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New Palestinian Towns as One of Urban Development Models

المدن الجديدة كأحد وسائل التطوير العمراني بفلسطين

By

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Supervisor

Dr. Faisal Awadallah

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المستخلص

المدن الفلسطينية برغم صغر حجمها إلا أنها تعاني من كثافة سكانية عالية وازدياد متسارع بأعداد السكان مما تسبب بالضغط الشديد على المرافق العامة والبنى الأساسية وعدم قدرتها وملائمتها لتوسيع وتطوير النشاطات الاقتصادية بالاضافة الى منع الفلسطينيين من توسيع حدود المدن الفلسطينية لانعدام السيطرة على الارض ومصادرة المساحات الواسعة من ألأراضي لإقامة المستوطنات الاسرائيلية عليها لمنع الفلسطينيين من تكوين نسيج عمراني وديمغرافي متواصل ومن إنشاء مناطق سكنية جديدة.

اضطر الفلسطينيين لاستيعاب الأعداد المتزايدة من السكان باستخدام جميع نماذج التطوير العمراني المتاحة في المساحات المتاحة داخل المدن من توسيع للأحياء السكنية بكافة الاتجاهات وتكثيف البناء في الاراضي الفارغة وإقامة مباني الشقق السكنية ذات الطوابق المتعددة بدلا من المساكن الفردية والبناء في اغلب الأراضي الغير المستخدمة والبناء على امتداد الطرق الرئيسية بين المناطق السكنية المتجاورة وبين المدن وضواحيها، وبحيث تداخلت الأحياءالسكنية بعضها ببعض وأقيمت معظم النشاطات التجارية و المناطق الحرفية في أحياء ملاصقة للاحياء السكنية وتداخلت معها في أغلب المدن وفقدت المناطق السكنية طابعها وخصوصيتها وندرت المناطق الخضراء داخل وبين هذه الأحياء والمجاورات السكنية وانحصرت مساحة ألاراضي اللازمة لإنشاء المرافق العامة ولتوسيع الخدمات التعليمية والخدمات الصحية والترفيهية واصبحت امكانية تطوير شبكات الشوارع وايجاد المساحات اللازمة لتحقيق الحد الادنى من المعايير التخطيطية لمختلف استعمالات الاراضي غير متوفرة وفقدت هذه المدن طابعها العمراني المميز وأصبحت لا تنتمي إلى أي نمط عمراني يميزها.

ان استيعاب الأعداد المتزايدة من السكان واحتمال عودة فلسطينيي الشتات والذين يعيشون مهجرين خارج فلسطين يستوجب إيجاد مناطق سكنية مساحتها أضعاف المساحات السكنية الحالية وبمواقع وأحجام مختلفة مما يفرض على الفلسطينيين استخدام جميع نماذج التطوير العمراني ولهذا هدف البحث دراسة ومقارنة نماذج التطوير العمراني المختلفة واحدها انشاء المدن الجديدة حيث تناول حركة انشاء المدن عبر مختلف المراحل التاريخية واهمها التجربة الانكليزية والتي كانت الاوسع في اوروبا بعد الحرب العالمية الثانية والتجربة المصرية كأحدى التجارب العربية، وكذلك تناول البحث مقارنة انواع وانماط ونماذج المدن المختلفة وتناول قوانين التخطيط العمراني المشرعة منذ عهد الانتداب البريطاني في فلسطين وتناول انواع واهداف ومواقع مستوطنات الاحتلال، وتحليل نماذج التطور العمراني المستخدمة بالمدن الفلسطينية وكذلك تحديد اهداف ومعايير انشاء المدن الجديدة ومعايير اختيارمواقعها .

ولاهمية اشراك المواطنين باختيار النماذج العمرانية واختيار الملائم منها بما يتناسب مع العادات والخصائص الاجتماعية والمعيشية لساكنيها فقد تم استطلاع راي الفئة الاكثر استهدافا للسكن مستقبلا في هذه المدن من خلال استبيان لتحديد احجام واشكال هذه المدن ومواقعها وانماط المساكن المفضلة وبما يامل ان تحققه ليتوافق مع تطلعاتهم المستقبلية ولتكون مدنا جاذبة للسكن والعيش بها وتتناول ايضا الخصائص والمميزات المفترضة لهذه المدن وتحديد المعايير التخطيطية والمساحات اللازمة لمختلف استعمالات الاراضي والمساحات اللازمة لهذه المدن بمراحل نموها المختلفة وتحديد المواقع المفضلة والمقترحة لمواقعها وذلك لتحقيق الاهداف المنشودة وتحقيق الغايات التي ستنشأ لاجلها هذه المدن.

Abstract

The existing Palestinian towns despite their small size have the urban problems of big cities, rapid increase of population, and high population density with a limited available land, lack of planning, lack of basic services, and lack of infrastructure.

Due the rapid population increase there is a challenge to provide housing within the built up areas, since land is divided into small units which creates difficulties for larger housing schemes, the cost and finance are also another challenge to provide new areas for population overflow, and to provide new areas for urban expansion.

Most of urban development problems arise when the occupation authorities in Palestine since1967 have barred the expansion of Palestinians villages and towns, and has confiscated large tracts of their lands to establish settlements and to prevent Palestinians urban expansion on these lands in order to prevent forming wide Palestinian geographic areas. To accommodate the increased numbers of population, Palestinians were forced to use all available models of urban development including; peripheral expansion, intensification of existing development,

more intensive construction in all residential neighborhoods, behind taking advantage of all the empty land to build on, and the establishment of multi

Storey apartment buildings, also linear development along and adjacent to the roads linking between cities and suburbs. Neighborhoods overlapped with each

other, commercial activities established broader than needed which held within the residential areas. The residential neighborhoods turned into regions of mixed land use, the high prices of urban land was a reason for the establishment of scattered residences between cities and suburbs that set up without economic base to ensure work for its residents.

Palestinian cities and villages have lost their character of distinctiveness and physical beauty; most of its recent buildings do not belong to distinctive architectural pattern. Planning for Palestinian returnees must be addressed; the area of land needed for this urban development will exceed many times the size of existing urban area, Palestinians must consider all models of urban development. This research attempt to find the urban development models that is able to accommodate future urban expansion and developments and to utilize international experience in building and planning new towns, moreover to emphasize characteristics of recent urban development (1917-2009) and the used models of urban development and expansion of West Bank Palestinian towns and setting new towns site selections and locations criteria. Public participation is essential in the planning process; questionnaire had been designed for this research to find Palestinians vision towards new cities and their perceived needs and preferences for future planning of new towns and residential areas.

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1- Introduction

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1.1 - Palestinian Urban Development Background

 The Middle East has been very important in both ancient and modern times, in the ancient times it was the seat of the great ancient civilizations of Sumerian, Babylonian, and Egyptian. Also, it was the place of origin of the three monotheistic religions.

With the rise of Islam in the seventh century, the Middle East became the most important part of the Islamic world; the geopolitical situation of the Middle East has been changed due the collapse of the Ottoman Empire after world war one. It was conquered by western imperialism because of its strategic geographical location and due to its extensive petroleum reserves *(Abu Gazaleh, 1997).* British forces occupied Palestine in October 1917, and it was made subject to the mandate Regime, which became operative on September 1923, when Britain was designated as the mandatory power over Palestine.

Britain responded to Zionist demand and exerted efforts to facilitate the creation of a Jewish state in Palestine, while according to 1931 Census held by the British government in Palestine, there was more than one million of people living in Palestine, of who about 84% were Palestinian Arabs.

With the increase tension in Palestine between Palestinian inhabitants and Jewish immigrants, the United Nations general assembly adopted special committee on

Palestine; this committee proposed the partition of Palestine into an Arab state that was allocated 43% of the territory of Palestine land, and a Jewish state that was allocated 57 % of Palestine land *(PWS, 2004)*.

On May 1948 British troops and administration withdrew from Palestine, the Jewish troops occupied in addition to the part which they were allocated also one half of the land allocated to Palestinians, and a transfer policy was carried out when about 800,000 Palestinians became refugees and (418) Palestinian villages were depopulated and demolished, while the rest of Palestine " West Bank and Gaza "came under Jordanian and Egypt control till 1967, when it was also occupied by Jewish state as the previous parts of Palestine .

Since 1967 the Jewish state successive governments have been colonizing the remaining part of Palestine through transferring parts of its population to settlements which was constructed on three phases. In the first phase isolated settlements sited along Palestine borders to form new political borders, in the second phase a barrier of settlements built between and around Palestinian population centers in order to fragment the territorial continuity and political unity of the Palestinians, in the third phase, mainly for demographic objectives the settlements turned into high quality of suburbs with easy access to main metropolitan areas.

The methods of acquisition appropriate land for settlements achieved through declaration of huge amount of land as state land, and through acquisition land owned by Palestinians who happened to be outside Palestine when occupation began which is

About 430000 dunums, and through land use planning as a method for restricting Palestinian use of land (*PWS, 2004).*

The Palestinian people had reached more than 10 million; half of them are refugees living outside Palestine *(PCBS, 2007)* and they are not allowed to return to their homeland; while the Palestinians live in Palestine has a high population density with a limited available land, the population increasing rapidly with lack of economic base and infrastructure.

There is a challenge to provide housing within the built up areas, since land is divided into small units, which creates difficulties for larger housing schemes. The cost and finance are also other challenges to provide new areas for population over flow, and to provide new areas for urban expansion.

The occupation policy affected greatly Palestinians urban development by restricting land use. Huge lands were confiscated, and the building of settlements and construction of highways prevented the expansion of Palestinian towns. It also prevented forming wide Palestinian ethnic geographic areas and limited the resources for establishing new Palestinian towns.

The rapid increase of population, enormous growth of working age people in urban centers, the high population density in houses of the low-income population, along with possibility of Palestinian returnees will set together a great demand for both housing and urban development *(World Bank, 1993).*

The area of land needed for this urban development will exceed many times the size of existing urban areas. Additional population and housing will increase the pressure on infrastructure and services that will limit the future capabilities of existing cities. Thus new towns will be the most important future urban development model in Palestine.

1.2- Objectives

The main objective of this research is to recommend new towns types, locations, characters, site selection and locations criteria, this is accomplished by identifying Palestinians vision towards new towns and evaluation of Palestine recent urban development models and through reviewing international experience in building new towns objectives, strategies, planning principles, urban development strategy applied by other nations, and how can international experience in building new towns enrich pattern of new Palestinian towns and could guide the planning of these new towns.

1.3- Research Questions

Research attempt to respond to the following issues:-

1- Could existing Palestinians towns accommodate future urban expansion and developments?

2- How can international experience in building new towns enrich pattern of new Palestinian towns and could guide the planning of these towns?

3- What is the government role in planning and establishing new towns; the private sector role and contribution in development of facilities in those cities?

4- Is it a Palestinian need to establishing new towns to accommodate future urban expansions?

5- Where new towns should be located?

6- What are the Palestinians attitudes towards new towns?

1.4 - Research Organization

The research consists of six chapters, as outlined below:

- **Chapter1**: Introduction- emphasizes research definition and importance.

- **Chapter2**: Historical background of planned cities and new towns experience- an attempt to refer to Palestine historical towns planning background since many of Palestinian cities were originally built before thousands of years ago, also an attempt to employ the historical analysis technique to comprehend the urban planning developments through different periods and to learn international experience in building and planning new towns.

- **Chapte3**: Palestine recent urban development- intended to emphasize characteristics of Palestine's recent urban development (1917-2009) and the used models of urban development and expansion of West Bank Palestinian towns.

- **Chapter 4**: Methodology - a hypothesis, literature review, analysis of Palestine conditions and needs, setting new towns site selections and locations criteria's   in order to find the basis of the recommendations.

- **Chapter 5**: Palestinians attitude survey towards new cities- intended to explore the opinion of cross-section of Palestinian society for the future planning of new towns and residential areas.

- **Chapter 6:** Recommendations for new cities in the West Bank- in this chapter the new towns locations, characters and types were analyzed and recommended.

2- Historical Background of Planned Cities and New Towns Experience

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Urban planning of Palestinian cities and towns was affected greatly by urban planning of different historical periods since pre-history; many of Palestinian cities were originally built thousands of years ago, when it was part of Fertile Crescent.

In the ancient world the earliest known city was Jericho in Palestine (7000) B.C, which was an oasis near the Jordan valley *(Oktay .1996).*

2.1 Ancient World Towns

The geographical position of the Middle East has been very important in the ancient times; its central position in the three main continents (*Asia*, *Africa*, *and Europe*) enabled easy contact and influence between the different parts of the world.

The growth of the population of ancient civilizations, the formation of ancient empires and the growth in commerce and manufacturing led to ever greater and centers of commerce.

2.1.1- Mesopotamian's Towns

Most of the world earliest cities were established in the Fertile Crescent and near the Mediterranean, the major feature of the Middle East cities were the walls and

 the town centre as dominant elements. These cities were fortified cities, compact and dense; they were dominated by buildings planned around courtyards with spaces between for movement within the city. The buildings were inward looking and the streets were narrow. The architectural effort was concentrated on the courtyard.

Characteristics of Mesopotamian's Towns

1- Towns were well situated for the trade alongside the rivers of Tigris and Euphrates.

2- The Typical Mesopotamian city consisted of three parts, the inner city, the outer city, and the suburb (figure 2.1).
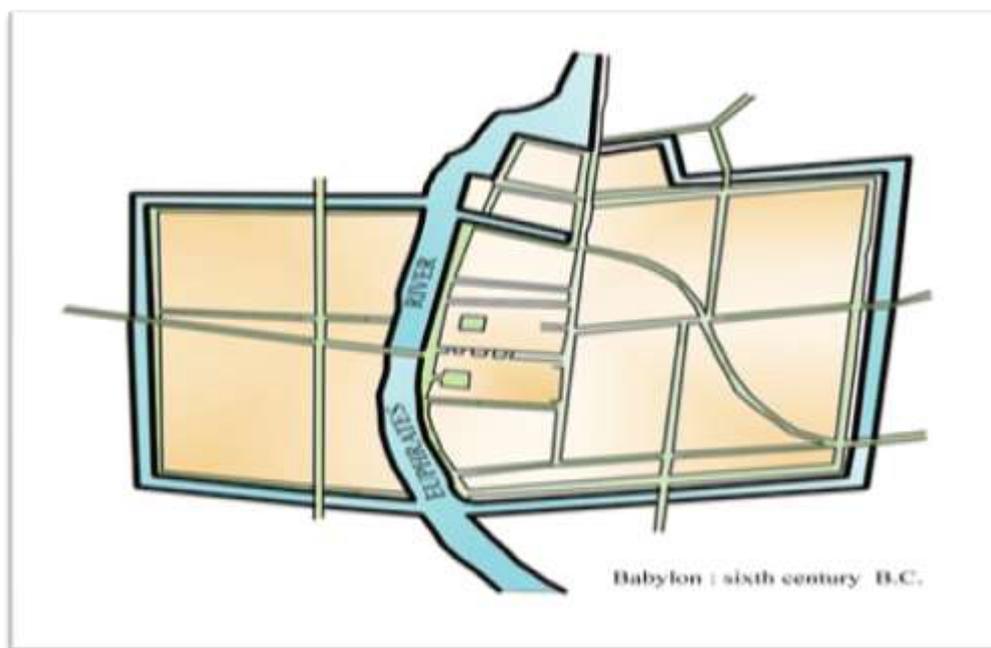
Figure 2.1: Babylon City in the Sixth Century B.C. Source: - Catanese.1979.

The inner city contained the ruler palace; the temples of the city's gods, private dwellings arranged a long small narrow street, and a few wider streets, mostly near the gates. The city was divided into several quarters each had its own gate through

The walls surrounding the entire complex. The suburb contained houses, but mainly consisted of fields that provided the citizens with food, and it was a green belt around the walls.

The harbor section was the centre of the commercial activities of over land trade, where foreign traders lived *(Lapidus. 1967).*

3- Belt of suburbs with gardens and canals were ringed some of these cities *(Lampl.1986).*

4- Monumental architecture was one of the major features of the second half of the fourth millennium B.C; the contours of cities were dominated by high ziggurats; Temples and observatories *(Beazly.1984).*

5- In Sumerian period, the houses were planned around a central court to provide light to the surrounding rooms.

6- In Babylon the city consists of houses three or four stories high laid out on straight streets, the inner city main roads ran parallel to the river in the west, with intersecting streets at right angel *(Hart. 1980).*

2.1.2- **Ancient Egyptian Cities**

The initial starting point of Egyptian civilizations has not been found .The organization of social life in Egyptian civilization was different from others in history, the Pharaoh was the head of the administration, He was both God and King.

The fact that Egyptians gave more important to their afterlife than to their life on earth led to their choice of stone for funerary monument, while dwellings,

Residences and even palaces being temporary structures built with cheaper, non-enduring materials like mud brick and wood *(Lampl.1986).*

Main Characteristics of Egyptian Cities

1- The plan of the Egyptian city was in the form of a narrow strip running alongside the East Bank of the Nile *(Fergusson. 1983).*

2- Houses and palaces for climatic considerations almost orientated toward the North, while most temples faced east.

3- Dimensions of city plans were always related to proportion 1:1, 1:2, 1:3, 2:3, and 3:5 to provide maximal occupancy on a minimal area, while water played an important role in the city image.

4- The pyramid cities were preplanned of orthogonal lay out, these cities were surrounded by a massive wall of brick forming a square the outline plans of Egyptian cities varied from rectangle to square but the oldest were oval or round.

5- All the pyramids were situated on the left bank of the Nile facing exactly North South with entrances toward north, while temples were located on the east side of

the Nile.
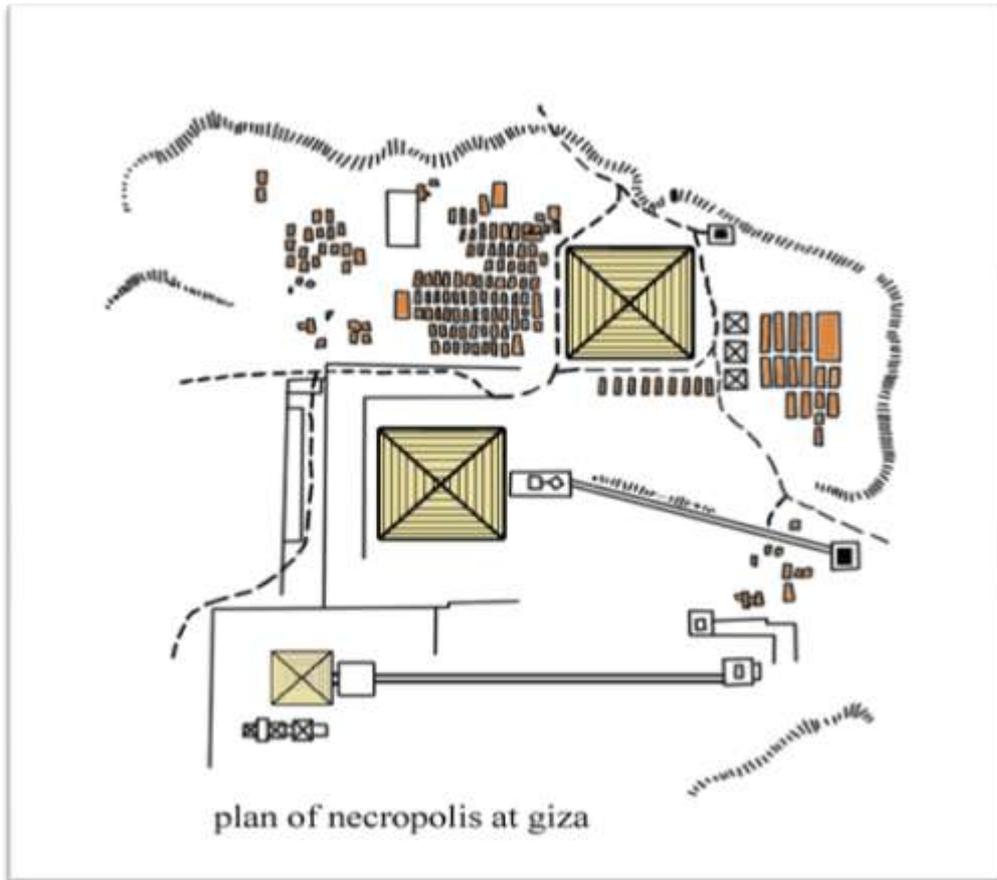
Figure 2.2: Plan of Necropolis at Giza. Source: Catanese. 1979. Edited by Author.

2-2 The Classical Greek and Roman

2-2-1- **Greek Cities (333 B.C)**

During the fifth century B.C western civilization began on the Islands of Aegean Sea and grew

with the settlement of Greece (Catanese.1979).   During this period extensive growth and

development that included urban planning were witnessed. The establishment of well-built fortified cities allowed trade and commerce to

Flourished particularly in the most Hellenized areas, such as the Palestinian towns of Ascalan, Jaffa, Jerusalem, Gaza, and ancient Nablus -Tell Balatah *(Pastor. 1997).*

After the Dorian invasions (100 B.C) a new urban form developed, the ceremonial center dispersed through the whole town and the temple took the special place in an ordered hierarchy of urban functions *(Broadbent.1990).*

The urban form made for people had been created by the Greeks, the first new towns founded for special purposes in Europe have been constructed by Greek who founded these settlements for purposes of colonization, commerce and absorption of population increase in the city state.

Characteristics of Classical Greek Cities

1- Greek cities growing from old villages often had organic, irregular form.

2- Greek cities centered on Agora, which was the multifunctional center surrounded by the main public buildings where Greek spent most of their daily life in Agora which was the center of their social life; while the Parthenon "the temple" built on the natural hill "Acropolis" was in the center of the city (fig2.3).

3- The streets were designed with water and drainage system.

4- The main concern in Greek method of planning was the aspect, prospect and climate more than urban form, and geometry of the streets.

5- The preplanned cities as Miletus 479 B.C. planned on a grid iron to create total city plan with a fortification wall, which includes the center, residential, commercial, and recreational facilities (fig2.4).

A : Acropolis
B : Theatre
C : Agora
G : Gymnasium

The Plan of Priene
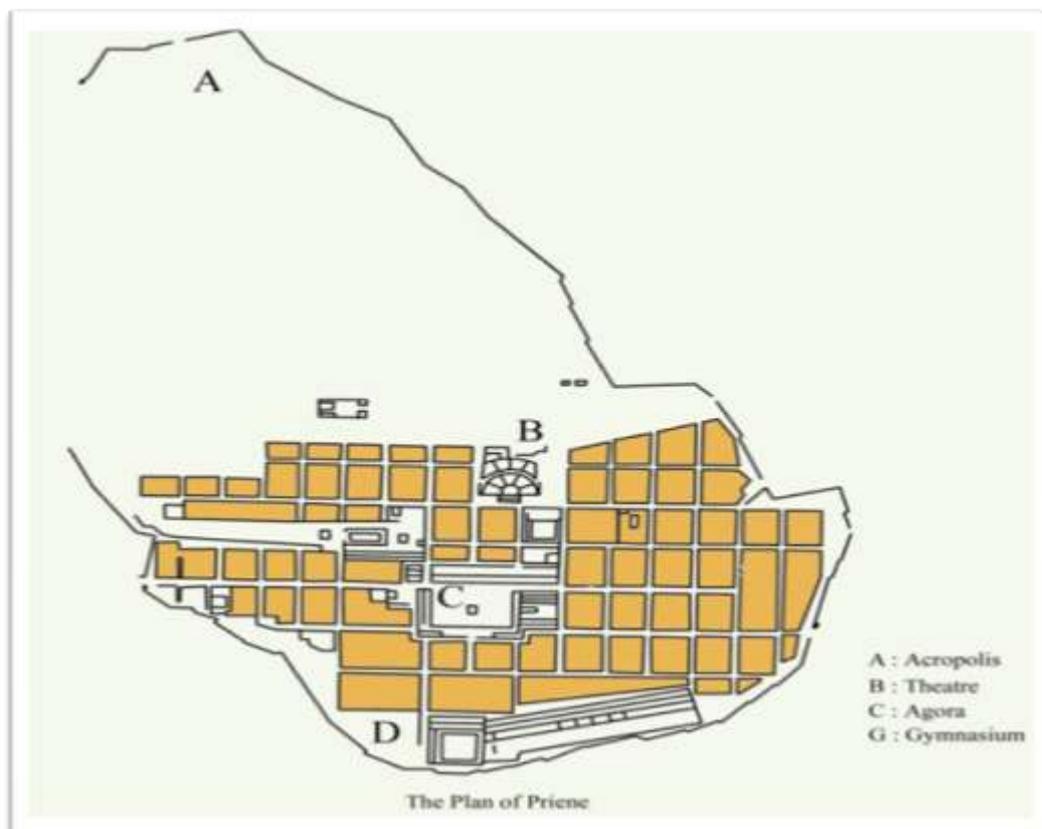
Figure 2.3: Plan of Creek City Priene .Source: Oktay.1996, Edited by Author.

Miletus: the gridiron pattern
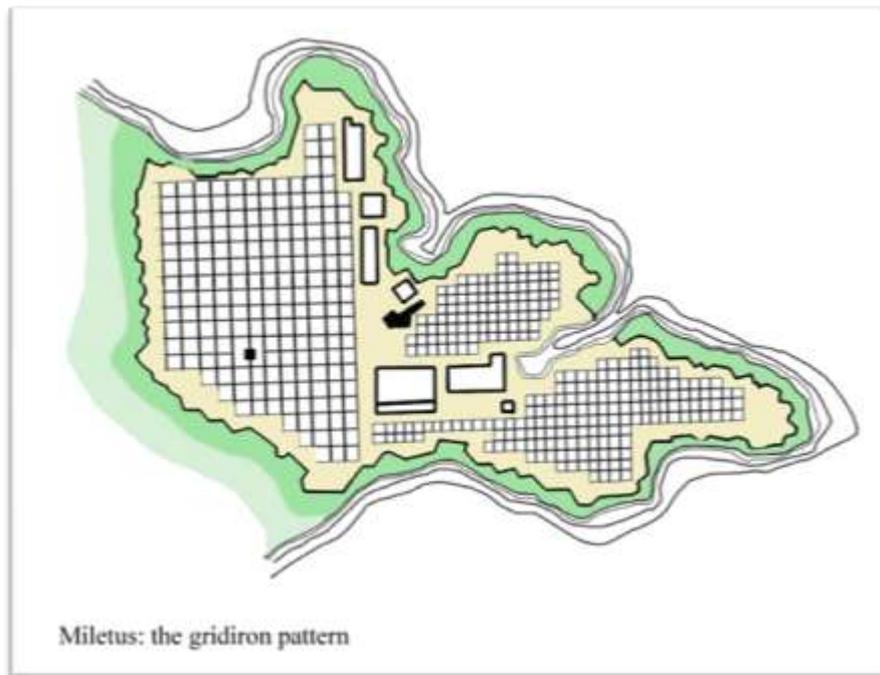
Figure2-4: Pre Planned Miletus Planned on the Gridiron Pattern. Source: Catanese.1979.

Edited by Author

2.2.2- **Roman Cities**

New Roman cities were founded in Palestine at Lydd, Caesarea and Bethlehem. The Roman

Empire grows in power and wealth *(Spreirigien.1965).*

The Romans who understood the importance of transportation planning and built roads

throughout their Empire from Spain to Egypt and Armenia; these roads enabled commerce to

flow from Rome and to provide rapid means of transportation for their armies. Many military

cities throughout the empire have been built, most of them followed a master plan that varied slightly and enabled rapid construction *(UNESCO, 2003).* Many monasteries were built in Palestine

During Byzantine period in Wadi al Qelt, Deir Qarantal and Deir Mar Saba. The cities of Palestine such as Caesarea, Jerusalem, and Gaza reached their peak population in the late Roman period *(Shahin, 2005).* Romans urban planning characterized by cities designed around the forum. Cities were connected by an extensive road network developed for economic and military purposes, among the most notable archaeological remnants from this era are (Tel al-Fureidis) to the south of Bethlehem and Caesarea (figure2.5), *(Johnston, 2004).*

The Romans were great civil engineers; they built long system to tie their empire. The Romans perfected Arch and Dome construction (figure2.6). Which were built in Rome, the ancient world's greatest city *(Chancey. 2005).*
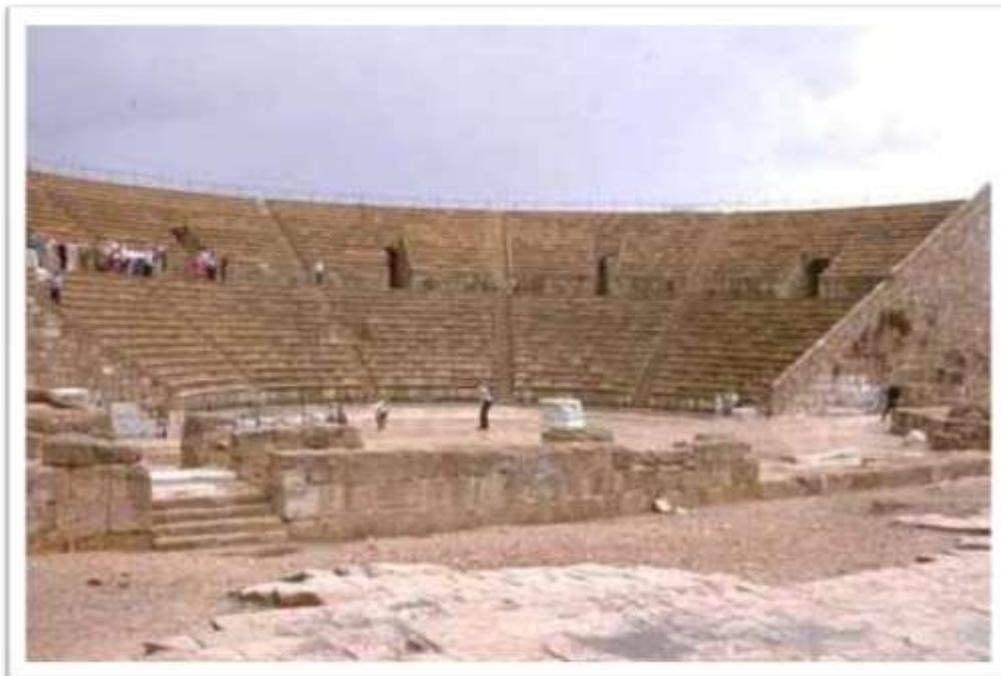
Figure 2.6: Timgad-Algeria Built 100-117 A.D .Source: - UNESCO World Heritage Site

Characteristics of Roman Cities

1- The Roman cities were designed for pedestrian movement on a grand scale.

2- In Roman cities gridiron form was used, the street system which passed through the city connected the different zones was the most significant characteristic of

Roman city.

3- The forum in the Roman city is the equivalence of the Greek Agora, it was located on the intersection of the two major roads, the theater, the main temple and the public paths were the other components in relation with the forum.

4- The Roman military and colonial towns were laid out in a variation of grid, these cities were planned by military men, and this created the defensive walls. The

Greek and Roman cities established a long lasting pattern of planning cities. The Roman continued the new towns building; they built upon their theories of town planning which are still applicable today, "the suitability of land for different types of development and the problems of location".

The creation of green belts and fields around cities, esthetic, functional order, aspect and prospect of towns, geometry of streets, self-sustaining cities, and pre-planned cities, the plans were performed on grid iron had been used for planning Greece and Roman towns.

2-3 Islamic Periods

During Islamic period starting (638 A.C) Palestine formed part of greater Syria. Coastal areas and port cities like Jaffa, Haifa, Acre, were fortified and developed, while Jerusalem was the place of Products exchange with Europe *(Rizwi. 1998).*

In Mamluke Sultanate (1270-1516 A.C) Palestine was divided into three subdivisions with capitals in Jerusalem, Gaza, and Safad, during this era many schools, lodgings for travelers (khans) were constructed.

Main Characteristics of Traditional Arab Town

Traditional Arab cities illustrated the idea that the city was not a creation of man

But of nature, each of its parts is comparable to the vital organs of animal body, (figure2.7).
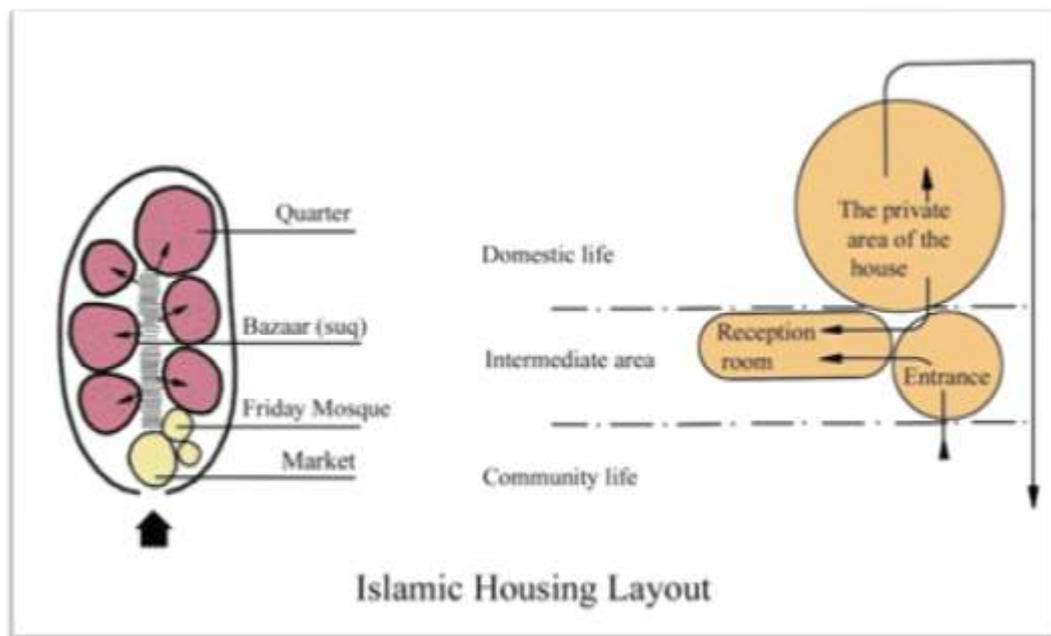
Figure 2-7 Arab Housing Layouts. Source: Oktay, 1996. Edited by Author

The main characteristics of Arab Islamic town was its quarters, early settlements had an administrative core with the main mosque connected with the governors house, commercial quarters adjacent to this core (figure2.8). In later periods every quarter had its own masjed (small mosque) bath and Koran schools.

The structure of Arabic town.
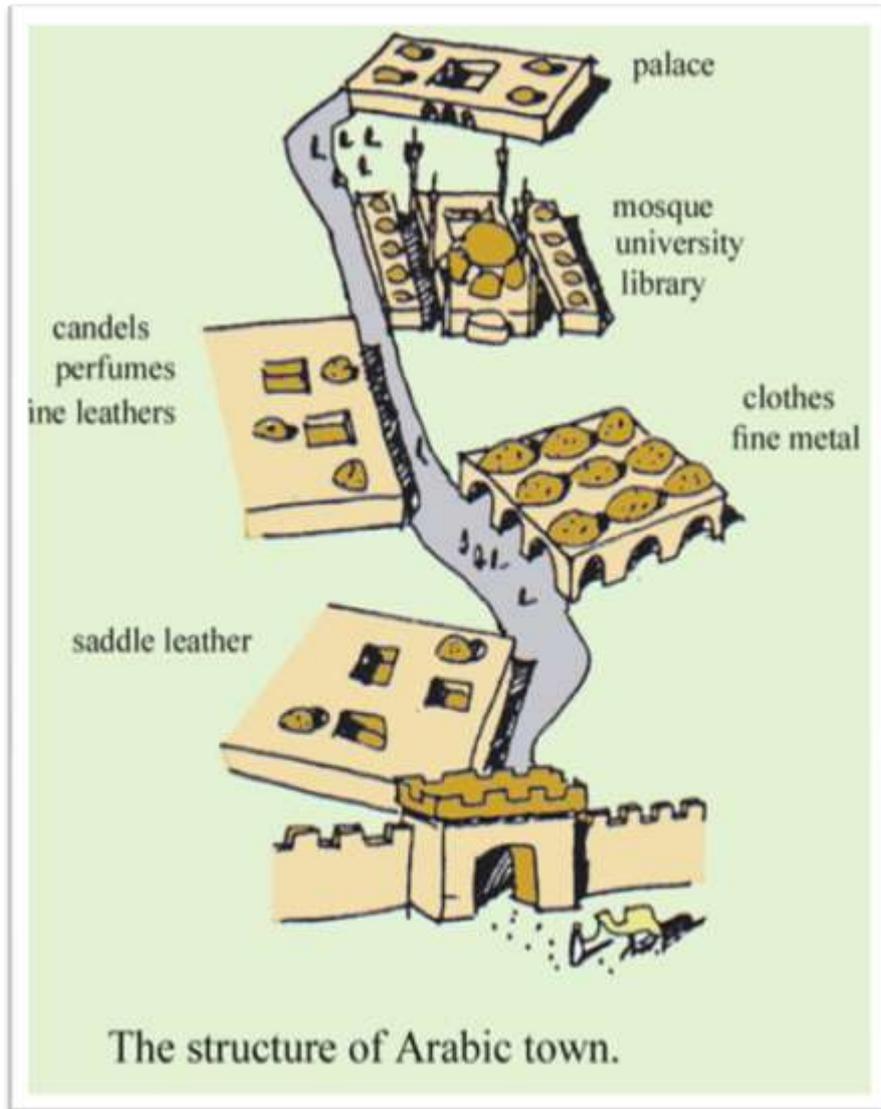
Figure 2.8: the Structure of Arabic Town .Source: Spreiregen.1965, Edited by Author

In the main cities the bazaar complex contained baths, secure rooms, khans, for the traveling merchant, inner mosques and fountains. It can be seen that there was a vital relationship

between a city parts and its vital links, which determined their size, position and form *(Oktay.1996).*

2.4- Medieval, Renaissance, Baroque Towns

2.4.1- Medieval Towns

The dark ages that followed the Roman Empire were more a period of city destruction; the 11th century marked the beginning of city restoration and expansion. Medieval cities grew in two categories organic "irregular" and planned "regular" cities. The irregularity of Islamic planning was reflected in many cities of medieval Europe, especially in housing lay out when Arabs of the north coast of Africa carried Islam to southern parts of Europe at 641 A.D *(Oktay.1996).*

A considerable amount of medieval town buildings was centered upon the church or cathedral when it was the main political power. Romanesque (arched buildings discovered by the Roman) was the medieval town's style of architecture. New towns were based upon the familiar grid; large encircling walls were built for defense purposes with narrow streets covering a market square with cathedral and city hall.

In Palestine under the European rule (1099-1187), fortifications, castles, towers and fortified villages were built, rebuilt and renovated across Palestine largely in rural areas. A notable urban remnant of the crusader architecture of this era is found in Acre's old city *(Rizwi.1998).*

2-4-2 Renaissance City (1400-1600) A.D

The flow of a new knowledge of classical philosophy and mathematics accelerated after the crusades and the fall of Constantinople. The influence of the church

Became less dominant in the city planning and the power transpired from the feudal power to businessmen and merchants, which gave the city esthetic and functional order.

The Main Characteristics of Renaissance City:

1- Renaissance planning based on an esthetic principles, the city was represented as a grouping of nearly perfect buildings with porticoes, great paved spaces and centrally planned churches.

2- The primary elements were palace and church, monumental stairway pizza (enclosed and colonnaded) arcade, focal, sculpture, which were established as the basic kit of parts of the city.

3- The vast majority of the new towns were straightforward grids, some adopted radial concentric street systems (Oktay.1996).

4- Most cities were preplanned with the idea of boulevards fountains, squares, statues, the new buildings and palaces expressed the wealth of the business class, the new cities were designed to express the power of the ruler and the state.

2-4-3 **Baroque Cities (1600-1750)**

The transition from renaissance to baroque period was orderly during 17th and 18th centuries. Aesthetic principles shaped baroque urban planning, which considered as the final flowering of renaissance in Europe. During the 17th century there were

Radical changes in cities as the Renaissance inventions were extended on a grand scale. The growth of the nation state produces the centralized government building outside the city indirect contact with a controlled nature.

Baroque City Characteristics:

1- Grand huge and impressive urban scale, long avenues, radial street networks, monumental squares, geometric parks and gardens.

2- The urban fabric was improved to match the palatial developments outside, great prominence were given to the details of building facades as in Michelangelo's Piazza Campidoglio in Rome. *(Oktay.1996)*

2-5 Neo-Classical City (late 18th Century)

The late 18th century in Europe was a period of expanding commercial and manufacturing enterprises, which enlarge the European wealthy middle class. This led to a large-scale demand for residence looked as much like palaces, banks, warehouses, hotels, office buildings and factories. The forms of Brogues buildings were applied to the housing at this period.

The urban growth pattern were determined by the market, the lands were divided into parcels for sale, large areas were devoted to private parks that were landscape in a romantic mode.

The typical layout of Middle East cities at the beginning of this era characterized by:

1- Narrow streets, the road system was not pre-determined as in modern planning, but it was a result of the pattern of buildings, the narrow streets act as temperature regulators in hot days. They act as stores for cool air similar to the function of the court yard.

2- The city center of the old town was in the central zone of the city and was irregular; the streets formed a network extending without a break from the city centre to the town limits, as the old historical Cairo that was an example of an irregular network of the type of the Arab cities. *(Abu Gazaleh.1990)* The transformation from Middle East pre-industrial city to modern city was not as natural development of late medieval society, but through an alien European invasion, when they pushed towards integration with new world economy *(Costello.1977).*

The new commercial, industrial and technical climate altered other changes:

1- New suburbs added to cities, wide boulevards, new concepts of the spatial layout of buildings, this was found in the town planning next to the old walled city. The quarters lost their significance as a social units, solidarity among the inhabitants of city quarters was weakened.

2- Many towns developed at the cost of political capitals, Jaffa in place of Jerusalem there was a shift in orientation towards coastal areas in response to the

Demand for exports. Many ports grew in size and importance Jeddah, Eden, Bahrain, Beirut, Alexandria and Port Said.

3- European theories of planning were brought during the colonial era, high rise buildings were found, and most of the buildings represented western architectural styles.

4- Provincial towns began to serve as a wholesale market for the hinterlands and as administrative centers for the central government.

The planning and design of cities greatly influenced by the economic conditions and to market needs, Renaissance and Baroque era marked by beauty and organization, while neoclassical era marked by building banks, hotels and factories to meet market demand. The 19ᵗʰ century colonialism brought European types of cities that built next to the existing Arab cities without affecting much of the older towns in physical sense.

The European city open space patterns were transferred to the Middle East cities.

This planning ideology was demonstrated at the new quarters of many Middle Eastern cities "Cairo, Aleppo...", but they created no real element of change in the living majority of people, and represented the introduction of new features in urban land use patterns *(Abu Gazaleh.1990.)* All the elements which create so many problems in the modern period of urban history were presented in this Era *(Robert.1979.)*

2-6. Roots of Modern New Towns Experience

2.6-.1- Planned Industrial Towns

The invention of the steam engine in 1769 signaled the beginning of the industrial revolution, several planned industrial towns were built in the 19th century; the English were the main developers of these towns. A mill town built in 1812 in Rohde Island and in 1816 another in New Hampshire, (figure2.9). In France industrial towns started in 1859 in "Vensinet", its plan was a combination of classical French landscape architecture and English parks. In Germany, a number of worker colonies were built starting from 1863 *(Spreirigien.1965).*

With industrialization, the city changed of fundamentally; the transformation from ruralism to urbanism took place. In 1801 about the tenth of people in England was living in cities, this proportion doubled in 40 years, and doubled again in 60 years (*Clapp.1971).*

The rapid growth of cities and the problems of industrialization, the increasing congestion and health hazards created a movement towards suburbs. This was possible by improved streets and urban railways systems, the invention of automobile foster a massive sprawl of residential areas far from older central areas *(Catanese. 1979).*
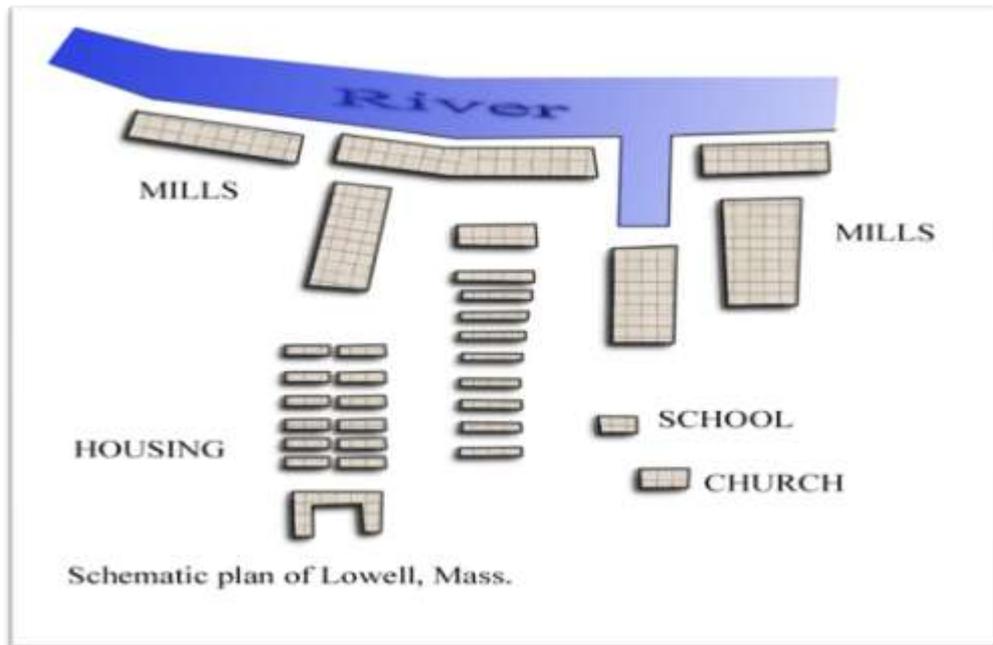
Figure 2.9: Schematic Plan of a Mill Town .Source: Spreiregen.1965, Edited By Author

2.6.2- New Towns Movement (1850-1928)

The new towns movement had its beginnings at the mid of the 19th century, this movement was a reaction to the physical social and economic conditions of the late 19th century.

The origins of this movement can be found into Ebenezer Howard thesis; he set his ideas (figures 2.10&2.11) through the formation of the garden cities association and later in the promotion of the garden cities of Letchworth and Welwyn. The garden city idea was assumed two alternatives town life and country life with a population limited to 32000 where the social life of the city could be reduced to more human dimension. Howard's concept of park life was adopted by many planners of the early 20th century.*(Clapp.1971)*Several garden cities were built in

France; the first "Dourges" built in 1919, it was followed by "longurea, Tangier and Lillie-La-Delivera".

Figure 2.10: Howard's Garden City Schematic Plan. Source: Spreiregen. 1965

Figure 2.11: Howard's Garden City. Source:www.tomorrowsgardencity.com/proudpast

The massive technological and social changes in the early decades of the twentieth century had a strong influence on contemporary planners and urban designers.

Le Corbusier and Wright urban design proposals represent the polar attitudes towards urbanization and urban design. The influence of Le Corbusier on modern urban space was:

a- Vertical separation of movement system.

b- The opening up of urban space to allow for free flowing sun, and light.

c- The linear and nodal building as a large-scale urban element, a principle applied physically to define districts or social units. Both Wright and Le Corbusier had influenced the two major kinds of urban form existing today; the high density urban core and the low density suburb.

2.6.3 - New Towns of Different Parts in the World

Since early history, many towns built without any planning initiatives, while others built through the planned initiatives of rulers and leaders. These new towns built in different countries to accomplish varied objectives and it was a tool for reshaping urban form and in implementing territorial development to achieve population balance. The purposes of building new towns differ from country to another depending on their national program.

New towns built worldwide to achieve national goals that are-

1- As a balance structure between work forces and the number of jobs and as an efficient structure with appropriate location and phasing of the main activities to

Meet future needs of modern services: medical, educational cultural, financial support with harmonious environment and minimum pollution *(Zahlan.1997).*

2- Regional centers of transportation and communication linking residents of rural villages and towns to other cities.

3- As a center of social transformation by encouraging integration of people from diverse social and regional groups.

4- Regional marketing centers, offering a wide variety of distribution, storage, financial services and personal services.

5-To develop under populated areas, to relieve congestion, exploit natural resources, establish economic growth poles, and to curb the growth of existing cities to preserve cultivated lands.

6- To enhance the quality of life for city dwellers and to enhance national and regional employment and income growth.

7- To absorb migration from rural areas to urban centers, and to provide convenient locations for decentralizing public services through municipal governments and field offices of national ministries.

8- To provide suitable conditions to the growth of small and medium scale manufacturing to satisfy internal demand for low cost manufacturing goods *(Rondenelli.1983).*

2.6.4 - 20th Century Arab Towns Urbanization

Recent urbanization problems in the Middle East are a mixture of natural population increase, and the rural urban migration *"Asian model"*.

After the World War II, intense of commercial movement brought thousands of workers to main cities, which caused a need for new housing, active transportation system, infra structure, and caused a destruction of residential and agricultural land where industrial factories were built *(Abu Gazaleh.1990).*

Many new large-scale projects developed in the Middle East cities during the 20th century such as new towns, airports, large shopping centers following the concept of bazaars.

2.7- New British Towns Experience

New towns represent one of the most important movements in urban planning in the 20th century, they are found on almost every continent {Peiser &Chang.1999}.

The British experience started while building of the garden cities initiated by Ebenezer Howard the Letchworth (1903) and Welwyn (1919) (figures 2.12&2.13).

The British new towns have developed largely since World War II as a response to a set of political economic and social conditions created by the 19th century industrial developments. The particular concerns were pollution, urban sprawl, and ribbon development due to the large destruction in London and in other cities during World War II *(Self.1972).*

The Ministry of housing and local government established the British new towns act in 1946, and specified the regulations and rules for new towns buildings and the directions to undertake the new towns actual development.

The central government played a key role in the initiation and selection of town's sites, land expropriation, finance, planning, monitoring, and construction *(Khamaisi.1990).*

The building of new towns in Britain was implemented within the context of national strategy where various agencies and regulations were developed, by 1991 these new towns accommodated a total of [2,250,000] citizens and there were around [1,100,000} employment opportunities in the new towns *(Ward.1993).*
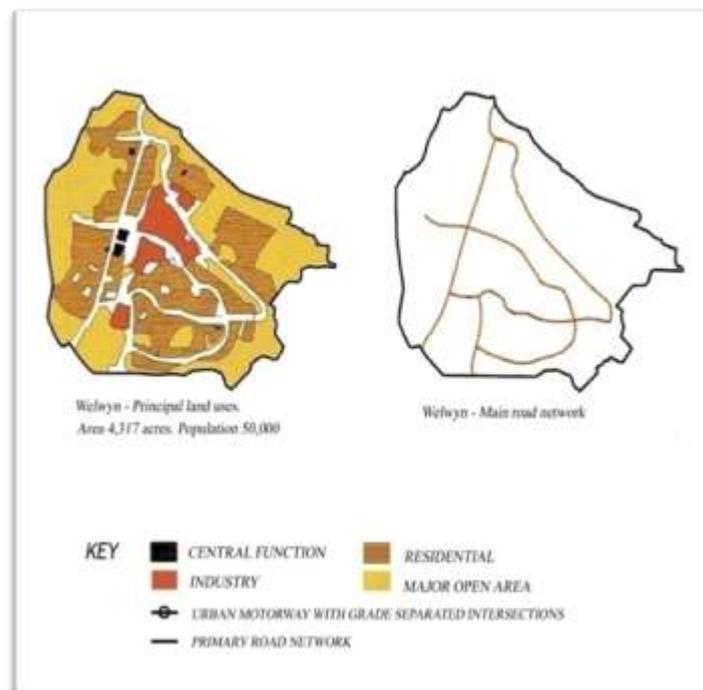
Figure 2.12: Welwyn Town. Source: - Evans.1972, Edited By Author

Figure2.13: Welwyn Town Designed Around a Central Circular Park with a Fountain

Britain has developed more than **50** new towns (Map2.1) in three generation following World War II. In the first generation (1946-1950), Eight new towns were built (25-35) km from London each with (25000) inhabitants. In the second generation (1960-1967) another five new towns were built each with (100,000) inhabitants. The last generation of new towns completed with the dissolution of new town development corporations, and the commission for the new towns was responsible for selling off the remaining land and assets of the last new towns (Richard. 1999).

New towns built before 1975 were built in populated areas near small villages while the towns built after 1975 were expansion of main towns. The new towns implemented in various areas; the objective of these towns changed by the time from new towns to building development poles (Richard.1999)

Map 2-1, Map of New British Towns

EXPANDED TOWNS   NEW TOWNS

ENGLAND

EXPANDED TOWNS	NEW TOWNS
E 1 ANDOVER	1 AYCLIFFE
E 2 ASHFORD	2 BASILDON
E 3 AYLESBURY	3 BRACKNELL
E 4 BASINGTOKE	4 CENTRAL LANCASHIRE
E 5 BLETCHLEY	5 CORBY
E 6 BURNLEY	6 CRAWLEY
E 7 BURY ST.EDMONDS	7 HARLOW
E 8 CREWE	8 HATFIELD
E 9 DAVENTRY	9 HEMEL HEMPSTEAD
E 10 ELLENSMERE PORT	10 MILTON KEYNES
E 11 HAVERHILL	11 NORTHAMPTON
E 12 KINGS LYNN	12 PETERBOROUGH
E 13 LONGBENTON	13 PETERLEE
E 14 SEATON VALLEY	14 REDDITCH
E 15 SWINDON	15 RUNCORN
E 16 TAMWORTH	16 SKELMERSDALE
E 17 THETFORD	17 STEVENAGE
E 18 WILLINGBOROUGH	18 TELFORD
E 19 WIDNES	19 WARRINGTON
E 20 WINSFORD	20 WASHINGTON
E 21 WITHAM	21 WELWYN GARDEN CITY

SCOTLAND

CUMBERNAULED
EAST KILBRIDE
GLENROTHES
IRVINE
LIVINGSTONE
STONE HOUSE

WALES

CWMBRAN
LLANTRISANT
NEWTOWN

NORTHERN IRELAND

ANTRIM
BALLYMENA
CRAIGAVON
LONDONDERRY

NEW TOWNS OF THE UNITED KINGDOM

NEW TOWNS OF THE UNITED KINGDOM. THE BRITISH HAVE LOCATED MANY OF THESE NEW TOWNS
AROUND THE MAJOR METROPOLITAN AREAS TO SOLVE URBAN CONGESTION, WHILE LOCATING
OTHERS IN ECONOMICALLY DEPRESSED AREAS TO IMPROVE SOCIOECONOMIC CONDITIONS. EXPADED
TOWNS WERE ALSO USED TO IMPLEMENT SOLUTIONS TO URBAN PROBLEMS

2.7.1- Purposes of Establishing New British Towns

1- To reduce the population density in London, and to transfer inhabitants to areas of low density to use its natural resources.

2- To reduce pressure on the center of London and to eliminate slums, as these new towns based on objectives of economic autonomy *(Clapp.1971).*

3- To create regional shopping centers, as these towns developed their own major shopping centers with plentiful car parking and pedestrian segregation, these new towns were attractive, convenient, and served wider area as "out-of-town" shopping centers for older towns around.

4- To attract industry and businesses, since a new towns location attracted industry for a variety of reasons, a new industry rising from modern technological development needs a large area of land with room for expansion and housing for its workers, these were not available in the existing old towns.

5- Social mix and a sense of belonging, since the new comers to the new towns feel themselves to be pioneers and involved in belonging to the new towns in a way they did not feel it in their previous residence *(Denington.1972).*

2.7.2- New British Towns Land Development, Planning and Construction

a - **Land Development**

Local authorities were responsible for the provision of public buildings, sewage, roads, while the new towns corporation has the authority to contribute to the costs of the needed improvements *(Clapp.1971).*

b– **Planning**

Development Corporation developed new British town's master plans, general land use, circulation system, and the development stages with assistance of planning consultants. Actual development was controlled through specified development proposals, each must be submitted for the Ministers approval, the Minister have to consult with local planning authorities before approval of proposals, but local planning authority approval was not required *(Clapp.1971).*

c - **Land Acquisition and Construction**

The development corporation was responsible for land acquisition with the ministry approval, and undertook the building of housing, commercial and industrial structures. Construction financed by long-term loans advanced by the national treasury, outside contractors were employed to undertake actual construction, the development corporation was the principal builder of the new

Towns, private builders were also permitted to participate reliant upon acceptance of the development proposal by local planning authorities (*Clapp.1971).*

2.7.3- New British Towns Design

Most of new British towns have an overall similarity in appearance, as they were built in a short time; each of these new towns had its own individual character due to its topography and due to the designer and the development corporation *(Gibberd.1972).* The master plans of the new towns were based on the way of urban life; most of British families preferred a suburban environment of two story houses with private gardens preferring segregation of home and work, demanding privacy for individual family and largely dependent on motor transport.

The entire early new British town centers were based on the traditional pattern of an all purposes shopping street forming the spine, the center was pedestrian core surrounded by service roads and car parking, the plans of the early new towns centers established spatial pattern flexible to allow growth *(Gibberd.1972).*

A- Early New Towns Design (First Wave) "1945-1950"

The first new British town's wave planned to alleviate the housing shortage in the green belt around London, these towns were intended to be limited in size with low density to limit urbanity, and it was surrounded by substantial areas at open country.

These towns were planned to provide a complete urban environment including housing, employment and recreation. Harlow, Stevenage, Crawley, Corby and Newton were new towns of this period. (Figures 2.14, 2.15& 2.16)

Figure2.14:"Stevenage Town"

THE MASTER DESIGN: LANDSCAPE; HOUSING; THE TOWN CENTRES
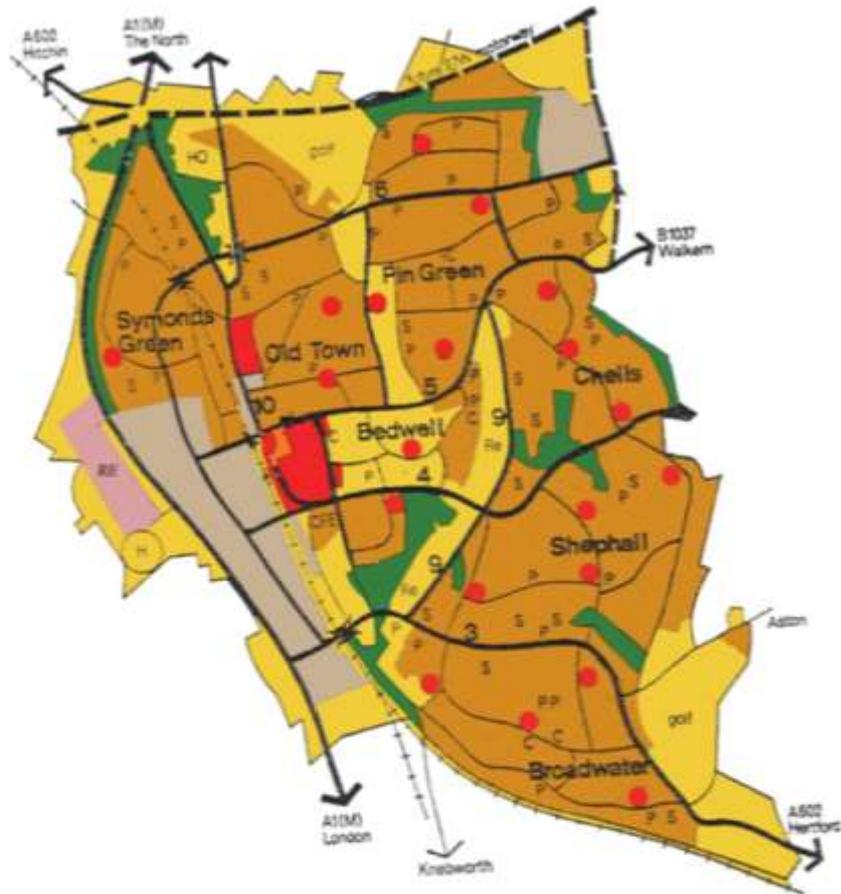
RESIDENTIAL NEIGHBOURHOODS   B   BUS STATION

SHOPPING   H   HELICOPTER LANDING GROUND

INDUSTRY   C   COMMUNITY AND YOUTH USES

ADMINISTRATION   HO   HOSPITAL

WOODLAND   P   PRIMARY SCHOOL

FARMLAND, OPEN SPACE   S   SECONDARY SCHOOL

RE   RECREATION   CFE   COLLEGE OF FURTHER EDUCATION

R   RAILWAY STATION

OUTLINE PLAN
MILES

Stevenage : outline plan.

Figure 2.15: Stevenage outline plan. Source: Gibberd.1972, Edited By Author
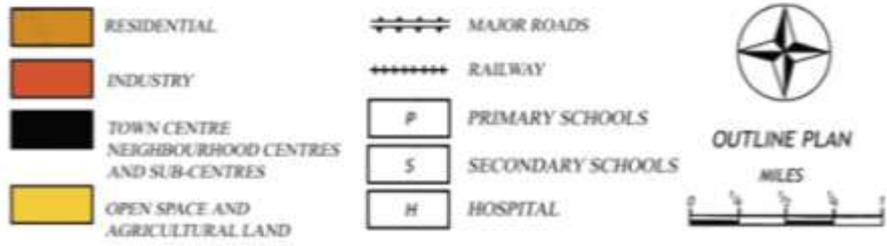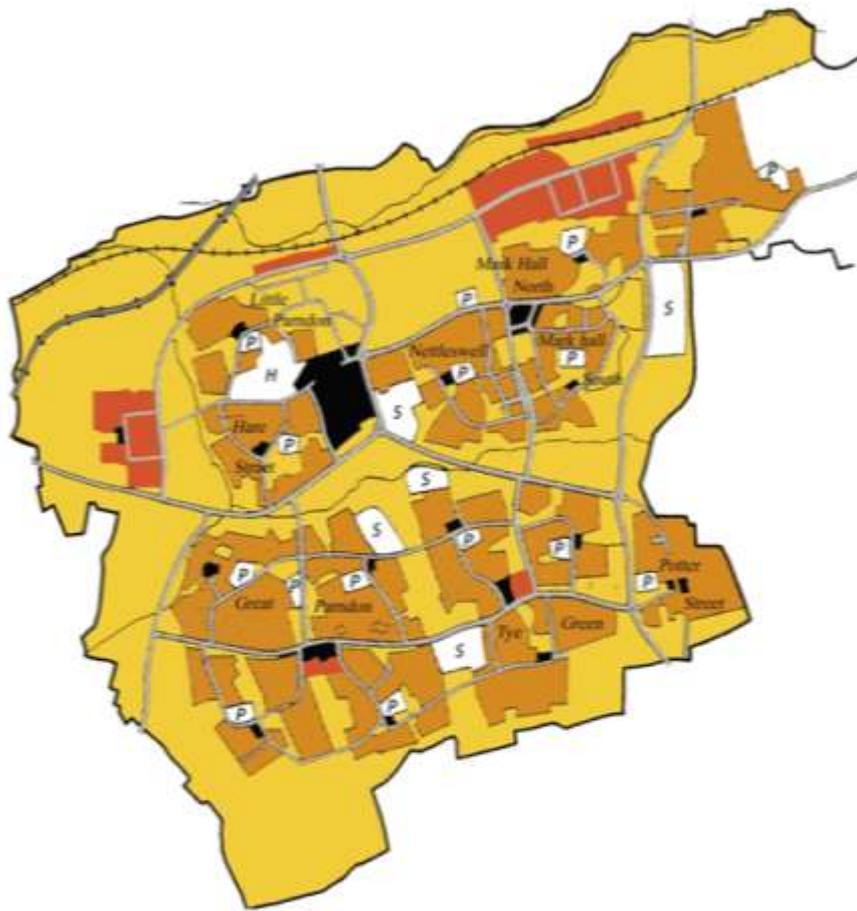
Figure2.16: Harlow Outline Plan. Source: Gibberd.1972, Edited by Author

Early New Towns Planning Concepts

1- Housing split into residential neighborhoods separated by open spaces, farmlands and woodlands, these neighborhoods arranged with their own shopping and social services (Figures 2.15 &2.16).

2 Roads network consisted of radial and ring roads to relieve some traffic pressure on the centre, this network determined by the arrangement of housing, shopping and schools, the roads pattern had greater clarity in itself and in its relationship to the built up areas.

3- Industrial areas planned adjacent to the railway within easy reach of the regional roads.

4- Town center was the focus of the design with its business, entertainment and shopping (Gibbered.1972).

B - **The Second and Third Wave of British New Towns Design (1961-1970)**

The new towns of this wave were to ease housing short falls and to allow for additional growth chiefly further north from the previous London new towns.

In this generation new towns were built each with (250,000) inhabitants, the new generation of mark (II) new towns after 1966 was based on a balanced use of public and private transport, as at that time all towns in common either old or new towns were suffering from the inadequacy of their public transport. Towns of this

wave are Cumbernauld (fig2.17), Runcorn (fig2.18), and MiltonKenys town *(Gibbered.1972).*
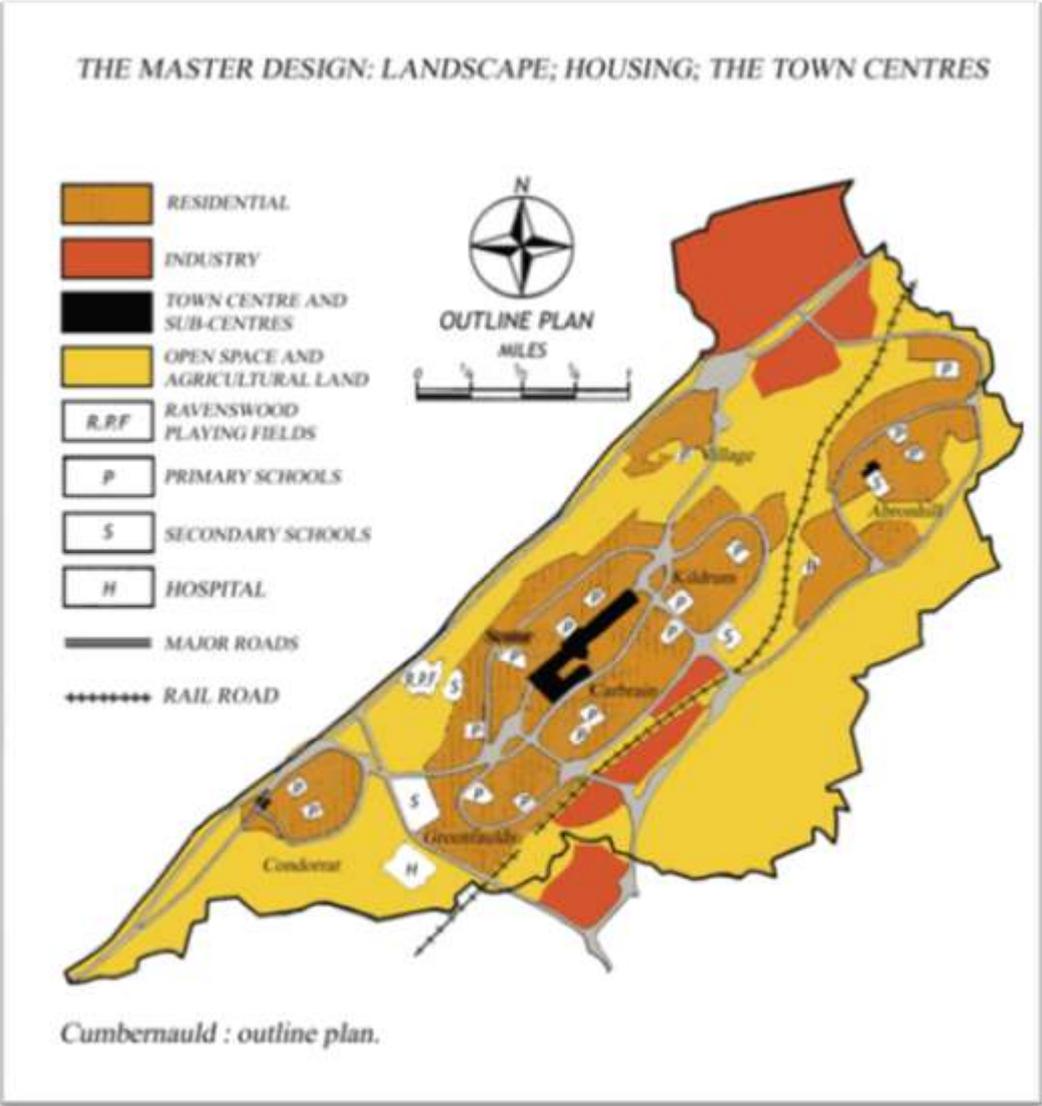
Figure 2.17: Cumbernauld Outline Plan .Source: Gibberd.1972, Edited by Author

THE MASTER DESIGHN . LANDSCAPE ; HOUSING ; THE TOWN CENTRES
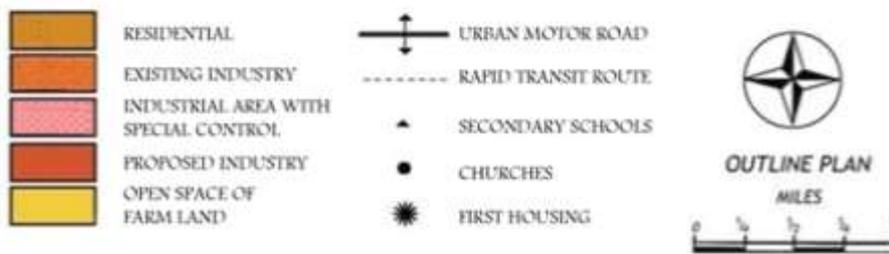
Runcorn : Outline plan.

Figure 2.18: Runcorn Outline Plan Source: Gibberd.1972, Edited by Author

The Second and Third Wave Planning Concepts

1- Neighborhood concept was dropped; the city was highly centralized with maximum densities at the center to get a very high proportion of population within walking distance of a concentrated center (Gibberd.1972). The circulation system designed for full motorization with a hierarchy of roads and a separate pedestrian network.

2- Runcorn town plan was in the form of "8" with the town centre at its intersection which forms the spine of residential development; this form was a rapid transport system solution (Fig 2.18).

C - **Milton Keynes Town**

Milton Keynes was the largest and one of the most successful new towns, it was located in the prime growth corridor within London's outer commuting ring and has been enjoyed rapid growth, it has been a magnet for high-tech foreign companies and is a home to a number of important manufactures and distributors *(Richard.1999).* Milton Keynes (figure2.19) designed as a city of (250,000) people with area of (22000) acres, its main principle design goals were:

1- To be an attractive city, the plan permitted the town to have a flexible response to market conditions as no one can foresee what sort of industries and services will be wanted in the future.

2- Opportunity and freedom of choice, the people have to choose between alternatives, this leads to the rejection of the neighborhood unit and rejects planning based on defined catchments areas.

3- Efficient use of resources, public awareness and participation, good communication, easy movement and access, balance and variety *(Davies.1972).*
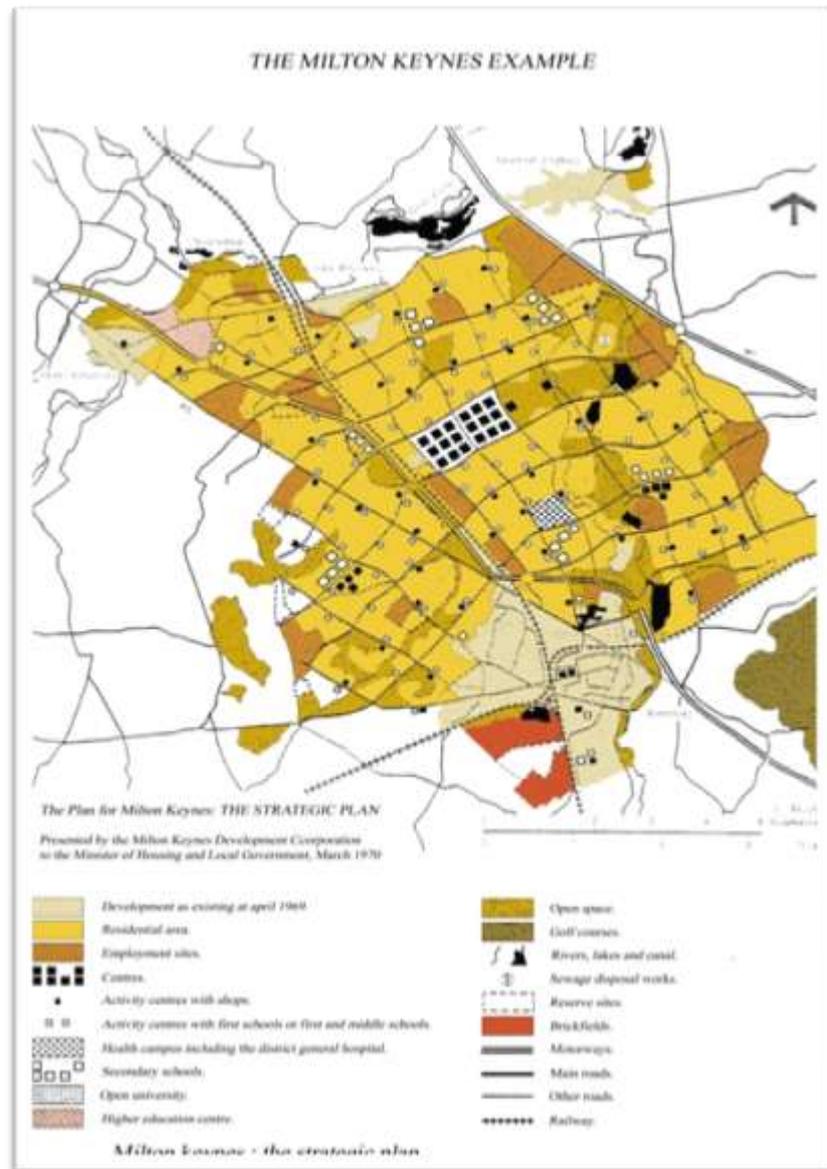
Figure2.19: Milton Keynes Strategic Town. Source: Davies.1972, Edited by Author.

Milton Keynes Town Planning Concepts

1- Main roads were at ground level without multi level flyover intersection. The main roads spaced at about1km intervals, the collector roads intermediate between main roads and local roads were eliminated, and a typical journey to work by bus was about 25 minutes (figure2.20).
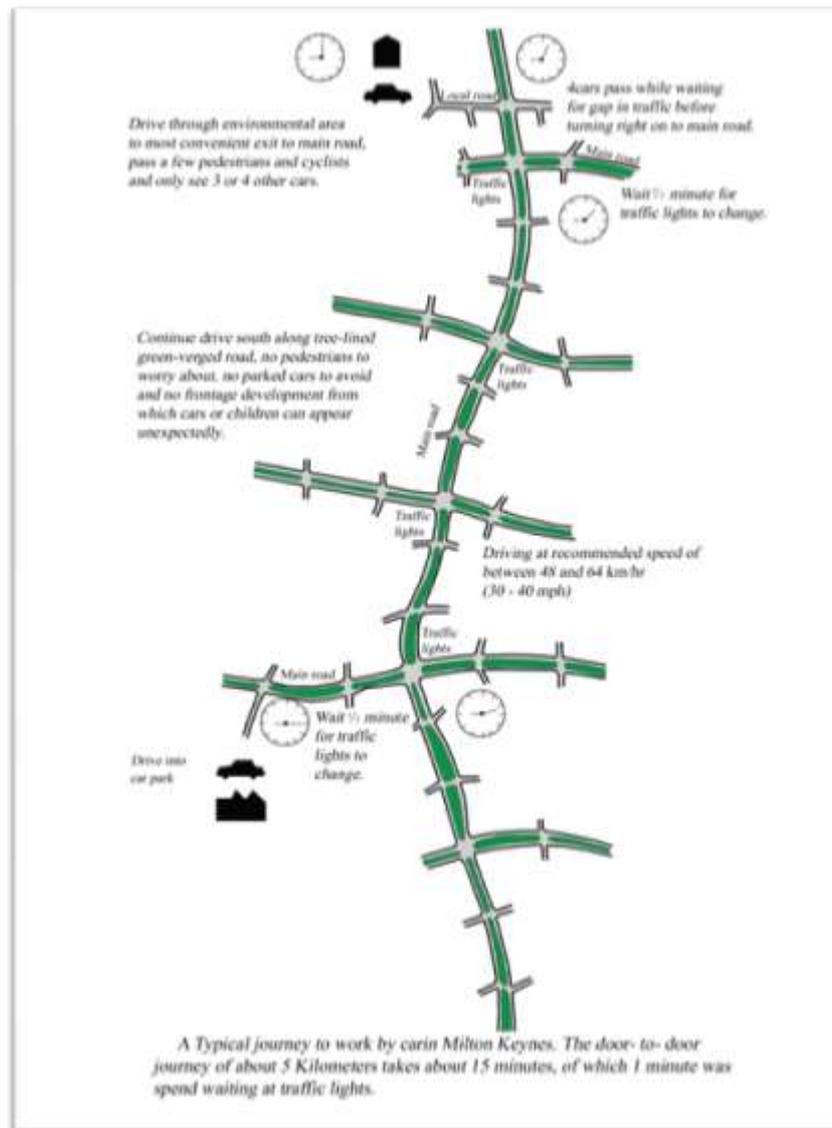
Figure 2.20: A Typical Journey to Work by Car in Milton Keynes. Source: Davies.1972,

Edited by Author

2- A free choice in mode of transport, the service ran on all main roads giving penetration to all parts of the city. The road system was cheap to build; it was built in stages to meet future changing.

3- Activity centers were placed round the edges of residential grouping at communication nodes at the point where the bus stops and where pedestrian routes cross over and under main roads (figure2.21).
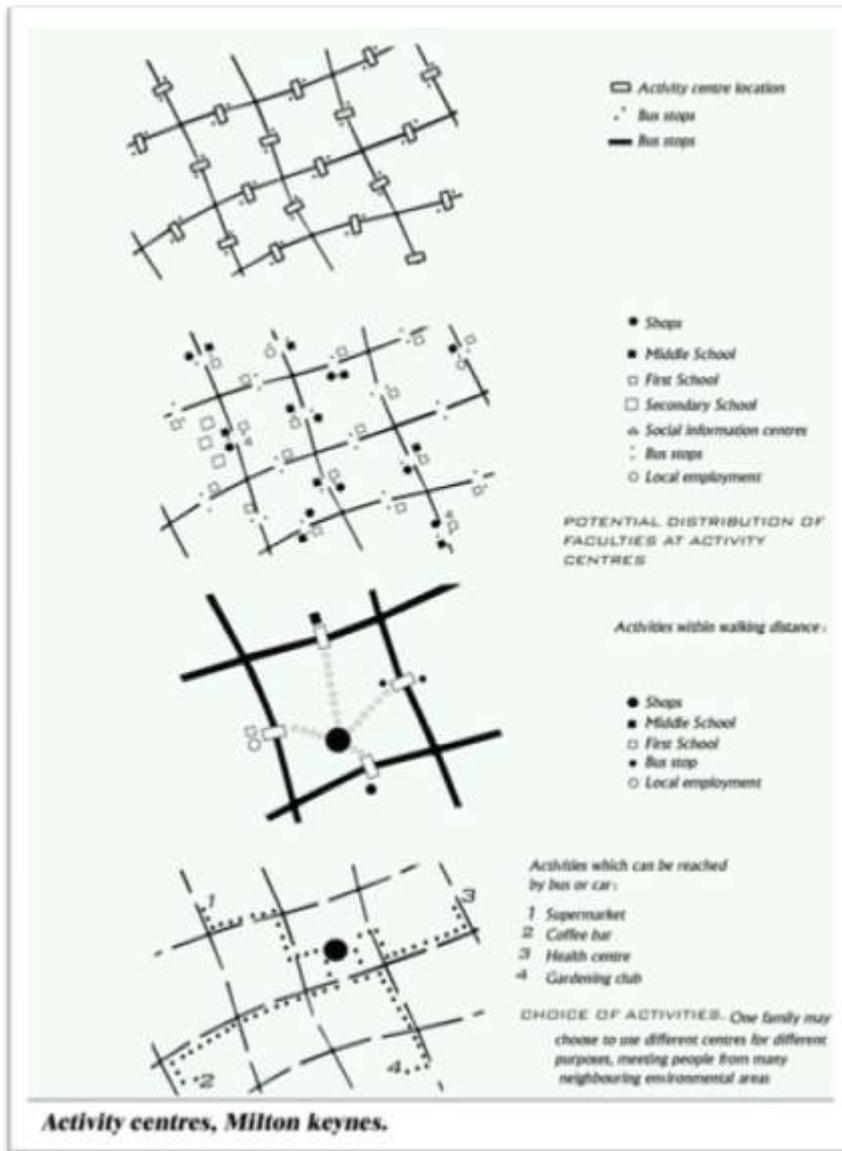
Figure 2-21: Milton Keynes Nodes And Activity Centers. Map Source: Davies. 1972

4- Wide distribution of employment and service centers to assist in providing variety and freedom of choice, Major Industry sites were spread over entire area; small scale industry was within the residential areas to provide residents opportunities to work near their homes. Higher education campus, health complex located a way from the city center *(Davies.1972).*

2.7.4- Recent New British Towns

The Britain's regional shopping centers might be regarded as developing edge cities that contain the most of the infrastructure in a town centre. These centers have railway station, bus station, metro center, banks, post office, leisure content, medical center, and cinemas, such centers most likely would have a considerable impact on Britain's urban futures into the 21st century" (Michelle.2000).

The designs of five (5) new "Eco-Towns "to ease demand for low cost housing, was announced in 2007. The towns, of approximately 20,000 populations each, are planned to be "carbon-neutral" and will use locally generated sustainable energy sources.

The new British towns were based on objectives of economic, social balance; these towns were built within the context of national strategy in terms related to living and working conditions. The central government played a key role in finance, planning, and in sites selection. Industry benefited by moving to new towns with modern amenities.

British new towns program was almost self-financing; the reported gross investment by central government in building new towns were (£4 billion), the new towns commission has sold (£3.7 billion) in assets since the beginning of 1980s; the net cost of the new towns program was (£300 million) including interests, so the entire program was self –financing (Ricard.1999).

2.8 - The Egyptian New Towns Experience

During the 13th and 14th century medieval Cairo population reached (300,000), the city was overcrowded, with congested streets and dense patterns of buildings. In the early 20th century the majority of the urban population continued to live in the medieval city due to the location of industry near to the historic center, the urbanized areas doubled in size, the city began to extend outwards.

The growth of Cairo during the 20th century was extremely rapid because of migration and high rate of populations, the difficulty of finding land for industry in Cairo resulted in expansion over agricultural land, the density in Cairo reached (100,000) Inhabitants per square kilometer (figure2.22) which is one of the highest in the World. This Increase of population caused a serious problem in finding sufficient urban space when the population of Cairo reached (2.9) million in 1947 and (12) million in 1985 *(Abu Gazaleh. 1990).*

Figure 2-22: Cairo City, Source: Google.2007

The rapidly growing of population resulted in imbalance between inhabited area and cultivated land and between population and economic activity, and between the spatial distributions of rural and urban population where the density of population is one of the most densely populated countries in the world *(DSE, 1984).* In Egypt experience the government has drawn European new towns experience and adopted spatial strategy to achieve wider geographic distributions of economic activity and population of medium sized cities with population between (*100,000 - 500,000)*, this strategy was seeking:

1- To improve the position of Alexandria as a chief urban competitor to Cairo.

2- To develop Suez area as a major urban center, and to develop Sinai to encourage growth in the major cities of Upper Egypt (*DSE, 1984).*

3- To build new towns as regional development poles to reduce population density in the existing towns, and to form new urbanization centers to maintain the remaining areas of cultivated land *(Khamaisi, 1997).*

4- To select suitable areas rich in natural resources to reverse the population density.

5- To develop a number of medium sized satellite towns around the Cairo region and by providing cities in desert fringe areas as alternative location for low-income people in crowded Cairo districts.

6- Through creation of urban centers with new economic activities and better services to attract people to more active and productive life. These new centers built a way from the narrow green strip that is shrinking annually due to urban expansion in and around existing towns and cities *(Agakhan.1984).* In 1974 a comprehensive plans launched in order to develop Suez Canal zone which includes the cities of Port Said, Ismailia, and Suez.

The development plan for greater Cairo adopted the development of existing regional towns and urban centers and Building new cities on a new development axis, and satellite cities around Cairo *(Agakhan.1984).* In the implementation of these plans, government had to provide all services and infrastructure and to undertake the construction of housing units and public buildings necessary to establish integrated living conditions. An independent authority "the new community's authority" was established as an autonomous legal entity, it was

Responsible to offer loans, facilities and support to investors in these communities *(Khamaisi.1997).* The new Egyptian towns were categorized in 3 groups:

Group 1 :

A group of satellite cities having access to the main cities and benefiting from existing economics, these towns are; the *15ᵗʰ of May city*, The 6ᵗʰof October City, *Badr city, Eluboor City*, in addition to another 10 urbanization sites around Cairo.

Group 2 :

A group of twin towns depending on the services supplied by the mother town; some of those towns are *New BeniSuef, New Menia, and New Assiut.*

Group 3 :

The self-contained cities that built on an independent economic base, these Cities built in the desert far from the Nile valley as "10ᵗʰ of Ramadan city", and Sadat City which was planned for 500,000 people located midway between Cairo and Alexandria *(Khamaisi.1997).*

The Egyptian experience is unique in planning large population new cities, the smaller new city the 15ᵗʰ of May city was of (150,000) inhabitants, while other cities were planned to accommodate (250,000-to 500,000) inhabitants.

The national government has developed a system by which it makes large tracts of land available to developers and builders in urban extensions and new towns; the government provides the roads and other infrastructure, which is included in the purchase price of the land. The new towns and urban extensions attracted

important urban institutions and a number of new universities, and have been successful in attracting employment, and in drawing employees from a larger area, there were very large industrial estates in the new towns; 6th of October and 10th of Ramadan, which contain manufacturing plants, warehouses and offices that would have been much more costly and even impossible to develop on the Brownfield sites inside older Cairo. The experience of Egypt in building new towns benefited from others experience; it took into consideration its social and economic conditions.

2.9- International Experience in Designing New Towns Shapes and Models

2.9.1 City Models Based on Shape

1- Core City:

Core city is the most frequently found urban form; it's a large circle with radial corridors of intense development (figure 2.23). Its main characteristics are:

1- It's a compact city in which all functions and activities with a very high density at the centre which creates discomfort in the form of noise and poor climate.

2- The green area in its core is small and takes the form of local pockets.

3- The form of housing is multistory apartment buildings rather than single-family house.

4- Public transport almost specified and it could become part of the large number of cities linked by public transport, the city has the advantage of short distances and good access to facilities.
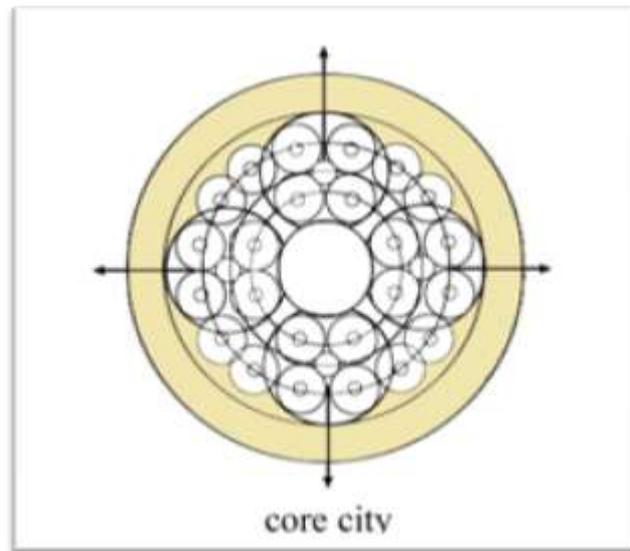
Figure 2.23: Core City, Source: Frey.2001, Edited By Author

2- Urban City (Star City):

The star city is a radio centric form with open spaces between its out corridors (figure2.24). It's a city with a single dominant center of high density and mixed uses (Sprieregen.1965). The star city characteristics are:

1- The city center contains the most intensive types of city activities with sub centers along the radial transport routes.

2- Transport flow are organized on the radial pattern in the form of high capacity public transport "primary system" and a secondary system on the lower intensity vehicular traffic.

3- Secondary centers are located a long public transport routes with more Intensive uses around the sub centers.

4- The star city has a good visual image and sense of community due to its limited size and it's flexible to grow as a result of its lower density *(Frey, 2001).*

The disadvantage of this model that over loaded highways with the growing size of the city traffic along the fingers spine could cause congestion and pollution
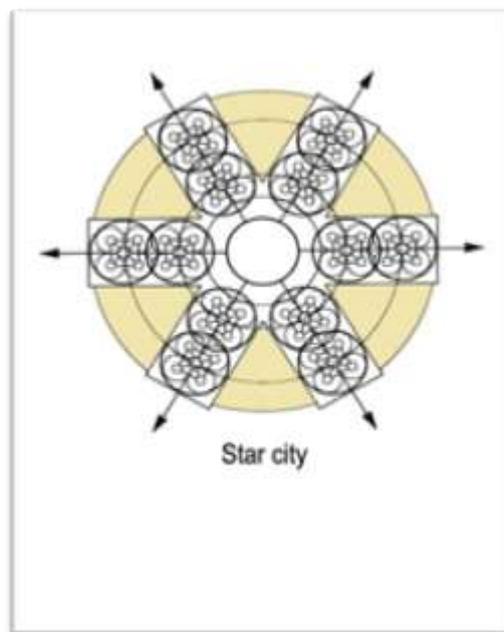
Figure 2.24: Star city, Source: Frey.2001, Edited By Author

3 - **Linear City:**

The linear city model is a dynamic alternative to the more static core city (figure 2.25). Its main characteristics are:-

1- The linear shapes usually the result of natural topography that restricts growth; it is a compact city without central core (Frey. 2001).

2- In this model there is equal access to services, a variety of housing is possible ranging, form high density along the linear centered and around transport stops to single family homes at the edges of the cities.

3- Growth are possible at either end of the line, the green spaces is parallel to the linear cities provide the opportunity of a balanced relationship between city and country.

4- Commercial facilities work places, open green spaces are within walking distance from housing areas which reduce the need to travel.

5- The great advantage of this model is that the services are close to the main line and accessible in terms of time and effort.
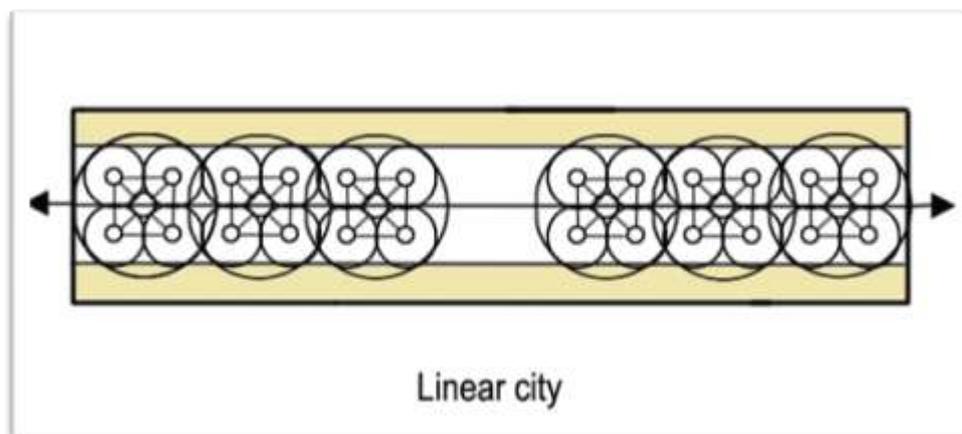
Linear city

Figure 2.25: Linear City, Source: Frey.2001, Edited by Author

4 - Satellite City:

The satellite city is a constellation of cities around a main center surrounded at some distance by a set of satellite communities of limited size population with sufficient distance between the central city and the satellites to prevent entire development of the area in between (figure 2.26). To satisfy the demands of population satellites must have appropriate services and facilities.

The central city connected with the satellites and the satellites with each other by Public transport system. Satellite towns are strongly influenced by the larger city economy, the satellite town usually composed of special social classes, its primarily a bed room community economically dependent on its adjacent urban center, but it provide a minimum required services and educational facilities *(Frey.2001).*
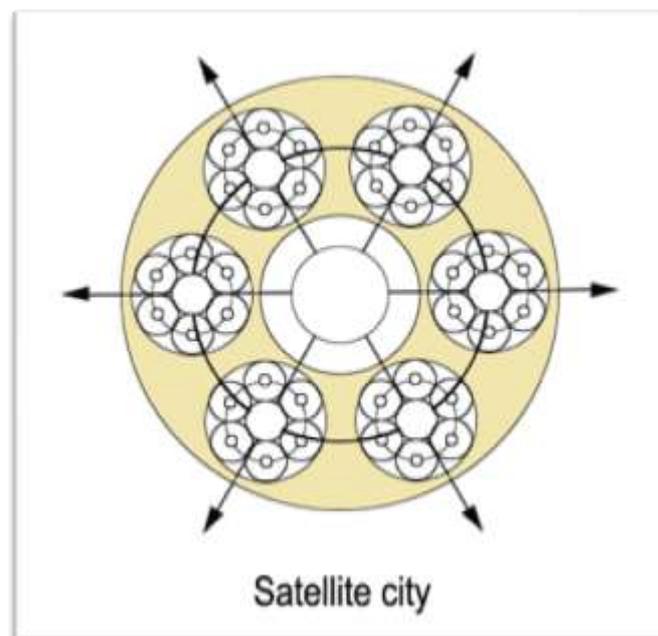
Satellite city

Figure 2.26: Satellite City, Source: Frey.2001, Edited by Author

5 - Polycentric Net (Regional City):

Polycentric net represents a combination of larger and smaller core and linear cities or a combination of urban stars (figure2.27). Central city activities are decentralized over net and concentrated in nodes at junctions of the circulation system with different densities and degrees of specialization, a large range of different housing forms and a large choice of access to services and open land. This model maintains nature reserves and important open spaces as its geometry can adapt to local conditions *(Frey.2001).*

THE POLYCENTRIC NET OR THE REGIONAL CITY
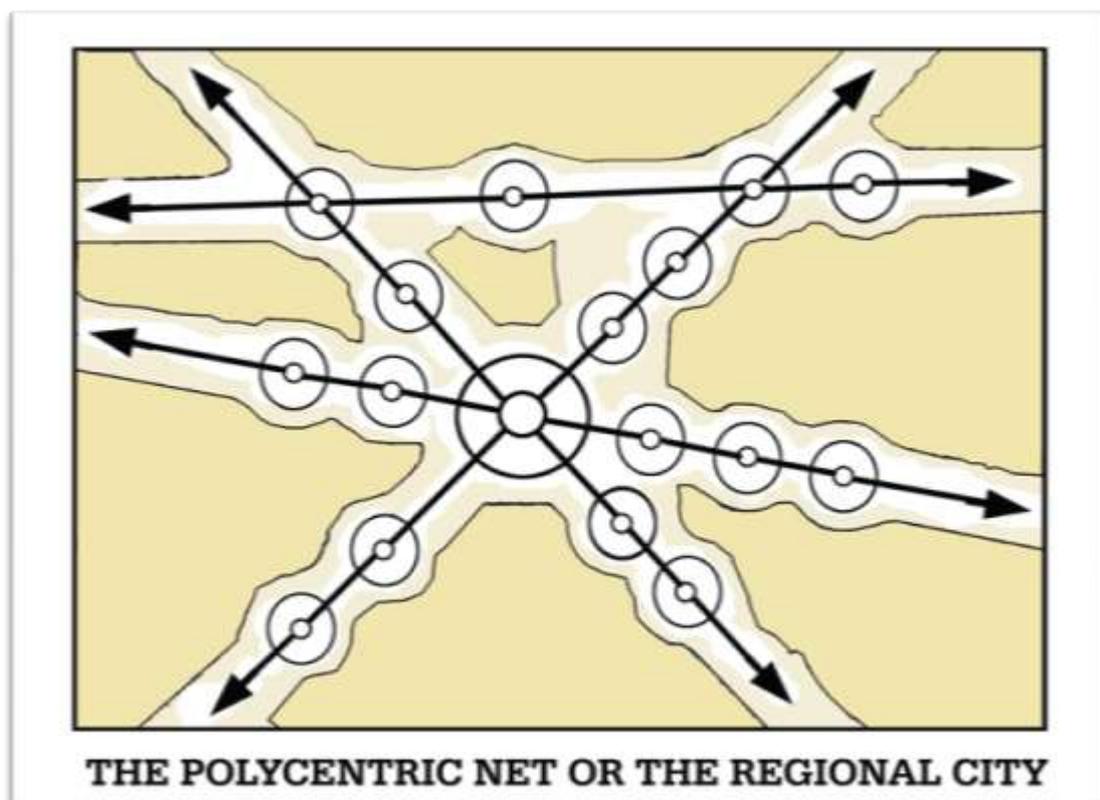
Figure 2.27: Polycentric Net, Source: Frey.2001, Edited by Author

6- Galaxy of Settlement:

The galaxy of settlement represent an urban or metropolitan form, in which the old center and sub-centers of today city are as the result of continued decentralization of isolated small units linked by a network of communication and transport lines (Figure 2.28). The gallery of settlements has some nodal structure with higher density development around the nodes.

A primary public transport system would not be possible unless the settlements clustered along existing routes between core cities. As the population is highly dispersed into small pockets of development, the car expected to be the main means of transport. Access to local services and facilities at the centers of each settlement are within walking and cycling distance, owing to the limited size of settlements and the availability of open land around all of them environmental conditions would be very good throughout.

THE GALAXY OF SETTLEMENTS
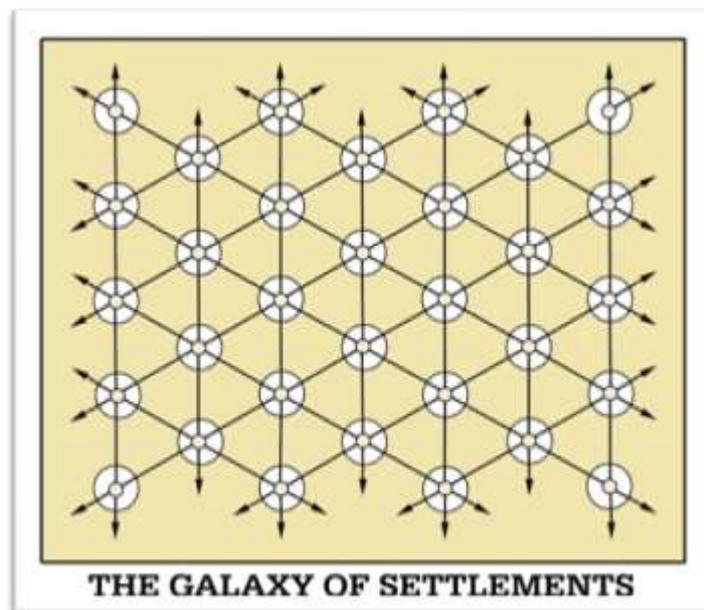
Figure 2.28: The Galaxy of Settlements, Source: Frey.2001, Edited By Author

Table 2.1 Comparison of City Models Based on Shape, Source: Frey. 2001

Criteria	Core City	Star City	Linear City	Regional City
1-Degree of control of development	+	+/-	-	+/-
2-Population density relative to land needed	+	+/-	+	+
3-Capability of public transport	+	+/-	+	+
4-Dispersal of Vehicular transport	-	+/-	-	+/-
5-Viability of mixed uses	+	+/-	+/-	+/-
6-Access to services and facilities	+/-	+/-	+/-	+/-
7-Access to green open spaces (parks, country side)	-	+	+	+
8-Environmental conditions (noise, pollution, congestion)	-	+/-	+	+/-
9-Potential for social mix through variety of housing	-	+/-	+/-	+/-
10-Potential for local autonomy	-	+/-	+/-	+/-
11-Potential for self-sufficiency	+	+	+	+
12-Degree of adaptability of city changing conditions/needs	-	+/-	+/-	+
13-Imageability of the city (the physical entity) as a whole	+/-	+/-	-	+/-
14-Imageability of parts of the city (neighborhoods, districts, towns)	+/-	+/-	+/-	+/-

15-Sense of place and centrality	+/-	+/-	-	+

+ **Benefit**   - **Disadvantage**

2.9.2 - City Models Based on Function

A- **Single Pattern Towns**

This type of towns operates one kind of economic activity as sport town, industrial town, University town...

B- Natural **Resources Towns**

This type developed to exploit natural resources and to house labor forces. This type of towns usually built nearby industry and factories, and planned as satellites to major urban areas for market proximity. It depends entirely on one economic activity; it runs the potential risk of sudden economic collapse.

C- Resort **Towns**

These towns intended for a variety of opportunities in leisure, entertainment, these towns are well planned well organized with good transportation systems and parking facilities with a maximum separation of pedestrian and vehicular movement, attractive land escape, and high standards of communication with minimum noise; in summary, these towns are attractive secure towns (Hammad.1993). While the other models based on function are military, retired, construction projects, capitals, and energy towns.

2.9.3 - City Models Based on Growth Type

a - **Development Towns**

Development towns are new settlements constructed on undeveloped land or an expansion of existing urban or rural community; that established far from any urban center to meet a policy of socio economic activities. These towns are self-contained, self-sustaining communities these towns function as a regional centers.

b - **Accelerated Growth Center**

The accelerated growth center created to stimulate growth in its region, this type diversifies in its base to provide sufficient employment opportunities for its residents, and to support its region.

c - **Regional Growth Center**

The regional growth center provides opportunities for the surrounding population, this center with its rural communities form a self-contained and a self-sustaining unit.

d- Free Standing

This type of a freestanding community is a settlement with minimum economic self-containment located in a rural region to provide services for it and to its surroundings; this type is smaller than the other types.

Urban planning theories mainly based on the experience of town planning across different periods, the creation of green belts, esthetic, functional order aspect and prospect of towns, geometry of streets, self-sustaining cities, and pre-planned cities has been used in the planning since pre-history towns.

In modern history new towns used to test new planning and design techniques to improve the quality of life, the new towns represent one of the most important movements in urban planning in the 20th century. They are found on almost every continent, each country takes into consideration its objectives, its social and economic conditions and its need to determine a long-term or short-term policy for building new town.

Inventions and scientific development affected the growth and developments of cities and urban planning theories, a movement towards suburbs from older central area in the 19 th

century occurred due the effect of industrialization and due to invention of automobile. The new developments will affect future urban planning theories.

The study of international experience in building new towns would enrich pattern of new towns in Palestine. The objectives, strategies, planning principles, the relationship with existing towns, and urban development strategy applied by other nations could guide the planning of Palestinian new towns.

3- Palestine Recent Urban Development

3.1- Palestine Location

Palestine is located at the eastern shore of the Mediterranean on the western edge of Asia continent; it is bounded by Lebanon on the north, Syria and Jordan on the east, Sinai desert of Egypt on the south and Mediterranean Sea in the west. It is small in area but it has played a great role in human history *(Map3.1).*

In ancient times, it was crossed by the most important lines of common action that linked up Egypt with Syria and Mesopotamia *(Awad.1993).*

3.2- **The Physical Setting and Climate**

The physical setting and climate affected greatly population distribution throughout Palestine. Topographically Palestine is roughly divided into three long parallel strips running its length from north to south *(Map3.2),* as follows:-

a- The coastal plain verging on Mediterranean, it's narrow in the north and widens towards the south; this strip contains the towns of Acre, Haifa, Jaffa and Gaza.

b- The Mountain ranges, this strip located east of the coastal plain, it contains most of West Bank towns, Jenin, Nablus, Ramallah, Jerusalem, Bethlehem, and Hebron.

c- The Jordan Valley Rift, which contains the valley of Hula where the river of Jordan starts its way to the Dead Sea.

Map 3.1- Palestine Map. Source: Palestine Atlas, ARIJ, 2000.

Map 3.2 - Palestine physical setting and climate. Source: Palestine Atlas, ARIJ, 2000.

3.3- Traditional Palestine Urban Design Elements

1- Court Yard

The court yard has been a common feature in the Middle East since ancient times,
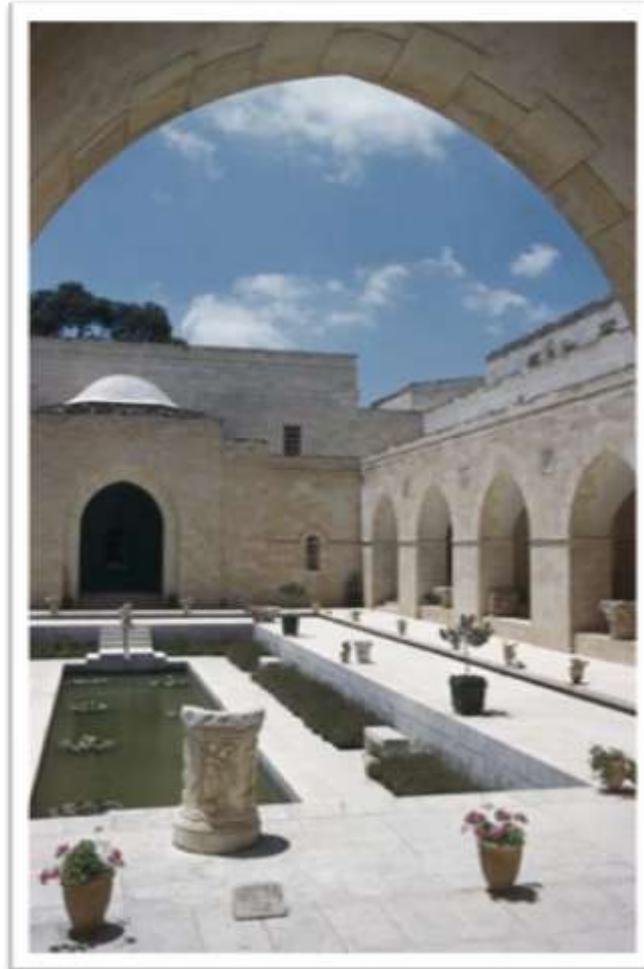
Figure 3.1: Court Yard "Jerusalem Archaeological Museum"

The interior court yard performs an important modifier of climate in hot arid areas. The traditional houses had been planned around a central court yard, the internal court yard found in many buildings in Jerusalem and in other Palestinian cities (Figure 3.1).

2- Minarets and Domes

Minarets and the Domes, had dominated the skyline of Palestine cities, Domes played an important role in dominating the sky line of Jerusalem. The Dome of the rock has a special kind of dominance in its visual setting of Jerusalem (Figure 3.2).

Figure 3.2.a: Dome of the Rock- Jerusalem

Figure 3.2.b: Domes Dominating Jerusalem Skyline

3- The Lattice Screen

The function of lattice screen was to reduce the direct solar radiation reaching the interior of homes and as a privacy device. It was a major feature in many parts of Middle East, and in Jerusalem (Figure 3.3).

Figure 3.3: Lattice Screen –old Jerusalem

4- Bazaars

Bazaar was the main element of the markets and the center of commercial life in the city; it was the only commercial area of the city, while residential quarters were kept separately. The bazaars were covered to form shopping arcades (Figure 3.4); it consisted of a row of shops along both sides *(Abu Gazaleh.1990).*

Figure 3.4: A Bazaar, in Jerusalem.

The bazaars remain the main commercial life in Palestine historic towns such as Nablus and Jerusalem.

3.4- Overview of Planning Laws used in Palestine

Due the collapse of Ottoman Empire after World War I, Palestine was subjected to the mandate regime on September 1923, and Britain was designated as the mandatory power over Palestine (PWS, 2004). Because Palestinians have never been in control, they have not been able to develop an indigenous body of planning and zoning law. Occupiers brought their zoning and planning laws to control the land, while for Israeli occupiers to create settlements for its Jewish population and to restrict development for the Palestinians (Faramand, 1996).

Layers of Planning and Zoning Law:

The existing planning and zoning law of the West Bank are composed of layers of laws imposed by the various foreign political rulers. Each layer displaces some, but not all of the law that preceded it (Faramand, 1996).

 a- **British Mandate Law:**

The British mandate period (1917-1948), was a period during which a very substantial body of English law including city planning law was imported to Palestine, the planning in the British mandate followed British town planning to a remarkable degree. The British mandate government introduces town planning to Palestine first through advisory town plans then through a legal planning system modeled on British legislation (Costello.1977). During this period "16" laws were issued, these regulations stipulate that the area of land on which construction is permitted should not be less than "1000" m^2, and the number of buildings should

not be more than **one** in each lot,. Two regional plans were prepared in 1942 (Map 3.3). during the time of British Mandate; the first was Samaria Regional Plans **"S15"**, which covers the northern part of the West Bank, the second Regional Plan was the Jerusalem plan**"RJ5",** which covers most of the West Bank(Coon. 1992).
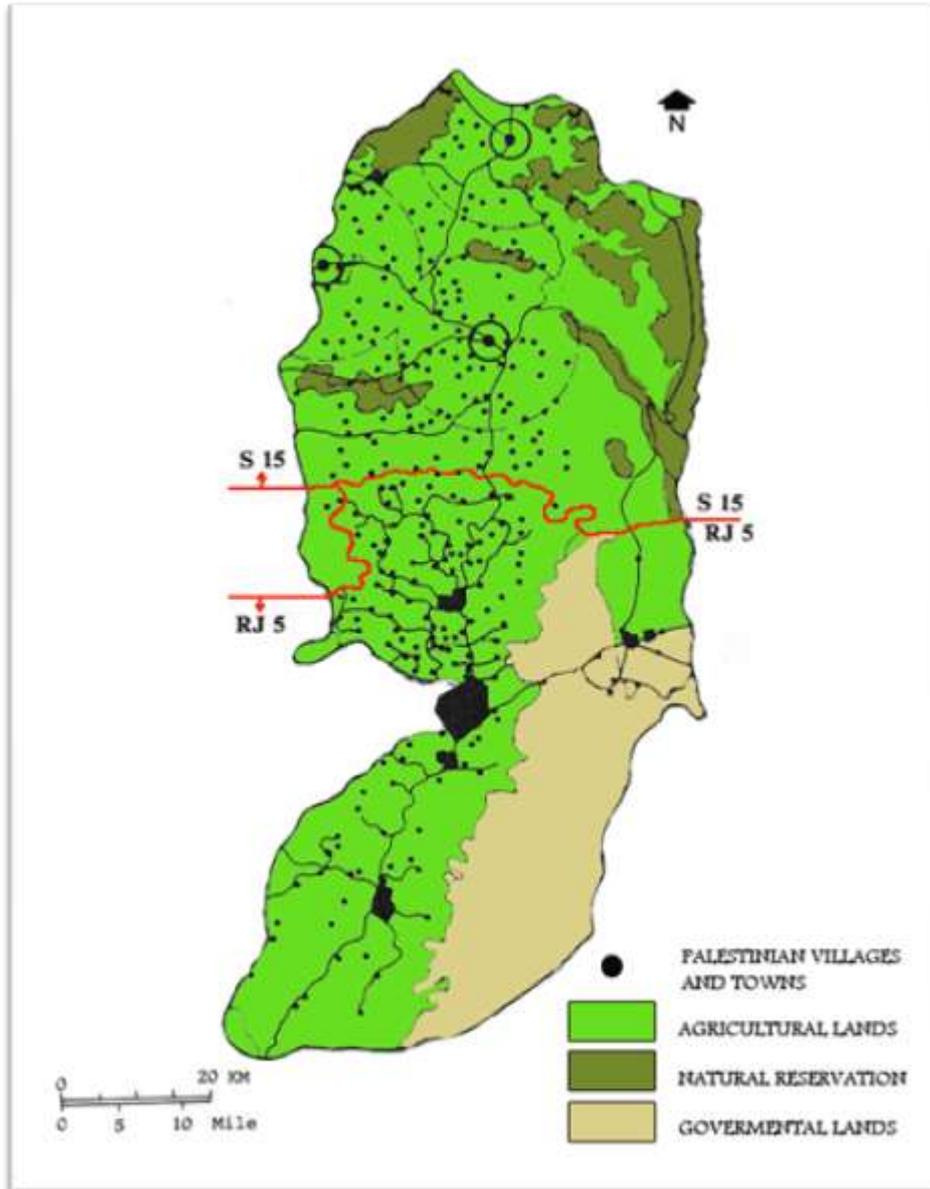
Map 3.3: (RJ5&S15) Regional plans

Source: Anthony Coon, 1992, Town Planning Under Military Occupation

The town planning ordinance number 28, of 1936 is the basis of all subsequent planning legislation, it remained in force in the West Bank under Jordanian rule(Faramand, 1996), and with the Jordanian law no "79 of 1966 " figure the basis to Palestine National Authority High Planning Council law no "30 of 1996".

b -Jordanian Rule Laws for West Bank and Jerusalem:

During the Jordanian period (1949- 1967), three planning laws were issued. The law concerning city, village and building planning temporary law no "79 of 1966" with some amendments introduced by the Israeli military orders are still in force in the West Bank (Faramand, 1996).

c- Occupation Military Orders:

Occupation authority after 1967 issued more than 31 military orders in planning and zoning in order to surround the old city of Jerusalem and its Palestinian populations, and to prevent the restore of pre-1967 boundary, the principal effects of the military orders were to transfer of powers from the authorities designated by the Jordanian law to Nominees of occupation authorities, and to give additional power to the occupation high planning council, this is still applicable in area "C" in the West Bank. The Israeli occupation authorities used British mandate regulations and the two regional plans RJ5 and S15 after adjusting it in 1982 to allocate lands for the establishment of Jewish settlements (Faramand, 1996).

d-The Present Situation:

According to the Oslo Agreement responsibilities in the sphere of planning and zoning in the West Bank transferred to Palestine National Authority (PNA). The Municipalities in the West Bank implement the Jordanian law no. 79 of 1966 (Faramand, 1996). And the PNA law no 30 of 1996.

3.5- Occupation Settlements in West Bank

In 1948 Palestine was disintegrated by the creation of Israel and the occupation of most of Arab State in Palestine designated by the United Nations partition plan of 1947. Only the West Bank and the Gaza strip remained of historical British Mandate of Palestine. Between 1948 - 1967 the Palestinians lost their urban centers and remained relatively small and dependent on the Jordanian for the West Bank and the Egyptian for the Gaza strip. Since 1967, the territories administered by Jordan; the West Bank, and by Egypt; the Gaza strip, both came under Israeli occupation.

Successive occupation governments have been colonizing the West Bank of Palestine through transferring parts of its population to settlements, and by taking control of more than fifty percent of the West Bank land (Map3.4), which is used mainly to establish settlements.
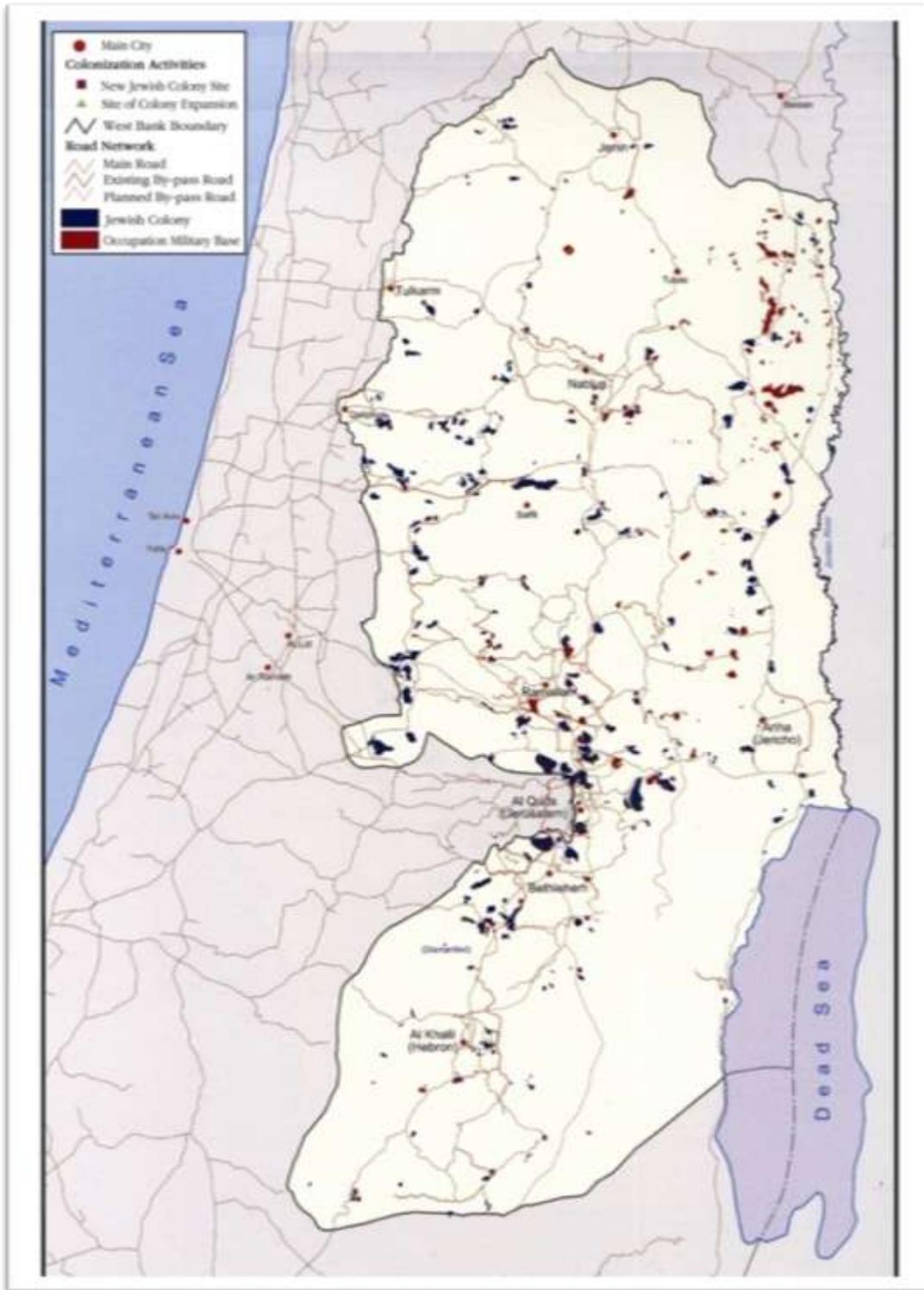
Map 3.4 Occupation Settlements. Source: Palestine Atlas, ARIJ, 2000.

The settlements in the West Bank were constructed on three phases. In the first phase, isolated settlements sited along Palestine borders (Figure 3.5) were constructed to form new political borders.

Figure 3.5 Isolated Settlements Sited Along The Jordan River.

In the second phase a barrier of settlements built between and around Palestinian population centers in order to fragment Palestinians territorial continuity and political unity. In the third phase, mainly for demographic objectives the settlements turned into high quality of suburbs with easy access to main metropolitan areas. The methods of acquisition of land for settlements was achieved through declaration of huge amount of land as state land, and through acquisition of land owned by Palestinians who happened to be outside Palestine, and through land use planning as a method for restricting Palestinian use of land *(PWS.2004).*

The geographical dispersion of the settlements based on a division of the West Bank into four areas (Map 3.5); three longitudinal strips extending from north to south, and the Jerusalem area, as outlined here thereafter:
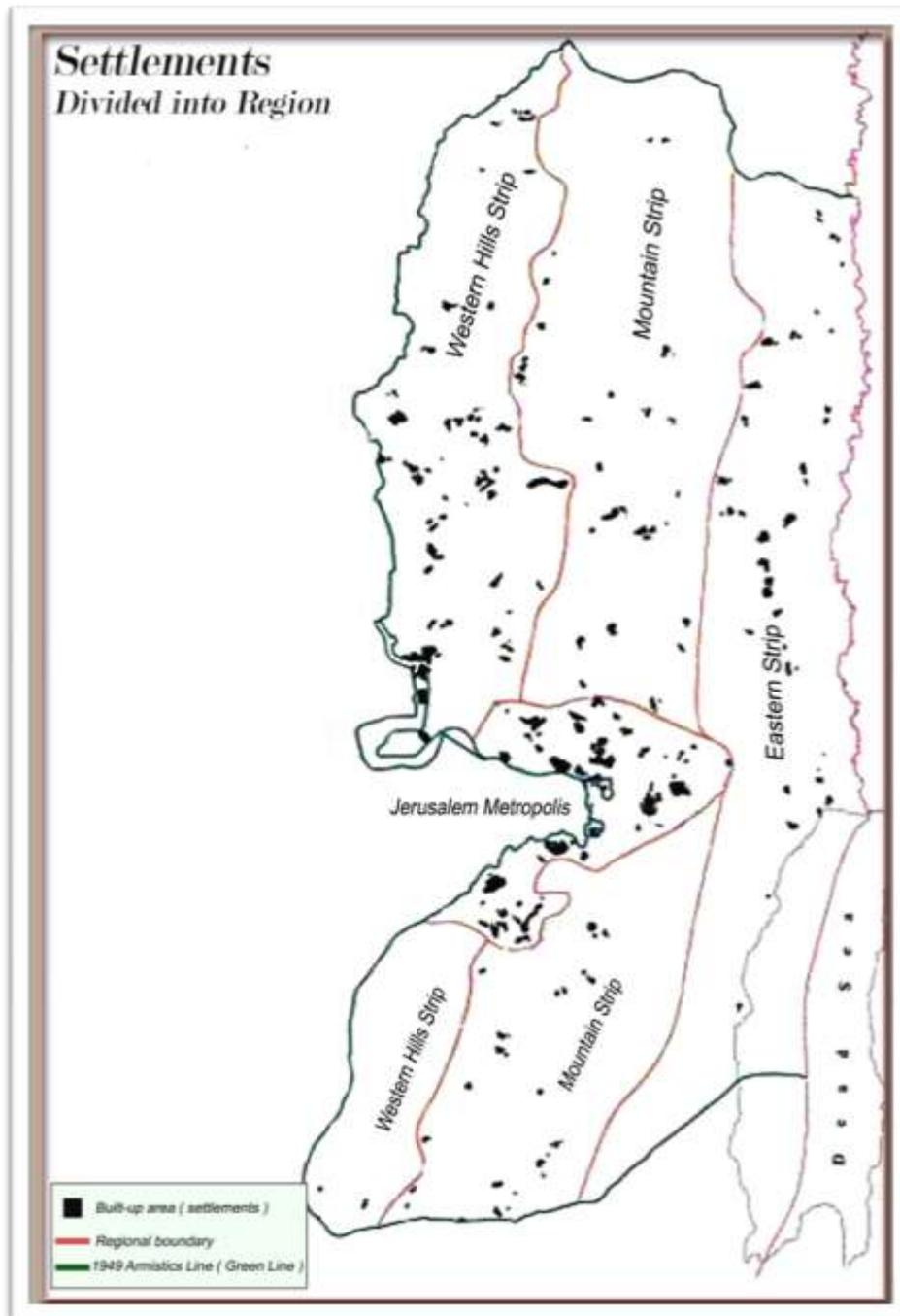
Map - 3.5 - Occupation Settlements Strips. Source: BTSELEM.2002, Edited by Author.

1- Eastern Strip

This strip includes the Jordan valley and the shore of the Dead Sea. Some of these areas, particularly in the Jordan valley are undeveloped constituting reserves for the future expansion and the establishment of new industrial and tourism zones. The geographical conditions in this

area are extreme, characterized by high temperatures sparse precipitation (100-300 mm per annum), and in the western part of the area extremely steep topography, due to these conditions only a limited number of Palestinian

Communities developed in this area. The Palestinian populations in the Eastern strip are mainly in three areas; the city of Jericho, the Auja area north of Jericho, and the villages in the Jiftlik area and in the north of the Jordan valley. Despite the harsh climatic conditions, the land in this area permits the development of diverse branches of agriculture throughout the use of advanced irrigation technology. Several underground water basins exist along the entire Eastern Strip, constituting part of the larger system known as the "mountain aquifer". The Dead Sea shore denies valuable possibilities for industrial and tourism development; the Dead Sea is a unique natural phenomenon both for its chemical industry and for tourism.

2- Mountains Strip

Second strip situated along the central mountain ridge that crosses the West Bank

from north to south, some of the settlements are dispersed in a string formation along road No. 60 the main north-south traffic artery in the West Bank.

These settlements block the potential for urban development in the major Palestinian cities situated along the mountain ridge (Hebron, Ramallah, Nablus and Jenin).

3- Western Hills Strip

The third strip extends from north to south, and is ten to twenty kilometers wide; the capture of land limits the potential for urban and economic development in the Palestinian communities. These settlements create over fifty enclaves in Palestinian

neighborhoods; as a result, these settlements interrupt the territorial continuity of the Palestinian villages and towns located along this strip.

4- Jerusalem Metropolitan

Jerusalem metropolitan includes the settlements established in the area annexed to the municipality of Jerusalem as well as the settlements around the area of authority of the city that function as satellite communities. The settlements in the area east of the metropolitan slice up the West Bank into two parts; the settlements located south of the Jerusalem block the urban development of Bethlehem and sever it from the adjacent Palestinian communities.

The urban settlements are located mostly in the Jerusalem metropolitan. Urban settlements are also found elsewhere in the West Bank, these settlements were planned to create rapid demographic changes, or as a large regional service center for clusters of smaller settlements.

3.6- Overview of Palestinian Cities

The West Bank is notable for some of the most ambitious urban development projects and also some of the most rigorous restrictive planning policies of modern times, legislation, controls, development plans and a massive program of land seizure have been used since 1967 by the occupying authorities to restrict opportunity for development by Palestinians (Coon.1992).

i.   **Occupation Policies Bounding the development of Palestinian Towns:**

Most of urban development problems arise when the occupation authorities in West Bank since 1967 and during the last forty years have restricted the expansion of Palestinians villages and towns (Figure 3.6). In addition it has confiscated large tracts of Palestinian land to establish settlements, and to prevent Palestinians urban expansion on these lands in order to prevent forming wide Palestinian ethnic geographic areas. In addition by pass Roads network destroyed the Palestinian territorial integrity; also blocked the physical expansion of Palestinian towns and villages by preventing the Palestinian expansion toward these roads. Also by-pass roads prevented the connection of Palestinian communities located on different parts of the roads *(PWS.2004).*

Figure 3.6: Occupation Settlements to Prevent Palestinians Urban Expansion-Bethlehem

ii. Palestinian Towns Urban Development and Expansion:

Existing Palestinian towns despite their small size have the urban problems of big cities, rapid increase of population, and high population density with a limited available land. In addition lack of basic services, lack of infrastructure, and lack of planning, as most of Palestinian cities and towns developed according to outline plans prepared during the mandate period, or during the Jordanian period. The limit of resources and restrictions imposed by the occupation decreased the possible rapid development in the Palestinian territories; parallel to these restrictions, the economic and population growth pushed the urbanization process of the Palestinian villages, and led to sprawl beside socioeconomic changes.

The development of Palestinian towns is characterized by localism and similarity each town functions as an administrative and commercial center in its district or sub-district (Khamaisi.2006). In spite of the ancient traditions of urban development in Palestine, the development of the Palestinian cities have veered from these traditions and suffered greatly since the middle of the twentieth century.

Most of urban development models have been used to accommodate the increased numbers of population. These models are peripheral expansion; intensification of existing development and more intensive construction in all residential neighborhoods, thus taking advantage of all the empty land to construct multi-storey apartment buildings instead of individual homes (Figure 3.7). In addition, linear development by building a long and adjacent to the roads linking between neighborhoods and between cities and villages..

Figure 3.7: Intensification of existing development- Al Beireh Town

Residential neighborhoods are tangled with commercial shops and workshops that turned

residential neighborhoods into zones of mixed land use (*Figure 3.8.a).*

Figure 3.8.a: Residential Regions Turned Into Regions of Mixed Land Use (Al Beireh City

Figure 3.8.b: Cities and Villages have lost their Character of Uniqueness and Physical Beauty

The urban expansion occur between the central towns and their rural background, while population has expanded around large number of villages and towns situated near each other forming population groups with low population density with lack of economic base (Figure 3.9).

iii.   Population Density and Growth:

In the West Bank, which is (150) kilometers long and (51-58) kilometers wide; population density had reached (*400*) people per square kilometer *(Table3.1)*. While in Gaza which is (52) kilometers long and (6-13) kilometers wide; the population density had reached (*3560*) person per square kilometer. The lowest part in population density is in the part along Jordan valley.

Table -3.1- Area and Population Density in the West Bank and Gaza by Governorate.

Governorate	Population Density Person (Km^2)	Number of Population	Area (Km^2)
West Bank & Gaza	591.4	3,559,999	6.020
West Bank	399.8	2,260,596	5,655
Jenin	416.1	242.603	583
Tubas	110.2	44,283	402
Tulkarm	651.7	160,306	246
Qalqillya	534.8	88,779	166
Salfit	288.8	58.913	204
Nablus	516.1	312.242	605

Ramallah	308.7	263.956	855
Jerusalem	1.125.9	388.443	345
Jericho	67.5	40,053	593
Bethlehem	251.8	165,951	659
Hebron	496.6	495.067	997
Gaza strip	3,560.0	1,299,403	365
North Gaza	4,004.1	244.250	61
Gaza	6,203.3	459,045	74
Deir Al-Balah	3,246.4	188,292	58
Khan Yunis	2,340.1	252,726	108
Rafah	2,423.3	155,090	64

Source: Palestinian Central Bureau of Statistics, Book 4. 2003

Due to the population rapid increase *(Table 3.2);* there is a challenge to provide affordable housing within the built up areas, since land is divided into small units which creates difficulties for larger housing schemes (figure 3.10).

Table 3.2 - Population Natural Increase Rates in the Palestinian Territory

	Region	

year	Gaza strip	West Bank	West Bank & Gaza
1997	4.1	3.6	3.8
1998	4.1	3.6	3.7
1999	4.0	3.5	3.7
2000	4.0	3.4	3.6
2001	4.0	3.4	3.6
2002	4.0	3.3	3.5
2003	4.0	3.2	3.5
2004	3.9	3.2	3.4
2005	3.9	3.1	3.4

Source: Palestinian Central Bureau of Statistics, Book 4.

The cost and finance are also further challenge to provide new areas for population overflow, and to provide new areas for urban expansion. The density for built-up

areas in Palestine is among the highest in the world, with a limited available land, a sophisticated planning system in an area of rapid social change where the objectives of the planning authorities are essentially racial rather than social or economic(Coon,1992).

Figure 3.10: "Urban Land Divided Into Privately Owned Small Units –AL-Beireh -2007"

In the West Bank most of the population is concentrated in small towns and villages, they spread among numerous villages, towns and refugee camps. There are 642 villages and towns in the West Bank. In more than75% of Palestine towns, the population was less than five thousand (5000) inhabitants (CEP.1997).

iv.   **Recent Infrastructure Situation in West Bank Towns**:

The population in Palestine is growing very rapidly which will stretch the ability to provide water, sewerage, and transportation to residents. This will increase the physical and human capital required to provide education, health, and housing and place a heavy financial burden

for funding these services on a disproportionately smaller working-age population *(Rand, 2005).* The services provided by infrastructure sectors (water supply, power, solid waste, housing, transport) determine the quality of life and the development potential. The availability of high quality infrastructure and services may be the critical factor that determines the expansion of buildable urban land. The coverage of services in major urban areas is high but that the quality of service is often low and variable.

a- Electric Power

Independence and secure supply of electricity are possible through connecting Palestine power system with the Arab regional power network. In addition to providing local power generation through turbines as part of regional's system (*World Bank. 1993).*

b- Water Supply and Sanitation

This sector is facing serious problems; water distribution network has very high

losses, low service levels, limited access to water, lack of financial resources to

Maintain the existing systems and unsatisfactory wastewater collection systems that create serious pollution problems. Most of Palestine's water is provided by springs and wells fed by underground aquifers. Current water resource development provides only about one-half of the world health organization's per-capita. The amount of water that extract from most of the region's aquifers (especially by occupation settlements) exceeds the natural replacement rate *(Rand, 2005).*

c- Solid Waste

The present arrangements for collection and disposal of solid waste are not satisfactory, the present level and quality of the system are improper and unsafe. Engineering design and institutional arrangements requested to determine the most appropriate disposal solutions and the investments needed to clean up urban areas (*World Bank. 1993).*

d- Housing

The housing problem is one of the most important issues facing Palestinian society. This problem results from an imbalance between the supply and demand, rapid population increase, high population density in houses of the low-income population, and continuous increase in land prices (*Ismail.1996,* which led to even further growth of the towns and villages on agricultural lands (Figure 3.11).

Figure 3.11: Development Led to Even Further Growth on agricultural lands -Bethlehem

e- Transportation

The West Bank is a mountainous area with a maximum elevation (1022) m above sea level and with an area of (5860) sq km. The West Bank and Gaza strip are separated by about 40 km from the northern part of Gaza strip to the southern part of the West Bank *(PECDAR.2001).*

The road network consists of about (3400) km of paved roads in the West Bank designated for the movement of people and goods. The public transport consists of buses (regular and mini buses), taxis and shared taxis providing public transport services. All operated by the private sector. Transport development strategies are affected by a number of uncertainties *(PECDAR.2001).*

The roads network in West Bank consists of main, regional, and local roads. West Bank main roads network serves the major population centers; it forms a grid with two north-south corridors, and four east-west corridors. The local road network connects smaller communities and provides access to the regional and main networks. The condition of the urban network is also very poor in its capacity to serve the needs of the population and creates traffic jams in main towns *(World Bank. 1993).*

f- Urban Road Networks

Urban roads network provide services to the built areas within the boundaries of the cities and towns, most of these towns were built centuries ago, their old quarters forming the center of these towns today.

The high rates of motorization levels generate higher traffic volumes especially in urban areas, while there are no major capacities added to urban roads and streets since occupation in 1967. The main transport artery in the West Bank runs north to south. In the early 1970's, occupation began to introduce an east-west system of "by-pass" roads to enable settlers to travel in the West Bank without passing through Palestinian population centers. These roads network in addition with occupation settlements destroyed the Palestinian territorial integrity and blocked the physical expansion and bounded the borders of Palestinian towns and villages (Fig3.12).

Figure 3.12: The Borders of Palestinian Population Towns Bounded By Settlements- Al Beireh City

3.7- Models of Urban Development and Expansion of Palestinian Towns

The West Bank towns and cities are grouped almost entirely in its western half; this reflects topography and climate in some areas. The ridgeline reaches more than 900 meter above sea level, with more typical heights ranging between 600 and 800 meter (Rand.2005).

The rising elevation of the mountains causes most rain to drop on the westerly face of the ridgeline, leaving the eastern face relatively dry. The ridgeline also puts the

Eastern slopes in a "wind shadow," making them dryer and hotter. This explains why Palestinian habitation has remained generally in the west of the West Bank, with its significantly higher rainfall, arable land, and occasional cooling breezes. The notable exception to this pattern is Jericho, with plentiful and accessible underground water supply has sustained an ancient town in hot and arid territory (Rand.2005).

International experience suggests four models of urban development and expansion, each have its advantages and disadvantages, most urban strategies choose a combination of these models (Zahlan. 1997).

3.7.1 Model "1" Peripheral Expansion of Existing Towns.

This is a model of outward development of towns in all directions. The main advantage of this development that it's allows economic and convenient provision of services and infrastructure needed for the new developments. The disadvantages of this type of Development are the increase of pressure on the infrastructure and services of existing towns, which do not have enough capacity so the expansion is costly and impractical (Fig 3.13). Other disadvantages that town could lose their identity as outward expansion of towns may cause merging nearby towns.

Figure 3.13: Peripheral Expansion of Existing Towns- Ramallah City

3.7.2 Model "2" Intensification of Existing Development

This type of development is achieved through:

a) Increasing density of partly development towns by filling the empty plots in areas subjected to development.

b) Raising the building density through increasing the buildings heights and the plots covered proportions.

This type of intensification reduced the area of lands needed to public use, and caused disturbances during construction; in addition to negative impact of dense development on the visual character of towns (Figure3.14).   Multistory apartment

Buildings unsuitable to traditional Palestinian social norms, this type of development with its disadvantages occur also in most towns in West Bank.

Figure 3.14: Negative Impact of Dense Development on the Visual Character of

Ramallah City (2006)

3-7-3 Model "3" Linear Development

Linear development is a response to topographic constraints, and or to the clustering of developments along major roads, Nablus city is an example of linear development since it's

located in a valley between two steep mountains. But in the last 50 years the steep mountains surrounding the old city of Nablus do not

Constitute a barrier for Construction and Nablus buildup areas are along the slopes of the steep mountains (Figure3.15). The advantages of linear development are:

a) Convenient public transport through the town based on a simple linear system.

 b) Selecting the preferred direction for out ward growth.

Figure 3.15: Linear Development." Nablus City" (2006)

Table 3.3 - Assessment of Recent Palestine Urban Development Models

CRITERIA	A	B	C
1-Provision of economic and infrastructure needed for the new development	+	+/-	+
2- Increase the pressure on the infrastructure and services of existing towns	-	-	-
3- Cause merging nearby towns.	-	+	-
4-Dispersal of vehicular transport.	-	+	-
5- Filling the empty plots in areas subjected to development.	-	+	-
6- Reduce the area of lands needed to public use	+	-	+

CRITERIA	A	B	C
7- Dense development on the visual character of the towns.	+	-	+
8-Environmental conditions -noise, pollution, congestion.	+	-	+
9- Convenient public transport through the town based on a simple system.	-	+	+
10- Selecting the preferred direction for out ward growth.	+	-	+
11- Relieve congestion.	+/-	-	+/-

Legend:

A- Peripheral Expansion   **B- Intensification of existing development**

C- Linear Development   **+** *Benefit*   *- Disadvantage*

Table 3.3 Cont- Assessment of Recent Palestine Urban Development Models

CRITERIA	A	B	C

12- Offer opportunities to expand employment.	+	-	+/-
13- Fill the gaps in traditional Palestinian distribution mechanism of villages and towns	-	-	-
14- Shape the Palestinian future goals of social technologically advanced society	+/-	-	+/-
15- To improve housing conditions of high-populated cities	+/-	+/-	+

Legend:

A- Peripheral Expansion   B- Intensification of existing development

C- Linear Development   **+** *Benefit*   *- Disadvantage*

Since most of urban land is privately owned land which is divided into small units, the high cost of urban land, and due bounding the borders of most towns; by by-pass roads, occupation settlements, military planning laws and regulations, land use restrictions and due the need of the empty lands within the residential neighborhoods, which is essential and necessary for the development of basic services and public utilities.

As a result the three urban development models; Peripheral Expansion, Intensification of Existing Development, and Linear Development are incapable to provide sufficient new areas of urban land for the population overflow and for future urban developments, since the area of land needed is so many times than the size of existing available empty urban areas, accordingly new towns built on intentional selected sites will be the most important future urban development models in Palestine.

3.7.4 Model "4" New Towns

The reasons of building new towns vary from one country to another, the motivations for building new towns in Palestine are to improve housing conditions of high-populated cities, to reduce high population density in most urban centers, and since the housing problems is one of the most important issues facing Palestinian society. To shape the Palestinian future goals for social technologically advanced society and the possibility of retuning Palestinians from the Diaspora will set a great demand for both housing and urban land.

The only new Palestinians planned community since the British mandate era was the cooperative unique model town which had been built between 1949 and 1966 by the Arab Development Society "ADS", the oldest continuously operating nonprofit welfare "NGO" in Palestine *(jericho-city.org/etemplate.php, 2009).*

This cooperative town planned to be built on reclaimed 8000 dunums of waste arid public land in the Jordan Valley at 3 km east from Jericho city *(ADS.1960).*

The first stage of this town was planned on 1500 dunums, which intended to help and educate Palestinian orphan refugee boys and to provide Palestinians training in the fields of agricultural, poultry, dairy production, operating agricultural machines and vocational training to improve the living standards of Palestinian rural communities in West Bank villages. This cooperative was a model town and a pilot project for other cooperative towns indented to improve living conditions for Palestinian refugees. The first phase of this model farm town consists of:-

1- Residential area of single family houses generally built with available local building materials (Figure3.16).

2- Educational area consists of academic school, vocational training workshops, dormitories, main kitchen and large common dining hall, swimming pool and playgrounds *(Figure3.17)*.

3- Administration area and large cold storage.

4- Poultry production, diary plant and dairy farms.

5- Agricultural machines maintenance workshops, and main power station.

6- Agricultural experimental farm, crop farms, ranges land and 29 artesian wells (Figure3.18).

The second phase of this town had been stopped due to the 1967 Israeli occupation; 26 of 29 wells were destroyed, and 6500 dunums seized for military purposes.

This community was designed for the climate of arid areas; type of houses with less exposed surface to solar radiation sloped roofs covered with reel, fit houses orientation, roads and pathway shading, suitable local building materials; heat insulation block of mud and straw, open surface water channels used as humidifiers and as a part of irrigation system for shielding and internal roads plants (Figure3.19). In general most of the buildings were designed for hot area climate.

This town was flourishing self- supporting town partly financed from the income of exporting crop farms product to Gulf region before 1967, and from the income of poultry production and dairy farm, from the local markets.

Currently this sized downed town is operating successively and providing vocational training, dairy farm and operating smart practical dairy and poultry production (Figure3.20).

Figure 3.16 The First typical residential units built in 1952 at the ADS Town

Source: ADS 1960
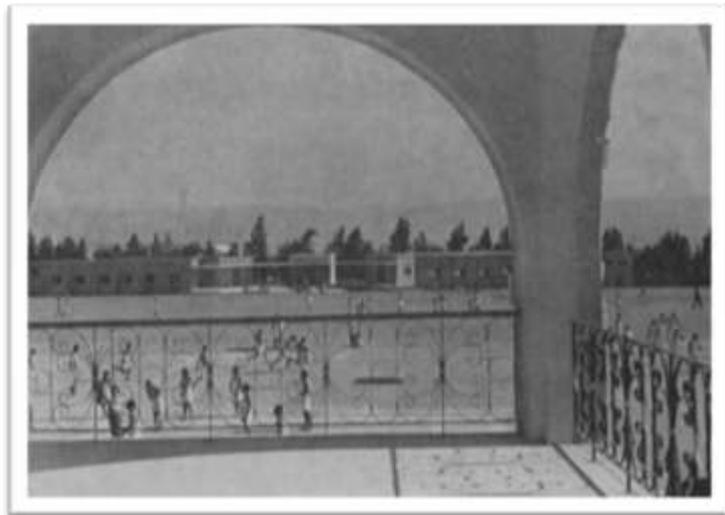
Source: ADS 1960

Figure 3.18 Agricultural Farms, Source: ADS 1960

Figure 3.19 Roads and Pathway Shading, Source: ADS 1960

Figure 3.20 ADS Arial View, Source: Google Earth, 2006.

A new Palestinian town which is in the planning stage is Rawabi. Its preliminary plans were approved by the Palestinian higher planning council in October 2008. This project was recently announced by private investors. Its location north of Ramallah, adjacent to nine Palestinian villages, just north of Birzeit (Rawabi.ps.2008). The main advantage of building such a town is utilizing low cost land not too far from Ramallah (about 12 km north of Ramallah); this could be help in providing housing, jobs, and could be a good investment for developers. However the main disadvantage of this town that it is planned on fertile land needed as open green spaces for the surrounding villages.

4- Methodology

4-1 Hypothesis

Due to the rapid increase of population and high population density in the existing Palestinian towns, there is a challenge to provide housing within the built up areas. The area of land needed for Palestinian returnees will exceed many times as the size of existing urban areas; additional population and housing will limit the future capabilities of existing

cities. Thus new towns built mostly on public land and on low fertile land will be the most distinguish future urban development and expansion model in Palestine.

The methodology for assessing the needs for new Palestinian towns and their locations and requirements for fulfilling the future needs of the Palestinian people is outline here there - after:

1. Study and analysis through review of International experience in building new towns; site selection, locations, sizes, types, models and shapes.

2. Review of Palestine urbanization historically and characteristically and recent urban development models are explored in addition to traditional urban design elements and characteristics of recent urbanization.

3- A questionnaire to find out the attitudes and values of a cross-section of Palestinians towards new towns and residential areas.

4- Setting of criteria for determining locations and types of new Palestinian towns.

5- Recommendations for procedures of planning and implementation of new Palestinian towns and providing and setting the locations and general characteristics for proposed new towns.

4.2- New Palestinian Town's Development

New Palestinian towns must meet with Palestinian requirements to achieve nation-wide goals:-

1- To shape the Palestinians future goals of social technologically advanced society and to enhance the quality of life for city dwellers.

2- To improve housing conditions of high-populated cities, to reduce high population density in most urban centers, and to maintain Palestine historic cores of towns and villages and heritage of local architecture.

3- To meet high demand for housing requirements due to shortage of housing units and due to high natural birth rate, as housing play a major role in improving the social economical development.

4- To meet future needs of modern services: medical, educational cultural, financial support with harmonious environment.

5-- As regional marketing centers, offering a wide variety of distribution, storage, and financial services.

6- To develop under populated areas, to establish economic growth poles, and to curb the growth of existing cities to preserve cultivated lands.

7- Absorb migration to urban centers, and to provide convenient locations for decentralizing public services through municipal governments and field offices of national ministries.

8- Providing suitable conditions to the growth of small and medium scale manufacturing to satisfy internal demand for low cost manufacturing goods since new industry of modern technology needs a plenty of land with room for expansion, industry will benefit greatly by moving to new towns with modern amenities.

9-To provide work opportunities, shopping and recreation close to residence area, to encourage walking and to provide pedestrian paths and pedestrian streets only.

10- To reduce number and duration of vehicular trips, to reduce vehicular congestion, to reduce air pollution, noise, and to provide clean healthy environment.

4.3- Planning for Sustainable New Towns Criteria

Designing and planning sustainable new towns in Palestine can be reached through providing inhabitants intimate needs:-

1- By providing new towns population with educational, cultural, medical, business support, and by providing affordable housing to all citizens.

2- Public awareness towards environment, and by using the suitable available local building materials.

3- Through considering the social relationships between residents of different areas and between the returnees and Palestinian residence of the West Bank.

4- Creating employment opportunities without wasting inadequate resources.

5- Reducing the need to travel by maintaining a maximum amount of housing within urban areas; and by planning considerable percentage of work and shopping within walking distance.

6- Maintaining stable relationship between cities and their surroundings through integrate commerce services and work places into near urban cores.

7- The small and medium sized town would encourage more constructive social work and cooperative behavior than big cities.

8- Future economic development needs appropriate Infrastructure, better infrastructure and services provision are the critical factor that determine the expansion of built-up urban land.

9- It is essential that new towns in Palestine should have good access to the Palestinian transportation network; also good intracity public transport system is of significant importance.

10- Decentralization could reduce over concentration of population, economic activities and national wealth concentration in the main cities.

11- New towns designated to be successful in terms related to living and working conditions should consider relative economic autonomy and social balance.

4.4 - Palestine Conditions Bounding New Towns Development

1- Instability and uncertainty of the political developments and vagueness of conditions envisaged for the Palestinian state and the entire future of Palestine and the region.

2- Lack of finance and economic resources needed for establishing new towns.

3- Landownership; land is divided into small units, which creates difficulties for large housing schemes in new towns.

4- Land use restriction and huge land confiscation regarding occupation settlements and bypass roads, which destroyed Palestinian territorial integrity and limited the possibility of finding appropriate locations and sufficient area needed for establishing new Palestinian towns (assuming occupation and settlements continue).

5- Lack of experience in planning and in implementing new towns program.

4.5- Planning for Climate of Palestine Criteria

Most economic activity locations affected by weather and climate as climate plays important role in housing, resorts, and in wind dependent industry.

When planning new towns buildings for climate factors, the most important principles to be considered are-

a- Type of houses

In hot regions houses with less surface exposed to solar radiation is preferred , in strong windy and dusty storm regions low houses are preferred, while in arid regions inner courtyards is advantageous.

b- Houses Orientation

Houses facade orientation are important in energy conservation consideration, the buildings orientation should respect the neighbor solar rights in order to reduce the need for winter heating and summer air conditioning. In addition, the buildings orientation affects the needed shielding pedestrians as of winter winds and summer solar radiation.

c- Shading

In climate planning, shade and rain protection are usually appreciated in the

Mediterranean climate. In hot and dry regions, inner courtyard and narrow

Roofed streets could be used for external shade especially in shopping areas.

d- Building materials

Suitable designs with appropriate building materials could save more than 20% required energy for heating, traditional exterior thick walls are better than thin walls, external walls insulated against radiation, moisture and noise is required in planning for new developments.

e- Color

Suitable colors to be used in buildings according to their climate region, as to reflect solar radiation in summer or to collect it in winter.

4.6- Site Criteria

a- Physical Criteria

Physical criteria are the most significant criteria, as it affects the town density, shape, intensity of development, land-use pattern, traffic circulation, and proper accommodation for future growth.

Physical factors are most influential on construction and its cost, physical criteria have long lasting effects, since this selection will have far-reaching effects on the success or failure of a new town.

b- Environmental criteria

Climate criteria of the site should be carefully considered in relation to sun and to winds, the green zone intersection or surrounding the new towns, noise and other pollution sources, dust storms, sun direction, water zone, green belts, all of these criteria's are important to select new towns proper site, as a site should allow the development of a variety of landscapes to enrich community life style and values.

c- Economic criteria

Land prices and the availability of public land is one of the most important factors in Palestine. Also of importance are the cost and the availability of building material within the area. In a privately developed new towns housing marketing (people attitudes and preferences) is a major factor in site selection.

d- Potential local resources criteria

New towns developed in relation to their regional and local resources, underground resources, natural landscape, availability of water, suitable sites for solid wastes, potential source of energy, the availability of high voltage networks close but not crossing the site all are important in site selection.

4.7- Location Criteria

1- Locations with access to main transportation network; main roads, railroads, airports, and seaports. In the West Bank, approximate location to main roads and travel time to main cities and attractions area main determining criteria.

2- Availability of land and land cost.

3- Site surroundings; sites close to large urban centers where are local authorities can provide services for the new towns, while sites in undeveloped areas, services for developing new towns can't be provided.

4- Housing marketability; sites to be selected in regions attractive to potential residents and similar to new towns class population.

5- Land ownership; small and medium size private land parcels ownership obstructs large housing scale projects and is considered as a major disadvantage for new town location selection. Public or governmental land availability is a resource.

6- Locations having public transport links (bus or rail).

7- Considerable site size excluding lands with ecological, environmental and

Green value, the lands needed for agriculture, and green lands around towns,

which should be kept free of development.

8- Political consideration; usage of land vacated by occupation settlements, or re-using the vacated settlements in case of political solution. Also rebuilding villages destroyed by occupation such as the villages of Yalo, and Emwas.

Since the high cost of urban lands creates difficulties for large housing its essential to use low-cost non fertile land, public lands and lands of evacuated occupation settlements to provide affordable low cost housing.

The trade- off between the price of land and the availability of transportation and other infrastructure are among the most significant factors for site location in the West Bank (Awadallah, 1996).

5- Palestinian Attitude Survey toward New Cities

5.1- The Intent of Survey

The survey intent was to find out the opinion of cross-section of Palestinian society toward the new residential communities and cities; the survey does not propose to support any point of view of certain political solution for Palestine.

5.2- Survey Methodology

5.2.1- Questionnaire

The survey developed by combining pre-established fourteen questions to a sample of Palestinians that reside in the West Bank of Palestine. The survey includes questions on

moving to new towns motivations, accepted workplaces locations, new towns types, models, locations and geographical distribution. In addition, the survey inquire on possible usage of evacuated occupation settlements, new towns economic activities, major commercial facilities, preferred locations, houses types and size, architectural forms and patterns. The questionnaire was designed in Arabic language and it is provided in Appendix, A.

5.2.2- <u>Sampling</u>

a - **Targeted Group**

The targeted sample consisted of Palestinians residents of the West Bank of Palestine with random distribution of males and females. The sample target educated Palestinians holding as a minimum the first university degree and having some work experience in their respective fields, since mostly targeted inhabitants of new towns are similar in many aspects with sample group. It is argued that new cities would be mostly attracted by educated persons. Thus their attitudes are the most relevant.

b– **Sample size**

The overall sample size contained 150 persons.

c– **Response rate**

The response rate was more than 96% with over 94% of the questionnaires completed. The age of sample ranged from 23 to 65 years old, where 70 % were males and 30 % were females. It was found that 62% of them holding the first university degree, while38% have obtained post

graduate studies. Furthermore it was found that 24% of the sample having less than 5 years work experience.

d- **Procedures for conducting survey**

The main field work started in two main Palestinian cities Jerusalem and Ramallah between October and November 2007, the completed questionnaires were reviewed to ensure that all questions had been completed. Three trained volunteers conduct the survey; the sample was collected through graduate students at Birzeit University and AL-Quds University, and through engineers and professionals. The survey was filled mainly at the workplace of participants. Data entry completed at the end of December 2007. Excel software program was used to perform final tabulation of results, and to provide illustrations.

5.3- Data Analysis

In the process of analysis 14 questions were developed to inquire part of Palestinians people attitudes toward new towns different aspects. All questions were multiple –choice and multiple correct answers were possible unless otherwise stated.

*Question1

Developed to inquire new towns contribution in solving housing problems in West Bank of Palestine.

Question 1

a, 52%	
b, 24%	
c, 18%	
d, 6%	
e, 81%	

Question1: Would New Towns contribute in changing inadequate housing conditions ?

Legend: a, b, c, d, e
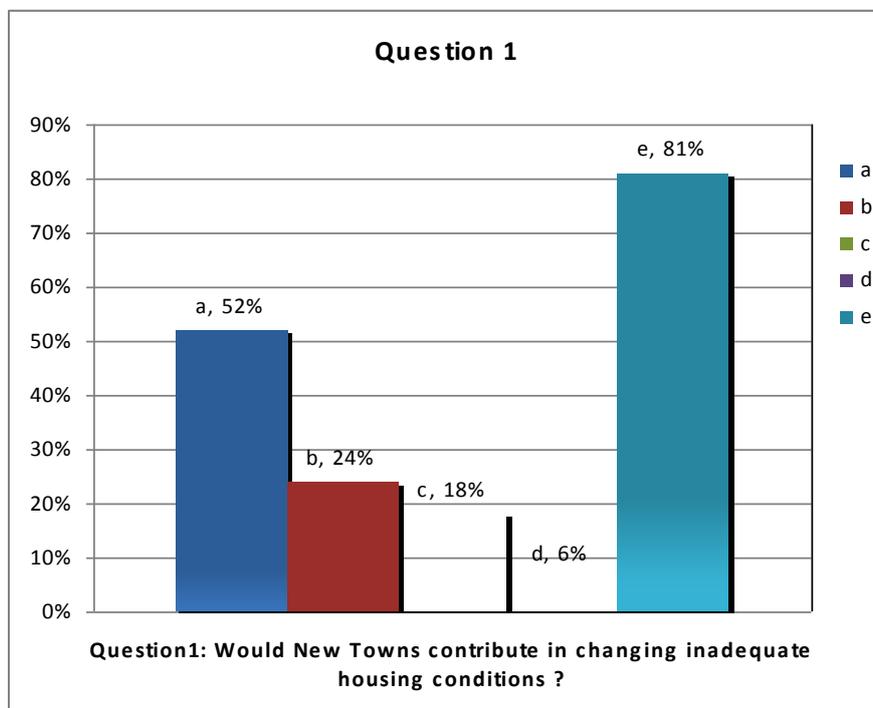
- **a: -** The best solution.

- **b: -** Only a fraction of the problem.

o   **c:-** Very limited.

o   **d:-** Only for high-income class of people.

* Only one correct answer from the above (a-d).

o   **e: -** A must to absorb the returnees. **(check if yes)**

*Question 2

Developed to inquire the feeling of social and homeland alienation when moving to new towns.
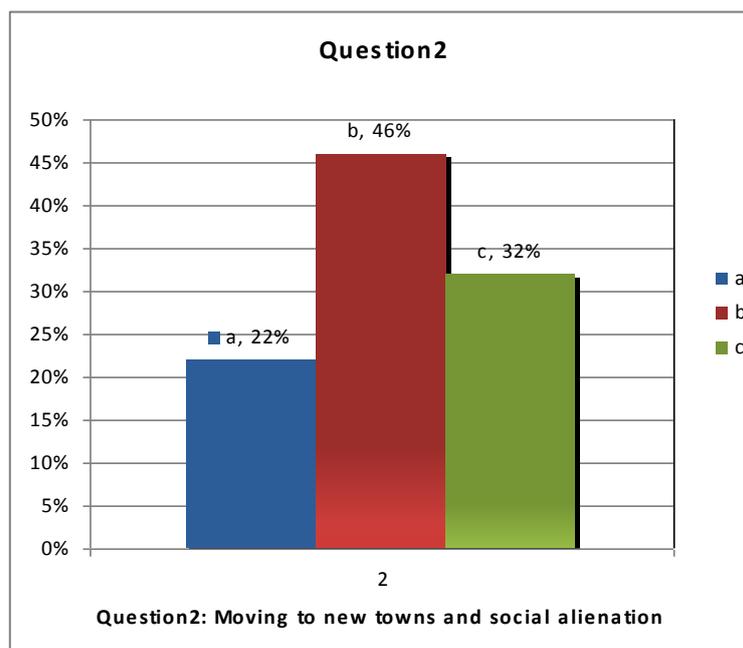
* Only one correct answer was allowed

o   **a: -** Moving to new towns would cause a break and a sense of social alienation.

o   **b: -** Moving to new towns will not cause me removed from my family and relations, as Palestine is small in area and the distances between new and existing towns are short .

o   **c: -** When moving to new towns I don't feel alienated homeland, since the Palestinian society more harmonious than others, and I do believe in expanding social relationships with new towns population.

*Question 3

To inquire the relation between moving to new towns and the availability of job opportunities and affordable new houses.

Question 3

Question3: Available employment opportunities & the possibility of affordable new houses a motive for moving to new towns.
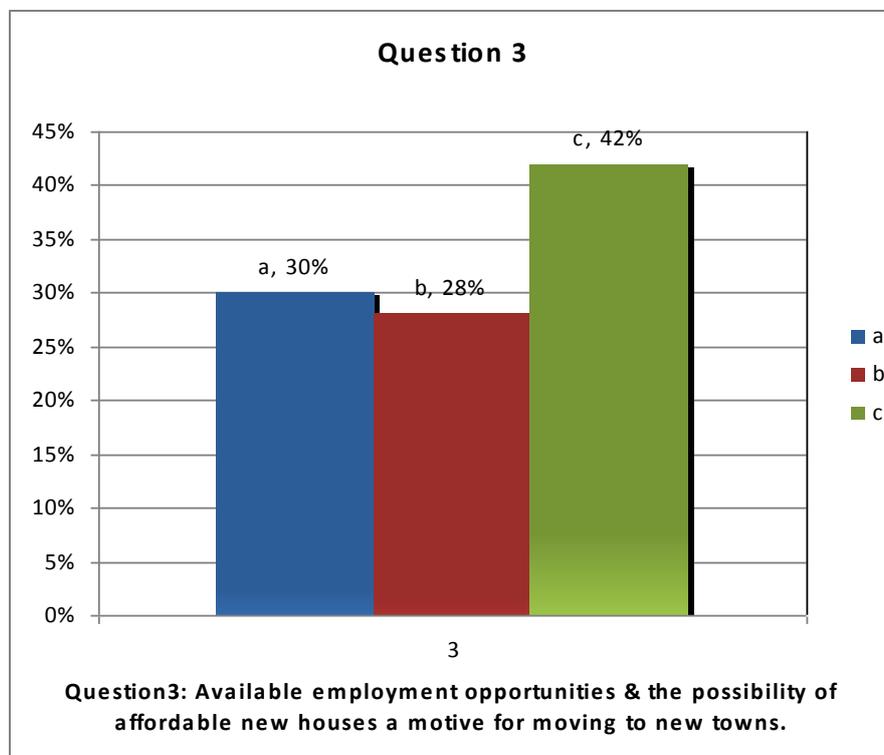
   * **Only one correct answer was allowed.**

o   **a: -** Accept moving to work and to buy new house at new towns?

o   **b: -** Traveling daily to workplace while living at your recent town.

o   **c :-** Prefer traveling daily to workplace while living at your recent town for a period to evaluate the advantages of living at new towns before moving?

*Question 4

To inquire the accepted traveling distance and time between new towns and workplaces locations.

Question 4

Question 4: Accepted travelling time to workplaces at new towns

- a, 72%
- b, 28%

Legend: a, b
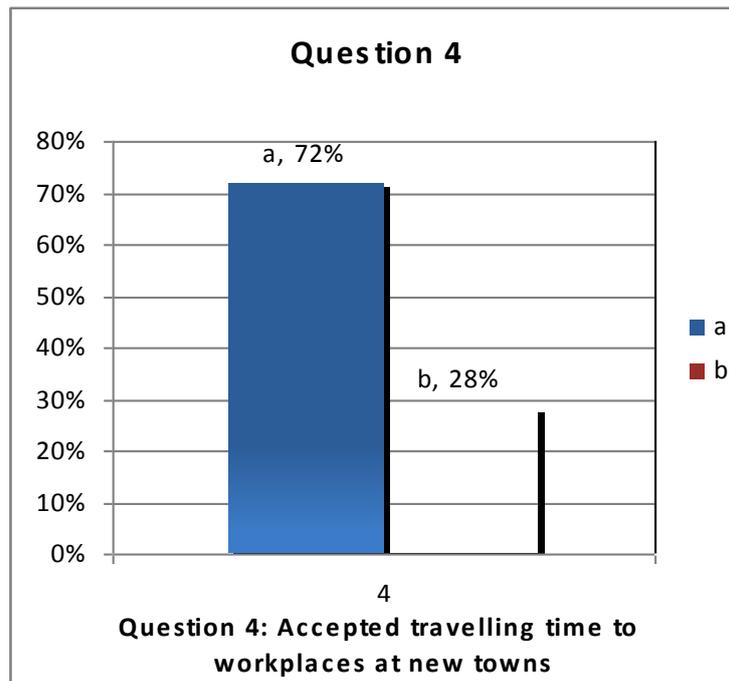
* Only one correct answer was allowed

- o **a**: - Half an hour of travel or less.

- o **b**:- Up to one hour travel but not more.

Question 5*

To inquire new towns preferred models and types.

Question 5: New Towns Preferred Models and Types
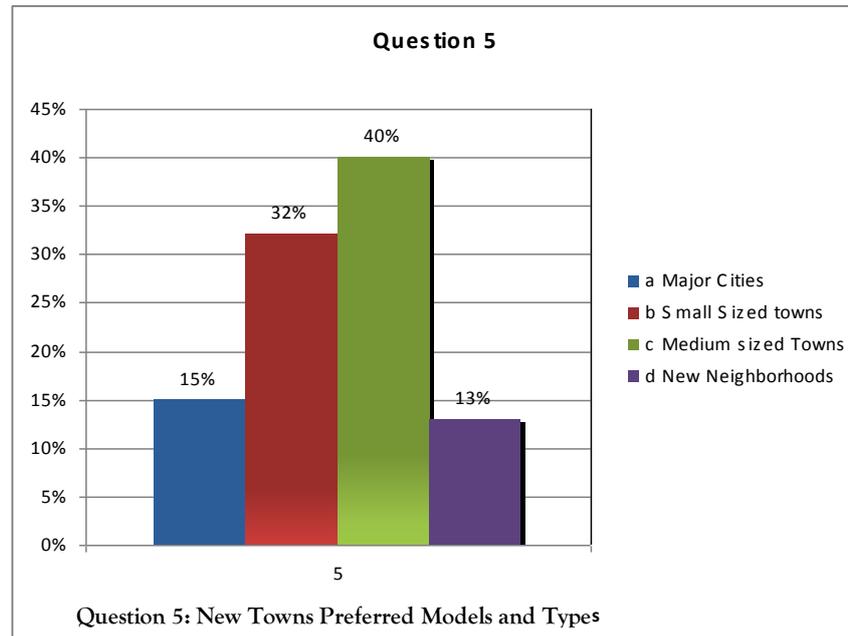
* **Only one correct answer was allowed**

o a: Major cities for advantages of better services; recreation, health, shopping, and education facilities.

o b: Small sized towns with limited area and limited population density where constructive and cooperative behavior and sense of belonging.

o c: Medium sized towns which combine the advantages of major and small towns.

o d: New neighborhoods added to existing cities, and so dependent on its facilities, health, education and economic activities.

*Question 6

To inquire new towns preferred locations.

Question 6

Question 6: New Towns Preferred Locations

Location	Percentage
a	36%
b	64%
c	100%
d	100%
e	72%
f	14%
g	10%
h	76%
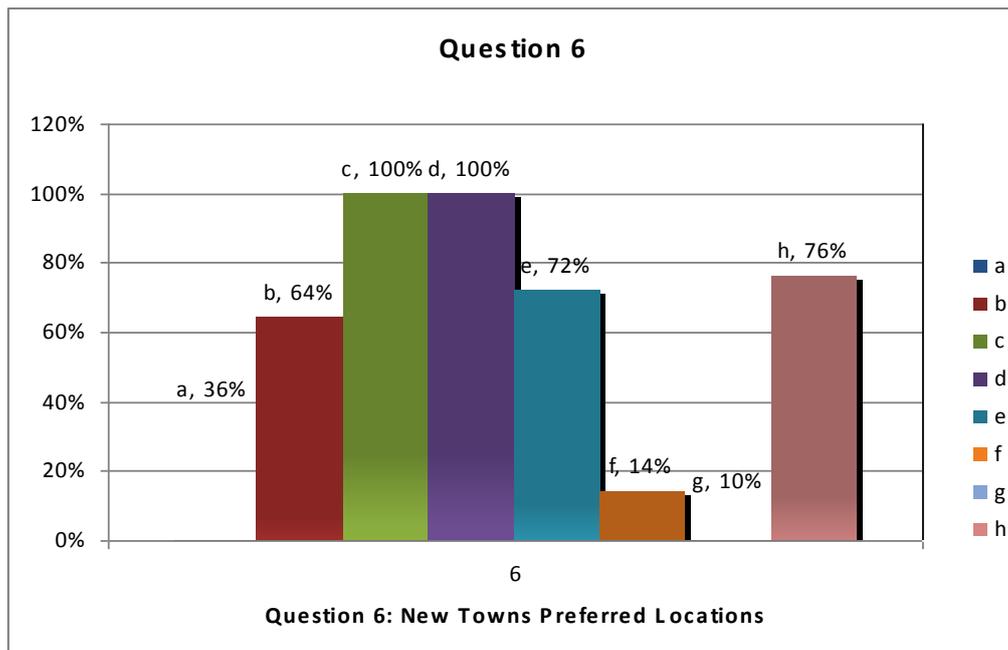
* More than one correct answer was allowed.

○ **a**:- Close to large urban centers where population of both towns benefited from the advantages and benefits of the other city.

○ **b**:- Self-contained towns built far enough to prevent overlapping with existing towns to avoid formation of large towns with congestion, pollution and social problems.

○ **c:** - Palestinian evacuated or destroyed village's sites wherever located in Palestine land.

○ **d:** - Occupation settlements sites (with compensating Palestinian land owners of the lands held by these settlements).

○ **e**:- Public land where ever located in Palestine to prevent the seizure of private land owned by citizens.

○ **f**:- In the Jordan valley land for the possibility of establishing sophisticated

Agriculture cantons.

o **g:-** Jordan valley rift, but for the establishment of industrial zones for its proximity to the adjacent Arab countries.

o **h: -** The territory of the Jordan valley must be kept as open areas constituting reserves for the future expansion.

Question 7*

To inquire on the subject of evacuated occupation settlements infrastructure and its facilities.

Question 7: Occupation Settlements Infrastructure and facilities
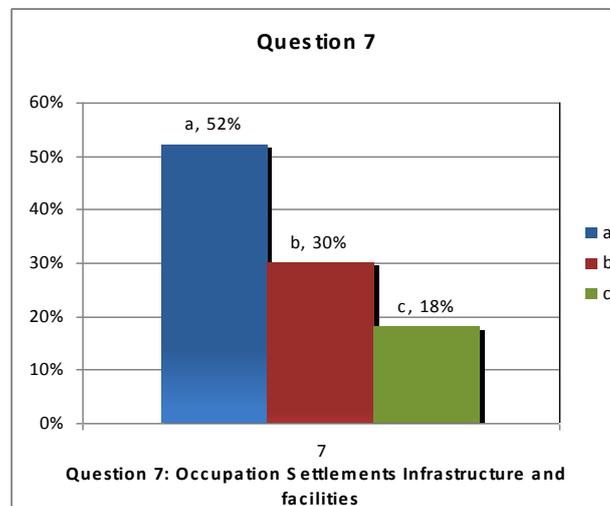
* Only one correct answer was allowed

o   **a:-**all Settlements buildings with its infrastructure (streets, water and sanitation systems...), public buildings, and better to be removed prior establishing high standard well planned Palestinian cities.

o   **b:-**Facilities and infrastructure could be kept while houses should be removed and to be rebuilt to suit Palestinian population needs and their lifestyles.

o   **c:-** There is no national, psychological or social benefit for removal of settlements houses and other facilities, but it should be expanded to accommodate and to provide employment opportunities for large numbers of Palestinian citizens.

Question 8*

To inquire on the subject of new towns economic activities.

Question 8

Question 8: Preferred New Towns Economic Activities
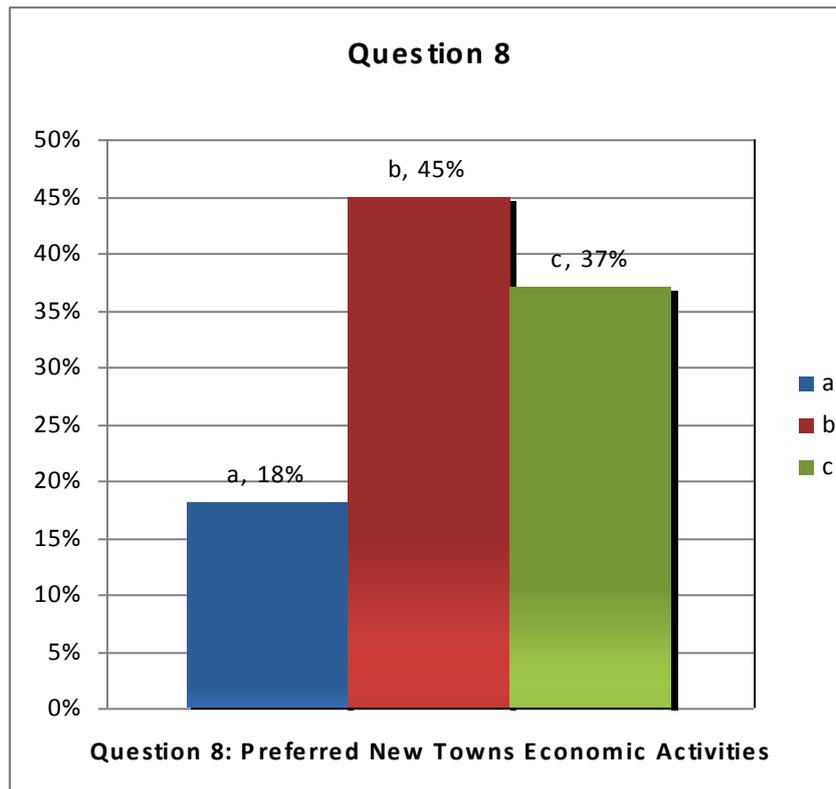
* Only one correct answer was allowed

o **a:-** Single pattern towns operates one kind of economic activity as sport,industrial,resort... towns.

o **b:-** Multi economic activities towns.

o **c: -** Single pattern small town created within larger multi economic activities towns..

Question 9*

To inquire on the best work places location in relation to new towns.

Question 9

Question 9: New Towns Work places locations
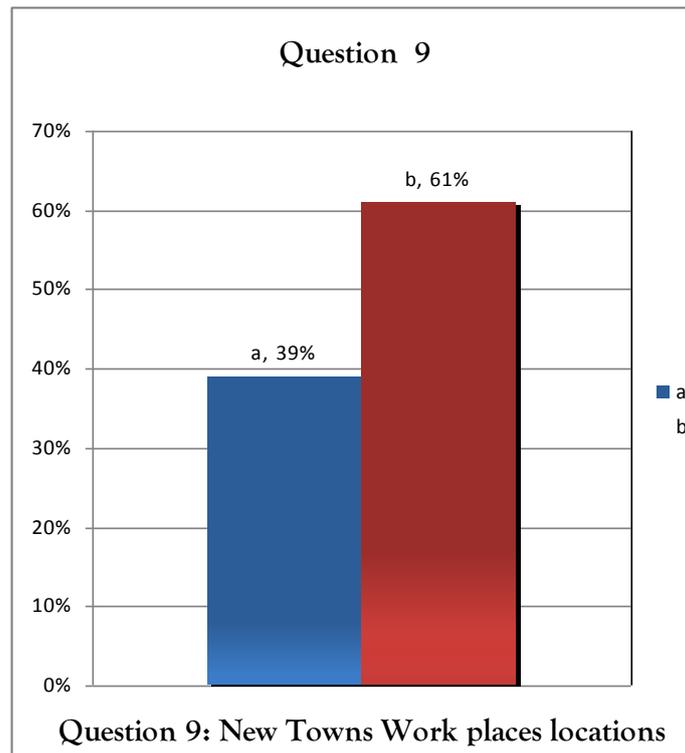
* Only one correct answer was allowed

o   **a**:- Within these towns.

o   **b**:- Outside cities to keep the land within these cities   completely for housing and for

basic services ; education, health,.. .

Question 10*

To inquire on new towns major commercial markets locations.

Question 10

```
70%                                    b, 64%

60%

50%

40%       a, 36%
                                                        ■ a
30%                                                     ■ b

20%

10%

0%
```

Question 10: New Towns Major Commercial Markets
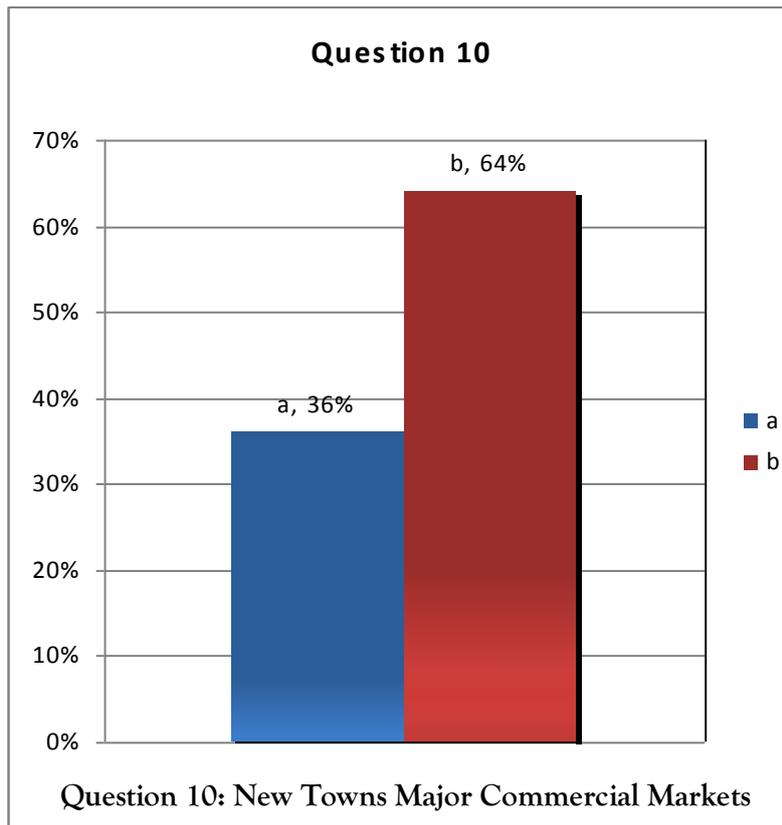
* Only one correct answer was allowed

- o **a:-** Among Residential Neighborhoods.

- o **b:-** Outskirts of these cities so as to prevent creating congestion traffic and to enable creating major size markets and commercial facilities.

Question 11*

To inquire on new towns architectural forms and patterns

Question 11

```
50%
45%                         b, 45%
40%
35%
        a, 30%
30%
                                    c, 25%         ■ a
25%                                                ■ b
20%                                                  c
15%
10%
5%
0%
```

Question 11: New Towns Architectural Forms and Patterns
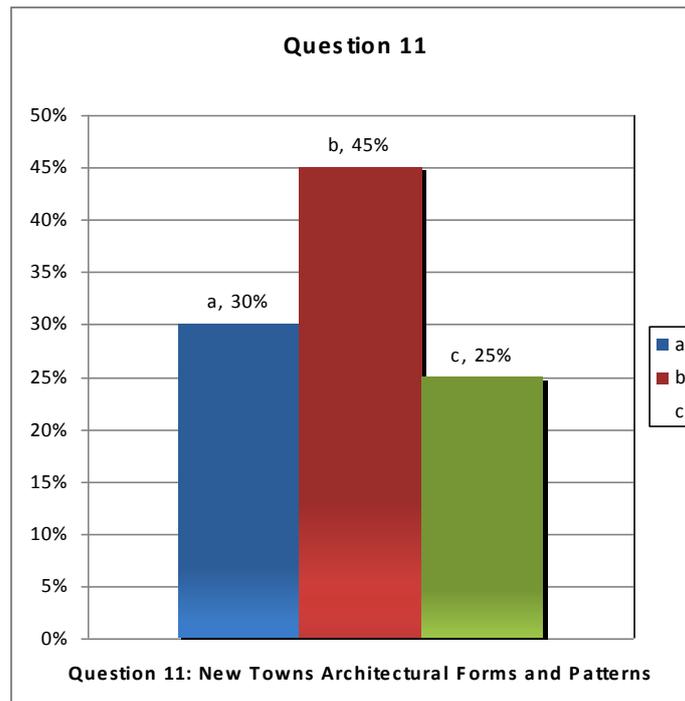
* Only one correct answer was allowed

o **a**:- Belongs to Palestinian and Arab architectural patterns.

o **b**:- Only external forms belongs to these models while for interior may belongs to any
   pattern where most important to be comfortable with appropriate size of the rooms of
   its residents.

o **c**:- the most important that outside of the buildings to be beautiful and in harmony
   with each other regardless the type or architectural pattern.

Question 12*

To inquire on new towns preferred houses types.

Question 12: New Towns House Types
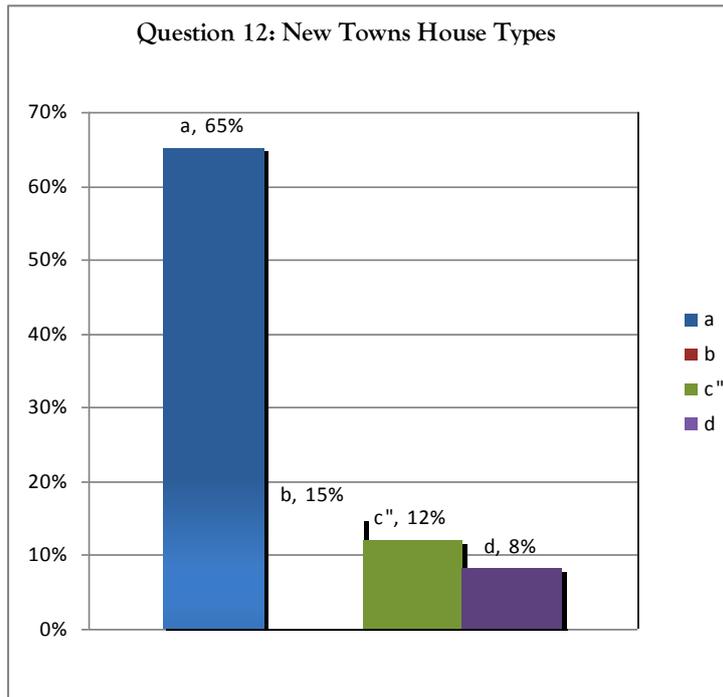
* **Only one correct answer was allowed**

o a: Independent single family houses.

o b: Semi detached houses.

o c: Detached houses .

o d: Apartment buildings .

Question 13

To inquire on new town's preferred houses size.

Question 13: Preferred Houses Size
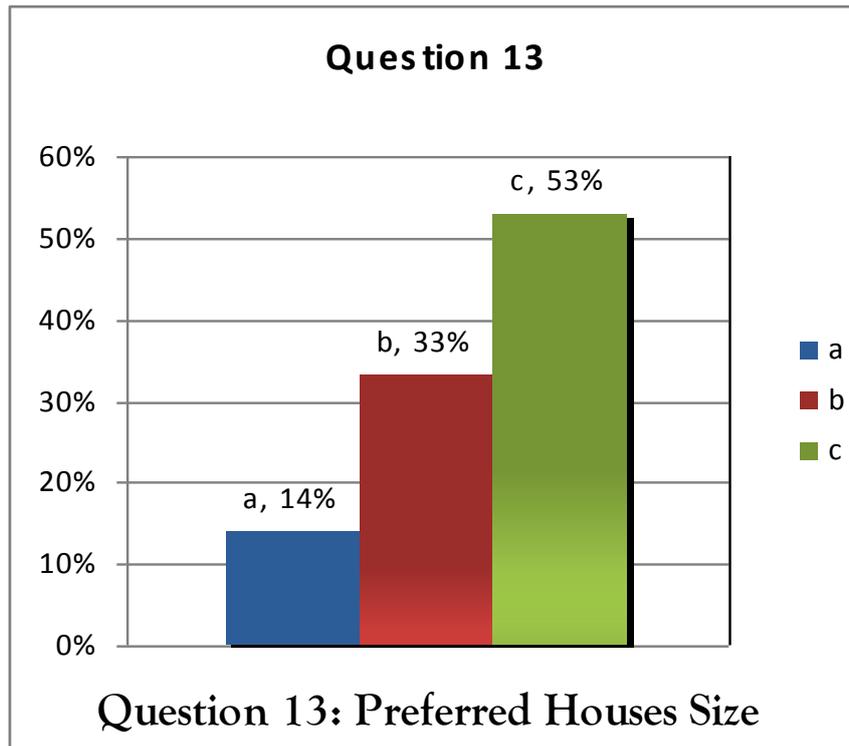
* Only one correct answer was allowed

- o   a: - Less than 120 m2.
- o   b:- *Up* to 150 m2.
- o   c:- Area of 180 -200 m2.

Question 14*

To inquire on new towns geographical distribution.

Question 14

Question 14: New Towns Geographical Distribution
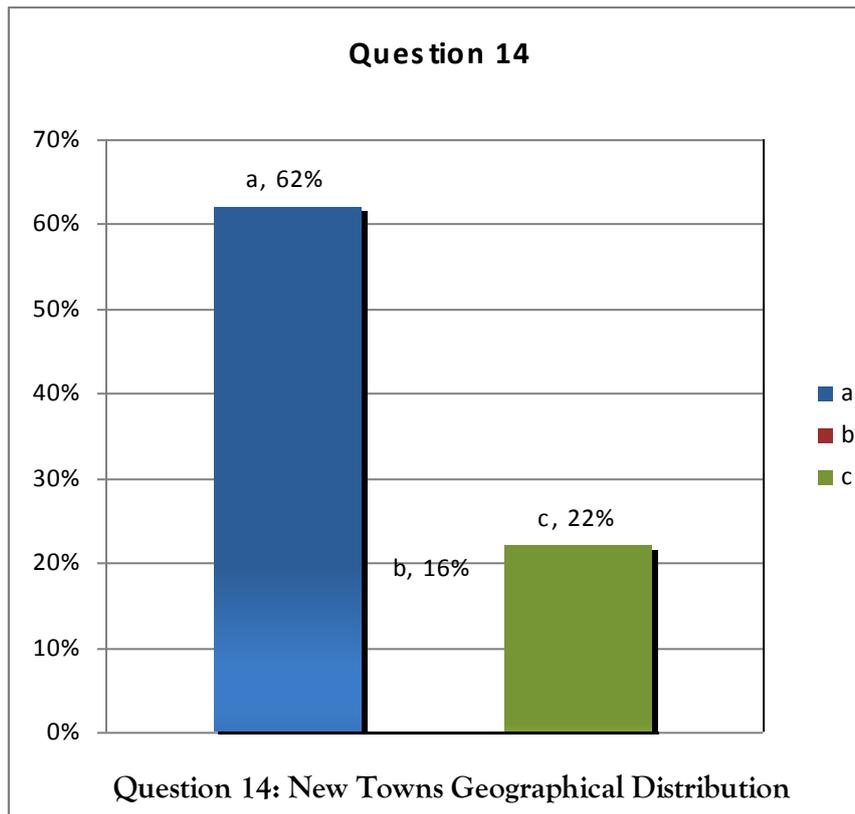
* Only one correct answer was allowed

o   **a:-** Equally in various regions- North-Central and South of West Bank .

o   **b:-** Adjacent to existing major towns where ever it's.

o   **c:-** Proximity to Jerusalem to create Palestinian large housing neighborhoods consists of Jerusalem – Ramallah – Bethlehem – and the proximity of these cities to perform metropolis...

5.4 Results

The following are the main results of the Palestinians attitude survey towards new towns:

1- It is clear that most of Palestinians accept as true that new towns a must to absorb the returning Palestinians from the Diaspora as the area needed for urban development exceeds many times the size of existing available empty urban areas.

2- Moving to new towns accepted by the largest part of Palestinians when available employment opportunities as well as the possibility of affordable housing, new towns considered the best to solve West Bank inhabitants housing problems.

3- Since most of West Bank population grew in rural or small towns, thus small sized towns with limited area, limited population density and medium sized towns which combine the advantages of major and small towns is the most chosen towns models, while major cities even with its advantages of providing better services, neither new neighborhoods added to existing cities is not accepted to most of the population.

4- Towns built far enough to prevent overlapping with existing towns to avoid formation of large towns with congestion, pollution and social problems are favored by Palestinian people than new towns built close to large urban centers.

5- The most preferred ideal new towns location is on the sites of evacuated or destroyed Palestinian village's land and strongly favored on the sites of recent occupation settlements.

6- Completely independent large houses widely chosen than other types of houses, while the apartment buildings are not appreciated, new towns favorite architectural forms and patterns is

that with external forms belongs to Palestinian and Arab architectural patterns, while for interior may belongs to any pattern where most important to be contented well designed in terms of lighting, ventilation and with appropriate size of the rooms to suit the needs of its residents.

7- Equally distribution of new towns in various regions of Palestine – North - Middle –South, more preferred than only distribution adjacent to existing major towns in turn of creating Palestinian large residential neighborhoods.

8- New towns site selection have long lasting effects on its success, establishing new Palestinian towns on the sites of occupation settlements which spread all over West Bank land will enable creating sequence of many cities which have the widest distribution of benefits and greatest regional integration at the least cost for linking infrastructure.

9- Self contained towns built far enough to prevent overlapping with existing towns are clearly favored over large urban centers.

10- Small sized single pattern towns with one kind of economic activity required to be satellites to multi economic activity medium or major towns.

11-- Major economic activities, large scale shopping, industry, preferred to be built outside new towns to keep sufficient land within these cities for basic services future terms.

12- Since Jordan valley rift land is not the preferred land for large housing scale, it is essential to preserve remaining open spaces in this area and the southern part of

The West Bank, while there is a possibility in this area for sophisticated agricultural projects.

13- The most preferred houses type: large size and single family independent houses, which requires large area of land. To reduce the needed area of land detached or semi detached houses should be considered, in addition to low percentage of completely independent houses and apartment buildings. However, the attitudes and perceptions of potential residents are of paramount importance.

6– Recommendations

6.1 - Proposed New Towns Character

The quality of a city is considered vital for the acceptance, sustainability and growth of new cities. Creative planning and design that respond to the surrounding environment and population needs should improve the quality of life for new towns inhabitance. In order a new city to be attractive and to meet the future needs of the Palestinian people the following recommendations are out lined below:

1- Middle range of urban population density; compact with walkable distance to various land uses.

2- Mixed uses of urban development especially residential, shopping, recreational (parks and playgrounds) services (post offices, clinics, schools, banks, and offices, etc). However industrial

and workshops that could cause noise or air pollution must be located far enough in industrial zones.

3- Various types of residential units are recommended each in separate area and adjacent to other types of residential areas such as; single family independent

Houses, detached and semi detached houses, low-rise (2-3 story's) apartment buildings, and high-rise (4-6 story's) apartment buildings. Thus various social economic groups in such a town would constitute a social-economic balance.

4- New towns in Palestine must be job generators. It is recommended to ensure major companies engage in different types of economic activities to create several hundred positions or jobs as a pre-requisite to the initiation of construction of new towns.

5- Utilize land topography and natural landscape to plan urban design of new cities, also providing Arabic image of city architecture is recommended.

6- Provide wide spacious streets and to have a network of various streets, the network should include main arteries, collector and local streets. Cul-de-sac dead- end streets are recommended to some residential neighborhoods in order to limit the volume and speed of traffic in residential zones. Sufficient on-street and off-street parking is desirable.

7- Public transit is essential to provide a character and life-style for a new city. Public transit would be difficult to be sustainable in small and medium size towns. But it is essential to provide

minimum basic transit service via mini-buses or shared-taxi. Fixed route and schedule bus transit is desirable especially the town must be accessible to non-car owners.

If the town is rather small an inter-city bus route may be sufficient to service the residence of a new town for their intra- city trips. In addition most intended trips should be possible via walkways.

8- Clean environment with sufficient areas reserved for parks and playgrounds.

9- Pedestrian paths and walkways particularly safe walking paths for children.

6.2 Land Area Requirement

The proposed new cities are for 25000 inhabitants. However, it is recommended to ensure expansion of the city to absorb additional inhabitants for the next 20 years due to the population natural increase rates which is 3.4% (refer table 3.2), thus additional 25000 inhabitants will be added at the end of planned period. The average household size is 5 persons for all residents for the proposed cities, slightly lower than the average household size in the West Bank which is 5.5 (PCBS,2007). Even though it may be found that different

household sizes are expected for various residential land uses. The area needed is outlined in table 6.1.

Table 6.1– Residential unit's requirements of a proposed new Palestinian

City of 25000 inhabitants*

Land Use	**No of Inhabitants	Residential Unit Area-m²	No of Units
a - Single family Unit (one or two story) - 15% of total inhabitants.	7,500	300 -600	1,500
b - Semi Detached duplex Units (two story) -25 % of total inhabitants	12,500	180-220	2,500
c- Detached duplex Units (two story) – 20 % of total inhabitants	10,000	160-180	2,000
d- Low Rise Apartment Buildings (2-3floors)-25% of total inhabitants	12,500	120-160	2,500

e-High Rise Apartment Buildings (4-6 floors) -15% of total inhabitants	7,500	100-140	1,500

__New city planned__ to absorb 25000 additional populations for the next 20 years due to natural increase rates.

__**No of inhabitants after 20 years = 25000(1+3.4%)[20] = about 50000 inhabitants.__

Table 6.2.a –Land area requirements for residential lots of a proposed new Palestinian City of 25000 inhabitants*

Type of Residential Unit	**Min Required Land/Unit- m^2	Remarks
a - Single family Units: (one or two story) - Each floor area less than 315 m^2.	**750 m^2	**Residential land use type B, Min parcel area750 m^2, Max building proportion 42% of parcel area, law no (30/1996).
b - Semi Detached duplex Units Two story duplex each two duplexes shared one parcel. Total duplex area 180-220 m^2, max duplex ground floor area less than 140 m^2,thus max floor area in a parcel is less than 280 m^2	(140 m^2/0.42)= **334m^2**	**Residential land use type B Min parcel area 750 m^2 . Max building proportion 42% of parcel area, Law no (30/1996).
c- Detached duplex Units Two story row houses, each duplex total area of 160-180 m^2, max duplex ground floor area less than 120 m^2.	(120 m^2/0.42)= **285m^2**	**Residential land use type B – Max building proportion 42% of parcel area, Law no (30/1996).

d- Low Rise Apartment Buildings (3floors-6 apartments)- Each floor of 2 apartments of 160-180 m^2; max floor area less than 360 m^2.	(1000m^2/6)= **166 m^2**	**Residential land use type A** Min parcel area 1000 m^2, Max building proportion 36% of parcel area, law no (30/1996).
e- High Rise Apartment Buildings (6 floors-12 apartments) - each floor of 2 apartments of 100-140 m^2; max floor area less than 280 m^2.	(1000m^2/12)= **83 m^2**	**Residential land use type A** Preferred parcel area 1200 m^2, Max building proportion 36% of parcel area, law no (30/1996).

New city planned to absorb 25000 additional populations for the next 20 years due to natural increase rates.

**Based on PNA supreme planning council ordinance law no (30/1996)-Item25- residential land use.

PNA: Palestine National Authority.

Table 6.2.b – Land area requirements for residential lots of a proposed new Palestinian City of 25000 inhabitants*

Type of Residential Unit	No of Residential Units	Average Proposed Land/unit- m^2	Total Required land m^2
a - Single Family Independent Houses - 15% of total inhabitants	1,500	750	1,125,000
b - Semi Detached Duplex Units -	2,500	400	1,000,000

25 % of total inhabitants			
c- Detached Duplex Units - 20 % of total inhabitants	2,000	300	600,000
d- Low Rise Apartment Buildings - 25% of total inhabitants	2,500	200	500,000
e-High Rise Apartment Buildings - 15% of total inhabitants	1,500	100	150,000
Total Area Required For Residential Units.			**3,375,000**

New city planned to absorb 25000 additional populations for the next 20 years due to natural increase rates.

The required land proposed in (table 6.2.b) per unit of residence is 5-20% above the minimum possible based on percentage of utilization of covered built area, setbacks and other criteria set in P N A ordinance law no (30/1996).

Figure 6.1: Areas needed for various types of residential uses for a proposed new Palestinian city of 25000 inhabitants*
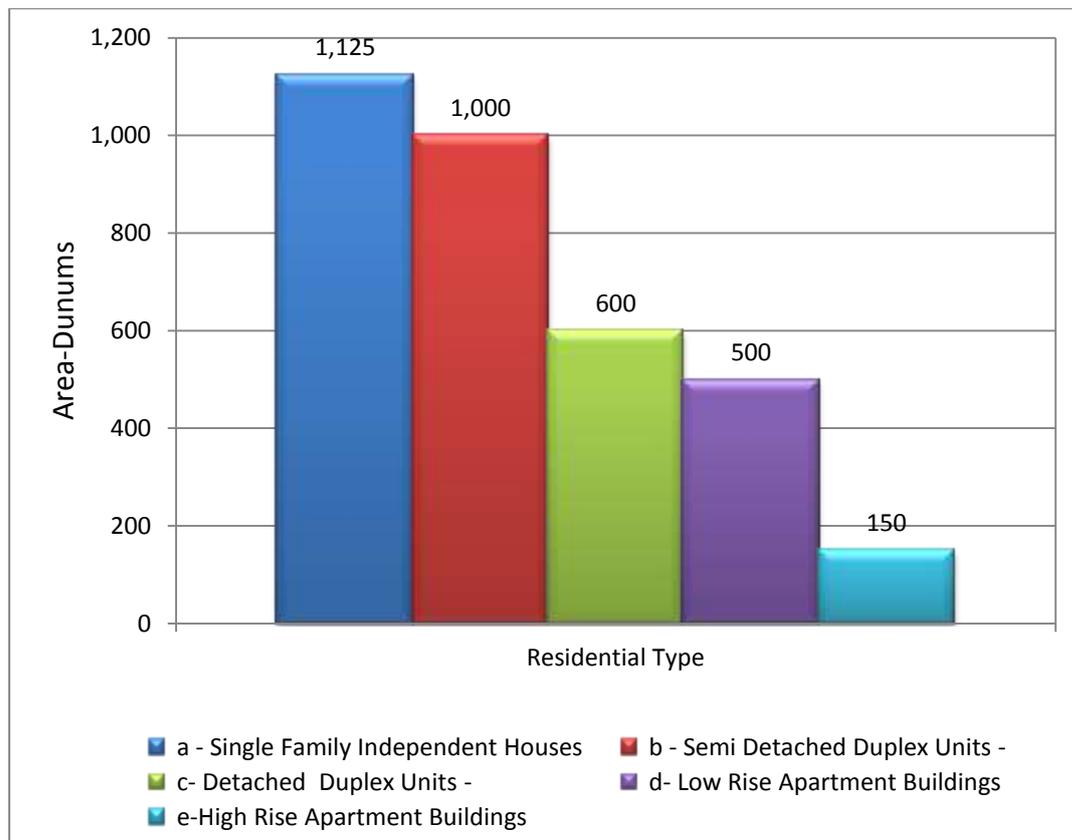
<div style="text-align:center">
Area-Dunums (y-axis): 1,200 — 1,000 — 800 — 600 — 400 — 200 — 0

Bars: 1,125 — 1,000 — 600 — 500 — 150

Residential Type
</div>

- a - Single Family Independent Houses
- b - Semi Detached Duplex Units -
- c- Detached Duplex Units -
- d- Low Rise Apartment Buildings
- e-High Rise Apartment Buildings

*__New city planned__ *to absorb 25000 additional populations for the next 20 years due*

to natural increase rates.

Table 6.3 – Land Area Requirements of a proposed Palestinian new city of 25000 inhabitants*

**Land Use	Remarks	Required Area-m^2
1-Residential (from table 6.2.b)		3,375,000
2- Health Care - 0.5 m^2 Per Person	1 health care unit for each 7000 persons	25,000
3-Play Grounds &Sport Facilities	1m^2 Per Person	50,000

4- Public Parks- 6 m^2 /Person	Neighborhood garden area not less than 5000 m^2	300,000
5-Child Care and Play Courts - 0.5 m^2 Per Person	Play court area 500 m^2 for 25 housing units	25,000
6- Commercial Facilities	2.2 m^2 Per Person	110,000
7- Post Offices	0.2 m^2 Per Person	10,000
8- Clubs	0.8 m^2 Per Person	40,000
9- Cultural	0.7 m^2 Per Person	35,000
10- Administration	0.7 m^2 Per Person	35,000
11- Police, Fire Fighting	0.25 m^2 Per Person	12,500
12- Hospitals	0.6 m^2 Per Person	30,000
13- Nursery & Kindergartens – 1.4m^2 Per Person	Min1nursery&1kindergarten for 2500 persons	70,000
14- Graves	2 m^2 Per Person	100,000
15- Religious	1 m^2 Per Person	50,000
16- Municipal	0.5 m^2 Per Person	25,000
17- Primary Schools-1.5 m^2 Per Person	1 primary school to every 3000 - 3500 inhabitants	75,000
18- Elementary Schools -1.2 m^2 Per Person	1 elementary school to every 7000 inhabitants	60,000
19- Secondary Schools -1.2 m^2 Per Person	1 secondary school to every 14000 inhabitants	60,000
20- Parking - 2 m^2 Per Person		100,000
21-Total Required Area (1-20)		4,590,000
22- Main Roads and Streets	25% of total area (21)	1,150,000
23- Reserved area for future development	5% of total area(21&22) - about	300,000
24-Total City Area	About	6,000,000

***New city planned** to absorb 25000 additional populations for the next 20 years due to natural increase rates.*

**Values (in table 6.3) were approximates from values based on; Chadwick.1987, Nofal.1990, Syrian and Saudi formal planning criteria, Ozbel, Duber, PNA supreme planning council ordinance law no 30/1996 with author Engineering Judgment for local conditions.*

Figure 6.2: Land Area Requirements of a proposed new Palestinian city of 25000 inhabitants*
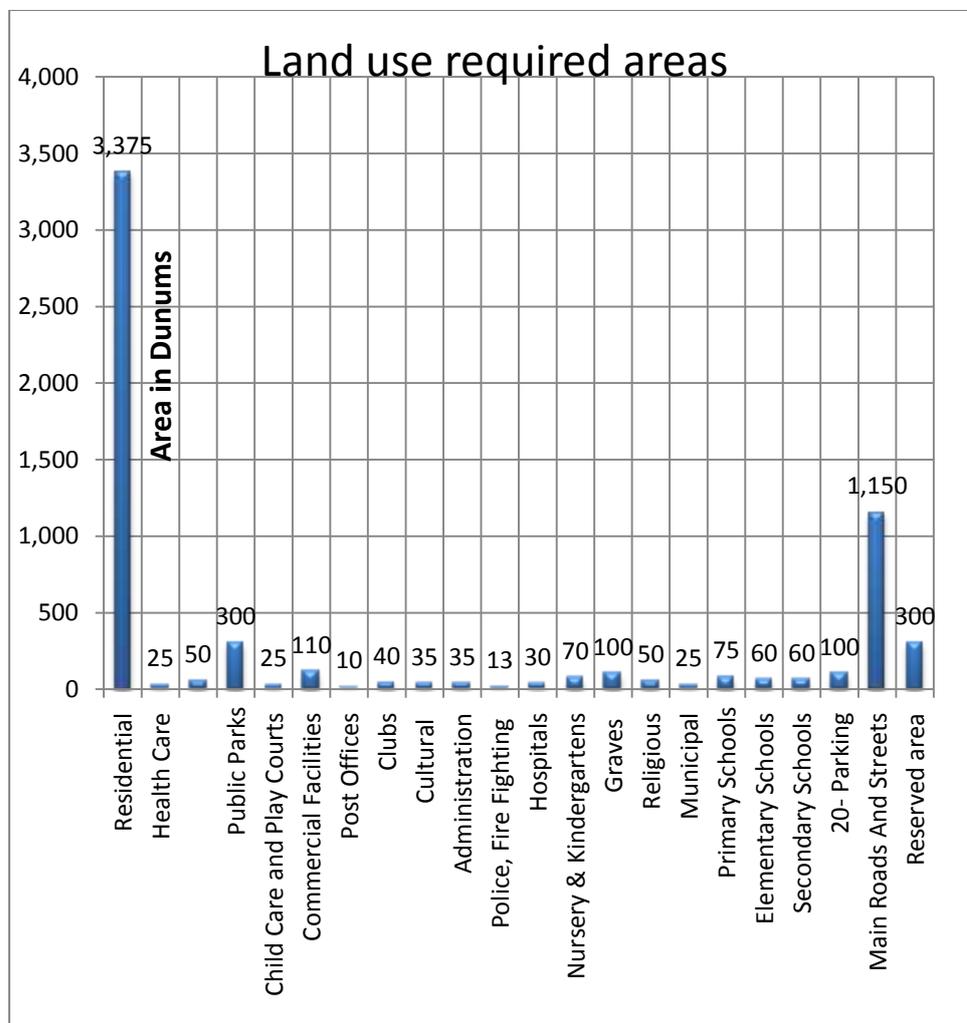
New city planned to absorb 25000 additional populations for the next 20 years due to natural increase rates.

Table 6.4- Land use proportion of a proposed Palestinian new city

Land use	Area- m^2	Proportion
Residential	3,375,000	56%
Schools & kindergartens	265,000	4.5%
Roads	1,150,000	19.2%
Health Care &hospitals	55,000	1%
Public utilities (3,4,7,9,10,11,15,16) from table 6.3	520,000	8.7%
Commercial	110,000	1.8%
Others	525,000	8.8%
Total	**6,000,000**	**100%**

The area of 3,000 dunums is needed for a city of 25,000 inhabitants. The initial infrastructure for a new city should be planned of at least 25,000 inhabitants. However as indicated earlier an expansion of doubling the size of city to absorb additional 25000 populations for the next 20 years due natural increase rates is essential, especially it is important to note that part of cost for infrastructure would be re-covered through the income of price of land. Therefore, area reserved for a new Palestinian city of 25000 inhabitants includes the expansion is recommended to be at least 6000 dunums. If the area is a geometric square; the site would be about 2.45 Km. In addition it would be desirable if the city would be surrounded by additional open area, and not adjacent to existing towns.

The population density of the proposed Palestinian new city is 8300 person/km^2. This is higher than most densities of West Bank cities and towns except Nablus.

This is true because cities in the West Bank have substantial undeveloped areas within the municipality boundaries. However the population density of the proposed Palestinian new cities is less than the cities in Gaza and major cities in the world (see table 6.5).

Table 6.5- Population Density of Many Selected Cities

City	Population density (person/km²)
Istanbul	6211
Riyadh	5581
Cairo	37136
Tokyo	14151
Moscow	9644
New York	10452

The future plans for Riyadh is to raise the overall population density from 5000

 person per km^2 to about 9000 person per km^2, as low population density increases

The cost of extending the network of public facilities and contributes to the increased distance of travel in the city of Riyadh as a whole; in addition to a negative impact on economic and environmental aspects in the city, (economy@Alriyadh-np.com, visit. d - April 2009).

 The population density of the proposed new Palestinian cities is within the population densities of other important cities in the region (Istanbul, Riyadh), and as a planned city; it would have sufficient open spaces and sufficient streets widths and transport facilities, yet it would be compact enough for walkable distances to most land uses. The planning criteria for new towns should be frequently re-evaluated to ensure that they are suitable for resident's needs and for city life in general. Thus it is recommended to implement the building of new cities at stages (complete each neighborhood or subdivision and to be functional at the same time, and not to build randomly of various locations within the city limits), also to build one city after another in order to benefit from the local experience of new cities in Palestine.

6.3 New Cities Selected Locations

To select new cities site, the ideal site does not exist, when selecting the new cities location a compromise between desirable elements should be done, proper selection would be the best

investment for the future citizens of a newly built cities and towns. The most desirable locations of new cities by the survey of Palestinian educated

Segments are in the locations of occupation settlements or destroyed Arab villages. Surely many of the settlements location is optimum since they are strategically located and are accessible to main highways. In addition various resources are available such as water and electricity. However this research would set criteria for new towns other than the locations of settlements and destroyed Palestinian villages. The reason is mainly two folds: a) in case these locations are not available, e.g., if there is no political solution, and b) there are many complications of evacuated settlements expected, especially land ownership.

To provide affordable housing for new towns in the West Bank, the following location criteria should be considered:

1- **Cost of land**: this could be of the most important factor, especially since the price of land is so high, in the West Bank cities and towns; the value of one square meter of land in a city such Ramallah ranges from $150-1000. However, the value of land in some locations only half an hour drive from Ramallah could be as low as three dollars ($3) per square meter, or as little as 1% of the cost of some land parcels in Ramallah.

2- Distances from main cities and attractions (e.g. Dead Sea).

3- Locations approximate to main transport routes, especially highways, railroads, airport and seaports. In the West Bank the transport modes of interest are main

Highways, border-crossing, and airport (Jerusalem airport which may become operational in the future).

4- Locations relative to main infrastructure such as high-voltage electricity, main water lines, and suitable location for solid waste dump site, and sewer treatment plant.

5- Topography: steep mountainous topography or low land susceptible to flooding is not preferable. However steep slopes are no longer a formidable cause to reject a new city location. The construction equipment is capable of dealing with designs of streets and buildings in steep slope area. The city of Nablus is a very good example in developing areas with very steep slopes.

6- Preferable usage of non-fertile land for new cities.

7- Preferable to make use of government or public land.

8- Preferable to have opened spaces surrounding the new town location.

The most determining factor for site selection for new towns in the West Bank is land value and a proximity to main highways and main infrastructure sources. The distances to major towns and attractions are also important but there are no distances in the West Bank too far from major cities, at most it would be less than one hour drive.

New Towns Proposed Locations:

New towns locations should achieve economical and political national goals; tourism towns near attractions of Bethlehem, Dead Sea, and Jerusalem. In addition to locations appropriate for economic growth poles providing suitable conditions to the growth of small and medium scale manufacturing, marketing centers offering a wide variety of distribution, storage, and financial services, on locations near high-populated main cities to reduce high population density and to improve housing conditions.

It is recommended to build new towns and cities on the sites of destroyed Palestinian villages and evacuated settlements, since they are strategically located, have the needed resources and desirable locations by the target survey in this research. However this option is not necessarily available, thus not all options and criteria may be possible for new cities locations in the West Bank, but it is essential to maximize the satisfaction of location criteria (section 4.7), and new towns character elements (section 6.1).

6.4 New Cities First Phase (Pilot Towns)

It is suggested to start with three pilot new cities in the West Bank of multi economic activities medium sized towns each of about 25000 inhabitants. The locations of the

Proposed towns are distributed equally in various regions of the West Bank (Map 6.1); namely, one each in the South, Central, and North parts of the West Bank. These towns are intended to provide distinctive facilities and to support its surroundings. The selection of locations is based on the criteria in the previous section. It is most important to connect the new towns with main West Bank highway network to support economic activities and to ease integration with other parts of the West Bank. To achieve sustainable new cities viable neighborhoods, a reasonable degree of compactness is needed, medium population density, and mixture of uses in the neighborhoods within walking distance. In addition to provide access to open countryside for recreation, public transport to reduce car dependency, and a clear identity and image for each neighborhoods through specific mixture of uses and through memorable nodes.
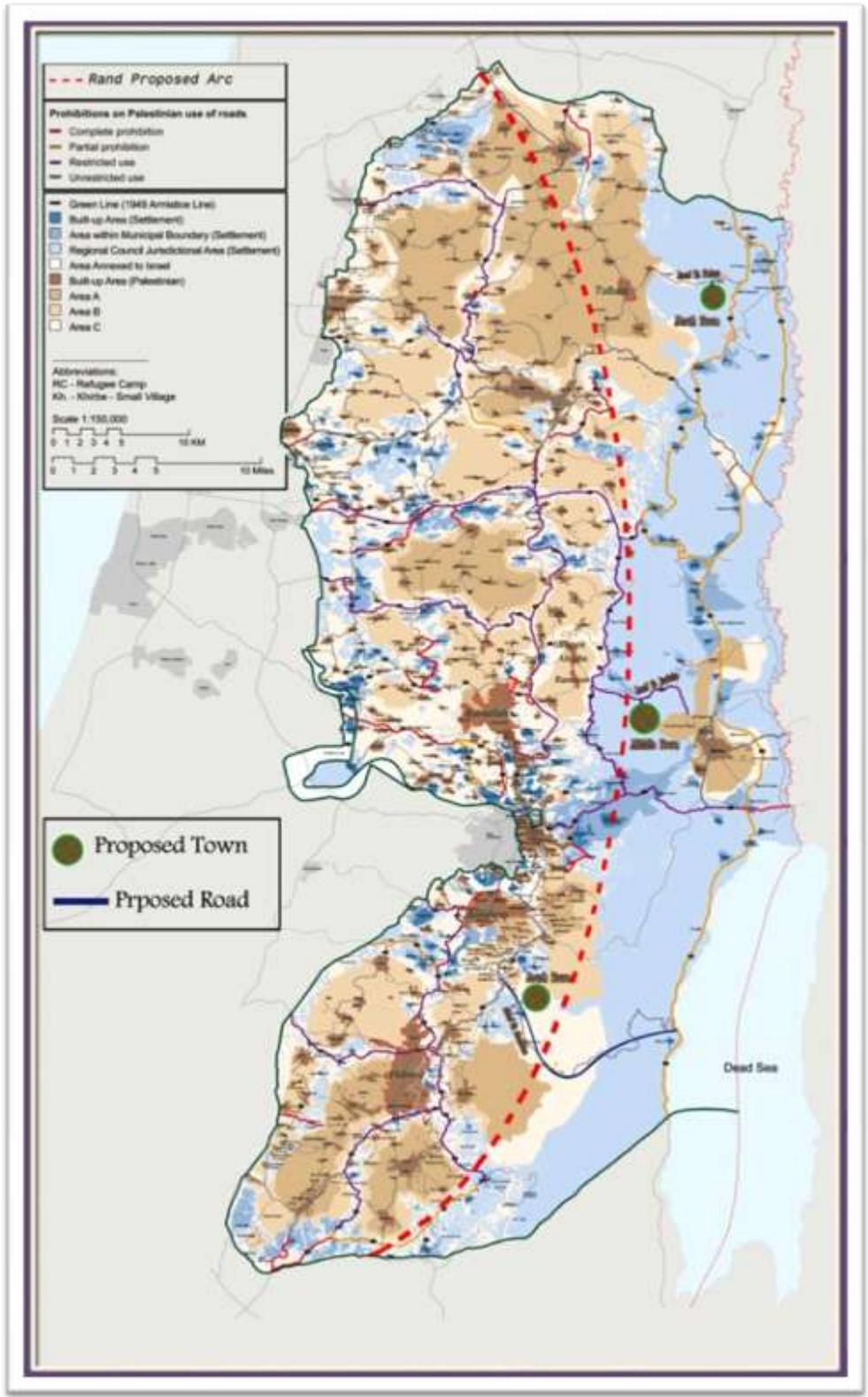
Map 6.1 Pilot Towns Proposed Locations, Source: BTSELEM.2002, Edited by Author

The Southern New City:

The southern new city selected in the area east between Bethlehem and Hebron at the edge of eastern slopes (Maps 6.2.a &b), where the land is non fertile, low cost or/and government land.

Map 6.2.a Southern Pilot City Proposed Location

The location ideally situated midway between Hebron, Bethlehem and the Dead Sea. The city would be of strategic significance if a main road between Bethlehem and Hebron from the east of both cities is completed and another main road spurs the north-south road eastward to the Dead Sea. The city overlooks the Dead Sea and the mountains of Jordan. The location is arid but it close to the national natural reservation.
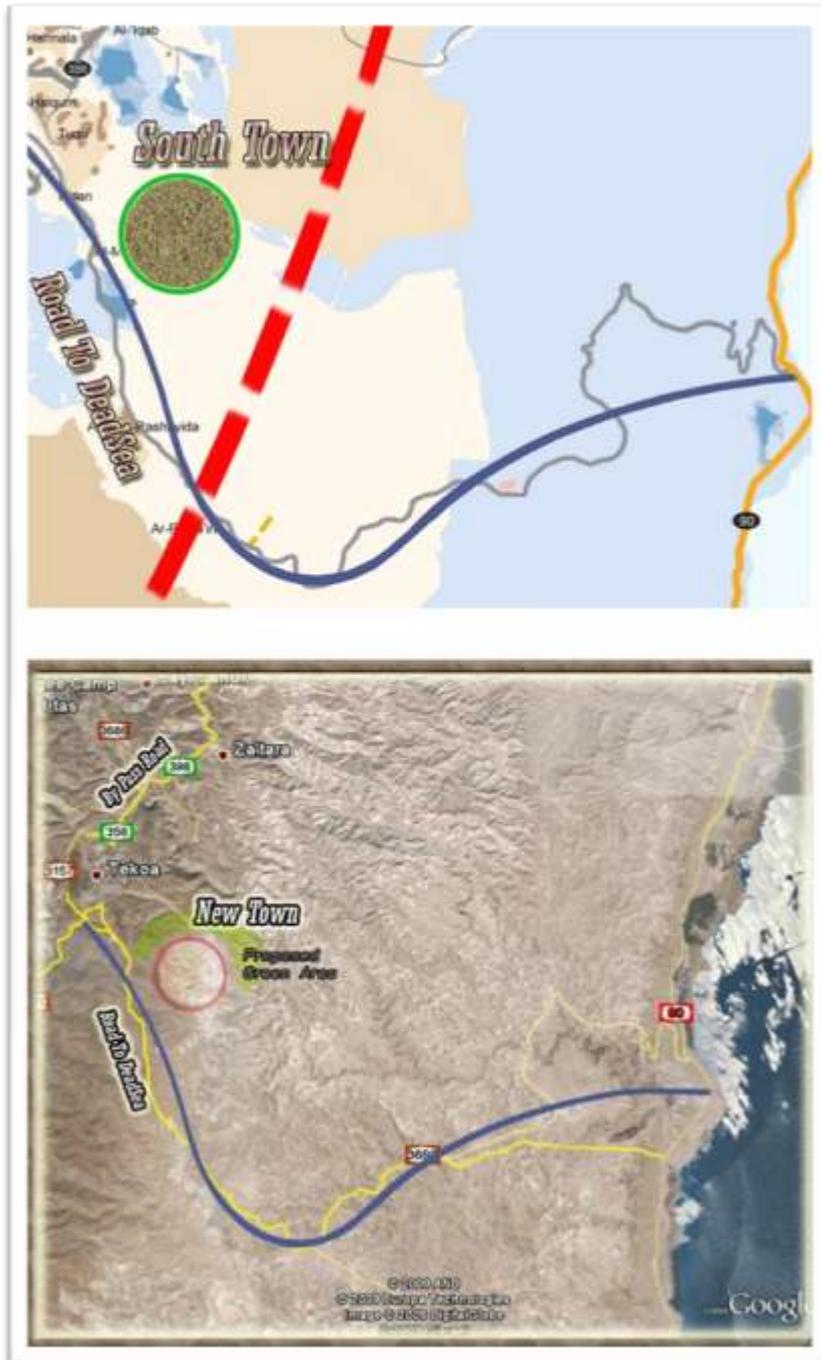
Map 6.2.b- Southern Pilot City Proposed Location- Arial View

The Central New City:

The central new city location is suggested between Jericho, Ramallah and Jerusalem towards the east of Ramallah and east of the villages of Ramon and Taybeh towns (Maps 6.3.a&b). This town located at the edge of eastern slopes where sizeable public, low fertile and low cost land is available, with easy and short-time access to the cities of Jericho, Jerusalem and Ramallah, the Dead Sea and Jordan River border crossing.

Map 6.3.a Central Pilot City Proposed Location
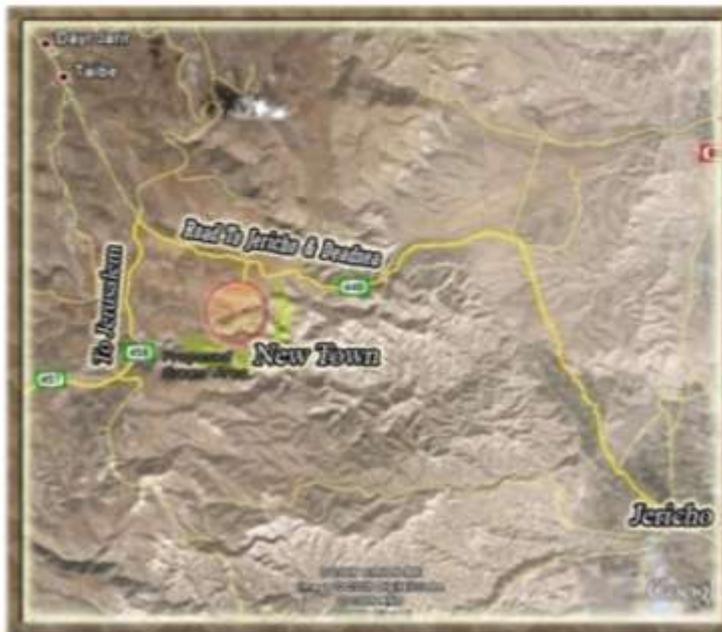
Map 6.3.b Central Pilot City Proposed Location Arial View

The North City:

The north city selected in the area east of Tubas (Maps 6.4.a&b) on low fertile, low cost land, but it is very close to fertile and agricultural land north of the Jordan Valley (Ghore).

Map 6.4.a North Pilot City Proposed Location

This city could be an agricultural distribution, agro-industries and manufacturing city. It is suggested to develop this city similar to the ADS cooperation unique community (see chapter 3). Thus it is suggested to develop diverse branches of

Modern agriculture, poultry, dairy products, and as a research station for agricultural support and development.
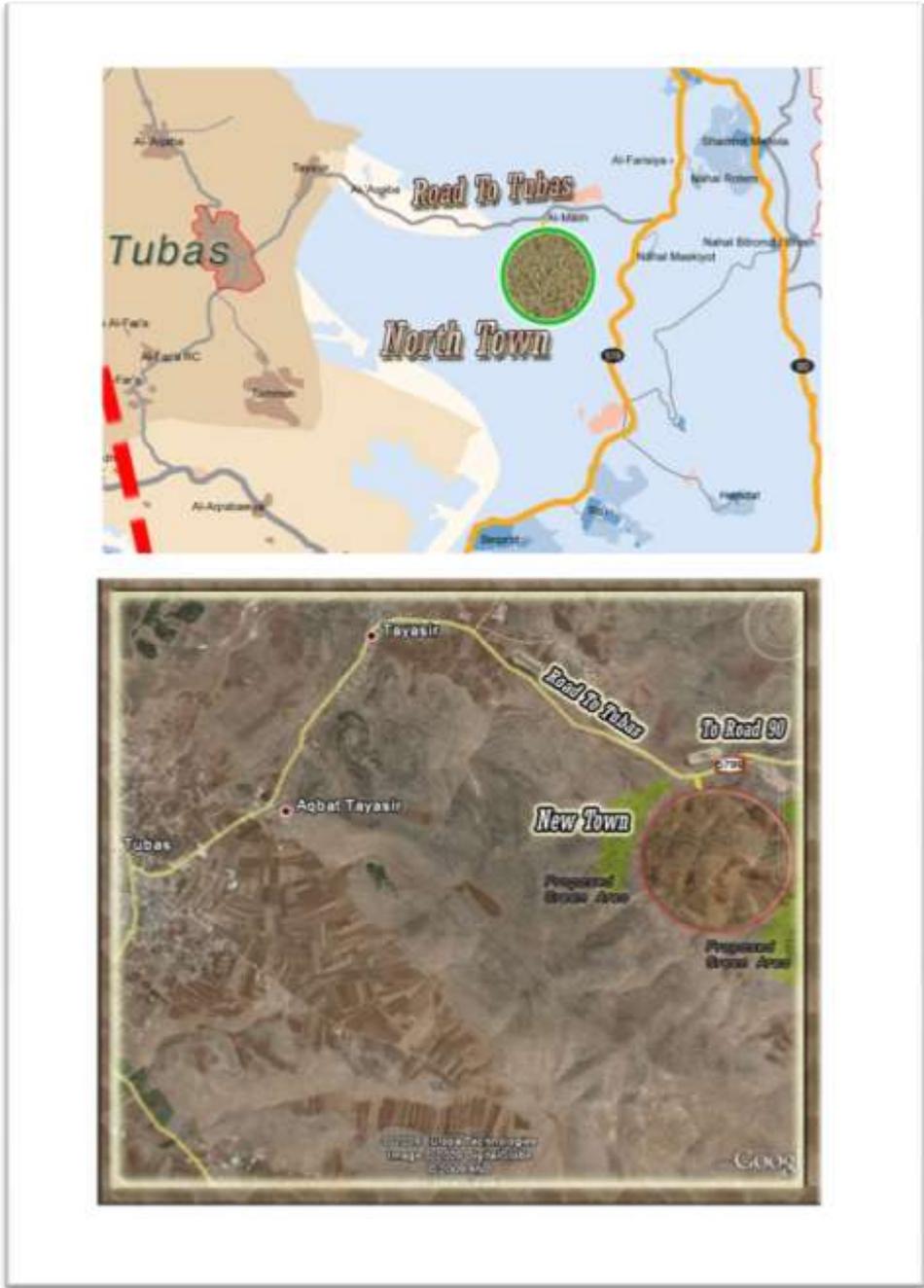
Map 6.4.b North Pilot City Proposed Location-Arial View

Conclusions

Due to the rapid increase of population and high population density in the existing Palestinian cities, there is a challenge to provide affordable housing within the built up areas. The area of land needed for Palestinian returnees will exceed many times the size of existing urban areas; additional population and housing will limit the future capabilities of existing cities, thus new towns will be the most distinguish future urban development and expansion model in Palestine. Instability and political uncertainty, lack of finance and economic resources, land use restrictions and land confiscation by the occupation, are of the most significant factor hindering new towns development.

The most determining factors of new towns site selection in the West Bank is the land value and approximate location to main highways and to main infrastructure sources. Thus it is essential to use non fertile low-cost land, sites of destroyed Palestinian villages, public lands, and lands of evacuated occupation settlements, which are the most desirable locations of new cities according to the attitude survey conducted for this research. The selection of the locations of the three pilot new towns in the West Bank provides a model for site selection and character of new cities. It would be also a viable example for utilizing non-fertile and low cost land; thus it is hoped that this research would be a catalyst for investment, job generation, attraction for businesses, and a vision for a new future.

Appendix

Questionnaire

استبيان بموضوع التخطيط السكني والعمراني

هدف الاستبيان

- هدف الاستبيان اكاديمي بموضوع التخطيط والتصميم العمراني وليست له اية علاقة بمنطلقات واهداف سياسية تهدف لدعم وجهة نظر سياسية معينة تتعلق بالحلول المستقبلية للقضية الفلسطينية.

الفئة المستهدفة من الاستبيان

لطبيعة واهمية الموضوع للتخطيط المستقبلي البعيد المدى للنواحي العمرانية والسكنية بفلسطين فان الفئة المستهدفة من الاستبيان هي الفئة التي تمتلك المعرفة بالمشاكل السكنية والعمرانية وتمتلك المعلومات اللازمة لابداء الراي بمواضيع بنود الاستبيان وبحيث يعتبر الحاصلين على مختلف الدرجات الجامعية والذين يمتلكون خبرة عملية في مجال تخصصهم هم الفئة الاكثر استهدافا في هذا الاستبيان .

مقدمة

اضطرت اغلب المجتمعات وفي مرحلة معينة من مراحل تطورها لانشاء تجمعات سكانية جديدة تختلف باختلاف الاهداف وعدد السكان والمرحلة الزمنية في مراحل تطور هذه المجتمعات وكانت هذه التجمعات الجديدة اما مدنا كبرى او مدنا باحجام متوسطة او صغرى اما مستقلة بشكل كامل عن المدن والتجمعات السكنية المجاورة او احياء سكنية جديدة تابعة لمدن قائمة او مدن جديدة مرتبطة بالمدن القائمة من حيث الاعتماد على الخدمات والنشاطات الاقتصادية لهذه المدن وكبقية المجتمعات فان الفلسطينيين كغيرهم مضطرون مستقبلا لانشاء مدن واحياء وتجمعات سكنية جديدة لاستيعاب الاعداد المتزايدة من السكان نتيجة الزيادة الطبيعية في عدد السكان وانشاء مناطق سكنية افضل من نواحي البنى التحتية والخدمات والتخطيط الهندسي مقارنة بالمناطق السكنية الحالية لتامين مناطق سكنية بمواصفات عالية ولتامين السكن الملائم ويهدف هذا الاستبيان لمعرفة راي شريحة من المجتمع الفلسطيني بما يرونه اكثر ملائمة وتوافقا مع تطلعاتهم المستقبلية للمناطق السكنية الجديدة.

بيانات اولية تساهم بتقييم البيانات

التحصيل العلمي

☐ شهادة جامعية اولى   ☐ دراسات عليا

الخبرة العملية بعد انهاء الدراسة الجامعية

☐ بين1-5 سنوات   ☐ اكثر من 5 سنوات

توضع اشارةْ (x)بالمربع الملائم ويمكن اختيار اكثر من جواب واحد لنفس السؤال الا اذا طلب غير ذلك.

بنود الاستبيان

1- انشاء مدن فلسطينية جديدة ومصممة وفقا لاسس تخطيطية وعلمية حديثة تساعد وتساهم بتغيير الاوضاع السكنية الحالية الغير ملائمة نحو الافضل .

(اختيار اجابة واحدة للنقاط من أ- د)

○ أ- اتفق مع هذا الراي وانه سيكون من بين الحلول لحل المشاكل السكنية وافضلها.

○ ب- ارى ان المدن الجديدة لن تحل الا جزءا يسيرا من المشكلة.

○ ج- لا ارى اية فائدة من انشاء مدن جديدة والافضل تطوير المدن الحالية.

○ د- ان المدن الجديدة تنشا عادة لذوي الدخل المرتفع لتخصيصهم بمناطق واحياء سكنية مميزة كما يحدث في بعض المدن العربية واحياءها المترفة الجديدة ولن تساهم باية انجازات فعلية لاغلب افراد المجتمع.

○ و- تعتبر حلا وضرورة لاسكان اعداد كبيرة من فلسطينيي الخارج .**(ضع اشارة x في المربع اذا كانت الاجابة بنعم)** .

2- الانتقال للسكن في المدن الجديدة ان توفرت لك الامكانيات لذلك (اختيار اجابة واحدة) .

○ أ- لا ارغب بترك المكان الذي اعيش به لارتباطي باقامة عائلتي واصدقائي وان انتقالي سيسبب لي انفصالا اجتماعيا والاحساس بالغربة .

○ ب- ان اقامتي باحد المدن الجديدة لن يتسبب بعزلة لي عن عائلتي واصدقائي لامكانية التواصل معهم بسهولة حيث ان مساحة فلسطين صغيرة والمسافات بين المدن قليلة .

○ ج- لا اشعر بغربة بالوطن حيث ان المجتمع الفلسطيني متجانس اكثر من غيره وارغب بتوسيع علاقاتي الاجتماعية وانشاء علاقات اجتماعية جديدة مع السكان في المدن الجديدة ولا ارى انني سأعيش بعزلة اجتماعية.

3- ان توفرت اماكن وفرص عمل تناسبك في المدن الجديدة وكذلك امكانية بيع منزلك الحالي بسعر ملائم فهل:- (اختيار اجابة واحدة) .

○ أ- ستنتقل للسكن والعمل بهذه المدن وشراء مسكن جديد بها.

○ ب- ستسافر يوميا لمكان العمل ولن تغير مكان سكنك الحالي حيث لن تستطيع في البداية   تقييم ميزات العيش بهذه المدن ومدى القدرة على التاقلم بالعيش بين اناس لا تعرفهم.

○ ج- ستبقى في مكان سكنك الحالي ولكن ستقبل العمل بالمدن الجديدة لفترة زمنية لتقييم اوضاع المدن الجديدة وان رايت العيش بها ملائم ستنتقل للاقامة بها.

4- ان اخترت بالسؤال السابق الاجابة (ب) فاي المسافات التي تقبل بها السفر يوميا لمكان العمل (اختيار اجابة واحدة) .

o أ- نصف ساعة من السفر او اقل وغير ذلك لن اقبل العمل.

o ب- لغاية مدة ساعة من السفروليس اكثر من ذلك.

5- المدن الجديدة الافضل ان تكون :- (اختيار اجابة واحدة) .

o أ- مـدن كبرى لمـا في ذلك من مزايـا تـوفر الخدمات والمراكز التجاريـة ووسـائل الترفيـه وتوفرالخدمات الصحية والتعليمية بمستوى اعلى من مستواها بالمدن المتوسطة والصغرى.

o ب- افضل المدن الصغيرة الحجم والتي تجمع مـا بين ميزات القرى من حيث الهدوء والعلاقات الاجتماعية الجيدة بين السكان والشعوربالانتماء وما بين ميزات تـوفر الخدمات الاساسية والتي تتوافر بالمدن .

o ج- المدن المتوسطة الحجم والتي تجمع مزايا المدن الكبرى والصغرى.

o د- احياء سكنية جديدة تضاف للمدن وبحيث تعتمد على المرافق والنشاطات الاقتصادية والصحية والتعليمية للمدينة التي يتبعها الحي .

6- المواقع الافضل لانشاء المدن الفلسطينية الجديدة (يمكن اختيار اكثر من اجابة).

o أ- قرب المدن الحالية وبحيث تتشاركان وتتكاملان بالخدمات والنشاطات الاقتصادية وبحيث يمكن لسكان كلا المدينتين الاستفادة من مزايا ومنافع المدينة الاخرى.

o ب- مواقع مستقلة عن المدن الحالية وبمسافات لاتسمح بتداخل المدن معا لمنع تكون مدن كبرى بالحجم لما في ذلك من مشاكل ازدحام وتلوث ومشاكل اجتماعية.

○ ج- في اماكن وعلى اراضي القرى الفلسطينية المدمرة واينما كان موقعها بفلسطين وذلك لاعادة اسكان سكانها الاصليين لما في ذلك من فوائد وطنية واجتماعية .

○ د- في الاماكن المقامة عليها المستوطنات الحالية (بعد تعويض اصحاب الارض التي اقيمت عليها هذه المستوطنات) والتي انشات بهدف تقطيع التواصل الديموغرافي والنسيج العمراني الفلسطيني بالاضافة لكون هذه المستوطنات انشأت في مواقع مميزة وجميلة ومختارة من حيث الموقع الجغرافي والاطلالة الجميلة وان مواقعها مناسبة لانشاء المدن والمناطق السكنية الجديدة ولا داعي للتفتيش عن مواقع اخرى لصغر مساحة فلسطين ومحدودية الاراضي.

○ه- الاراضي الحكومية اينما كانت مواقعها فهي ملك للجميع وبحيث لاتصادر الاراضي الخاصة للمواطنين لانشاء وتوسيع المناطق السكنية الجديدة عليها.

○ و- الاراضي في الاغوار لامكانية انشاء تجمعات سكنية تمتهن الزراعة المتطورة

○ ز- ايضا في الاغوار ولكن لانشاء مناطق صناعية لقربها من البلاد العربية.

○ ح- ارى ان اراضي الاغوار يجب ان لاتستغل للسكن وان تبقى مناطق مفتوحة للاستعمال المستقبلي تحدده الاجيال اللاحقة خصوصا ان اجوائها حارة اغلب ايام السنة وغير ملائمة لاسكان اعداد كبيرة .

7- اقامة مدن واحياء سكنية فلسطينية في اماكن وعلى الاراضي المقامة عليها المستوطنات

(بعد تعويض اصحاب الارض التى اقيمت عليها هذه المستوطنات)

(اختيار اجابة واحدة) .

○ أ - الافضل ازالة جميع مبانيها ومرافقها العامة وبناها التحتية(شوارع وشبكات مياه وصرف صحي) واعادة انشاء مدن فلسطينية مصممة بشكل هندسي وعلمي وبمواصفات عالية وبانماط معمارية عربية وفلسطينية.

○ ب - ارى ان تتم الاستفادة من المرافق والبنى التحتية فقط وازالة المساكن واعادة بناء ها من جديد وبشكل ملائم لسكانها الفلسطينيين وبانماط منسجمة مع الانماط العمرانية الفلسطينية.

○ ج- لا ارى اية فائدة وطنية او نفسية او اجتماعية من هدم وازالة اي من مساكن ومرافق هذه المستوطنات وأرى ان يتم توسيعها لتصبح مدنا فلسطينية تستوعب اعدادا كبيرة من المواطنين وان تضاف لها اماكن عمل لتوفير فرص العمل لسكانها.

8- المدن الجديدة افضل ان تكون   (اختيار اجابة واحدة)

○ أ- مدنا متخصصة (مدن صناعية او زراعية او سياحية) فقط.

○ ب- مدنا لا تتخصص بنشاط محدد بل مدنا عامة كبقية المدن المعروفة.

○ ج- يمكن انشاء كلا النوعين او انشاء مدن متخصصة صغيرة داخل المدينة الاكبر والشاملة.

9- اماكن العمل لسكان المدن الجديدة   (اختيار اجابة واحدة)

○ أ- داخل هذه المدن وبحيث يتم تخصيص مساحات من الاراضي داخل هذه المدن لاقامة الانشطة الاقتصادية والصناعية والتجاريةلخلق فرص عمل لسكانها وبحيث لايضطرون للانتقال الى مدن اخرى للعمل.

○ ب- خــارج هذه المـدن وبحيـث تبقـى الاراضـي داخـل هذه المـدن مخصصـة فقـط للسـكن وللخدمات الاساسية(التعليمية والصحية والتجارية الاساسية).

10- الاسواق التجارية الكبرى فى المدن الجديدة (اختيار اجابة واحدة)

○ أ- الافضل ان تكون بين الاحياء السكنية لسهولة الوصول اليها من جميع الفئات وبمختلف وسائل التنقل .

○ ب- ان تكون على اطراف هذه المدن وذلك لمنع خلق ازدحامـات مروريـة ولامكانيـة انشـاء هذه الاسواق والمرافق باحجام كبرى.

11- الاشكال والانماط المعمارية لمساكن المدن الجديدة

○ أ- اشكالها الخارجية وتصميمها الداخلي ينتمي للانماط المعمارية الفلسطينية والعربية .

○ ب- فقط شكلها الخارجي ينتمي لهذه النماذج امـا تصميمها الداخلي فلايهم لاي نمط حيث الاهم ان يكون مريحـا ومصـمما بشكل جيد من حيث الانارة والتهويـة والحجم المناسب للغرف.

○ ج- لاارى ايـة اهميـة لان يكون الشكل الخـارجي للمبـاني منسـجما مـع الانمـاط المعماريـة التقليديـة وارى ان تكون المبـاني جميلة بشكلها الخـارجي ومنسجمة فيما بينها ومهما كـان طرازها المعماري محلي او مشابه للنماذج الغربية.

12- انواع المساكن بالمدن الجديدة الذي تفضل ان تسكنه (اختيار اجابة واحدة)

○ أ- بناء مستقلا بالكامل حتى ولو كانت تكلفته اعلى من غيره ولو تطلب ذلك العمل لعدة سنوات لتوفير ثمنه.

○ ب- بناء مستقلا بمداخله وحديقته ومتلاصقا من جهة واحدة بجدار واحد مع البناء المجاور وذلك توفيرا بسعر الارض والكلفة.

○ ج- بناء مستقلا بمداخله وحديقة امامية وخلفية فقط ومتلاصقا من جهتين مع البنائين المجاورين وذلك توفيرا بسعر الارض والكلفة وبحيث لا اكون مضطرا للسكن بشقة في بناء متعدد الطوابق.

○ د- لا امانع من السكن بابنية من عدة طوابق مكونة من شقق بشرط ان تكون مصممة بمواصفات عالية وحيث ان الحياة بالمدن تتطلب تفاعلا اجتماعيا اضافة لكون كلفة شراء الشقق اقل من كلفة المساكن المستقلة وافضل استغلال الفرق بالاسعار لاشياء اخرى غير السكن.

13- احجام مساكن المدن الجديدة   (اختيار اجابة واحدة)

○ أ- احجام المساكن مدروسة بعناية وباقل مساحات ممكنة وذلك توفيرا في كلفة شراءها وتاثيثها وبحيث لاتتعدى مساحتا 120 مترا مربعا.

○ ب- افضل ان تكون الغرف وباقي مكونات المنزل متوسطة المساحة وبحدود 150 مترا مربعا.

○ ج- الافضل ان تكون الغرف واسعة ورحبة وكذلك غرف الجلوس لان المسكن الصغير يضيق بسكانه مستقبلا وارى ان لاتقل مساحة المسكن عن 180 مترا مربعا.

14- التوزيع الجغرافي للمدن الجديدة   (اختيار اجابة واحدة)

○ أ- بشكل متساو في مختلف المناطق-شمال- وسط - جنوب .

○ ب- تركيزها بجوار المدن الرئيسية ولا يهم توزيعها بشكل متساو.

○ ج- تركيزها بمنطقة الوسط لقربها من القدس لخلق تجمع سكاني فلسطيني كبير وبحيث تتحول مستقبلا مع الاحياء والقرى ومدن الوسط(القدس-رام الله--بيت لحم- وما يجاور هذه المدن) الى مدينة كبرى.

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