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## Jerusalem Urban Landscape Fragmentation: from a city of peace into a city of pieces

### Abstract

During the past century, the city of Jerusalem expanded from 1km<sup>2</sup> (Walled city) to reach more than 126km<sup>2</sup> in 2005 and 164km<sup>2</sup> recently. The city presents an open book in urban planning practice starting with the Ottoman time through the British Mandate and ending with

the Israeli occupation. Planners during different regimes added several layers to the original fabric in attempts to transform the city into 'modern' mosaic/collage. In this study, historical plans were analyzed; sequential plans were gathered and stratified in order to show how urban context was deformed and fragmented through unilateral planning.

## **Introduction**

The city is a holy place for Muslims, Jews and Christians. The Canaanites named it Ur Shalem (City of Peace). The holy city of Jerusalem, has been under a process of spatial transformation since the late 19th century. The city settles on the mountain plateau of Palestine, to the east of the Mediterranean and to the west of the Dead Sea. The fortified city contains four quarters (Muslim, Christian, Armenian and Jewish), all living in close proximity with no conflicts (Pullan, 2009). In recent history, the city has witnessed a process of physical and socio-cultural transformation under the pretext of modernity and development, while hosting new Jewish immigrants. Over time, the city grew outside the wall as a result of increased security and economic development, where new settlements\colonies were established in the western surroundings. The city expanded systematically to the western terrain; where, planners, architects and politicians began the process of reshaping and transforming the city and its peripheries, in order to accommodate new developments. As a result the city grew from 1 km<sup>2</sup> to reach more than 126 km<sup>2</sup> recently, and its demographic balance became 64% Jews to 36% Palestinians (Thawaba & Al-Rimawi, 2013).

Jerusalem went through distinctive phases: before 1948, the city underwent new urban developments in the western side. From 1948 till 1967, it was a divided city, and post 1967, Jerusalem became a 'unified city'. These three phases left apparent footprints on urban landscape fragmentation of the city and its periphery.

Benvenisti (1976), ended the introduction of his book 'Jerusalem: The Torn City' by asking "*will the city find a renewed equilibrium, or will it be overcome by forces which will totally alter its character?*"

Is urban planning, practice in the city of Jerusalem fair, and go in the right direction towards a unified urban character, and urban integration between 'different' suburbs and neighborhoods. In order to answer this, different urban planning schemes were projected and mapped. Spatial analysis and outline plans were analyzed to illustrate these phases of reshaping the city's character. Old maps and schemes from different resources were analyzed in order to show the planning mechanism used by planners and Politicians. Outline plans from the British Mandate, maps from early stages of Israeli occupation, and recent master plans prepared and/supervised by Israeli planners and officers were projected by using GIS (Arc Map10.2) to show spatial fragmentation throughout the past century.

## **Jerusalem urban growth outside the wall**

This section deals with the study area's historical background in terms of geopolitical implications, city planning and urban development through the past century.

Palestinians were farmers living in rural areas: villages, hamlets, and Bedouin communities in remote areas. As a result of the Ottoman land reform of 1839 and 1856, non-Ottoman citizens were allowed to purchase land. This made Jerusalem and its peripheries 'an area for European rivalries'. Resulting in the transformation of Jerusalem into a much different city in terms of population, spatial configuration, buildings and infrastructure (Scholch, 1990). Due to land reforms, the German colony, Russian Compound and Greek colony were established outside the city wall on land granted from the Ottoman government. In the late Ottoman time, Jerusalem became linked by railway with Jaffa port. A road network was developed to connect the city with Jaffa, Ramallah, Hebron (through Bethlehem), Jericho, the nearby village of Ayn Karim and the shrine of Nabi Samu'el (Tamari, 2002). Palestinian families started to settle outside the walled city seeking better life quality; some Arab families established manorial residencies to the north in Sheikh Jarrah and Wadi al-Joz, others settled to the west of the city in Talbieh, Baqa'a, Qatamon, Ain Karem, Lifta (figure, 1).

Figure (1): Jerusalem in early 1880. (Palestine Exploration Fund, edited by author)

City urban landscape continued to change by introducing different projects with different styles and scales: Moses Montefiori built the first neighborhood (a housing project) outside the western wall for Jewish immigrants in the late 19th century (Abowd, 2014). During that time, the city expanded outside the wall mainly towards the western terrains near the European compounds and towards the northern neighborhoods of Wadi al-Joz, Shaik Jarrah and Tur (Benvenisti, 1976). Figure (2), shows developments that took place in the north western part (new developments), and individual houses and small communities in the southern and eastern parts (original communities).

Figure 2: Jerusalem built up area. (Gilbert, 1987, edited by author)

British troops conquered Jerusalem in 1917, and put it under military administration. During this era, Jerusalem continued to grow outside the walls. Elites and middle class Arabs, Armenians and Greeks were encouraged to move to the new city 'western side' to live in the new suburbs in open environments, where they established new businesses (Gitler, 2003). People from nearby Palestinian villages worked in the new suburbs and in the European compounds. The farmers from surrounding villages- Beit Safafa, Malha, Walajeh, Lifta, Ein Karim, Battir and Sur Baher- sold their vegetables in the new suburbs (Scholch, 1990).

The city witnessed a new era of urban growth to serve the flux of people heading to the area. Jewish immigration from Europe accelerated after WWI, and they were considered a threat by the Palestinians, towards the Arab population; because of the intention to make Palestine a national home for Jews (Pfaff, 1969). Figure (3), shows the fast building activities outside the walls in the western side of the old city, in the 1920s, while in the other areas were slow following natural population growth. Commercial areas sprawled from Jaffa Gate towards the west and the northwest, light industrial enterprises and services were established in Mamilla and Shama'a neighborhoods (Scholch, 1990). During this time, the Jewish National Fund (JNF) established moshav Atarot to the north of the city on the road leading to Ramallah, the kibbutz Kiryat Anavim to the west on the road leading to Jaffa and Ramat Rachel southeast of the city. More than thirty Jewish colonies were established west of the city prior to WWII (Efrat, 1988). The western side of the city accommodated new projects: residential, infrastructure and services, while the eastern side was advancing slowly. All these projects were directed to serve the new immigrants, which raised the number and percentage of Jews in comparison to the Palestinians. Urban fabric revealed that the city was growing fast in the western side, and a new 'city' was formed to function as a hub for the surrounding suburbs without integration and developmental corridors with the eastern side (Figure, 3).

Figure 3: Jerusalem in 1920s

## **Geopolitics and planning chronology**

British Mandate officials initiated the process of planning for the city. The theme was to ‘clean up’ the Old city (of Jerusalem) and to prepare modern plans for the outskirts, by promoting new designed garden-city neighborhoods (Barakat, 2016). William Mclean prepared the first physical plan for Jerusalem, where he divided the city into: the Old city zone, non-construction zone around the city, the northern east zone (where construction was allowed with special approval), and the northern west developmental zone (Roberts, 2013). These zones were referenced in future land-use plans for Jerusalem, and were considered a milestone in Jerusalem planning. Mclean assigned developmental zones for the western side of the city, while leaving the eastern side (Arab province) with no developmental guidelines (Efrat, 1993) (see Figure, 4).

Mclean established a regime of spatial separation by proposing a green belt and two different planning fabrics one for the western part and the other for the eastern part. Roberts (2013), described Maclean's plan as a colonial one, as it resembles other plans made for cities under colonial rule, like the ones in India, Morocco and South Africa.

In 1919, Patrick Geddes, was commissioned to prepare a modified plan for Jerusalem. According to Hyman (1994), “The international Zionist Commission have engaged Mr. Patrick Geddes....to plan the new Jerusalem and its proposed University”. In his plan for Jerusalem, Geddes proposed a green belt for preserving the scenery quality of the Old City and proposed developmental zones in the west, south, and north east of the Old City (figure, 4). He suggested beltways to connect the new suburbs with the core city instead of the gridded streets of Maclean (Milller, 1994). In his plan, he proposed a civic center along the Jaffa Gate - Jerusalem Main Street- which gave potential for the development of the western side as a future hub (Roberts, 2013; Chiodeli, 2019; Gilbert, 1987). Geddes planned the Garden city of Talpoit colony (to the south west of the old city), by so doing, the old city now is surrounded from the northwest and south with a belt of settlements.

Both Mclean and Geddes came from a colonial background where they served as planners for the British colonial power in Delhi, Khartoum and other places. Both

proposed developmental zones in the western and northern sides of the city where the bulk of the new Jewish suburbs were allocated, leaving the eastern side (later named east Jerusalem) as an open space with no schemes for development. These plans paved the road for a radical urban transformation for the city into a modern/western fabric.

Ashbee (1918- 1922), called to modernize the western part of the city. Ashbee's plan was mainly a zoning map which divided the city and its environs into different zones: Roads, parks and open spaces, special treatment areas, business and residential, industries and workshops. All the planners worked to enforce and develop the crescent-shape around the old city from the north, west and south. The rest (Arab side) was left with no proposals for development (figure, 4).

Clifford Holliday, prepared an outline scheme where he divided the area into: residential, commercial, and industrial zones taking into account the needs of growing communities in the western side. He incorporated more lands to the previous plans where many new neighborhoods were included. Then, Henry Kendall prepared an outline plan for Jerusalem, where he sketched a scheme that followed the same concept of his previous fellows. The plan incorporated more lands where the planned area jumped from 6,250 to 10,040 acres. He proposed a modern road system with beltways around the old city, concentrating on facilitating movement to the west side while ignoring the eastern side completely. His main objective was to plan the future 'capital of Israel' with all needed administrative, political, and educational buildings surrounded by green belts and parks. Efrat (1993), stated that the plan allocated more areas for Jewish suburbs in the western side and kept the Arab neighborhoods in the south and east without any proposed developmental areas.

#### Figure 4: Outline plans

The mentioned plans suggested shifting the city center to the west, transforming urban landscape to a 'modern one'. British planning developed the city- suburb by suburb- employing a modern technique taking road system and buffer zones into consideration as autonomous/enclaved communities varying from the quarters of the old city (Pullan, 2009). The city landscape now contained new suburbs in the western side

forming a new agglomeration of sub-centers in a radial form along the main roads leading the outskirts.

Until WWI, Jewish National Fund (JNF) managed to purchase 5,200 Dunums (one dunum equals 1000 meter squared) in the vicinity of Jerusalem, 12,300 dunums in the years 1936 to 1947. Most of this area was in the southern parts of the city which was later called 'Etzion Bloc' (Krystall, 1998). Land purchased after 1936 was mainly used to build new kibbutzim south of Jerusalem: Kfar Etzion, Masu'ot Yitzhak, Ein Tzurim and Ravadim (Karsh, 2000). City population increased from 62,000 to 164,000 during 1922-1946 with %55-60 Jewish (Dumper, 2014). This is a true translation of Ben Gurion's vision back then:

*David Ben-Gurion said "... We need a ring of workers' neighborhoods and agricultural communities have to surround our principal city..., Jerusalem must be greater and more populous than Tel Aviv" (Karsh, 2000).*

All these developments in the western side resulted in deforming urban form, where the city center was shifted from its historical place (Damascus Gate) into the western newly constructed city along Jaffa Street.

As a result of the 1948 war, the armistice line passed -from north to south - adjacent to the Old City, where Jordan controlled the eastern side and the newly declared 'Israel' controlled the western one. The city and its environs were divided into two towns of three zones; Israeli zone 26km<sup>2</sup>, Jordanian zone 13km<sup>2</sup> and 0.9km<sup>2</sup> as no-man's land. Israeli government began moving its offices from Tel-Aviv to west Jerusalem, and in 1950 declared Jerusalem as its capital.

*"... A Jewish state has no magic without Jerusalem" Ben-Gurion (Krystall, 1998).*

As a result of the British withdrawal from Palestine, and of declaring the Israel State, 38 villages out of 40 had their population evicted in the Jerusalem western sub-district (Khaldi, 1992; Abu Sitta, 2010; Hudson, 1990). According to Benvenisti (1976), 84,000 Inhabitants were living in west Jerusalem, the number jumped to 103,000 in 1949, 167,000 in 1961 and 197,000 in 1967. These numbers give an idea about the flux of

immigrants coming to live and work in Jerusalem, where urban growth accelerated to cope with these increasing numbers.

In order to put the land and property under its control, Israel employed Absentee Property Law to confiscate Arabs' homes, businesses and lands in the western side of the city. These properties were transferred to the new Jewish immigrants provided with incentives to encourage settling in the area (Golani, 1995). According to Cattan (1981), "Israel occupied some ten thousand Arab homes, mostly fully furnished, in west Jerusalem". Krystall (1998), states that as a response to the UN resolution of December 11 in 1948 which called for the return of refugees to their homes, Jerusalem military Governor, ordered to counter that resolution by intensifying Jewish housing projects. A few months later, Moshe Dayan (An Israeli military leader and politician) ordered to occupy and settle in Dayr Abu Tur (Arab suburb) together with Talpiot and Ramat Rachel (Jewish settlements) (Bollens, 2001). In December 1949, Israel declared Jerusalem as its eternal capital and accelerated moving government officers to the city.

A master plan for the new city (western side) was prepared and approved covering 37.4Km<sup>2</sup> for a population of 250,000 inhabitants. This plan focused on enforcing the city center and provided new housing projects, services and governmental buildings in the western side (Barakat, 2016). Figure (5), Shows the divided city with its two different morphologies which became clear in both sides: a fast growing new city with modern spatial layout emerged in the west and a scattered small villages in the eastern part.

Figure 5: Divided city

The West Bank was captured by the Israeli forces in 1967, consequently, east Jerusalem was annexed to the western side, the municipal area expanded from 26 km<sup>2</sup> to 100km<sup>2</sup>. Lands of twenty-eight villages in the eastern side were annexed to the new municipality boundary. The city was treated as one entity by Israeli authorities and was declared 'United Eternal Capital'. Israeli occupation started to apply the Israeli law on east Jerusalem, despite international objections. The occupying power started to implement its project of Judaisation on different levels: territorial, demographic and

economic on all parts of the city (Yiftachel, 2016). Planning was described as a tool of “low intensity war” by Chiodelli (2019), he also described what was happening in Jerusalem as “a war of cement and stone”. The aim was to cover the newly occupied part of the city with built facts on the ground in order to foster the desired unity of the city under Israeli rule (Yacobi & Pullan, 2014). Since then, planners have started to work without any limitations to enlarge its territory to include Alquds airport in the north and the periphery of Bethlehem in the south under the name of ‘Greater Jerusalem’. The new master plan of Hashimshoni in 1968 (figure, 4) was based on the pre-1948 British concept of building suburbs and neighborhoods on any piece of land available. New suburban settlements were planned to accommodate only Jewish residents on the Palestinian lands in east Jerusalem. These settlements were planned to form a ring around the Jewish city as Israeli officials declared.

*“Jews should be brought to east Jerusalem at any cost. Thousands of Jews should settle soon. Jews will agree to settle in east Jerusalem, even in shacks. We should not wait for the construction of proper neighborhoods. The most important thing is that there will be there Jews” (Yiftachel, 2016).*

Within a week of annexation, Israeli forces demolished more than 200 homes and two mosques in Al-Magharbi neighborhood inside the old city, expelling the families from their homes in order to expand the small yard of 120m<sup>2</sup> to become a huge plaza of 20,000m<sup>2</sup> (Scholsh, 1990; Bollens, 2001). Immediately after conquering eastern Jerusalem, construction started in the Hebrew University on Mount Scopus overlooking the Old City and the eastern slopes. Planners then started to propose new Jewish settlements in the eastern side to connect Mount Scopus with west Jerusalem.

In order to facilitate land confiscation, Israeli occupying power evoked a land ordinance to expropriate lands for public use without clarifying the intended use. As a result, 3.345 km<sup>2</sup> were expropriated in east Jerusalem to establish the ‘French Hill’ colony (the first colony in east Jerusalem) in order to house 2,400 Jewish families

(Yiftachel, 2016). Later on, more colonies were constructed in east Jerusalem: Ramat Eshkol, Givaat Hamivtar, Givaat Shapira, Maalot Defna and Senhadriaya, Maale Adomim in 1993, Har Homa in 2003 (Jabareen, 2010).

Massive construction in the eastern part of the city took place in order to achieve the goal of 'united Jerusalem'. The Israeli planning authority injected new forms of urban landscape in between Palestinian villages and towns to dominate and fragment space and infrastructure.

### **A city of archipelagos, exclaves and enclaves**

In the eastern part of the city, Palestinians live in their villages (suburbs), segregated by Jewish settlements and in some places separated by arterial roads. 35% of east Jerusalem is planned (Jewish settlements), 11% is available for Palestinian construction, approximately 40% of the planned area within Palestinian neighborhoods is classified as 'open landscape' where construction is prohibited (B'TSELEM, 2002). About 2000 houses have been demolished since 1967, and more than 28% of all Palestinian homes are at risk of being demolished (ARIJ, 2010). Israeli planners delineated the Arab neighborhoods with areas labeled as 'green' or open areas until they were deemed necessary for Jewish housing projects (Yiftachel, 2016). The Jewish settlements Ramot and Har Homa, are examples of turning green zoned areas into a settlement.

Israeli settlements were built on hilltops, fortress-style with bulky stone walls, connected with each other by highways leading to the western side of the city (Pullan, 2011). For example, Ma'ale Adummim settlement in the eastern side was connected with Gilo in the western side by a highway tunnel under Mount Scopus evading Palestinian villages Izareyeh and Issaway. The highway goes through the city center of the western part of Jerusalem then through a tunnel under the Palestinian village of Beit Jala and finally by a bridge to Gilo. This example of highways was described by Weizmann (2007), as "vertical apartheid". Major highways connecting Israeli settlements cut through the urban fabric of Palestinian neighborhoods without serving them, turning them into isolated enclaves –archipelagos of disconnected islands. Israeli occupation policy has

been enforcing the Israeli law on east Jerusalem urban space by means of fines, house demolition, and expropriation of land for 'public use' (Baumann, 2016). Israeli settlements were placed carefully around the Old city in a ring shape then another ring encaving the surrounding Palestinian suburbs, and finally the outer ring touching the periphery of Ramallah in the north, Bethlehem in the south and Jericho in the east. Eighteen settlements were located within the first two rings and another eighteen in the periphery of the city. These settlements occupy more than 40 km<sup>2</sup> and host more than a quarter of a million Jewish residents in three major blocs: Giv'at Ze'ev in the north, Ma'ale Adumim in the east and Gush Etzion in the southwest.

In order to isolate the city from its periphery Israeli government approved the route of the segregation Wall in order to envelope 'Greater Jerusalem' with an outer ring aimed at expelling more Palestinians out of the municipal boundary and to expropriate more open lands under its control (Confiscated lands in Figure 6 legend). The Wall left 55,000 Palestinian Jerusalemites behind, living in exclaves such as Kufr Aqab, Anata and Shuafat Refugee camp (excluded areas in figure 6 legend)

Figure 6: The Separation Wall and greater Jerusalem

The Wall also isolated 151 km<sup>2</sup> of Palestinian land behind its path, and isolated 147,264 inhabitants who were cut off from the rest of the West Bank (Jabareen, 2010; UN OCHA, 2011). Palestinians in the West Bank lost accessibility to Jerusalem – for religious, health, social, and business services- unless they obtain a permit to do so. Shortage in housing projects for Palestinians in Arab neighborhoods, home demolition policy, and complicated construction licensing processes drove thousands of Palestinians- Jerusalemites- out of the city seeking accommodations in the exclaves outside the wall. These exclaves are the home of hundreds of married couples (one holds West Bank ID who is denied access into Jerusalem by Israeli authorities and the spouse holds a Jerusalem ID). Hundreds of thousands of Palestinians living in the villages and suburbs around the eastern part of the city lost their connections (social and business) with their relatives and neighbors on the other side of the wall. The wall cut off/fragmented urban and social fabric, which had evolved over the years. Schools, health services, housing, and businesses have been severely impacted since the construction of the Wall.

More than 35% of the land in eastern Jerusalem has been confiscated to construct Jewish colonies (residential compounds), all connected with bypass roads and lately by a light-rail to facilitate movement to the western side where offices, commercial and education centers are (the new CBD). The number of Jews living in these compounds was 32,000 in 1977 reaching 190,000 by 2007. The Israeli government's goal is to reach 85% Jews living in Jerusalem by the year 2030 (B'TSELEM, 2011). Total population of Jerusalem at the end of 2013, was 829,900, where the Jewish population reached 63% and the Palestinian population 37%.

Jews and Arabs in the city do not hold the same citizen status: Jews in the city are residents of the city and citizens of the state, while Palestinians get partial status of residency, without full citizenship (Braier & Yacobi, 2017).

According to Barakat (the former mayor of Jerusalem):

*“The current population ratio is one-third Muslim, two-thirds Jewish, and two percent Christian. We anticipate that growth will be proportional to the current ratio, and all municipal planning is derived from that assumption” (Barakat, 2010).*

### **Spatial fragmentation**

This section compares urban settings of the city in early years of the past century with recent ones. Red lines in the figures are for the major/main roads leading to the old city while the black color represents built up area. To show urban transformation around the Old city five sets/slides of maps were used (figure, 7). These five slides were obtained from the Atlas of Palestine which was prepared by Abu-Sitta (2010), combined together in order to show the context of the study in 1947.

Figure 7: City region in 1947 (Abu Sitta, 2010, Edited by Author)

Five slides were developed, each slide contains a pair of maps: the left one represents the situation in 1947 and the right one in 2017, which was prepared by using

GIS layers. These slides cover an area of 125km<sup>2</sup>, which is almost equal to the area of 'Greater Jerusalem'.

In Figure (8), the left slide shows the northern west part of Jerusalem environs where Palestinian villages (Lefta, Deir Yasin) and other Arab neighborhoods were scattered, with an organic configuration. The area contains a few new Jewish suburbs with low dense spatial structure. The right slide shows the transformation of this area where new Jewish suburbs have been constructed, major highways established connecting these suburbs with the whole city region. Arab villages' residents (Lefta and Deir Yasin) were evacuated in 1947, and the villages became abandoned and encircled by new Jewish settlements. The lower part of the slide became fully urbanized where new Jewish settlements were established to accommodate new immigrants to the city.

Figure 8: Northern west part of the city region (Abu Sitta, 2010, Edited by Author)

Figure (9), the left slide shows the west and north parts of the city, the no-man's zone (armistice line of 1947 war) and the Old city in the middle. It is clear that the west side of the city was under a process of urban development: new suburbs in the vicinity, German Colony in the south in addition to commercial buildings along the major road leading to Jaffa Gate. There were few Arab suburbs in the southern part: Abo Tor, Talbiya and other scattered small neighborhoods. These communities were built by the Palestinians who used to live inside the Old city. In the north eastern side of the city and along the road leading to the Damascus Gate, there was a small Arab neighborhood (Esh. Sh. Jarrah) in the north, scattered residential buildings, American Colony and the Arab city center in Almosrarah area adjacent to the no mans' area facing the old city wall.

In the right slide it is clear that urban development has been accelerated in the western environs where new suburbs, commercial areas, institutions and services were built to cope with this urban development process. New highways were established, connecting all neighborhoods and suburbs in the outskirts with the city center. Development in the eastern side of the city was minimal and still maintained its low

density form. A major highway was constructed on the no mans' land encircling the Arab neighborhoods in the eastern part of the city.

Figure 9: North part of the city region (Abu Sitta, 2010, Edited by Author)

In 1947, (figure 10-left slide) the Arab communities were small and surrounded by natural lands and mountainous terrain: Silwan in the south, Et Tur and El-Eizariya in the east and Isawiya in the north. There were also scattered buildings and the small neighborhood of Wadi el Joze close to the old city wall. One of the prominent projects for JNF was the Hebrew University which was established in the 1920s on a hilly area in the north eastern part facing the old city.

The right slide in figure (10), shows the urban development in the eastern side of the city. Urban fabric in this side is still maintaining its form (organic) with minimal infrastructure projects. These communities are connected by local roads undulating with the hilly terrain. El-Eizariya and Abu Deis villages – where Al-Quds University is located- were isolated by the Wall. In the northern part of the slide, major highways were constructed to serve the Hebrew University and the neighboring Jewish colonies while evading the Arab communities. In this section of the city, Arab communities are segregated by undeveloped areas; which are confiscated by the occupying power or assigned as open space. Some parcels are not developed because owners lack title deeds which are essential for getting building permits.

Figure 10: North eastern part of the city region (Abu Sitta, 2010, Edited by Author)

In 1947, the southern west part of the city region was not developed like the northern parts. Figure (11, left), shows that the areas close to the old city witnessed urban development: El Qatamon (a Palestinian neighborhood), the Greek Colony and a small Jewish neighborhood of Meqor Haiyim. Beit Safafa, a Palestinian village was located in the southern part adjacent to the rail road connecting Jerusalem with Jaffa. This village was surrounded by green olive groves and orchards. Figure (11, right), shows that the

area was developed through the past 70 years to accommodate new suburbs and service areas. Meqor Haiyim was developed to be an industrial area.

Beit Safafa was surrounded by major highways serving the new Jewish suburbs, bypassing the Arab villages. It is clear that Beit Safafa has low urban density compared to the surrounding Jewish urban developmental projects. El Qatamon neighborhood was inhabited by new Jewish immigrants after expelling the Palestinian owners in 1947, and was surrounded by new suburbs. The whole area was developed to accommodate new immigrants to the city in modern well planned suburbs, served by a modern road network with bridges and tunnels. The morphology of the two kinds of urban fabric is clear; one is densely populated with modern layout and the other is organic with low dense urban fabric.

Figure 11: South western part of the city region (Abu Sitta, 2010, Edited by Author)

The south eastern part of the city region was less developed in the year 1947 compared with the western part of the city (figure, 12). This part was composed of three regions: the western part under Israeli control, no mans' land and the east Jerusalem part which became under the Jordanian rule (figure 12, left). It is clear that the western part was under development like other adjacent parts in the same region, which means that the western part was under development according to plans and outline schemes. This part contained Arab neighborhoods with villas for Palestinian merchants from the old city; El Wa'riya and Al Baqa'. Talpiyot was one of the Israeli colonies in this part of the city which was planned during the British mandate. In the eastern part of this region there were small Arab villages around the old city: Sur Baher, Umm Tuba and Silwan. In the middle part there was the Demilitarized zone (DMZ) where the British Government House was located. It is clear that these villages followed an organic urban form while the western part followed a modern pre-planned urban form.

Figure (12, right), shows that the area contained two different urban forms: pre-planned dense/compacted development in the western side of the city and low dense

organic urban form in the Arab communities in the eastern part. In this slide Talpiyot colony was developed and encroached into the DMZ area. New colonies were established in the eastern side to accommodate new immigrants: Talpiyot Mizrah, Kiryat Moriya, Ramot Rachel and lately Har Homa near Bethlehem. New highways were established to connect these colonies while bypassing the Arab villages. Arab villages are scattered along the terrain served by local narrow roads in a loose configuration. These villages are sprawling towards the east and south, segregated by Israeli colonies, 'open spaces' and delineated by the Wall in the southern and eastern edges.

Figure 12: Southern part of the city region (Abu Sitta, 2010, Edited by Author)

Through the past 70 years, the city witnessed an accelerating development: tens of Israeli settlements were built in the western side and few in the eastern side. This accelerating urban development process turned the city from a meso-scale city into a metropolitan one. The city contains two kinds of urban forms: a modern one in the western side that encroached into the eastern side enclaving Palestinian neighborhoods, and another irregular urban form with low dense urban fabric.

Eastern side has a slow pace of urban growth, it still maintains the urban form since the past decades; where irregular road networks with no highways across its built environment, buildings undulating with the terrain, irregular property lines, and low dense urban agglomerations.

In the western side it is clear that settlements were built according to pre-planned schemes, modern layout, with regular forms, high density, regular property lines, and highways linking the settlements in the western side with both coastal cities and settlements inside the eastern side.

Spatially, Jerusalem has been under a systematic process of urban transformation which has radically changed its urban form. Urban space was modified by constructing Israeli settlements and highways around the Old City with the aim of making the idea of a 'unified city' irreversible. The spatial configuration has been changed in favor of the Israeli residents by establishing new facts on the ground. Constructing new

neighborhoods, industrial areas, services and infrastructure in the eastern side of the city added more means of sovereignty by the occupation on the 'unified city'. The intentional absence or delay in approving outline plans for Arab neighborhoods in east Jerusalem was behind this huge variance between the Arab and Jewish suburbs morphology. Baqaeen (2004. P. 203), listed many factors in this context: "discriminatory zoning practices, complex planning regulations and house demolitions, Israel has managed to block Palestinian development of available land leaving it vacant until it is expropriated for 'public use' for the construction of housing and infrastructure for the exclusive use of Israeli Jewish residents". Betselem (1997), stated "the purposes that were set in the Town Plans Schemes law shows that the plans for Palestinian neighborhoods are not really town planning schemes at all, but "demarcation plans." (p. 76). Betselem (1997) added that "Town Planning Schemes: the planning authorities utilized the town planning schemes to restrict development of Palestinian neighborhoods, limit the area designated for Palestinian construction, and reinforce Jewish control throughout the city."(p.50).

Planning restrictions were imposed by Israeli authorities on Palestinian communities to limit their development and growth by several means; absences of developmental plans, road construction, zoning and land expropriation. Arabs are allowed to build 15-25 percent of the lot area, while it is up to 200-300 per cent in Jewish settlements. Planning in Jerusalem –which is in the hands of the Israelis- is a mix of many components: politics, objectivity, ideology and science. All these factors played a prevalent role in re-shaping the city.

## **Conclusion**

Jerusalem City went through a process of urban segregation since the beginning of the past century. Before 1948, Jews owned 30 percent of the land. Land expropriation continued and escalated by the Israeli occupation from 1948 onwards. The Israeli occupation controlled Palestinian land, people, infrastructure and major access roads and enclaved their neighborhoods, turning Palestinian villages and suburbs within the city into archipelagos of enclaves. Because of Israeli planning authorities, only 11% of east Jerusalem was allocated for Palestinian development. Jerusalem is a city functionally and psychologically divided where Jews and Arabs live together separately; residential segregation on the neighborhood level, separate business districts, public transportation systems, educational and health services.

*"Interface areas between Jewish and Arab neighborhoods created*

*through partisan planning are signposts of territoriality and segregation  
, leaving legacies of disparity and relative deprivation to Palestinians  
much as apartheid cities have done to black South Africa".(Bollens, 2001)*

Jerusalem has been under a planned process of division and separation since the beginning of the past century. All politicians and planners who worked on Jerusalem were behind transforming the urban landscape of the city into a segregated, divided and polarized metropolitan area (figure, 13). Radical planning, as it is described by Pullan (2009), has been used by the colonial power to expand the boundary of 'Greater Jerusalem'. Jerusalem's boundary expanded from 19.5 km<sup>2</sup> in 1917 to 126.5km<sup>2</sup> in 2003, and lately after constructing the Wall, the area became 164km<sup>2</sup> (Thawaba & Al-Rimawi, 2013). This ever-shifting boundary enabled Israeli planners and politicians to encircle the city with colonies 'Jewish suburbs' to achieve dominance and control as a de facto.

Map analysis shows how urban development was intensified and spread all over vast areas in the western side while it is infill development in the eastern side. Figures show how Israeli settlements are scattered in between Palestinian villages and towns in the eastern side while on the same time they are connected with major highways leading to the western side.

Figure (13), is an infographic that summarizes landscape transformation of the city and its environs throughout the past century. The dark dots resemble Jewish colonies and suburbs, and the gray ones represent the Palestinian villages. Palestinians have been severely affected by these plans and policies; vast areas were cut into pieces according to the land-use zones drawn by planners commissioned by the Zionist leaders. Borders were placed carefully between different neighborhoods within city boundaries, creating two spatial paradigms.

Figure 13: Segregating and enclaving Jerusalem

I think Benvenisti can find the answer for his question now.

*"will the city find a renewed equilibrium, or will it be overcome by forces which will totally alter its character?" (Benvenisti, 1976).*

Unfortunately, all actions enacted by the occupying power during the past century have managed to completely alter the city's character and turn the city of peace into a city of pieces. This transformation was biased and unfair for the original people of the area.

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