deficiency in public transport, lack of parking spaces and pollution will continue to increase. Also the scarcity of open spaces and green areas will exacerbate and affect the city’s living and visual environment. To elaborate this issue a bit further the following scenario (Table 8-1) applies a method of future forecasting based on the analysis of the physical criteria presented in Chapter 7.

It is important to add that these physical trends are related to (or have resulted from) possible combinations of growth or change, for instance in life-styles – social change or social inertia, economic growth – high or low, in the political situation – stability or conflict, and in environmental protection – strong or weak. The different changes might have a positive or negative effect, or they can accelerate or decelerate the development process. Therefore, it is impossible to generate accurate predictions, especially when it comes to long-term forecasts; nevertheless, it is still possible to provide a general overview based on the indicated basic population growth projections.

⁶² See: the research Presumptions and suppositions

⁶³ See: Chapter 7

Table 8-1: Future forecasting for Ramallah city's physical development

Physical criteria	Actual conditions	Projected future consequences (under the 'business as usual' scenario)
Urban form & density	<ul style="list-style-type: none"> - Rapid city expansion towards the outskirts and on the mountain's versants, because of land scarcity and high land prices in the central areas. - The city's horizontal expansion form is a radial one, emanating from the city centre and expanding outwards. - The city's vertical form is a pyramidal one, decreasing gradually in the outskirts, whereas the number of multi-storey buildings is increasing. - The urban net density is estimated at 3,180.5 persons/km², which is relatively moderate at the moment in comparison with other Palestinian cities. 	<ul style="list-style-type: none"> - The urban expansions will continue in order to meet the demand of population increase. If the urban density rate remains constant (3,180.5 persons/km²), the city's total built-up area will be around (13.3878 km²) – almost double the current value (6.7562 km²) – which means there will be no-open undeveloped land left. - The high demand for land will lead to more depletion and encroachment of natural and agricultural landscapes. - And the city's traditional image and cultural heritage will perish under the surge of the new developments and investments.
Land uses	<ul style="list-style-type: none"> - The main land use is for housing. - In general, there is a separation between the different land uses, except for the city centre and the industrial area, which have mixed uses. - There is an obvious deficiency of open spaces, pedestrian and green areas in the city. - There are many land-use conflicts in certain areas, such as the location of the industrial area and its relation to the surroundings, and the cross-boundary areas between Ramallah City and its neighbouring cities. - The city's municipality has regulations and a master plan to control land uses and urban development; nevertheless, there are some transgressions and violations. 	<ul style="list-style-type: none"> - The need for housing will lead to the development and expansion of more residential areas, and will continue to be the dominant land use. - The population growth will increase the pressure on the different facilities (e.g. commercial, educational, services, health), which might encourage the creation of sub-centres around the main centre, or introduce more mixed uses within the different neighbourhoods. - The exigent city expansion will increase land use conflicts, especially along the borders with the adjacent cities and towns, which will together form one urban fabric – as is already the case with El-Bireh City. - The scarce green structure will disappear under the invasion of buildings. - The violations to the building regulations will continue, unless strict implementation is applied.

Physical criteria	Actual conditions	Projected future consequences (under the 'business as usual' scenario)
Transportation	<ul style="list-style-type: none"> - Ramallah City has a radial road network, starting in the city centre, which causes traffic congestion and pollution. - There is a lack of organized public transport, especially inside the city and between the different neighbourhoods. - There is a high dependency on motorized traffic and a lack of pedestrian areas and non-motorized modes, such as cycling. - There is increased pressure on the existing road network infrastructure. - There is a shortage of parking places inside the city centre. 	<ul style="list-style-type: none"> - The auto dependency will increase to fulfil the needs of the people living in neighbourhoods far away from the city centre, unless an alternative public transport mode is introduced. - The traffic jams and congestion will worsen, especially if the roads network continues to cross the city centre. - The amount of pollution resulting from motorized vehicles will proliferate and seriously affect the living environment in the city. - The parking-space problem especially in the central areas will be exacerbated.
Green structure & open spaces	<ul style="list-style-type: none"> - The city's green structure consists mainly of privately owned land around houses or empty plots. - There is a lack of public open and green areas, e.g. parks and playgrounds for recreation. - Urban developments are expanding onto the natural and agricultural landscapes. - There is a continuous destruction of the green structure, which affects the city's environment and visual quality. 	<ul style="list-style-type: none"> - The scarce green structure will vanish completely and the city will be dominated by piles of stones. - The urban environment and visual quality will deteriorate with the eradication of the green structure. - The ecological system in the city will be affected and many of the original flora and fauna will become extinct. - As long as the city's municipality owns no resources to allocate land for parks and public recreation areas, the deficiency of open spaces and green areas will heighten.

Although the previous forecast of the consequences of the projected future urban development in Ramallah City may sound general and superficial, it nevertheless gives some indication of the possible risks threatening physical development in the city which might not be so apparent now, but which will become more visible in the near future. Clearly, the future course of physical development in Ramallah City seems to be deviating from the sustainability pathway; therefore, it is important to search for alternatives that deal with the future challenges and re-orientate the city's physical development towards a more sustainable direction.

'Sustainable development' scenario

The 'sustainable development' scenario incorporates moderate rates of change in the urban form and structure, land uses and transportation modes, as well as in politics, institutions, and economy. Moreover, under the continuous flux and changes in the different aspects of the city, the 'sustainable development' scenario prospect is more to steer the changes in motion, rather than create them. By pursuing the 'sustainable development' scenario, many benefits can be attained, such as:

- Promoting an efficient urban form that reduces demands for land, transport, energy and other resource.
- Maintaining cohesion and viability of local communities and economies within the city and its region.
- Reducing environmental pressures and impacts on the surrounding areas.

According to Ravetz (2000), the urban form is a key factor in the environmental and social sustainability of the city, and since 'land' in Palestine – in this case in Ramallah City – is perhaps the most finite resource of all, the emerging question is what should the physical development in Ramallah City look like according to the 'sustainable development' scenario? To answer this question, it is convenient to go back to the theoretical debates about the different 'sustainable city' models, presented in Chapter 4. Also to the derived definition for 'sustainable development' in the Palestinian context, and to the selected criteria for 'sustainable physical development' in the Palestinian cities, discussed in Chapter 6, then to elaborate them in the context of Ramallah City.

However, looking at Ramallah City on its own, as defined by its administrative boundaries, will not be sufficient in the search for a more sustainable city form and structure; the entire city-region should be considered. Hence, in order to cope with the future demographic challenges in Palestine and particularly in Ramallah City, alternatives based on regional perspectives might be the solution which can reduce the pressure on the city, and contribute to the development of the whole region. Therefore, a sustainable urban development concept should be seen on two levels: the macro city-region level and the micro-city level. The following development concepts and strategies are ideas that may contribute to the achievement of a more sustainable physical development at the different city levels – the city-region, the city, the urban districts, as well as the neighbourhoods' levels.

Spatial development at the macro city-region level

City expansion must always be seen in its larger context. The city regional perspective has to date hardly been considered within the urban development task fields. The question here is, where should the settlement expansions end in the city region? Concepts of

decentralized concentration, i.e. an organized city-region development on optimal centralities, may offer the chance to plan necessary settlement expansions under consideration of regional resource protection, so that the local sustainable spatial structures contribute to overall spatial growth (Archibugi 1999). Developments in Ramallah City have so far not corresponded to these ideas – as clarified earlier in Chapter 7.

Thus, as a result of the rapid urbanization process, the increased demand for space at the city outskirts led to the encroachments on to agricultural lands and contributed to the unsustainable present. Therefore, there is a need to make a shift in the development process to a better and more efficient one.

Decentralized concentrations as a development concept

The development concept of Ramallah city-region is based on a polycentric net of decentralized concentrations as an organizing principle for its spatial development⁶⁴. This concept may be used as a base to achieve a more sustainable development in Ramallah city-region. The polycentric net is employed here as a spatial objective to overcome the continuous urban development pressure on Ramallah City by concentrating settlement growth on optimal centralities within Ramallah city-region, and reducing the widespread and dispersed communities (see Figure 8-2). At these optimal centralities, new housing potentials would be provided, along with complementary workplaces and facilities. This concentration supports efficient public transportation and traffic flow, and environmentally more compatible supply and disposal structures.

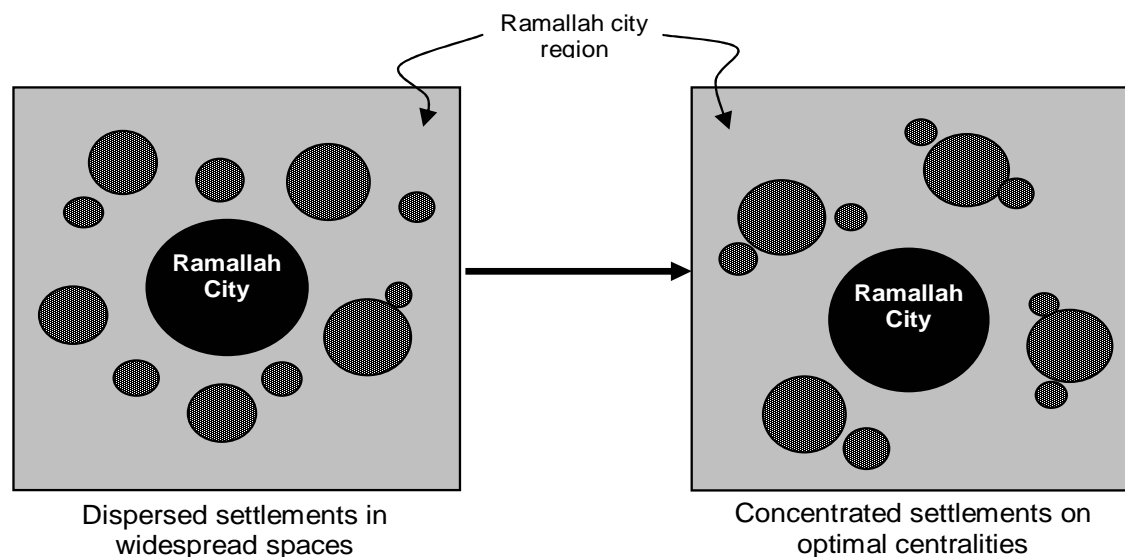


Figure 8-2: Dispersed and concentrated settlements

The process of decentralization in this concept should not be understood in such a way that only the burdensome functions are evacuated from the city core to the centres at the surrounding countryside; rather it is an approach that strengthens the productive power of the city core by creating a kind of competition and mutual cooperation. The different settlements in the polycentric net should not become 'static'; on the contrary, they should raise their status through their grouping, and they should have a variety of different functions. However, this process of settlements restructuring cannot take place in the short term since these structures distinguish themselves through a high persistence and

⁶⁴ Refer to Chapter 4, Debates for the regional city model

perseverance on the long term. Therefore, the spatial concept for a sustainable city development is an attempt that calls for long-term changes.

Concept application to Ramallah city-region

Ramallah City and its twin city Al-Bireh are the main continuous urban centres in Ramallah and El-Bireh District with concentrated developments. As a whole, the region is an agglomeration of different development clusters of smaller and larger towns and villages, which are scattered around the main city, and – to a greater or lesser degree – attached to each other (see Figure 7-2).

When we analyse the city-region more closely, we find that besides the main urban centres, the other settlements are fragmented and spread mainly along the main transport network and surrounded by open lands. Therefore, the pattern of the city-region is irregular, with continuous urban fabric in the central cities and fragmented rural settlements scattered in the city-region, which somehow is a typical structure for settlements in Palestine. The relation between the different settlements in the city-region and open nature is coherent, as there is direct access to open land, which develops a symbiotic relationship for the city-region with nature.

None of the scattered settlements with their current structure forms a totally autonomous centre. To a great extent, they are dependent on the central urban cities. Therefore, introducing a new structural model can potentially support the creation of more independent and self-sufficient centres and sub-centres, and, correspondingly, a more sustainable form and structure for the entire city-region.

Ramallah City and its region possess the major structural characteristics of Lynch's polycentric net (regional city model), which has been illustrated in Figure 4-7. The existing settlement clusters have a considerable potential to be reconnected through supporting the development of different linkages and hierarchical sub-centres. Behind this pattern, there should be an intention to retain the dominance of the existing centres of the central cities – Ramallah, El-Bireh and Betunia – while at the same time empowering and recognizing the new sub-centres, and developing new 'urban districts' at their periphery. This process encourages the creation of self-sustained communities (see Figure 8-3). The different development areas – 'development units' – would have a hierarchy of centres supported by a hierarchy of road network.

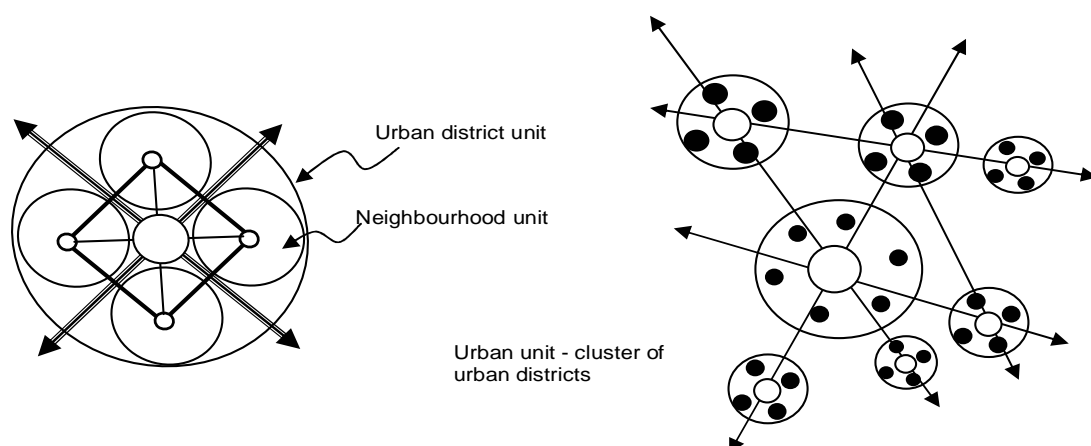


Figure 8-3: The urban unit, urban district, and neighbourhood units (based on Frey 1999)

Moreover, in each development unit, public facilities and services should be provided so that the demand for travel between different units at the same level can be minimized. The level of provision for public facilities and infrastructure services depends on the hierarchy of the different units. The hierarchy starts with the smallest development unit, 'the neighbourhood unit', which has a pedestrian scale and a distance to centres of around 600m so that people can walk to local services and facilities, then the 'urban district', which is shaped by clusters of four or five neighbourhoods, and then the 'urban unit', which is composed of clusters of urban districts (Frey 1999).

The detailed application of this concept requires further investigation into the existing macro structure of Ramallah city-region, with a detailed analysis of the characteristics, potentials and challenges of the different settlements in order to achieve an economically, environmentally and spatially sound pattern. The development of such a model should consider:

- areas with significant bio-diversity and landscape quality;
- natural reserves and protected areas,
- agricultural land and areas with high water sensitivity,
- rough topography which delimitates developments;
- availability of services and facilities;
- accessibility and connectivity to surrounding areas and centres;
- existing basic infrastructure;
- population size and density in each centre;
- geographic distribution of centres in relation to surrounding communities;
- hierarchal distribution of services,

Focusing on the conceptual approach is the aim of this study; however, these concepts can be explored thoroughly in further studies. Figure 8-4 illustrates the conceptual application of the regional city model to Ramallah city-region, and shows the polycentric net (the regional city model) with the hierarchal linkages between the different centres and sub-centres.

This abstract diagrammatic representation of the city-region allows an immediate understanding of the possible polycentric net structure for the different urban and rural centres, and of the network of linkages between their nodes. This system of a polycentric net is open-ended and can adapt to any change in socio-economic conditions, and can cope with any population growth. However, this process is a little more complex. The micro-structures of this net will work efficiently only when all the centres are supported by the appropriate size of population, services and facilities, which is currently not the case in some of the existing settlements. According to the predictions of population growth rates for the region, there are some indications that the population might double in the next 15-20 years. However, there is currently no data available which can tell us exactly how big the population increase will be as this also depends on the number of refugees returning. It is, therefore, hard to give accurate estimations. Nevertheless, this model is flexible enough to absorb even large numbers of population, especially if we know that only 4.35% of the total district area is built-up.

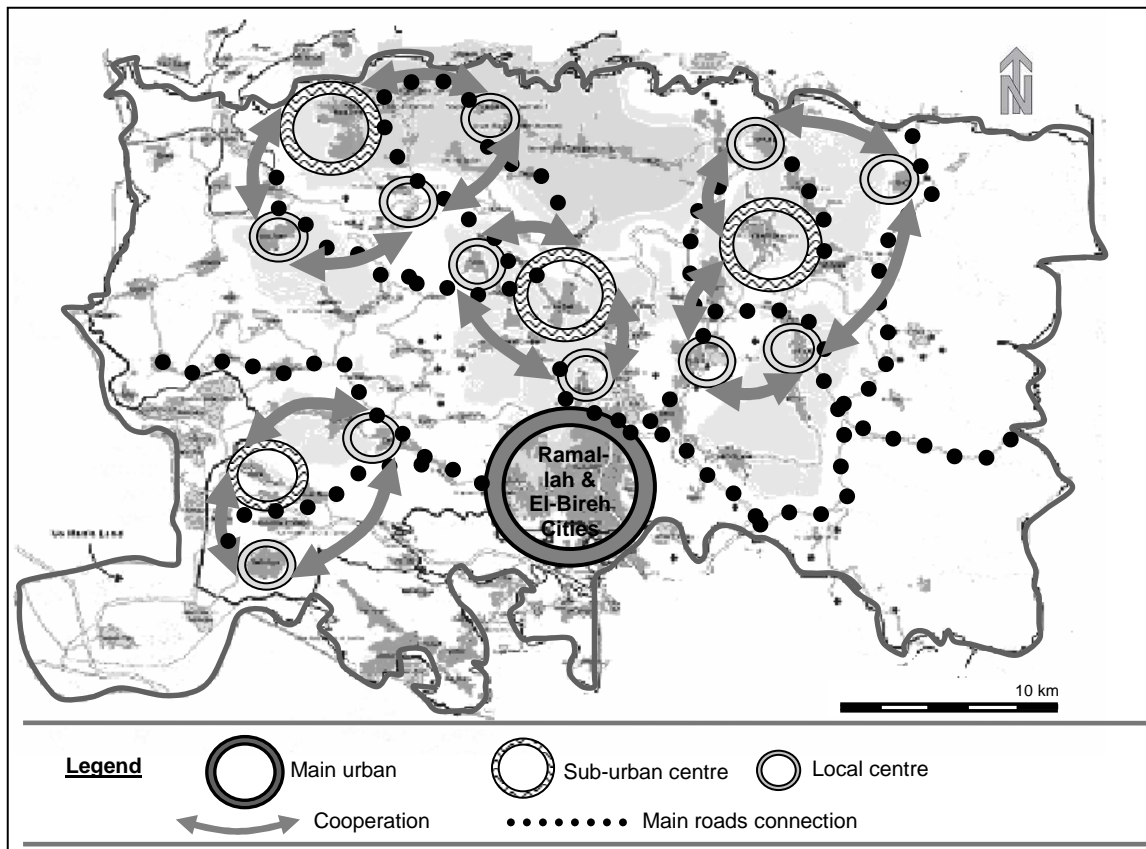


Figure 8-4: Conceptual application of the polycentric net to Ramallah city-region

The Goepingen District example

The Goepingen District is one of the six districts (*Kreise*) in the Stuttgart Region in Germany. This region is a good example of the applicability of the polycentric net model, and the hierarchy and concentrations of the different centres. The population and settlement structure of the Stuttgart Region can be compared to those of the West Bank, whereas the Goepingen District, with its 257,000 inhabitants, is to a certain extent comparable to Ramallah city-region. The urban geography of the different districts in the Stuttgart Region shows a strong polycentric settlement structure with a high average density. The regional development plan of the Stuttgart Region is based on developing the urban region as a unit with a polycentric structure and complementary centres in conformity with the principle of “decentralized concentrations”.

The process of suburbanization in the region has significantly contributed to the growth of many medium and smaller centres. Goepingen City is graded as a middle-order central place, which is surrounded by several lower-order central places and settlements (see Figure 8-5). Such settlement structures enhances competitiveness and the equal territorial distribution of economic development potentials, as well as reducing negative environmental impacts (Verband Region Stuttgart 2000).

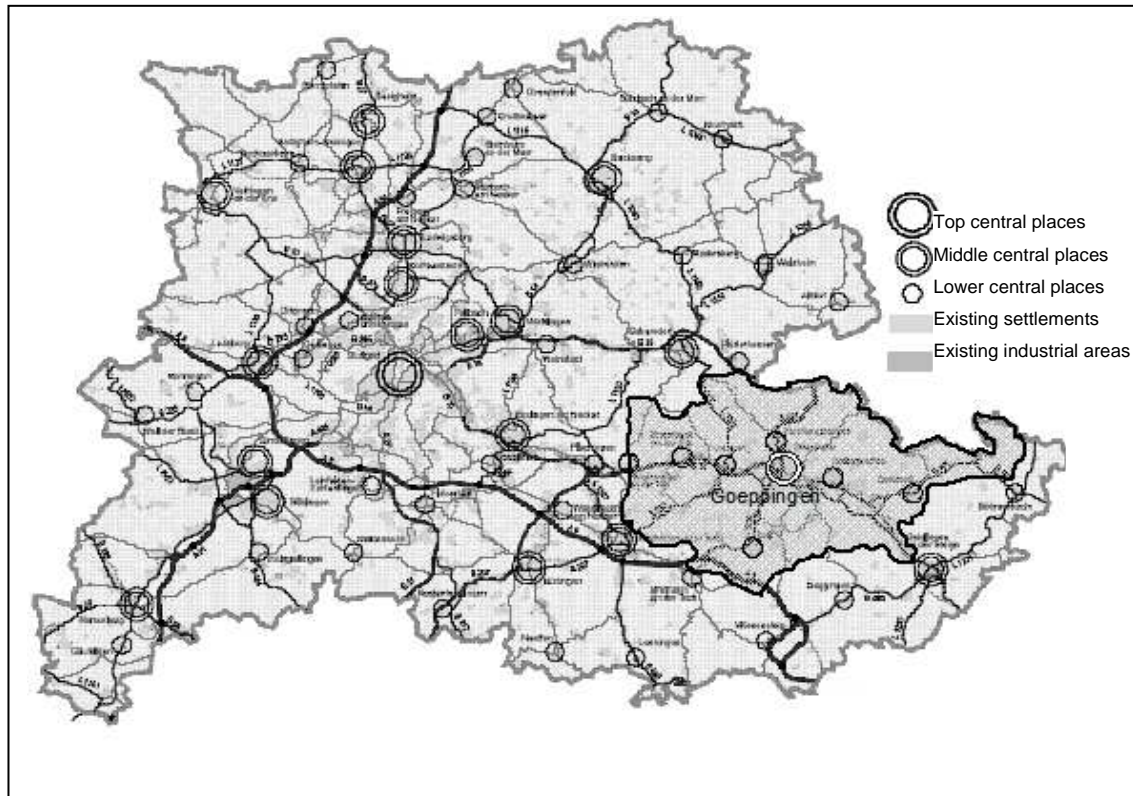


Figure 8-5: Stuttgart Region structural plan - Goepplingen District (Verband Region Stuttgart 2000)

Correspondingly, the city or the city-region can have any of a variety of macro-structures or forms and still score well with regard to sustainability criteria. Preconditions are that it has in all its parts the appropriate micro-structure and that the extreme forms of compactness and concentration or the extreme forms of decentralization and dispersal are avoided. The polycentric net or the city-region model as an organizing principle should be seen only as an option, and should not be understood as an obligatory standard. It should simply correspond to the city-region structure, have functional and environmental advantages, help to strengthen and regenerate the existing centres or create new ones, facilitate accessibility and connectivity, and correspond to the planning standards and financial incentives.

Spatial development at the city level

After having developed a general concept for possible sustainable future development form and structure for Ramallah City macro city-region in the previous section, in this section the investigation will focus on the development options for the conurbation at the micro level. Under the pressing challenges of land scarcity and rapid population growth, it was deduced that a more compact city approach could be an alternative for future sustainable urban development in the Palestinian cities⁶⁵ since density and compaction can contribute to reducing the amount of land needed. However, this compaction should be supported and combined with an upgrading and enhancing of the quality of life and environment in urban areas.

⁶⁵ Refer to Chapter 6, Land scarcity and the challenges for sustainable (urban/physical) development

Ramallah City is relatively small in area and in population size, if compared with other national or international cities. The scale of Ramallah City determines, to some extent, the relation and the hierarchy between the different neighbourhoods units, urban districts and the city centre (see Figure 8-6).

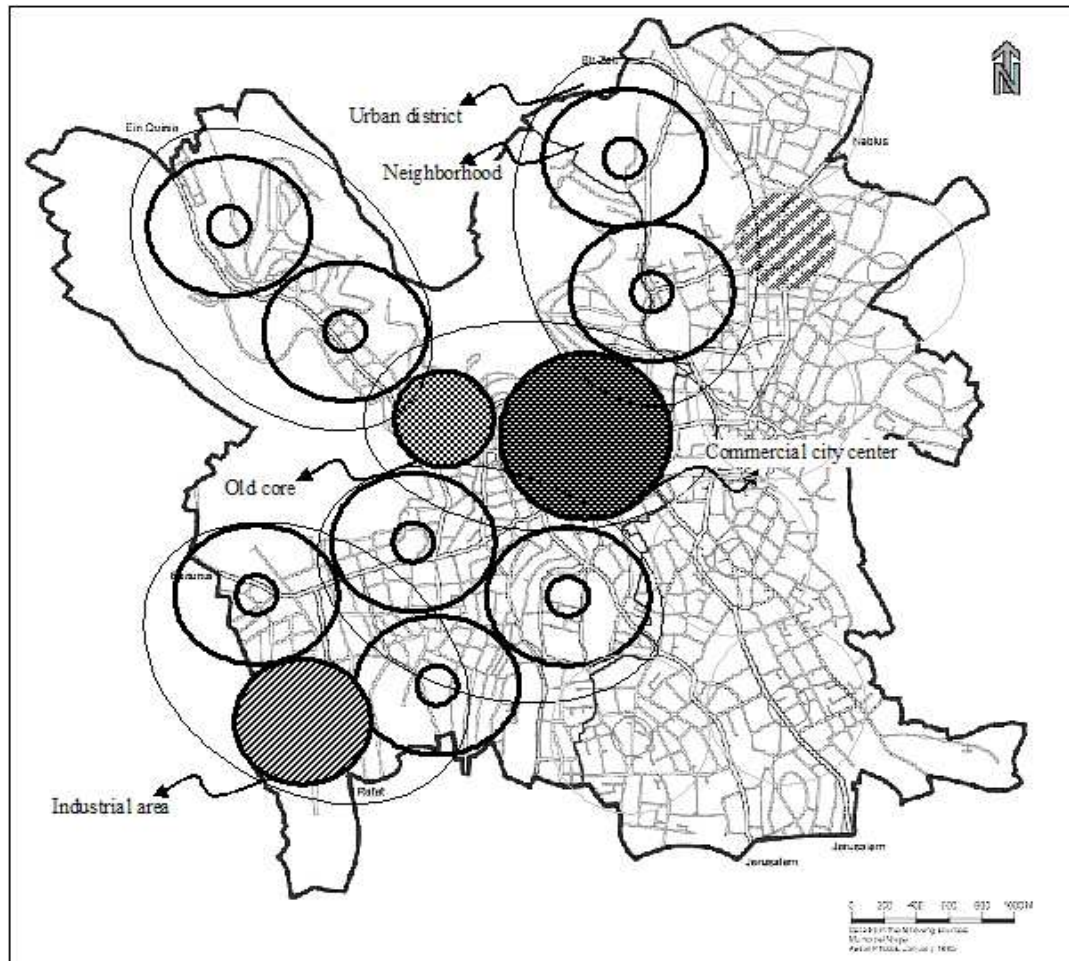


Figure 8-6: Ramallah City's neighbourhoods and urban districts structure (background map MOPIC 1999)

According to Frey (1999), the major spatial and structural features of a sustainable microstructure all had to do with pedestrian access to neighbourhood centres, for example a maximum distance from the edge of a neighbourhood to its centre should be about 600m. It should only be a short public transport ride from the neighbourhood centres to district centres. Likewise, the distance between the edge and the centre of a district consisting of four to five neighbourhoods should be around 1,300-1,450m. These conditions are applicable to the scale and size of Ramallah City, as many of the activities are accessible by walking or by taking a short ride. However, what is lacking is organized public transport inside the city – as mentioned earlier⁶⁶ – which facilitates the movement of less mobile people, and reduces the pollution and the increasing traffic congestion, especially in and around the city centre.

⁶⁶ See: Chapter 7 - Physical characteristics of the city today

Reflection of the sustainable city criteria in Ramallah City

In order to clarify how Ramallah City's physical development can be steered towards sustainability, the general criteria for more sustainable city development⁶⁷ are employed here as spatial organizing principles and reflected in the context of Ramallah City, as follows.

Organizing the urban form and density

A more sustainable urban form in Ramallah City should be a relatively compact one varying in density and structure according to the different functions, locations and topography. The net densities may vary from very high in the central area and around the nodes along the main roads to medium at the edge of the central area. For instance, in the city centre, where land prices are high and most of the commercial activities and services are taking place, maximum compactness can be applied to increase the utilization of space, whereas in some residential neighbourhoods in the city 'fringes' – e.g. *El-Tirah* and *El-Masyoun* areas – there can be less compactness and concentration.

Accordingly, if the suggestion of Newman & Kenworthy (1989) about the optimal net urban density (30,000 people/ sq. mile = 11,583 people/km²) has been adopted in Ramallah City – for instance in the central area – inevitably the land needed for the built-up area will be reduced almost to one fourth, in comparison to the land needed according to the 'business as usual' scenario density (see Table 8-2).

Table 8-2: Comparison between the built-up area in 2020 according to the 'business as usual' and 'sustainable development' scenarios

	'Business as usual' scenario	'Sustainable development' scenario
Urban density (people/km ²)*	3,180.5	11,583
Land needed (km ²)	11.77 2	3.232 ⁶⁸

* Projected population in 2020 is 37,440 people

Source: developed from (ARIJ 2005), (PCBS 2000), (Amro 2005)

Here an urban infill approach, upgrading under-utilized and vacant buildings and sites, an increase of building heights in selected areas, and the use of green belts and corridors system, are strategies which can be followed to intensify the densification and compactness in order to make use of empty land inside the city, and to limit and to reduce the expansions on to open land in the city fringes. Such strategies can help to achieve a more efficient use of infrastructure, reduce energy demands, reduce real estate/housing costs, and create a sense of community.

Multi-functionality through integration of land uses

As a consequence for the compactness of the urban fabric and the concentration of population, there will be a possibility to have more mixed land uses, mainly in the city centre and around the transport nodes along the existing radial routes (e.g. along the *El-Ersal* and *El-Tirah* routes). Throughout the city centre, a larger variety of uses will be accommodated; conversely, the fringes may have a limited potential for a high degree of

⁶⁷ See: Chapter 6 - Criteria for sustainable physical development in the Palestinian cities

⁶⁸ This area is based on the assumption that the whole built-up areas in the city have the same density, which is somehow idealistic

mixed land uses because of their remoteness from the city centre, which contains the different uses. However, mixed land uses may still be contained at the traffic nodes on the routes towards the fringes (e.g. El-Ersal Street). Hence, there is a hierarchy in the provision of services and facilities, as the city centre will continue to accommodate a large variety of the city's wide range of activities, whereas the nodes along the fringes are likely to provide only for daily needs. This structure is because of the city's relatively small scale and the short distances between the different areas, which make access from the development neighbourhoods to the city centre or to the sub-centres quite easy. On the other hand, the different neighbourhoods which are supposed to accommodate the population increase will continue to have a mixture of dwelling forms, from multi-storey tenements in and around the primary and secondary centres, to single-family housing at the edges.

Activities and areas with hazardous environmental impacts, such as the industrial area and the dumping sites, can be reallocated or treated to reduce their harmful impacts on the surroundings. Green areas and small parks can be allocated in the different quarters as breathing spaces for the city inhabitants; however, the provision of sufficient green spaces will be poor because of the compactness of the built-up area. Nevertheless, because of the reasonably short distances between Ramallah City and the surrounding countryside, a symbiotic relationship between the different parts of the city with nature will be possible.

However, the functional mixture – (collocation of residential, commercial, workplaces, and recreation) – in the city's different neighbourhoods and districts should be accompanied by a social mixture – (of the different social income groups, household types, and different life-style groups) – and by a structural spatial mixture (formation). This multi-dimensional mixture holds many advantages at the city's urban development level. Besides its efficiency in reducing traffic volumes, land, and energy consumption, it helps in the advancement of neighbourhoods and districts for a more convenient urban diversity. Likewise, it eliminates segregation and improves living conditions of disadvantaged groups of the Ramallah City population.

Introducing efficient transportation

A viable internal public transportation system should be established in order to connect the city's different neighbourhoods with the city centre. Concentric links will facilitate accessibility from the different neighbourhoods to the city centre by using bus or tram systems or even both. This will significantly reduce car dependency and thus also the congestion and pollution – especially in *El-Manarah* area, where the radial road network converges (see Figure 7-16).

Free or restricted automobile areas, in addition to adequate sidewalks, should be introduced to facilitate the movement – and increase the safety – of the pedestrians, for instance by transforming the main street in the commercial city centre (Rukab Street) into a pedestrian area, restricting car use in the centre, and creating one or more ring roads around the centre to disperse the traffic. Also, inside the residential neighbourhoods, the secondary streets should be traffic-calmed to avoid the adverse effects on these areas. Sufficient parking places should be provided around the commercial city centre, offering the possibility to walk or to park and ride – using the viable public transportation – which can also contribute to reducing the traffic congestion inside the city centre.

Enhancing the green structure

In view of the containment and compactness, smaller parks and open spaces should be included in the city's central area. In addition, green belts and green corridor systems have to be developed around and inside the city in order to limit and provide orientation for the urban expansions, as well as to connect the city with the countryside, and to bring nature into the city, for instance by constructing a green belt around the city's industrial zone to reduce its hazardous environmental impacts.

Correspondingly, the green structure in the city can be sustained by encouraging private gardening, and by intensifying street vegetation, by planting trees on the roadway sides to improve aesthetic as well as environmental and climatic values. Likewise, developing pedestrian areas and courtyards in the city centre can foster social interaction between the city's inhabitants and encourage different activities, for instance by transforming the old core of Ramallah City into a car-free zone, and establishing different cultural activities and traditional handicrafts, which conserve the city's cultural heritage, space identity and imageability.

The conceptual visions and sketches above for physical developments in Ramallah City according to the 'sustainable development' scenario – (see Figure 8-7) – do not reflect a utopian vision, but an idea towards a better condition without losing touch with reality. It is not assumed here that these visions provide solutions for all problems or take into account all possible needs and demands; nevertheless, they show a potential shift towards a more sustainable physical development in the city which deals with the local challenges and capacities. Realizing these visions in Ramallah City is not separated from achieving sustainable development at the economic, social, political, institutional and environmental levels.

Promoting such shifts as desirable choices is dependent on working with the fundamental dynamics, physical, social and economic, on the management of accessibility and mobility, redirecting aspirations towards quality of location rather than quantity of space, as well as restructuring the urban form for greater efficiency, accessibility and amenity value. Such a redirection needs active intervention from policy, going beyond conventional planning to an active coordination of all features that make up urban viability and quality of life.

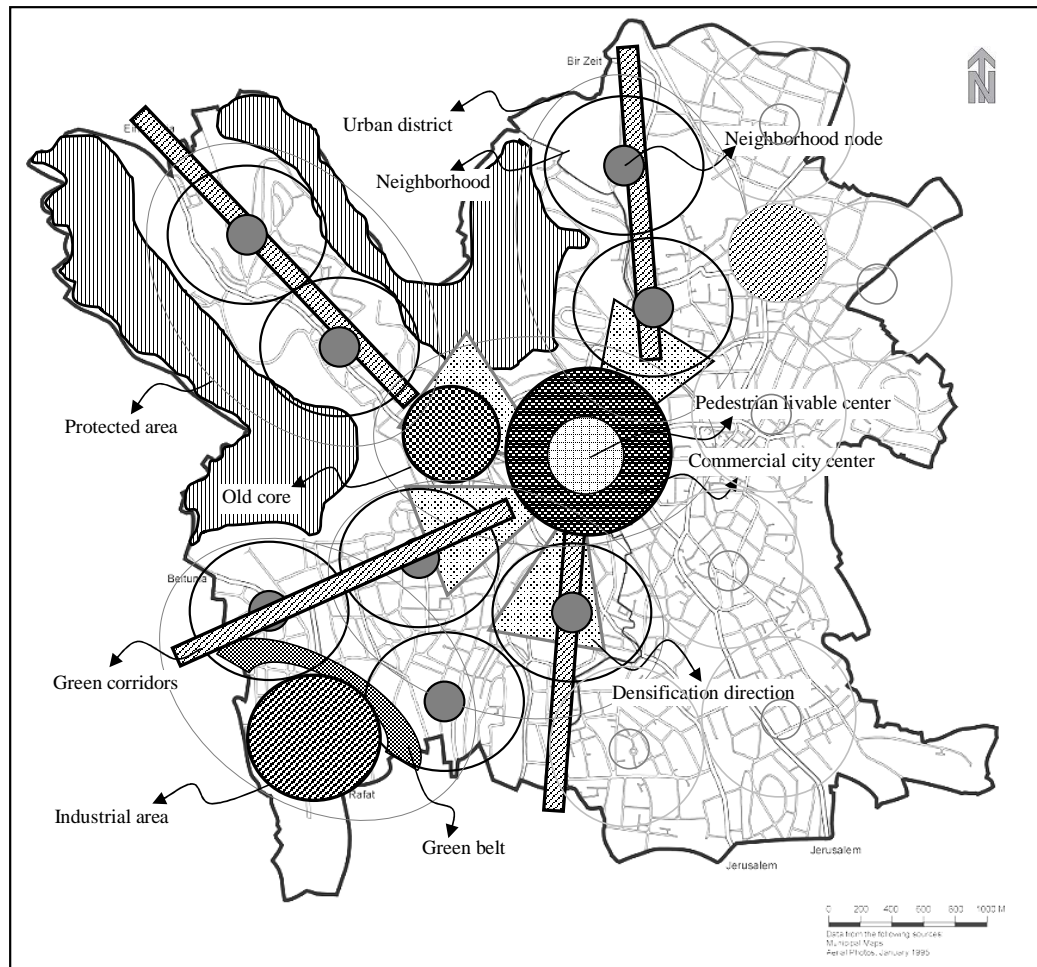


Figure 8-7: Conceptual illustration for Ramallah City's sustainable physical development (background map MOPIC 1998)

Conclusion

After having introduced a potential conceptual structure for Ramallah City's macro city-region, and illustrated the micro structure of the different neighbourhoods and districts in the city, and then investigated the reflections on and applicability of the sustainable city criteria to the Ramallah City context, it is useful now to summarize the specific properties which the different neighbourhoods and districts in the city should display in order to achieve a more sustainable city:

- reasonably high population net density⁶⁹, with a balanced degree of compactness in order to achieve viable and liveable neighbourhood and district centres;
- a mixture of land uses, in the neighbourhoods within walking distance, and in districts accessibility by short transport rides, in order to increase access to services and facilities for those less mobile, reduce the need to travel long distances, and attain more vibrant urban spaces and areas;
- a degree of social mix and a variety of different dwelling and tenure types, in order to reduce social and locational stratification as a result of the population density;

⁶⁹ According to Frey (1999), the optimal gross density for sustainable development is 60 persons/hectare = 6000 persons/km², while the optimal net density for sustainable development according to Newman & Kenworthy (1989) is 30,000 persons/mile² = 11,583 persons/km².

- efficient public transportation within and between districts (for example, by bus or by tram) to reduce car dependency and traffic congestion, and to increase mobility and options throughout the city;
- traffic-calmed streets inside the neighbourhoods and districts, park-and-ride places on routes between districts to reduce the volume and speed of vehicular traffic inside built-up areas;
- an adaptable urban fabric and a certain degree of autonomy for the communities so that they can decide on their own appropriate development form;
- good access and permeability with open countryside for recreation and sports, but also to establish a degree of self-sufficiency for neighbourhoods and districts as a result of entrepreneurial activities.
- a lasting and clear image and identity for certain neighbourhoods and districts, which can be recognized through a specific mixture of uses, through landmarks, nodes and linkages which generate places with a lasting image, perhaps in some cases through the clustering of urban fabric.

The previous properties can be considered as general guidelines for endorsing more sustainable city development in the Palestinian cities. Nevertheless, their applicability should be based mainly upon the specific conditions, characteristics and context of each individual city. Steering cities towards sustainable development is not an easy job – the fundamental dynamics of market forces, political governance, human desires, as well as a massive urban form and fabric, all have to be redirected from their current trails. To do this, there is a need for innovative visions, expertise, leadership, commitment and patience, for which there is little substitute. It also calls for the practicalities of resources or ‘capacity’ for action, and ‘strategy’ or intelligence to guide such action. These ideas will be further developed in the next chapter, which discusses the prerequisites and the restructurings needed to promote and operate a more sustainable form of urban development in the Palestinian cities.

Box 8-1: Visions for sustainable Ramallah in 2020

Ramallah City 2020

City center:

The city center of 2020 is vibrant and dynamic, yet friendly and human scale. Streets and public spaces are flourishing with greenery, and there are facilities and entertainments for diverse life-styles. Getting around is easy and safe, with viable public transport, wide pedestrian zones, and tree-lined avenues. Buildings old and new are designed with flexibility, and have a different mixture of uses, so that shopping, leisure, commerce and housing each gain vitality and added value.

Inner city areas:

Inner cities are now lively and diverse neighborhoods, providing housing and jobs for existing and new residents. District centres with many services are in easy walking distance of most homes, along green and traffic-calmed streets, where children can play safely while walking to school. Travel by any mode is easy and pleasant from the local neighborhood hub. Each local center contains a wide range of jobs and facilities; and a neighborhood committee coordinates many self-help enterprises, and integrated public services.

Urban fringes and countryside:

Urban fringe and rural areas are ecological havens for people living closer to the land while being part of the city. A rethink of the green belt promotes landscape diversity and sustainable land management. New technologies spread city-based employment towards local communities, with access by demand-responsive public transport.

Industrial and development opportunity areas:

Regeneration areas are dynamic zones of opportunity which attract the best and most creative development as vital parts of the future city-region. For business there are multi-mode freight interchanges, and industrial ecology networks for integration of energy and waste flows. For local communities there is work, training and leisure in a diverse range of environmentally friendly enterprises. New urban communities are building residential-commercial villages around the townscapes with ecological transport and leisure facilities.

Chapter 9

Framework for promoting sustainable urban development

“The very nature of change guarantees that at some point you will need to completely rethink your organization and move in a new direction.” (Joyce Wyckoff)

Moving towards sustainable development in the Palestinian cities presents a tremendous challenge, where a great variety of dimensions has to be integrated and balanced in order to steer the development process in the direction of sustainability. The previous chapters illustrated the different challenges facing the Palestinian cities, discussed the various dimensions of the sustainable development concept and its applications to urban development, and then investigated how these definitions and applications can be applied to the Palestinian cities by demonstrating the case of Ramallah City. In this concluding chapter, the aim is to bridge the gap between the theoretical concepts and ideas – explored in defining sustainable development in the Palestinian context, as well as in the sustainable development scenario for the Palestinian cities⁷⁰ – and the challenging conditions of the Palestinian context⁷¹ by proposing a framework for promoting sustainable development in the Palestinian cities.

However, we should bear in mind that the ability of any proposed framework to meet the challenge of sustainable development will depend on certain factors, such as peace and security, prevailing economic conditions, and political stability in Palestine. Therefore, this research from the beginning was based on a scenario which assumes peace and political stability in the country⁷².

In order to move forward towards sustainability, important structural changes are needed to the way in which the Palestinian institutions and society manage their economic, social and environmental affairs. Thus, the success of these changes greatly depends on three main determinants:

- First, the institutional factors (structure, organization, management, modes of cooperation, etc.)
- Second, the attitude and behaviour of citizens (life-style, mobility patterns, environmental awareness, etc.)
- Third, the urban structure and morphology (population density, urban form, transportation modes, etc.).

Therefore, there is a need for a radical shift, a new way of thinking and new tools to bend the existing urban developments and planning system towards a more sustainable approach. There is also a need to find practical and efficient mechanisms which can improve the basis of planning judgments at both the technical and the political levels. Correspondingly, achieving sustainable development is therefore essentially a task of transforming governance.

⁷⁰ See Chapter 6 & Chapter 8

⁷¹ See Chapter 2 & Chapter 6 – Driving forces influencing the Palestinian urban environment

⁷² See Chapter 1 – Presumptions and suppositions

Prerequisites for promoting sustainable urban development in the Palestinian cities

Given that sustainable development is not something which can be achieved on the margins as an addition to current policies and approaches, but requires fundamental and revolutionary changes at different levels, there are basic prerequisites – keystones – which form the supporting milieu to introduce and operate concepts like sustainable development, sustainable urban development or sustainable cities in contexts similar to the Palestinian one, where the different political, social and economic circumstances have left their scars in the Palestinian cities, and created many entrenched complications, as explained in Chapter 2.

In such contexts, the transformation should start in basic fundamental issues, which can assist in changing both the institutions' and the community's perception toward the living environment. The following are some basic prerequisites that are needed to support the promotion of sustainability in the Palestinian cities:

- *New way of thinking*: the Palestinian people must start to look at development issues with a greater sense of inquiry and awareness. There is a need to see the consequences of the development process – to see the other end, how it measures up against sustainable development principles, and whether it can be improved by applying more creative alternatives.
- *Better knowledge*: there is a need to improve the knowledge of the people and the stakeholders in Palestine, to go beyond traditional stereotyped, inherited and inadequate knowledge in order to be able to assess new questions. This can be done by education and by using broader information bases, and by interlinking the provided and available information and data, which will help to develop broader and integrated visions.
- *Increased skills*: simultaneous to the development and use of new ideas and new information, the Palestinian planning staff needs to be educated, trained and equipped to obtain and make full use of the available information, and to develop new innovative and visionary development plans.
- *Better cooperation*: if the planning system in Palestine is to play an effective synthesizing role and change attitudes about sustainability, it must operate more effectively with other agencies – public, semi-public or private – that operate at the local, regional, and national levels. This will require further efforts to improve local networks and cooperation, with more use of joint projects and combined operations.
- *Political perception*: sustainable development requires a longer time horizon and the injection of new resources to allow the planning system and related agencies to make a quantum leap forward. Therefore, there is a need to have a political perception, commitment and endorsement which places sustainability much higher on the political agenda. Moreover, this political perception is needed to allocate resources that support the adoption of sustainability initiatives.
- *Public awareness*: there is a need to increase the involvement of people as an integral part of the process of change. However, this requires sustained efforts to provide more information to the public about environmental matter, encouraging dialogue and gradually building an understanding of the need for behaviour change. Raising public awareness improves people's effective contribution towards the change towards more sustainable urban development.

These basic and fundamental keystones are all of the same significance for supporting the promotion of sustainable development in the Palestinian cities. They are all interrelated and interdependent; any deficiency in any of these key issues will affect the whole process negatively, and hinder the promotion of sustainable development.

Steps towards change

The fact that Palestine has a relatively newly established planning institution can be positively perceived as an opportunity and a challenge to re-orientate the whole system to be based on the sustainable development principles by learning from other countries which have gone through long processes to promote and adapt more sustainable approaches. From analysis of the Palestinian context, it became clear that promoting sustainable urban development in the Palestinian cities requires substantive reforms and rearrangements based on the comprehensive restructuring of the planning institutions, development of a national sustainable development strategy, modification of planning policies and regulations, the adoption of a more integrated planning approach, the development of new mechanisms for implementation and monitoring, as well as the involvement of the private sector and local communities. These are practical steps with tangible actions which have to be pursued in order to effect a systematic change towards sustainability.



Figure 9-1: Steps towards change

Restructuring planning institution

A top priority in the quest for sustainable urban development is the creation of viable political and institutional system, capable of framing broadly based strategies, programmes and policies. Therefore, in striving towards more efficient and more effectively functioning Palestinian planning institutions, significant institutional transformation is necessary. There are many deficiencies in the Palestinian planning institution⁷³ that need to be adjusted in order to enable it to steer the planning process in Palestine towards a more sustainable development. Therefore, the distribution of roles and the tasks between the different planning levels should be clarified, as well as the relationships which are needed to fulfil these roles. On the other hand, the planning institutions should be remodelled into cross-sectoral and participatory institutions with an integrat-

⁷³ See Chapter 6, Driving forces influencing the Palestinian urban environment

ing mechanism that can engage the government, the civil society and the private sector, in developing shared visions, because successful planning institutions require coordination among the different spheres of the institutions.

Each planning level – national, regional and local – has an important role in promoting, planning and operating the process towards sustainable urban development; nevertheless, these roles should be complementary and not competitive, inconsistent or overlapping. To effectively promote sustainable urban development in the Palestinian cities, the national level will thus need to undertake a variety of specific reforms and tasks, such as:

- Decentralising and empowering the local authorities to enable them to engage in broad-based participatory planning, develop partnerships, and combine public resources with those of the private and community sectors to improve local economic development opportunities and living environments. Decentralization necessarily implies fiscal and administrative reforms that provide local government with a fair and predictable share of public resources and the flexibility required to respond to local priorities and needs.
- Reviewing and harmonising national policies and institutional frameworks to eliminate often unintended conflicts that distort or inhibit environmentally sound urbanisation; typical examples include conflicting policies governing the use of natural resources – for instance, water and land – and competing or overlapping jurisdictions and mandates for dealing with construction, infrastructure, energy and transportation.
- Developing a national strategy for sustainable development that works as guidance for the different planning levels and institutions.
- Mobilising national resources for major urban and environmental infrastructure investment.
- Actively supporting and implementing training, education and other capacity-building efforts to mainstream sustainable urban development concepts, methods and approaches, including participation in relevant international efforts.

Throughout, the general role of the national level in supporting sustainable urban development should be as facilitator, enabler, and supervisor.

In turn the local level also has a crucial role and responsibility in addressing the sustainable urban development agenda. As it is closest to the people, local authorities can best understand and reflect the local needs and priorities. To successfully fulfil their role, the local authorities – represented by municipalities in the Palestinian cities – will have to:

- become more development-orientated, and less concerned with control. This requires a reorientation of staff towards a more facilitative and implementation-orientated approach.
- establish a range of public/private partnerships, for example by creating independent business units within the municipality, leasing and concessionary arrangements, and the privatization of certain services and utilities. Involving all sectors will help to ensure greater accountability and integrity of municipalities and the creation of an enabling environment.
- follow participatory planning and decision-making approaches to increase transparency and liability.
- organize programmes to increase the technical, administrative and financial capacities which will develop and strengthen a wide range of competencies and skills, as well as programmes for capacity building to raise awareness for the challenges of urbanisation and sustainable development, and of how local actions can improve the life quality.

- facilitate economic development without compromising the quality of social and environmental dimensions. This can be achieved through a local regulatory framework.

Since sustainable urban development requires looking beyond the municipal and city boundaries, the regional level should have a direct responsibility in areas that fall largely outside the capacity of the local spheres. Such an approach should typically include inter-municipal collaboration and coordination, as well as the harmonization of conflicting policies and differing development priorities between adjacent local entities. Moreover, the regional level should play an important role as intermediary in promoting horizontal and vertical exchanges of expertise and experience between and among the various local and national authorities.

After all, promoting sustainable urban development in the Palestinian cities requires a sustained effort from the different planning institution levels as well as mutual support and cooperation. Broadly based sustainable development is only achievable with appropriate governance, which requires the exercise of power to be carried out in an environment of openness, participation, accountability, effectiveness and coherence.

Developing a national sustainable development strategy

In order to move towards a more sustainable urban development in the Palestinian cities, there is a need for a national sustainable development strategy that covers the economic, environmental and social objectives of the society. Moreover, it should aim to meet the different challenges in the short, as well as in the medium and long terms, in the specific context of the Palestinian cities. The proposed strategy should deal with the current realities and set them against scenarios for the future, and then identify priorities for action – for instance, how to deal with the challenges of population growth or the scarcity of land and resources.

An effective Palestinian national sustainable development strategy should be reflected in the planning policies and regulations, planning instruments and tools, in cross-sectoral and cross-regional planning, the implementation process, and finally in the evaluation and assessment procedures which operate on the national as well as on the regional and local levels. Such a strategy should form a framework – an ‘umbrella’ – that guides and steers the different planning activities towards the path of sustainability. Therefore, sustainable urban development in the Palestinian cities can be only attained by initiating appropriate sustainable development strategies.

The development of a national sustainable development strategy is the responsibility of the national authorities; such a strategy has to integrate the different requirements of sustainable development, and then to feed them down into sectoral sustainable development strategies covering such sectors as transport, physical development, tourism, energy, etc. A Palestinian strategy for sustainable development should imply a new way of thinking and working⁷⁴, and reflect a tendency to:

- move from developing and implementing small, limited and fixed plans, ideas and solutions towards operating an adaptive system that can continuously improve governance to promote coherence between responses to the different challenges.
- move from a focus on outputs (e.g. projects and laws) towards a focus on outcomes (e.g. impacts of projects and legal changes).

⁷⁴ There is an urgent need for a new way of thinking and new approaches in order to conceal the different negative effects which have influenced the planning process and development in Palestine for a long time; for more details see: Chapter 2, Planning system, and Chapter 6, Driving forces influencing the Palestinian urban environment

- move from sectoral planning towards more integrated planning.
- move from a view that it is the government alone which is responsible for development towards one that sees involvement and responsibility with society as a whole.
- move from a dependency on external assistance towards domestically driven and financed development.
- move from centralized and controlled decision-making towards sharing results and opportunities, transparency, co-operation and more joint actions.
- move towards a process which can accommodate monitoring, learning and improvement.
- move towards more integration, coordination and mainstreaming of policy goals of stakeholders and lead to sustainable development.

Eventually, the proposed national sustainable development strategy should be based on a vision that promotes activities and programmes which benefit both the present and the future generations, and on a set of coordinated mechanisms and processes to improve their complementarities, smoothen out inconsistencies, and fill gaps when needed. Moreover, it should be flexible enough to be adjusted and updated to adapt to any changes and reconcile any trade-offs.

Modifying planning policies and regulations

Sustainable development must be at the core of planning policies and regulation in order to bring the sustainable development concept to an operational level, and legitimize it within a legal framework. In the context of the Palestinian cities – where policies and regulations are outdated and have been inherited from successive ruling systems⁷⁵ – there is a pressing need to modify and adjust the existing planning policies and regulation into a form which addresses the sustainability of cities. There is also a need to cover the multiple fields contained in the sustainable city notion, such as the economic, social, land-use, ecological and transportation interests. Likewise, these planning policies and regulations have to deal with the challenges which exist in Palestine, such as the rapid urbanization of the Palestinian cities, land scarcity, and the high population growth rates.

Correspondingly, the modified policies and regulations should include explicit statements about government commitments to work towards ensuring that development and growth in the cities are sustainable. Moreover, policy-makers have to find a balance in the proposed policies; failure to develop an effective, balanced urban development policy will, for example, reinforce urban sprawl and convey inner-city problems to a much larger area. On the other hand, environmentally benign policies may attract new investments, favour urban employment, and hence, contribute to enhancing the quality of life.

According to what has been discussed earlier in Chapter 6 and Chapter 8 about the criteria for sustainable cities, a carefully designed urban form can substantially reduce the need for movement, whilst, for example, modifying the density in cities and the degree of land-use mixture, and may minimize physical separation between people and their destinations. This in turn creates opportunities to reduce the need to travel, and increases the feasibility of making trips by cycling and walking. In this light, appropriate Palestinian planning policies and regulations should for example include:

⁷⁵ See: Chapter 2, Planning system

- discouragement of dispersed low-density residential areas or any significant development dependent on car use,
- support for some degree of concentration – though not necessarily centralization – of activities,
- integration of development with public transport facilities, and the maintenance of moderately high densities along transportation routes,
- planning transportation networks in an integrated way with the development of land.

These are only some examples of how policies and regulations can be modified and adjusted to correspond to the sustainable development and sustainable city criteria. Planning policies and regulations are seen here as key instruments for the delivery of sustainable development, and for influencing the local practices.

At the end, as development progresses, the planning policies and regulations have to be reviewed from time to time, and adjusted to allow for lessons learnt and new priorities which may emerge. The continuous revision and updating should include the building standards, infrastructure provision and environmental regulations as part of a broad assessment and evaluation process.

Adopting an integrated planning approach

Some kind of integrated mechanism is needed to bring together the different dimensions and sectors involved in the sustainable development concept. An integrated planning approach applies exactly that principle of integration to each aspect of city planning and development. Moreover, it is considered a strategic, consultative, participatory and result-oriented approach to development. Adopting such an approach is an essential step on the way of promoting and operating sustainable urban development in the Palestinian cities – especially since the lack of integration and coordination between the different levels and sectors is one of the main deficiencies in the Palestinian planning system. Therefore, there is a need to update the planning approach being followed and adopt new approaches which depend on thinking and acting in a holistic way across the conventional sectoral boundaries, and are based on a set of coordinated functions that echo the ‘integrated planning’ principles, summarized as:

- the sectoral integration which coordinates the land use and spatial development issues with sectors such as housing, education or transport;
- the institutional integration which coordinates the national, regional, and local levels, as well as the cross-ministerial and inter-agency cooperation;
- the policy integration which coordinates the different environmental, economic, and social policies;
- the political integration which establishes partnerships and encourages the participation of different groups, communities and stakeholders;
- the resource integration which coordinates the funding resources, programmes and projects to fulfil the planning objectives;

These different coordination functions should be integrated and linked into a specific ‘time’ factor that considers the short- and long-term dynamic trends, pressures, goals and targets, and is in harmony with the suggested national sustainable development strategy.

Hence, this tangle of linkages is the natural result of applying sustainability principles, which tend to extend the areas of responsibility and action in all directions and levels. Promoting such a process is likely to require the involvement and the integration of human resources, technical expertise and institutional capacity.

Developing mechanisms for implementation and monitoring

The realization of the sustainable development objectives enunciated in the national sustainable development strategy and the modified planning policies and regulations – proposed above – depends to a great extent on the applied actions and methods pursued in the implementation process.

The Palestinian cities – even after the establishment of the Palestinian planning institution – are still facing the problem of weak execution and implementation of plans, laws and regulations, as mentioned earlier. Therefore, developing mechanisms for implementation and subsequently for monitoring is essential for translating the sustainable development concept into tangible actions. To achieve this aim, the planning instruments need to be backed up with other actions, such as the introduction of pricing policies and environmental taxes and charges, possibly in the context of broader fiscal reform, which can, for instance, favour public over private transportation, make the polluters pay, give incentives for the green economy, or by highlighting and encouraging ‘good practices’ in the cities.

For successful implementation of the comprehensive and the appropriate development issues in the Palestinian cities, it is important to list the responsibilities for the working committees and stakeholders, to assign the tasks and duties, and to allocate an appropriate budget and funding. In addition, it is essential to educate the governmental, social and technical institutions and business groups about comprehensive sustainable development issues in order to ensure better implementation.

Correspondingly, the implementation of planning measures calls for transparency and efficient use of human and financial resources. Thus, appropriate monitoring tools should be worked out. Constant comparison between the sustainability objectives and the actual state can indicate whether the objectives are being achieved.

The monitoring process should be based on different types of locally developed indicators, for instance indicators of urban environmental quality, urban flows, urban patterns, and indicators of urban sustainability. By using monitoring processes, it is possible to determine the progress of the certified plans, achievements, and deficiencies. Through continuous monitoring, the inadequacies can be addressed in the review processes, and the working methodology of the underlying sustainable urban development plan can be enhanced. Such a systematic approach can make an essential contribution controlling the problems that hinder the development of the Palestinian cities towards sustainability.

Involving the private sector and local communities

Moving towards sustainable urban development in the Palestinian cities will require the involvement and commitment of a wide range of stakeholders, including the national and local governments, local communities and civil society, the private sector, and the international agencies. Since sustainable development requires “systematic changes”, the need for a participatory approach is evident; therefore, the Palestinian local authorities and municipalities need to cooperate with the Non Governmental Organizations (NGOs) and the Community Based Organizations (CBOs) who can play a very significant role in guiding participatory potentials towards the city development objectives.

The participation of all city stakeholders, especially the local communities, can help to define and address the bottlenecks, the essential needs, the way they want the city to evolve, and how they can contribute to the development process. It is essential that people are seen as being at the centre of any sustainable development process.

In view of that, for the sustainable urban development programmes to succeed, it is vital for the Palestinian municipalities and local authorities to engage with institutions from the civil society and representatives from the local community in the planning, budgeting, designing, monitoring, supervising and organizing processes. Involving the different actors will help to ensure greater accountability and integrity of municipalities and the creation of an enabling environment to achieve a better future for the cities.

The most productive policies and investments are those that empower people to maximize their capacities, resources and opportunities, and encourage their initiatives, self-help and mutual help. However, all these interventions can be viable only if they are supported by an organized programme of capacity building, which requires an educative process to strengthen public awareness about the living environment and about the importance of popular involvement in the development process. To achieve this, a process of communication should be inaugurated about the principles of sustainability, for instance by organizing participatory campaigns calling for action from the citizens and by using the media. In addition, approaches like using the school curriculum to incorporate environmental education have a good potential for use in this context.

Parallel to the participation and involvement of local communities and civil society, promoting sustainable urban development requires establishing partnerships among the various stakeholders – i.e. the private sector, representative communities and government – working towards the goal of integrated, habitable and efficient urban areas which will serve the needs of the local community in the present time, as well as in the future. The formation of active partnerships can assist in implementing the proposed sustainable development strategy. Moreover, these can perform an important role in managing service delivery, providing leasing arrangements, investing in service delivery companies, and in financing infrastructure investments.

In the Palestinian context, the public/private partnerships have crucial benefits as they enable the public sector to draw on private-sector expertise and skills, reduce the need for up-front capital from the government, and permit the public sector to access private-sector funds – since the limited governmental resources are considered a severe obstacle in Palestine. Correspondingly, partnerships require transparency in order to ensure accountability to the different parties, and this can only be achieved by opening up decision-making to wide participation, and showing that there are real benefits to be gained from cooperation. Experiences from different countries have shown that whenever there are transparent public/private partnerships and involvement of the local communities, NGOs, CBOs, households and individuals in a meaningful way, the results towards sustainability are positive.

Finally, after the detailed and extensive description for the issues that will lead to substantial changes towards more sustainable urban development in the Palestinian cities, what remains to be said at this point is that, despite the urgency and the need for change, it should not happen in a compressed span of time. The transformation process should be incremental, feasible and carried by the people.

Epilogue - What has been achieved?

It is becoming evident that coping with the future challenges of a rapidly growing population and land scarcity in Palestine (especially in cities) requires a rethinking not only of the current pattern of urban developments but also of the current policies, approaches, and professional responsibilities. In this study, the scope of analysis focused on providing a detailed vision on how to foster a more sustainable physical development

in the Palestinian cities. Nevertheless, physical sustainability in the Palestinian cities is not to be seen as separate from promoting a general sustainable development in the country, which should be based on the fulfilment of the main key needs of the people – the economic, social and cultural, as well as the political needs.

The spatial layout, the type of land uses, the transportation system, and the percentage of green structure in the city are key factors in the environmental and social sustainability of cities. In order to steer physical development in the Palestinian cities towards sustainability, this report recommended, *first*, following a more compact and dense pattern in the build-up areas in order to rationalize the use of land; *second*, allowing more mixed land uses in the different neighbourhoods to ease the provision and accessibility to basic services and facilities; *third*, improving the public transportation system inside the cities to facilitate the mobility of less advantaged people, decrease car dependency, and reduce traffic congestion and environmental impacts from polluting emissions; *fourth*, conserving and increasing the amount of green structure and open spaces inside and around the cities in order to ameliorate the quality of the living environment, reduce pollution, and enhance the image of the cities.

In the search for more sustainable city development for the Palestinian cities, the entire city-region needs to be considered. Consequently, in order to reduce pressures on the main cities and cope with the future demographic challenges, this research proposed an alternative approach for future developments based on regional perspectives which address both the city and city-region levels. The proposed approach is based on a polycentric net of decentralized concentrations as an organizing principal for city-region spatial development. The suggested polycentric net concentrates settlement growth on optimal centralities within each city-region, which encourages the development of new residential structures, as well as complementary workplaces and facilities. Moreover, it creates efficient public transportation and traffic flow, and environmentally more compatible supply and disposal structures.

Most of the proposed sustainable development principles and approaches can be equally relevant to the various Palestinian cities, though we recognize that each city has a unique development path, a unique mix of problems, assets, and positions in the regional and national context. Hence, attention should also be given to the specific local context.

This research recognises that steering urban development in the Palestinian cities towards sustainability is not an easy job, and, in order to do so, sustainability has to be an over-arching guiding theme, a combination of vision and practice, to be interpreted at every step of the way. The challenge of sustainable development demands a strong commitment to the cities and their surrounding areas, strong political will to act upon this commitment by implementing strong, coordinated policies, approaches and strategies. A sustainable development path implies political, economic, social and physical transformations. Paradoxically, promoting sustainable development in the Palestinian cities will require an uprising – or more accurately another uprising; half-heartedness will not achieve sustainable cities.

Finally, whereas the result of this study is a fine line between idealism and practicality, between detailed policy recommendations and general conceptual proposals, and between scientific evidence and political reality, hopefully, similar attempts in the future can usefully build on the research findings. This study was motivated by a firm belief that thoughtful preparation can facilitate future missions for the Palestinian people when peace comes.

“Sustainability is a journey, not a destination.” (Chris Davis)

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Appendixes

Appendix 1: List of interviewees for the in-depth interviews

Name of interviewee	Position	Date of interview
Dr. Samih El-Abed	Deputy minister in the Ministry of Planning	24/03/2005
Mr. Khalil Najim	Director of physical planning in the Ministry of Planning	29/03/2005
Mrs. Uhud Enaya	Planner in the Ministry of Local Government	30/03/2005
Mr. Tawfiq El-Budairi	Planner in the Ministry of Local Government	02/04/2006
Dr. Rami Abdulhadi	Planner and researcher	05/04/2005
Mrs. Adallah Atairah	Ramallah Municipality engineer	06/04/2005
Dr. Rassem Khamaisi	Planner & Prof. in Haifa University	08/04/2005
Mr. Arafat El-Sharif	Land department in Ramallah City	12/04/2005

Appendix 2: List of interviewees for the general interviews

Name of interviewee	Institution	Date of interview
Dr. Hassan El-Taher	Ministry of Environment	26/04/2005
Mr. Muhaymen El-Terhy	Palestinian Economic Council for Development and Reconstruction (PECDAR)	13/04/2005
Mrs. Sofia Sa'ad	Applied Research Institute of Jerusalem - (ARIJ)	07/04/2005
Mr. Nash'at Ta-hboub	The Palestinian housing council	03/04/2006
Mrs. Fatin Temraz	Ministry of Local Government	07/04/2005