



Land use changes into the Palestinian central mountains: Nablus Municipality, a case study [□]

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Introduction

Nablus city has a special location in the center of Palestine, and was established on a long valley that lies between mountains of *Jerzim* (south), and *'Ebal* (north). It is considered as a commercial and industrial center in the north of the West Bank (Nablus Municipality, 2011: 8). Nablus city's area in 1945 was 8,365 *dunum*¹ (Addabbagh, 1988: 183). In 1963-64, after a total land annexation done of five villages (*Âskar*, *Balata*, *Îraq et Tayih* to the east of the city, *Al Juneid*, and *Rafidiya* to the west) to Nablus Municipality its area reached 18,500 *dunum*. Then in 1986 Nablus Municipality, made partial annexation² of 10,000 *dunum* vacant lands from ten villages in all directions – west, east, north and south (*'Azmut*, *Deir el Hatab*, *Beit Furik*, *Rujeib*, *'Awarta*, *Beit Wazan*, *Kafr Qallil*, *Sarra*, *Zawata*, and *'Asira esh Shamaliya*), and in 2001, another partial annexation was done of 400 *dunum* from one village (*Sarra*) to the west, and its total municipality's area approved reached nearly 29,000 *dunum*. Nablus Municipality also proposed to expand its future boundaries through annexing more lands from surrounding villages to the northeast, and southwest, (Ilustração 01).

A study on land use patterns in *Tubas* city found that the percentage of residential use reached 56.47 % of the total area of the city, the percentage of commercial use was less than 1.0 % of the urban space of the city, industrial use amounted to 0.48 % of the urban space, and agricultural use amounted to 8.3 % of urban use (Youssef, 2001: 67, 80, 81, 84). A study of the development land use patterns in *Tulkarm* city found that the residential use area amounted to 5,988 *dunum*, formed 58.0 % of the total area, while the area of commercial use amounted to 100 *dunum*, at a rate of 0.96 % from the total area, while the area of industrial use amounted to 263.3 *dunum*, at a rate of 2.55 % (Saidi, 2000: 105). A search about the changes in land cover patterns mentioned that the area of agricultural land in *Al-Muwaqar* District (Jordan) declined and the urban cover expanded at the expense of the agricultural cover. The area of agricultural land in *Al-Muwaqar* district decreased from 194.24 km² to 154.60 km², the urban area increased from 8.71 km² to 76.44 km² during the period 1989-2016 (Abdul Jawad and Al-Balbisi, 2019: 245).

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* Investment Promotion and Industrial Estate Agency.

1 1 *dunum* = 0.1 hectare, 10 *dunum* = 1 hectare.

2 Annexation is the process that transfers land from towns and villages to cities that have demanded the annexation of land (Nacker, 2005).

A paper indicated that the urban expansion of the Arab cities was at the expense of the agricultural land and towards the main streets as was the expansion of Amman, Irbid and Madaba. Where it was found that this expansion was directed near, and toward the main roads, but at the same time was at the expense of fertile agricultural area, and led to the decrease of green areas (Saleh and Al Rawashdeh, 2007: 51). A study on urban expansion and extension of major urban settlements that was made in *Diyala Governorate (Ba'quba, Al Khalis and Meqdadiyya)* in Iraq, indicates that the random expansion of these urban centers was at the expense of large areas of orchards and green belts that surrounded these centers and turned them into lands for residential or commercial use. The expansion and extension of the urban areas along with the main street axes and secondary roads are from the main urban cores in the province. This expansion was at the expense of land left for future urban expansion or prohibitions for high voltage electric lines or public roads or recreational areas (Al Shammari, 2006: 143).

A research about the impact of urban expansion on agricultural land in China found that urban expansion is associated with a decline in agricultural land-use intensity and a drop in the area of cultivated land per capita. It discovered that both the urban change of agricultural land and GDP in the industrial segment is deleteriously connected with agricultural land-use intensity. Moreover, it noticed that the expansion towards agricultural lands will continue, which will put pressure on the natural land resources of the country (Jiang *et al.*, 2013: 33, 38). A study regarding the impacts of urban expansion on local communities in Malaysia found out that the expansion of built-up areas has put pressure on lands and has produced a noteworthy loss of agricultural lands, which influenced the livelihood of farming communities at peri-urban areas. Furthermore, agriculture land size decreased and has become unprofitable obliging farmers to sell their lands to have quick earnings (Samat *et al.*, 2014: 349, 364). Another research conducted on the urban expansion and loss of agricultural land in an Indian city using GIS techniques found that a rapid changeover of agricultural areas to non-agricultural had taken place. A significant increase in the residential area to accommodate the rapidly growing population of the city followed but without many services and recreational facilities uses. This was because an urban expansion of the city (both built-up and non-built-up) has destroyed fertile agricultural land which can't be recovered. The study area was losing its agrarian characteristics, where nearly 1,683 hectares of fertile agricultural land between 1988 and 1998 has been lost (Fazal, 2000: 148).

The Study Problem and the Study Area

The study area witnessed a change in the land uses, especially agricultural lands during the period 1963-2016 for the lands and villages that were annexed to Nablus Municipality, resulting in a rapid growth in the area of urban lands at the expense of agricultural lands, resulting in the occurrence of many problems represented in the overlap between these patterns, the tyranny of some uses over others, the poor spatial distribution of these uses, and the clear deterioration of agricultural lands and the decline of their areas. So this has become one of the problems that the city's residents face.

The study area of this paper contains the annexed lands of fifteen villages to Nablus Municipality Boundaries. Five of them were totally annexed during the Jordanian period,

which are *Balata, 'Askar, 'Iraq et Tayih, Rafidiya, Al Juneid*. Another ten villages were partially annexed to Nablus Municipality Boundaries during the Israeli occupation period in 1986, which are *'Azmut, Deir el Hatab, Beit Furik, Rujeib, 'Awarta, Beit Wazan, Kafir Qallil, Sarra, Zawata, and 'Asira esh Shamaliya*, and proposed to annex lands from the southwest, and northeast villages (Ilustração 01).

Methodology & Research Tools

More than one methodological approach was used in the research. First, an historical and descriptive approach, which was used to describe and explain the process of land use change. The second approach is the comparative approach, used to compare the land use of villages before and after being annexed to Nablus Municipality Boundaries. The third approach is the qualitative analytical, approach used to analyse the whole information obtained from different resources. The research method included reviewing relevant theoretical work and historical and contemporary resources. Geographical Information System (GIS) used to reflect all available information from numbers and images to readable maps on previous and current land-uses. All images and maps obtained from different resources were converted to ArcMap- ArcGIS program.

The previous and current land uses in the annexed villages was answered through different tools like diverse types of maps, many interviews with annexed villages' residents, and Addabagh Encyclopaedia. The interviews were conducted with the current and former heads of local villages' councils that had knowledge about annexing their villages' land to Nablus Municipality Boundaries. The previous land use in annexed villages were obtained from Russian maps for the year 1967³ which was taken from *Birzeit* University, as image, digitized and converted to GIS as ArcMap to be easily analysed and the current land uses also were attained from the approved Nablus Master Plan 2013.

These maps were AutoCAD and converted to ArcMap, to be analysed in order to obtain different areas for land uses easily. The analytical approach was used to analyse the different land uses in different periods. It used ArcMap, AutoCAD and other software to analyse the maps, and the comparative approach used in order to compare the land use before and after land annexation, and west and east villages land uses.

The Previous and the Current Land-Use in the Annexed Villages

The Previous Land-Use

The information about the previous land-uses of the annexed villages to Nablus Municipality Boundaries was obtained from the Russian maps for the year 1967, Addabagh encyclopaedia, and from the interviews with different residents of annexed villages. Through these resources of information, it could be noticed that the main previous land-uses of the annexed villages were of four types, which were: agricultural lands, plains, pastures⁴,

³ Russian Survey for Palestine in 1967.

⁴ The plain is a flat land, mostly treeless, cultivated by grains and vegetables. The agricultural land is: a contour land cultivated mainly with olive, fruits, and almond trees, and rain fed. The pastures are: vacant land with natural shrubs, and grass used for grazing castles.

and built-up area. Since the 1960s until this day, the land-uses of villages annexed to Nablus Municipality Boundaries are changing.

The total area of agricultural land was 3,000 *dunum*. Most of it (2,200 *dunum*) was located in the west annexed villages, while the fertile plains were 6,000 *dunum*, concentrated in the eastern annexed villages to Nablus Municipality Boundaries, like 'Askar, Balata, Rujeib, 'Azmut, Deir el Hatab and Beit Furik. The western villages were vacant of plains rich with pastures and had an area of 9,000 *dunum*. Furthermore, the built-up area was nearly 2,350 *dunum* and somehow dominated the scene of the east annexed villages more than the west because of the existence of the refugee camps of Balata and 'Askar since 1958, (Tabela 01 and Ilustração 02).

Tabela 01 – The previous land-uses in the annexed villages in 1967

Land use type	Area - <i>dunum</i>	% land use/total annexed*
Plains	6 000	29 %
Agricultural land	3 000	15 %
Built-up	2 350	12 %
Pastures	9 000	44 %
Total	20 350	100 %

*Total annexed land – nearly 21 000 *dunum*.

Moreover, the agricultural land of annexed villages was planted with various crops and fruit trees. For example the eastern villages like Balata, 'Askar, Deir el Hatab, Beit Furik, Rujeib, 'Awarta and 'Asira esh Shamaliya were planted with trees such as almonds, figs, olives, grapes, apricots, and apples. Additionally, they were planted with cereals, vegetables, cotton, grain, barley, lentils, carrots, beans, sesame, and corn. The total planted area reached nearly 16 000 *dunum*, and villages' residents were breeding sheep, cows, and cattle (Addabbagh, 1988: 275, 282, 284, 285, 292, 294, 299, 343, 425). In the western villages like Rafidiya, Beit Wazan, Sarra and Zawata lands were planted with olive trees, grapes, almonds, figs and others, and villages' residents planted cotton and few vegetables, besides raising sheep and domestic birds. The total planted area reached nearly 4 500 *dunum* (Addabbagh, 1988: 336, 339, 353, 390).

Through the interviews, it was noticed that some villages were planted with olive trees, "Al-Juneid's (west) livelihood was from the olive trees and there is nothing left of these trees" (interview with Al Juneidi, 2019). "The annexed land from Sarra (west) was agricultural, rainfed, and planted with olive trees" (interview with Turabi, 2017). "Most of the land annexed from Zawata (north-west) was planted with olives" (interview with 'Elewi, 2019). Some villages were planting olive and vegetables, and legumes, "Kafr Qallil (east) people were planting olives and wheat, barley, almonds and figs trees in annexed lands" (interview with Sayel, 2017). "Mostly, the annexed land from Beit Furik (south) was formed of agricultural areas planted with wheat, grain, beans and some olive trees" (interview with Hanani, 2019). "In Rafidiya (west) there were orchards, people were cultivating zucchini, tomatoes, cucumbers, fruit trees" (interview with Sa'adeh, 2017). "Rafidiya was cultivated

with all kinds of vegetables, eggplant, beans, potatoes, cauliflower, pomegranate and fig trees" (interview with Abu es Su'ud, 2019). "Rafidiya was dependent on agriculture and grazing, and most of the plantations were olive trees" (interview with Hassuneh, 2019). "Beit Wazan annexed land was agricultural planted with olives, grapes, and vegetables" (interview with Abu 'Eisheh, 2017).

Other villages were planted with vegetables and legumes. "In Balata (east), the land was cultivated with wheat, barley... etc." (interview with Salman, 2019). "The land annexed from Deir el Hatab (east) was cultivated with weath and grains" (interview with Husein, 2019). "Rujeib plain was cultivated with grains like wheat, barley, and other winter crops (interview with Dweikat, 2019). "Sahl 'Azmut (east) was cultivated with wheat, barley and vegetables" (interview with 'Amer, 2019). "Asira esh Shamaliya lands that were annexed were agricultural lands and pastures, planted with wheat and barley for the winter agriculture (interview with Jawabreh, 2019).

Briefly, the villages that were annexed totally or partially to Nablus Municipality Boundaries were considered as agricultural land in the first place, planted with olive trees, fruits, different grains and various vegetables as reported by al Addabbagh (1988: 275-430), and that was confirmed through the maps, and the interviews with the villages' residents. Generally speaking, the land-use of all the villages that were annexed totally or partially to Nablus Municipality Boundaries were classified as agricultural land, plains and pastures, and planted with olive trees, fruits, different kinds of grains and vegetables.

The Current Land-Use in the Annexed Villages

The current land uses were obtained mainly from the different types of maps collected from Nablus Municipality, and the interviews. It is noticed from the approved master plan 2013 of Nablus Municipality that, through time, nearly all the agricultural land, pastures and plains that were annexed to its boundaries changed to other uses and normally the built-up area increased as the population increased. It is observed that in the annexed villages totally or partially, in different historical periods, the dominant land-uses are residence A, B, C, and industrial use. In addition to other uses, such as stone quarry, water treatment plant, antiquities zone, camps, cemetery, commercial area, open space area, public garden, public parking, state land and public buildings. A look to Ilustração 03, Tabelas 02 and 03, reveals that residences B, C, industrial area and camps are the main land-uses in the east annexed villages, while the dominant land-uses in the western annexed villages are residential A, B, and C (Nablus Municipality approved master plan 2013). It is worth noting, that the eastern annexed land which was a highly valuable plain had been shifted to an industrial area, treatment plant, quarries, craft complex, slaughterhouse and landfill (Ilustração 04 and Tabela 02). While in the west annexed land, where the agricultural land, was now inhabited by the wealthy people and the dominant uses are the commercial ones with high-rise buildings (interview with Hassuneh, 2019). The fertile plains (6 000 *dunum*) which constituted 29 % of the total annexed land to Nablus Municipality Boundaries (21 000 *dunum*) disappeared, and the agricultural (3 000 *dunum*) area which formed 15 % of the total annexed land also disappeared (Ilustração 05 and Tabela 02).

5 Sahl means a plain.

Tabela 02 – The current land-use in the eastern annexed villages as approved in Nablus master plan in 2013

Village name	Residential use	Industrial use	Camps	Agricultural use	Cemetery	Quarry	Water treatment	Commercial use	Public building	State land
Nablus	1,600	480	193					90	56	346
Balata	942	560	163					64	81	
’Asira	900								18	60
’Azmut	200	71		270	200	75	60		99	
Rujeib	1,144	325						84	26	
Kafr Qallil	700		67					40	58	
’Awarta	154								4	
Beit Furik	270									
Deir el Hatab				300						
Total-dunum	5,910	1,436	423	570	200	75	60	278	342	406

So, it could be noticed from Tabela 02, that eastern annexed villages (like: ‘Azmut, Balata and ‘Askar) are the villages that contain variation most of the land-uses types such as treatment plant, cemetery, craft area, industry and quarry. As a result, the plains of Rujeib, Balata, Azmut and ‘Askar villages almost disappeared, where all the plains changed to industrial area, treatment plant, stone quarry and craft area. At the end, all the fertile plains in the eastern region totally disappeared (Ilustração 04).

In the western annexed villages, the current land-use is mainly for residential, commercial, and public buildings (Tabela 03 and Ilustração 05), which confirmed what was reported by the interviewees from the eastern villages that the western region has friendly

environmental uses, not like the eastern region where undesirable uses can be found, such as the treatment plant, the industrial area, camps and others. Moreover, in the western region the universities are located like *An Najah* University (Ilustração 07), and the governmental and private hospitals, like *Rafidiya* and *Al ‘Arabi* hospitals.

Tabela 03 – The current land-use in the western annexed villages as approved in the Nablus master plan in 2013

Village name	Residential	Commercial	Public building	State land
<i>Rafidiya</i>	1,853	45	58	108
<i>Al Juneid</i>	239		3	52
<i>Beit Wazan</i>	1,500	38	140	38
<i>Sarra</i>	700	14	13	
<i>Zawata</i>	300	9	10	83
’Asira esh Shamaliya	148			
Total - dunum	4,740	106	224	281

The interviewees pointed to a diverse current change of land uses in some villages, and to limit change in others, and to no change in land use in others. First, some eastern annexed villages had diverse current land uses like *Balata*, *Rujeib*, ‘Azmut, and ‘Askar villages. “The industrial zone, and the vegetable market were constructed on the best and most fertile land in *Balata*” (interview with Salman, 2019). “*Rujeib* lands were transformed from agricultural to industrial zone, most of them used for factories, warehouses, stores, commercial – industrial uses” (interview with Al Asmar, 2019). “In the eastern area, the municipality built the treatment plant, industrial area, slaughterhouse, craft complex, incinerator and the landfill where it was considered the landfill of the area, and the place where the garbage was thrown away” (interview with Dweikat, 2019). “*Sahl ‘Azmut* proposed for treatment plant a handicraft area” (interview with ‘Amer, 2019), and a proposed cemetery since 1962” (interview with ‘Abdallah, 2017). “‘Askar annexed land contained vegetable market, the slaughterhouse, 200 or 500 *dunum* as an industrial zone, the Thursday market (Halal market), the old incinerator, the vegetable oil factory since 1956” (interview with Helayel, 2016), “and about 300 *dunum* for the east Popular Housing Project (Ilustração 08) (interview with Saleh, 2019).

Some western villages are dominated by residence and education uses, like *Beit Wazan*, *Rafidiya* *Al Juneid*, *Sarra* villages. “Pastures of *Beit Wazan* were used for the *Al Namsaw* housing project, and the new campus of *An Najah* University, located on our land” (interview with Abu ‘Eisheh, 2017). “All the olive trees in *Al Juneid* have been removed through the construction of buildings and housing projects” (interview with Al Juneidi, 2019).

“*Rafidiya*, is the capital of Nablus, one of the most prestigious neighborhoods” (interview with Sa’adeh, 2017). “All the annexed lands of *Rafidiya* became residential compounds, like the western Popular Housing Project” (interview with Abu es Su’ud, 2019). “All the land annexed of *Sarra* was residential area such as the engineers housing project located in basin 1, houses and villas were constructed, including the engineers housing and associations of *An Najah* University (*Al ‘Ameriya*) housing” (interview with Turabi, 2017). “All annexed land of *Kafir Qallil* was constructed with buildings” (interview with Sayel, 2017).

Other villages in east and west had no change to its land use because politically, the annexed land was classified C in Oslo Accords. “It was and still is an agricultural land because it is an area C according to Oslo, and also the presence of the Israeli barrier at the entrance of *Beit Furik* village prevented the development of the land that was annexed” (interview with Hanani, 2019). “The farmers didn’t plant it, and it is prohibited from the occupation, because it is classified as area C, people can’t reach it, unless they made coordination with the Israelis to plough or plant it, and if any security event happened people lose the crop. No one is able to plant, there is the *Elon Moreh* settlement, and the settlers burn the crop” (interview with Husein, 2019). “The annexed land of *Zawata* remained as agricultural land, because most of these lands were classified C according to Oslo” (interview with ‘Eleiwi, 2019).

In fact, what was stated in the previous interviews about previous and current land uses is compatible with the approved 2013 master plan, the field visits and with what you can see on the ground in terms of the existence of the industrial zone, the treatment plant craft area and the slaughterhouse, located in the eastern villages of *Balata*, *Askar*, *Rujeib* and *Azmut* plain.

Discussion

The land-use of the totally, or partially annexed villages, has changed completely from agricultural use to other uses like residential, and industrial, etc. Before annexation the dependence of annexed villages’ residents was on agriculture, as mentioned in section of previous land use (Ilustração 02). Nablus Municipality Boundaries expanded by annexing lands from the surrounding villages from all sides, east, west, north, south, and there is a proposal to annex new lands to the structural plan of the city, from villages towards the southwest and northwest (Ilustração 01). It can be said that the eastern villages are characterized by predominant industrial use, cemetery, water treatment plant, and a craft area, and that the plains and pastures disappeared (Ilustração 02 and Ilustração 04).

As for the western villages, the land uses were characterized by residential, educational, and public service buildings, and there were no longer any agricultural or pastures lands (Ilustração 02 and Ilustração 05).

Over 6 000 *dunum* of agricultural plains and 3 000 *dunum* of agricultural land were destroyed in the annexed villages, and the cultivation in these lands has almost vanished, which destroyed the agricultural sector completely in these villages. Nablus approved master plan had decreased the plains, and agricultural land from 9 000 *dunum* to 600 *dunum*. Deterioration of fertile agricultural lands also happened also in Jordan, Iraq, China, Malaysia, and India cities, as a result of the cities expansion (Saleh and Al Rawashdeh, 2007; Al Shammari, 2006; Jiang *et al.*, 2013; Samat *et al.*, 2014; Fazal, 2000). The west annexed villages were dominated by residential commercial use, while the east annexed villages were dominated by industrial camps in addition to residential uses. For example,

the industrial area in the approved master plan of Nablus 2013 is nearly 1 300 *dunum* and forms 6,5 % from the total annexed area (21 000 *dunum*). From *Askar* 480 *dunum*, 12 % of its total area. From *Balata* 560 *dunum* forming 19 % of its total area (2991 *dunum*), and from *Rujeib* 325 *dunum*, forming 16 % of its total annexed area (2087 *dunum*) (Tabela 01).

Some annexed land remained as agricultural land because first, these lands were classified as C in Oslo Accords, and were close to the Israeli settlements such as the lands that annexed from *Deir el Hatab*, *Beit Furik* and *Zawata* villages. Second, some land-uses were proposed on the master plan, but weren’t implemented like “public gardens”, (Ilustrações 03, 04 and 05), maybe because such parks and gardens require greater service costs from the municipality while providing very little to local profits (Wang, 2012: 9).

The current land-uses primarily benefited Nablus residents, who are industrialists and merchants, but the benefit of the villages’ residents from the new land-uses was limited. Total population for the five villages that were totally annexed in 1963-64 didn’t exceed 4 200 people in 1961, while the population of Nablus city for the same year was 45 773 people, which means that the total population of the villages constitutes nearly 9.2 % of the total population of Nablus city. Consequently annexed villages’ residents didn’t need the new land-uses as the residents of Nablus. The practice of land annexation by Nablus Municipality was similar to annexation- in one way or another- in San Antonio (Texas) which accelerated the tendency to move away expansion of population and investment from the centre. As a result, heavy decentralization resulted in the scattering of the industrial and residential programs away from the city centre and towards the suburban periphery (Caine *et al.*, 2017: 230, 236), (Ilustração 06).

Furthermore, Nablus residents invested in the industrial and the housing sectors, because of their availability of money and professionalism, while annexed villages’ residents, were originally farmers, professionals in agriculture and weren’t traders or investors or owners of capital as Nablus city’s residents. So, announcing new type of land use on annexed villages’ lands damaged the fertile plain of these villages in early time. For example, vegetable oil factories, vegetable market, the slaughterhouse and the incinerator which were located on *Balata* land, encouraged many residents to leave the work in agriculture, and animal husbandry, and work in the oil company, the Sulphur factory and other factories (Dweikat, 2014: 32). Nablus Municipality influenced directly or indirectly the residents of the villages’ income sources through the change of land-use, and directed them to other income sources.

In summary, a big land-use change occurred in annexed villages’ land especially in the agricultural land, and fertile plains. It has completely changed the annexed villages’ agricultural land. The annexed villages’ residents lost their agricultural lands, the source of income, and the stock of land for them, for the future generations, no longer have agricultural land reserves to compensate the lost ones. Also, Nablus Municipality had no roles, and no intention to protect and preserve the agricultural land and plains. Many housing and industrial projects were constructed, during the Jordanian period in the 1960s, as well as repeated in the Palestinian Authority period after 1994, without giving any attention to the importance of these agricultural lands.

Lastly, the change in land-use is a natural situation in many cities and villages in the West Bank due to the demand for land. The changes in land-uses in annexed villages occurred early as compared to other villages in Nablus governorate. This can be mainly credited

to the process of total annexation to Nablus Municipality Boundaries in the 1960s, and due to the proximity of its boundaries to Nablus city. There is a significant loss in the fertile agricultural land, which should be preserved, and took into account in the future expansion of Nablus Municipality Boundaries by planners, and influential persons who propose this expansion. Additionally, it is important to know that all the new land uses of annexed villages to Nablus Municipality Boundaries had been organized and approved by the competent authorities. So urban sprawl happened outside the municipality boundaries towards the land of southwest villages on land that haven't been organized until now (Ilustração 09), and this is the expansion direction that was proposed by Nablus Municipality to expand the municipal boundaries for the year 2016, and it hasn't been approved yet (Ilustração 01).

Results

The change in land-uses led to a decrease in agricultural lands in annexed villages, through proposing new land-uses in these villages in early times compared to other villages. Land annexation process had impacts on annexed villages' land where it hastened the change of land uses from agriculture land and pastures to residential, commercial, and industrial uses, etc.

It was found that the main previous land-uses were agricultural land, plains, pastures, and built-up areas, while the current land uses were dominated by the residential areas, A, B, and C (Ahmed, 2010: 2-3), industrial zone, the camps, craft complex, treatment plant, commercial areas, etc. The agricultural land was 3,000 *dunum* consisting of 10.4 % of the total area of the approved master plan 2013, the plains were 6,000 *dunum* consisting of 21 %, and the pastures consisted of 31 %. All these areas nearly disappeared by converting them to other new land-uses. The current land use of eastern land villages annexed to Nablus Municipality Boundaries have become industrial, with a slaughterhouse, treatment plant, craft area and other heavy environmental uses. As for the current land use of the western villages annexed. It is dominated by commercial, residential and public buildings.

May be six decades are a very natural time for justifying the land use changes that happened, as a result of many variations for the issues of geopolitical, economic, and social developments in Nablus. It overtime turned into a central city in the northern West Bank. However, the city needs more lands for educational, health, services, commercial and industrial uses to accommodate with these changes.

Recommendations

Involving local councils and annexed villages' residents in the master plan and its land uses.

Determining the priorities of Nablus Municipality concerning annexed villages, and the local councils, by holding discussion sessions to reach a shared vision in order to achieve the mutual benefit for both parties through a participatory planning tool to reach the comprehensive planning stage.

Involving the Ministry of Agriculture and the Environment Authority in the land annexation process will reduce the negative impacts on agricultural lands and residents.

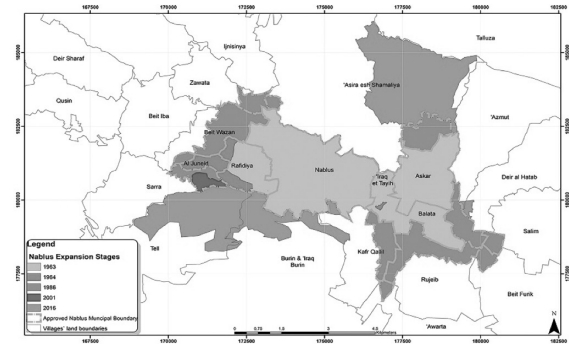


Ilustração 01 – Nablus Municipality Boundaries expansion since 1963 until 2001, and the proposed expansion for 2016. Source: Nablus Municipality (2019), modified by researcher.

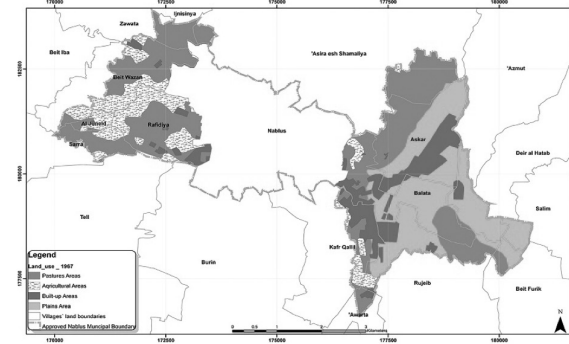


Ilustração 02 – The previous land – uses of the west and east annexed villages in 1967. Source: Nablus Municipality, and Birzeit University (2019), modified by researcher.

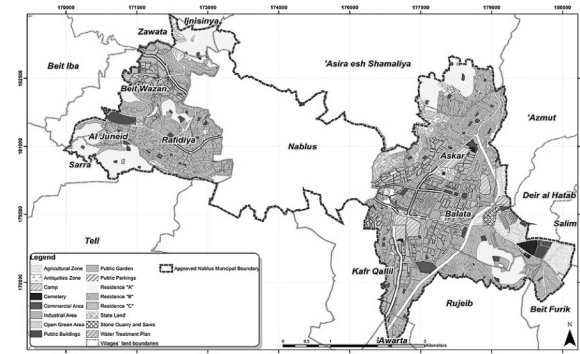


Ilustração 03 – The current land-use in the annexed villages in approved master plan 2013. Source: Nablus Municipality (2019), modified by researcher.

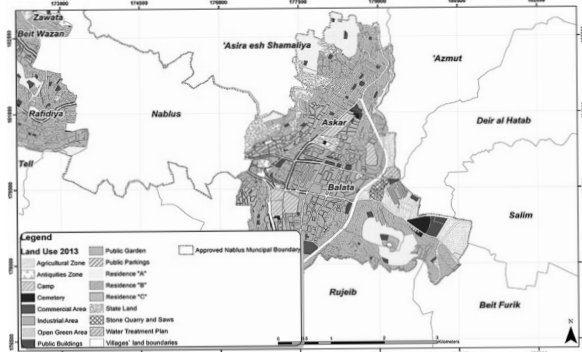


Ilustração 04 – The current land-uses in the eastern annexed villages in the approved master plan 2013. Source: Nablus Municipality (2019), modified by researcher.



Ilustração 07 – The eastern Popular Housing Project in annexed villages. Source: Ministry of Local Government (2018), modified by researcher.

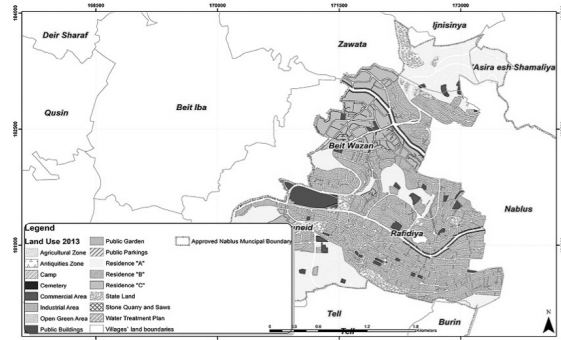


Ilustração 05 – The current land – uses in the west annexed villages in the approved master plan 2013. Source: Nablus Municipality (2019), modified by researcher.



Ilustração 08 – An Najah University in annexed villages. Source: Ministry of Local Government (2018), modified by researcher.

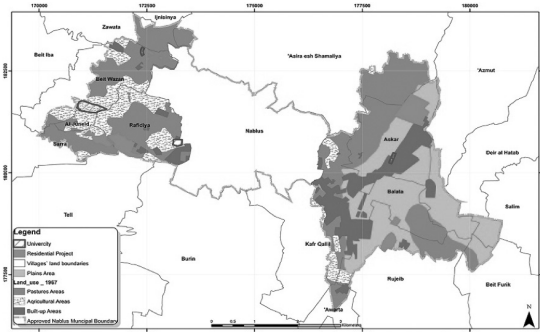


Ilustração 06 – The previous land – use of the different educational and housing projects in annexed villages. Source: Nablus Municipality and Birzeit University (2019), modified by researcher (Ilustração 07 e Ilustração 08).

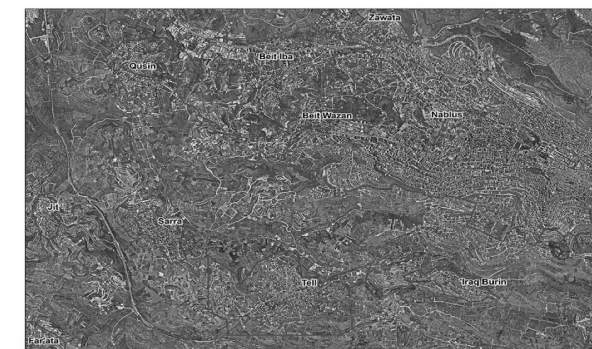


Ilustração 09 – Urban sprawl outside Nablus Municipality Boundaries. Source: Ministry of Local Government (2018), modified by researcher.

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