



Politecnico di Milano
Scuola di Architettura Urbanistica e Ingegneria delle costruzioni
Corso di Laurea Magistrale in Architettura
p.s.p.a Conservazione del Patrimonio Architettonico e Ambientale

The town of Dimona: ascent, decadence, abandonment and rebirth of a development town in the Negev desert 1952 -2019

Relatore: Prof.ssa Carolina Di Biase

Laureanda: Renana Zohar 874910

TESI DI LAUREA
A.A 2019-2020

*This thesis is dedicated to my Grandparents
Binyamin and Yael Zoneneshaine
Shaul and Sara Masha'al*

Abstract

This thesis discusses the evolution of the desert development town of Dimona by analyzing its ascent, decadence, abandonment and rebirth characteristics.

A chronological timeline was established as a means to explore the dynamic settlement evolvement within the Negev desert region from its ancient Roman period to current times.

During the mid-50s' a British new town model was assigned to the upcoming settlement of Dimona as part of a utopian pioneering spirit led by the first prime minister of Israel David Ben Gurion. The model was forced to adapt to the local interpretation due to the constant physical constrains that the new settlement had to deal with. The inability to adapt to the original attributes had created a void in which new experimental approaches were examined. The town turns toward the industry sector where the majority population was engaged directly and indirectly with the sector. The turning point occurs during the mid 70 when new experimental neighborhoods and public structures were established and commercial structure began to appear in the newly designed central business district. During the early 90, the initial enthusiasm was turned toward deterioration and abandonment phenomenon once the industrial sector began to sink, and with it the rest of the town's evident sectors.

The study finds that the main cause for decadence and abandonment was due to unequal and disproportional development of the industrial sector toward the urban texture and the local population. The analysis also refers to the structural pattern behavior according to 3 Key elements: Immediacy, marginality, and borderline.

Immediacy as a constant pioneering justification to impose establishment acts at all costs and all at once;
Marginality as a symbol for moderated cultural choices where there aren't any pure styles or stable models but rather imported canonical models and indigenous cultures symbols;

Borderline as a constant struggle to refuse to commit to declared permanent form or shapes, as the town planners constantly preferred to preserve the hypothetical advancement atmosphere.

The last chapter of the thesis refers to the rebirth possibility, where several adaptable suggestions in various scales were provided.

The town of Dimona: ascent, decadence, abandonment and
rebirth of a development town in the Negev desert
1952 -2019

Abstract.....	1
Index.....	3
Chapter 1: Becoming a state (1948-1952).....	9
1.1 Forming a state (1948)	
1.2 Aria Sharon’s vision - Master plan for Israel (1948 – 1952)	
1.2.1 Sharon’s master plan – macro scale	
1.2.2 In which direction is the traditional town moving?	
1.2.3 The neighborhood structure – micro scale planning	
Chapter 2: The Zionist act –building a home (1920-1961).....	39
2.1 From white to grey architecture.....	39
2.1.1 What is Israeli architecture?	
2.1.2 The different periods	
2.2 Forming a town.....	53
2.2.1 What is a ‘New town’?	
2.2.2 The Israeli new town	
2.2.3 New towns in the northern Negev	
2.3 planning the Negev (1958-1961).....	71
2.3.1 Region planning	
2.3.2 Economic potential	
2.3.3 Transportation	
2.3.4 Landscape and potential tourism	
Chapter 3: Dimona: Formation to prosperity (1951-1990).....	83
3.1 Dimona –physical attributes.....	85
3.1.1 The Makhtesh phenomenon	
3.1.2 The Negev’s Minerals	
3.1.3 The common types of soil	
3.2 Ancient Architecture (‘300 B.C – 1947).....	99
3.2.1 The Nabataean Kingdom in the Negev	
3.2.2 The city of Mampsis (Mamshit – Kornub)	
3.3 The dream of the ‘50s.....	113
3.3.1 Dimona’s Destination (1950-1952)	
3.3.1.1 Settlement in the Negev	

3.3.2	Dimona's location	
3.3.3	Transition camp to a new town (1952 – 1959)	
3.3.3.1	Essential Infrastructure	
3.3.4	The Ideal house is the economical house	
3.3.4.1	Primary solutions for the housing crises	
3.3.4.2	The transition camps – Ma'abarot	
3.3.4.3	Louis Kahn's proposal for resolving the housing problem in Israel	
3.3.4.4	The permanent construction	
3.3.4.5	The growing 'patio house'	
3.3.4.6	Initial urban planning	
3.4	The experimental '60s.....	179
3.4.1	Experimental industry	
3.4.2	Experimental housing	
3.4.3	Experimental town layout	
3.4.4	Reflecting on Oscar Niemeyer's 'City of the Negev' idea	
3.5	Prosperity era of the '70 to early '90.....	215
3.5.1	'Dimona for Display'	
	Chapter 4: Dimona: Crisis to Abandonment & decaying (1990-2015)....	237
4.1	preliminary distress symptoms- financial crisis.....	239
4.1.1	Preexisting conditions	
4.1.2	The workforce struggle	
4.1.3	The globalization effect	
4.2	The 'house of cards' effect – a human crisis.....	259
4.3	abandonment to decaying.....	277
4.4	Conclusions.....	327
	Chapter 5: Achievable Rebirth.....	337
5.1	The official vision – municipal and Government insight.....	337
5.1.1	Macro scale projects – governmental proposal	
5.1.2	Medium scale projects – the 'Merage foundation' proposal	
5.1.3	Micro scale projects – the 'Dimona Development Committee' proposal	
5.2	Three suggested renovation projects.....	405
	Selected Bibliography.....	417

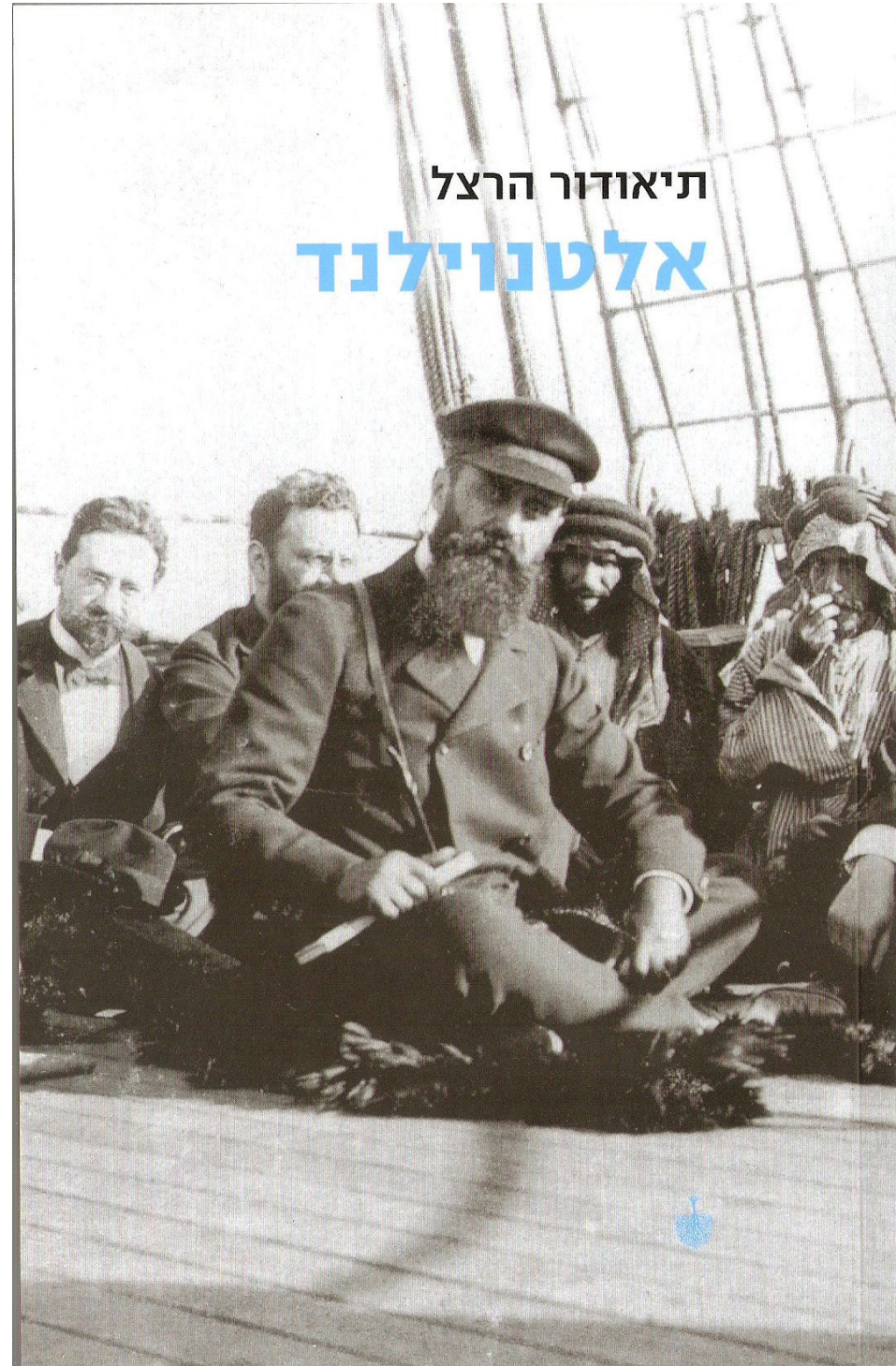


Figure 1: Herzl on the new edition cover of his book 'Altneuland'. In: The Babel publishing house website

Chapter 1 Becoming a state (1948-1952)

"[...] No human being is wealthy or powerful enough to transplant a nation from one habitation to another. An Idea alone can achieve that and this idea of a State may have the requisite power to do so. The Jews have dreamt this kingly dream all through the long nights of their history. <next year in Jerusalem> is our old phrase. It is now a question of showing that the dream can be converted into a living reality. For this, many old, outgrown, confused, and limited notions must first be entirely erased from the minds of man. Dull brains might, for instance, imagine that this exodus would be from civilized regions into the desert. This is not the case. It will be carried out in the midst of civilization. We shall not revert to a lower stage, we shall rise to a higher one. We shall not dwell in mud huts; we shall build new more beautiful and more modern houses, and possess them in safety. We shall not lose our acquired possessions we shall realize them. We shall surrender our well-earned rights only for better ones. We shall not sacrifice our beloved customs; we shall find them again. We shall not leave our old home before the new one is prepared for us; Those only will depart who are sure thereby to improve their position; those who are now desperate will go first after them the poor; next the prosperous, and last of all the wealthy. Those who go in advance will raise themselves to a higher grade, equal to those whose representatives will shortly follow. Thus the exodus will be at the same time an ascent of the class."¹

In 1897 Theodor Herzl, a Viennese man of letters, founded the Zionist organization. He was a newspaper correspondent in Paris during the Dreyfus episode, and witness to a fierce storm of anti-Semitism in France, the country which had been the first to give the Jews political equality. He came to the conclusion that the only refuge for the Jews from persecution and hatred was in a land of their own. 'A publicly recognized legally secured home in territorial Palestine' was the program of his organization.²

In the period immediately preceding the emergence of the Zionist movement in the second half of the 19th century, the Jews of territorial Palestine were living in a few ancient towns, primarily in Jerusalem, Zfed, Tiberius and several agricultural colonies under the Ottoman regime.

From 1882 to 1908, the agricultural colony was the only distinct Jewish settlement form in the land. The

¹ B. Z. Herzl, *The Jewish state* (Translation by Mordechai Yoeli), Yediot Aharonot Press, Tel Aviv, 1978. p. 18-19

² H. Sacher, *Israel- the establishment of a state*, George weidenfeld& Nicolson publishing, London and New York, 1952. p.5

rest of the pre-existing patterns were mainly historical cities that maintain a mixed population of Jews and Arabs. Only from 1908 onwards, new forms of settlement began to be established and involved various experimentation settlement patterns, such as 'Moshav', a 'group', and a 'kibbutz'. It was only after World War I that the agricultural colony lost its prestige status and became a marginalized settlement.

Throughout the 19th and the beginning of the 20th century, thousands of Jewish settlers came to territorial Palestine from different countries and origins to faced with the intrigued challenge of establishing new settlement patterns. The challenge was not only embodied with the lack of experienced but rather with the variety of contradictory influences: originating concepts from their homeland and the given settlements patterns of territorial Plasetin (a traditional village rooted in the landscape and an ancient city pattern).

The different settlements, that were established by the new immigrants, were founded in several chronological waves. Each wave was different from its previous one. The main reasons for such diversity were due to the different characteristics the immigrants wave obtained, by the financial aid each settlement had received and by the different historical and geographical transformations that occurred during the period. The role that the diversity played was not only concluded in the settlement's physical attributes but rather largely influenced the design of the social arrangements and economic attributes; and therefore should not be generalized under any term.

In this chapter, the formation of the state of Israel will be represented throughout the various immigration waves that created a substantial change in the settlement developing models. The second part of the chapter will mainly be dedicated to the first masterplan of Israel, created by Ariah Sharon.

1.1 Forming a state

Most of the academic scope that had been conducted over the years tends to determine the evolution of the Jewish settlement according to distinct immigration waves (In Hebrew: Aliyah). The first Aliyah, the second Aliyah, etc. Furthermore, it is also possible to distinguish a direct link between the two main phenomena that had existed in the Jewish evolution - immigration and settlement. Or in other words, each Aliyah generated a new and distinct pattern that had contributed to the evolution of the Jewish settlement in territorial Palestine.³

Therefore, this subchapter will focus on the Aliyah phenomenon according to attributes of population components as well as their 'contribution' to the Jewish settlement. Furthermore, the subchapter will also describe the British mandate period and its crucial influence over the future state of Israel until the stat's declaration day on May 14, 1948.

³ Y. Ben Artzi, *The Jewish colony in Eretz Israel landscape 1882-1942*, Yad Yitzhak Ben Zvi publishing, Jerusalem, 1988. p.2-15

The Aliyah waves

The first Aliyah to territorial Palestine occurred during the late 19th and early 20th centuries (1882-1903) on the background of a large global emigration movement from the European countries toward the Western 'new world' countries (America and Australia). During this period, approximately 4.5 million Jews took part in the immigration wave and immigrated to America, Australia, South Africa, and territorial Palestine. Among the different causes for the phenomenon to occur was the rapid demographic growth of the European population and the economic distress that followed it. The majority part of the Jewish immigration that reached territorial Palestine were originated from Western Russia, Galicia, and Romania, who fled in an effort to improve their personal and financial security (due to Anti-Semitism and harsh Economic policies by the governmental authorities).

The main attributes of this Aliyah included individual spontaneous single immigrants that have arrived autonomously to the 'Land' without distinct Zionist motivation.

While the existing Jewish settlement found itself unprepared for this spontaneous Aliyah, many thought that additional agricultural settlements would solve the immigration problem and create a physical positive effect, as agricultural work, as they reckon, reinforce the connection to the land.

Toward the end of the Aliyah, in late 1882, three pioneering colonies (In Hebrew: Moshava) were founded: Rosh Pina, Zichron Yaacov, and Rishon Lezion. One in each area that will soon become the regional development focus of Jewish settlement: Upper Galilee, Samaria, and the Judean plain.⁴

The second Aliyah occurred from 1904-1914 and included a continued immigrant flow from Galicia. Unlike the spontaneous first Aliyah, the second Aliyah was far more organized as representatives from the Jewish settlement were sent to the Galicia region to encourage Jews that suffer from Anti-Semitic riots⁵ to immigrate.

The second Aliyah's main contribution was the establishment of a settlement configuration called a 'group' (In Hebrew: Kvutza). The group is a cooperative settlement whose principles are based on the existence of a small, intimate cooperative community. The residents of the group lived in full co-operation (common fund for expenses and income, without private property) and without external financial support control. The co-operative approach of 'the group' was much different from the rest of the Jewish settlement when the immigrants of the second Aliyah seized the local farmers as property owners and bourgeois and that had contradicted the socialist worldview they possessed. Aside from practicing their socialist lifestyle, the group had given additional meaning to the immigrant's social frame, as most immigrants had arrived as single individuals, and provide an efficient integration tool to ease the transition between

⁴ M. Eliav, *The first Aliyah book Vol. 1*, Yad Yitzhak Ben Zvi publishing, Jerusalem, 1982. p.10-12

⁵ The Anti-Semitic riots during that time were: The Kishinev pogrom in 1905, The Black Hundreds riots in (1905-1906) and the riots that follow the Beilis affair (1911)

locations, cultures, and languages. It was only during the third Aliyah period when 'the group' settlement had changed its name to Kibbutz. ⁶

Prior to the third Aliyah, at the End of WWI in early 1919, it was decided at the Peace Conference in Wasai Paris that the territories occupied by the Ottoman Empire shall not be returned back to Turkey, but would be assigned to the victorious nations to serve as legal guardians. The new governmental mandate was created by the League of Nations in the spirit of a world peace arrangement outlined by US President Woodrow Wilson in 1919. According to Woodrow's principles, at the end of the war, no arbitrary territorial changes could be made, as in the past, and annexation acts would no longer be held against the population's will. ⁷

Therefore, from the end of the war until the summer of 1920, territorial Palestine was under military rule. The position in which military rule allowed was to maintain the status quo in the occupied territory and not engage in any irreversible changes (territorial or political). In April 1920, the San Remo Conference had approved the deposition of the Ottoman Mandate over territorial Palestine to Britain. On July 1, the British government had decided to establish a civilian mandate, when they placed Herbert Samuel as the Commissioner of Mandatory Palestine. Aside from its formal political position as to maintain a peaceful status quo, the British mandate was also responsible for the wellbeings of its inhabitants as to provide medical care, improved sanitation conditions (such as wetland drying), and assisted farmers by providing credit. In addition, the British government also improved the country's physical infrastructure by paving roads and creating a national railroad system while employing thousands of workers⁸.

During the critical period between the end of WWI and the new British Mandate, the third Aliyah wave had occurred (1918-1923). The third Aliyah was characterized as a variety of European Jews that decided to immigrate to Mandatory Palestine due to their ideological- Zionist intentions.

Following the integrative success of the second Aliyah, the third Aliyah members were motivated to immigrate and to take part in the ongoing pioneering activities of the Jewish settlement.

Furthermore, the determination of the Ottoman regime over territorial Palestine (1919) gave hope to the new immigrants as well as the Jewish settlement to fulfill their Zionist ambition.

⁶ M. Zur, *The group – the initial perception in perspective* in *Cathedra Quarterly* Vol. 104, Yad Yitzhak Ben Zvi publishing, Jerusalem, 2009. p.25; Y. Gurni, *The changes in the social and political of the second Aliyah 1904-1940* in *The Zionism movement – collective articles regarding the birth of the Zionism movement and the Jewish settlement in Palestine* Vol. 1, Tel Aviv University, Tel Aviv, 1970. p. 205-240.

⁷ According to the 12th article of Woodrow: XII. The Turkish portion of the present Ottoman Empire should be assured a secure sovereignty, but the other nationalities which are now under the Ottoman rule should be assured an undoubted security of life and an absolutely unmolested opportunity of autonomous development.

⁸ A. Halamish, *From a national home to a state in the Making: the Jewish community in Palestine between the world wars*, the open university press, Tel Aviv, 2004. p. 95-115



NAHALAL נהלל

Figure 2: An Ariel view of Nahalal 1937-1938. In: Zoltov Kloger collection, State archive website.

The Aliyah's members were largely characterized as young singles idealists with a distinct preference for infrastructure development works such as wetland drying, quarrying, paving roads, and soil preparation activities for future agriculture settlement. Moreover, the third Aliyah is also responsible for the creation of the 'Moshav' settlement type, which mainly revolved around the idea of individual farming. Generally speaking, a moshav is a rural settlement that unites a group of residents (mostly farmers) in a cooperative economic framework. In contrast to the future form of settlement - the kibbutz, each of the Moshve's participants is an economic and independent unit that operates under mutual assistance rules. Each member has a given terrain, which in most cases is used for agriculture. The most impressive example of the Moshav type was the Nahalal Moshav that was designed by Richard Kauffmann⁹ and established in 1921.¹⁰ The unique circulated shape of Nahalal is mainly constructed out of 3 principle rings where the smallest internal ring is used for placing the public structures (as a common territory), then the middle size ring to the residential units and the outer and final ring to the actual individual farming territories of each unit. (figure 2)

The Fourth Aliyah had occurred between 1924-1931 and was composed of immigrants from Eastern Europe, Asia, and North Africa. This Aliyah was named also 'the bourgeois Aliyah' due to the nature of occupation the new immigrants possess - merchants, shopkeepers, artists, and craftsmanship workers. According to these distinct characteristics, the majority part of this Aliyah had preferred to settle in the urban settlements of Tel Aviv, Haifa, and Jerusalem.

Unlike previous immigration waves, the fourth Aliyah hadn't created new settlements patterns but contributed a great deal of development to the urban settlements. The most impressive example of this contribution could be found in the city of Tel Aviv¹¹.

The city of Tel Aviv was founded in 1909 as an external Jewish quarter when the Jewish population of Jaffa grew outside the city walls. It was named initially 'Ahuzat Bait' and was created in light of Herzl's description in his book *Altneuland* that was published in 1902. The main reasons for the establishment of the city were the desire to live an independent Jewish life and improve the difficult living conditions, which were manifested in Jaffa. The Ahuzat Beit neighborhood was founded as a green neighborhood with a few low houses, where the main streets were Herzl Street and Rothschild Avenue. During the third Aliyah, the quarter began to grow and develop additional neighborhoods. The contribution of the fourth (and later the Fifth) Aliyah was the bourgeoisie characteristics that were not evident prior to this period. During

⁹ Richard Kauffmann (1887-1958) was a Jewish German architect and town planner that was involved with the construction of hundreds of rural and urban settlements in Israel.

¹⁰ Y. Erez, *The third Aliyah book*, Am Oved Publishing, Tel Aviv, 1964. p. 6-10

¹¹ Y. Rosenthal, *Chronology of the history of the Jewish settlement in Israel*, Yad Yitzhak Ben Zvi publishing, Jerusalem, 1979. p.160-163

that time, several cafes were opened, the first cinema and even the first casino were opened. Around the beginning of the '30s Tel Aviv had turned to be a central financial district, where markets were opened, public institutes were developed and cultural centers flourished.

During the same period, different architectural styles, such as the Bauhaus and the eclectic style were adopted by local architects and began to appear as residential houses, small workshops, and even factories. In 1925, the British town planner Patrick Geddes¹² was invited by the first mayor of Tel Aviv to create its first masterplan. The general approach to the plan was to produce an urban grid when streets and avenues were placed perpendicular to the coastal area to allow the breeze from the Mediterranean sea to enter into the urban texture. Furthermore, most of the streets were initially planned as linear boulevards (with planted trees) that will encourage the development of the commercial street activities inside the city's boundaries. The plan itself was implemented in 1927-1929 and finally approved in 1932.¹³

The British mandate period

During the mandate era, two different social systems developed under one political framework, a Jewish one and an Arab one. Each society had its own welfare, educational, and cultural institutions and they gradually became politically and economically independent of one another.

The Zionist movement, for its part, operated along two main axes: the acquisition of land and immigration. Private capital and Zionist institutions purchased large-scale tracts of land, including from Arab landowners. Jewish immigration and the natural growth of the Arab population in Palestine dramatically transformed the demography of Mandatory Palestine as it grew from approximately 700,000 inhabitants in 1922 to around 1,800,000 in 1945. The Arab population doubled, while the Jewish population grew tenfold.

Throughout the 1920s and 1930s, violent confrontations between Jews and Arabs took place in Palestine, costing hundreds of lives. The events of 1929, known as the Wailing Wall Riots, are considered a turning point in the history of the mandate period for both Arabs and Jews. After the 1929 conflict, Arabs no longer distinguished between Jews of Arab origin and Jews of Eastern European origin but instead viewed them as one homogenous group with the same national aspirations. As far as the Jews were concerned, the events led to the conclusion that a Jewish state was needed and political groups should work together to accomplish this objective. In the aftermath of the 1929 riots, the British set up a commission of inquiry to investigate the conflict. The results of the Shaw Commission¹⁴, as it was called, led to a review of Jewish immigration and land purchasing, and thus marked a shift in British policy toward the Zionist movement.

¹² Patrick Geddes (1854-1932) was a British biologist, sociologist, geographer, philanthropist, and pioneering town planner..

¹³ N. Donovitz, *Tel Aviv: Sands turned to metropolitan*, Shoken press, Tel Aviv, 1959. p.80-104.

¹⁴ The official title of the commission was 'Commission on the Palestine Disturbance of August 1929, led by Sir Walter Shaw



Figure 3: advertising for encouraging immigrants to come to live in Israel. In: H. Sheder, The bricks of the public housing: six decades of Israeli urban construction in public intention, The Ministry of housing and construction press, Tel Aviv, 2014. p. 24

Another major Arab revolt, in 1936, was triggered by an economic crisis, Jewish mass immigration, which had increased in 1933 after Adolf Hitler came to power in Germany, and the continuation of Jewish land purchases. This revolt had two phases. The first started in April 1936 with a general strike by the Arab community and violent attacks on British and Jewish targets. It lasted until October 1936, when diplomatic efforts involving other Arab countries led to a ceasefire. A Royal Commission of Inquiry headed by William Peel was established in 1937. It concluded that Palestine had two distinct societies with irreconcilable political demands, thus making it necessary to partition the land. According to the Commission's decision, the land should be divided according to where the mass aggregation settlements exist for each side, therefore, the Jewish side was to receive a territorial portion in the West (coastal plain) and north (Jezreel Valley and Galilee) parts, while the Arabs received the south (Negev Desert) and east (Judea plain and Samaria) parts. Furthermore the Jerusalem 'corridor' remains under the permanent control of Mandat Authorities¹⁵. The Arab rejection of the Peel conclusions led to the second phase in September 1937, when the Arab Higher Committee declined these recommendations and the revolt broke out again. The revolt then succumbed to internal struggles within Arab society. Additionally, Britain's heavy-handed response to the revolt was marked by violence and destruction. Estimates of the number of Arabs killed by the British armed forces and police vary between 2,000 and 5,000 people. Following the riots, the mandate government dissolved the Arab Higher Committee and declared it an illegal body.

In response to the revolt, the British government issued the White Paper of 1939 (also known as the third white paper¹⁶). These events weakened Arab society to such an extent that after World War II it failed to recover and did not attain political achievements in the wake of the 1948 war.

The White Paper, issued in 1939, stated that Palestine should be a bi-national state, inhabited by both Arabs and Jews. Jewish immigration would be limited for five years, and any immigration required Arab consent. In addition, it called for restrictions on land purchases by Jews. British authorities set a limit on Jewish immigration to Palestine, but Hitler's rise to power in 1933, increased the number of people looking for refuge from Nazi Germany. Yet their options were limited due to increasing restrictions and closed borders. Zionist organizations dealt with the situation by organizing illegal immigration to Palestine, which continued until British rule ended.

The negative publicity caused by the deteriorating situation in Palestine and the violence erupting on both sides made the mandate increasingly unpopular in Britain and was instrumental in the government's announcement of its intention to terminate the mandate and return the Palestine question to the United

¹⁵ S. Arieli, *All Israel's Borders*, Sifry Aliyat Gag publishing, Tel Aviv, 2018. p.68

¹⁶ Prior to the third white paper there were 'the Churchill White Paper' in 1922 and the 'Passfield white paper' in 1930

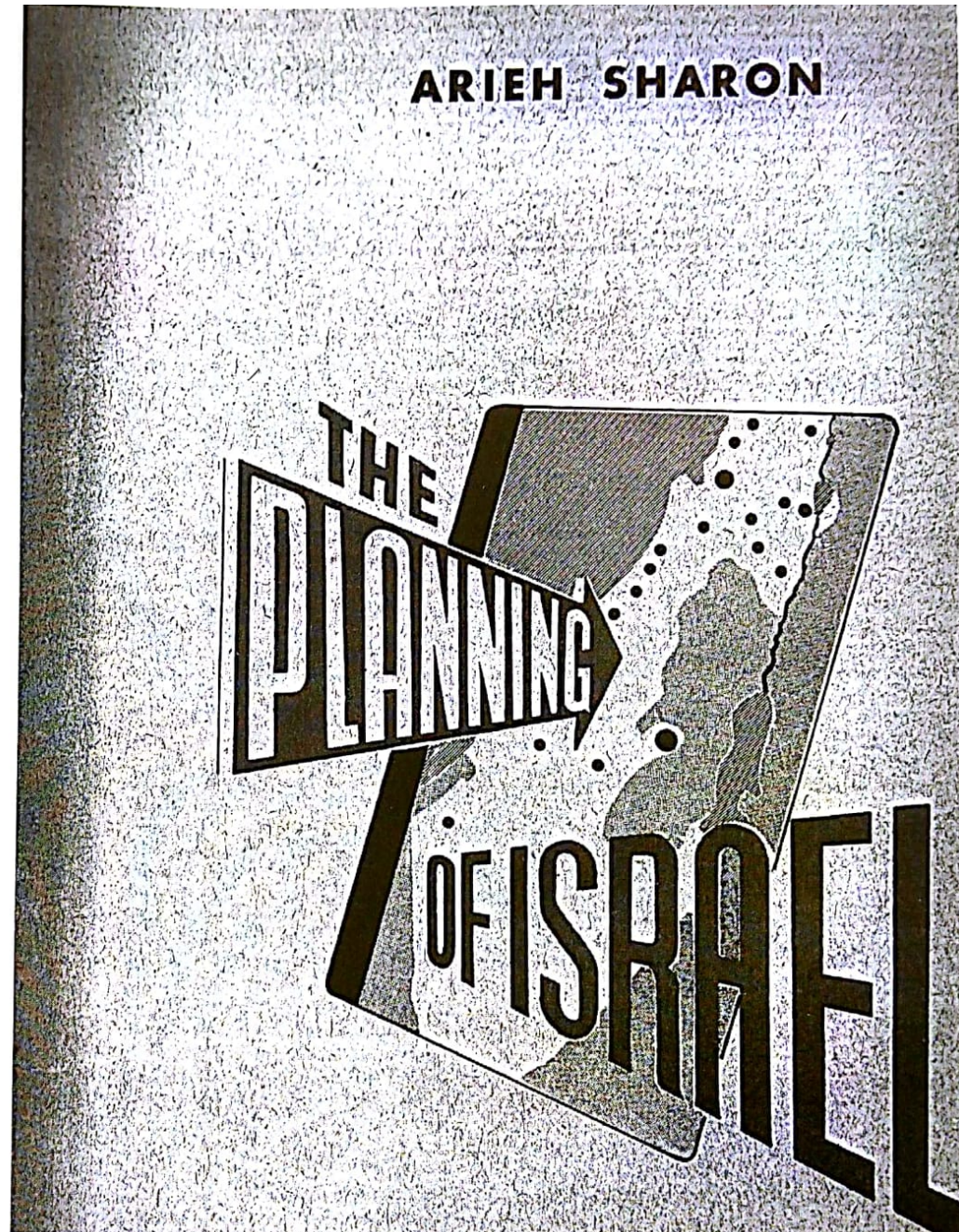


Figure 4: The cover of the English version of the strategy of Arie Sharon. In: Z. Efrat, M. Yagid – Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1+2, Tel Aviv Museum for art press, Tel Aviv, 2004. p. 990

Nations (UN)¹⁷.

On November 29, 1947, the United Nations in New York, decided to divide territorial Palestine into two states - Jewish and Arab - and added an international region in Jerusalem (partially embracing the Peel Commission's conclusions).

From this day on, steps in the administration sector began to be generated in order to be fully capacitated to begin the establishment of the state once the British mandate period will end. By that time, the British announced that they would evacuate until May 15, 1948, and although many were inclined to doubt the veracity of their declarations, detailed and expeditious plans for the establishment of the state were made. Initially, a plan was set up to establish 13 government offices that will deal with the most crucial sectors for that period (prime minister, finance and power, etc.). Many efforts were also devoted to preparing the infrastructure for operating essential services and state services. As there was uncertainty as to the timing of the transfer of official sectors from the mandatory government to the designated government - there was a need for improvisation in making immediate executive decisions. A good example of such transfer could be found in the transition to the new currency after Britain announced the removal of Israel from the Sterling bloc. The settlement's banking system decided to establish new currency, and in a short time the New Shequel currency was accepted in full confidence by the public.

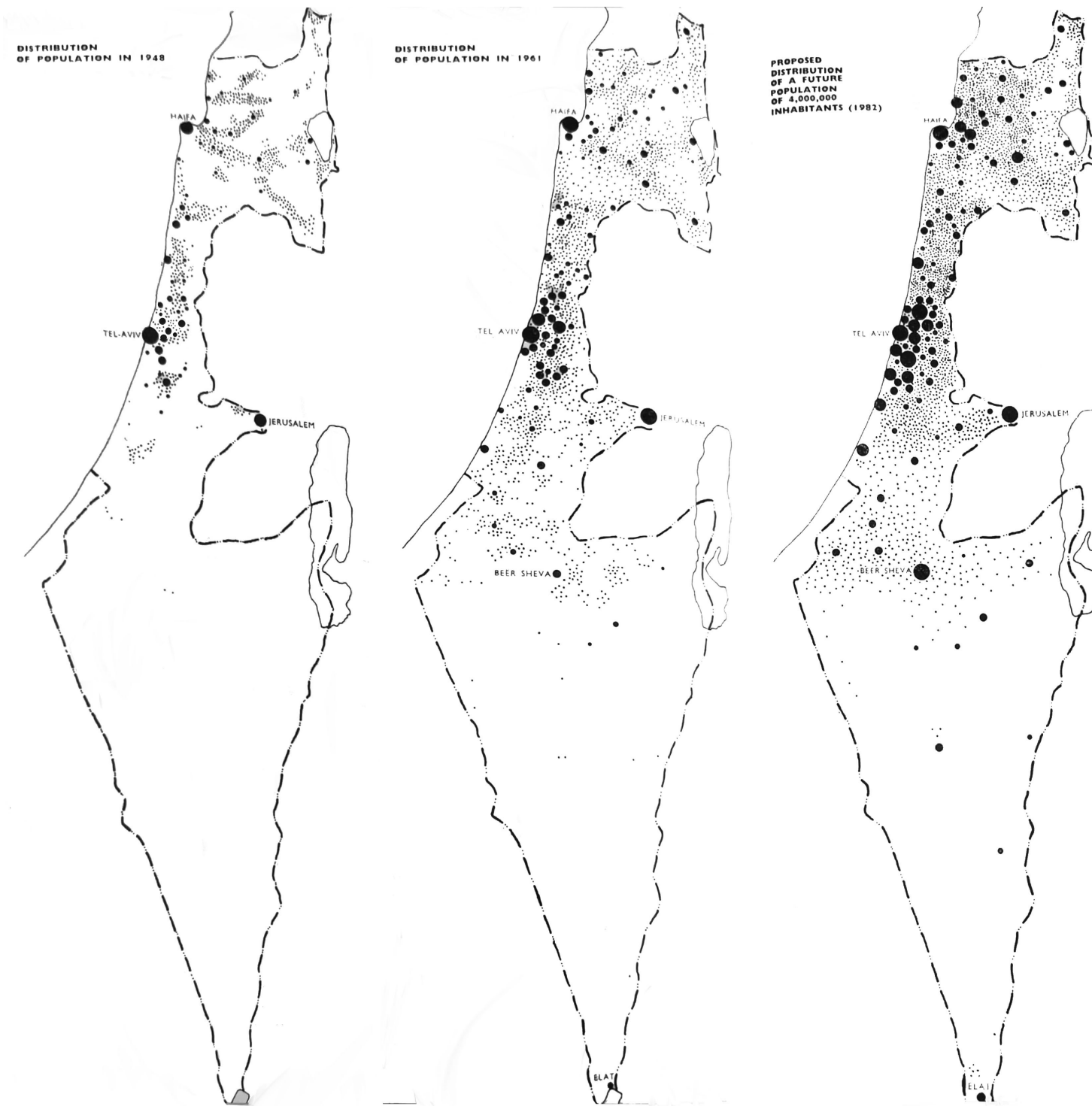
In preparation for the Declaration of Independence, the People's Council became the Provisional State Council (their members had turned to Ministries) and the People's Administration organization became the Government.

On Friday, May 14, 1948, the People's Council, (which became the State Council), convened at the Tel Aviv Museum Hall. David Ben-Gurion read the Declaration of Independence (403), after which all members of the People's Council signed it. In the following days, the new state had to face two critical tests: the test of coping with the Arab settlement and the establishment of a new state.

From the Declaration of the State of Israel, Tel Aviv May 14, 1948: "[...] Accordingly we, members of the People's Council, representatives of the Jewish Community of Eretz-Israel and the Zionist Movement, are here assembled on the day of the termination of the British Mandate over Eretz-Israel and, by virtue of our natural and historic right and on the strength of the resolution of the United Nations General Assembly, hereby declare the establishment of a Jewish state in Eretz-Israel, to be known as the State of Israel."¹⁸

¹⁷ D. Giladi, M.Naor, *Eretz Israel in the 20th century – From Yishuv to Statehood 1900-1950*, Naydet and the Ministry of defense press, Tel Aviv, 2006.p. 342-393; A. Ginat, *British Mandate for Palestine in 1914-1918* International Encyclopedia of the First World War online, issued by Freie Universität Berlin, Berlin,2018

¹⁸ D. Giladi, M.Naor, op. cit., p.394-477



1.2 Aria Sharon's Master plan for Israel (1948 – 1952)

1.2.1 In which direction is the traditional town moving?

"Any physical planning that aims to determine the use made of the landed resources of a country, and shape to be given to it must be based on economic, social, and national-defense considerations. A condition sine qua non of its success will be the organization, coordination, and synthesis of these factors within a planning frame that it followed by development proper. The physical characteristics of the land, its vegetation, climate, soil, water resources, and mineral deposits, constitute the basis for the national, master plan, which aims to serve the interests of the individual and community effectively.

The objectives of a national plan include siting of agricultural settlements and agricultural areas; determination of the rational and healthy distribution of urban centers; effective disposition of industry in the various regions of the country; an indication of the road network and centers of communication, and provision of a chain of forests and national parks.

To attempt the development of a small new state such as Israel without some such national master plan would simply mean to court failure from the start.

Israel is far too poor in land, natural resources, and man-power to permit any repetition of the mistakes of vaster and richer countries¹⁹, which are capable of rectifying errors in due course. The intensive and all-embracing development of this country calls for effective and precise planning"²⁰.

In 1948, the Jewish settlement structure was recognized by a large population concentration in the specified cities (Tel Aviv, Haifa, and Jerusalem). The preexisting conditions of the British mandate regarding the political and economic status as well as the Jewish society's image had led to large scale anomaly in the demographical distribution – from one hand scattered isolated agriculture villages in the margins and from the other high dense coastal metropolis. Specifically, 82% of the total Jewish population in Israel was concentrated on the narrow coastal plain between Tel Aviv and Haifa, while the remaining 18% were naturally scattered along with the different territories according to soil vacancy and available water resources – in a ratio of 18:82²¹. Moreover, this particular condition was a direct result of a disorganized urban process, where the majority of 'spontaneous acts' were left unanswered and undetermined in the planning committee.

Only a few weeks after the state's declaration, during the independence war, Arie Sharon, one of the leading architect of the labor movement, was invited to form the government planning department. Arie

¹⁹ Sharon's intention was aimed toward America (north and south) and Australia – as a poor example for impractical short-term for the outback territory.

²⁰ A. Sharon, *Planning in Israel* (translated to English by A. Sharon), Government Printer, Jerusalem, 1952. p.5

²¹ The current ratio wasn't popular among western European countries – which excelled in the 'thick' grid network of small-medium size settlements. In S. Reichmann, *From Outpost to Moshav: Creation of the Jewish Settlement Map in territorial Palestine 1918-1948*, Yad Ben Zvi Press, Jerusalem, 1979, p.427

Figure 5: The evolution of the population in Israel. In: J. Dash, E. Efrat, *The Israeli physical master plan*, Ministry of the internal affairs press, Jerusalem, 1964. p.27-28

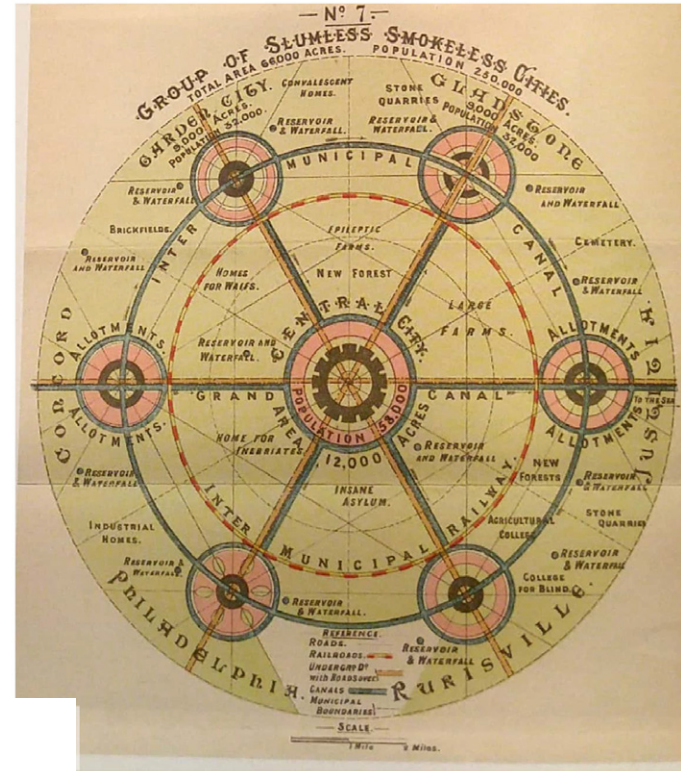
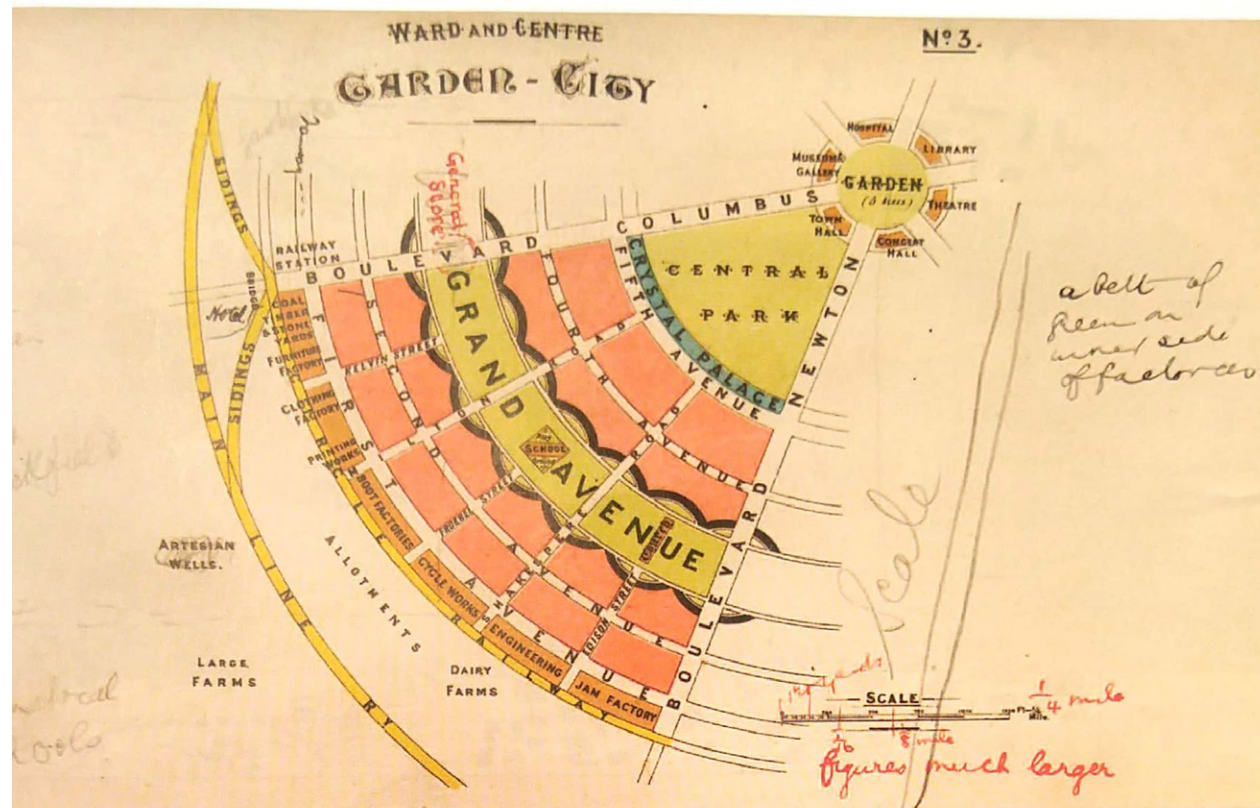


Figure 6-7: Ebenezer Howard's concept of the 'Garden city'. In: H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014. p. 15



Sharon (1900-1984) was an Israeli architect. He attended his architecture academic studies in the famous 'Bauhaus' school in Dessau under Walter Gropius and Hannes Meyer. The invitation he received gave birth to the national master plan of the State of Israel - the 'Sharon Plan' - and gave him an unprecedented instrument of power to cast a new state landscape and to shape the future image according to his vision. Soon after the official declaration (6.12.1948), Sharon has decided to recruit a team of 80 professionals (architects, urban planners, engineers, sociologists, and economists) – a brigade of planners – to assist and reflect on master plan's ideas.

The first and most urgent tasks assigned to Sharon and his planners was to provide temporary housing solutions to the new immigrants and to settle the state's remote districts²². Furthermore, a long-term intensive and comprehensive plan for the country's development was required to gain control on the different infrastructure aspects of a new state²³.

The Sharon program was based on several models, theories and actual practical experiences, some of which were developed in the late Mandatory period in Israel, mainly by different members of the Department of Settlement Reform - some of which were imported from Europe and undergoing expedited process (the garden city, the new town movement, the Christaller theory, and train plan). The only pure inventiveness act that was conducted under Sharon's management was the unity of all ideas under the same strategy.²⁴

One of the most critical ideas incorporated in Sharon's plan was the use of the 'new town' strategy. The new town's program in postwar Britain was one of the few grand projects of the British state during the twentieth century. Out of the rubble of the Blitz during the Second World War, the boldest solution to the postwar housing problem was the new town's act of 1946. It was a keystone in the reconstruction of the nation promised by the Labour Party in its general election campaign towards the end of the war.²⁵

The new towns were designed according to the latest ideas of urbanism, adapted to modern realities, and aiming to solve problems that had become intractable in Britain's older towns and cities. They broke with the past, rejecting traditional street and building layouts in favor of experimental new design ideas. They responded to the view that the old historical urban form was failing in the face of technological change. The need for this response was clear. Britain's existing towns and cities had indeed become polluted,

²² The remote territories (the Negev Region and the Golan Heights region) were considered the 'weakest link' in the territorial sequence, as it wasn't populated and fairly accessible to penetrate and conquer during the Independence war.

²³ D. Raich, *Dimona – the first decade and its influential effect over the town's development*, Haifa university, the human science faculty, Haifa, 2010. p. 38

²⁴ Z. Efrat, M. Yagid-Haimovich, *The Israeli project – construction and architecture 1948-1973 Vol.2*, Tel Aviv Museum for art press, Tel Aviv, 2004. p.992-1001.

²⁵ M. Clapson, *The English new towns since 1946 – what are the lessons of their history for their future?* in *Histoire Urbaine* No. 50, Societe Francaise D'histoire Urbaine publishing, Paris, 2017, p.93

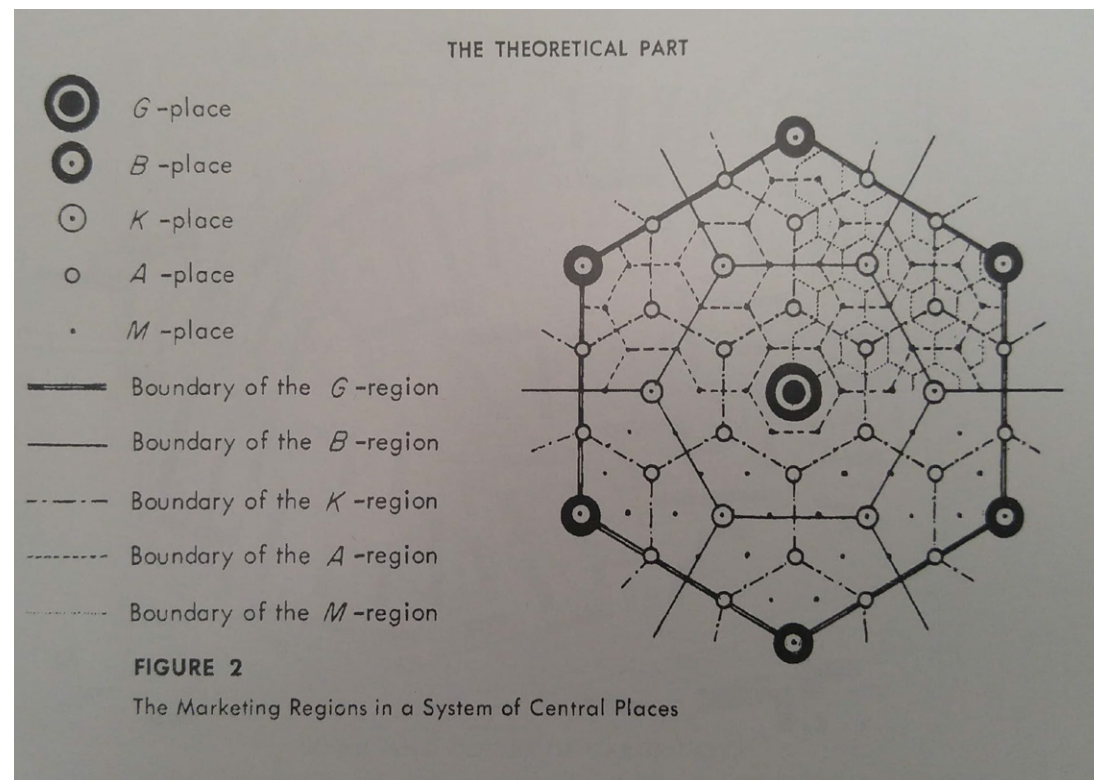


Figure 8: The central place theory by Walter Christaller. In: H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014. p. 30

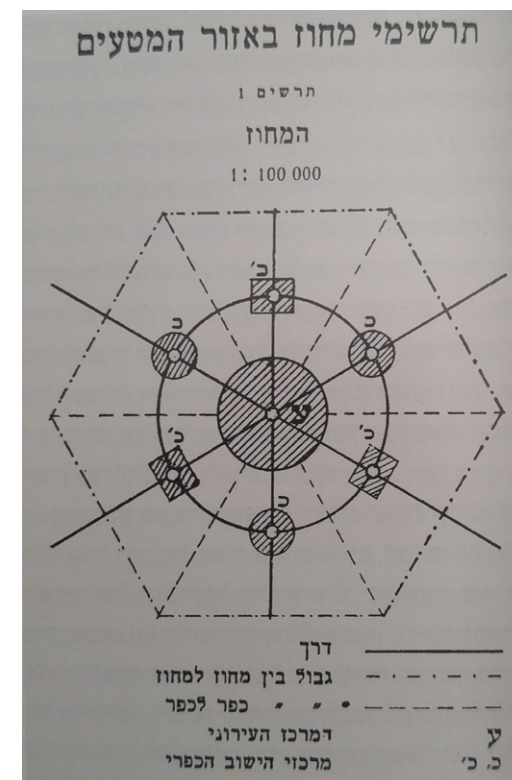


Figure 9: The regional planning theory by Yosef Tishler. In: H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014. p. 29

unhealthy and dysfunctional.²⁶

The brand new towns were exciting because they offered people, especially young families, a modern future. Planned development in a regional configuration was highly articulated, politically produced and implemented on a far wider scale than historians acknowledge.

The late twentieth century was the heyday of regional planning, with a new town rationally distributed throughout a metropolitan area. Ebenezer Howard's garden city theory was the original version of this Utopian dream, but there were many others. The merged into the board agenda for managing regional resettlement that took hold in all the countries of Europe as well as in the United States, along with their former colonial empires. This is what makes twentieth-century planning history such a conundrum. Rather than emphasizing centrality, it must focus on diffusion. The ideas, designs, and plans that thrilled urban visionaries entailed not just inner cities but also urban peripheries, suburbs, new towns, and regional planning. Planners spent their time tracking the spread of the 'urban cancer' across the territory and writing their hands over how to control it. They toiled over demographic statistics, maps, and graphs, and learned early computer programs that could accurately forecast movement and change across vast geographic areas.

The second world war transformed the entire scale of planning discourse and propelled it into the era of postwar reconstruction. The war had been a monumental conflict defined by massive population shifts, fluctuating territorial boundaries, titanic planning of material resources and infrastructure, and unprecedented state control over economies and societies. This legacy is vital to understand the extraordinary admiration for and acceptance of planning in the second half of the twentieth century, and the scale at which it was carried out. City buildings across regions become state policy, a mechanism for controlling assets and territory at an unprecedented scale. It made new towns an instrument of political and economic power. Urban practitioners articulated complex notions about how this metropolitan dispersion should take place, and theorized extensively about how settlements should be formed. They went far beyond the garden city in imagining the future. Dispersal, in their view, would be concentrated around specific nodes or towns that would reproduce the urbanity of big cities on a smaller, more humane scale. The town would be interconnected in a web of communications and transportation as a complete territorial system. This tension between dispersal and concentration is one of the most significant features of twentieth-century planning. It focuses us to consider the nexus between spatial planning and social engineering from a broad geographic point of view. It also entails an examination of how new town visions and regional planning was enacted not only in the west but in the developing world, where their relationship to colonial and postcolonial politics is too obvious to ignore. Planning was from its inception a transnational endeavor; the new town concept traveled around the world. Planners shared an elevated vision of urban and regional development and planning indeed became professionalized and internationalized in no small

26 A. Alexander, *Britain's new Towns- garden cities to sustainable communities*, Routledge Press, London and New York, 2009. p.5



Figure 10: posters created by Arieh Sharon to raise awareness for the massive population concentration in the coastal plain. In: Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1+2, Tel Aviv Museum for art press, Tel Aviv, 2004 .p.1002

part due to new town development. It was a dynamic concept, and the experience of numerous towns and cities across the globe contributes to its philosophy and operation²⁷.

1.2.2 Sharon's master plan

Sharon's master plan was divided into three parts. The first part was dedicated to the fundamental elements that dictate the framework of the doctrine: Land, Nation and Time. Each of the elements was crucial and couldn't be ignored nor postponed to the posterior project. The second part was dedicated to an extensive scope regarding settlement status in different developed countries together with scale definition towered the future status in Israel. The last part of the doctrine specifies the master plan in 5 distinct layers: 1. The agricultural plan; 2. Industry settings ;3. Transportation network; 4. landscape preservation; 5. The new towns.

The first version of the Sharon plan was published a year after the initial assembling of the 'planners brigade'. Although the planners fully believed in the doctrine and its national strategy direction, they came to realize that the current conditions were modified rapidly and therefore suggested to slow done the actual planning process and reflect over the long term implications.

This subchapter will generally describe the main features of the doctrine while focusing mainly on the 'new town' layer implementation and repercussion.

Initially, the first part of the plan tries to approach both the physical and ideological attributes of the master plan. For example, the use of the word 'Land' in Hebrew refers to both the soil different attributes as well as ideological – Zionist aspiration toward 'the promised land' ²⁸. Additionally, the chapter uses the allegory 'colorful mosaic' not only to describe the different terrains (in terms of different types of soil, vegetation, clime) but also to indicate the amount of different communities living side by side at the same geographical position.

It is not accidental that Sharon placed the time element as the last term on the list.

The time factor portrays the most important part of the plan's play. Time controls all of the different development stages of each layer; time dictates which processes need to be immediately conducted and which could be postponed. Its influential implications could cause catastrophic results that will lead to complete abandonment or it could create long-lasting results.

The second and third parts raise harsh questions regarding the imminent future due to recent extreme changes in the demographical rate. In fact, this unpredictable factor had caused the 'planning brigade' to contemplate over the master plan once again. For that reason, the planner's perspective tended to lean

²⁷ R. Wakeman *Practicing Utopia: An Intellectual History of the New Town's Movement*, The University of Chicago Press, Chicago and London, 2016, p.1,10-12; A. Higgott, *Mediating modernism – architectural cultures in Britain*, Routledge Press, London,2006, p.81

²⁸ 'The promised land' term is referring to the Biblical epic promise made by God – directly referring to the Land of Israel.

Figure 11: The planner's brigad of Arieh Sharon (the mand with the camera) , while meeting Ben Gurion . In: Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1+2, Tel Aviv Museum for art press, Tel Aviv, 2004 .p.79



Figure 12: The planner's brigad of Arieh Sharon , while meeting Ben Gurion on the new road for Sdom . In: Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1+2, Tel Aviv Museum for art press, Tel Aviv, 2004 .p.780



against the regional approach, in order to eliminate many of the current illnesses' and gain undeniable control over the remote and undeveloped territories.

The 'population dispersal' strategy was one of the first decisions the planning brigade took. The strategy aimed to reverse the two predominant tendencies of the previous development, the preference for the coastal zone and the large cities, and the resultant neglect of the northern and southern parts of the country. In practice, this meant systematically guiding the population movements into the hitherto sparsely settled areas, extending the smaller and middle-size towns in the interior, founding new towns.

To understand better the new strategy, one must recognize the different alternatives the brigade had to approach: to develop the existing agriculture-rural settlements into urban centers; to expend small and medium-size towns into metropolis centers, or to found new towns. The first possibility was unrealistic due to operational and ideological factors²⁹. The pragmatic consideration regarding the second possibility was much questionable - according to the recent scope, the number of the small-medium existing settlements was insignificant compare to the extensive scale of the masterplan. Therefore, the only practical possibility left was the third one, the founding of new towns.

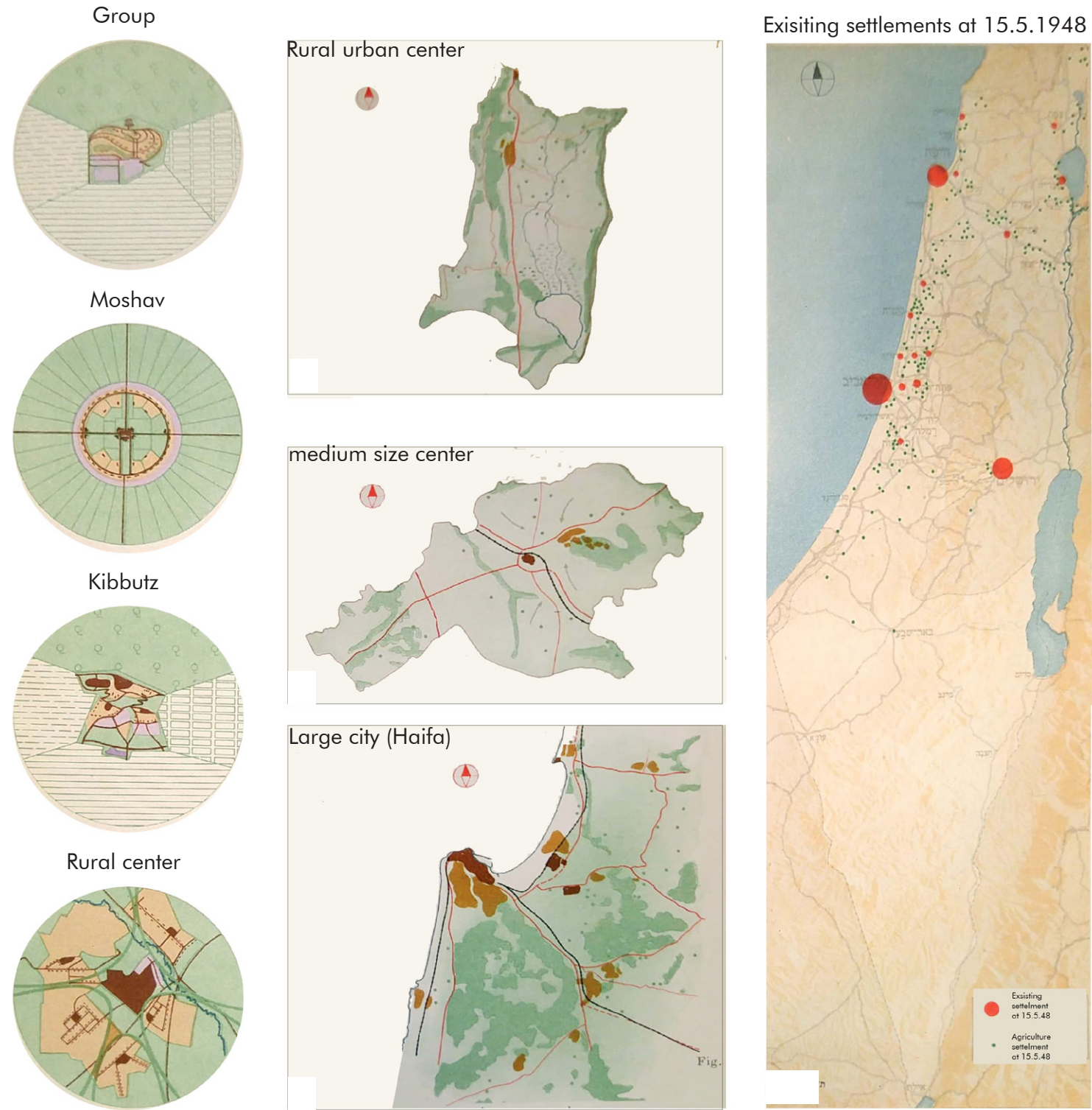
Subsequently, an additional dilemma occurred from the recent decision – Which type or quantity should the planner's need to embrace in order to achieve the 'full absorption' of the immigrant population in Israel? Traditionally, the planners should adopt the large urban scale model (30,000-50,000 residence in each town) over the scattered cluster grid of medium size settlement. However, by the end of 1949, the planner's brigade group would be inclined to use the scatters cluster model in order to impose the new regional division³⁰ order.

Accordingly, the outcome was divided into five constructional layers:

The agricultural layer, based on the water resources survey, was oriented toward an establishment of 120,000 agricultural farms / agricultural settlement while enhancing its position as a key influential player in the Israeli economy; The industries locality layer, based on scattered cluster proposal, was oriented in placing new essential industries in a balanced matter according to demand, economical status, and raw material availability; The transportation network layer was oriented toward the industry sector requirements as well as a physical link between the different settlements patterns. Additionally, during the

²⁹ Agricultural settlements were based on cultivation culture rather than public service center (as expected from middle cities). Moreover, the planners believed that the rural settlement image must remain connected to hard manual work –pioneering status and anti-urban ideology.

³⁰ According to the 'regional division' order the state was distributed into 24 new districts, each with the same number of inhabitants. The regions were set according to topographical characteristics and designed as a set of agricultural settlements, grouped around urban centers. Size, shape, or quantity (of population, of employment, of the area) were regarded as purely rational, professional criteria in order to achieve the desired relationship between the center and the periphery, between the city and the village, between industry and agriculture.



continuous dissection concerning the settlement's optimal patterns, the 'train theory'³¹ by Markus Reiner³² had offered a conceivable solution to the dispersal approach; The landscape conservation layer, based on the 'land' scope, determined the landscape value as well as specify the different soil and vegetation characteristics according to topographic location; The new town layer was based over the different researches from the first chapter combined with the architectural layers in order to determine the ideal model. The size, character, and role of each settlement were determined according to the economic and physical circumstances of each region. The hierarchical patterns structure contains five levels (figure 13):

A – center: Village, also Kibbutz or Moshav	500 inhabitants
B – center: Rural center	2000 inhabitants
C – center: Rural-urban center	6000-12000 inhabitants
D – center: medium-sized town	40000- 60000 inhabitants
E – center: Large City	100000 or more inhabitants

As previously mentioned, the A-type remains in its own original position as a basic agricultural settlement without further additions. While the B type was conceived in order to serve as an economical, social and cultural center for three to five 'A' settlements. Furthermore, the C type was intended to serve approximately 30 villages with a total of about 12000 inhabitants (within a diameter of 11 to 19 kilometers). Apart from some administrative functions the C type center should maintain advance educational facilities as well as developed industries. The medium-sized 'D' towns were meant to act as main centers/ focal points for regional integration, and should include higher government offices, banks, hospitals, and national scale industries³³.

Although a similar hierarchical scale was rooted in pre-industrial agrarian cultures and was a product of organic development for centuries, this particular scale was well planned and was mainly based on several academic theories.

As far as the settlement hierarchy concerned, the resemblance between the settlement layout in Sharon's plan and the German planner Walter Christaller 'central place theory' was much consistent. The Central place theory was an attempt to explain the spatial arrangement, size, and number of settlements. The plan was originally published in 1933 and was mainly based on Christaller's study on settlement patterns

³¹ The train theory – the establishment of new settlements according to the railway's route to achieving full mobility among the different settlements. The train theory, unlike Sharon's plan, was supposed to link the peripheral settlements with the employment sources. However, this plan was rejected due to political consideration regarding the lack of ability to completely pursue the population dispersal act.

³² Markus Reiner (1886-1976), was a professor of Mechanics and Rheology at Technion of Haifa, civil engineer, scientist, Zionist, and founder of the Hefziba Kibbutz in the Beit She'an valley.

³³ A. Spiegel, *New towns in Israel – Urban and regional planning and development* (translated to English by Annelie Rookwood), Frederick A. Praeger Publishers, New York and Washington, 1966. p.19-20.

Figure 13: Sharon Masterplan. In: A. Sharon, *Physical planning in Israel*, government printer, Jerusalem, 1952. p.9-12



Figure 14: Similarity between a neighborhood in the new town 'Harlow' (upper image) and the hypothetical new neighborhood of Sharon (lower image). In: H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014. p. 30

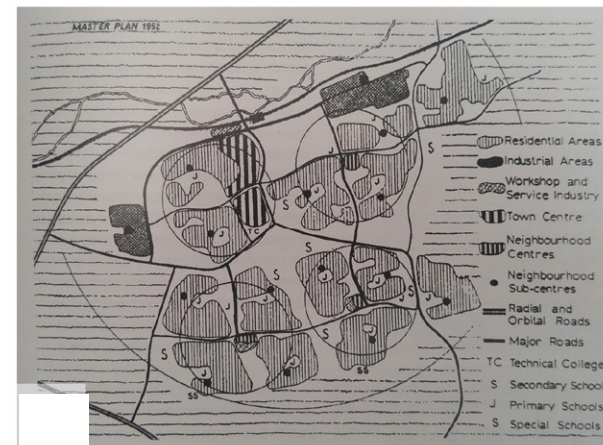
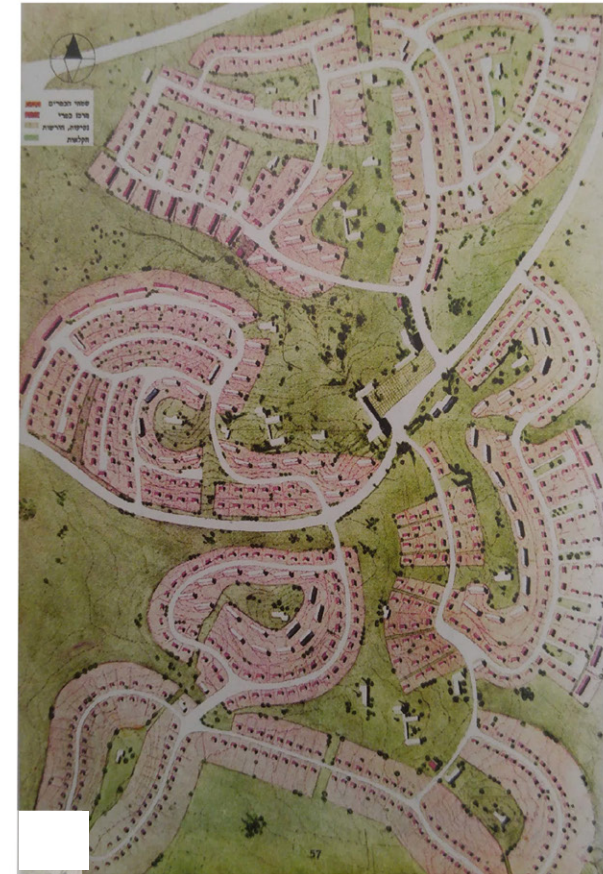


Figure 15: (upper image) A new town model according to Sharon's plan
 Figure 16: (bottom image) A schematic design of 'Harlow' Both images in: H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014. p. 22,28

in southern Germany (figure 8). Specifically, Christaller's theory was based on a mathematical model that explained the population distribution in Europe, while carefully analyzed the distances between different settlement centers. According to Christaller extensive documentation on the results of Great Depression in the United States as well as in Europe in 1929-1933, the popular patterns of the great cities and the agricultural settlements suffered from economic bankruptcy and high rate unemployment - while the small and medium-sized town, placed in a rural area and maintaining a balanced mixture of agriculture, industry and craft functions, maintained a relatively stable economical status due to employment mobility. Conversely, none of the planners cited Christaller as a planning source for settlement doctrine, but rather used Yosef Tishler³⁴ thesis from 1919 as a reference. (figure 9) The main reason why the planners haven't used Christaller's theory was that originally, the strategy was proposed to the Nazi party as an optional solution to the 'east conquered provinces - mainly Poland 'and therefore the planners didn't want any connection to this theory³⁵.

Another important reference to Sharon's doctrine had arrived from the attempt to imitate the uprising 'new town movement 'in England, and specifically to understand and apply the same attributes from the 'city of Harlow' - the first British city built after World War II. Correspondingly, Sir Patrick Abercrombie³⁶ was personally invited by Sharon to review the plan alongside the prime minister Ben Gurion³⁷.

The Neighborhood structure: micro-scale planning

In late 1949, while Sharon was about to publish his large-scale plan for the state of Israel, he realized that the planning process mustn't stop only on the macro planning level. For this purpose, an additional part was mainly focused on the micro hypothetical internal town structure.

The town, one of the widest format of human settlement, is usually embodied in a dense, continuous grid. The urban diversity, the street rhythm, the unique configuration balance between the public and civil facilities, between the simple pedestrian route and the motor one - all were cast aside in Sharon's hypothesis. 'Such towns' he explained, are built in a monotonous continuum of houses and streets in endless neighborhoods that make their residents feel abomination. According to Sharon, the remedy to the traditional town's illnesses would be to challenge the common urban texture by eliminating the physical- visual continuity effect together with reorganizing of the internal fragments.³⁸

Accordingly, the 'new town model' was assembled from individual 'neighborhood units' that could po-

³⁴ Joseph Tishler (1887-1971) was an architect, Zionist and activist towers the original settlement project in territorial Palestine.

³⁵ Efrat, M. Yagid -Haimovich, op. cit., p. 998-999

³⁶ Sir Patrick Abercrombie (1879-1957) - was an English town planner during the post WWII period. His 'Abercrombie plan' gave birth to the new town movement which included the construction of 'Harlow' and 'Crawley' towns.

³⁷ A.Sharon, *Kibbutz + Bauhaus*, Kraemer Verlag press, Stuttgart, 1976, p.25

³⁸ A.Sharon (1952), op. cit., p.6-8

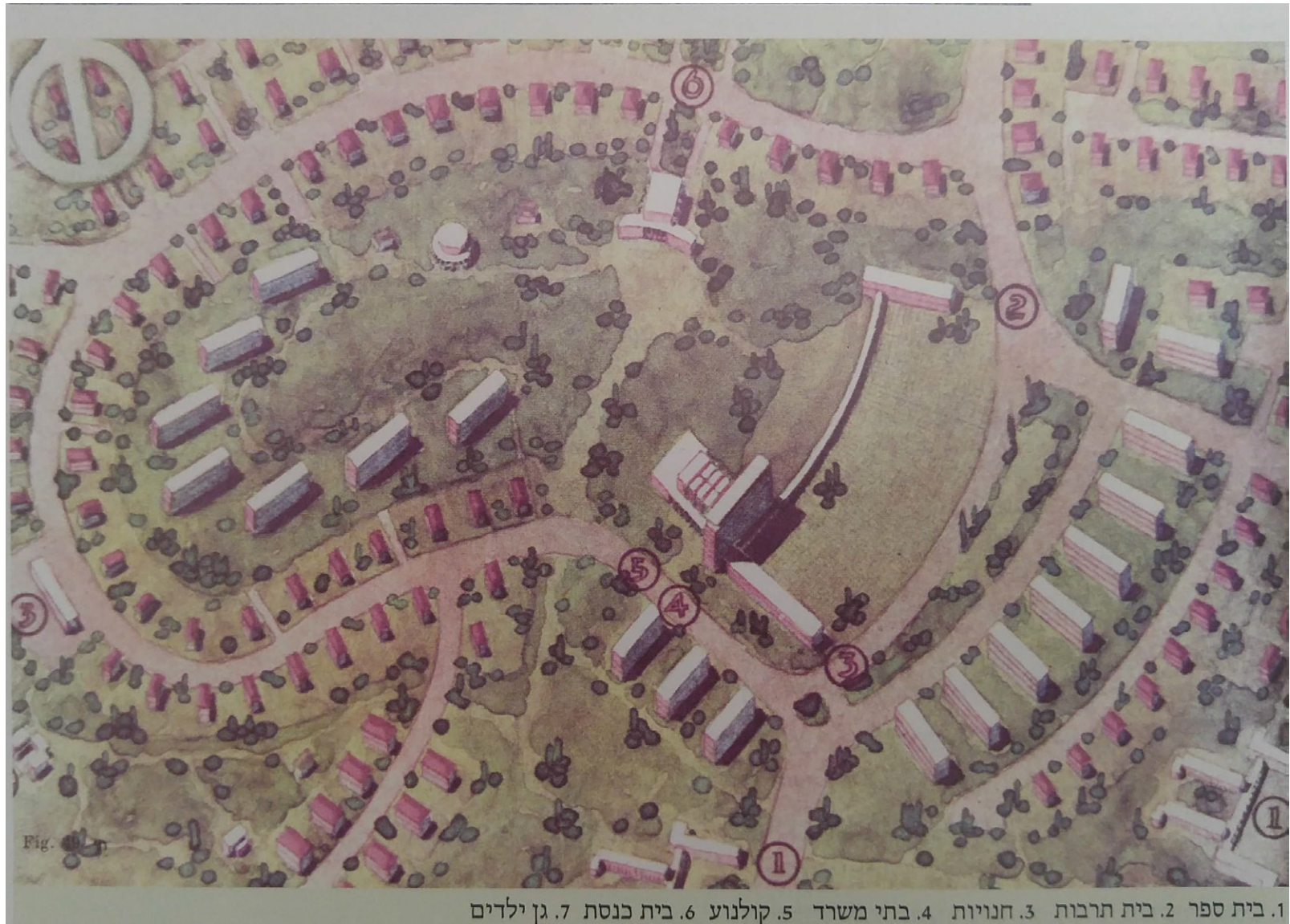


Figure 17: A new town model according to Shron's plan. In: H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014. p. 22

tentially capacitate between 5000-8000 inhabitants. Each of the 'units' would be separated by wide greenery belts. Moreover, Sharon insisted that the same method should be applied to the residential structures, meaning, each of the residential structures should be placed separately and must obtain a front and rear gardens. Later on, the same garden would turn into a private agriculture garden for personal consumption³⁹. The routes system also got amended, when Sharon changed its conventional grid order into a curved perimeter element. The philosophy behind this profound transition was aimed toward the possibility to incorporate the same identical model on different ambience environment without having to worry about additional ejections. For example, if one wishes to place the model in an elevated terrain – the curvy road system would naturally be applied. The same goes for the flat terrain. The endurance approached the curvy element can be explained by the desire to maintain the rural-agricultural atmosphere at all costs.

At the 'heart' of every neighborhood unit within a reasonable walking distance – the public center was placed; A flourishing public garden alongside a cultural center, a commercial complex, and a religious structure. This public 'core', according to the plan, should exclusively serve the unit's residence. In this case, the reason to create such a core structure came from the main reasons that regard the version of a close community life that would increase the general affinity atmosphere and contribute to the integration process.

Eventually, it is difficult to ignore the large resemblance between the plan's urban approach and the agricultural settlements of the regional sector (between the classic 'A' type and the new 'D' type). Perhaps a reasonable explanation could be found in the initial 'regional approach' of the planners or specifically, from two critical factors that had contributed to the final result. The first was the close friendship between Artur Glikson⁴⁰ and historian Lewis Mumford⁴¹, that was a well known enthusiastic believer in the regional approach and the second was the 'physiocracy theory'⁴² that had perfectly aligned with the Zionist- pioneer ethos.⁴³

³⁹ The idea came from the German landscape architect Leberecht Migge and was widely used in Europe after World War I.

⁴⁰ Arthur Glikson (also Arthur Glücksohn) -(1915 - 1966) was a German and later Israeli architect, author, city and regional planner in Israel.

⁴¹ Lewis Mumford (1895 – 1990) was an American historian, sociologist, and philosopher of technology. Mumford published several books and articles regarding the extensive scope of the urban modern culture and its critic. In the eyes of Mumford, the modern city is responsible for most society's illness, and therefore the architects should focus on extending the essential link between man and their natural habitat environment, or in different words 'Regionalism – return to the original terrain value'.

⁴² Physiocracy – economic- agrarianism philosophy that mainly indicates the source of countries' wealth in agriculture. according to the theory 'all industrial and non-agricultural labors were unproductive appendages' to agricultural labor.

⁴³ H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction, Tel Aviv, 2014. p. 16-33; A. Alexander, *op. cit.*, p.15-62; E. Brutkus, *Physical Planning in Israel – Problems and Achievements*, Jerusalem, 1964. p.12-25.



Figure 18: 'The Skura house' the former city hall planned originally by Moshe Technere (1924). In: T. Lerer, *Sand and Splendor – eclectic style architecture in Tel Aviv*, The Bauhaus center press, Tel Aviv, 2013. p.252

Chapter 2

The Zionist act – building a home (1920-1961)

“He who wishes to achieve success may turn past defeat into future victory by observing one condition. He must profit by experience, and aim at retaining all the strong points without the weakness of previous efforts” Ebenezer Howard¹

The new town movement was the primary source for Sharon’s first master plan written in 1951. It inspired the planners and mainly Arie Sharon himself, to establish a settlement hierarchy to control the different settlements models and to consummate the ‘population dispersal’ strategy.

The utopian narrative of the new town movement had encouraged the planners to massively implement the model across Israel and specifically in the northern Negev region. Furthermore, The Negev region itself, was also a substantial issue in Sharon’s masterplan, when for the first time, it was not addressed as a marginal arid area, but as a development opportunity that maintains the great potential to the benefit of the state.

This chapter will mainly focus on three essential topics. The first will define according to various periods, the local architectural trends that were dominant through the establishing years in Israel. The second will elaborate on Sharon’s main intentions regarding the ‘new town’ model in the Negev, and the third and last part will mainly discuss Sharon’s Negev masterplan general guidelines.

2.1 What is Israeli architecture?

The term ‘Israeli Architecture’ was, and still is, a controversial term among the different historian critics. It includes a wide range of various references and construction approaches that were adopted and interpreted to a blend melting pot of local architectural version. ‘Israeli architecture’ could be classified by three main elements: The tendency to import external popular architectural trends. (the trends were usually derived from western cultures); The tendency to redefine its general attributes according to periodical trends; the tendency to integrate the local vernacular Arab culture and the western ‘imported’ manifestation.

The fragile relationship between the local vernacular Arab architecture and the Zionists architects knew its ups and downs during different periods. The mandatory period, for example, could perfectly illustrate this

¹ E.Howard, *Garden cities of to-morrow*, Swan Sonnenschein & Co. Ltd, London,1902. p.114



Figure 19: 'The Pagoda house' planned originally by Alexander Levy (1925). In: T. Lerer, *Sand and Splendor – eclectic style architecture in Tel Aviv*, The Bauhaus center press, Tel Aviv, 2013. p.229

complicated status by showing in one hand - the severe contempt the architect saw in the local vernacular architecture and on the other hand, protagonist architects such as Alexander Baerwald², Joseph Bersky³, Benjamin Chaikin⁴ and even Erich Mendelsohn⁵ that tried to learn from local tradition and adopt iconic elements to their own creations. Over time, Israeli architects would drift from the vernacular regional pattern and embrace modern trends from western-developed countries, such as 'Mikveh Israel,' the Jewish neighborhoods in Jerusalem, and the Baron's colonies⁶ (direct French rustic/colonialist influence). Moreover, this trend will continue to flourish in the '30s when the Zionist movement embraced the modern style into its core design (the international style, Bauhaus, the white city, and the functional style) and the 'brutalism' during the '50s and '60s.

Nevertheless, despite the controversial discussion, there is a clear consensus regarding the dominant trends: 'the Colonialist Period' (1850-1930), the intermediate 'Eretz-Israeli Trend' period, the 'Eclectic Period' (1917-1930), 'the White Period' (late 30's and 40s) And the 'Gray Period' (50's and 60's). This subchapter wishes to explore the different periods of the architectural tradition in Israel while focusing on the dominant trends of the late '20s to early '50s.⁷

The Colonial period (1850-1930)

The starting point for the colonial period occurs after the eviction of the Jerusalem Kingdom and Napoleon's French campaign in Egypt and Syria in territorial Palestine. During that period, Europe had shown almost no interest in the remote Middle East province. The Turning point had occurred when the Egyptian ruler of the Ottoman Empire Muhammad Ali invaded the holy land in 1831. The European nations saw in the recent development an act of pure provocation and seek to regain control over the occupied territory. The struggle for dominance got enhanced when the intensive acquisition of land took place. Soon after, an accelerated construction development period will occur. The remarkable architectural outcome was mainly orientated toward public purposes such as churches, monasteries, missions, orphanages, hostels, and consulates. Then again, it was completely disconnected to the local context while imposing itself on other traditional styles.

² Alexander Baerwald (1877-1930) was a Jewish- German architect, painter, and pioneer of the modern revolution of architecture in Israel.

³ Joseph Bersky (1876- 1943) was a Jewish – Russian architect and one of the main founders of the 'Eretz Israel Trend'.

⁴ Benjamin Chaikin (1883-1950) was a Russian - British Jewish architect.

⁵ Erich Mendelsohn (1887-1953) was a Prussian Jewish architect that was mainly influenced by the expressionism and functionalism movement.

⁶ The Baron's colonies – referring to the 'the central board for settling Israel' funded by Baron Abraham Edmond Benjamin James de Rothschild since 1890.

⁷ A. Gitai, *architecture in Israel series – filmed architectural dissection*, The Ada Carmi episode, channel Kan 11, 2012-2013; Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1, Tel Aviv Museum for art, Tel Aviv, 2004. p.55-64.

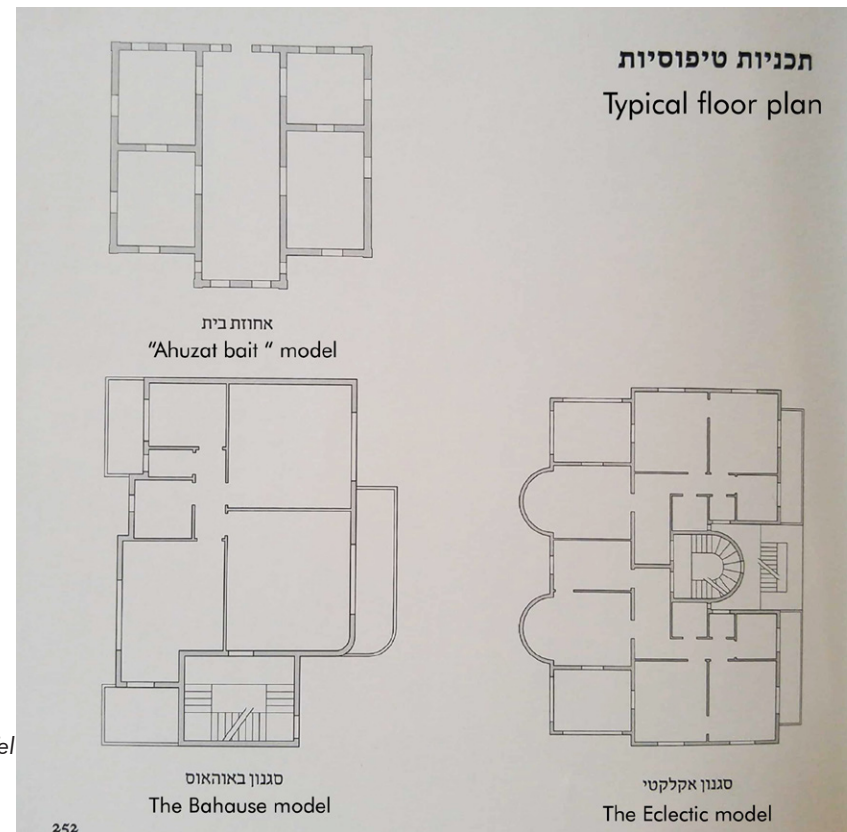


Figure 20: Typical floor plan comparison Between the different architectonic periods. In: T. Lerer, *Sand and Splendor – eclectic style architecture in Tel Aviv*, The Bauhaus center press, Tel Aviv, 2013. p137



Figure 21: Design of the Facade of the Palm House by Yehoshua Zvi Tabachnik (1922) in N. Harpaz, *Zionist Architecture and Town Planning: The Building of Tel Aviv (1919-1929)*, Shofar supplements in Jewish studies, Purdue University Press, 2013. p.152

The results of the colonial period continued to dominate the state landscape to this day. The most recognizable structure could be found in The Templar colonies⁸, the pioneering colonies of the first immigration wave⁹, and in upscale Arab houses (especially in Nazareth, Jaffa, and Bethlehem)¹⁰.

The Intermediate period – the ‘Eretz-Israel Trend’

During the second immigration wave, an immigrant from East Europe had arrived in Israel with a clear agenda – to try to blend in the local culture to become a well-adjusted member of the community. This act, like many others, decided to leave behind its ‘western culture’ roots and to reconnect with its independent – national – Jewish culture. Furthermore, the results of the new trend generated unexpected revival in the local vernacular Arab construction tradition – in hopes of creating a new local architectural language. The latest trend results were evident in almost every aspect: in music, dance, fashion, linguistic pronunciation, cultural manners, and of course, in architecture. Two of the most significant architectural works of this trend were: The Hebrew Gymnasium in Tel Aviv (constructed by Bersky) and the Technion Institute in Haifa (been built by Baerwald). Additionally, most of the first houses in Tel Aviv shared similar attributes with the ‘Eretz-Israel Trend’.

Accordingly, the main distinguishing characteristics of the ‘Eretz-Israel Trend’ tried to associate oriental-vernacular-common motives in a ‘western – developed structure.’ In other words, the trend attributes were: a large-scale symmetrical structure, with a distinct internal division¹¹ accompanied by the extensive use of pointed arches / Moorish horseshoe arches, arabesque decorations, flat roof, small domes, biblical motives, and numerous balconies that gave the new structure its traditional – origin context. While this was the case, the ‘Eretz-Israel Trend’ identity was considered an ambiguous period with no distinct timestamps nor certain elements. Therefore, the trend couldn’t be declared as an architectural period.¹²

The Eclectic Period (1917-1930)

The term Eclecticism comes from the Greek word ‘eklektikos,’ which means ‘to choose the best.’ It is an

⁸ The Templars colonies – expelled group of believers from the Lutheran Church that aim to rebuild the Temple in the Holy Land. Specifically, The Templars establish colonies in Haifa, The Israeli Valley, Jaffa, and Jerusalem.

⁹ The first immigration wave had arrived in Territorial Palestine during 1881-1904. During that period the first colonies were established in Israel – Ness Ziona, Rehovot, Petah Tikva, and others.

¹⁰ A. Gitai (2012-2013)

¹¹ The internal division was much influenced by the classic western doctrines that were manifested by a large and impressive entrance hall, long hallways and functional hierarchy between the different spaces.

¹² A. Gitai, *Architecture in Israel* series – filmed architectural dissection, The Zvi Efrat episode, channel Kan 11, 2012-2013.



Figure 22: 'The Scopsky House' planned originally by Yehoshua Zvi Tabachnik (1922). In: N. Smuk architects 'Recent restoration project', Niza Smuk architects website.

ancient philosophy that affects western architecture in modern times, from the beginning of the eighteenth century until the rise of modernism in the twentieth century. Eclectic style architecture does not try to define a new language but crosses boundaries in the usage of previous styles. Among the different influential styles, it is possible to recognize: classic architecture (from ancient Greece, Rome, Renaissance, and Baroque styles), Art deco, Mediterranean rural architecture, Spanish-Moorish styles, and far east attributes. The unique style gained influence in Israel during the third and fourth immigration waves¹³, where the first mass residential construction had occurred.

The style attempted to combine between the traditional East and the enlightened West – to develop a unique Israeli style or 'original Jewish' style, as was defined by architect Zvi Tabachnik said. The first attempt to construct an Eclectic structure was conducted by Architect Alexander Baerwald at 1913 – the Technion institute in Haifa. Additionally, Baerwald continues to build also in Tel Aviv several iconic buildings such as The Palatin Hotel, the Tammunim School, and Dr. Susskind's Mansion. Soon after, the Eclectic style gained popularity among the different architects and reached its peak in Tel Aviv during the '20s and the early '30s.

This phenomenon could be explained by the recent uprising economic status or by the technical ambitions to expand the city's perimeter¹⁴. But the actual reason laid on the desire for a genuine, authentic identity¹⁵.

Despite the countless elements of the Eclectic style, it is possible to recognize several dominant principles that could help describe it: the combination between different motifs (mostly local eastern inspiration); The usage of classical components as a preliminary base (symmetrical axes, subdivision of the façade, informative façade); the usage of combined techniques (advanced architectural style applied on a traditional structure) and the usage of Jewish ornaments and sophisticated colors.

The Eclectic period should be divided into two different periods: the first period (1920-1925) was characterized by precious- colorful ornaments that drew from biblical/oriental sources with a precise adaptation of the Jewish cultural symbolism. In the second period (1925-1930), the ornaments were tossed aside, and the structural elements turned toward simple monumental gestures. Moreover, during the second period, the Art Deco style gains popularity in the world, as well as in Israel, and was incorporated carefully in late residential structure (mostly in renovating projects of Eclectic structures).

The Eclectic period not only changed the face of the architecture in Israel but also exposed the local ar-

¹³ For additional information regarding the third and fourth immigration waves – see chapter 1.1

¹⁴ During that period Tel Aviv was considered a small undeveloped suburban of Jaffa.

¹⁵ N. Harpaz, *Zionist Architecture and Town Planning: The Building of Tel Aviv (1919-1929)*, Shofar supplements in Jewish studies, Purdue University Press, 2013. p.150-151



Figure 23: Reisfeld House planned originally by Pinhas Beizunsky (1935). In: The official Bauhaus center in Israel website.

chitectonical community to new and advanced construction methods and materials. According to the new tema, the traditional limestone brick (which served as primary contractual material) was replaced by a silicate- cement brick. The latest block was initially placed as a loadbearing element for residential structures. However, In the second period (1925-1930), the same brick was replaced by reinforced concrete and will remain only for the sole purpose of decoration.

Among the different architects of that period, it is possible to recognize the unmistakable designs of Yehuda L. Magidovitch¹⁶, Joseph Berlin¹⁷, Joseph Tischler¹⁸, and Alexander Levi¹⁹ that had constructed dozens of residential structures in Tel Aviv²⁰.

The 'White Period' (late 30's and 40s)

During the 1930s, as clouds were darkening the skies above Europe, Jewish architects from Germany immigrated to Mandatory Palestine. These architects, some of whom had belonged to the intellectual avant-garde of central Europe, gave Tel Aviv a title – a modern city.

The '30s were a crucial time for the international style structures. The striking difference between the early international style symptoms expressions and the late one was significantly tremendous. If in the first period, the new planners were influenced by their academic studies, by the late period, they followed Le Corbusier's theory²¹ down to the last detail.

The first modern building to 'stand' on the notable 'pilotis' was the Engel House in Tel Aviv in 1934. The building was perceived as an abnormal futuristic structure that needed an imminent inspection in order to be approved by the common society. Despite the lack of confidence in the new style, in 1937, the Tel Aviv municipality had issued new regulations that obliged the new residential structure to be placed over 'Pilotis.' The regulation was justified by the positive 'liberation' effect of the ground floor to more useful functions (such as pleasant entrance and urban garden). As could be expected, the consequences of the regulation were remarkable on Tel Aviv's skyline.

Accordingly, the sudden change in the city's appearance from the traditional low-tech structure to brand-new plastered white cubes gave the city as well as the period its name – 'the white period' (and correspondingly 'the white city'). Among the dozens of modern buildings, it is possible to recognize a few iconic structures, such as Zina Dizengoff square (figure 24), The thermometer house, and the ship house

¹⁶ Yehuda Magidovitch (1886-1961) was a Russian – Israeli architect and the first chief engineer of the City of Tel Aviv.

¹⁷ Joseph Berlin (1877-1952) was a Belarussian Israeli architect and held a number of key positions in various public planning institutions.

¹⁸ Joseph Tischler (1887-1971) was an Austro-Hungarian Zionist, activist and participant in the initial mass construction project in Israel.

¹⁹ Alexander Levi (1883- 1942) was a German-Jewish architect and active Zionist.

²⁰ T. Lerer, *Sand and Splendor – Eclectic style architecture in Tel Aviv*, The Bauhaus center press, Tel Aviv, 2013, p.11-16; M. Carmona, L. Zagagi, *Documentation project – the Aliuf house*, the municipality of Tel Aviv – Jaffa press, 2014. p.21.

²¹ Le Corbusier's theory is referring to in his book '*Vers une architecture*' published in 1923 in France.



Figure 24: Zina Dizingoff square planned originally by Genia Averbuch (1938). In: The official website of the Municipality of Tel Aviv- Juffa.



Figure 25: The ship house planned originally by Shimon Hamdi Levi (1934-1935). In: The official Bauhaus center in Israel website.

(figure 25). Notwithstanding, the change the modern architecture wished to achieve was smaller, then it appears. The linguistic terms, the construction methods, the new materials, and the advanced technologies – all were part of the change. However, despite the earnest efforts to turn the Israeli landscape into a modern one, the local reality had its own physical and ideological constraints that prevented it from prospering to its rightful scale. Furthermore, Modernism has already come to Israel as a ready-made repertoire of examples, guiding principles and professional conventions, but, for the Israeli local architectural community - Bauhaus, La Corbusier, De Still, Expressionism, Cubism or Constructivism were just a repository of signs and techniques of a new vernacular. If we go back to the 'Pilotis' example, we could notice the preliminary problematic issues that lead to the disengagement of the modern style. Although the 'five points' theory was fully integrated into the new residential buildings, the fundamental human scale perception was absent as well as the urban planning ideology. Indeed, in retrospect, the modern ideological arguments had arrived too soon to Israel²².

'The Gray Period' (50's and 60's)

The young architects, who were educated according to the modernism doctrine, sought to break through the architectural rigidity by emphasizing the need to adapt the specific conditions between the place and the users. Brutalism was part of the same rebellion, as it sought the particular truth, with no prior educational decision of 'right' or 'wrong.' Moreover, Brutalism sought to articulate the true identity of the structure and externalize it through architecture. It desired to articulate the structural material distinctiveness by exposing the concrete, the prefabricated blocks, and the steel structure. Also, it sought to expose its internal technical – operational systems as the water tubing system or even the ventilation system.

As much as the Brutalism influence gain popularity in Britain, it also had a great deal of influence over the young architects in Israel during the late 50's up to the early '90s.

Moreover, the brutalism influence had turned the exposed concrete element into a dominant material in the Israeli architecture's vocabulary. Distinct Architects such as Avraham Yaski²³, Amnon Alexanderoni²⁴, Ya'akov Rechter²⁵, and Ram Karmi²⁶ had led the contemporary discussion toward the brutalism revolu-

²² N.Smuk, *Houses from the sand - International style architecture in Tel Aviv 1931-1948*, The development fund for Tel Aviv press, Tel Aviv, 1994. p.1-5; M. Gross, *Between the private and public Domains- in Bauhaus and International style buildings in Tel Aviv*, The Bauhaus center press, Tel Aviv, 2016. p. 3,199-204; A. Gitai, *Architecture in Israel series – filmed architectural dissection*, The mica Levin episode, channel Kan 11, 2012-2013.

²³ Avraham Yaski (1927-2014) was an Israeli architect and an Israel prize recipient (1982).

²⁴ Amnon Alexanderoni (1929) is an Israeli architect that was mostly active during the late 60's – early '90s.

²⁵ Ya'akov Rechter (1924-2001) was an Israeli architect and an Israel prize recipient (1972)

²⁶ Ram Karmi (1931-2013) was an Israeli architect and Israel prize recipient (2002)

Figure 26: The quarter kilometer block in Be'er Sheva, planned originally by Abraham Yaski and Amnon Alexendroni (1960). In: E.Singalovski, 'Sunburn exhibition' the Association for promoting of Brutalist Heritage in Israel website.



Figure 27: The Negev Center planned originally by Ram Karmi and Zvi melzer (1959). In: E.Singalovski, 'Sunburn exhibition' the Association for promoting of Brutalist Heritage in Israel website.



Figure 28-29: The faculty of human sciences in the Ben Gurion University, planned originally by Refael Rayfer (late 60's). In: E.Singalovski, 'Sunburn exhibition' the Association for promoting of Brutalist Heritage in Israel website.



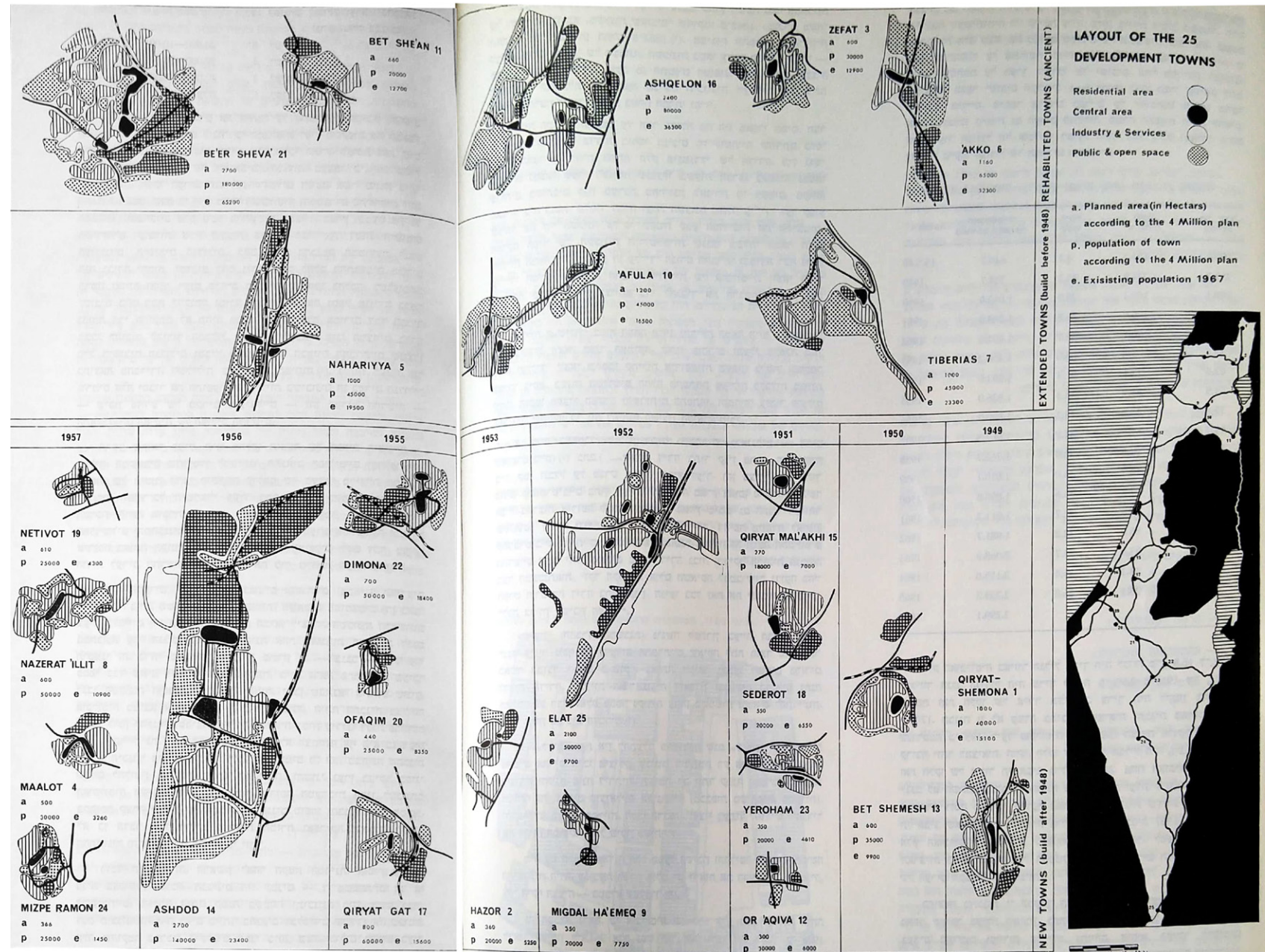


Figure 30: Diagrams of the development towns in Israel. In: S. Shaked, "Housing in Israel" Journal of the Association of engineers and architects in Israel Vol.5, Moshe Shoham publishing house Ltd, Tel Aviv,1967. p.6-7

tion²⁷.

Consequently, Large brutalist complexes were built in Tel Aviv's city center and Beersheba not only for residential purposes but also for public services as well. The extensive, influential measurement of the phenomenon was so large that at some point, the cement was announced as 'the national material of the State of Israel.' Towards the end of the 1970s, the political situation changed and caused a dramatic change in the economy sector. The availability, as well as the price, had convinced the investors to search elsewhere for a reasonable substitute for the famous cement. The Brutalism resurfaced again during the early 90s as a minimalist geometric version that was inspired by Tadao Ando and Luis Kahn. Gradually, the concrete became a valuable material that required particular professional's attention – which was the complete opposite of its preliminary value. Architects such as Moshe Safdie²⁸ and Ada Karmi-Melamede²⁹ became devoted to the contemporary version as they constructed the 'Life sciences building' in The Ben Gurion University (Carmi) and Yad Vashem Holocaust History Museum in Jerusalem (Safdie).

The unique development of the exposed concrete in Israel had reveals the fragile relationships between architecture, politics, and society. Moreover, it could perfectly serve as an allegory for the Israeli architecture condition³⁰ - Ambitious to reach to Modernism at all costs and imperfect as it tends to reveal through its exposed material all contractual imprints (deficiencies).

2.2 Forming a 'new town'

2.2.1 The Israeli new town

By far, the most immediate postwar concerns lay in regions with newly established independent states where refugee populations living in misery threatened to tear apart any hope of national consolidation. In the Middle East and India subcontinent as well as in southeast Asia, the various post-war settlements, mandates, and independent movements created an arc of unstable nations open to the threat of modernism. New towns created a spatiality of settlement myth and civic formation for these new nations.

While new towns were a response to refugee crises and overcrowded conditions in old cities, they were also state instruments for social cleansing and ethnic engineering, especially in the new nations in the

²⁷ The recent development was captured as a rebellious act against the former traditional brutalist style of the Bauhaus.

²⁸ Moshe Safdie (1938) Is an Israeli- Canadian architect, urban designer, educator, theorist, and author.

²⁹ Ada Karmi- Melamede (1936) is an Israeli architect and an Israel prize recipient (2007)

³⁰ H. Shadar, The Association for promoting of Brutalist Heritage in Israel website; Y. Yesascharov, *The exposed concert language in the architecture of the Ben Gurion University of the Negev: From Brutalism to Minimalism, a reflection on the changes in the perceptions for the architectural material in the Israeli architecture tradition*, University of Tel Aviv press, Tel Aviv, 2012. p.2-3.

Middle East. Israel portrayed itself as a melting pot of refugees from war-torn Europe, North Africa, and the Middle East. After the failed United Nations partition plan for territorial Palestine and the establishment of the Jewish state in May 1948³¹, the unrestricted transfer and relocation of people caused immediate chaos. According to Arie Sharon, the plan's author and head of the planning department, comprehensive planning for settlements, industries, and services was considered a remedy for both the refugee housing crises as well as assert Jewish presence across the land – also known as the dispersal population plan³². Israel's new town strategy was lifted almost directly from the planning manuals in Great Britain and then transported into the geopolitical turmoil of the middle east. In the early 1940s, Israeli statesman David Ben Gurion organized a group of experts to work out a plan for the postwar migration of hundreds of thousands of people into Israel that provided an interchange with the British planners such as Abercrombie and Geddes³³. The interchange between Sir Abercrombie and Israel's planning committee was expressed in the frequent references from his 'Greater London Plan' and by continual trips to Israel, where he was invited by Sharon to act as an adviser on land –use planning and new town scheme.

In 1950 the physical plan for Israel was made public in a series of press conferences and with a town planning exhibition at the Tel Aviv Museum. The vision of the planners included mastering the land and building new towns that would create an imagined Zion. For them, the new towns were landscape assimilation for new immigrants to become full members of the emerging nation. By 1954, 56% of the general population had been diverted to newly developed areas of the country and new towns. As forecasts for population growth reached 4 million, Israel updated its national plan for population distribution six times during the 1950s³⁴. Planners were obsessed with creating an Ideal distribution of population across the new territory. Israel's comprehensive planning and its new town program enjoyed wide acclaim in the West part of the globe in these early years. They were considered a compelling case study of developmental modernism, worthy of imitation worldwide³⁵.

³¹ The United Nation Partition Plan for Territorial Palestine' or 'The Partition Plan' was a proposal by the UN, which recommended a partition of Mandatory Palestine at the end of the British Mandate. For additional information see chapter 1.1

³² For additional information regarding the dispersal population plan- see chapter 1.2

³³ The interchange between Patrick Geddes and Israel was established during the 1920s when the first master plan of Tel Aviv was presented by Geddes.

³⁴ E. Razin, *National, District and Metropolitan Planning in Israel*, the Hebrew University of Jerusalem press, Jerusalem, 2010. p.50-52

³⁵ R. Wakeman, *Practicing Utopia – an Intellectual History of the New Town Movement*, The University of Chicago Press, Chicago and London, 2016. p.20-26,36-46,109-112.

2.2.2 What is a 'new town'?

From the very beginning, new towns shared a complicated birthright. In traditional planning narratives, they all traced their lineage back to Ebenezer Howard's garden city movement. But this pedigree was very selective: by the mid-twentieth century, Howard's radical socialist program and cooperative vision were already consigned to the curiosity cabinet. The garden city had become a mythical place that more than anything represented a longing for the past. Yet this 'garden' imagery remained one of the taproots of the new town movement through the end of the twentieth century, making it a blend of progressive yet conservative ideology that hindered thinking about cities also much as it helped. Claiming origins in the garden city also sidestepped the more problematic influence on urban and regional planning that had intervened in the years after Howard's groundbreaking proposal. In truth, planning new towns was deeply rooted in the experience of colonialism, war, and military policy, and the expansion of state authority. It was wrapped up in successive visions of regionalism that dramatically enlarged the scale and power of settlement strategies.

In the original formulation of the 'Garden cities of to-morrow' (1902)³⁶, Howard had suggested a radical transformation of the social and physical environments. The ghastly slums of the turn of the century would be left behind. The working classes would find new life in self-sufficient planned communities that balanced individual and community needs. These hopes underlay all utopian urban experiments and were the core ambitions of the entire new town movement. Howard's vision suggested a population of thirty-two thousand people living on a thousand acres of land. The city would be locally managed, limited-liability company that attracted light industries, jobs, and services. The property would be owned in common. In the pioneering spirit of homesteading, people would build their own homes and open their small scale shops.

Howard was influenced by an amalgam of ideas, from early utopian socialism and cooperative movements to anarchist Peter Kropotkin's belief³⁷ that new technologies would allow the dispersal of populations away from the horrors of the industrial city. The garden city trusted the restorative qualities of nature and the ways it could be merged with vernacular culture to create a perfected living environment. It offered the benefits of urban living together with the advantages of country life, and ultimately both individual freedom and social cooperation.

The reaction to Howard's sophisticated fusing of urban design with social reform was unrestrained en-

³⁶ 'Garden cities of To-Morrow' is a book written by Ebenezer Howard. This book offered a vision of towns free of slums and enjoying the benefits of both town and country- a balance between individual and community needs.

³⁷ Pyotr Alexeyevich Kropotkin (also know as Peter Kropotkin) (1824-1921) was a Russian activist, revolutionary, scientist geographer and philosopher who advocated anarchy-communism.

thusiasm. The campaign for garden cities merged seamlessly into the climate of internationalism already well established by progressive social reform and social philanthropy movements.

The second world war dramatically intensified the debate on cities and regions and put into high relief the relationship between militarism and spatial planning. It immediately becomes obvious the cities were prime targets for military bombardment from the air. From the first days of the war, some of Europe's most venerable urban places were wiped out, and the rest were under constant threat. Protecting war-related industries was an immediate concern. It meant scattering them to isolate areas away from urban bombing targets. The scale of wartime production thus created a vast new industrial geography. Country after country shifted its critical industries away from its cities and into its protective heartland. Industrial dispersion was often treated as an opportunity to construct an ideal city from scratch- that is, to carry out the plans that had proved so frustratingly impossible before the war. Housing for the workers toiling in the relocated plants was the first priority, but locating them in connection with vital transportation arteries was also the chance to experiment in utopian designs. This was evident in Britain, where the civil defense regions created as a wartime protective web became the administrative geography of the postwar Ministry of town and country planning base. Moreover, the war also made the urban crisis an immediate and passionate call to arms. The demand for the urban revolution came from every quarter. Many of the texts defining the way cities were imagined in the postwar years had been written either at the height of the great depression or when the war was casting its long shadow. During that time, the leading theorists were invested in promoting the vision of regional planning and new towns as an alternative to what Lewis Mumford³⁸ called the intolerable 'Necropolis'³⁹ of the old cities. The sound rejection of uncontrolled growth dictated by the market and its greed led to championing a settlement system organized equitably and independently. This philosophy had permeated Ebenezer Howard's garden city ideal and remained fundamental to the way urban reforms imagined future cities.

After the second world war ended, the housing crisis becomes one of the most hotly debated and storming political issues of the twentieth century. In the aftermath of the war, it was second only to the desperate search for food. Wave after wave of peoples was on the move, attempting either under official auspices or on their own to find safety and shelter. Faced with overwhelming reality, there was a convergence across the reformist spectrum on the need for new urbanism and new regionalism. Whatever their individual proclivities or politics may have been, urban reformers were agreed on one thing: only the construction of entirely new planned communities could solve the urban crisis. The desire was for balance,

³⁸ Lewis Mumford (1895-1190) was an American historian, sociologist, philosopher of technology, and literary critic. Particularly noted for his study of cities and urban architecture. Mumford was mainly influenced by the work of Scottish theorist Sir Patrick Geddes.

³⁹ 'Necropolis' in the writings of Mumford is referring to the classic old town as a large designed cemetery, which could be interpreted as a place where the urban culture ceased to exist.

equilibrium, harmony. Built from scratch, picture-perfect new towns were the leading edge in this crusade.

Although new towns were considered the perfect solutions, their actual territorial footprint in the immediate postwar years was usually tied to heavy industry and natural resource extraction.

Fueled first by the war, then by reconstruction, industrial productivity reached an all-time high, together with full employment. Huge investments were poured into material assets: coal, iron and steel, aluminum, chemicals, and more. This bond with the postwar industrial boom differentiates new towns from the more widespread, prosaic housing schemes that were also part of the reconstruction years. In most cases, the state allied with large-scale corporations in converting the economic engine to national rebuilding and modernization, providing comprehensive urban infrastructure and a stable, contented workforce. These financial motivations were fused with a welfare state philosophy that tied together production and consumption, family, and social services in a broad spatial context.

A revolution was afoot. In the case of Britain, the postwar world would mean not only reconstruction but a national renaissance. An entire series of legislative acts handed the national government extraordinary power to buy land, control planning, and construct housing in ways that were unthinkable before the war. The first generation of fourteen new towns was started immediately, between 1946 and 1950, according to the two regional plans of postwar war: the 'Greater London Plan'⁴⁰ of 1944 and the 'Clyde Valley Plan'⁴¹ of 1946 both written by Patrick Abercrombie⁴². The plans called for radical dispersal of population and industry from the overcrowded central districts to the city's periphery. London's growth would be contained within a series of concentric rings that established an orderly regional pattern with defined boundaries. Moving outward from central London to the Country of London, and then the Greater London metropolitan area, each ring would be less urbanized until the outer edge was a vast greenbelt. Beyond it, some 1 million people would be shifted out to ten new towns arranged in a wide orbit around the capital. Only eight were built. Each town would be designed around superblocks outlined by the road system' then filled in the with neighborhood units. This was the audacious vision, a groundbreaking new scale to planning. It was a long term strategy that set the parameters of the future.

⁴⁰ The 'Greater London Plan' or 'the Abercrombie Plan' (published in 1944) was developed by Patrick Abercrombie after the second world war in order to present the opportunity to amend the perceived failings of unplanned and haphazard development that had occurred during the rapid industrialization period in the 19th century. The plan was based on five main issues facing the city of London at that time: Population Growth, Housing, Employment and Industry, Recreation (of open spaces), and Transportation. The plan targets the rapid population growth, combined with the inevitable return of many evacuees during the war in order to establish a new revolutionary urban 'product'. In order to do so, a series of four rings (Inner Urban, Suburban, green belt, and outer Country) were outlined the great area of London for the main propose of controlling the urban development and limit sprawl into regional areas.

⁴¹ The 'Clyde Valley Plan' (published in 1946) was developed by Patrick Abercrombie and Robert Matthew after the 'Greater London Plan' was published. The plan proposed similar ideas regarding new towns to the East Kilbride and Cumbernauld in Scotland.

⁴² Sir Patrick Abercrombie (1879-1957) was an English town planner. Abercrombie is best known for the post-second world war reorganization of the city of London.

2.2.3 New towns in the northern Negev

Selecting a strategy of the optimal spatial distribution of settlement in an unpopulated frontier desert environment is still a theoretical issue in most countries, where the desert environment is perceived as wasteland unsuitable for development. However, for the Israeli regional planners, it was an issue of real and immediate policy. A preconceived concept driven from a realistic ideology has had a substantial impact on the evolution of man built urban systems in the Negev Desert. The dominant socialist Zionist agrarian ideology adopted a dispersed model for regional development. The plan was to create balanced and integrated regions throughout the country, each with a central urban core as a service center. These urban centers were intended to constitute a hierarchy of central places, ranging from small urban centers to metropolitan areas – the similar modal made by Christaller's central places theory in 1933. The application of this strategy exemplifies one of the most few cases where the development of an urban system was based on a theory of spatial organization⁴³. However, in the application of the concept, the physical desert environment was almost neglected. In certain cases, the planners realized that it would be challenging to establish towns solely as service centers to the rural hinterland. Therefore, they propose an alternative – the town southeast of Be'er Sheva in the extreme arid area of the Negev would also provide housing for workers in the mining and other mineral industries of the region.

During the early 1950s, ten new towns were established in the Negev desert within a short space of time. By the early '60s, it was evident that the economic development of the new towns could not be based, to a large extent, on providing convenient services to surrounding rural areas. Studies conducted during the mid-'60s to evaluate the success of the towns concluded that they were not fulfilling the function for which they had been created and that they displayed no significant interaction with small agricultural settlements in the hinterlands which had developed northwest of Be'er Sheva.⁴⁴

It was evident that a change was crucial; a new development strategy had to be implemented. Moreover, it became evident that the economic development of the new towns in the desert could not be based mainly on providing central services to the surrounding region. A pressing need arose to create new job opportunities. So, with its strong commitment to the continuance of the towns, the government launched a massive industrialization program during the early '60s. By the early 1970s, about half of all industrial workforce in the Negev was working in the industrial sector, within a short time, the towns which had been planned as service centers became typical company towns, vulnerable and dependent on outside

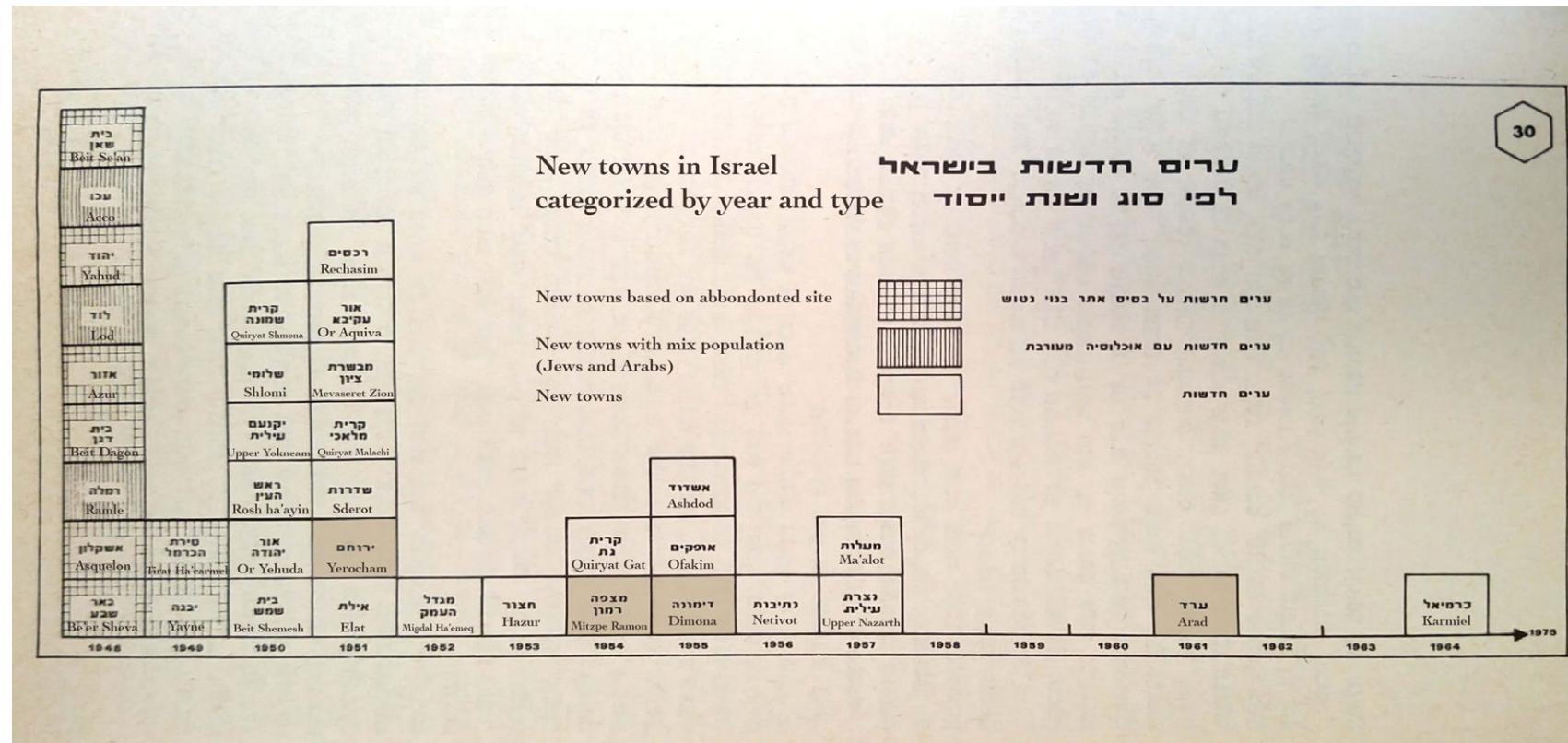


Figure 31: New towns in Israel categorized by year and type. In: E. Efrat, *Urbanization and towns in Israel*, University of Tel Aviv, Ahiasaf publishing, Tel Aviv, 1975. p. 167

⁴³ A. Shachar, *Israel's Development Towns: Evaluation of National Urbanization Policy*, Journal of the American Institute of Planners No.37, Chicago, 1971. p.362-392

⁴⁴ S. Krakover, *The Development of Three New Towns in the Northern Negev: Netivot, Sderot, Ofaqim*, in A. Shmueli, Y. Gradus, *The Land of the Negev: Man and Desert Vol.2*, Ministry of Defense Publishing House, Tel Aviv, 1979. p. 596-612

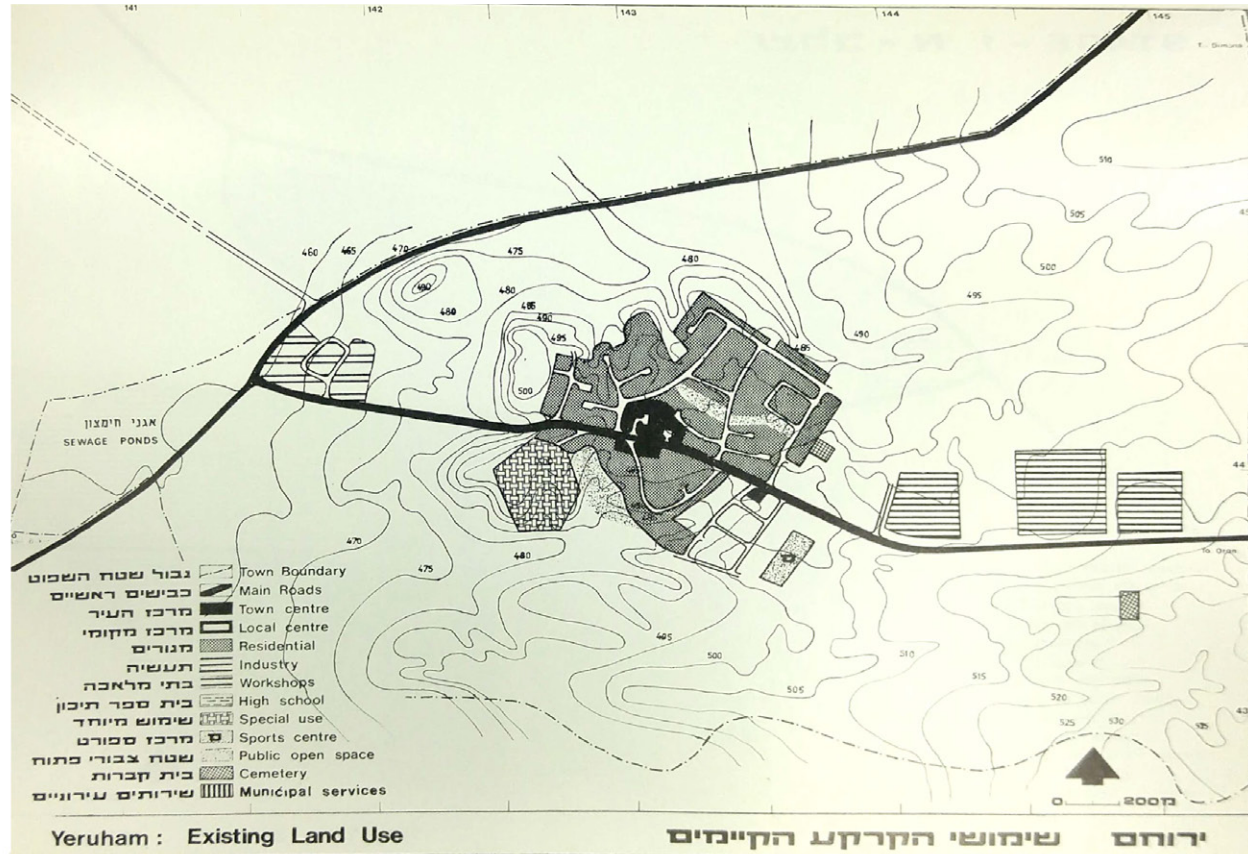


Figure 32: Y. Golani, *Existing Land Use - Yerucham*, "Israel Builds 1973 magazine", the planning and engineering department, Ministry of Construction and Housing, Jerusalem, 1973. p.79

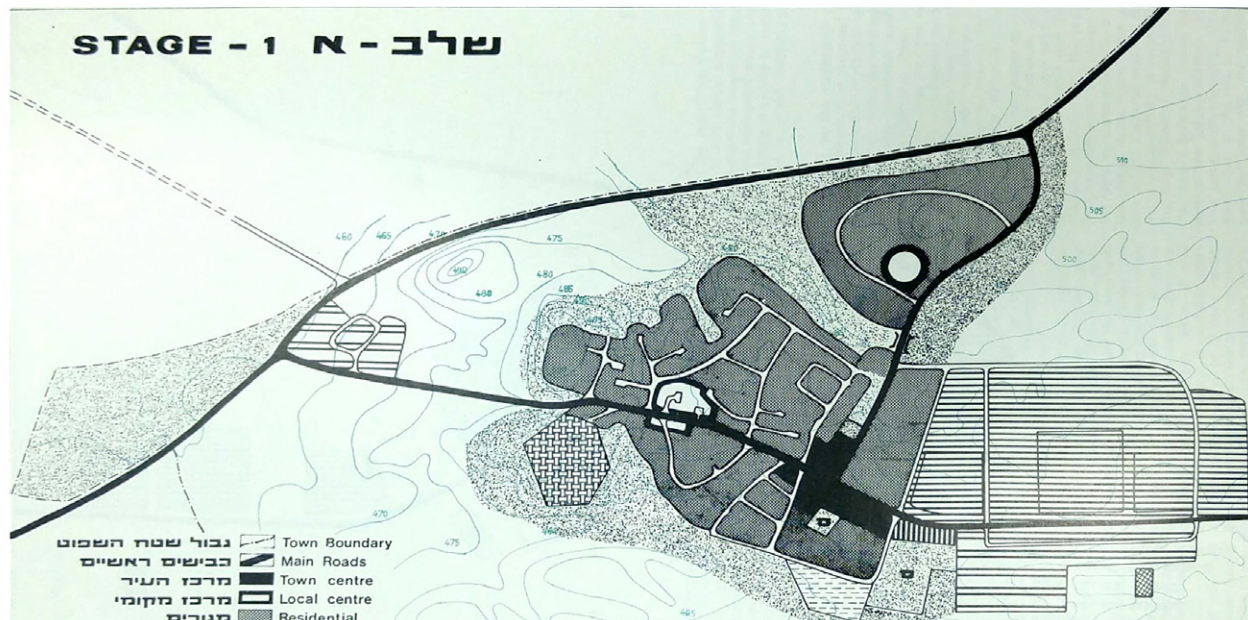


Figure 33: Y. Golani, *Yerucham: Outline Plan*, "Israel Builds 1973 magazine", the planning and engineering department, Ministry of Construction and Housing, Jerusalem, 1973. p.80

decisions.⁴⁵

The case of the new town of Dimona is an emblematic example of the different approaches the Israeli government had taken over the first and second decades of statehood. While this is the case, several other towns from the same typological and geographical area of the northern Negev had experienced similar symptoms of industrialization during the '60s and tendency to turn into a classic company town. Those three selected examples are The town of Yerucham (1951), the town of Mitzpe Ramon (1953), and the town of Arad (1962).

The town of Yerucham:

The transition camp of Tel Yerucham⁴⁶ was founded in 1951, east of Tel Rachma. The prime location of Tel Yerucham on the road between Sdom and Eilat had generated high expectations regarding the future settlement. In other words, the nearby Great Maktehsh Quarry, the limestone quarry, and the accelerated development in the road construction sector – all seemed to be promising employment opportunities for the future settlers. Additionally, the government found the soil qualities of Tel Yerucham suitable for agriculture purposes and, therefore, decided that the settlement should be a non-urban settlement. However, when the first settlers were brought to Tel Yerucham, the infrastructure conditions were utterly repugnant, and they were asked to create their primitive auxiliary gardens to survive.

In February 1953, the planners decided to change the initial destination of the settlement from agriculture to a semi-urban center. Specifically, the primary sources of employment were defined as mineral excavation, road maintenance, public services for the nearby area, and temporary accommodation for the different workers (a motel). The lack of clarity regarding the general purpose of the town- between a largely rural settlement and an urban settlement caused significant deficiencies in urban development as well as in the infrastructure sector.

In 1955, the transition camp was closed, and the first permanent residential units were constructed alongside the first neighborhood. Subsequently, Yerocham became an intermediate point on the main road between the coastal plain and Eilat, which lead to an additional source of employment – service station (gas station, small grocery shop and a motel). Later on, the planners decided to move the main road from Yerocham to Dimona. As a result of the recent development, the town unemployment percentage had reached a high pick while the local council sought new employment alternatives. Accordingly, During the

⁴⁵ Y. Grados, E. Stern, *Desert Development: Man and Technology in Sparselands*, Ben Gurion University of the Negev, D.Reidel Publishing Company, Be'er Sheva, 1985. p.43-46.

⁴⁶ The name 'Tel Yerucham' was given to the settlement due to its location on a high hill (The word 'Tel' in Hebrew is 'a Hill'). In 1952 the planning committee decided to change its name to 'Yerucham village' according to its future destination. Nevertheless, in 1959 the government decided to change the town's title according to its industrialization development – The town of Yerucham.



Figure 34: Y.Rechter, M. Zarhi , *Prefabricated experimental structures for Mitzpe Ramon*, "Journal of the Association of tengineers and architects in Israel" Vol.4 (D), Moshe Shoham publishing house Ltd, Tel Aviv,1964. p.22



Figure 35 :Aerial viwe of Mitzpe Ramon (1959) in Z. Efrat,M.Yagid –Haimovich ,*The Israeli project – construction and architecture 1948-1973 Vol.2*, Tel Aviv Museum for art, Tel Aviv, 2004 p.787

early '60s, the town faced an industrialization phase when a few factories opened in its territorial region. Population composition: the first wave of settlers was from Romania, the second wave contained a large number of immigrants from the former Soviet Union (USSR), from India, western Europe, and the United States⁴⁷.

The town of Mitzpe Ramon:

The town of Mitzpe Ramon started as a temporary camp for the workers who assembled the main road to Eilat. In the absence of the Mandatory development, it lacked primary infrastructure, which caused a severe setback in the town's development. The first temporary camp was established in 1953 by the name of 'the independence camp' and maintained six tents. The first significant development had occurred when members of the nearby village of Sade Boquer had started developing natural minerals in the Ramon Makhtesh and needed a place to stay during their research period. Simultaneously, a private initiative of 15 families had decided to relocate to Mitzpe Ramon to establish a permanent cooperative settlement, or, in other words, a new version of the classic Kibbutz⁴⁸ model. In April 1957, the first 40 permanent residential units appeared. The early settlers occupied half of them, and the remaining 20 were divided among the mineral industry employees and the 'Mekorot'⁴⁹ employees. Subsequently, the governmental Planning department had decided to accept the cooperative settlement idea by preparing the first master plan for Mitzpe Ramon. The plan indicated that the maximum capacity of the town would not accede more than 4,000 inhabitants, with absolute reliance on the Ramon Makhtesh quarries as a sole source of employment. Later, mainly due to a lack of permanent infrastructure, the spirit of the cooperative town began to disintegrate, and the residents began to seek alternatives. A survey conducted in 1962 indicated that to survive this crisis economically, a large industrial enterprise is needed.

Population composition: The settlement was mainly occupied by families from Europe, North Africa, and Iraq that were selected for the new cooperative community⁵⁰.

⁴⁷ Z. Zivan, *The Israeli deed and policy in the southern Negev 1949-1957* (part B), The Hebrew University, Jerusalem, 1998. p.250- 258.

⁴⁸ Community cooperative settlement – The community settlement is a type of village that corresponds with the principles of the kibbutz (regarding daily life and community life), but unlike the kibbutz model, the intention of the settlement is not to dictate the employment course of its residents.

⁴⁹ 'Mekorot' is the national water company of Israel. (Established in 1937).

⁵⁰ Z. Zivan, op. cit., p. 259-266.



Figure 36: Aerial view of the transition camp of Arad (1963) in Z. Efrat, M.Yagid-Haimovich, *The Israeli project – construction and architecture 1948-1973*, Vol.2, Tel Aviv Museum for art, Tel Aviv, 2004 p.787

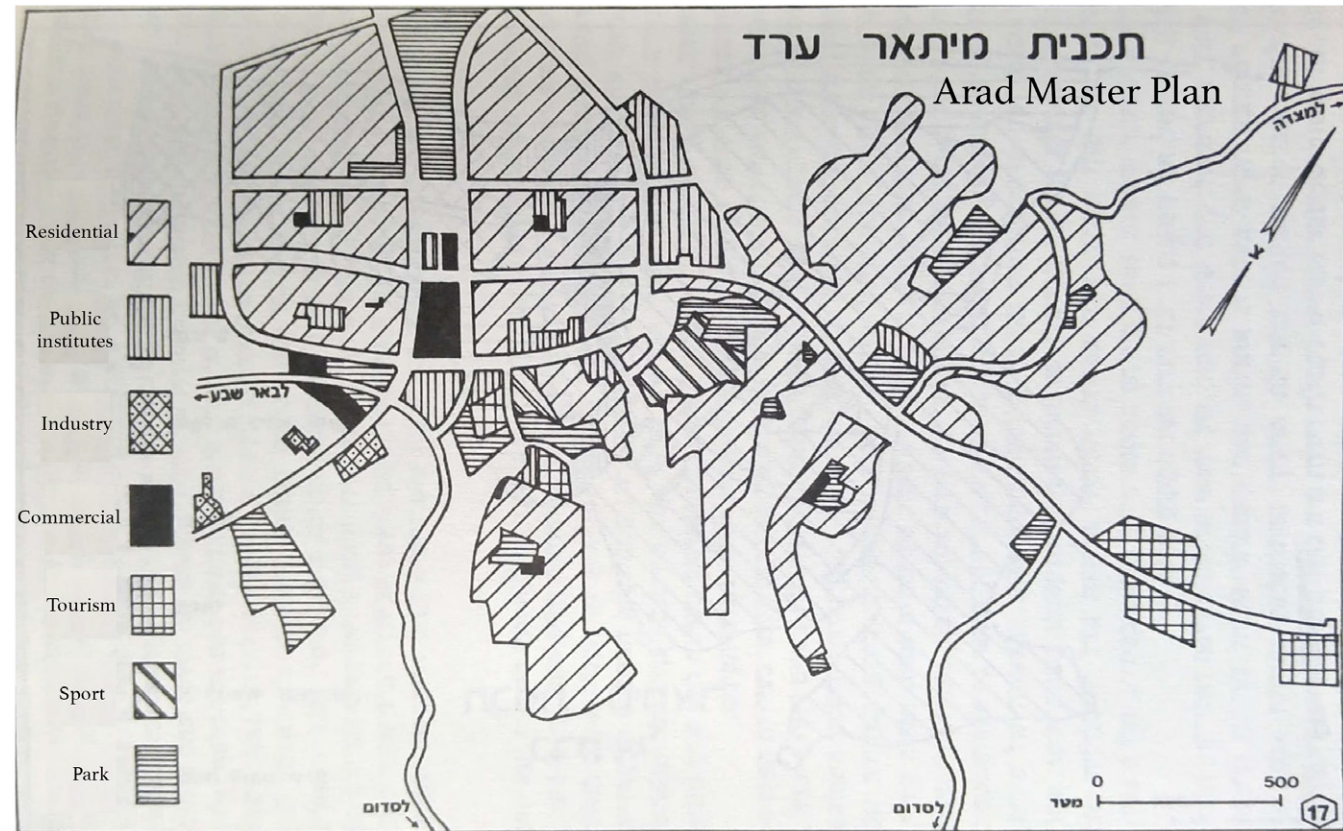


Figure 37: Master Plan of Arad (1980) E.Efrat, *Development Towns in Israel past or future?*, Tel Aviv University, Achiasaf Publishing House Ltd, Tel Aviv, 1987.p. 151

The town of Arad:

After a pause of several years, during which the pressure of immigration decreased, and the country could consolidate socially and economically, Arad was the first town-planning project where the positive and negative experiences of the past were to be fully assessed and allowed for.

This applied in particular to the thorough preparation and organization of planning, the composition of the population, and, just as important, the careful coordination between the arrival of the first settlers and the provision of the necessary places of work, something that had been missing in almost all previous attempts. The immediate cause for building another new town in the Negev, in the still largely untouched desert strip between the Jordan border and Be'er Sheva – Sdom road, was the necessity to supply additional housing for the workers and employees of the 'Dead sea works' as well as to create a new task force for the recent natural gas and colored marble discoveries near the area. Furthermore, the secondary cause for establishing Arad was involved in the undeveloped touristic sector of the Dead Sea area, which could potentially increase the economic status of the future settlers dramatically. The planning process started in 1961 when the first planning committee had recently returned from Brasilia while working under Oscar Niemeyer⁵¹ and Lucio Costa's⁵² management. The strong influence Niemeyer had on the members of the planning committee is highly evident in the town's master plan as well as in its public structures. By 1962, the first eastern quarter was completed, and the early settlers, who lived in temporary houses for a brief moment, moved in. Despite its isolation and makeshift character, the place was supplied right from the outset with all requirements of daily life: kindergarten, school, synagogue, a clinic with a resident doctor, bank, post office, library, and shops. Stimulatingly, during the assembly process of the first neighborhoods, four different factories were constructed in the municipal area of Arad, which immediately redefines the new attributes of the town.

Population composition: In the earlier stages of establishing the population composition was exclusively assembled with Israeli-born settlers, mostly young couples. In 1971 arrived in Dimona, a new wave of immigrants from South Africa Ethiopia, Canada and the united states (including the African Hebrew Israelites of Jerusalem group⁵³). In the late '90s, an additional wave of immigrants had arrived from the former soviet union (USSR)⁵⁴.

51 Oscar Niemeyer (1907-2012) was a Brazilian architect considered to be one of the key figures in the development of Modern Architecture. Niemeyer was best known for his design of the civic building for Brasilia.

52 Lucio Costa (1902-1998) was a Brazilian architect and urban planner, best known for his plan for Brasilia.

53 The African Hebrew Israelite National of Jerusalem is a spiritual community of immigrants from Chicago, Illinois.

54 A. Spiegel, *New towns in Israel – Urban and regional planning and development* (translated into English by Annelie Rookwood), Frederick A. Praeger Publishers, New York, Washington, 1966. p.168-173; E. Efrat, *Urbanization in Israel*, Croom Helm London & Canberra & St. Martin's Press, New York, 1984. p.168-177

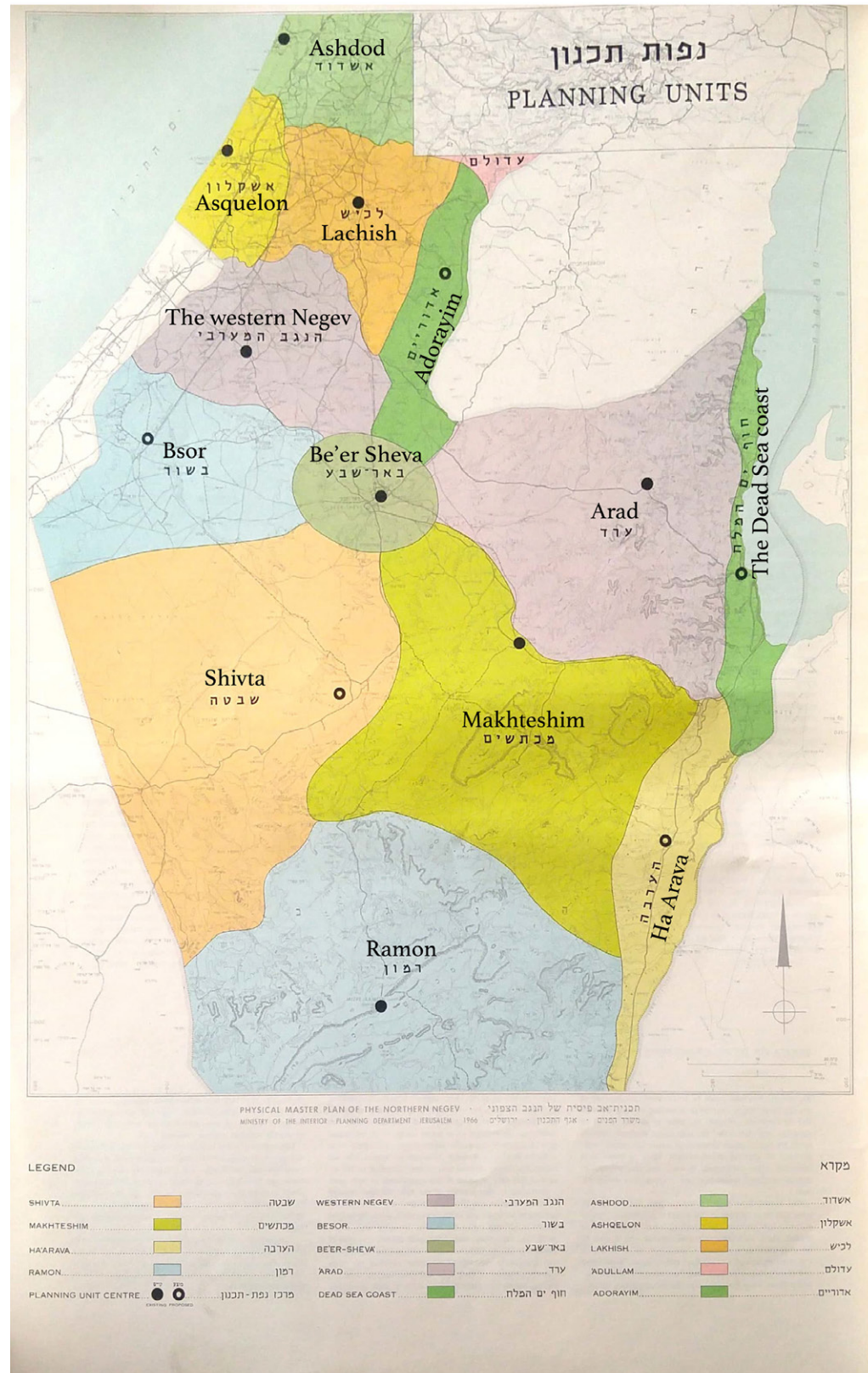


Figure 38: planning units . In: E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966. p.12

2.3 Planning the Negev

“The northern Negev is one of the areas which has not yet benefited from a comprehensive Master plan. Most physical, economic, and demographic developments in Israel have taken place in the central part of the country, especially in the coastal strip, with some significant progress also made in the western and eastern Galilee and the Jerusalem Corridor. Too little has, however, been done so far in the Northern Negev. The local development projects carried out are merely the first steps toward the general development of an area which represents Israel’s principal future land reserve”.⁵⁵

In 1951, the first cohesive master plan for the state of Israel was published by Arie Sharon and his team of experts. This plan marked the beginning of the most intensive development chapter known by the state, which will influence its future landscape components today.⁵⁶

The plan did relate to several areas and infrastructures, but it predominantly dealt with macro planning without relating specifically to regions or diversified areas. According to the plan, the country would be divided into 24 regions, each of which would contain an average of 75,000 residents. In particular, the plan never specifically detailed how to formulate the internal subdivisions, which would be under each region’s authority. Important issues surfacing over time as a result of Sharon’s plan led the government planning committees to realize that the plan could not be implemented without first producing specific planning details.

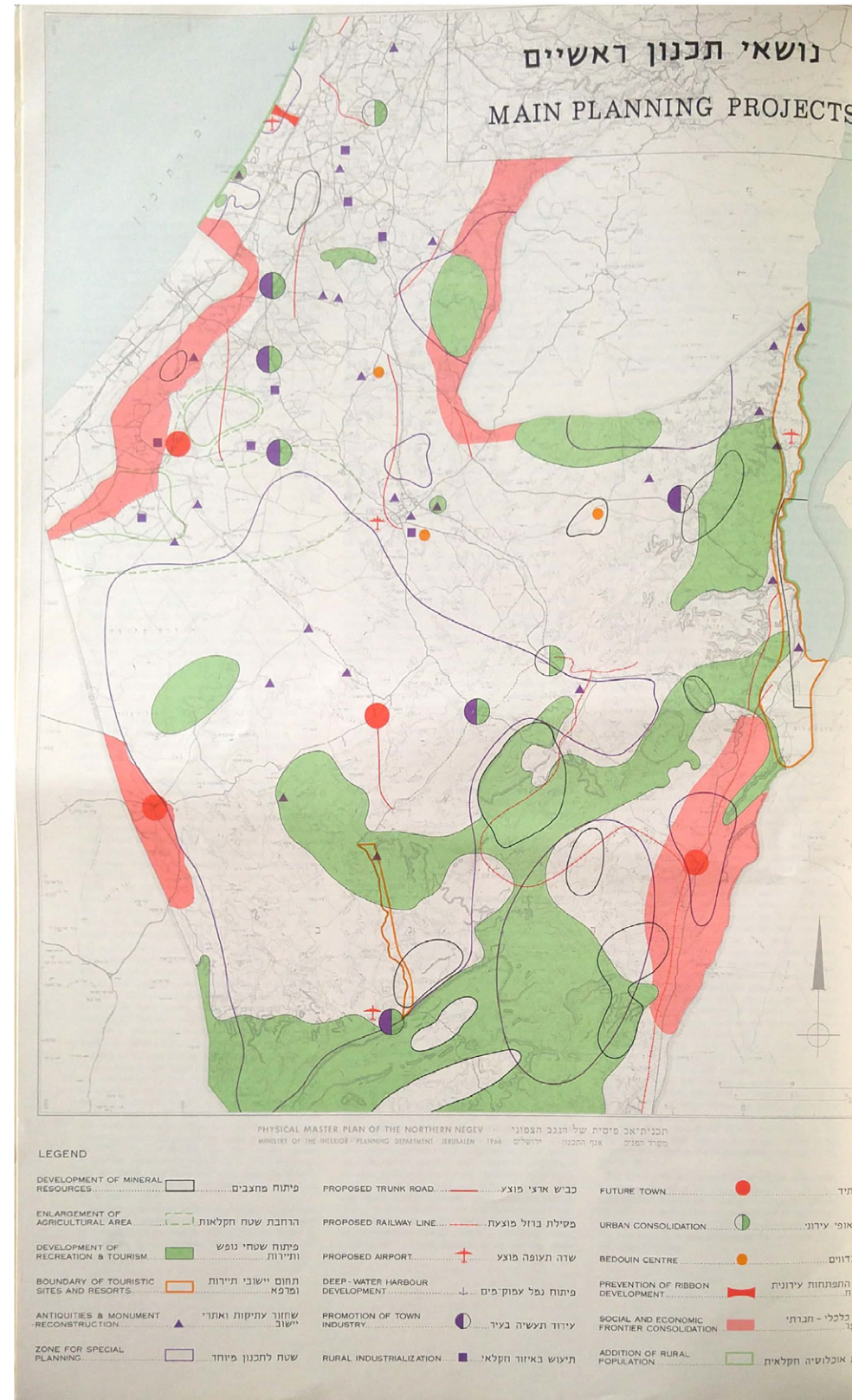
One region which gained more considerable attention in the political discourse was ‘the Negev region.’ Moreover, it illustrated the existing paradox of that period. On the one hand, it symbolized nomadic life, undeveloped, unused land. On the other hand, it simultaneously represented the enterprising, pioneering spirit that would conquer and overcome the desolate expanse, “making the desert bloom again.”⁵⁷ Indeed, by 1958, planners began energetically preparing development options for the region. The in-depth plan for the Negev region was published in 1966 under the title, ‘Physical Plan for the Northern Negev.’

The planners felt that this particular plan was one of several planning actions revolving around land designation and its rational usage for human needs and productivity. Initially, the plan deals with crucial aspects such as topography, soil, climate, foliage, land contours, and water supply in order to determine the future features of highroads, towns, population distribution, designate nature reserves, and identify appropriate sites for industrial premises.

⁵⁵ E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of internal affairs, Jerusalem, 1966. p. 3

⁵⁶ For more details concerning Sharon’s plan – see chapter 1.2

⁵⁷ The term ‘Make the dessert blossom again’ was coined by Prime minister Ben Gurion during his first meetings regarding the Negev settlement terms. It mainly refers to the great passion Ben Gurion had for settling the desert and conquer the wilderness.



The plan can point to a clear hierarchy among the diverse areas of development, which enable a broader scope of planning for the longer-term. Another benefit derived from setting this hierarchy is the possibility of ranking the various development activities according to their urgency and necessity⁵⁸. The Negev's fate and future would now be tested as the planners in government institutions, particularly in the Ministry of Housing, Ministry of Development, and Ministry of internal affairs, watched the plan being put into action. The predominant planners of that period included Arie Sharon, Zion Hashimshoni, Arie Dudai, Eliezer Brozkos, Arthur Glikson, and Yakov Dash were assigned to the task of planning different regional areas based on Sharon's vision at 1951. The plans primarily related to infrastructures, which would determine the Negev's physical future.

As noted, the first part of these plans was devoted to extensive research on the region's physical attributes, and the second part went into greater detail vis-à-vis planning and subdivision of the northern Negev's various areas. This chapter will focus primarily on the plans' second part with a specific focus on the issue of determining regions and their future purposes.

2.3.1 Region planning

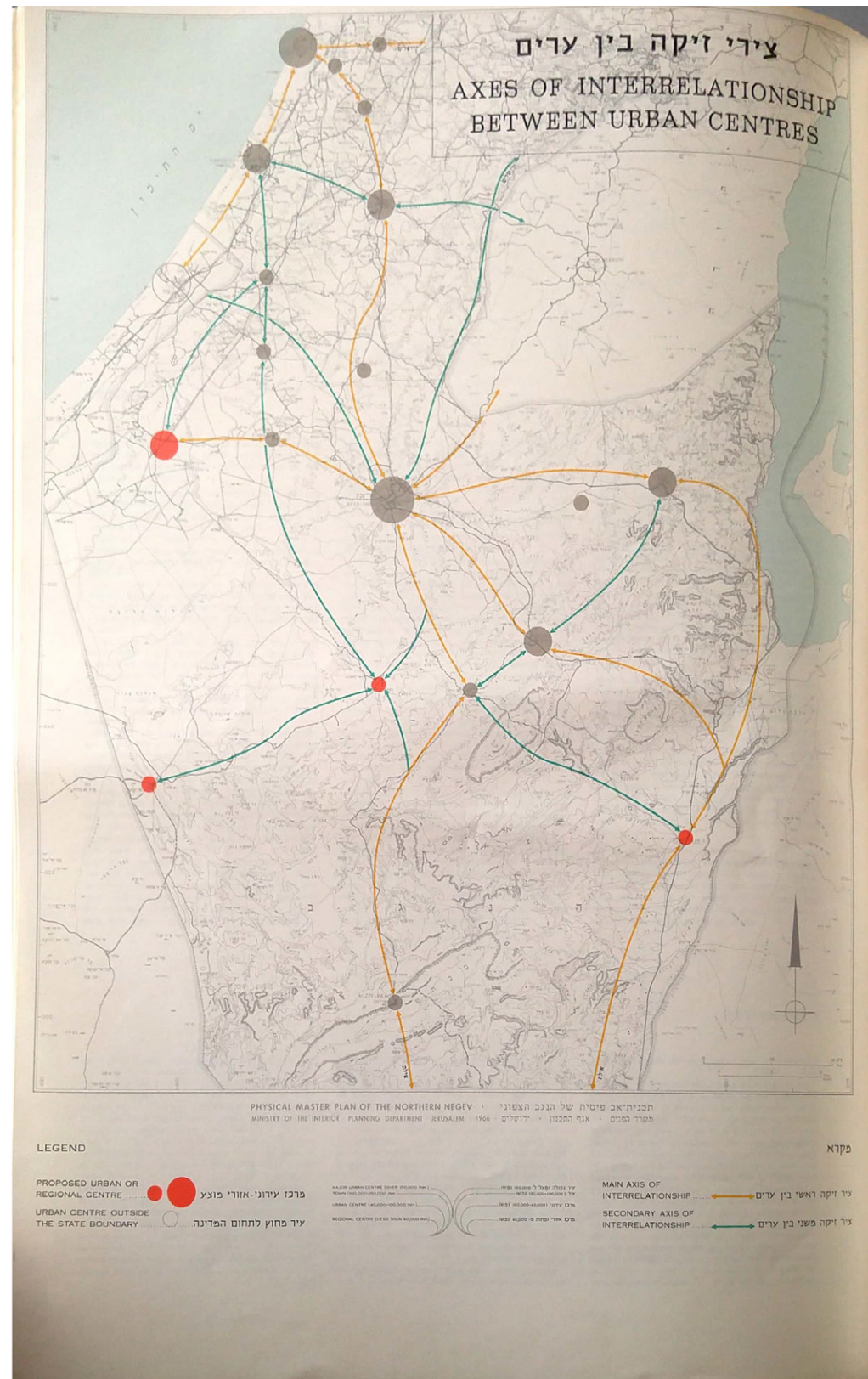
The concept of 'region planning' sought to initiate a rationally planned division of the northern Negev into units that would be homogenous as far as their planning and development. It was clear to the planners that neither the existing administrative division nor the accepted geographic divisions of the region were ideal for the purposes of long term planning. A region plan sought to create a suitable framework for addressing the impact of urban centers, relate to the space between town and surroundings, and provide options for transportation, commercial services, culture, and more. Division of the country into regions had appeared in the initial physical master plan drawn in 1951 by Sharon but gained more considerable attention in the 1960s. It was only natural that the size of the planned northern Negev regions would extend towards the south, since the more a region is undeveloped and unpopulated, the more possible it is to include larger areas in one unit of space. As a result, the planned regions of smaller sizes are those who carry the more substantial impact of a developed urban center. Three cities were included in this category: Ashdod, Ashkelon, and Be'er Sheva.

In the Ashdod and Ashkelon regional plans, we see that the peripheral regions are predominantly agricultural. Residents of the outer areas depend on the large cities for their financial and municipal needs. The existing model is indeed the correct one for such environments.

By contrast, the regional plan for Be'er Sheva, with its peripheral areas having sparse coverage, were given no more than schematic boundaries. This is due to the wish to develop an urban

58 E. Efrat, *Development Towns in Israel past or future?*, Tel Aviv University, Achiasaf Publishing House Ltd, Tel Aviv, 1987. p.110-118

Figure 39: Main future projects . In: E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966. p.33



center unlinked to its periphery: there simply was no need for excessively precise boundaries.⁵⁹ Other than the three primary planned regions mentioned above, another ten were proposed: Lachish, western Negev, Besor, Adorayim, Arad, Dead Sea coast, Shivtah, Makhteshim, the Arava, and Ramon.

- Lachish primarily included the Lachish strip, its urban center being the city of Kiryat Gat, which at the time was in advanced stages of development and viewed as having good chances of holding a position of importance in regional matters.
- Western Negev included the new townships in the southern lowlands, particularly the agricultural communities in the area. Its planned urban center was Netivot, comfortably positioned at the region's geographic center at the junction where north to south transport movement crossed east to west movement.
- Bsor encompassed the Bsor strip, which at the time commenced as agricultural and township planning. To the west, it encompassed kibbutz agrarian communities along the Gaza border, and to the north a string of towns from Tifrah to Patish. Its capital would be a city named 'Bsor,' to be constructed near the Magen Junction in the future.
- Adorayim included the higher flatlands at the foothills of the Hebron mountains, seen by the planners as an area with clear agricultural and township potential. Its tentative urban center was positioned adjacent to the town of Amatsia, which would complete the urban development eastwards along the axis between Ashkelon to Kiryat Gat.
- Arad, as a regional plan, addressed multiple aspects: quarry development, industry, tourism, and a center for Bedouin. The city of Arad, established in the region's east, was developed from its outset with distinct urban nature.
- Dead Sea Coast included the narrow strip of shoreline on the Dead Sea's west and the row of cliffs that are part of the Judean Desert. This region's landscape, unlike any other, held the potential for Dead Sea quarries, tourism, and ancient relics, which justified its planning as a unique region.
- Makhteshim, which literally means 'craters,' was characterized by industrial development in the large crater, the phosphate fields, and the small crater. Dimona was focused on the region's urban center.
- The Arava included the northern Arava region containing phosphate production and agricultural potential. As a future urban center, the planners decided on the city of Hatzevah, near a critical junction on the Sodom to Eilat axis. Its future functioning is meant to integrate into plans to extend the Eilat bay northwards and along the Arava.

⁵⁹ Y. Gradus, *The fundamental elements of the urban planning of Be'er Sheva* in M. Naor, *The Negev settlements 1900-1960: sources, summaries and selected events*, Yad Yitzhak Ben Zvi Press, Jerusalem, 1985. p.174-175.

Figure 40: Axes of interrelationship between urban centers . In: E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966. p.23

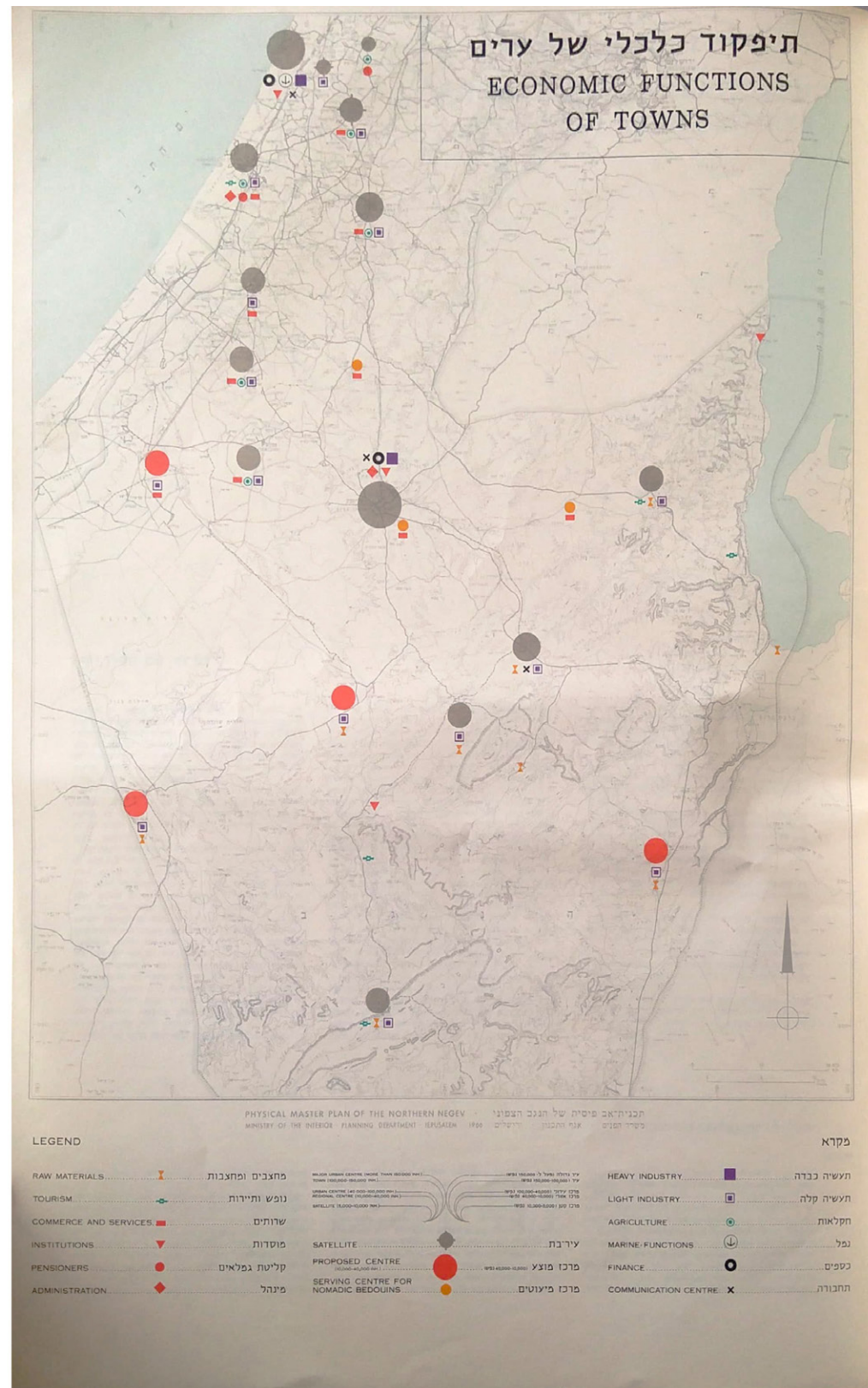


Figure 41: Economic functions of towns . In: E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966. p.21

- Shivtah at the time was the most sparsely populated, least developed region. Its urban center was suggested as being positioned adjacent to Mashabei Sadeh.
- Ramon, with Mitzpeh Ramon as its center, included the quarries and areas for future development around the Ramon Crater.

The next stage in planning the northern Negev region related to the distribution of population across the various regions. Aiming for a balanced social diversity, the plans presented existing demographic data versus projected data for 1985, the date that Sharon's comprehensive plan evaluated the population reaching a total of 4 million. Sharon's masterplan was also used as a guideline to determine the urban nature of towns according to the urban hierarchy models, which he applied in his preliminary plan.⁶⁰ Accordingly, Be'er Sheva was the only example from among the settlement models that was intended from the outset to function as the metropolis serving the entire northern Negev district.

Included in the group of urban centers numbering from 10,000 to 40,000 people were Ashkelon, Kiryat Gat, and Dimona. In the regional centers totaling 5,000 to 10,000 were Sderot and Ofakim. Netivot and Yerucham were centers designated for 2,000 to 5,000 people. It is important to note that while writing up the plan, the towns of Arad and Mitzpe Ramon were still in initial stages of development and, therefore, not yet categorized.⁶¹

The population distribution policy noted in Sharon's strategy reflected the need to establish and expand Jewish settlement across the entire country's landmass. The current regional strategy, therefore, also related directly to solutions for the housing crises. One of the solutions involved establishing new towns in the more sparsely settled regions of Bsr, Hatzevah, Shivtah, and Nitzanah. The urban development plan for these towns was set for the early 1980s to allow planners time to focus on developing the existing models and later, reach conclusions relative to future development options.⁶²

2.3.2 Economic potential

As Sharon's plan previously determined it, any urban settlement constitutes a center that serves its surroundings and the local population adjacent to it. This economic function will repre-

⁶⁰ According to Sharon's plan, the urban settlement's hierarchy models are A – village, B – rural center, C – rural-urban center, D – center/medium size town, E – metropolis. For more details, see chapter 1.

⁶¹ A. Brutzkus, *A strategic approach for the geographic dispersal of the national population once turned 5 million inhabitants*, in *City and region – journal of local government, urban and regional planning and development*, the Ministry of internal affairs, Jerusalem, 1973. p. 3-25

⁶² E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of internal affairs, Jerusalem, 1966. p.18.

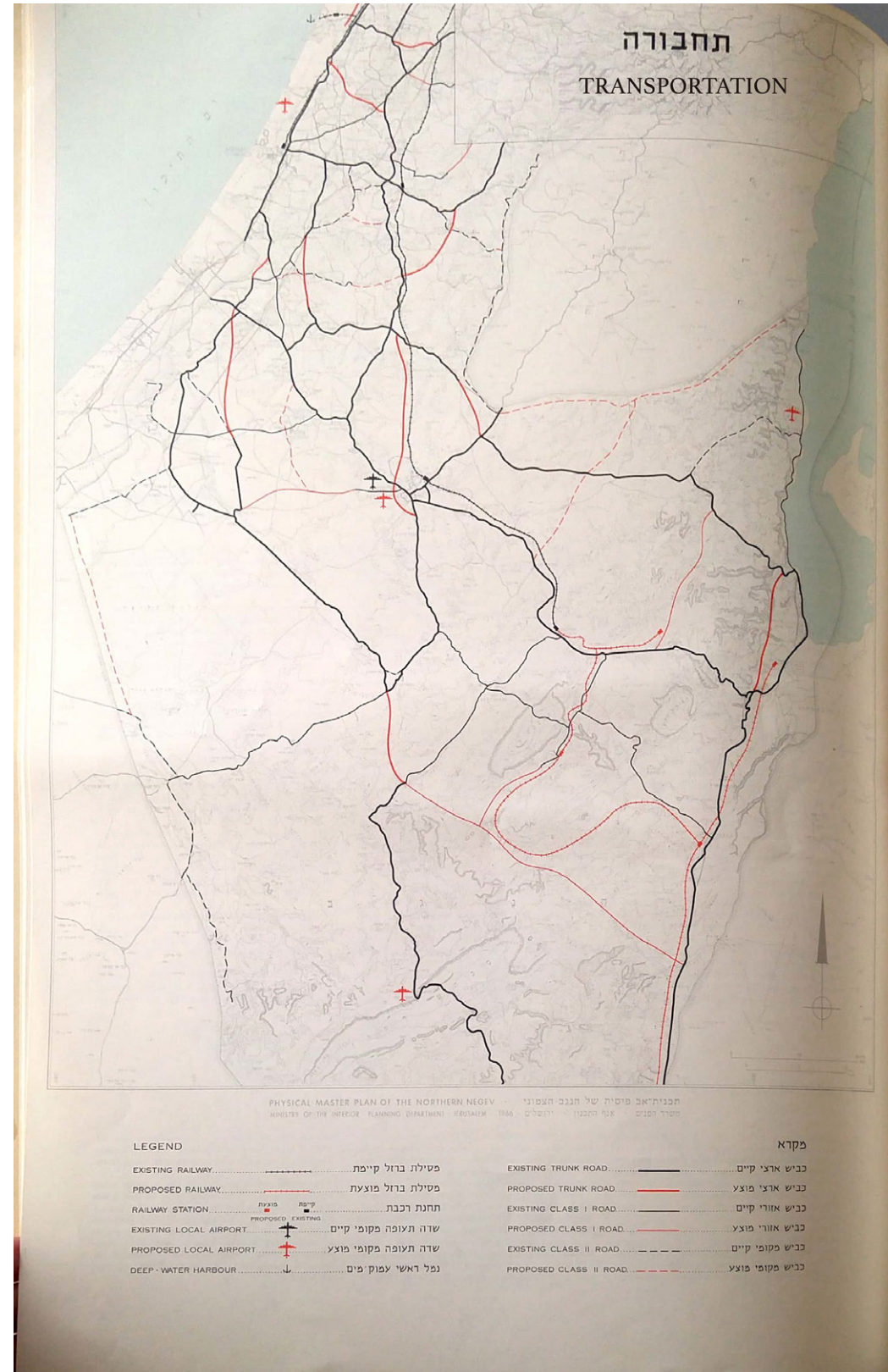


Figure 42: Transportation . In: E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966. p.25

sent the town's nature, its image, and its employment potential for the local community. The link between a town's economic role and its image creates a background for countless considerations that determine its future destination. Influential financial functions include, for example, heavy industry, agriculture, a seaport or airport, developed transport options, and tourism. The most important economic role that was encompasses factors such as employment, distribution of population, and the size of the urban center was the industry component. The industrial sector was split among the regions based on practical, financial, and strategic considerations in order to solidify the market which existed in Israel, while also seeking to leverage urban development.

Initially, heavy industry was planned for two central cities, Ashdod and Be'er Sheva, since both cities already contained smaller industrial centers. However, a decision was taken to diffuse the light industry among the new towns, creating a basis for permanent employment for new residents. In regions of a clearly rural nature, several industries based on agricultural produce were also positioned adjacent to the centers of Kiryat Gat, Ashkelon, Netivot, and Ofakim. Seaport functions were centralized in Ashdod, which significantly influenced the nature of industries in the region and relevant employment sectors. The quarries sector had provided an additional, crucial economic impact. For residents of several towns in the southern and eastern Negev, quarries were their financial backbone. This role was considered appropriate to towns such as Arad, Dimona, Yerucham, and Mitzpeh Ramon.⁶³

2.3.3 Transportation

The northern Negev plan also included a useful network of roads that outlined and categorized existing and future routes. This network was perceived as a cohesive consolidated system linking the region in entirety to central Israel, while simultaneously connecting each of the critical points within the northern Negev to prevent isolation among regions. Additionally, each main road was also marked by at least one parallel path to minimize traffic jams. The planned routes generally followed the dominant geomorphological structure of the region: from northeast to southwest. Wanting to avoid the need to implement changes shortly, the overall agenda when planning road routes was to make them as final as possible and simultaneously avoid using agricultural lands and damaging the natural landscape. Additionally, a railroad route was also considered as a convenient transport solution for the northern Negev. The planners identified the rail route as an easy, fast way to move freight from factories in the south to the center and north. Furthermore, the plan also states that in the future, these routes would also serve as public transport solutions. From the outset, however, the railroad was categorized as a secondary mode of

63 A. Grayzer, N. Kadmon, Z. Ron, Z. Zilker, *Ashdod: selected articles*, The Tel Aviv University Press, Tel Aviv, 1976. p. 183-200.

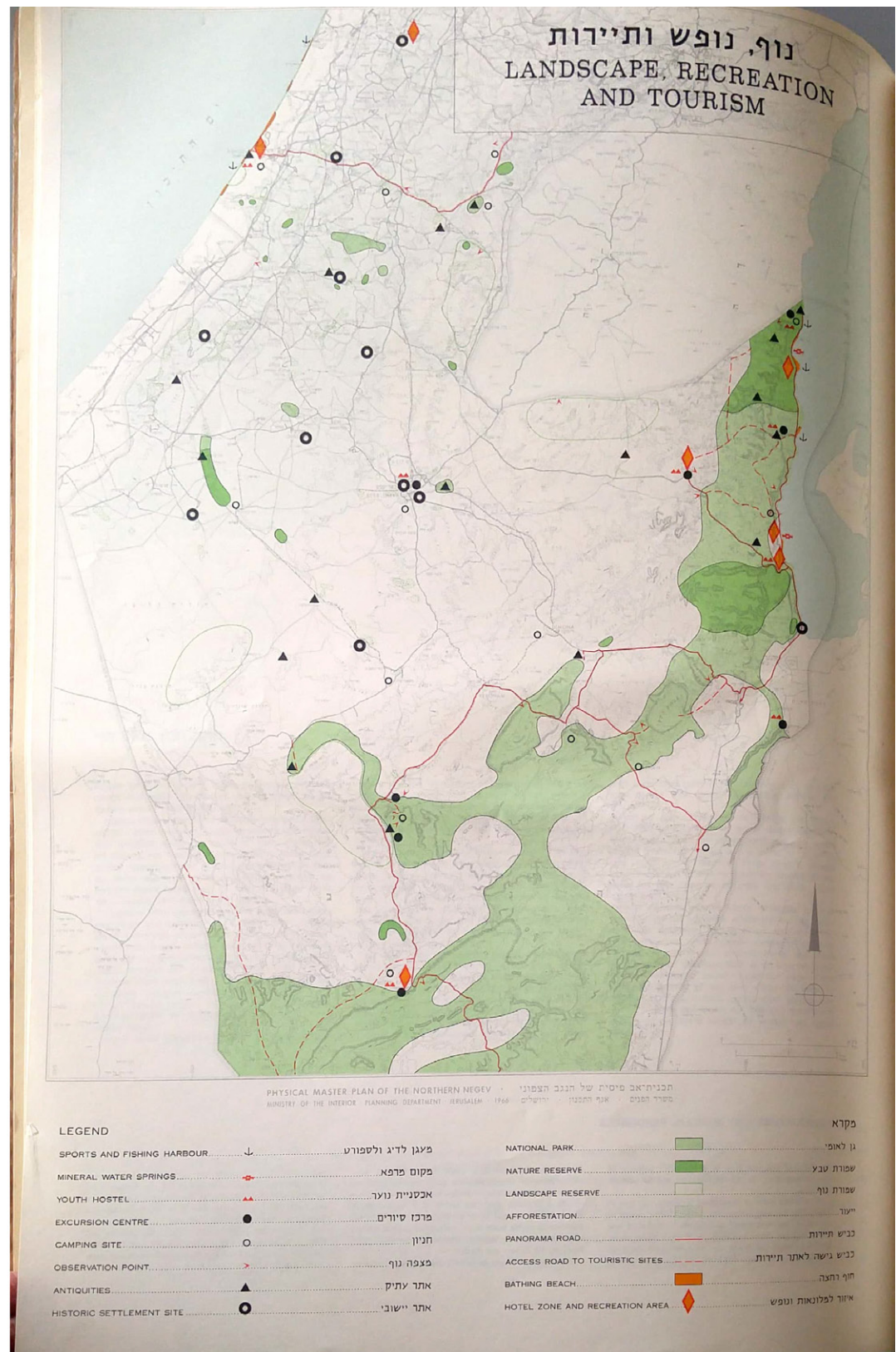


Figure 43: Landscape , recreation and tourism . In: E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966. p.27

transportation because the possibility to adapt the rail route to the Negev's elevated topographic landscape was still constructively obscure.⁶⁴

Another essential transportation option that the planners suggested was Airports. The idea was to create a network of internal flights, intended to connect various parts of the country. Internal airports were located between Ashdod and Ashkelon, and adjacent to Be'er Sheva, to Masada and Mitzpe Ramon. Planners assumed that in light of future urban development, the demand for fast transportation would increase, especially on lines such as Haifa - Ashdod, Haifa - Be'er Sheva, and Jerusalem - Be'er Sheva.

2.3.4 Landscape and tourism

More than any other region in Israel, the northern Negev carries within the highest potential for tourism. The desert, with its oases, geomorphological phenomena of craters and canyons, impressive ancient sites, the wellness benefits of the Dead Sea, and unique climate, must all be taken into account when establishing a comprehensive tourism strategy⁶⁵. In order to do so, the Planning approach must be imaginative, ensure the region's safety and security, and prevent irreparable damage to the landscape. Therefore, the planners decided to start the planning process by exploring the region's aspects and values. Then, they decided which area is worthy to be declared as 'national park.' Moreover, the planners also noted important archeological locations that could potentially draw visitors. Among the different archeological attractions, it is possible to indicate: Masada, the Nabatean cities, ancient dams, and prehistoric agricultural sites. The last target the planners tried to demonstrate through the plan was the 'landscape preservation' option, which focuses on optimally integrating all possible development activities while acknowledging the necessity to preserve nature's characteristics, even if the area is not designated as a national reserve⁶⁶.

In conclusion, the planners' deep involvement in the different infrastructure processes for future development did not go to waste. Over the years, almost every issue the planners focused on saw progress, even if not always of a scope they had expected. Indeed, 'settling' the Negev was a complicated challenge, requiring a massive amount of resources and a comprehensive planning approach to succeed.

64 Y. Karmon, *Eilat*, The Israel exploration society centennial, Jerusalem, 1963. p. 231-241.

65 S. Krakover, *Development of Tourism resort areas in Arid Regions* in Y. Gradus, *Desert Development: Man and Technology in Sparse lands*, the Ben Gurion University of the Negev, Be'er Sheva, D.Reidel Publishing Company, 1985. p.271-280.

66 E. Efrat, *The physical planning of the northern Negev in the second decade of statehood*, in *Eionim*- the multidisciplinary magazine of the Ben Gurion University for studying Israel Vol.5, The Ben Gurion university press, Be'er Sheva,1995. p.240-260.



Figure 44: The location of the future town of Dimona. In: Unknown photographer, Unknown year. In: The Tuvyahu archive of the Ben Gurion university library, Photo No. 706.81.F2.B1.EA

Chapter 3

Dimona: Formation to prosperity (1951-1990)

“The Negev offers the greatest opportunity to accomplish everything from the very beginning”
(D. Ben Gurion)¹

The Negev region is a unique territory located in the southern part of Israel and maintains almost 1/3 of the country's territory. The Negev region contains exceptional topographical characteristics that include mountain ranges, streams, bedded rivers, the Makhteshim phenomenon, and different mineral deposits. For thousands of years, despite its arid conditions, this region had attracted and fascinated a large vast of different populations. In the ancient Roman Age, it was the Nabataean Kingdom who realize the great potential of settling across the Negev region where they established a series of developed cities across the Incense Trade Route to provide services for convoys transferring goods. Their cities had been characterized by ravishing architecture and exceptional water collective systems that provided water all year long. During the British Mandate period, British cartographers and explorers expeditions were sent to discover the richness attribute of the region for the first time in the modern age.

With the establishment of Israel, this region became a national interest when Ben-Gurion saw the development of that area as a supreme goal and an element that had a decisive contribution to Israel's economic development and security. Furthermore, Ben-Gurion saw the Negev as the future center of settlement and pioneering activity. His vision and enthusiasm swept many in the early 1950s into a pioneering awakening which soon had evolved to the population dispersal strategy. The main idea behind the strategy was to create a balance between the extreme population concentration at the coastal plain the development of marginal – frontier settlements.

The town of Dimona was a product of this strategy, when it was established during the early '50s. In the settlement early years the town had struggled to maintain its existence since basic infrastructure elements were missing. Only when the industry sector was developed, the town regains its financial relative stability and flourish through the mid-'70s.

To fully explore the different attributes of this chapter, a general division of the four main segments were conducted; The first will provide a broad overview over the Negev's physical properties and the rich natural resources that have been discovered over the years; the second will explore the ancient architecture

¹ M. Bar-Zohar, Ben – Gurion, Zmora Bitan Publishers, Tel Aviv, 1987. p. 243



Figure 45: The road from Sdom to Ein Huztva . In: A. Sharon, Physical planning in Israel, government printer, Jerusalem, 1952 . p.12

of the city 'Mampsis', created by the Nabateans kingdom; The third segment will delve into the idea of the new settlement of Dimona and the final segment will mainly explore the development elements of the new settlement from its early days to the mid 70's period.

3.1 The Negev – physical attributes

The Negev, as a geographic region, extends in the South of Israel over an area of 12,000 sq. Km constituting about 60% of the country's entire territory. It lies in a borderline climatic zone between the Mediterranean region in the north and the arid/semi-arid region in the south.

The name 'Negev' was taken from the old testament, book of Deuteronomy chapter 1: *Break camp and advance into the hill country of the Amorites; go to all the neighboring peoples in the Arabah, in the mountains, in the western foothills, in the Negev, and along the coast, to the land of the Canaanites and Lebanon, as far as the great river, the Euphrates*².

The term denotes dryness and aridity- such as the dominant characteristics of the region, steadily increasing towards the South. Also, the term is in common use to indicate the general direction toward the south (in the compass rose) in Hebrew.

During the first decades (AD), the term 'Negev' has faded and got replaced with each temporary ruling monarchy, such as Palestine Tertia' of the Romans and the 'badit a-Tiya' (to the northern part of the region) or Jabal a-Tur (the southern part) of the Arabs. When the Zionist movement had started to renew its settlements- the name Negev was restored in common use.

The Negev region can be easily detected by the simple resembles a pointed triangular shape, stretching from the base in its north part down to its apex at the gulf of Eilat. Landscape features distinctly mark both the natural and the political-administrative boundaries. The northern boundary is mainly determined by climatic, soil, and settlement conditions. The boundary can easily be obtained along the 350 mm isohyet³ passing through the Gaza strip and the settlements of Sa'ad, Bet Qama, and Lahav further down to the East where runs the Jordanian border, which passes along the Southern inclines of the Hebron Mountains. The Eastern boundary of the Negev runs along the shores of the Dead Sea, and down along the Rift Valley (Ha'Arava valley) to the Gulf of Eilat. The South-Western boundary between Eilat and Rafah valley coincides with the Egyptian border, converging on the central Sinai region. In the west, the Negev abuts onto the Negev Plain (Shefelat Ha Negev) and the Philistine Plain (Shefelat Pleshet) up to the Gaza strip.

The extensive territory lying within these boundaries has all the characteristics of an arid fruitless zone, but, on the other hand, its open spaces, ample mineral resources, and many natural landscape spots

² The old testament, book of Deuteronomy, chapter 1 line 7.

³ Also known as Isohyetal line which refers to the average annual rainfall borderline in the climate map.

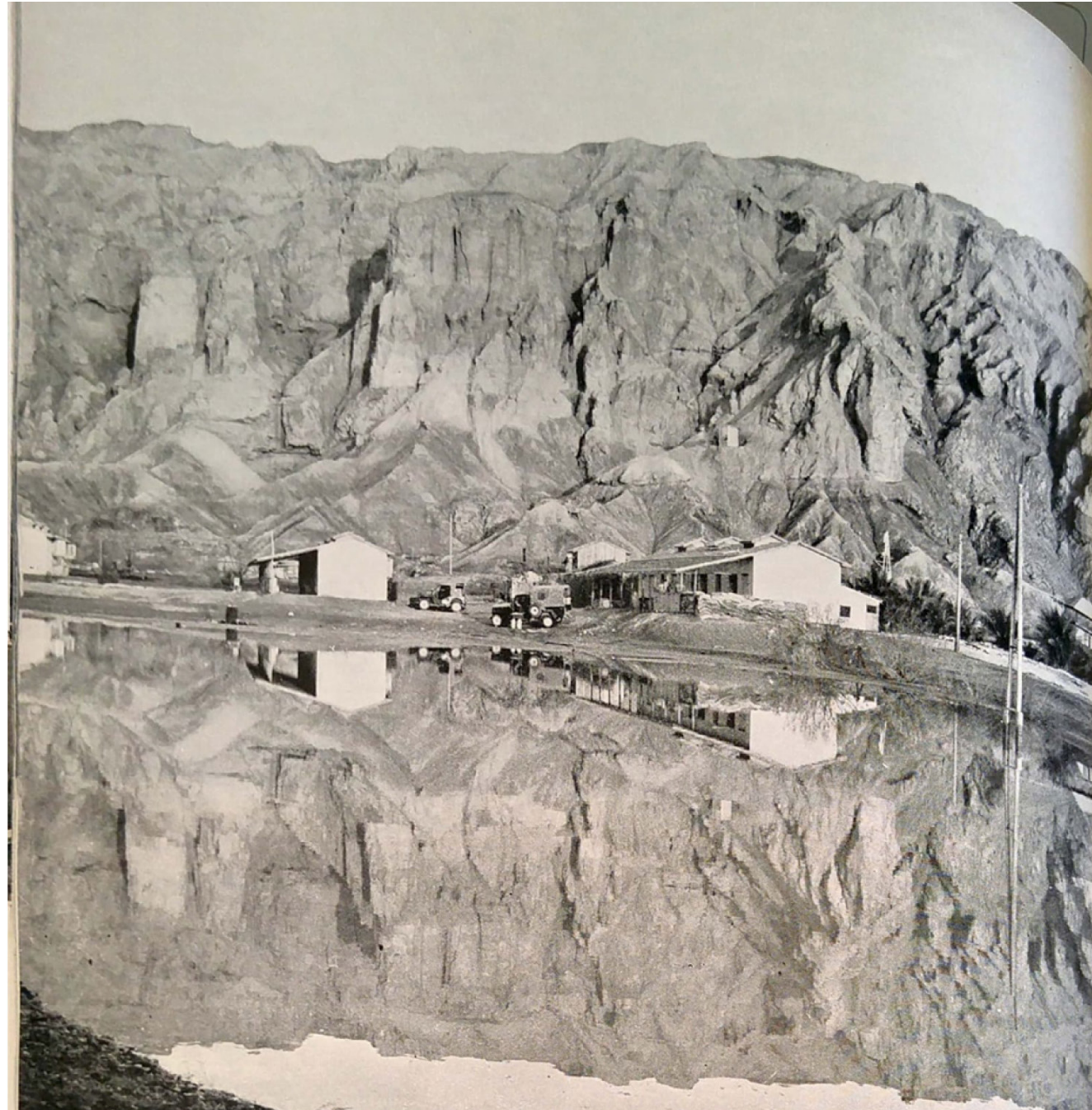


Figure 46: The worker's camp in Sdom . In: A. Sharon, Physical planning in Israel, government printer, Jerusalem, 1952 . p.23

offer vast opportunities. It furthermore constitutes the link between the Mediterranean and the Red Sea – Israel's outlet to East Africa and the Far East.

High summer temperatures and large daily temperature differences are extremely typical for this region, as well as low rainfall and frequent years of drought. Since parts of the Negev are within the aridity zone, non-irrigated crops can only be raised with the most considerable difficulty. The scanty rains cause a constant water shortage. Since the earliest ages, the inhabitants of the Negev have done their best to combat these conditions and overcome that water shortage by drilling wells and collecting water by the erection of dams and dykes.

The Negev contains several regions different both in structure and in the landscape, among which the most distinctive are the Eilat mountains, the Paran Plateau, the Negev Mountains (Har HaNegev), the Rift Valley (Ha Arava), Be'er Sheva valley and the Negev Coast.

In order to exceed the scope of the theses, this part will be mainly focused only on the northern half of the Negev region.

This particular part is cut out from several natural regions, including sections of the Negev Mountains, the Rift Valley, the Negev Coast, the Hebron Mountains, and the High Negev Plateau, as well as the entire Be'er Sheva Valley.

The diversity of its landscape characterizes the topographic and morphological structure of the northern Negev: wide sandy loess and loess plains, low chalk hills, sand dune areas, and mountains rising to a height of 1,000 meters and more.

In the northern part of the region, extend the Philistine Plain (Shefelat Pleshet) and the Judean Plain (Shefelat Yehuda). In the Philistine Plain, south of Ashdod is overlaid with fertile alluvial soil, gradually turning into sandy loess as one proceeds further south. It is very densely populated, and a large number of agricultural settlements intensively cultivate the soil. The plain is crossed by three main Wadies (torrential streams) running from East to West: creek Lachish, creek Evtah, and creek shiqma. The area is highly suited for agriculture, citrus fruit & vine and enjoys a pleasant climate with moderate temperatures and precipitations ranging between 350-500 mm per year.

The hills of the Judean desert extend parallel to this Plain. Climbing to an altitude of 200-350 meters towards the East, where they merge with the Hebron Mountains.

The Yehuda plain forms the stepping stone between the Coastal Plain and the Mountains of Hebron, rising in height towards the south. The streams intersecting the Philistine Plain have their origin in the Judean Plain and the Hebron Mountains.

To the south of the plain extends the Valley of Be'er Sheva, which constitutes a separate homogeneous morphological and topographic region, from the Hebron Mountains in the north to the Negev mountains in the south. To the west, it merges with the Judean plain (shefela), while on the East, it is walled in by the Judean Desert. The soil of the Be'er Sheva Valley is exceptionally even and covered with loess, as is



Figure 47: Panoramic view of the Negev . In: A. Sharon, Physical planning in Israel, government printer, Jerusalem, 1952 . p.11

typical of the margin of arid zones. The loess is carried by the desert wind, which shifts the detritus by size so that the finer and lighter particles travel over a considerable distance until they encounter rains that force them to 'settle' and attach them to the ground. On the whole, this soil is fit for cultivation as long as frequent irrigation is provided.

The Be'er Sheva Valley is traversed and watered by the Be'er Sheva creek, which absorbs smaller tributaries starting in the Hebron Mountains and the Central Negev Mountains, and drains into the Besor stream running to the North-west into Gaza Strip. As it flows westwards, the riverbed of the Besor stream increases in width.

Rosh Zohar observatory is a small but significant spot for different physical changes in the region. The observatory forms the Eastern confines of the Be'er Sheva Valley, wedged between the Judean desert in the north and the Negev Mountains in the south and serving as a mountain intersection from which HaQanna'im mountain, Ye'elim mountain, Kidod mountain and Menachem branch off to the north, and the South Hatira mountains, the mountains of Dimona and the remaining ranges combining into the Negev Mountains.

Rosh Zohar observatory also constitutes the watershed between the torrents flowing to the East into the dead sea, Hatrurim creek, Morag creek, Boqeq creek, Zohar creek, Hamer creek, and Be'er Sheva creek which together takes a westward course. It further forms the easternmost point on the descending watershed.

Southwest of the Be'er Sheva Valley large areas are covered with sand dunes, including the Dunes of Agur, Haluza, and Shunra, extending over up to 500 sq. Km. These dunes form the Eastern corner of much more extensive dunes in the Northern part of the Sinai Peninsula, and are not continuous but are separated by wide strips of loess.

The Negev Mountains rise to the South of the Be'er Sheva Valley, running in a NE-SW direction, culminating in the Sinai Mountains with peaks as high as 1,000 meters or more. Most of the anticlines are asymmetrical, with natural slopes to the north-east but very steep inclines to the South-western side. Several ranges run parallel to each other: Rahama mountain, Haluqim mountain, Dimona mountains, Hatira mountains, Boqer mountain, Hehalaq mountain, Ramon mountain. Their height varies between 600 and 1,000 meters.

Owing to the arid climate of the Negev mountains, the streams here do not carry water all year round, but only infrequently for a few hours at a time, and owing to the sudden inrush many of these wadis have an extensive and deep course. The rivulets descending from the Negev mountains combine into five main wadis: Nizzana creek and the Bsor stream, which drain into the Mediterranean Sea. The rivulets running to the east, except major wadis such as Paran creek and Zin creek, are shorter than those descending

Makhtesh Gadol

Makhtesh Gadol, 5 x 10 km, exposes fossil coral reefs and colorful sandstones. The steeply inclined rock strata disclose the anticlinal structure.)

An oblique air photo reveals the structure of the erosive valley, surrounded by steep outward tilted strata.



A vertical ortho-photo disclosing the concentric exposures of different strata (resembling the concentric rings of a truncated anion).



Figure 48: Makhtesh Gadol In: B. Krasnov, E. Mazor, *The Makhteshim country: A laboratory of nature – Geological and ecological studies in the desert region of Israel*, Pensoft press, Sofia – Moscow, 2001. p.19

from the western slope. Their drainage basin is the Dead sea, and hence their strong erosive force.⁴

3.1.1 The Makhtesh phenomenon

In the center of the northern half region, there are five deep, breath-taking valleys, that have in common unique features: they are surrounded by steep walls, built-in hard limestone and dolomite at the upper half and friable sandstone at the bottom. A single narrow riverbed drains each of these valleys. Such a unique closed valley is called Makhtesh (Makhteshim in plural)- the Hebrew word for a mortar. The term Makhtesh has been adopted internationally, and the geological dictionaries refer to the Negev example. Placing aside their deep closed valleys characteristics with bare of soil, vegetation, and colorful rocks, the Makhteshim serves as geological windows, peeping into the earth's crust and exposing a different geological display. The rock strata are inclined, disclosing the monoclonal structure of the hosting ridges, the visitors driving or walking through a Makhtesh pass from relatively recent rock strata to ancient ones, browsing through 220 million years old pages of most vivid geology books exhibition by nature.

These morphological apertures in the rock foundation were presumably due to tectonic tension in the anticlinal axis of the Mountain, under the influence of water erosion.

There are five Makhteshim in the central region, each with different size, geological components, vegetation, and rock compound depth.

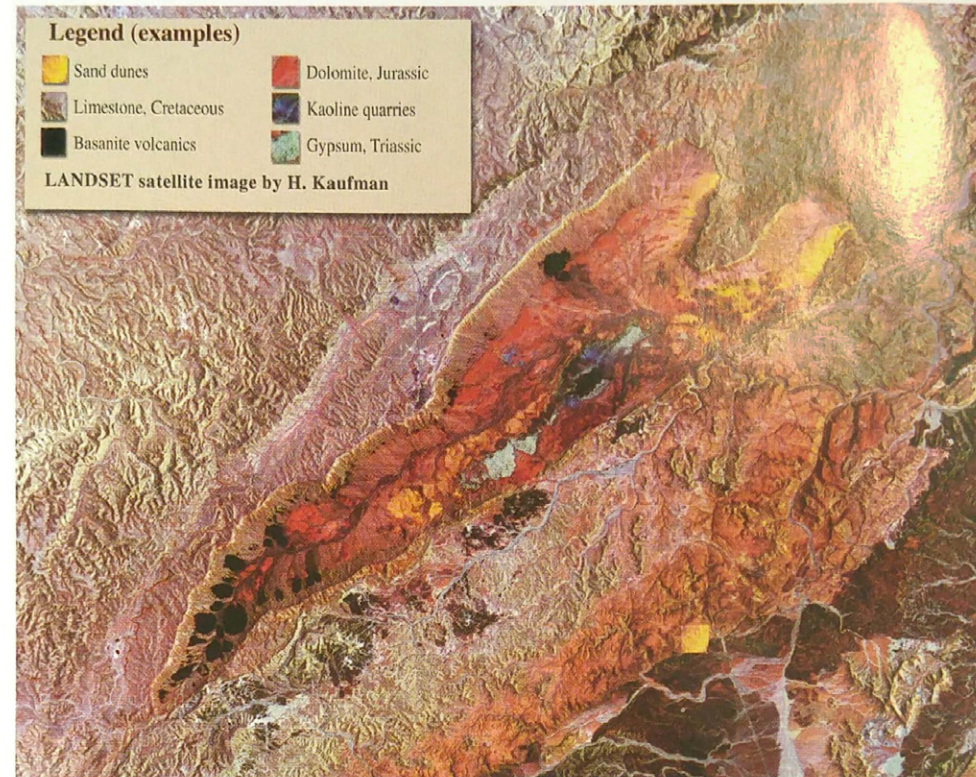
- The Makhtesh Katan (the small Mortar- Hazera) is 5 km wide, 8 km long. It exposes a collection of cretaceous to Jurassic rocks, along with young alluvium. The eastward steeply inclined rock strata disclose the asymmetric anticline or monocline structure.
- The Makhtesh Gadol (the great Mortar – Hatira) is 5 km wide, 10 km long, surrounded by steep walls, and exhibits fossil coral reefs and colorful sandstone. The steeply inclined and triangular flatirons disclose the anticlinal structure.
- The Makhtesh Ramon is the giant, 38 km long, on the average 6 km wide, and 450 m deep. Recent to Triassic rocks are well exposed, rich in fossils, and intruded by hundreds of igneous dykes, many sills, a plutonic stock, and a laccolith.
- The Arif twins of Makhteshim are only a few hundreds of meters long, located at the crest of the Arif anticline, revealing all the features characterizing the large Makhteshim._

The Makhteshim are geographically well- defined shelters in which the original flora and fauna of the Negev highland are best preserved. Ancient and modern agriculture and grazing did not penetrate the Makhteshim because of the restricted accessibility, low precipitation, lack of the loess soil, and lack of

⁴ E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966. p.2-5

Makhtesh Ramon

Makhtesh Ramon is the giant: 38 km long, around 6 km wide, and 450 meters deep. Recent to Triassic rocks are well exposed, rich in rock types and fossils, rather complicated fold and fault structures, and a wealth of ancient volcanic features, as well as hundreds of dykes, many sills, a plutonic stock and a laccolith.



Talus aprons and terraces disclose the erosive origin of the makhtesh.



Scientific research. Hundreds of scientific papers have been published on the stratigraphy, petrology, mineralogy, fossils, tectonics, volcanology and morphology of the makhteshim, and this seems to be just the beginning.

Plate 4

springs.

Thus, the Makhteshim area is blessed with a variety of different well-preserved ecological systems that are interconnected by a network of plants and animals' migration corridors. In spring, following a rainy season, the Makhteshim area manifests in specific niches a festival of flowers. The three main Makhteshim occur to serve a midpoint – a junction for two biogeographic zones, the Irano-Turanian steppe⁵ vegetation, and Sahara-Arabian⁶ desert vegetation.⁷

3.1.2 The Negev's Minerals

During an extended period, spared over hundreds of years, the natural treasure of the Negev region and the Makhteshim region, in particular, has fascinated geologies around the globe, causing them each time to chase after the next significant natural deposits discovery. For some, the obsessive curiosity paid off, and the mineral research expedition succeeded, and for some, it became a huge disappointment.

A. Kaolinite⁸ - common to find in the Great Makhtesh and Makhtesh Ramon. In the early 1950s, The Kaolinite was used to coat the road from Yerucham to Mitzpeh Ramon, which was cheaper in the short term but show great difficulties in assembling and usage during the winter season. Afterward, the Kaolinite was used in the cement industry for fireproof products, paper, and rubber due to its exceptional resistance in high temperatures.

The Kaolinite raw materials for the glass and ceramic industry were designed to reduce expensive imports from abroad, and in 1954 the Kaolinite industry in Makhtesh Ramon had developed two types of clay: Clay that serve as raw materials for the fire resistance industry. The product is a brick resistant to high temperatures (1500-1600 degrees) in the melting furnaces of the iron, and White clay used for sanitary production (kaolin clay) for toilets and wall bathroom tiles.

B. Quartz sand⁹ - common to find in the great Makhtesh, Makhtesh Ramon, and the twin Makhtesh. The quantities of sand available to the industry were considered significant due to low cost excavating expenses in an open mine site. Its primary usage is for the glass industry.

⁵ The area of the Erano-Turanian region is a phytogeography region, which includes mostly vegetation, but also plants that are common in other regions. It stretches in the form of a wide strip throughout North Africa, the Sinai Peninsula, the Arabian Peninsula, southern Syria - Iraq - Iran, and Turkey. It also extends to Afghanistan, Turkmenistan, Central Asia, Tibet, and the Gobi Desert.

⁶ The Sahara-Arabian region is a phytogeography region, mostly desert, with mostly vegetation typical of it. The area is huge in its territory. It included the Sahara from the Atlantic Ocean to the Red Sea as well as large areas of the Arabian Peninsula and Iraq.

⁷ B. Krasnov, E. Mazor, *The Makhteshim country: A laboratory of nature – Geological and ecological studies in the desert region of Israel*, Pensoft press, Sofia – Moscow, 2001.p.1-3

⁸ Clay mineral also can be called 'White clay'

⁹ Mineral composed of silicon and oxygen atoms. The Quartz mineral is a defining constituent of granite and other felsic igneous rocks. It is very common in sedimentary rocks.

Figure 49: Makhtesh Ramon In: B. Krasnov, E. Mazor, *The Makhteshim country: A laboratory of nature – Geological and ecological studies in the desert region of Israel*, Pensoft press, Sofia – Moscow, 2001. p.20

Makhtesh Katan

Makhtesh Katan is 5 km wide, 8 km long; its nearly round shape inspired visitors to coin the term makhtesh - a mortar. It exposes a collection of Cretaceous to Jurassic rocks.



The makhtesh is eroded into an anticline



The makhtesh is surrounded by steep walls, comprised by outward inclined rock strata. The single out flowing river bed is seen to cut through these walls.

Dictionary definition of makhtesh. The Glossary of Geology (American Geological Institute) defines: "makhtesh - a term used in Israel for a huge, cirque-like hollow somewhat resembling an elongated meteorite crater, produced by erosion of a structural dome. Plural - makhteshim".

Figure 50: Makhtesh Katan. In: B. Krasnov, E. Mazor, *The Makhteshim country: A laboratory of nature – Geological and ecological studies in the desert region of Israel*, Pensoft press, Sofia – Moscow, 2001. p.18

C. Phosphates¹⁰ – common to find in the small Makhtesh and in Kurnub (Mampsis remains) near Dimona as part of the phosphate belt from Syria to North Africa.

The need for Phosphates was discovered during the intensification in the agriculture sector. The increasing demand for more food to more people force traditional agriculture systems to find a creative solution to manufacture more harvest per Sq. soil. - For this purpose, fertilizer phosphorus was needed. Once the solution was found, the demand for the fertilized phosphate in the domestic and industrial sectors was significantly increasing.

Another essential use for Phosphates in the food industry was discovered in the form of food preservation qualities.

D.¹¹ – common to find in Makhtesh Ramon and Sdom mountains.

Most of the industrial use of gypsum was for the cement industry (Gypsum blocks, gypsum drywall, plaster). Later the usage was enlarged to sulfuric acid.

E. iron – can be found in the Faran creek, in the great Makhtesh and Oded mountain (south to the Ramon Makhtesh). During the 1950s' the idea of developing another mineral-based industry in the desert was considered a great option. But, in light of the excavations costs and the quality of the raw material, it was decided to stop excavating in the Negev and find an alternative.

F. Potash¹² (Potassium), Bromine, and Magnesium – common to find in the Dead Seawater.

Potash, in its form as potassium chloride, is one of the main products. The method of production is based on evaporation of originated Dead Sea water in shallow evaporation ponds located in the southern part of the Dead Sea. There are two essential advantages in this process in the Dead Sea area: the first, relatively shallow water level that made natural evaporation an easy process. And the second is the all-year-around sun effect as a catalyst for the evaporation process.

Bromine was considered an essential component in the agriculture sector up until 2005, where it was bounded to use in more than 183 countries around the world. Today, it serves as an essential aid in the petroleum sector, color manufacturing, medical production industry, and photography industries.

Magnesium is the third most commonly used structural metal. Its main applications are in the aircraft industries, automobiles, electronics agriculture, and the construction industries.

G. Mica¹³, Granite and Feldspar¹⁴- can be found in small deposits in Solomon creek near Eilat.

Granite was considered a hard rock that can be used in building material, mainly for 'monumental build-

¹⁰ The Phosphate is a chemical derivative of phosphate acid.

¹¹ Gypsum is a soft sulfate mineral composed of calcium sulfate dehydrate.

¹² Potash refers to various mined and manufactured salts that contain potassium in water-soluble form.

¹³ Mica is a group of silicate sheet minerals includes several closely related materials having nearly perfect basal cleavage.

¹⁴ Feldspars are a group of rock-forming tectosilicate minerals that make up to 41% of the earth's continental crust.

ings.' Its use was intended to add to the aesthetic appearance of the city.

In the primary raw rocks, the researchers found two other economically valuable components: Feldspar for the glass and ceramic industry, as a link to fire-resistant ceramic products and mica, which is used as thermal insulation material for the electrical industry.

The export costs had sentence this sector to early shutdown.

H. Bitumen (Oil Shale)- can be found in Ein Boqeq, Sede Tzefa and the Dead Sea.

Geological surveys in the Judean Desert and the Dead Sea indicate several attempts to find an energy source while experimenting with Bitumen. The Turks, for example, tried to run their trains during WW I with bituminous litter as a substitute for coal.

Later, there have been several attempts to turn the bitumen into refining oil benzene and by that – to increase the value of the current product and the entire sector. The economic means to increased workforce and machinery was absent, at that time, while the government's desires were leaning towards petroleum searching expeditions.

I. Manganese¹⁵ –can be found in small deposits in Timna.

Manganese is a metal used for the steel industry, the production of electric batteries, and armored tanks. The mining work in Timna was carried out manually. In a preliminary stage, it was determent to stop any excavating concerning the manganese and to start looking for copper.¹⁶

3.1.3 Common soil types

The unique attributes of the desert haven't stopped at the Mahteshim area but can also be obtained by the large variety of different soil types in the desert wilderness. Here are a few representative examples:

The Terra Rossa, which appears partial on the southern edges of mount Hebron, is the most common type of soil in the Mediterranean mountains, formed mainly from the hard rock layers.

The Light Rendzina soil makes its appearance to the west of mount Hebron, where it overlays a stratum of white calcareous soil produced by soft calcareous rocks. Those Alluvial soils are found in the Lakish region, extending westward as far as the coastal sands. Those soils are the product of erosion carried by torrential streams down to the lowlands and the coastal plain. These alluvial soils contain pockets of many sandy lime-stone [Kurkar¹⁷ and Hamra (Loam)¹⁸] formed from the sand in the coastal plain. The sandy

¹⁵ Manganese is a chemical element (Mn), often found in minerals in combination with iron. It is a transition metal with important industrial alloy uses, particularly in stainless steel.

¹⁶ Z. Zivan, The Israeli deed and policy in the southern Negev 1949-1957 (part B), The Hebrew University Press, Jerusalem, 1998. p. 92-126

¹⁷ The term Kurkar is mainly used in Arabic and modern Hebrew, for the rock type of which lithified sea sand duns consist.

¹⁸ Hamra (Loam) is soil composed mostly of sand, silt, and a smaller amount of clay.

limestone of Kurkar type appears in the form of low hills, relies upon ancient mountain ranges which have hardened and grow a calcareous crust over the ages.

Dunes or sandy soil are found in two places in the northern Negev: along the Mediterranean, and southwest of Be'er Sheva. The stretch of sand tends to become more extensive in the southern section of the coastal strip. The sand swept-in from the sea is ranged in dunes, some of which are stationary while others are loose and mobile.

The entire breadth of the Be'er Sheva valley is covered with loess, a semi-light soil with a high proportion of fine sand, a medium quantity of clay, and a considerable lime content. Brownish-yellow in color, the soil has been deposited in this valley by the desert wind, in the form of dust. This loess is the most fertile soil in the entire Negev and the Arava region.

Calcareous soils and loess deposits are found in most parts of the Negev mountains north of Be'er Sheva valley. Light-grey in color, they were formed from the soft and semi-soft limestone rocks of the mountains. Most of the eastern part of the Negev consists of a rocky desert, covered with gross-grained flint gravel and soil with low clay content. Further to the East extends the infertile Hamada¹⁹, also covered with gravel. The Lissan marl²⁰ and salty soil is characteristic of the Arava region. This soil contains a considerable surplus of slightly soluble salts, Hamada and loess deposits are found in the southwestern part of northern Negev, between the Negev mountains and the dunes of Haluza.²¹

3.2 Ancient Architecture

According to historian assumption, the ancient settlements in the Negev desert were concentrated in short periods, separated by relatively long periods of abandonment. The settlement periods were Chalcolithic, Middle Bronze I, Iron II, and Hellenistic-Roman-Byzantine, with a short continuity into the Umayyad period. According to this premise, in early times, an agricultural-based settlement was the most common type, whereas, in the Middle ages times, the region was mainly occupied by nomadic tribes that haven't left any trace of their own while destroyed the remains of the previous permanent settlement.

During a survey conducted in the late 1970s and early 1980s, which covered 25% of the area of the Negev, were discovered about 10,000 new archaeological sites. The new discoveries, in addition to the

¹⁹ Hamada is a type of desert landscape consisting of high, largely barren, hard rocky plateaus, where most of the sand has been removed by deflation (wind erosion).

²⁰ Lissan marl is a sedimentary rock formed in a marine formation environment, This rock is typical of the Dead Sea Peninsula

²¹ Y. Dan, D. Yoalon, The creation and distribution of soil and landscape in the Negev in "Researches in Israel's Geography" Triennially academic journal of the Hebrew university Vol.11, The Israel exploration society centennial Press, Jerusalem, 1980. p. 31-54

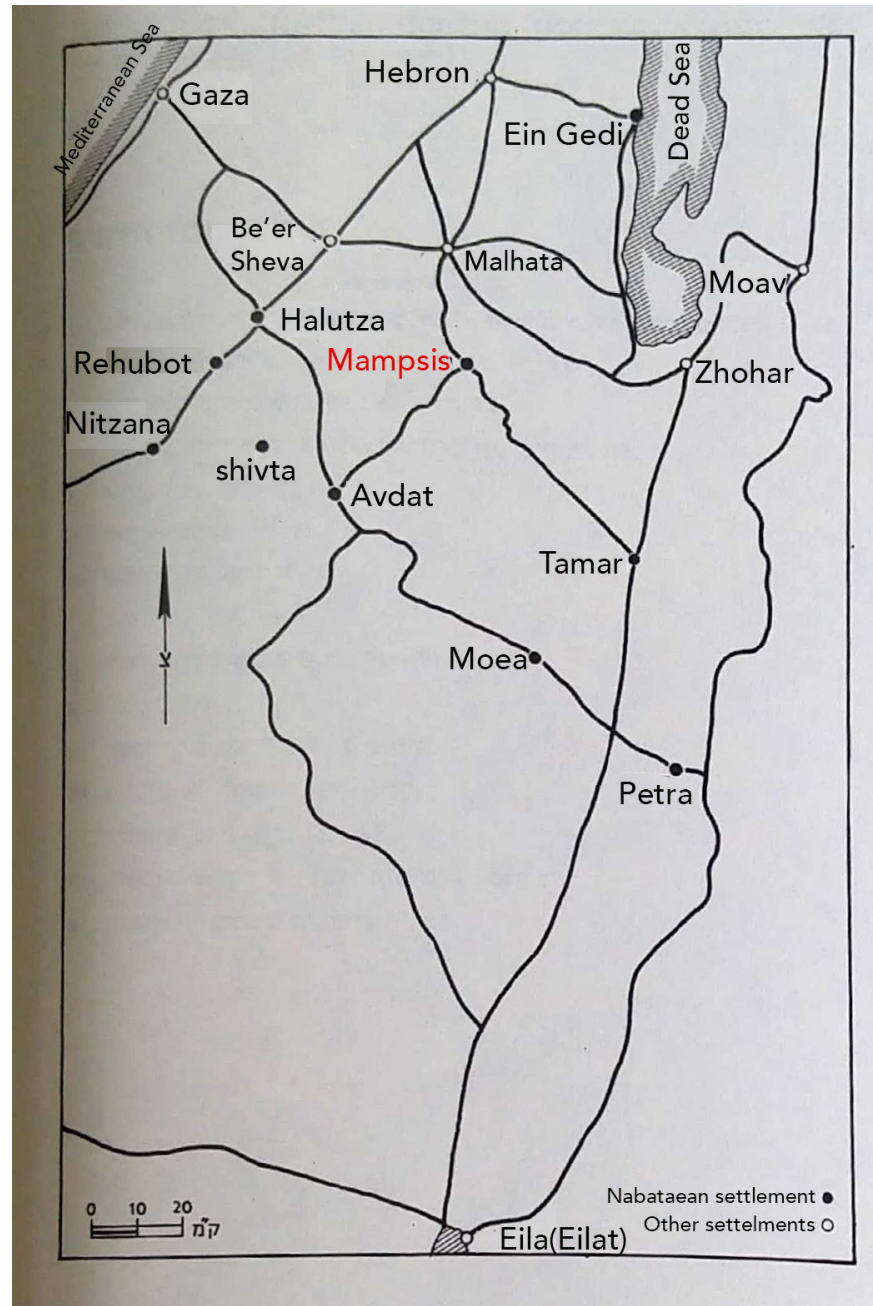


Figure 51: The Nabataean Kingdom in the Negev. In: Y. Grados, A. Shmueli, M. Fama, *The land of the Negev: Man and Desert – selected bibliography Vol. 1*, Ministry of defense publishing house, Tel Aviv, 1978. p. 226

existing knowledge, haven't change the preliminary perception of divided settlement periods in the Negev. Moreover, historians maintain the assumption that in order to populate a region with such difficult climatic attributes as the Negev Desert, it must be considered as a part of a governmental initiative with strong support from a nearby fertile center. (which sees importance opportunity in populating this particular area). In contrast to this version, some believe that settlement in the desert occurred precisely during periods of crises in the adjacent regions.

Considerable resemblance can be noticed during all the settlement periods in the Negev - the tension between two types of populations - the nomads and the permanent residents - their economy, their common habits, their utilization of the environmental resources, etc. Therefore, it is possible to say that the settlement activity in the Negev was conduct by the direct influenced (short and long term) of the desert's demanding climate.

3.2.1 The Nabataean Kingdom in the Negev

The Nabataean Kingdom was a political state during the 'Hellenistic-Roman-Byzantine' period. We do not know where the initial pre-historian aggregation of the Nabataeans tribe took place. Still, we do know their names, the names of some of their gods, and their unique knowledge that was essential for their existence under the special conditions of the desert.

The earliest evidence that distinctly pointed the Nabataeans tribes out from the rest of the 'Arabs' tribes were noted at the end of the 4th century BC in a rare and important testimony of a Greek historian – Hieronymus of Cardia²². Hieronymus was appointed to join the Macedonian battalion and describe the future conquests of Alexander the Great in the East. His descriptions, together with other archeological findings, indicate that among different tribes who invaded the southern part of Jordan from Arabia²³ – there were the Nabataeans tribes. The Nabataeans were described as merchants traveling in camel's convoys - as it was only logic to associated trading methods with the given desert environment. Gradually, those convoys formed a trading network routes between the Indian Ocean and the Mediterranean Sea, but, at the same time, those convoys also formed the construction of a large network of 'rest stops' in the shape of settlements with water supplement, which answered the needs of convoys on their way to Gaza port (their main port to the Mediterranean Sea) and Ashkelon (the secondary seaport). Once The Nabataeans tribes

²² A Greek general and historian from Cardia in Thrace (today the Gallipoli peninsula), and a contemporary of Alexander the Great (356-323 BC)

²³ The kingdom of Araba

had established their economic control, they faced to the south to gain control of Edom²⁴ and founded 'the rock' (Petra) as their national center - the mother base.

At the Negev Desert, the Nabataeans had established several key settlements alongside the 'Incense trade route,' such as Avdat, Halutza, and Nitzana, which controlled the main road between Petra through the Arava region to Egypt (through the Sinai peninsula) and the Gaza port. Historians tend to agree on the claim that the entire Nabataean settlement system was a direct result of constraints created by the desert conditions, which can explain the distance between each settlement. The claim refers to a rational estimation of a walking day distance with a fully packed convoy. Moreover, while discussing the location of each settlement, it should be pointed out that each settlement should co-exist next to a water source, but this is not the case for the Nabataean people and their large settlement clusters in the Negev. This paradox thrives mainly on the fact that the location and distribution of these sources are not convenient for the development of a large settlements system.

The general attitude toward arid desert territories climes that this particular region wasn't suitable for 'surface runoff agriculture.' Therefore, it has been assumed to base the Nabataean's economy only on extensive grazing of camels and sheep. Nevertheless, archaeological discoveries indicate that the basic assumptions were completely wrong. In the central Negev (and northeast of the Sinai Peninsula), we find ancient farming systems scattered in what appears to be developed agricultural infrastructures. Those agricultural systems were manifested in the shape of human-made dams, artificial carving, and molding of the Wadi²⁵ scattered stone hillock, Rainfall Water Harvesting systems, and storage pits, as well as water cisterns scattered throughout the region. Those systems are associated with various historical periods, dated from the Iron Age reaching its peak with the Nabataean's systems during the Byzantine and Early Roman periods. While the average annual rainfall percentage is considerably low, the soil's characteristics (alluvial soil²⁶ such as Loess soil) cause the permeability of the water process to slow down, so a considerable portion of the rainfall amount will continue running down to a lower point – to the Wadi. The optimal solution was to Build Dams at those crucial points and curved agriculture terraces at a depth of 20 cm each. With this particular action, the Nabataeans enable the possibility of storage of a large amount of impotent rainfall water. The Nabataeans' transition to irrigated agriculture systems was the key element

²⁴ The Kingdom of Edom – an ancient kingdom in Transjordan located between the kingdom of Moab to the northeast and the kingdom of Araba. (today the territory is divided between Israel and Jordan)

²⁵ Arabic term traditionally referring to a valley. In some instances, it may refer to a dry (ephemeral) riverbed that contains water only when heavy rain occurs.

²⁶ Alluvium refers to loose, unconsolidated soil or sediment that has been eroded, reshaped by water in some form, and reposed in a non-marine setting.

to their extended existence in the Negev.

The Nabataea's economic scope activity was tremendous. The convoys usually carried goods associated with luxuries characteristics for this era, materials related to religious worship and products with a particularly high financial value (such as perfumes, spices, gems, myrrh²⁷, frankincense, etc.).

The description of Hieronymus indicates another important detail: besides being shepherds and traders, the Nabataeans also exploit the bitumen (asphalt)²⁸, which periodically floats over the Dead Sea. This important product was sold to the Egyptians for the highest bid, as they used a great deal of it in the embalming process.

Those findings, along with many more archeological indications, suggest that the Nabataeans were a rich society, which began as nomads-merchants ridings in convoys across the desert and ended in settling down in stable settlements.

Egypt, the holy land, and Syria were by that time under the control of the Ptolemaic Kingdom²⁹ and the Seleucid Empire³⁰. Since those kingdoms were unable to control by themselves the eastern international trade, which had passed through the Arabian Peninsula, the rulers of each kingdom decided to leave the trading issue to trusted allies- the Nabataeans. By that acknowledgment act, the Nabataeans became the representatives of the Arab- trading tribes to the Western world.

At approximately 100 BC, the power balance between the two Hellenistic kingdoms was undermined. The Seleucid kingdom was undermined from within, and the Ptolemaic kingdom was too weak to exploit the weakness of its northern sister. The fragility of the area gave a strategic advantage to the Hasmonean dynasty³¹ to rise and rule over the area of Judea. As far as the Nabataeans concern, the clash between the kingdoms shortly after 100 BC has caused them to forfeit their primary port in Gaza to the hands of Alexander Jannaeus – the ruler of the Hasmonean dynasty. Jannaeus's policy was to prevail excess to the Mediterranean Sea to gain solitary trading control.

During the first century BC, the Nabataeans had withdrawn back to their 'rock' shelter in Petra, where

27 Natural gum, or resin. Has been used throughout history as a perfume, incense, and medicine.

28 Sticky, black and highly viscous liquid or semi-solid form of petroleum. Naturally occurring and formed from remains of ancient, microscopic algae (diatoms) and other once-living things at mud or bottom of ocean or lake.

29 Hellenistic kingdom based in ancient Egypt. 305 BC – 30BC

30 Hellenistic state ruled by the Seleucid dynasty 312 BC- 63 BC

31 Jewish ruling dynasty of Judea and surrounding regions. 140 BC – 37 BC



Figure 52: The treasure which was discovered in Mampsis. In: A. Negev, *Ovdat, Mampsis, and the central Negev*, in "The university" academic journal Vol. 14 part A, the Hebrew University Press, Jerusalem, 1968. p. 47

they regenerated new strategies to different trade routes. At the same time, they tried to regain their commercial control by invading Moab³² and used scattered secondary roads along the desert's edges in order to reach the Hauran³³, as close as possible to the main road leading to Damascus. As a result of the recent conquests, the Nabataean kingdom Regan its trading courses through Syria to the shores of the Mediterranean Sea again. At the end of this period, the Nabataeans began to develop their architecture. They were forced to adapted new methods in the face of the physical attributes of the desert environment. (such as the lack of timber material and the main usage of the local stone). By the end of the first century BC, the Nabataean kingdom regains its complete commercial control by the Roman uprising kingdom, who canceled Jannaeus's previous conquests (63 BC). The Nabataeans returned to their old settlements (from the first settlement wave): Avdat, Halutza, Nitzana, and established four additional settlements (the second settlement wave): Mampsis (Mamshit), Shivta and Rehoboth. Apart from the settlement system, the Nabataeans developed a strong network of fortresses and road stations, especially along the road leading from Petra to Avdat - Halutza and Gaza. Historians speculate that the reason for the renewed prosperity lies in the economic policy of Herod the Great - not to force the roman empire upon the Nabataean kingdom to prevent future rebellion acts.

On March 22, 106 CE, a critical event changed the political-strategic map for the Nabataean. It seems that after the death of Rabbel II Soter (the last Nabataean king), the Romans has decided to annex the Nabataean Kingdom to the Roman Empire by establishing a new province – 'the province of Arabia Petraea.' Initially, Petra served as the symbolic capital of the province. Still, since the city hasn't fulfilled its important economic and political expectations, it was decided to keep the city only as a symbol. The new capital was transferred to Bozrah³⁴ in the north. The new political arraignments forced the Nabataean settlements to become a 'border settlements' – a physically populated border to prevent future invasions.

By The middle of the 1st century CE, the Nabataean began to feel the economic influence under the new Roman authority by diverting Arab trade from the Nabataean routes to Egypt. This undoubtedly had implications also on their military influence. Their recent military vulnerability opened the way for new nomadic tribes that emerged from the west and eventually led to the disintegration of the Nabataean army after 75 CE. The discovered burned fragments from the Nabataean cities suggests that it was a violent act.

Eventually, most of the remains from the Late Nabataean period - as well as the early Nabataean period - were found in the Negev desert. From this, we can conclude that from the Negev, the Nabataean set out for their significant conquests, and from

³² Refers to a mountainous tract of land in today's Jordan, the land lies alongside much of the eastern shore of the Dead sea.

³³ Region that spans parts of southern Syria and northern Jordan.

³⁴ Historical site and modern village in Jordan, southeast to the Dead Sea.

here, they set out to establish a trading empire. It seems that this particular land was much more valuable than what appears to the naked eye.

3.2.2 The city of Mampsis (Mamshit – Kornub)

Mampsis is a Nabataean city that served as a transit station for merchant's convoys and an agricultural center, located on the road from the Edom Mountains to Hebron and Jerusalem in the northern direction, and to the port of Gaza and Egypt in the west direction. The origin of the name 'Mampsis' is in its Roman-Byzantine source. Most of the researchers tend to identify it with its ancient Arabic name Kornub (the name of a traditional Arab sweet drink made out of milk honey and dates). The remains of Mampsis is located in close proximity to the Dammed Mampsis creek and the city of Dimona.

The city of Mampsis had obtained one of the most outstanding characteristics among the Nabataean cities in the Negev desert. First, the city is fairly remote and isolated from the rest of the settlement – cluster in the Est part of the kingdom and, therefore, it is the only city in the region surrounded by a wall. Second, the architectural level in Mampsis is considered superior compared to other Nabataean cities in the Negev.

Until the end of the first century BC, the city of Avdat maintains its significant central position in the Nabataean kingdom. At the same time, Mampsis was considered only a secondary settlement without peripheral walls or high fortifications. At that time, there were only small watchtowers (which later were integrated into the Roman and Byzantine fortifications). After the great destruction of the Nabataean settlement network, Mampsis was abandoned at least until the end of the century, and it seems that it hasn't resettled until the arrival of Traianus³⁵. During the renew period, large isolated residential units were built in the city. Each house was built like an individual fortress - equipped with thick protective walls and its cisterns³⁶. The houses were assembled, each with two floors and an additional tower-shaped staircase to reach the second floor. Between each house, the new settlers paved wide streets – similar to roman standard. Historians were practically impressed with two residence structures combined with an additional upscale horse stable. This unusual structure wasn't evident in any other Nabataean city.

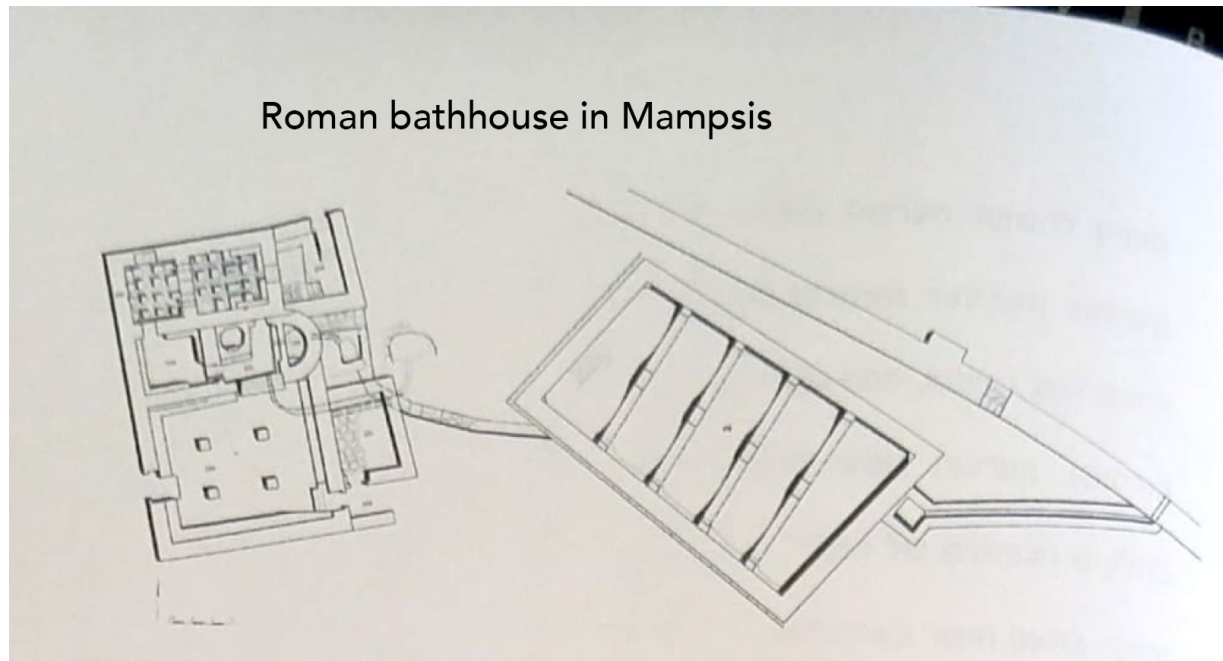
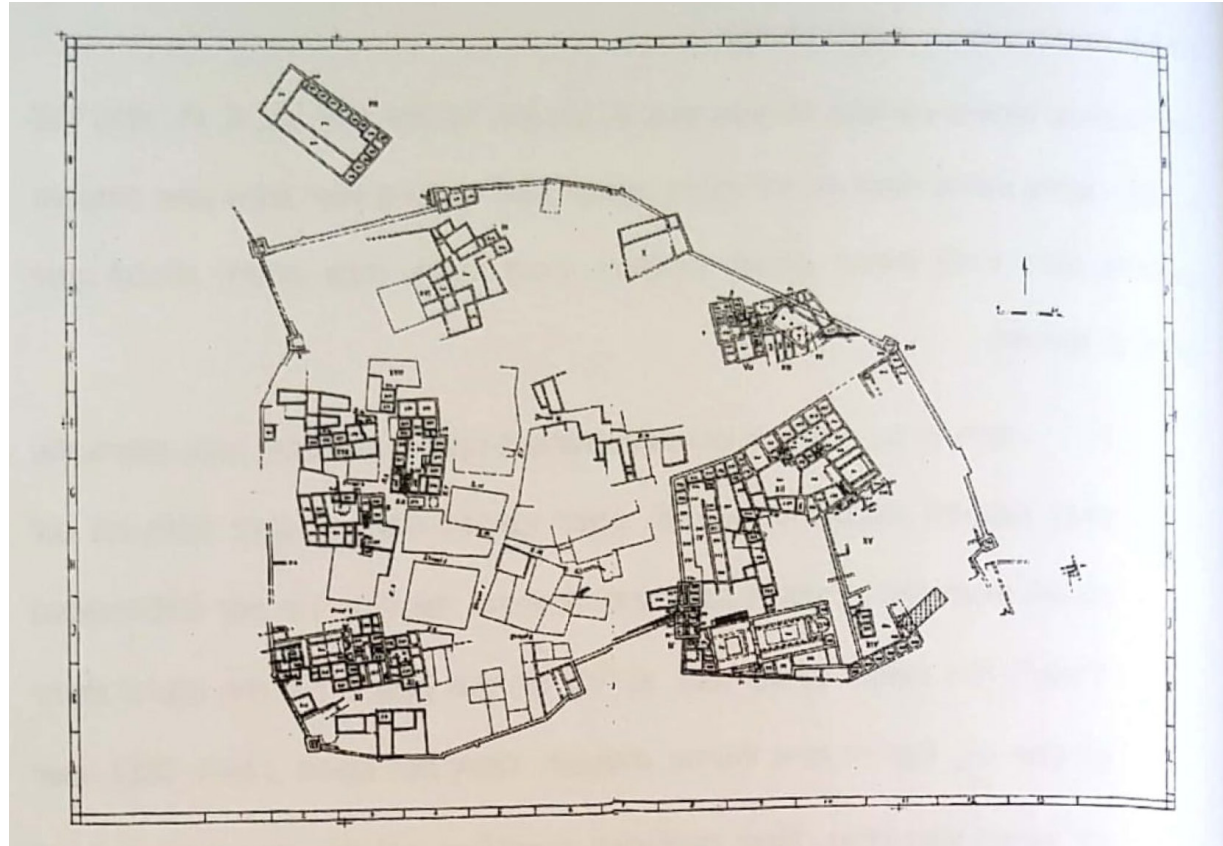
The typical construction material in Mampsis was limestone, conglomerate rocks, as well as Dolomite rock

³⁵ Emperor Marcus Ulpius Nerva Traianus – Trajan (junior) – Successful soldier and Roman emperor 98 CE- 117CE

³⁶ A waterproof receptacle for holding liquids, usually, water often was built-in catch and store rainwater.



Figure 53: Aerial view of Mampsis. In: I.Meir, *Building Technology in the Negev in the Byzantine Period and its adaptation to the desert environment*, Ben Gurion University of the Negev Press, 2001. p.69



Roman bathhouse in Mampsis

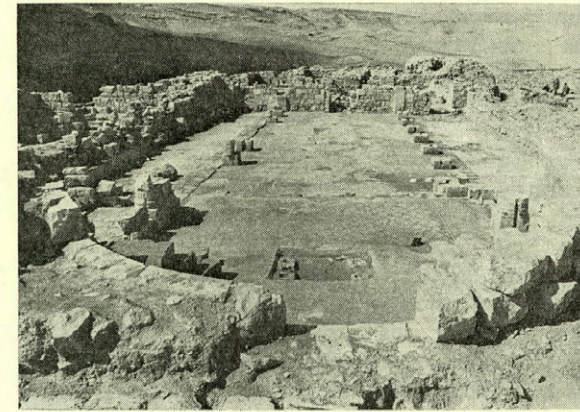
Figure 54: The discovered town of Mampsis . In :A. Negev, *Mampsis- the city in its late Roman period* in "Mada'a" Semi-monthly academic journal, Vol.15 No.4, The Weizmann institute for science and technology, Rehovot, 1971.p.226

from the Judea desert. The construction methods were based on the 'load-bearing walls' method. The basic walls were built in two rows of stones, filled with fragments, knots, and soil. The outer shell was constructed from curved hewn rocks, whereas the inner row was often built from unshaped stones that were placed with smaller, plastered stones. The Wall thickness ranges were from 50 cm to 100 cm or more in some cases. During the Roman period, the arches phenomenon appeared, bearing the stone slabs up to the second floor or the roof.

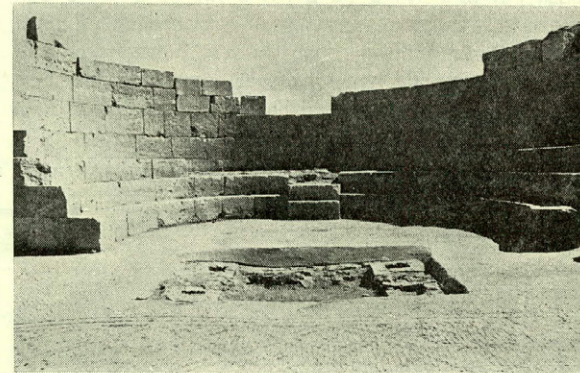
The underground architecture, like the basic structure walls, began as a secondary element and became an essential tool during the Roman period. The underground construction was used primarily for burial necessity and for water repository, such as small cisterns. As the Nabataean settlement evolve, they got acquainted with the substantial benefits of excavating. From an environmental and climatic perspective, the deeper the trench is going to be, the better the stabilized temperature.

In light of the recent progress in the city's value - a new city wall was assembled. From the beginning, the wall was considered a rather insufficient structure that was constructed in two phases. The first, a peripheral wall of about 40 cm width, which served as a symbolic fence more than a defensive wall. A short time later, they have decided to double the thickness to 80 cm and strengthened its corners and other weak parts by adding stable square towers. In order to control the constant flow of residents and visitors, the city wall had two massive gates and two small gates. The official city gate was in the north, while the west gate served the permanent residence as a secondary gate, which was also called 'the watergate' (the most relevant way to the dams of the Mampsis creek to get water). The small gates were placed in the north-east and in southern parts of the wall, where it was fairly easy to go down to the water sources in the Wadi. Although the wall was considered positive progress in the city's development, it created considerable difficulties transforming a large amount of water from the different sources into the city. Subsequently, an attempt was conducted to install the funnel opening in the wall and a short aqueduct to the external water source. By using that method, they have managed to overcome the wall obstacle and to retrieve water to all of the city's parts.

Since the external wall set the city's perimeter, its residents were forced to deal with the increased population issue. Accordingly, the large dwelling units were subdivided or changed from its original destination, such as the hours stable in the xi building turned into four small rooms. Also, in xii, building some of the rooms that were initially connected through inner openings were blocked, so each room had its solitary access from the shared courtyard. Subsequently, they attached new small structures to each of the existing buildings to counterbalance the crowded residence structures and the spacious -broad streets. This particular phenomenon, like many others, was not found in any other city in the Negev beside Mampsis.



The Basilica of the Saints and Masons
(up : overall on the Basilica
down: mosaic pavement)



The Basilica of the Nile

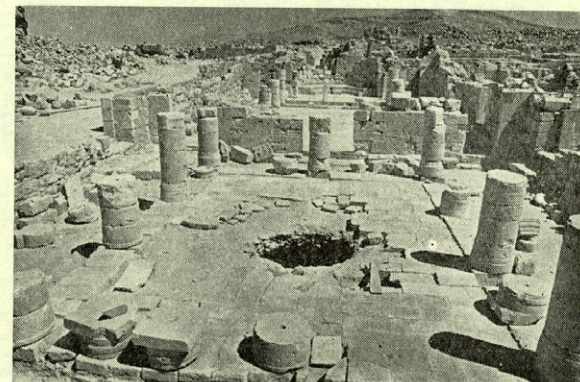


Figure 55: Various sites inside the city of Mampsis.
A. Negev, *Mampsis- the city in its late Roman period* in "Mada'a" Semi-monthly academic journal, Vol.15 No.4, The Weizmann institute for science and technology, Rehovot, 1971.p.227

The existence of Mampsis in the Late Roman period was indicated in various forms. The first findings showed unique wall paintings and marvelous mosaics, some of which are accompanied by Greek inscription. Then came the discovery of the two Basilicas -The Great Basilica (the Basilica of the Saints and Masons) at the eastern part -the smaller Basilica (the Basilica of the Nile). It is well evident that in order to construct the new Basilicas, the planners had to reach an inevitable compromise and restraint the Basilicas toward the city wall, where some parts of the wall were demolished and rebuild as an external wall of the Basilica and the city wall as well.

The water subject gains an additional aspect during the Byzantine and Roman periods where remains of public bathhouses were discovered. Those public bathhouses included storage-type pools (carved inside large rock cavities, which contained about 500 cubic meters of water), open bathing pools, a drainage system, and a convoluted heating technique (hypocaust). Researchers offer interpretation to the public bathhouse in Mampsis -This structure represents the cultural combination that occurred during this period. They provide to relate the closed and covered facilities (prevent evaporation) as an expression of Nabataean desert technology, while the open-air facilities to the influence of Mediterranean culture – and in particular – the Roman culture.³⁷

The most valuable discovery from the late Roman period that indicated a great deal of financial-related activities was a treasure of 10,400 Tetradrachm³⁸ coins (coins of Titus Vespasianus, Trajan, and the emperors Septimius Severus and Severus Macrinus).³⁹ This discovery, among other essential discoveries, gave the city of Mampsis its prestige position among the cities of the Nabataean kingdom and as UNESCO world heritage site in June 2005.

3.3 The Dream of the '50s

3.3.1 Dimona's Destination

For hundreds of generations, arid areas were considered remote and uninhabitable. Today, the subject continues to be an intriguing challenge in Asia, Africa, and Latin America due to the constant population

³⁷ A. Negev, *Ovdat, Mampsis, and the central Negev* in "The university" academic journal Vol. 14 part A, the Hebrew University Press, Jerusalem, 1968. p. 48 – 60; A. Negev, *The Nabataean Kingdom in the Negev* in Y. Grados, A. Shmueli, M. Fama, *The land of the Negev: Man and Desert – selected bibliography* Vol.1, Ministry of defense publishing house, Tel Aviv, 1978. p.226-265; I.Meir, *Building Technology in the Negev in the Byzantine Period and its adaptation to the desert environment*, Ben Gurion University of the Negev Press, 2001. p.66-78

³⁸ Ancient Greek silver coin equivalent to four drachmae (currency used in Greece during several periods)

³⁹ A. Negev, *Mampsis- the city in its late Roman period* in "Mada'a" Semi-monthly academic journal, Vol.15 No.4, The Weizmann institute for science and technology, Rehovot, 1971.p.224-230

growth and the need to inhabit new areas. Dwelling in arid or semi-arid regions was never a particular subject for the State of Israel. The phenomenon of modern settlement along the edges of the desert and in peripheral areas has been known since the early 20th century, when pioneer settlements were carried out in the center of the United States, Canada, and Australia. Over the years, this achievement has become a 'settlement doctrine' that concerns the development of marginal areas in a 'regulated set of standards,' similar to that found in ordinary populated regions. Accordingly, in order to develop such areas, one should proceed in opposite directions - a comprehensive traditional study to fully capacitate the area's attributes and, at the same time, a creative- unconventional planning approach to overcome it.

Accordingly, while planning a future dwelling in Arid territory, it is almost impossible to predetermine a wide- range of economic options, due to physical restrictions such as distance, climate and lack of water sources.

In its basic fragile form, such areas are not economically flexible and may collapse or lose their entire workforce in a heartbeat. The risk of such industries gains even more hazard elements due to inadequate physical infrastructure and transport accessibility issues. Also, the grievous challenges of the industrial case are not so different from the agriculture one, as severe alkali fluctuations in climate or a drought season can quickly eliminate any good investment. This is why the accumulation of available resources in selected locations, whether in mineral sites or oases with agricultural potential, is conspicuous in planning arid areas.⁴⁰

If one would look at the different patterns of desert towns, he may find a more vibrant and diverse content than its original presumption.

As noted in the previous chapter, the ancient towns of the Negev served as daily – convey -rest- stops which later, developed to steady settlements. While at another time, one can find the infamous mining town that emerged during the 'gold rush' in the American Desert and dissolved once the 'wealth source' was attractive in other places. The same can be seen in Australia's gold and diamond mining towns 'Kalgoorlie' and 'Broken Hill' or in the Sahara Desert and the southern United States regarding the petroleum-based settlements⁴¹. Nevertheless, the human's desert activity was not restricted only to mineral excavating industries, but, gain attractiveness by its large empty spaces for different sectors such as the tourism sector as Las Vegas, or nuclear experiments in Nevada. It also attracted new glamourized industries such as the film industries and the space industry as Houston Space Center but also attracted what

⁴⁰ D.H.K. Amiran, *Arid Zone Development: An appraisal Towards the End of the Twentieth Century*, in Y. Gradus, *Desert Development: Man and Technology in Sparselands*, Ben Gurion University of the Negev, D. Reidel publishing company, Be'er Sheva, 1985. p.3-13

⁴¹ D. Nir, *defining and merging arid regions*, in E. Zohar, *The Desert: Past, Present, future*, Reshafim press, Tel Aviv, 1976. p.56-63

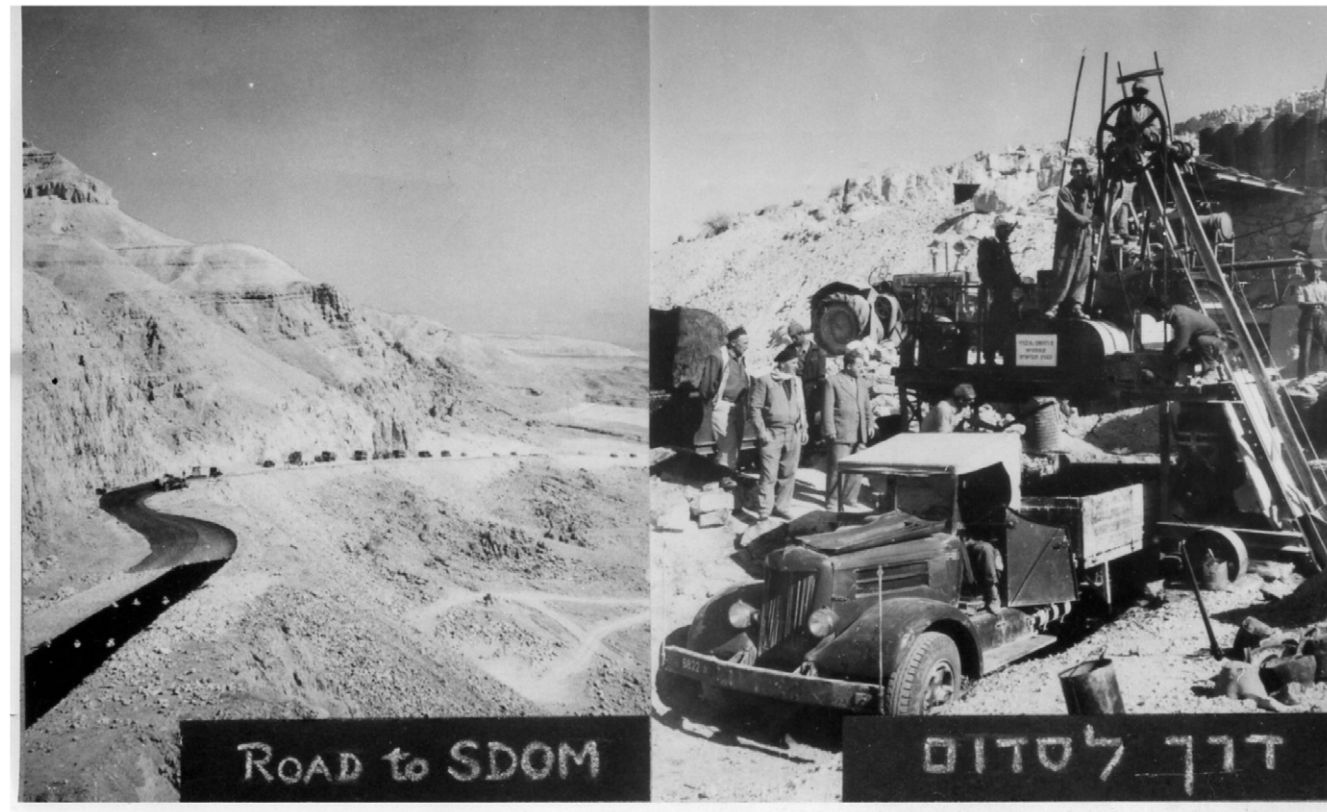


Figure 56: Creating the road to Sdom, unknown photographer, unknown year. In: the government press office website

was considered a human hazard – ‘polluting industries’ as an isolated and designated area.⁴²

Settlement in the Negev:

During the period of the British Mandate, the Negev was considered as an unexplored, mysterious country with only a handful of specialists that were familiar with its assets. At that point, the Negev could only be reached by foot or on camel’s hump. Roads beyond Be’er Sheva were almost nonexistent, and off-road vehicles (such as jeeps) were used only towards the end of World War II. By then, there were already several publications and studies on the past and present of the Negev desert from different European sources. Once the British mandate gained its control, it was only logical to join the ‘discovery advancer’ and to create a detailed survey and maps. But even then, practical experience and deep professional knowledge was almost nonexistent and created a tendency to exaggerate the value of mineral resources and potential water resources level. Correspondingly, The Jewish Settlement Department decided to use the given knowledge and delineate the loess lands of the northern Negev as a potential irrigated agriculture area (by dividing it into squares -each one with its individual settlement). Later, the department discovered that the British estimation was much higher than reality, which forced the planners to reduce the number of planned settlements and to create a new course of action.

It is possible to notice in the initial program made by the planning department (Arch. Glikson and Row at 1949 and Arch. Bruzkus at 1951) future proposals for regional urban centers in relative proximity to former settlement such as Al- Faluja (Kiryat Gat), Brayer (Sderot), Al Aimara (Ofakim), Kurnub (Dimona) and others. In 1951-1952 the theoretical plan became more coherent once the water sources allotment and the economic objectives were defined. By then, it was clear to the planning department that few adjustments must be carried out in order to execute it. The first step the planners took was to limit the number of settlements to the minimum and then, to create a suitable financial substitute to the non-agriculture based settlements.

Regarding the period, the only trustworthy option, in the eyes of the planners, was the mineral industry and specifically in the potash plant in Sodom, the phosphates in the Oron area, the Glass sand in the large crater, and copper in the southern Arava. However, it was clear that the urban centers should not be built inside or even near the mineral production sites, but rather at central sites with favorable environmental conditions and convenient access to the quarries and production plants. The planners phrased a small protocol containing basic guidelines regarding the ideal location and completed it with a critical recommendation to search for economic alternatives other than the suggested ones. The planner aimed to establish urban centers based on diverse financial sources that will not be severely influenced by price

⁴² Z. Zivan, *The Israeli deed and policy in the southern Negev 1949-1957*, part B, The Hebrew University, Jerusalem, 1998. p. 230



Figure 57: The road to Dimona, unknown photographer, unknown year. In: the National Archive website

fluctuations in the global market.⁴³

3.3.2 Dimona's location

The current town of Dimona is not considered to be the first in the area, nor the first town to be called by that exact name. Dimona was one of the biblical cities located in the Judah tribe territory, close to the border of the Edom kingdom⁴⁴. [...] *And the uttermost cities that tribes of the children of Judah toward the coast of Edom southward were Kabzeel, and Eder, and Jagur, And Kinah, and Dimonah, and Adadah [...].* Book of Joshua 15:21-22.

Today, Dimona's territory extends along with one of the most important roads in the northeastern Negev, which connects Be'er Sheva with the northern part of the Arava. In the past, this road led to Punon⁴⁵, the mining town in the Arava, and the border towns between Moab and Edom, such as Al-Karak and Tefila. At various times, The Dimona territory served as a northern entrance gate to the road, which was reflected in the existence of different settlements in the direction of Be'er Sheva and Kurnub. The very fact that in various periods there were several settlements in this particular area proves that the area was strategically managed and essential.

The first serious acknowledgment in Dimona during the modern Zionist context was during November 1947, while the 'united nations' was still debating over the fate of the new state of Israel⁴⁶.

At that point, it was not clear where should the official capital of the new state needs to be. The Jerusalem option was not considered as a reasonable one because it wasn't included in the Jewish state territories⁴⁷. Other options were the city of Herzeliya (named after Israel 'Visionary of the state' Benjamin Ze'ev Herzl⁴⁸) and the city of Netanya (were once stood the British military camps). The new administration was not convinced and claimed it was necessary to look elsewhere. The influential politician Golda Meir

⁴³ E. Bruzkus, *Planning the Negev and establishing the development towns*, in M. Naor *The Negev settlements 1900-1960: sources, summaries, and selected events*, Yad Yitzhak Ben Zvi Press, Jerusalem, 1985. p.157-158.; Y. Grados, *The urban settlement arraignment in the Negev* in Y. Grados, A. Shmueli, M. Fama, *The land of the Negev: Man and Desert – selected bibliography* Vol. 2, Ministry of defense publishing house, Tel Aviv, 1978. p.492-493

⁴⁴ D.H.K Amiran, A. Shachar, *The geographical development of Dimona*, in *Researches in Israel's Geography*, The Israel exploration society centennial Press, Jerusalem, 1964. p. 61-62

⁴⁵ Punon was a biblical city in the Edom kingdom, located in the lower slopes of Edom mountains, about 35 kilometers south of the Dead Sea and about 24 kilometers east of Ein Yahav. mentioned as one of the Exodus stations from Egypt. (see map)

⁴⁶ The united nations partition plan for Palestine was a proposal which recommended a partition of Mandatory Palestine at the end of the British Mandate. On 29 November 1947, the Un General Assembly adopted the Plan as Resolution 181, and by that also declared Israel as a new state – see chapter 1.

⁴⁷ According to the resolution 181 – the Jerusalem territory will remain an international regime area.

⁴⁸ Herzl – an Austro-Hungarian journalist, playwright, political activist and writer who was the father of modern political Zionism.



sought to place it in the Carmel mountain range, far from the borders of the future state. Also, the town of Zikhron Ya'akov⁴⁹ tried to claim its value as the future 'state center' and to build the government complex in it. But, above all stood Ben-Gurion's dream⁵⁰ to establish the capital of the new state in Kurnub. In his vision, the history of the ruined city, the remains of the ancient dams, and the search for petroleum in the region - all seemed to be a suitable cause to set the Israeli government center there.

Although Kurnub was considered a remarkable landmark, it was far from the Jewish-life center, lacking access roads and isolated even from the rest of the Jewish settlements in the Negev. It caused Ben Gurion's ambitions to look unrealistic and impossible. Ben-Gurion's vision was a physical expression of the 'modern Desert fortress narrative,' which was motivated by the recent success of the '11 points in the Negev' act⁵¹. Later on, he rephrased his intentions and called it an 'urban fortress' as he imagined an urban settlement with the sole purpose of preventing the next catastrophe. Correspondingly, his strategic intentions were also connected with the location issue- to get one step closer toward the future conquest of Eilat⁵². Generally speaking, his ideas were considered, at that time, to be far-reaching or even delusional, with the limited resources of the new state. Those same ideas could also be a reflection of a greater vision that is just waiting to happen.

The town's story begins before the Independence war ended⁵³ (1948) when the South wing Commander Yigal Alon suggested to the Chairman of the Negev Committee, Yosef Weitz, to renew the work at the old Dead Sea plant in Sodom⁵⁴. During that period, the regulated routine regarding employments arraignments dictated the working force to live in temporary camps near the plants, while their families would remain living in the cities, mainly in Jerusalem and Tel Aviv. The workers would travel to their families on restricted vacation days, and in return, they got financial incentives for their hard effort (The Arava

⁴⁹ Zikhron Ya'akov – one of the first modern Jewish settlements in the country, founded in 1882.

⁵⁰ David Ben Gurion – was the primary national founder of the State of Israel and the First Prime Minister of Israel. Ben Gurion held the vision that the future of the Jewish people in the Land of Israel was in the Negev. In spring 1953, he decided to retire from his political life and move to Sede Boqer in the Negev.

⁵¹ The act refers to a Jewish agency plan for establishing eleven settlements in the Negev at 1946, prior to the state declaration in the UN in order include the Northern Negev into the Jewish part of the partition.

⁵² The city of Eilat is the southernmost city in the State of Israel and the only one on the shores of the Red Sea. The city serves as a central port and tourist resort. The city lies in the southern Arava and belongs to the Southern District. During the British Mandate, a small Bedouin settlement called Um a-Rashrash and a British police station were located there. In 1949 the territory was conquered during the Independence war and served mainly as a military camp. Eilat was founded as a civilian settlement in 1952, and was declared a city in 1959.

⁵³ The independence war also can be called the '1948/first Arab-Israeli war' was fought between the newly declared state of Israel and a military coalition of Arab states over the control of former British Palestine.

⁵⁴ Sodom Dead Sea Factory also can be called the Sodom workers camp refers to the southern plant that was established near the coastal plain of the Dead Sea at 1934. The workflow was disrupted during the first fights of the Independence War in 1947-1948.

Figure 58-59: The worker's camp in Sdom . In: Xnet online architectural magazine 20.3.2020



Figure 60-61: The worker's camp in Sdom . In: Xnet online architectural magazine 20.3.2020

זו הייתה נקודת ההתיישבות היהודית הדרומית ביותר בארץ, כאשר הוקמה. ההגעה והיציאה נעשו בסירה, שהפליגה אל צפון ים המלח (צילום: זולטן קליגור, לע"מ)

incentive).

The reasonable explanation behind the 'regulated routine' was clear: the harsh climate conditions and the polluted plant environment in the area prevented the worker's families from joining them permanently. Accordingly, Alon proposed to repair the road from Be'er Sheva to Rosh Zvira (Rosh Zohar) and extend it to Sodom. While offering his initial idea, he was also reaching to solve the workforce issues by providing to establish small settlements along the Be'er Sheva road, such as Ein Hazeva and Ein Gedi. It was clear to all that the current employment conditions are too complicated, and the current solution will gain the local workforce instead of 'outside' workforce sources.

Only After the Independence war, with the official renewal of the plant activity in Sodom, the government turned back to change the 'regulated routine fundamentally.'

The first solid proposal was to settle the families in a new neighborhood in Be'er Sheva, but, soon after, a former proposal to settle near Rosh Zohar captured the government eye, since it obtained a comfortable climate and the relative proximity to the Sodom plant. Indeed, in early 1952, the planning department prepared a program for the construction of a municipal center.

The planning process was messy and full of struggles between the different governmental authorities. Initially, Yehuda Almog was appointed to coordinate the development activities in the Dead Sea region by Pinhas Sapir (the head of development at the Agriculture Ministry). Although Sapir demanded the immediate renewal of the workers' camp near the plant in Sodom - in order to turn it into a permanent settlement, Almog, saw the possible health hazard in Sapir's demand and suggested to create a new Workers' Settlement near Hamei Zohar⁵⁵. Another significant stockholder was the IDF⁵⁶ that suggested establishing the town near the Ein Boqeq area to raise the security level in the area by increasing the number of residents. During that struggle, the factory workers saw no interest in permanent settlement. At a conference of 'the Sodom workers' in March 1954, the participants demanded the establishment of a temporary housing project inside the factory premises. During these meetings, Almog appeared as a strong opponent for a settlement far from Sodom. He raised the Beit Ha-Arava kibbutz⁵⁷ model as a good example of a comfortable family-life settlement in the Dead Sea region.

Accordingly, Dov Yosef, the Minister of Development, has decided to visit the factory personally and stayed in the workers' camp in the purpose to facilitate the worker's needs fully. Ha also assembled a committee of doctors to advise him about the long term impact of the climate upon the dead sea work-

⁵⁵ Hemi Zohar is a tourist and entertainment area on the Israeli side of the Dead Sea. The area is located on the shores of one of the industrial pools in the southern part of the Sea, 380 meters below sea level, and length of 1.4 kilometers from north to south.

⁵⁶ IDF- Israel defense forces, an order from the Defense Ministry David Ben Gurion on 26 May 1948 officially set the organization up.

⁵⁷ Beit Ha Arava is a kibbutz in the northern Dead Sea near Jericho, which belongs to the Dead Sea Regional Council. It was first established as a kibbutz on May 8, 1939, by pioneers of a youth movement following a proposal made by the Northern Potash Company to establish an agricultural settlement in the northern Dead Sea and later the opportunity to work in the plant.



Figure 62-63: The worker's camp in Sdom . In: Xnet online architectural magazine 20.3.2020

ers. The committee's recommendation was to build the workers' future residences at a much higher altitude, where the night temperatures would be cold enough to gain the 'physical balance' the workers lost during their working hours. In July 1953, the Minister Yosef turned to the Labor Minister, Golda Meir, to give priority to the establishment of a new settlement in Kurnub. As early as September 28, 1953, the Minister of Development presented the representatives of the Dead Sea Workers the intention to build the new town in Dimona.

Despite all that, the mayor of Be'er Sheva demanded that the workers of Sodom will be settled in his city, assuming that the additional distance would not change the chances of placing them in a more significant organized place. The issue got politically complicated once the Finance Committee refused to approve funds for the establishment of the town on the grounds of 'insufficient economic justification.' The minister saw the public accusations against Dimona in the press as an opportunity to slam the Development Ministry and decided to write about it to the prime minister Ben-Gurion in Sede Boqer. In his letter, he described the heavy conflict he was engaged in Dimona against members of the government and others who saw in Dimona 'Tel Aviv on sand dunes'. His metaphor clearly referred to a new regional center that will quickly turn to pessimistic unemployment centers. At the end of the letter, he used a rather blunt accusation by calling the future Dimona 'the Yerucham village II.' In that letter, there is an explicit criticism against the future town and a strong support statement toward the small agricultural village model -to avoid large unemployment centers. In response, Minister Meir said, 'it is preferable to work in workfare⁵⁸ in Dimona then to work in workfare in Tel Aviv.'⁵⁹

In 1951, the chairman of the Negev Committee, Yitzhak Chizik, reviewed 'the New Mampsis settlement' location at the junction between the road to Sodom and Eilat. The committee, eventually, predicted great potential for prosperity - as the town's position will be placed near fertile minerals soil and could develop to a tourist attraction in the Negev. Furthermore, the IDF had confirmed its current location and set future plans for military airport about 2 kilometers northeast of Yerucham.

In 1952, the governmental development division prepared a regional and financial plan for approximately 8000-10000 inhabitants. The plan was conducted by the architects Israel Hermelin and Eliezer Brutzkus at a site located 10 km northwest to Mampsis.

The town's main motives, according to the planners, were:

1. Foundation for a future 'military city'.
2. Mining essential minerals

⁵⁸ During the period of mass immigration that was characterized in the 1950s, the immigrants were referred to physical work such as Fruit picking, stone clearance from rocky hills, agriculture harvest, construction, painting, and photography.

⁵⁹ D. Raich, *Dimona- the first decade and its influence over the town's development*, the human sciences faculty in Haifa University, Haifa, 2010. p.47-54



Figure 64: A planner looking at the future masterplan of Dimona . In: D. Giladi, M.Naor, *Eretz Israel in the 20th century – From Yishuv to Statehood 1900-1950*, Naydet and the Ministry of defense press, Tel Aviv, 2006.p. 163

3. Housing for the Sodom workers and their families
4. agricultural Center / supporting the regional agriculture sector.⁶⁰

The official location declaration was determined by representatives of all parties involved on 15 September 1952. The precise location was a plain with attributes of 500 meters above sea level altitude, in proximity to the junction of Be'er Sheva-Yerucham, 43 km. from the potash plant and 37 km. from Be'er Sheva.⁶¹

3.3.3 Transition camp to a new town

During the early '50s, the 'new town' doctrine was at its highest pick. New urban centers were established, and the planning committees were fully occupied with future projects. The national pioneer atmosphere served as a promising background to the decision to develop the new urban center in Kurnub.

By 1952, the regional and national motives for establishing Kurnub aligned together and created hopeful excitement among the entrepreneurs. Initially, it was clear that the prime objective of Kurnub was to provide a permanent housing solution for the mineral industry worker. Soon after, the government sees this opportunity to solve the 'housing crises' and send the newcomers to settle in a new urban settlement. This chapter will discuss the fundamental conversion between the temporary transition camp and the establishment of the permanent settlement by first indicating the main influential factors for the initial status, then demonstrating the development process throughout six essential infrastructure sectors: Mobility, water management, electrical usage, the aridity challenge, permanent housing, and employment.

As discussed in the previous chapter, the main protagonists who pushed for the establishment of Dimona were Dov Yosef, while Levi Eshkol and Golda Meir were not entirely convinced with the future settlement. Yosef felt he needed an inside political influential force and decided to go against the government directors while seeking for Ben-Gurion's support. His dream began to take shape as Dimona's geographic location was determined at the junction of Be'er Sheva and Sodom and the village of Yerucham - Sede Boker to the Ramon Makhtesh.

Soon, the critical, judgmental voices changes to positive wishful ideas concerning the new Kurnub plan. Above all stood the central hypothesis that Dimona could potentially become a thriving urban center, if it's wisely acknowledged its geographical –physical attributes and leverage then can grow to an active

⁶⁰ Z. Zivan, op.cit., p. 267-271

⁶¹ D.H.K Amiran, A. Shachar, *The geographical development of Dimona in Researches in Israel's Geography*, The Israel exploration society centennial Press, Jerusalem, 1964. p.62-63

touristic center and a stable local trade center, in other words – brand the town as an oasis resort for shopping and relaxation.

Accordingly, it was agreed that this particular settlement would remain the sole settlement in the area without additional future peripheral settlements. This decision was not only referring to the regional planning objective but also the benefit of its future residence - a singular urbane center can potentially maintain a variety of cultural institutions, services systems, and developed educational facilities.

Consequently, it was important for planners to assign direct and additional employment resources. The direct resources included: employment in the existing and future quarries, the transportation service to and from the quarries, the future military camp/military airport, and road maintenance in the area. The secondary resources talked about the employment potential in the potash plant in Oron, and the hypothetical tourism option.

The expectations were also high regarding the inhabitant's numbers. The primary population size was estimated as 5,000 people, and an additional 3,000 people that would be involved in physical development on the site - A total of 8,000 persons. Those expectations were based on various surveys conducted by the planning committee prior to the arrival of the new settlers.

The program also discussed positioning options regarding the different functions. The planners treated the urban planning process as a complex puzzle, and each piece must be placed in the right position to function and co-exist next to the other functions. The main functions of the Dimona's problem were: industrial zone, small businesses (such as small workshops, shops, butcher shops, coffee shops, etc.), education facilities, culture institutes (theater, cinema), a stadium, a cemetery, medical institutions and even green areas for public gardens and playgrounds. The program's validation stamp wasn't referring only to the primary statue, but also to the future development possibilities of expending territories and internal adjustments.

Finally, the last chapter of the planning program reckon the total 'land requirement' to approximately 2.2 Km² and accordingly calculates the population density to 3.6 person/Km² (in reference to 8000 inhabitants living in 2.2 Km²). Those numbers were crucial to determining the actual characteristics of the future town - higher than an average village and lower than a developed city⁶².

Eventually, the program for 'Kurnub- new urban center' was published in September 1952 by the Research and Survey Department of the Planning Division, headed by Eliezer Brutzkus.

In the autumn of 1953, the Ministry of housing and construction began its first practical steps by planning: 400 housing units, an electric generator station, a small commercial center with a restaurant, various shops, and an area for manual workshops and industries. Even then, it was evident that in order

⁶² According to Ariel Sharon's main strategy regarding the size of the future new settlements. In: A. Sharon, *Physical planning in Israel*, Government Printer, Jerusalem, 1952. p. 8-10

to increase the attraction toward Dimona, it is necessary to ensure comfortable housing conditions and greenery, which will give the surrounding environment a sense of pleasant and attractive characteristics inside the arid desert environment.

Initially, the Ministry of housing suggested starting the construction of 150 residential units divided into single/double basic cottage - 20%, Column cottage⁶³ – 30%, and two/three-story building -50%. At the same time, the ministry made sure the commercial and service sectors will not remain neglected. This part included detailed plans of factories, a garage, a gas station, and also public facilities (a small medical clinic, a kindergarten, three classrooms, a synagogue, and a small grocery store). The required budget was estimated at one million Israeli pounds⁶⁴.

However, the ministry of treasure wasn't pleased with the initial proposal and offered the same amount while using only two unite types. The first type was a single basic cottage (42 m², each with two rooms, a kitchen, and a bathroom) that was considered the 'lavish' type thanks to its privet garden privileges. The second type was a two-story building (each apartment unite 54 to 60 m², including two larger rooms, a hall, a kitchen, and separate toilets). Later on, the ministry added the possibility for ten deluxe three-bedroom units for different professionals.

Under those circumstances, one might think that the geographical site and landscape sensitivity were taking into consideration, when, in fact, a closer examination reveals that no special measurements were taken.

The town's quarters were placed arbitrarily without any special consideration to the desert's landscape, and the residential units were places without considering the climate aspects. Consequently, the residential quarter was placed in the external belt, completely exposed to the desert winds, without proper thoughts of inner courtyards or shadow shelters.

Even though in August 1953, the program of the Planning Department received an additional validation – the urban center got its new name, and from now on, it shall be called 'Dimona.'

Be that as it may, nearly four years pass from the initial proposal, and yet, nothing had happened. The long detain was an indirect outcome of the on-going state process. This thesis would focus on four main problematic issues.

Initially, the lack of mapping charts was one of the first components that caused the delay.

⁶³ The column cottage- a complex cottage house constructed from at least 3 or more cottages. the external walls of the cottage are joined together in the shape of one single row. Later this typological complex will enlarge and will be part of 'urban carpet texture' made out of 5 or 6 column cottages rows. In: H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction, Tel Aviv, 2014.p.40-42

⁶⁴ Israeli pound could also be called 'Israeli lira' during 1952-1980. The amount is equivalent to 357000\$ (US dollars)

In December 1951, prior to the formation of the 'Development Administration,'⁶⁵ the Negev Committee of the Prime Minister's Office⁶⁶, had gathered underneath its constitutional power a large vest of issues associated with the Negev's development. One of its many responsibilities involved sending measuring delegations and creating up-to-date maps of the Negev region.

Inevitably, the measurement 'production' rate was slow, and during 1949-1951 only 2% of the work was completed. It was crystal clear that without an accurate mapping depiction, any development plan will eventually lead to a waste of vital funds, time, and poor results.

Under those circumstances, in February 1952, the Director of the Department of Measurements, Ulster, warned the Director of the Ministry of Agriculture from future consequences. Soon, it was decided to hire private measurement contractors to expedite the process and to relieve the pressure from the administrative delegation. But the problematic issue was far from been resolved.

While each delegation had to be escorted by security forces due to the unstable status in the area, the work continued to be slow and much more expensive⁶⁷.

The second and most severe problem was Dimona's lack of water resources. As was previously stated, in October 1953, the Housing Division was ready to start structuring the first part of Dimona. Most of the necessary precautions were taken to make sure that by this time, the water issue will be solved.

Consequently, the water problem hasn't been appropriately solved and continued to cast a large shadow over the existence of Dimona.

The third problem was influenced by railway route assurance.

In 1953, the Ministry of Housing approached the Israeli railway company in request to connect Dimona to the national railway network. The railway company acknowledges the critical role the future train will take part in and agreed to work alongside the planning committee. In March 1954, after deciding on a definitive route, the railway administration retreated and suggested different alternatives. This particular development changed the urban design and forced planners to reevaluate the whole plan.

The fourth problem was the budget frame.

This significant argument was an ongoing struggle before and during government involvement.

Although Minister Levi Eshkol showed great understanding toward the work of the Development Ministry, he continues to argue that the revenue from such investment will not arrive immediately. Eshkol's heart as head of the Settlement Department was leaning toward the Kibbutz and the Moshava, where, among

⁶⁵ 'Development administration', or 'the Arava department', today all the different regions are working under the 'Israel land authority – the planning department'.

⁶⁶ The Negev committee: founded by Ben Gurion and headed by Yitzhak Chezik to collect all relevant information regarding the Negev territories.

⁶⁷ Official correspondence between L. Eshkol (The head of the ministry of agriculture) and Y. Ulster (the head of the measuring department for the ministry of agriculture), ISA serial no. 6153/7, 3.2.52.

other things, he saw immediate guaranteed revenue.

In light of those discussed problems, David Tanne⁶⁸ was forced to postpone Dimona's cornerstone ceremony to December 1, 1953.

As a result of the recent development, Yitzhak Eilam, the director-general of the Ministry of Labor, proposed to postpone the critical residential projects to a more convenient and practical moment and to concentrate on a temporary solution for the residential housing crisis. He suggested constructing a shed-based neighborhood, which will accommodate approximately 60-70 families ('Ma'abara'⁶⁹ in Hebrew). The great irony in Eilam suggestion was that by this time, the majority of the Ma'abara neighborhoods in Israel were on the verge of complete extension (see chapter 2). Moreover, his suggestion was not only referring to the Sodom mineral workers but also the new immigrants destined to join the future town.

Subsequently, the 'nature' of the future newcomers was a constant worry among the development ministry and especially for Eilam and Yosef. In their eyes, the newcomers should quickly adjust to the desert's arid climate and will have the physical and mental abilities to build their own houses and establish their future town. The atmosphere got even more stressed while the new immigrant in Yerucham village lacks the 'pioneering abilities' and struggle to construct their future town.

Eventually, In September 1954, Eilam's proposal was accepted, and the responsibility to build the transition camp was assigned to the Housing Division. By May 1955, the first sheds appeared in Dimona's site. Only four months later, In September 1955, the first truck carrying 32 families from North Africa arrived at the deposit point in Dimona. They were received by Jewish Agency representatives⁷⁰.

Dimona, unlike different 'development towns',⁷¹ was established during the third development phase⁷² in Israel, which gave it the possibility to benefit from past misconceptions.

Regardless of the recent obstacles, Dimona was still considered a well-planned town. The different quar-

⁶⁸ David Tanne (1909-1973)- the founder and the first minister of the housing and construction in Israel.

⁶⁹ Ma'abara – immigrant transition camp in Israel during the '50s. the Ma'abra is usually composed out of simple tents, wooden and metallic shades without an organized infrastructure. Served a contemporary solution to the great influx of immigrants to Israel. For additional details – see chapter 3.3.3

⁷⁰ The Jewish Agency for Israel – The largest Jewish non-profit organization in the world. Active since 1929 and target to encourage the Jewish people from all around the world to reconnect with their land – to settle down in Israel.

⁷¹ Development town- the term refers to new settlements that were built in Israel during the '50s. for additional details see chapter 2.2.

⁷² There were 5 development phases for constructing 'development towns' in Israel. The first (1948-1949) based on abounded Arab settlement patterns, the second (1950-1951), the third (1952-1955) where the pace was reduced to one or two towns a year, the fourth (1956-1957) and fifth (1961-1964). From: D.H.K. Amiran, A. Shachar *Development Towns in Israel*, The Hebrew University, Jerusalem, 1969. p.24-29; E. Efrat, *urbanization and towns in Israel*, University of Tel Aviv, Ahiasaf publishing, Tel Aviv, 1975. p. 144-149

ters were logically assigned next to each other. Different dwelling units were planned, and even rejected plans were carefully delegated and improved to match the settler's expectations. The town was a brand new product that could easily be shaped to the planners would without additional concern to old dwelling patterns or other past constrains. However, the planners couldn't predict the recent developments and solve future complications regarding Dimona.

As was previously stated, the original target for establishing Dimona was to provide a permanent residency for the workers of the Sodom mineral workers alongside their families and future development of a military camp. When, in fact, the first settlers were new immigrants from North Africa.

In the first year of Dimona's existence, the dissection regarding the worker's residency was not concluded and created a peculiar situation where the new immigrants served as the solitary workforce in the area. The immigrant was the ones that built their own houses and developed the new premises. The workers continued to reject the idea of moving to Dimona. Eventually, it was only when Mordechai Maklef⁷³ pressured the plant's administration to close the camp in Sodom and motivated the workers to settle in Dimona.

In the years that followed the official establishment, and until the end of the first decade, the 'immigrant absorption process' has accelerated, and Dimona continued to grow at a very rapid pace.

As early as November 1958, Dimona reached 3131 in population. In 1961 the town reached 5,000 residents⁷⁴. Nevertheless, the town still struggled to stand in front of the increasing demands for residential units and local services. Additionally, the lack of various services forced the residents to travel each time to Be'er Sheva and back.

Dimona's new status was still obscure. On the one hand, an evolving town with an increasing number of residences and construction momentum, but on the other hand, the town was still striving to exist. The different attempts to solve Dimona's current disputes have led to an absurd phenomenon where various offices were overlapping responsibilities with other offices. More importantly, this negative phenomenon has affected infrastructure processes from micro to macro, from momentary to long-term impacts.

3.3.3.1 Essential Infrastructure

· Mobility:

Routs and Highways: Prior to 1949, the only road to reach Sodom from Be'er Sheva crossed through Kurnub, Ma'ale Akrabim, and Ein Hatzeva. The dangerous conditions and the long duration to each point called for a fundamental change.

⁷³ Mordechai Maklef (1920-1978) Director general of the Dead sea Works between 1955-1968.

⁷⁴ The central Bureau of Statistics, *Statistical survey from 1961 No.6*, Government Press, Jerusalem, 1962. p.5-6



Figure 65: The initiation ceremony of the first passenger train to Dimona 9/1965, Photographed by I. Palkov. In: the government press office website. No.11486/55

In July 1949, Yitzhak Chizik sent its fifth weekly report (of the Negev Committee) to David Ben-Gurion. In his statement, Chizik requested his immediate attention to the transportation condition in the Negev and underlined the urgent necessity to find an alternative for the Sodom- Be'er Sheva road. Chizik also justified his severe response to the current status by explaining to Ben Gurion that this present road is causing severe delays in the Negev's development.

Accordingly, it was decided to develop a new route from Be'er Sheva to Sodom, passing through Kurnub - Ma'ale Hatamar (north of the small crater) and Wadi Fukra (Zin creek). The new suggestion guaranteed faster transportation of the Sodom plant's produce and a safer route for the new settlers. Indeed, In March 1952, the new road was paved with an additional roadway leading to the Yerucham village. Another cardinal highway was paved between the quarries near Yerucham and the factories in Sodom (11 km).

Finally, in 1956, a direct highway between Be'er Sheva and Dimona was inaugurated⁷⁵. More importantly, it was a one-of-a-kind road in the Negev region - it was constructed from a unique mixture of concrete and asphalt, which gave it the quality of heat durability resistance, and heavyweight equipment support.⁷⁶

Train: In June 1952, various possibilities were examined in order to determine the correct railroad course. Special delegations were sent to investigate each opportunity, and assorted professionals were assigned to plan in detail the new railway course. Eventually, the chosen course was Be'er Sheva – Kurnub – Oron – Eilat. This decision was based on both industrial and domestic benefits – on the one hand, a fast, reliable course to transport the mineral to Be'er Sheva (and from there to be distributed to the northern parts of Israel) and on the other, a suitable, safe course to travel.

As has been noted, the Ministry of Defense rejected the offer by explaining the strategic risk of placing two main arteries in the same place⁷⁷. (in case of single sabotage, the two essential arteries will be damaged). Although the decision was justifiable, it caused far-reaching changes in the regional plan as well as in Dimona's urban plan.

In April 1958, a critical article was published about the cornerstone ceremony of the railways⁷⁸. The article criticizes the slow and procrastinated behavior of both the railway administration and governmental personal. The article caused headlines in the public eye and forced the working process to excel. Thus, By the end of 1958, construction began on four bridges connecting the Be'er Sheva-Kurnub section, and by September 8, 1965, the 36 kilometers new railway from Be'er Sheva to Dimona opened.

⁷⁵ Official correspondence between Y. Elal (Dimona's first mayor) and D. Ben Gurion (Israel's prime minister), ISA serial No. 5514/9, 20.11.1955.

⁷⁶ E. Rivlis, *The Dimona highway is ready*, "Al Ha Mishmar" Daily newspaper, Tel Aviv, 2.12.55

⁷⁷ Official correspondence between A. Arbel (the head division of national security) and S. Doron (member in the measuring national department), ISA serial No.6147/28, 31.3.1954.

⁷⁸ L. Kadman, *Mysterious process in Dimona's train issue*, "Ha Boqer" Daily newspaper, Petach Tiqua, 22.4.1958

In its first decade, the train served only the mineral industries of the Northern Negev with an optimistic forecast for 350 tons of phosphate and 360,000 tons of potash a year.

As for the 'passengers train,' the railway administration examined the current status and decided to postpone the project due to the low number of potential users (unprofitable). The Israeli train network was still under development, and couldn't 'suffer' any financial or workforce losses. The head of the local council tried to convince them to operate only on numbered occasions, but the administration rejected the request.

Public Transportation: Initially, the first company that started operating in Dimona was called 'South Yehuda.' The company provided a transportation service from Be'er Sheva to Yerucham and then to Dimona 3 times a week.

Most of Dimona's residents couldn't afford to use public transportation due to the cost.

The ones that could afford the travel cost to Be'er Sheva were mainly to purchase food, medicine, and anti-flea products (the Ma'abara had bad sanitation conditions, and the regular existence of fleas was a routine). The ones that couldn't effort the ride used the mineral transportation trucks headed to Be'er Sheva. A year later, the bus frequency was increased to one time a day.

· Water management:

The water problem in the Kurnub region was one of the most complex issues. The rainy season is very short, and the average rainfall is approximately 60 mm per year. The rainfall water quantities are characterized by extreme instability. The drastic status could easily be explained by seasonal drought accompanied by occasional cloudburst influxes that could cause momentary floods. Additionally, there are no natural springs in the area that could supply fresh water.

In 1949, the national water company 'Mekorot'⁷⁹ had temporarily assigned the Be'er Sheva groundwater pool (in Kibbutz Nir am⁸⁰) as Dimona's freshwater source. The complex water delivery procedure was full of inconsistencies and caused great frustration among Dimona's residence.

In November 1950, the Negev committee approved the construction of a direct water pipe to Kurnub via Nevatim (the future military airport) - Khirbat el Mashash - Horbat Arara and Kamar Miri (45km long).

It was defined, from the very beginning, that the freshwater will only serve the domestic sector and will cost relatively higher than the standard tariff as a result of distance, height differences, local conditions, and future water facilities.

The severe shortage in steel pipes and the lack of clarity regarding the final route of the railway caused

⁷⁹ Mekorot – Israel national water corporation, founded in 1937 and established the national water carrier from Lake Kinnereth (sea of galilee) in the north to the Negev between 1948-1964. the corporation is specializing in water management and water solutions.

⁸⁰ Kibbutz Nir am – established in 1943. The groundwater sources that were discovered during the Drilling in 10.1946 served as a source for the water for 11 different settlements in the Negev region.

several delays in constricting the line. The local council approached the ministry for alternative solutions and, indeed, during 1953, several pioneer expeditions were sent to find and examine the groundwater conditions in the northern Negev. The final results indicated that the majority percentage of the groundwater was unsuitable.

Consequently, In October 1953, the 'Mekorot' company began laying the pipes in the Be'er Sheva - Kurnub line. In early 1954 an intermediate pool was built near Kurnub. In 1955 the water pumping station near Kurnub was completed. Yet, the amount of water in May 1956 was still very limited to a few hours a day. Moreover, the Ministry of Labor recommended that the Housing Ministry needs to suspend the construction of the planned 638 housing units, since Mekorot couldn't allocate additional water to Dimona, and even intended to reduce the current quantity.

Finally, at the end of 1956, the contract between 'Mekorot' and the Ministry of Development was signed, and the water began to moderately flow.

Sewerage: Among all other essential elements of the urban infrastructure in Dimona, also the sewerage system was absent. The conditions were tremendously difficult as the first settlers complained that: *the filthy water had crystallized to a small sickening swamp and a contemporary nesting site for mosquitoes and other pests*⁸¹.

Only in December 1956, after acknowledging the potential risk, a first Sewerage master plan was prepared. The plan presented a possible solution to the current status by concentrating all sewage origin of Dimona to 'point A' (hypothetical intermediate exterior site) and from there to transfuse it to purification facilities and settling ponds⁸². The goal of this extensive investment was to create the possibility to reuse the sewerage water for irrigation proposes, and by that, partially solving the water issue. The assigned area for the purification plant was indicated in the southwest point (relatively to the town center) and spread over 45000 m².

In October 1957, the sewerage system was active in all Dimona's quarters (collecting water), but haven't started working on the purification system for irrigation potential water.

In the summer of 1958, the town had experienced a tremendous shortage of water, and it was offered to start using a temporary pump to initiate the purification process. Only in 1959, after the rail route was confirmed, the actual process of water purification began its activities.

· Electrical usage:

Electricity was an essential part of the town's development, not only for the construction site and heavy

⁸¹ Official correspondence between V. Nir (local resident in Dimona) and R. Avni (assistance for the minister of housing and construction), ISA serial No. 3445/18, 3.8.1956

⁸² Settling ponds is an earthen or concrete structure using sedimentation to remove settleable matter (biological/organic/industrial) and turbidity from wastewater.



Figure 66: The Swedish sheds in Dimona. Unknown photographer, Unknown year. In: The Tuvyah archive of the Ben Gurion university library, Photo No. 706.81.F2.99.C4

machinery but also for basic domestic civilized existence.

Prior to September 1955 (arrival of the first residents to Dimona), Menachem Barbash⁸³ asked the Development Ministry to take care of the electricity status by transferring few generators to the new location. After several failed attempts, Yigal El'al, the first director of Dimona, turned directly to Ben-Gurion and asked for his personal intervention by saying: *I do not think I need to amplify the necessity of electricity and of its role as an essential instrument in helping the residents to settle in a place like Dimona*⁸⁴.

On January 22, 1956, the first generator arrived at Dimona, but due to missing mechanical accessory, it remains unused for several months. In September 1956, the Tamar Regional Council (Dimona was subject to municipal control) intervened and complained that the electricity shortage was delaying all development work, including the installation of a basic communication system, the operation of the carpentry workshop, the metal workshop and the future diamond plan⁸⁵. In July 1957, two generators finally began operating. The electricity flow reached the homes of the residents sporadically.

Communication: Two months after the establishment of Dimona, the minister of labor and the minister of development promised to address the communication subject by creating potential arrangements.

In the absence of infrastructure, and assigned postal vehicle arrived once every two days, delivering and exporting letters to the public administration and local population. In fact, at that time, the postal vehicle was the only communication channel with external properties. Furthermore, the service was slow and regularly interrupted - causing the letters to pile up and future requests /demands to remain unnoticeable.

To achieve an open communication channel, the Post Office carried out some organized visits to examine the possibility of establishing a radio link between Be'er Sheva and Dimona. But, as the electricity infrastructure has been significantly delayed during the construction process, this service was postponed to the future development stage.

In January 1958, the Dimona local council offered the postal service a double cottage building shared with the local police station as a temporary residence⁸⁶.

At the beginning of 1959, the first telephone was installed in Dimona. In February 1960, an automatic telephone operator of 45 local lines⁸⁷ was activated. Eventually, In March 1965, Dimona got connected

⁸³ Menachem Barbash (1917-2006) the head of the Be'er Sheva branch of the labor ministry.

⁸⁴ Official correspondence between Y. Elal (Dimona's first mayor) and D. Ben Gurion (Israel's prime minister) ISA serial No. 5514/9, 23.11.1955

⁸⁵ Official correspondence between Y. Almog (Member of the developing national department) and the regional 'Tamar' council, ISA serial No. 3445/12, 14.9.1956

⁸⁶ Official correspondence between Y. Eilam (General director of the Labor ministry) and M. Barbash (Head of the Be'er Sheva branch of the labor ministry), ISA serial No. 6147/11, 4.10.1955

⁸⁷ Y. Dahan, *Survey concerning communication in the Negev*, in The municipality of Dimona, *Protocol of the local council of Dimona*, The municipality of Dimona press, Dimona, 21.2.1960.

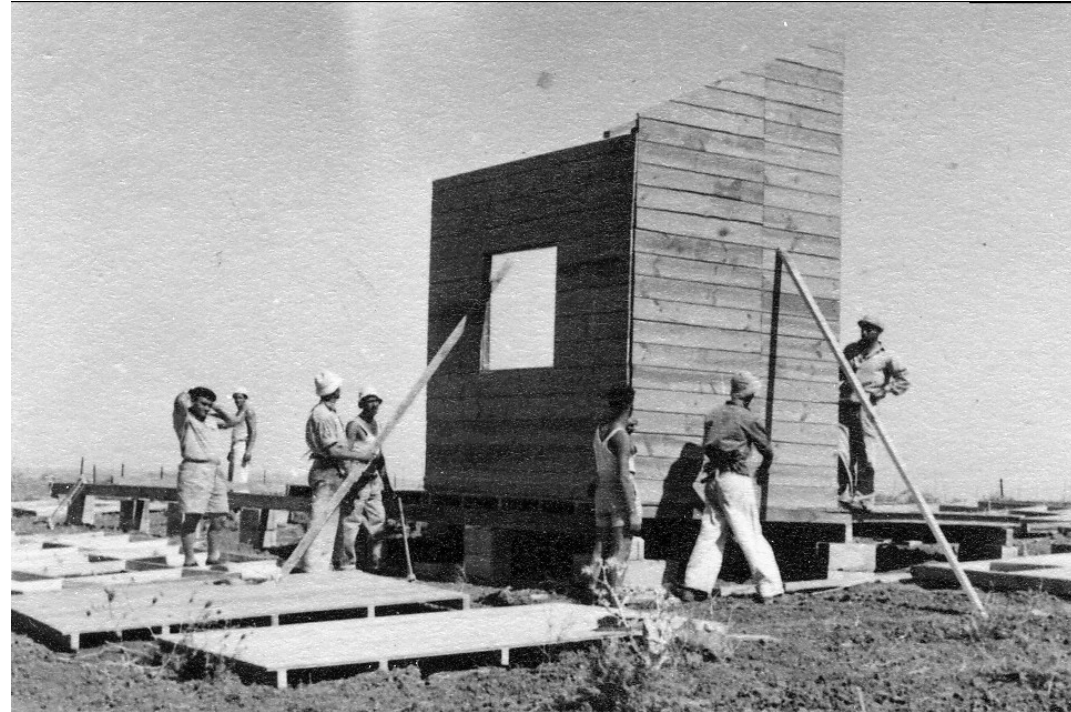


Figure 67-68: Constructing the Swedish sheds in Dimona. Unknown photographer, Unknown year. In: The Tuvyahu archive of the Ben Gurion university library, Photo No. 02156, 02157

to the national telephone network. But even then, an agreeable stable solution regarding the postal office location was not found up until 1967.

· The aridity challenge:

One of the most persistent issues in Dimona was the on-going struggle with aridity conditions, or in other words, a 'battle' against the relentless sand storm.

The optimal solution that the planners found useful was to plant in the external parts of the town a large greenery belt and also to cover every vacant internal part in greenery (see Chapter Two - The City of Gardens theory). Also, For the people of Dimona, the 'Green element' was not only a protective element but served as a positive reminder for overcoming the dry wilderness.

Under the noted circumstances, the water dispute was far from resolving, and the local council was looking at different alternatives. First, they offered to limit the irrigation amount to about 20% out of the total consumption⁸⁸. Then, they offered to declare that the irrigation water should be considered and cataloged as 'water for agriculture proposes,' as other agriculture settlements had received⁸⁹. A third option was examined regarding the reuse of wastewater for irrigation properties in the external belt.

Accordingly, the decision regarding which type of greenery the town of Dimona should use was also influenced by the water issue. The typical greenery that was used in other parts of the country wasn't suitable for the desert's conditions and would require a large amount of freshwater.

The planners chose the olive tree and the barren- fruitless trees (oak, Acacia, Tamarix, etc.) group as the ideal solution to the problem⁹⁰. The Jewish National Fund began to plant an olive grove in the external belt of the town, and by doing so, the fund encouraged the settlers to engage in the planting activities. Moreover, a designated area was chosen to be converted into a green park. Several years later, the Water Commission turned back to previous suggestions and decided to allow the possibility of reusing wastewater.

Furthermore, the internal squares and privet gardens remain a significant challenge to overcome.

The local council invested in the project and tried to promote it by persuading the residents to invest in their privet gardens. As previously noted, the planner's vision to create an independent community, where each household gains the opportunity to grow his own fruits and vegetables, was still relevant. But even so, the great amount of effort, maintenance, water, and time invested in the greenery leads to the complete abandonment of the idea and, in some cases, intentional sabotage.

⁸⁸ Official corresponds between A. Lardo (The mayor of Dimona) and G. Ya'akobi (Assistance of the Minister of agriculture), ISA Serial No.2040/21, 19.12.60.

⁸⁹ Official corresponds between M. Kantor (The national water commissioner) and K. luz (Minister of Agriculture), ISA serial No. 2040/21, 30.12.60

⁹⁰ Official correspondence between Y. Weitz (The founder and head director of Israel land administration) and Y. Ilam (General director of the Labor ministry), ISA serial No. 6147/11,28.11.55



Figure 69-70: The Ma'abra in Dimona. Unknown photographer, Unknown year. In: The Tuvahu archive of the Ben Gurion university library, Photo No. 706.81.F2.B1.EB , 706.81.F2.B1.FC

Housing:

During the housing crises in Israel, the government was forced to take action and find a basic temporary solution to the problem. The Ma'abara was a temporary housing solution for a year or two until permanent residences were established. The Ma'abarot (plural form of Ma'abara) were found close to old urban settlements or near old rural settlements, with future intention to integrate the population in the settlement. In addition, another type of Ma'abara was built in remote and isolated territories as a dwelling base for the new settlement. As part of the temporary solution, the immigrants were placed in different types of tents and sheds such as a basic tent, wooden shed, metal shade, and the later asbestos shed.

As a rule, the government chose to limit the services and local supplement to its basic level, by acknowledging the temporary status and the future desire to integrate the new population with the veteran one. Also, the educational system was focused mainly on preventing moral deterioration, then a suitable substitute for real public schools.

After it became clear that Ma'abara's solution was not causing any real change but rather causing more trouble, it was decided to eliminate the Ma'abarot gradually and to try new 'population integration method.'

The average time spent in local Ma'abara by immigrant families during the years 1955-1965 was between two and three years.

Paradoxically, while the government was beginning to eliminate the Ma'abarot and transitioning the local population into permanent houses, Dimona started to establish its own Ma'abara.

That being the case, Dimona had a significant advantage over the other Ma'abarot since it was created after the majority of the other Ma'abarot. Therefore, the necessary precautions were taken, and preventive action was declared – to overcome this temporary phase as soon as possible.

Indeed, the total 'duration time' of the Ma'abara in Dimona stood on only one year – relatively shorter than all the other Ma'abarot in Israel.

The dismantling process of the Ma'abara in Dimona began gradually with the construction of the permanent houses (stone houses and concert buildings) about a year after the arrival of the first settlers. Towards the end of 1958, due to budget constraints, the government raised the idea of reducing the number of construction projects in Israel and, as a direct result, in Dimona. The labor minister Namir objected to the offered solution by claiming that 'this action will harm future progress and cause an even greater social gap between old and new settlers.'⁹¹

After the transition process was partially completed and residents were moved to permanent housing, the

⁹¹ Official correspondence between M. Namir (Minister of Labor) and D. Ben Gurion (Israel's prime minister), ISA serial No. 7164/5, 16.11.1958.



Figure 71: The school inside the Ma'abra in Dimona. Unknown photographer, Unknown year. In: The Tuvahu archive of the Ben Gurion university library, Photo No. 706.81.F2.B2. FS

Ma'abara territory became a 'no man's land'⁹² where each resident could dismantle occasional doors/windows/other parts as he pleased to do. It was clear to the local council that immediate action should be taken to prevent future looting. Under those circumstances, 80 shads were utterly dismantled while the rest were closed under a perimeter-protected fence.

The transformation process was not fully completed due to administrative priorities in housing priority⁹³ and lack of existing residential houses. Therefore, some of the remaining squatters/families and single man residencies decided to remain in the Ma'abara until an appropriate solution was given to them.

The next step in the housing evolution of Dimona was permanent stone houses and soon after, the concert buildings. The construction of the permanent houses began in July 1955, around the time the Ma'abara construction was completed. The construction pace was considerably slow while the keys to the first stone-house were given to the early settlers, together with the inauguration of the synagogue only on 25.4.56. Initially, only one-story houses were built, with minor differences in the total parameter number, while the 'second wave' of construction also included two-story houses. The issue regarding vertical construction (such as the two-story building) got more complicated when Yoseftal wrote in April 1957: *I have learned that two-story houses are to be built in Dimona. I would very much like to change this decision, which is simply unacceptable. There isn't any shortage in development territories in this town, and if there are other difficulties such as supplying water [...] they will resolve soon [...] The construction of a two-story building in a brand new town will unnecessarily suppress the residents*⁹⁴.

Subsequently, the Settlement Department responded to Yoseftal that: *The initial idea came from the settlers themselves and we shell welcome and promote it*⁹⁵. Indeed, the final result included column cottages, double stone cottages, and two-story buildings.

The effort to speed up the construction process was evident in the quality of construction. In May 1958, the tenants of the two-story building complained to the director-general of the Ministry of Labor that the state of the apartments is not to their satisfaction and that they are not suited to the arid climate of the Negev (Such as the absence of shutters against sandstorms). Moreover, they claimed that the company that has constructed these buildings (Amidar⁹⁶) is charging each of the residences a large amount of money

⁹² 'No man's land' – a situation or area of activity where there are no rules, or that no one understands or controls because it belongs neither to one type nor another.

⁹³ Due to expending infrastructure project, each corporation demanded a total of housing units for their professional and outsourcing workers, such as Israel railway company, the national oil company, Dead Sea Works, etc.

⁹⁴ Official correspondence between G. Yoseftal (The general secretary of 'workers of Israel' party) and D. Tena (General director of the settlement department in the labor ministry), ISA serial No. 4352/36, 8.4.1957

⁹⁵ Official correspondence between G. Yoseftal and Y. Tamir (the head of the immigrant's settlement department in the housing and construction ministry), ISA serial No. 4352/36, 19.4.1957

⁹⁶ Amidar – National housing public company in Israel. During the first decades of Israel's existence, the company took care of the public housing project for the new immigrants.

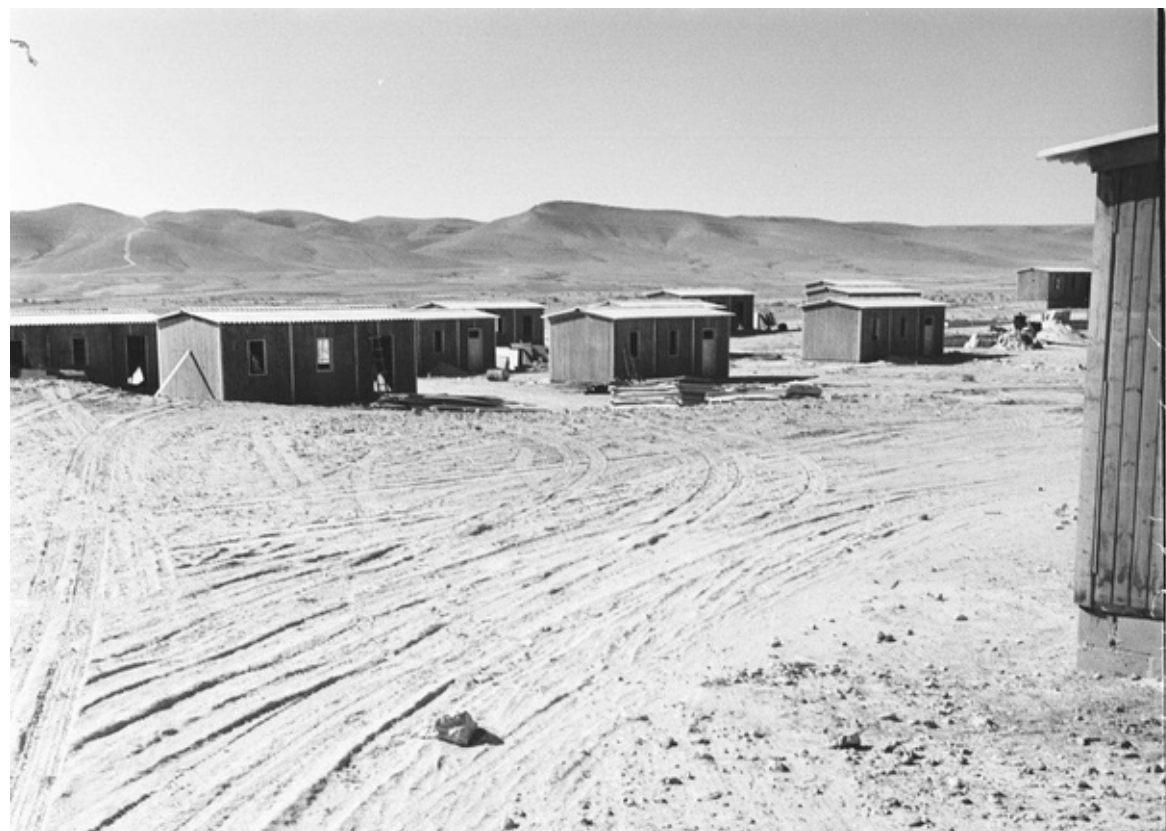
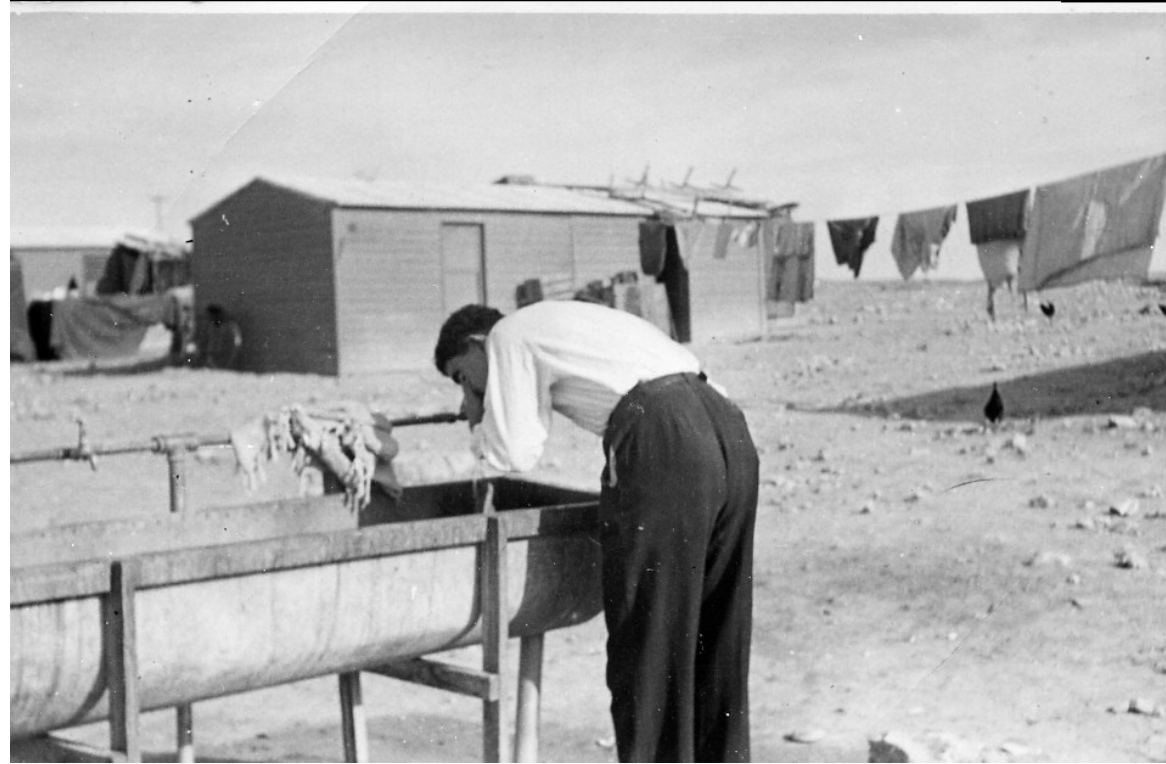


Figure 72-73: The Ma'abra in Dimona. Unknown photographer, Unknown year. In: The Tuvyahu archive of the Ben Gurion university library, Photo No. 706.81.F2.B1. FF, 01530

to renovate the existing defects.

The constant struggle between 'impulsive-velocity and planned-quality' act will continue to increase and influence Dimona, not only regarding its residential attributes but in other essential sectors.⁹⁷

· Employment:

Eliezer Brutzkus, the head of the national planning project, had assigned basic guidelines to each of the different future settlement regarding the exact selection of the location. As mentioned earlier (chapter 2), the choice was not only based on geographical properties but rather on the future financial potential. While the

The majority of the new settlements were leaning on existing urban centers; a few were forced to manage their own existence by future development of their financial sectors.

In the 1950s, the industrialization development in Israel began to take its course in a different settlement. Although the northern and central regions relied on trade and services for the agricultural sector, it became clear to Brutzkus that the Negev's development couldn't rely on that particular sector and will be obliged to rely on heavy industries.

During that time, Dimona was considered a unique case. Not only that Dimona was a completely new settlement in the desert (without a prior urban settlement pattern), it was the only town that had direct 'financial distention' toward the mineral industries.

Later, the optimistic hypothesis of Brutzkus for Dimona was completely ruined in the face of the constant refusal of the Mineral industry workers to transfer their residential camp to Dimona. The original hypothesis got a new turn while the first settlers have arrived at Dimona. Since the new immigrants couldn't be immediately integrated into the mineral industries due to language difficulties, lack of knowledge, and other accommodation difficulties, they were assigned to other primary sectors such as the construction industry.

Indeed, in the first few months of the establishment of Dimona, most of the new immigrants were employed in the future construction of stone houses- their future homes. During the first year, six groups of workers were assigned to the construction task. Two groups were employed as stonemasons (after receiving basic training in the field), two groups of carpenters, and two other groups for the plastering task (Plasterer). Furthermore, this turn of events has achieved two important targets, the first, constant supply of employment for the new immigrant, and second, a 'boost' to the construction pace.

Accordingly, the remaining workforce started the integration process in order to join the quarry workers,

⁹⁷ D.H.K Amiran, A. Shachar, (1964), op.cit., p. 72-75

the mineral plants, and municipal workfare ⁹⁸.

For a short brief moment, the council was convinced that they have reached a 'balance point' in the employment percentage in Dimona. Still, since the immigration waves continue to increase the population number, the town continued to struggle with the employment rate. ⁹⁹

When the infrastructure project was at its pick, professionals from the development ministry were confident that the employment problem should be solved as soon as the project is completed. Moreover, they indicated several future possibilities that will enable the future economic status of Dimona. Their offers were based on the original assumption that the future factory should be in close proximity to the raw material, which will reduce the cost of the production process and create new healthy competition among the other market products. In their offer, they included brick factory (which included: basic bricks, firebrick 'Chamotte,' roof tiles and ceramic pipes) for approximately 100 potential workers, a tile factory (which will also include a sand washing process) for nearly 20 potential workers and a factory for salt packaging for approximately 15 potential workers.

In a short time, the department realized that their hypothesis was misleading and not realistic due to unavoidable infrastructure delays (the water, the train route, and the electricity issues).

In January 1957, the Secretary of the Workers' Council approached the Ministry of Labor and reported on an acute unemployment status and added his most profound concern due to the expected immigration wave from Egypt. Menachem Barbash, the director of a branch of the Labor Ministry in Be'er Sheva, hasn't shared the same concerns as the council had. Moreover, he pushed the development department to increase the construction rate in Dimona while adding 100-150 housing units in an effort to maintain the influx of immigrants arriving into town¹⁰⁰. Furthermore, in July 1958, the development committee declared that due to recent events, it is necessary to assign a new industrial zone to the town of Dimona and suggested exploring an additional opportunity in the 'light private sector industry' – the diamond industry. The professionals from the development community saw in the diamond industry a suitable source of employment due to low transportation costs and the opportunity to involve a considerable vast of different employees (could potentially include women and adolescents combine with regular workforce). Indeed, toward the end of the '50s and the early '60s, diamond polishing factories were established in Ofakim, Yerucham, Dimona, Eilat, Sderot, and Be'er Sheva.

⁹⁸ In the first decade of the state, the government's involvement in the Israeli economy was profound. One of the areas in which this involvement was prominent was the labor market. The 'municipal workfare' was provided to immigrants according to family size in order to ensure minimal income and to prevent the immigrants from being frustrated and unemployed. In those years, within the framework of the labor force, the population was defined from the age of fourteen onwards.

⁹⁹ D.H.K Amiran, A. Shachar (1964), op.cit., p.65-70

¹⁰⁰ Official correspondence between M. Barbash (Head of the Be'er Sheva branch of the labor ministry) and Y. Eilam (General director of the Labor ministry), ISA serial No. 6147/11, 30.1.1957

However, the management and the trading centers continued to remain in Tel Aviv, which created a massive miscommunication and instability between the factories and the headquarter, and finally lead the privet investors to close the factory in Dimona only seven months later¹⁰¹ and the rest of the Negev factories soon after.

Subsequently, other privet investors from different sectors were encouraged to develop their products in the Negev. First, Levi Eshkol suggested the possibility of a phosphorus factory. An ice factory (a competitor to the one established in Yerucham), Nylon threads factory, toy factory, shoe factory, and soda factory – all failed during the planning phase.

The involvement of the privet sector was a problematic situation and remained a tiny percentage in those years. Eventually, most of the privet entrepreneurs turned into small workshops that were characterized by instability and technical problems.¹⁰²

3.3.4 *The Ideal house is the economical house*

The 'ideal house is the economical house' was the main governmental slogan expression toward the housing project that was conducted during the '50s. This particular chapter in the history of the establishment of Israel shouldn't be referred to as only a historical argument but rather a current one, loaded with dynamic topics, worthy of contemporary critical reading, against the historical-political-ideological background that existed in Israel during its first years. Moreover, the 'housing project' is considered. Still, today, to be the most critical construction project achievement in the history of the state of Israel. The housing project was primarily assigned to solve the residential crises (for more than one million refugees) while using different methods that were available and affordable at that time.

The housing project should be divided into three evolving steps: the first – the reuse of unoccupied / abounded spaces equipped with pre-existing basic infrastructure, the second – the temporary transition camps (the Ma'abara), and the third – the permanent housing units.

During the years of mass immigration, when hundreds of thousands of dwelling units were needed and neither any substantial construction industry was developed¹⁰³ nor adequate funds were avail-

¹⁰¹ Official correspondence between D. Selifer (The general director for public institutes) and B. Zohar (head of the worker's council in Dimona), ISA serial No. 4581/2, 6.10.1957

¹⁰² D. Raich, op.cit., p.51-112; Z. Zivan, op.cit., p. 270-274; The Worker's council of Dimona, *New working places*, "Eco Dimona" bulletin, Dimona, 07/1957. p. 1-3; Y. Kotler, *On what basis is Dimona going to survive?*, "Ha A'aretz" daily newspaper, Tel Aviv, 9.12.1955.

¹⁰³ The 'Solel – Bone' company was the only founded company at that time in Israel. The company had started its first years equipped with primitive machinery that prevented the company from moving forward.

able¹⁰⁴, such a compromise could at best satisfy the most modest requirements: 'A roof over the head,' a minimum of sleeping and living space, a place to cook and the necessary sanitary facilities. Furthermore, an additional compromise between the technical and financial possibilities had to be handled.

In the world, as in Israel, the housing projects were orientated toward the universal civil and political perspective concerning social justice and solidarity. Certainly, this argument becomes even more relevant during the late '40s, and early '50s as the harsh consequences of the post WW2 crystalized into a residential crisis across the continent¹⁰⁵. Many of the dominant architects of that period were called to invent new and advanced solutions while still maintaining the basic principals of community life and modernism¹⁰⁶. Similarly, the existing condition in Israel shares equal attributes regarding the residential crisis topic. Iconic architects as Louis Kahn, Oscar Niemeyer, and Yona Friedman were called to offer their own professional interpretation of the current status in Israel. Equally important was the strong and dominant influence of the modern Bauhaus movement over the local architectural attributes.

The housing project in Israel should and still needs to be evaluated according to strict criteria while taking into account the conditions and constraints that were crucial during that period: relatively short construction time, deficiency in construction tradition, shortage in construction materials/ machinery, a large amount of undeveloped soil, an extensive amount of unknown settlers attributes¹⁰⁷ – 'unknown customer.' Nevertheless, despite the various challenges, urban textures were developed ('the unit neighborhoods'), permanent houses were constructed ('The Blockon model'), and affordable solutions were conducted ('the growing Patio House'). Still today, the original housing project is evident and dominant in most urban territories in Israel. Moreover, exceedingly some parts are still under constant maintenance for the resident's welfare and modern adjustments.

3.3.4.1 Primary solutions for the housing crises:

During 1947-48 the British mandate period was about to come to an end. The government official housing department decided that the initial solution for the housing crises will be the reuse of the former British army camp dormitories as each camp had a stable working infrastructure. The decision was

¹⁰⁴ The newcomers couldn't provide any financial contribution to their future homes nor a primary basic rent.

¹⁰⁵ For additional details - See chapter 1.1

¹⁰⁶ An excellent example of expanded study regarding the typical residential form after WW2 can be found during the 'Interbau neighborhood' in Berlin at 1957, where the protagonist architects had participated: Le Corbusier, Oscar Niemeyer, Alvar Aalto and Walter Gropius.

¹⁰⁷ The new settler's characteristics were mostly obscure during the initial construction period. The planners couldn't have foreseen from which origin; culture or even family size the type of settlers will live in the planned units.

immediately carried out. The new immigrants were gathered and placed in the rectangular-shaped tents, 4-5 families in one tent without any internal partition between the different spaces. The Jewish Agency had taken responsibility for providing food and financial support¹⁰⁸. Nevertheless, it was well understood among government officials that this temporary solution could only last so far. First, the given space was limited compare to the increasing number of immigrants, and the social impact of overcrowding families under the same roof has caused frustration. Subsequently, the second solution had been driven from the direct results of the independence war¹⁰⁹. A large portion of the local Arab community has resettled while leaving behind unoccupied residential units. The outcome was clear to the government officials as well as for the Jewish agency – the possibility to reuse the abandoned units for the newcomers.

The second solution, as well as the first one, had suffered from short-term planning - the number of unoccupied units was still limited compare to the increasing dimension of the housing crises in Israel. Also, the existing residential units were adjusted to the previous local population needs and weren't necessarily suitable in terms of unit size or cultural needs of the new settlers.

It was apparent that a long term solution with an extensive scale is needed to solve the housing crises in Israel.

From the official protocol of the Government of Israel - 26.7.1949

Minister Golda Meyerson (Meir)¹¹⁰: *During my recent travel to America (united states), dozens of people approached me with all kinds of proposals for temporary housing solutions, such as aluminum houses, wooden houses, steel houses, etc.[...] The disadvantages of these kinds of solutions are well understood without an extended explanation: the purchase process will force us to use foreign currency, the assembling process will be conducted directly at the manufacturing workshop, and there is no tangible guaranty that the complete product will be suitable for the local climate. But what attracts our immediate attention is the rapid execution time.*

Recently, I have entered into a severe negotiation concerning one particular proposal regarding a thousand prefabricated houses shipment from America every ten days. And in other words, the establishment of 4,000 residential units every ten days. (every house has four residential units). Just yesterday, I got the

¹⁰⁸ In 1949, there were 37 camps under the responsibility of the Jewish Agency's Absorption Department – approximately 92,500 people. in: H. Sheder, op.cit., p.12-14.

¹⁰⁹ Prior the independence War (1948) the 'mandatory Israel' territory was estimated at approximately 27,000 Km², after the war at 1949 the territory of Israel has increased by 21% meaning in 5,700 Km², which included territories from the lower Galilee, Jaffa, the Jerusalem regional territory, southern plains and the northern Negev. According to recent estimates, prior to the independence war, the territory included approximately 1,300,000 Arabs meanwhile after 1949, more than 280,000 had resettled in the west bank under the Jordanian occupancy, 190000 resettled in the Gaza stipe and 245,000 refugees found shelter in Jordan, Syria and Lebanon. In: H.Regev, A.Oren , *Establishment of the State and its Early Years*, the Educational – Technological Center in Israel in collaboration with the Ministry of Education and Tel Aviv University, Virtual Library, 1995.

¹¹⁰ In 1949, Golda Meier (Meir) served as the minister of Labor in the Israeli government.



Figure 74: The internal view of Swedish sheds in Dimona. Unknown photographer, Unknown year. In: The Tuvyahu archive of the Ben Gurion university library, Photo No. 06990

final details, and it turns out that: A. Those houses will be even more expensive than what we have predicted. Every housing unit should cost us about a thousand dollars (the price includes the manufacturing, assembling, and shipment to Haifa harbor in Israel). Then we must consider an additional cost of internal transportation expenses, foundation casting costs as well as final adjustments. B. we have targeted those units as only a temporary solution, But, in theory, the local residents could easily remain in those units for an extended period, perhaps even for years. Still, this particular outcome isn't the desirable one for solving our housing crises. On a positive note, the unit's component parts could be easily dismantled and reused (in the future) for maintenance purposes or even for future warehouses for the residents¹¹¹.

3.3.4.2 The transition camps – Ma'abarot

The third and most efficient solution the Israeli government could execute at that moment was the transition camp (Ma'abarot in Hebrew¹¹²). The transition camps, as Golda Mayer, stated they were considered only a temporary solution to the current condition - until the immigration crises could be controlled and the construction of the permanent residential units will start to increase its activity around the different urban territories in Israel. The residential units that the transit camps had provided were: simple tents (in Hebrew: Ba'adonim), wooden sheds (Tzrifonim), and tin \asbestos shacks (Azbestonim).

In 1951, the negotiation regarding the location of the transition camps became even more critical, as the planners realized that perhaps, the typological living format is bound to change over time. Still, the initial location decision will be permanent. Accordingly, the primary location was set near existing settlements in order to benefit from the existing infrastructure as well as from the on-going community life – social integration instrument for the new settlers.

The second type of transition camp was located in designated areas that were under extensive development for new urban settlements (the case of Dimona). According to the housing department, the planners took into consideration that while the Ma'abarot is a temporary solution, it still needs to cope with the social and welfare services as well as the financial aspects. Accordingly, each new transition camp was 'equipped' with basic public institutes as well as assigned working hours for each family provider. Toward the end of December 1951, 179,140 residents were living in transit camps, while In 1952, the number got even higher 25% of the general population of Israel¹¹³.

¹¹¹ Z. Efrat, M. Yagid –Haimovich , *The Israeli project – construction and architecture 1948-1973 Vol. 2*, Tel Aviv Museum for art, Tel Aviv, 2004. p.660

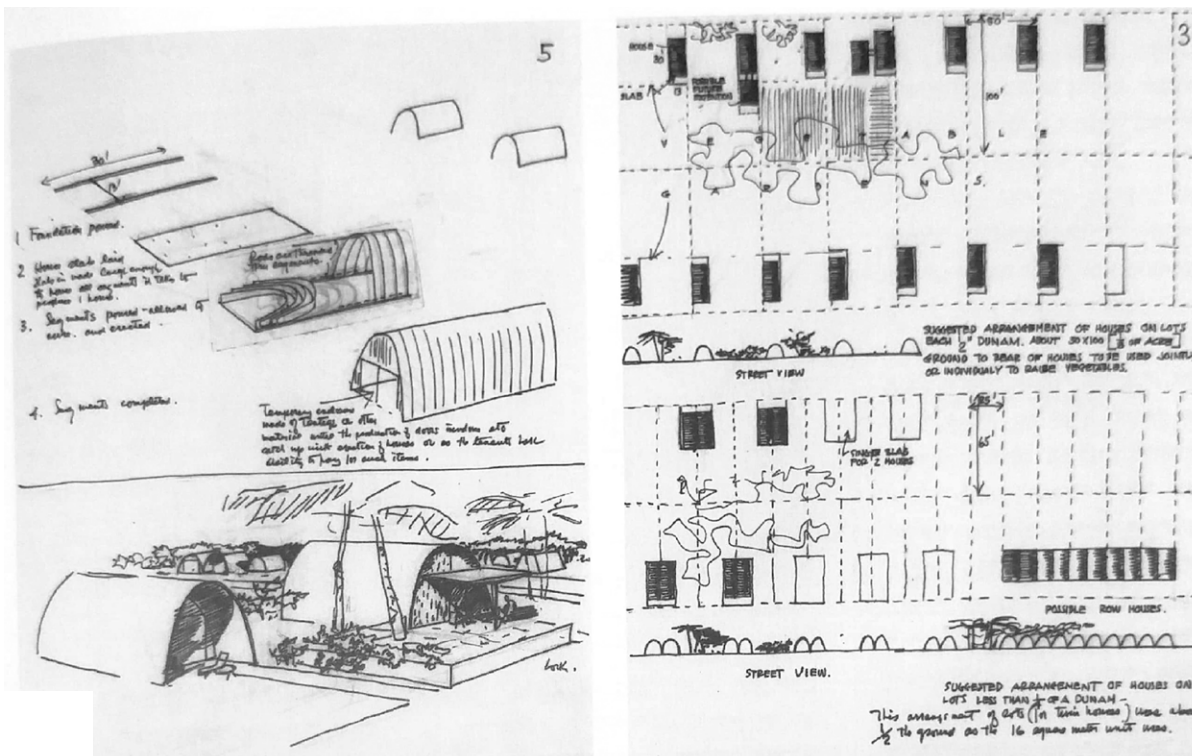
¹¹² The Hebrew name was driven from the word transit – 'Ma'avar'.

¹¹³ In 1952, there were 98 transition camps from the first type and 31 transition camps from the second type. In: H. Sheder, op.cit, p. p.14.

Figure 75: Louis Kahn and I.E. Millstone during their visit in Israel (Kfar Nahum near the sea of Galilee). In: G. Solom, *Louis I. Kahn's Trenton Jewish community center*, Princeton Architectural Press, New York, 2000. p. 18



Figure 76: Selective drafts from Kahn's final report. In: Z. Efrat, M. Yagid-Haimovich, *The Israeli project- construction and architecture 1948 -1973 Vol.2*, Tel Aviv Museum of art Press, Tel Aviv, 2004. p 540-542



In the book 'Altneuland,'¹¹⁴ Theodor Ze'ev Herzl wrote the following about the transit camps which he encountered during his visit to Israel. Although this particular description was years before the current condition, it is still relevant to the basic terms of the transition camp:

I asked Steineck¹¹⁵ to prepare a plan for the worker's dormitory and the transit stations (transition camps). At first, we had to settle for a cheap construction unit; our main target was to set it up quickly. We did not have time to think about aesthetics. The main architectural creativity, which was usually demonstrated by functionality, beauty, and some splendor, had to be postponed to posterior work. His (Steineck) only concern was to design the most simple residential units he could think of.¹¹⁶

Consequently, The Ma'abarot solution not only prevented the intentional integration of the newcomers inside the local veteran community but caused a strong negative image that remained with its residents for a very long period. The negative image was mostly drowned from the high dense crudeness, the total lack of privacy, the severe negligence in hygiene facilities¹¹⁷, the lack of regulated employment places, and the reduction in educational facilities. As a result of the current circumstances, some heavy critical articles were written in the daily papers in order to get the government's attention and influence their future decisions regarding the housing crises: *In its sixth year, Holon-transition-camp is a smelly and polluted slum. The perimeter territory of the camp was covered with rotting rubbish piles. The Sewage pits had already reached their maximum capacity and started to overflow slowly towards the residence tents. The doors of the public utility cells have been cut off because of the unbearable smell and the immediate desire to vomit* ¹¹⁸.

3.3.4.3 Louis Kahn's proposal for resolving the Housing Problem in Israel

In January 1949, Louis Kahn was asked to join an American Zionist conference regarding 'For-

¹¹⁴ Altneuland – in German 'the old new land' utopian novel written by Theodor Ze'ev Herzl on his strategic plan for the Jewish people – the Jews state – after its 20th anniversary.

¹¹⁵ Steineck is a fiction figure in the 'Altneuland' novel, based on the Oskar Adolf Marmorek (1863- 1909) – Austria-Hungarian architect and Zionist. In: U. Prokop on the Jewish Legacy in Viennese Architecture- the contribution of Jewish architecture to building in Vienna 1868-1939, Bohlau press, Weimar,2016. p.41

¹¹⁶ Herzl wrote this chapter after his disappointing visit to territorial Palestine in 1899. Herzl immediately understood that an intermediate phase must be created in order to shift the residential status to permanent status. In: T. Z Herzl, *Altneuland* (translation by M.Krauss) Babylon press, Tel Aviv,1997. p.159

¹¹⁷ The ratio of a person per shower stood on 15.9% and toilet cabin was 14.9% per person, in O. Ruzin, *Immigration and Settlement - Conditions of Disgust - Parenting and Hygiene of Immigrants from Islamic Countries in the eyes of Veterans in the 1950s*, Tel Aviv University, Tel Aviv, 2002. p.35.

¹¹⁸ A. Dolev, *Vacation Between the Bedonim*, "Ma'ariv" daily newspaper, Tel Aviv, 11.7.1955

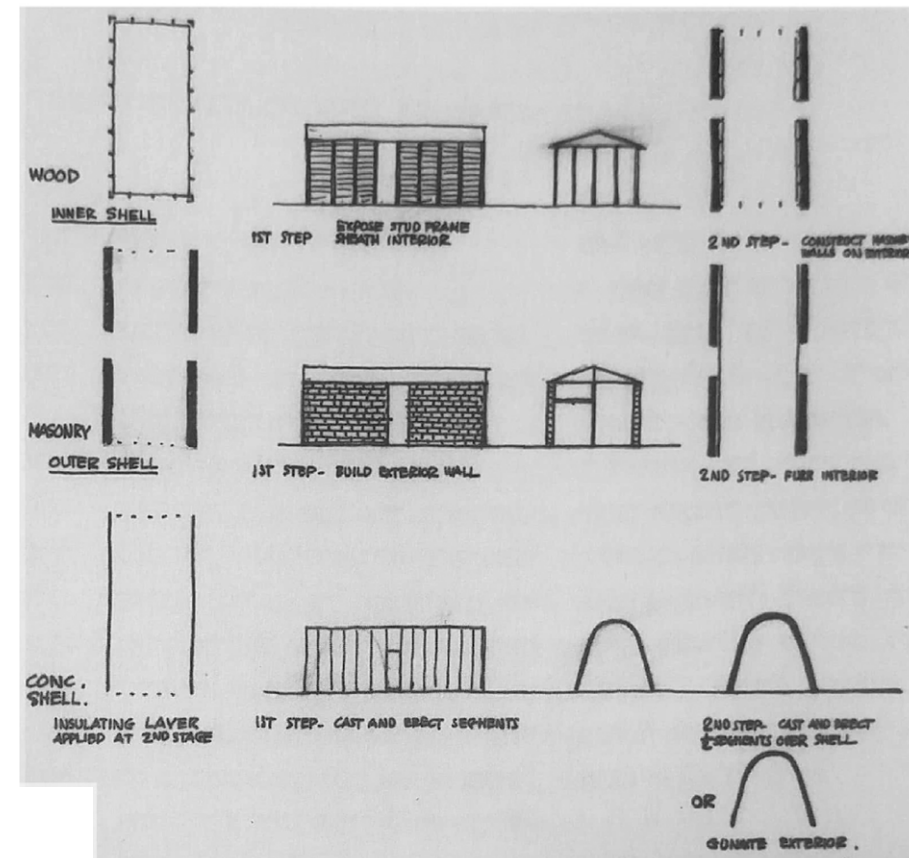
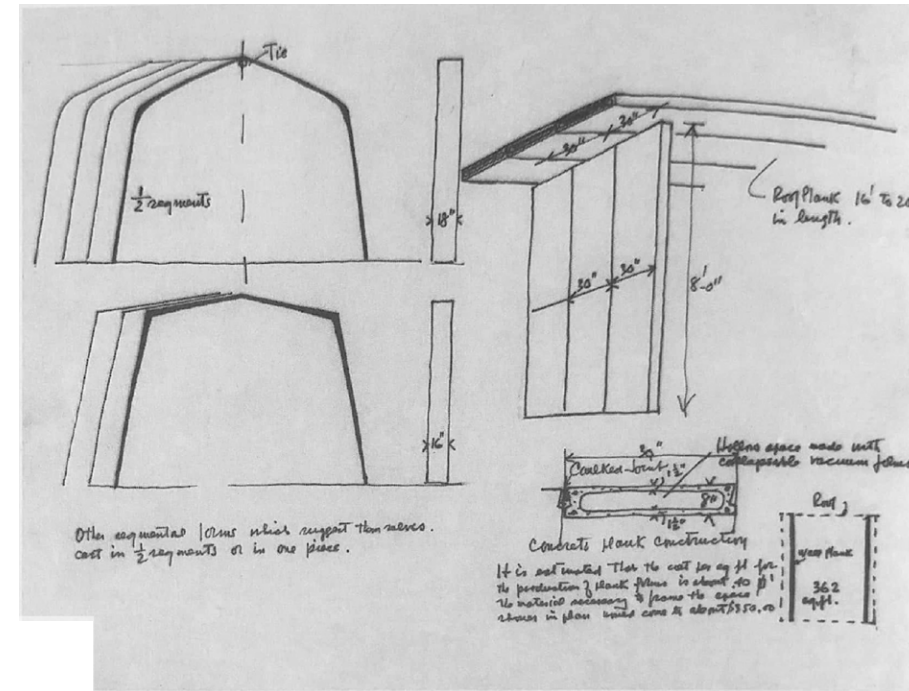


Figure 77-78: Selective drafts from Kahn's final report. In: Z. Efrat, M. Yagid-Haimovich, *The Israeli project- construction and architecture 1948 -1973* Vol.2, Tel Aviv Museum of art Press, Tel Aviv, 2004. p 540-542

ulate a housing policy in Israel' (gathered by Arc. Ya'acov Ben Sira¹¹⁹)- the professional working group was named 'the study team.' During that conference, Arc. Ben Sira asked his audience to send a representative group to visit Israel to work out a concrete scheme in a large scale erection of low-cost housing. Khan volunteered on the spot. The opportunity to visit Israel during the first year of statehood must have been professionally seductive¹²⁰. Israel's housing crisis offered an opportunity for an architect to alleviate human suffering and provide support for the emergence of a new utopian society. Kahn revealed that he was still guided by the same unrelenting passions of the early modernists and by the methods of investigation that had informed his previous work: faith in technology and strident idealism. Kahn's report revealed an active investigation that was comprehensive, creative, and even audacious. He intensively researched the efficient technologies that could be adapted to Israel's housing needs and the possibility to manufacture the most prefabricated part in Israel. His preliminary report coaxed Israel to look for ways in which housing, planning, and industrial needs could be intertwined to achieve social betterment.

Arriving in Israel at the end of April 1949. Khan spent almost a month with 'the study team' in the newly independent country. Moreover, Kahn and his 'study team' colleague I. E. Millstone¹²¹ were exposed to the existing conditions and were strong advocates of spending slightly more money to provide the beginnings of permanent housing. Kahn believed that most of his approach was not only practical and cost-effective but profoundly humane. Having been an immigrant himself in America, Kahn intuitively grasped the importance of privacy, stability, and roots for the immigrants in Israel¹²².

From his final report: *Israel is facing a state of emergency before it has been able to formulate a long-term plan. That is why I intend to enlist the services of experts from the departments of Harvard, M.I.T, Columbia, and Yale, who will operate as a joint funding body based at the Hebrew University of Jerusalem. My colleague Robert (Bob) Mitchell from Colombia University and Mr. Solov also believe that Israel is best suited to formulating long-term practical plans, given its limited space and well-defined characteristics. The universities will also benefit from dealing with a problem that is of interest to the world, and such positive propaganda may benefit their constant need to raise capital funds to finance their research.*

Regarding the transition camps: The camps, despite being completely uninhabited, can not be liquidated immediately [...] Therefore, it is necessary to improve the conditions in the camps first. If there is no alternative but to build any temporary houses, they should be formed only in the area of the existing camps. Moreover, we recommend:

¹¹⁹ Arc. Ya'acov Ben Sira (1899-1994) – was an engineer, urban planner and head of the planning department of the city of Tel Aviv.

¹²⁰ Kahn's involvement in mass-produced American housing had concluded at the end of World War II. By 1949, his career shifted from constructing projects by public financing to private commissions projects for secluded audience.

¹²¹ Isadore E. Millstone (1907- 2009) - Engineer and the founder of the Millstone construction company in St. Louis in 1927.

¹²² G. Solom, *Louis I. Kahn's Trenton Jewish community center*, Princeton Architectural Press, New York, 2000. p.13-22



Figure 79-80: The construction of the Blockon type in Dimona. Unknown photographer, Unknown year. In: The Tuvyah archive of the Ben Gurion university library, Photo No. 706.81.F2.99.D1, 706.81.F2.99.D4

- To completely abolish the use of tents and replace them with temporary shades.
- To replace the existing sanitary facilities with new sanitary facilities (showers and toiletry) equipped with light partitions.
- To impose a strict discipline regarding personal hygiene and general maintenance of sanitary conditions. Flies and worms must be eliminated
- To store most of the personal belongings of the refugees in separate storage units in order to release the available space in the camps for residential purposes.
- To avoid as much as possible the construction of new camps in sites designated for the development of permanent housing. However, new camps will be built - only if they are essential - in proximity to employment and recreation centers.
- To teach the immigrants all that is necessary to know about the local living habitat in Israel as well as the possibilities of employment in the various areas of the country designated for permanent settlements.
- The establishment of infrastructure for water and sewage services is a necessary condition for any development site
- Gradually eliminate the transition camps.¹²³

3.3.4.4 The permanent construction:

During the late '40s and the early '50s, the Israeli government has acknowledged the urgent necessity in permanent structures over the transition camps. Although the liquidation process of the transit camps spread across the '50s and the early 60's, the government understood that the two different methods must work at the same time - side by side.

The construction process was done gradually, as the government planners realized that the immigration waves hadn't stopped entirely from one hand, and the local population needs an extreme improvement in their residential conditions on the other hand. Accordingly, the permanent housing units were built in 2 different types: the 'hard construction' type - construction in prefabricated hollow blocks of concrete or usage of local stone and the 'light construction' type - usually made from wooden panels (semi-permanent residency).

Nevertheless, this project, as well as the previous solutions, was still 'infected' from the urgency symptom, specifically in the unit's limited size and the basic household properties.

The first dominant 'hard construction' type was the 'Blockon.' The fundamental attributes of the typical Blockon were: low structure (one or two-story-high), limited residential units (varying between 22-

¹²³ L. Kahn, *Draft- a solution to Israel's housing crisis*, Louis Kahn archive, Yale University, New Haven Connecticut, 1948-49. p.2-5; Z. Efrat, M. Yagid -Haimovich, op.cit., p. 539-542.

36 m² for each), and basic sanitarian appliances (a dry toilet¹²⁴, a shower bowl, and a kitchen bowl). To understand the critical mechanism of the dwelling unit, Prof. Zaslevsky¹²⁵ has conducted a large scale survey on the primary attributes of the first permanent constructions. With regards to this extensive scope, this chapter will mainly focus on the constructional –architectural aspects of the ‘Blockon’:

- The Foundation: In light drilling soil - a concrete beams of 20 cm (height and width). In difficult drilling soil cases - an indicate foundation in the shape of ‘foundation pillars’ were placed to prevent the floor from being tamped.
- The Walls: the majority of the residential perimeter construction in the state center was conducted using hollow prefabricated blocks with a concrete ‘belt’ in the joint areas to the roof or the different openings. The walls were usually 18-20 cm thick, depending on the concrete patterns. In the Negev area, an additional method was conducted – the local stone replaced the hollow blokes. The typical wall was 30 cm thick with a simple wooden frame for the inner part and a rustic uniform pattern of the local stone outside. The sutures between the local stones were done by a typical local mixture called ‘Kohla’a.’ The wall part is referring only to the perimeter part – the residential unites were build as a single space. Later, additional partition walls were added.
- The Roof: in most cases, the roof was constructed from wood (as a basic frame), then roof tiles from asbestos or cement. Later, a Celotex isolation ceiling was added. In several cases of one-story houses, the flat ceiling was done by cement and asphalt as an isolation layer.
- The Plaster: for both types, the earlier version of the interior plaster was uniformed plaster cover made by a simple paintbrush. In the advanced version, the interior plaster included 8 mm of thick plaster. The exterior layer of the first type (the prefabricated block system) was done by two different coting steps (reinforced by pure cement) and was 15-19 thick.
- The Carpentry: extremely basic, two wooden doors (one for the entrance and one for the dry toilet), wooden frames for the windows, and a basic eating table.
- The Sanitary equipment: kitchen bowl, washbowl / basic shower arrangements. In one-story houses, the dry toiletry was build in the outer courtyard and two-story houses, the toilet was placed internally in each floor.
- The Floor: a concrete floor. In particular cases, the floor was paved with terrazzo tiles. The purpose of the Housing department in the implementation of the housing projects was to ensure that the budget allocated to each unit would be constructed in a stable manner, which could serve as a basis for expansion and improvement in the future, whether by the building authorities or by the resident himself. For this reason, it was necessary to reduce or dispense the internal

¹²⁴ Dry toilet – a non-flush toilet connected to a pit.

¹²⁵ Prof. David Zaslevsky served as the head of the development department under the ministry of labor between the years 1949-1953.

household appliances entirely while other construction parts of the structure could be modified in the nearest future.¹²⁶

Unlike different dwelling units, Blockon was not a product of 'architecture without architects.' Oppositely, the best architects of that period (including Eidelson, Eitan, Bennett, Bar Brutzkus, Gitai- Weinraub, Glikson, Zoltov, Zarhi, Yaski, Yashar, Mansfeld, Perlstein, Kisilov, Clarway, Reznick, Rechter, and Sharon) were involved in the development of basic building details and future improvements. The morphological limitations of the 'Blockon,' its uncompromising monolith, its indifference to an existing context, had 'flattened' the traditional volumetric compositions and focused it on two main themes: the graphical design of the façade (the possibility to the applicant the model as a single element or as part of an endless cluster component) and the simple adjustable volume inside the future 'neighborhood unit.'¹²⁷

While this was the case, it is important to stress that the architectural community in Israel maintain a critical approach towards its final products. Artur Glikson had best describe the common conception: *After five years of the housing project, the general picture is revealed to us today: a very great success in terms of numbers. There is no other example in the world for such intensive housing activity. However, in terms of the quality of the housing projects, we must note that we have failed miserably and can not hide this failure, especially in immigrant housing. We did not build perfect apartments but only simple apartment blocks. It should be clear to us that the 25- to 30m² housing units are not a good foundation for the establishment of cities in the full sense of the word.*¹²⁸

3.3.4.5 The 'growing patio house.'

After 1952 the rate of immigrants has dropped from 200,000 immigrants per year to 35,000 immigrants a year. The decline shift in the immigration number has gained the government planners the possibility to start liquidating the transition camps and start a large scale construction of permanent housing units. Customarily, the original intentions for the permanent unit tend towered addressing the physical aspect of living space (as a shelter) rather than a space destined for the human needs and desires. The dilemma between the construction of a larger number of smaller units and the establishment of a smaller number of quality housing units was still considered a controversial topic among the different departments. Be that as it may, 'the ongoing product' continues to be too small for the residents' needs.

¹²⁶ D. Zaslevsky, *Settling newcomers in Israel – construction, planning and development*, Am Oved Press, Tel Aviv, 1954. p.27-30.

¹²⁷ Z.Efrat, M. Yagid –Haimovich, op.cit., p.172.

¹²⁸ A. Glikson, *The Journal of the Association of engineers and architects in Israel Vol.5*, Moshe Shoham publishing house Ltd, Tel Aviv, 1954. p.13-17

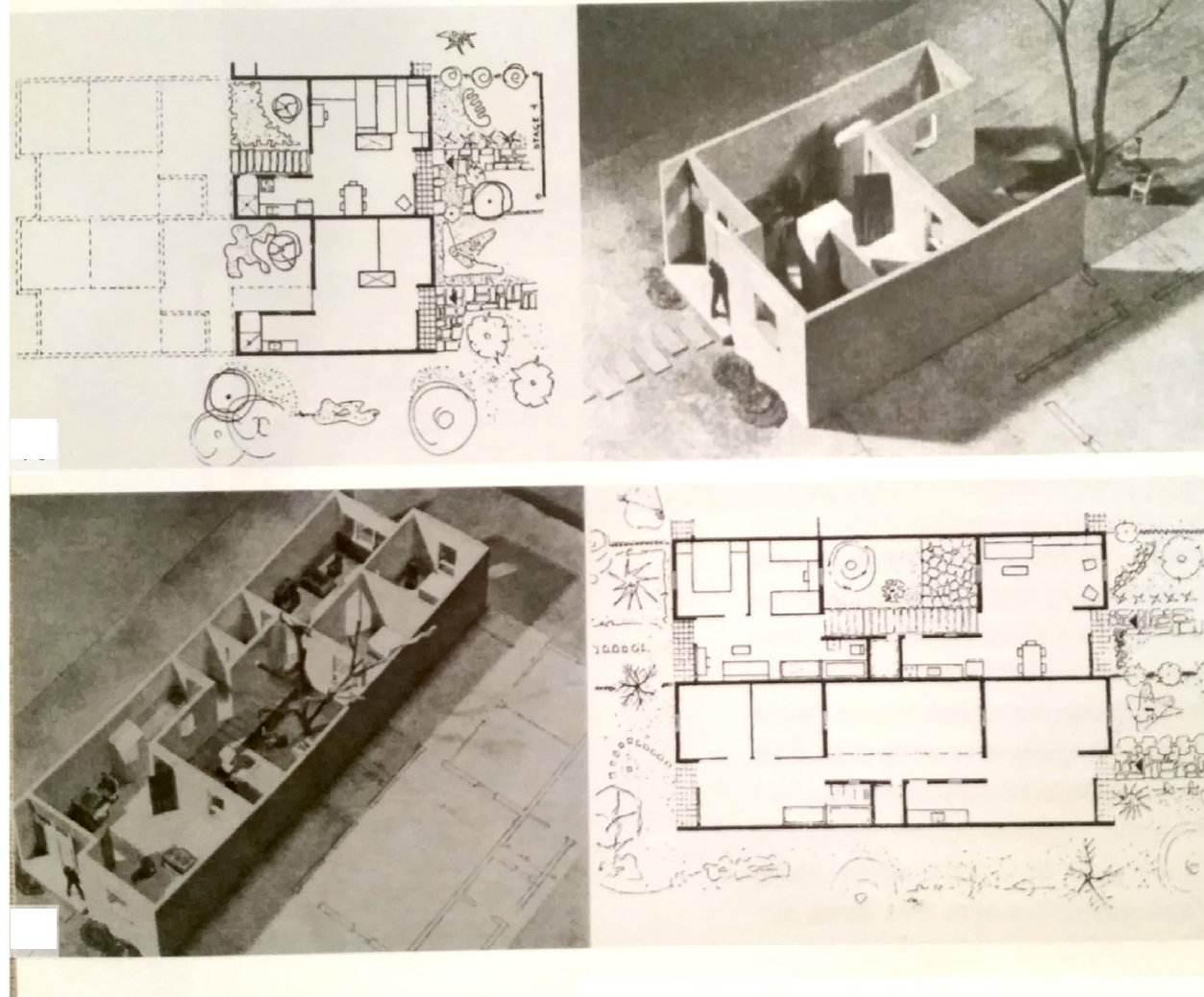


Figure 81-82: The Patio House model . In: H. Sheder, *The bricks of the public housing- six decades of Israeli urban construction in public intention*, The Ministry of Housing and Construction, Tel Aviv, 2014. p. 43-45

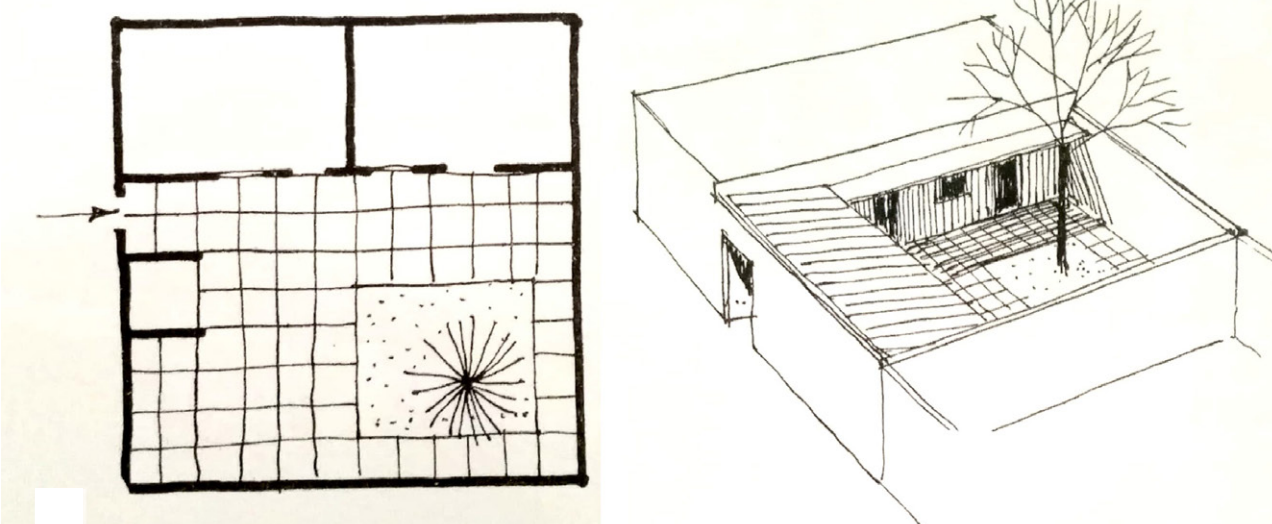


Figure 83-84: The traditional form of the Patio House. In: H. Sheder, *The bricks of the public housing- six decades of Israeli urban construction in public intention*, The Ministry of Housing and Construction, Tel Aviv, 2014. p. 43-45

At that point, the planners sought out for an alternative solution that will combine the idea of an adjustable home for the tenant's requirements - the possibility to expend the total residential perimeter for each unit as well as the prior consideration such as the low-cost expenses and the rapid constructing duration. In Addition, the new idea must include a symbiotic relationship between the interior and the exterior as well as urban anticipated implantation regarding the visual effect (the principal and secondary façade). Furthermore, from a cultural point of view, the common house is perceived as a consumable product; a generic house that is not suitable for its residents has been replaced to an advanced model - more suited to tenants' needs. The house does not change - the tenants are changing. Conversely, the planner intended to create a built-to-last flexible housing unit that will serve at all times and purposes.

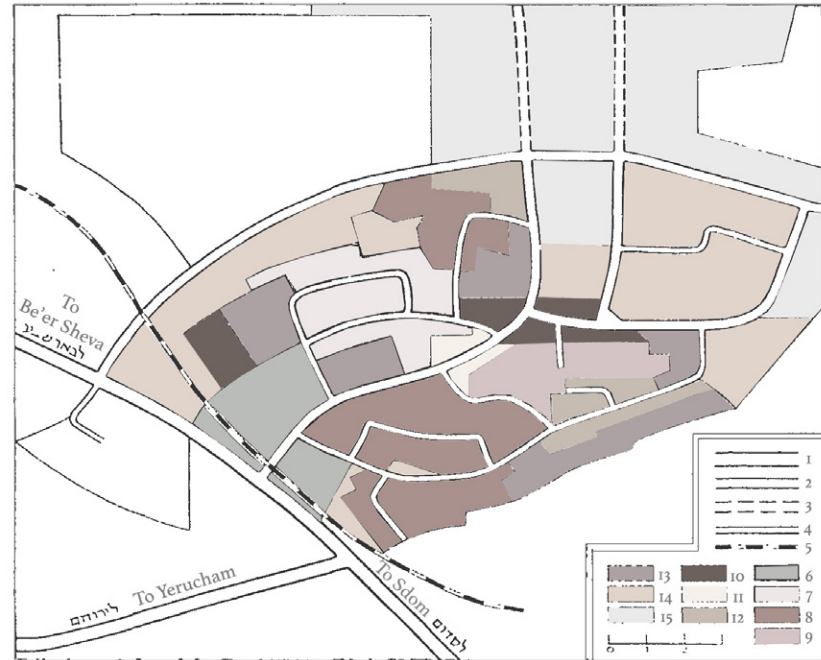
The 'growing patio house' was developed in the Planning Department of the Housing Division, headed by Artur Glikson, in 1956. From 1956 through 1959, more than 40,000 patio houses were built in urban neighborhoods throughout the country.

A patio house is a single-story unit for an individual family – a 'nucleuse house.' The dimensions assigned to each unit were: width of 5.6m and the total area of 32m² (in its primary form). Additionally, the planners placed a small garden in front of the unit and a large courtyard¹²⁹ in the back to exercise Sharon's doctrine¹³⁰. Every single nucleuse would be placed in a cluster of 4-6 units organized in one column, so each unit will be adjacent to each other (see figure 8). The entrance to each unit begun by crossing the small entrance garden (total area of 25m²). Then, an elongated internal space was 'collecting' all the residential functions in it - on one side the public area (living room, dining room and in the back part, the kitchen) On the other side, the planners placed two minimal-size bedrooms that faced the front and back gardens. The rear door that was aligned with the entrance door served as an exit door for the personal backyard as well as the external communal sanitarium facilities.

As was mentioned before, the key elements of the patio house had the distinct advantage of changing the house perimeter according to the tenants' needs, or in other words, it could grow from 32m² to 64m² – by creating a duplicate mirroring technique (figure 81-82). The new distribution had included: the original part (for public activities such as living room- dining area and the kitchen) and the additional part (for privet activates such as two separate bedrooms, internal bathroom, and storage space). Between the two mirrored structures, the planners had placed a 16m² area of an inner patio garden. The location of

¹²⁹ The large backyard garden served, according to the planners, to create un individual vegetable/fruit garden in order to compensate for the severe shortage in the food supplies sector. In: H. Sheder, op.cit, p. 44

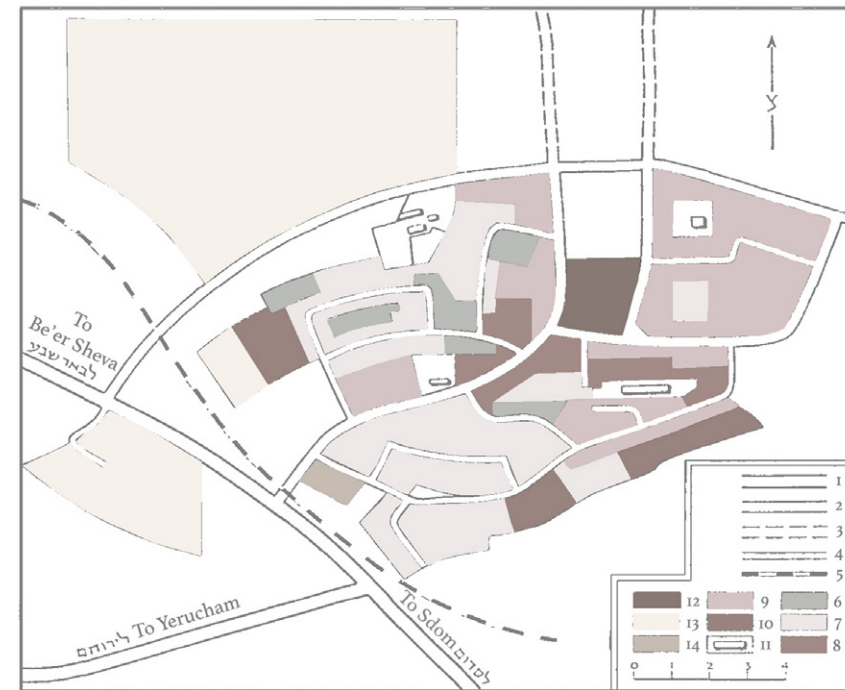
¹³⁰ For additional details regarding Sharon's plan – see chapter 1.2



Urban development map -1962

1. highway; 2. main street; 3. paved street; 4. secondary passage; 5. railway traces; 6. developed area in 1955; 7. developed area in 1955-56; 8. developed area in 1956-57; 9. developed area in 1957-58; 10. developed area in 1958-59; 11. developed area in 1959-60; 12. developed area in 1960-61; 13. developed area in 1961-62; 14. developed area in 1962-63; 15. area designated for future development.

Figure 85: The urban development of Dimona 1962. In: D.H.K Amiran, A.Shachar, *The geographical development of Dimona* in "Researches in Israel's geography" Triennially academic journal of the Hebrew University Vol.4, The Israel exploration society centennial Press, Jerusalem, 1964. p. 71



Urban functions map - 1962

1. highway; 2. main street; 3. paved street; 4. secondary passage; 5. railway traces; 6. patio residency; 7. Blockon residence; 8. two storey houses; 9. three storey or more; 10. azbestonim shead; 11. schools; 12. town's public and commercial center; 13. industrial zone; 14. workshops zone.

Figure 86: The urban functions map 1962. In: D.H.K Amiran, A.Shachar, *The geographical development of Dimona* in "Researches in Israel's geography" Triennially academic journal of the Hebrew University Vol.4, The Israel exploration society centennial Press, Jerusalem, 1964. p. 72

the patio garden was not accidental¹³¹. The internal open space had served for natural light and fresh air providers without exposing it to the desert's sandy storms. It is important to stress that even after the expending conversion, the planners left additional space for the continued existence of the backyard as a growing garden. Moreover, a few 'complete patio houses' examples were built on the margins of each urban settlement in order to indicate the clear vision of the planners to the new tenants.

In terms of the construction materials, the outer walls of the patio house were assembled from prefabricated concrete slabs. On the internal part of the wall, a metallic mash was placed in order to stabilize the fragile plaster layer. In the interior partitions of the wall, an intentional gap was left between the slabs to create a thermal isolation effect. Additionally, all of the internal partitions were assembled out of simple gypsum boards.

3.3.4.6 Initial urban planning

The rural approach of the planners much influenced the initial urban planning program. The 'new town' doctrine included general guidelines regarding the new 'neighborhood units' and their urban contents¹³². The head of the urban master plan of Israel Arch. Sharon explains it: *The frame structure of a new town is based on the distribution of the different 'neighborhood units.'* Each of the units will perform as an individual component by providing the most efficient services to its resident [...] *The urban commercial center should be placed right in the middle of the neighborhood unit – in its heart, the small residential units would each be separated by greenery belts [...] and finally, the urban road system will support the basic structure by surrounding the complete unit instead of crossing it.*¹³³

According to Sharon doctrine, to reach a 'functioning Urban atmosphere,' the density factor must be taken into consideration. Accordingly, a convenient distance between the different units must be kept as well as from the community center (schools, kindergartens) and the residential zone. The final outcome should increasingly stimulate the conjunction frequency among the local population. Additionally, the importance of diversity in the residential houses models was highlighted as well. Sharon has mentioned

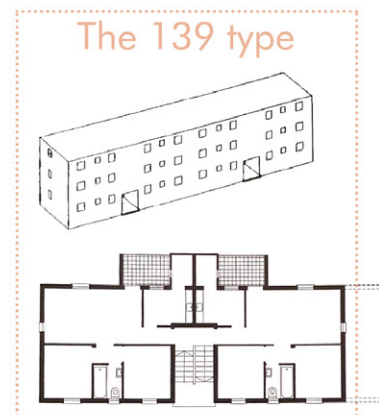
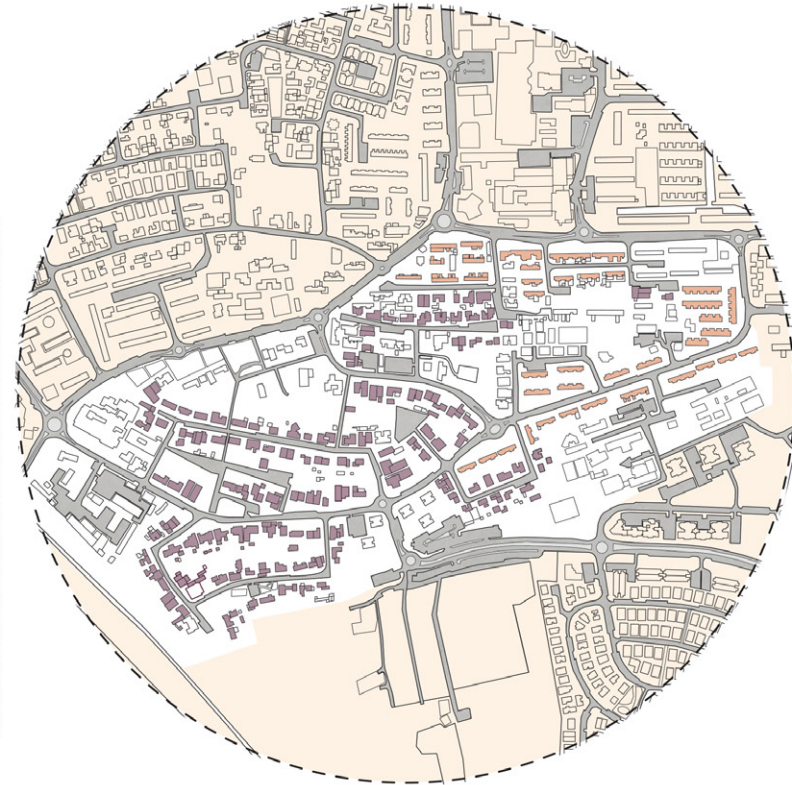
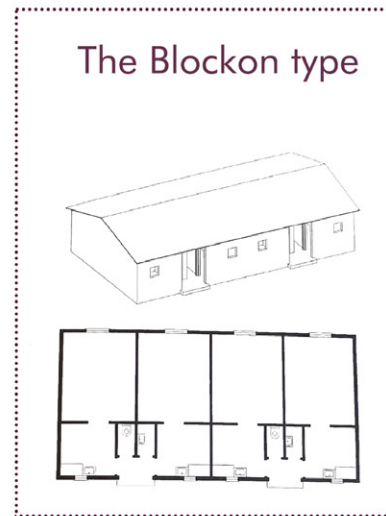
¹³¹ The original patio model has developed in the Mediterranean area, in the Arabian Peninsula and the Far East. In those warm climate zones, the building's cohesion against the cold climate was not necessary, so the patio room was a kind of large, roofless central room, which coordinated the family activities starting with cooking, eating and even hosting.

¹³² For more details concerning the new town movement – see chapter 2.2

¹³³ A. Sharon, op.cit., p.8



The Ha Arava neighborhood



Be'er Sheva as an excellent example¹³⁴ of the current argument by combining different typological architectural styles into a 'secure architectural space' from the wilderness of the desert's climate effect. Putting aside the idealism arguments, the true challenge in constructing an urban environment was the 'temporary perception' among the local council and the newcomer's community. This particular argument was reflected in the town's non-functioning image, in the unpaved streets, in the town's neglected public gardens. Sharon best described the general perception - *As long as the new residents feel the impermanence of their economic situation, they will continue to treat their houses, their neighborhoods, and their towns as a temporary place.*

During the years 1956-1958, the first two neighborhoods in Dimona - the western 'Shivat Ha Minim' neighborhood and the southern 'Arava' neighborhood were established. Their precise location was in great proximity to the main road leading to Be'er Sheva in the north and to the Sedom plants in the East.

The 'Shivat Ha Minim' neighborhood spread over 0.48 km² and began as Dimona's transition camp. As was mentioned before, a year from the establishment of the transition camp, the liquidation process has begun in full strength. Consequently, the camp was nearly demolished, while the growing patio house models gained dominancy in the neighborhood landscape. In Addition, the camp's remains together with primary two-story 'Blockon' models were still evident in the neighborhood margins.

The southern 'Arava' neighborhood was spread over 0.42 km² and served as a primary site for the permanent 'Blockon' model (single-story stone houses) during the liquidation process of the transition camp. The rest of the neighborhood area was left intentionally empty for future developments that took place during 1959-1961 of permanent 2-3 story houses (see figure 9).

Additionally, ten public and commercial facilities were placed in both neighborhood centers to elevate the residence's existing conditions and obtain the possibility for functional urban texture.¹³⁵

3.4 The experimental 1960s

Toward the end of the '50s and the beginning of the '60s, the demand for a comprehensive strategy for the residential and industrial sectors arose. This demand was a result of the direct protests against the

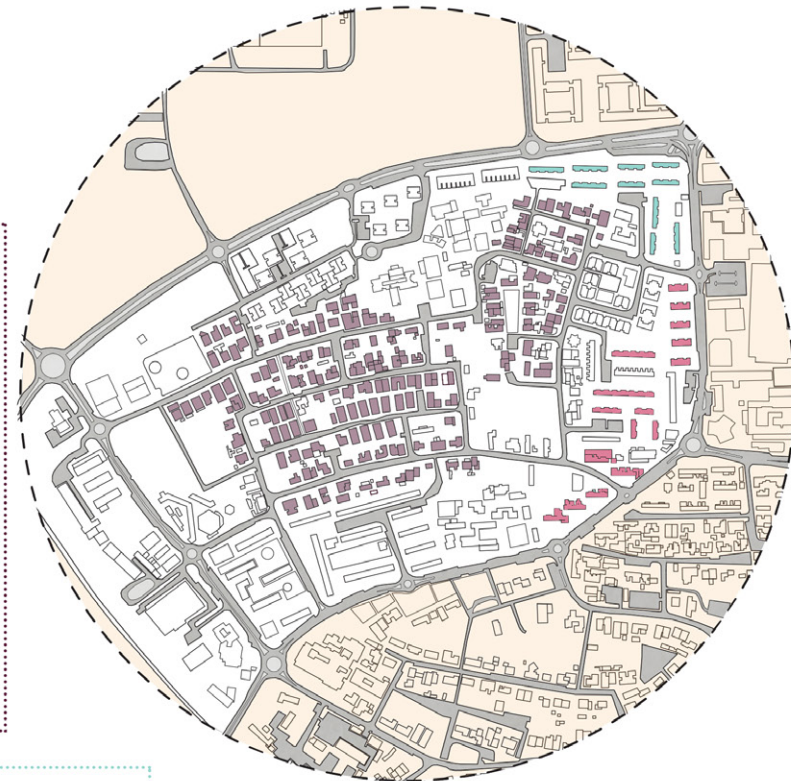
¹³⁴ Be'er Sheva was built and renovated at different times and under different jurisdiction authorities. therefore, it is only natural that the urban texture and different types of construction dominate in the old city's center. Initially, Be'er Sheva received its first 'urban order from the Ottoman monarchy (1516-1917). During this time, the buildings were arranged in a square shape with internal courtyards so that the streets were arranged in a perfect grid form. In 1917 the British mandate period has begun. In the first half of the period, the British retained the building tradition but soon began to re-characterize the new residential neighborhoods which included isolated low-rise buildings and curving roads that surrounded the new neighborhoods. In: Y.Gardus, *The fundamentals principals of urban planning for Be'er Sheva*, in M. Naor, *The Negev settlements 1900-1960 sources, summaries and selected events*, Yad Yitzhak Ben Zvi Press, Jerusalem,1985. p. 174.

¹³⁵ D. Raich, op.cit., p.110-111; D.H.K Amiran, A. Shachar (1964), op.cit., p.70-75

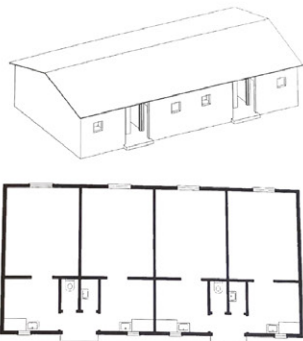
Figure 87: Ha Arava neighborhood



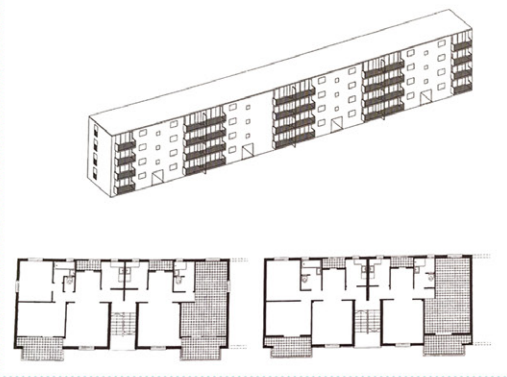
The Shivat Ha Minim neighborhood



The Blockon type



The 217 type



139 type

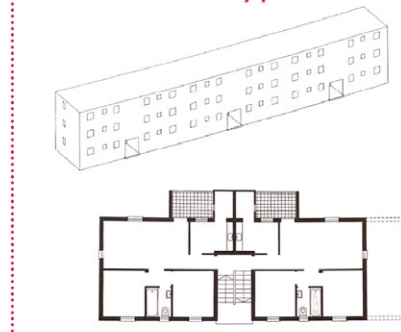


Figure 88: Shivat Ha Minim neighborhood

lack of urban planning and the absence of an organized employment framework. In response to this protest, a 'hardcore' of experimental architecture was developed. The architects that were involved sought to fight the 'simple geometry' through a series of attempts to embody the paradoxical trends of the time. On one hand, the return to the primary organic attributes of the region (sensitivity to natural topography, to the climate and the vernacular local architectural language), and on the other, the unavoidable urgency of massive industrial sector which would serve the population over the long term. This chapter tracks the dominant trends of the 1960s in both the public and industrial sectors.

3.4.1 Experimental industry

In the mid-1950s, the Israeli industry was meager and diffused. Most factories were relatively small and dealt primarily with craftsmanship and raw mineral products. Production methods, technologies, and equipment were simple, and out of date. Production was not of high quality and had difficulty competing in markets abroad. Therefore, it was almost totally directed towards the local market.

Geographically, industrial facilities were concentrated in the Haifa Bay and coastal regions, particularly in the Dan metropolitan area¹³⁶ of central Israel. Over the course of the next decade, a revolution occurred which altered the face of Israel's industry from one end to the other, as far as the number of manufacturing plants, the scope of employment, productivity and outputs, organizational structure, diversity quality of products, and geographic spread. The industrial sector's accelerated growth during this period occurred with a good deal of support from the Ministry of Commerce and Trade, which strongly promoted certain industrial areas, set the location of factories. Consolidated development programs and capital recruitment incentivized entrepreneurs and encouraged local productivity by placing heavy levies on imported goods and offering 'generous assistance packages' to local exporters. Simultaneously, the Ministry ensured appropriate infrastructures for encouraging industry in regions under development. Pinchas Sapir, Minister of Commerce and Trade at the time, led this fast-tracked industrial drive.

Eliezer Brutzkos¹³⁷, appointed to oversee the national planning project, pointed out certain fundamental starting points when locating new urban patterns. He claimed that when establishing a new urban settlement, planners must identify currently settled sites (or sites with tangible plans for settlement) that would serve as the backbone infrastructure not only for the new center itself but also for the entire region. The result of this strategy, according to Brutzkos, would encourage new neutral industries to settle in the area. However, in the Negev region, most of the previous factors were inadequate. Establishing centers in the isolated Negev regions would, therefore, require two actions: The first would involve staying close to sources of employment (in Dimona's case –the quarries) or relying indirectly on sources of employment

¹³⁶ Dan metropolitan area – a conurbation in the coastal plain of Israel, containing 23 settlements (such as Tel Aviv- Jaffa, Herzliya, Ashdod, etc.)

¹³⁷ Eliezer Leonid Brutzkos (1907-1987) was an Israeli – Russian town planner and engineer.



Figure 89: The 139 type in Dimona. Unknown photographer, Unknown year. In: The Tuvyahu archive of the Ben Gurion university library, Photo No. 706.81.F2.CD.A3

(such as transportation to and from the quarries). The second would be for the government to allocate budgets suited to artificially creating centers based on neutral industries. These government decisions would not be based on economic considerations but political or rather 'population dispersal' considerations. Indeed, between 1955-1965 Sapir's main target was to actively promote these two methods by Applying them on the new settlements. later, due to his serious investment in the subject, he coined the term 'economic absorption'¹³⁸ in order to describe the vital necessity in large scale employment solutions¹³⁹.

In the decade between 1955 to 1965, Israel's industries grew at a rapid rate. Outputs tripled, and the number of employees grew by 80% from 134,000 to 234,000. Simultaneously, and as a result of massive investment in industry, Israel's capital reserves grew by 150%. During this period, the most important result that occurred was the geographic spread away from the state's center to the peripheries and development towns in Israel's north and south. Accelerated industrialization served as a central tool in implementing the government's policy of population distribution by creating an economic base and solid employment options in the development towns¹⁴⁰.

From the mid-1950s and to the end of that decade, development towns still relied on sources of employment outside their municipal regions and continued to suffer from high unemployment. The turning point in the employment sector came during the first half of the 60's following initiatives such as 'The Law Incentivizing Capital Investment'¹⁴¹ as well as prioritized development areas act.¹⁴²

One branch of production which was more strongly identified than others as being viable in development towns was the textile industry. Multiple reasons led to choosing this industry, as we can see from Sapir's plan: First, textile was long since viewed as a typically Jewish field of trade. This meant that long before any industrial 'revolution' occurred, the textile industry was already operating in Israel, particularly

¹³⁸ 'Economic absorption' term is referring to employing the new immigrants in order to create artificial integration among the local community.

¹³⁹ D. Raich, op. cit., p.114-115

¹⁴⁰ Y. Grinberg, *Pinchas Sapir and the industrialization on the development town* in: Z. Ztameret, A. Halamish, E. Meir-Glizenshtein, *The development towns*, Yad Yitzhak Ben Zvi press, 2009. p.136-140

¹⁴¹ The Law for Incentivizing Capital Investment (1960) Is a law designed to encourage investment in the Israeli industry and especially the industry in the periphery. The main benefits of the law are: large grants for investors, subsidy and tax reduction on new enterprises that had established their facilities in the peripheral areas.

¹⁴² E. Efrat, *Development Towns in Israel past or future?*, Tel Aviv University, Achiasaf Publishing House Ltd, Tel Aviv, 1987. p.129



Figure 90: The cornerstone ceremony for the "Kittan Dimona" factory (1958). In: M. Naor, *The Negev settlements 1900-1960: sources, summaries and selected events*, Yad Yezhak Ben Zvi press, Jerusalem, 1985. p.189



Figure 91: The Sivei Dimona factory. Unknown photographer, Unknown year. In: The Central Zionist Archives website

enterprises as 'Atta,'¹⁴³ 'Lodzia,'¹⁴⁴ and 'Argaman.'¹⁴⁵ Second, these industries relied on locally produced raw materials, which caused the production costs to be even lower. third, the estimated framework periods for the time needed to establish the factories and train the local workers were considerably brief compared to other types of heavy industrial sectors. Furthermore, these factories offered employment opportunities to a vast of different types of workers (untrained workforce, women, and mature adolescents)¹⁴⁶.

At the beginning of 1957, Sapir's industrial development plan designated Dimona as the future textile center. Furthermore, in June 1957, an official textile industrialist group lead by Sapir has arrived at Dimona to seek for potential sites for their future factories. Simultaneously, at the same visit, Sapir seized the opportunity to announce his revolutionary plan to turn Dimona into Israel's textile center¹⁴⁷. Indeed, In the presence of ministers and numerous guests gathered in Dimona, in February 1958, the cornerstone for the 'Kittan Dimona' textile plant was laid. It represented, more than anything else, the first step of the industrial revolution in the region and the strong sense of optimism among the local community.

It was initially decided that the factory would be built in several stages to help establish the industry in the region and evaluate its productivity. Later, the 'Kittan corporation would close its Tel Aviv factories and relocate its central activity to Dimona as a way of increasing industrial growth in the region. But in December 1958, the development process halted due to a dispute concerning the railway's tracks location. Several discussions later, it was decided that the factory's final location would be northwest of the town and at a convenient distance from the municipal center as well as from the train station. It was also decided that the Swiss 'Gherzi' company would plan the factory, and Israel's 'Solel Boneh' construction company would execute the work in conjunction with foreign infrastructure experts¹⁴⁸.

In January 1961, two textile factories began operations in Dimona: 'Kittan Dimona,' and 'Sivei Dimona.' The new plants primarily employed the local women and did not fulfill expectations regarding basic family income. In light of this situation, the southern region's employment bureau's manager claimed that these factories should not be perceived as having solved the employment problem; on the contrary,

¹⁴³ Atta Textile Company Ltd. was one of the first industrial textile enterprises in Israel. Founded in 1934 and closed in 1985.

¹⁴⁴ Lodzia Rotax Investment Ltd. was formerly a textile enterprise. Currently engaging in the management and development of rental properties. Founded in 1924. Closed the textile manufacturing sector in 2000.

¹⁴⁵ Argaman Textile Company Ltd. It started as a painting textile industry, then textile manufacturing and finally gas and energy investors. Founded in 1934. closed the textile manufacturing sector in 2004.

¹⁴⁶ E. Razin, *First attributes of the industrialization period in the Negev 1950-1960* in M. Naor , *The Negev settlements 1900-1960: sources, summaries and selected events*, Yad Yitzhak Ben Zvi Press, Jerusalem, 1985. p.190-191; D. Raich, op. cit., p.127

¹⁴⁷ D. Raich, op. cit., p.129; B. Toren, *The support to locate textile factories in development towns (1965-1958)*, The Hebrew University, Jerusalem, 1979. p.7-10

¹⁴⁸ H. Shemer, *Kittan Dimona- instead of respectful preservation – a generic commercial center*, Xnet online magazine, 1.10.2017.



Figure 92-93: The sakum Sdom factory . In: Municipality of Dimona, *Dimona – story of a city*, Ahdot press, Tel Aviv, 1973.p. 11-12



Figure 94: Manufacturing hall at Kittan Dimona. In: Municipality of Dimona, *Dimona – story of a city*, Ahdot press, Tel Aviv, 1973.p. 10

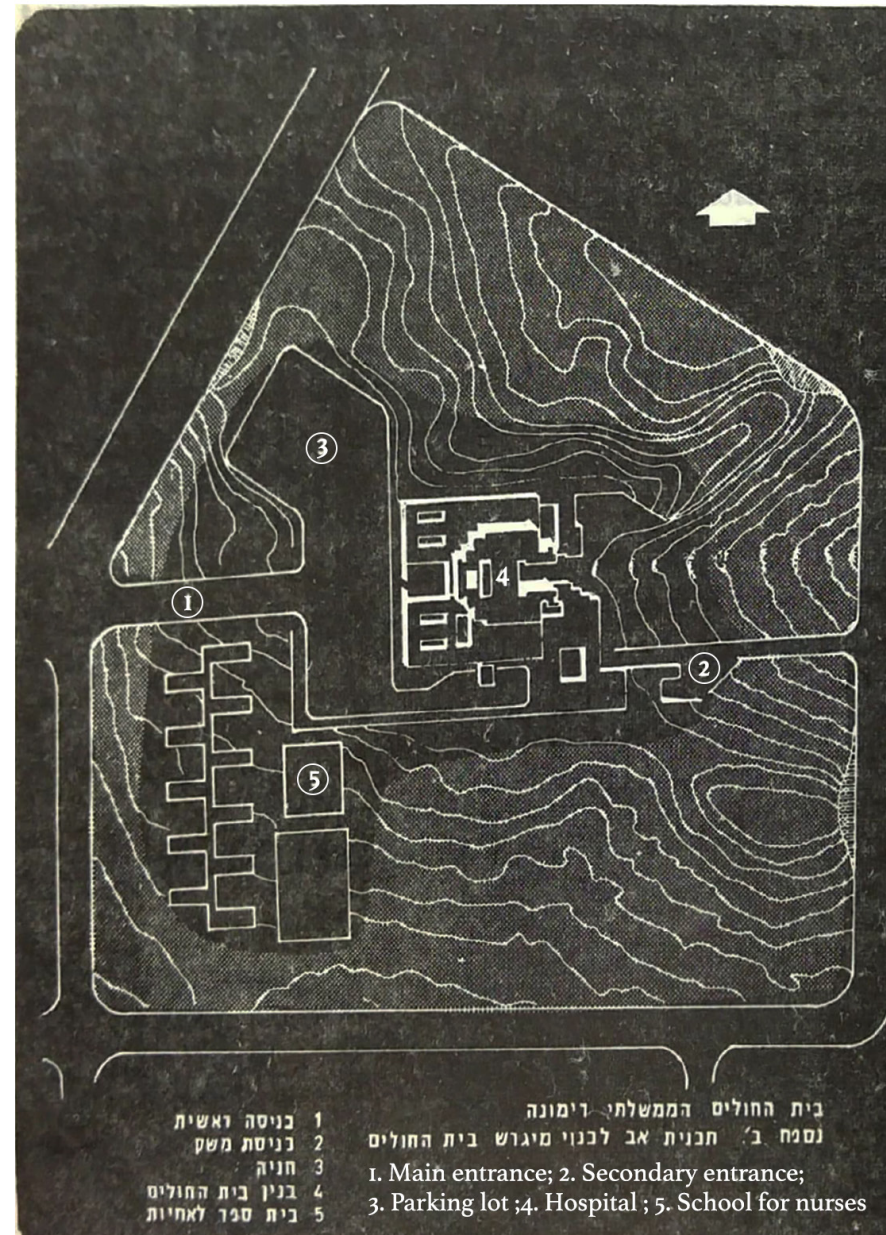


Figure 95: The governmental hospital masterplan of Dimona. In: Dimona local newspaper, unknown publisher, Dimona, 18.1.1967. p. 25

there was 'an urgent need to transfer additional factories toward Dimona's direction.'¹⁴⁹ Indeed, several attempts were made between 1960 - 1965 to promote industrial enterprises through private initiatives such as Tenuvah¹⁵⁰, Tempo¹⁵¹, and metalworking and vehicular mechanics enterprises. Most of these efforts were unsuccessful and did not produce significant results. When the impending unemployment crisis began to reach dire levels, a new idea surfaced as a means of providing meaningful employment solutions and simultaneously introducing a serious contribution to the town beyond mere employment - a regional hospital.

The idea behind the hospital was the result of a new healthcare regulation plan proposed by the Ministry of Health. The plan called for an initial 200 beds, a School of Nursing, and staff housing. Rechter & Zarchi¹⁵², the planners, initially declared that the hospital would serve Dimona as well as other settlements in the surrounding regions and the Bedouin community. In May 1966, studies began to evaluate a suitable location of approximately 100,000 m² in the municipal area of Dimona. Construction permits were released in 1967; in February 1968, land preparation adjustments were close to completion. At this point, questions arose regarding the justification for a regional hospital from the perspective of the area's health demands. In September 1970, the construction work was stopped, and the project was canceled.

The project's annulment forced Sapir to direct his efforts towards improving the existing industrial sector and expanding its number of workers. In late 1967, Dimona's employment situation began showing gradual improvement until, in August 1968, the total workforce rose to 6009, of which 91% worked in nearby factories, including Dead Sea Works, Oron Phosphates, the textile plants, and the gas-producing plant at Rosh Zohar. Of this group of industries, the textile plant employment rate was about half of the town's workforce, marking it an increasingly dominant trend that would later impact the town's urban development processes¹⁵³.

The Nuclear Reactor Center:

The issue involving the establishment of the nuclear research center was extremely hard to confirmed by the available materials. Nevertheless, the need to raise awareness as well as to expose another important element in the town's evolvement is equally important to any of the other presented materials.

¹⁴⁹ Official correspondence between Menachem Bader (the head of the development department) and the Negev development committee, protocol in ISA 6118/26, 23.12.1964.

¹⁵⁰ Tenuvah is an Israeli food processing cooperative specializing in Milk and dairy products.

¹⁵¹ 'Tempo Beer Industries' is Israel's largest brewer and the country's second-largest beverage company.

¹⁵² Yaakov Rechter (1924-2001) and Arc. Moshe Zarchi (1923-2015) established an architecture studio in 1952. Later, in 1975 the studio was closed.

¹⁵³ D. Raich, op.cit., p.144-147



Figure 96-97: photos for the initial establishment of the nuclear reactor, Unknown photographer, Unknown year. In: the Israel Architecture archive Instagram page

The initial decision to turn Dimona to a nuclear center was first mentioned in 1952 when a planning governmental cabinet had committed an exploratory tour in the area.

The main idea behind placing such a center was to encourage additional development, employment, and population growth in the new town.

Among the various primary steps, was a professional French expedition to the area in order to examine the region's attributes. The majority of the expedition members had relocated to Dimona and force the town's municipality to allocate additional residential units for their benefit.

By the time that the prime minister Ben Gurion had signed a secret agreement with the french regarding their involvement in the development of the nuclear center (1956), government officials began protesting against it. The idea that the center will include an active nuclear reactor and a plutonium separation institute had set off wide secret arguments regarding its ethical and immoral consequences.

Nevertheless, the operation for the establishment of the center continue, and the architects assigned to the projects were Dan Eitan and Yitzhak Yasher. The actual operation to construct the center had forced many workers and technicians to relocate to Dimona and Be'er Sheva while increasing the pressure on the municipalities to meet the rising demand for residential units and quality education systems. During its pick establishment, there were over 500 construction workers at the same time on site. In order to camouflage the massive construction, the government declared that the establishment was linked to the textile factories as a third branch of the Kittan factory ¹⁵⁴(the Kittan Dimona and Sivei Dimomna were established around the same years). The structure itself, according to recently released pictures) was constructed according to the brutalism principals where all structures obtain distinct characteristics of exposed concrete surfaces, the usage of the free-standing pillars at the ground floor, and the massive geometrical horizontal volumes. The usage of such elements is with great resemblance to La Corbusier's structure elements during that period (the site was never presented or discussed in any professional source and therefore it is only an observation).

The planners continue to develop the complex secretly up to 1960, when an American discovery revealed the buildings a true identity, forcing Ben Gurion to officially acknowledging it in the Knesset in 21.12.1960¹⁵⁵. The announcement, as well as the increasing occupation in the center's structural work, was perceived by the local tenant as a blissful act that acknowledges their existing and supplies a temporary financial boost to the local economy without realizing the true meaning of such a place. Only in recent years, studies suggested that the hazard shrouding the nuclear center is greater then it appears

¹⁵⁴ Y. Ben Mayer, *The middle East toward the nuclear age?* in Elazar's pages No.16, The institute for national security studies, Tel Aviv university press, Tel Aviv, 1993. p.51

¹⁵⁵ H. Zemer, *Ben Gurion is expected to deliver an announcement regarding the nuclear plant*, "Davar" daily newspaper, Tel Aviv, 21.12.1960

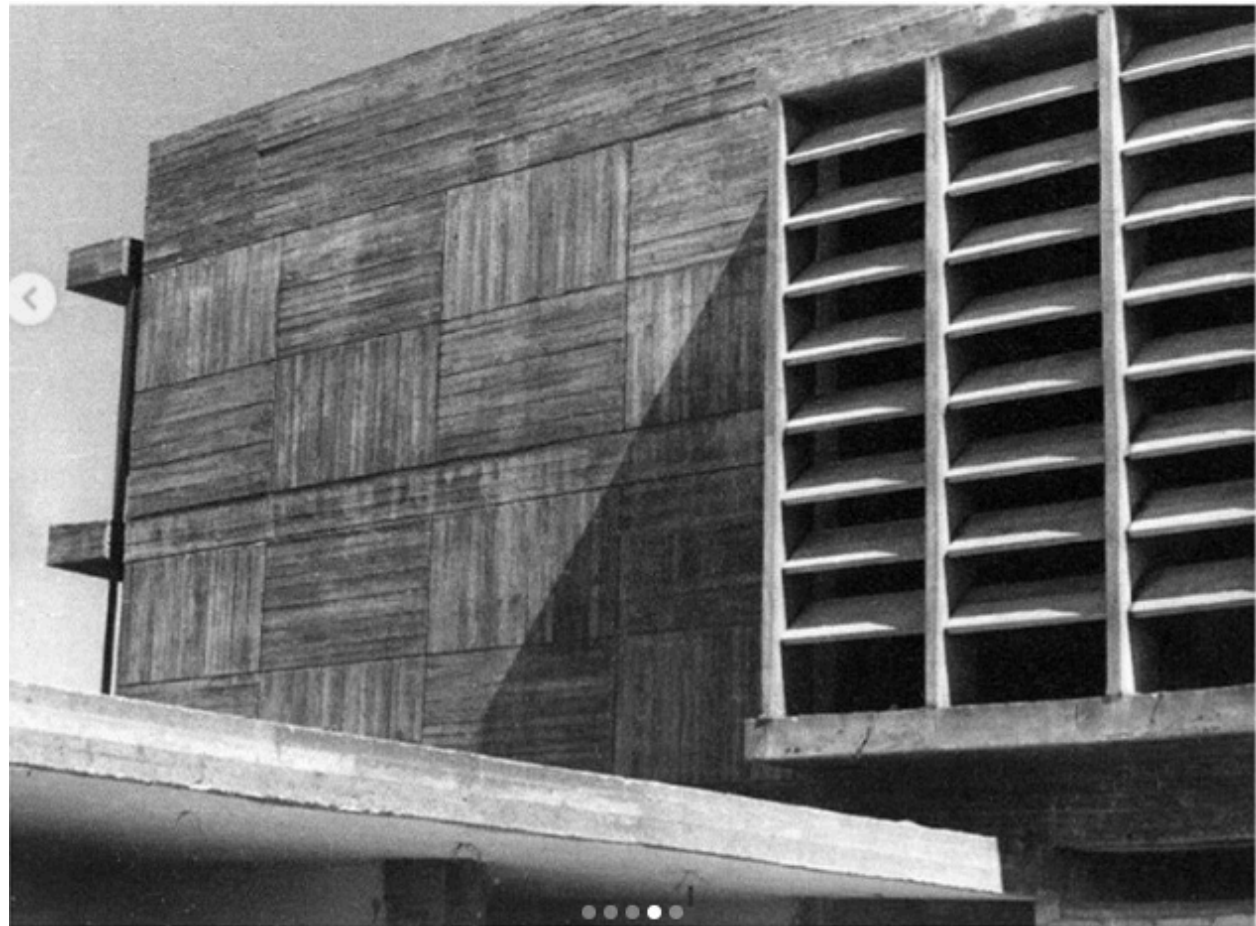
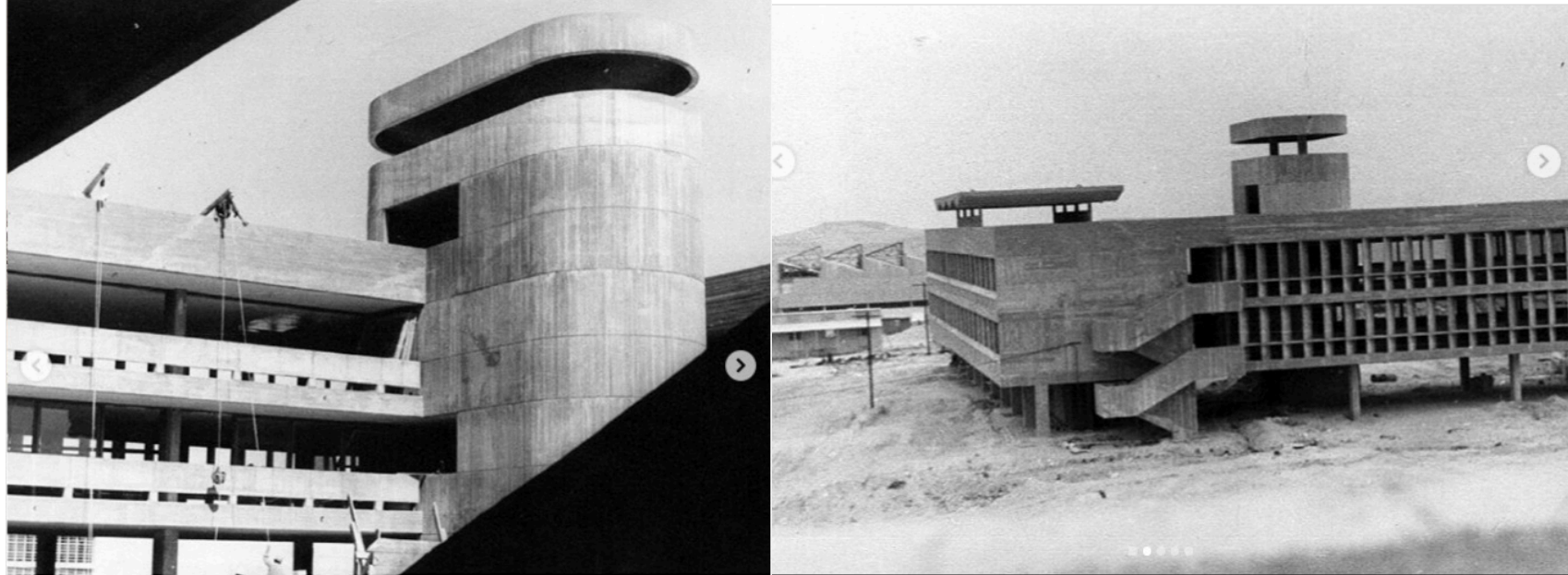


Figure 98-99: photos for the initial establishment of the nuclear reactor, Unknown photographer, Unknown year. In: the Israel Architecture archive Instagram page

and that additional preventive acts must be taken to guarantee the future health of Dimona's tenants.¹⁵⁶

3.4.2 Experimental housing

The housing subject was one of the most complex issues that Dimona had to face during its first decade. At first, the urban settlement began as a transition camp, which gradually proceeds to the early stone houses (the Blockon) and assembled neighborhoods. The construction pace was slow and couldn't keep up with the constant demand, causing severe deficiencies. Moreover, it was also claimed that there was no actual general urban planning strategy, and the construction neither suited the families' needs nor the region's climate. Furthermore, the first two neighborhoods, 'Shivat Ha-minim' and 'Ha Arava,' also lacked essential urban development, which contributed to the generally chaotic atmosphere. Addressing this harsh situation, two experimental projects were suggested. The general aim for those two projects was to challenge the classic existing urban order by breaking the alienating monotony and anonymity of the current neighborhoods in order to provide quality urban texture.

In 1962 the first urban master plan of Dimona was published. The first half of the plan included general data regarding Dimona's rate of development on a chronological and functional axis. For this purpose, the town was divided into three substantive sections to analyze variables more easily. The first section was related to the industry sector and included the recently added new textile factories, which were described and indicated in schematic general words. The planners understood that this particular subject could potentially reach a large scale development, and therefore chose to underline it with 'light-flexible restrictions.'

The second section concentrated on developing the town's civic and commercial center. In these descriptions, the planners included existing structures (such as the municipal building, the union building, the cultural center, and 20 shops) as well as future proposals (such as a central bus station, administrative government buildings, supermarket, open market / Bazar). The third and final cross-section concentrated on residential areas. This section, unlike the previous two, was not only focused on the future development of the urban texture of Dimona but compared its existing status to other settlements such as Be'er Sheva and Kiryat Shmona¹⁵⁷ to evaluate and indicate Dimona's position as well as its potential growth. Additionally, the third section also specifies the existing structures (woodshed /asbestos shed, the Blockon

¹⁵⁶ Z. Zivan, *The Israeli deed and policy in the southern Negev 1949-1957 (part B)*, The Hebrew University Press, Jerusalem, 1998. p. 275-276

¹⁵⁷ The planners preferred to use a different type of settlements models references in order to conduct a well-based scope - Be'er Sheva as Metropolitan city (E type) and Kiryat Shmona as a northern development new town (C type).

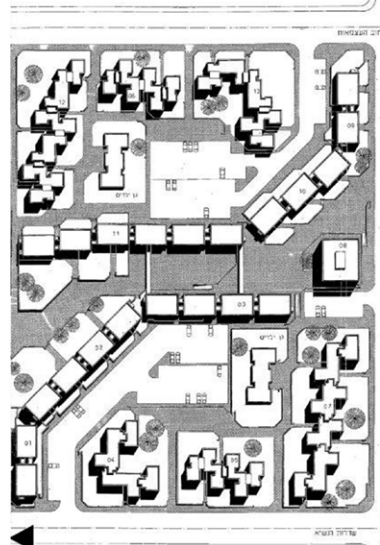


Figure 100: the partial second master plan -1968. in: M. Jacobson 'A walk-about in the Victory neighborhood – a short tour with the original planner Dan Eitan', "Rear window" blog web-site, 2016.

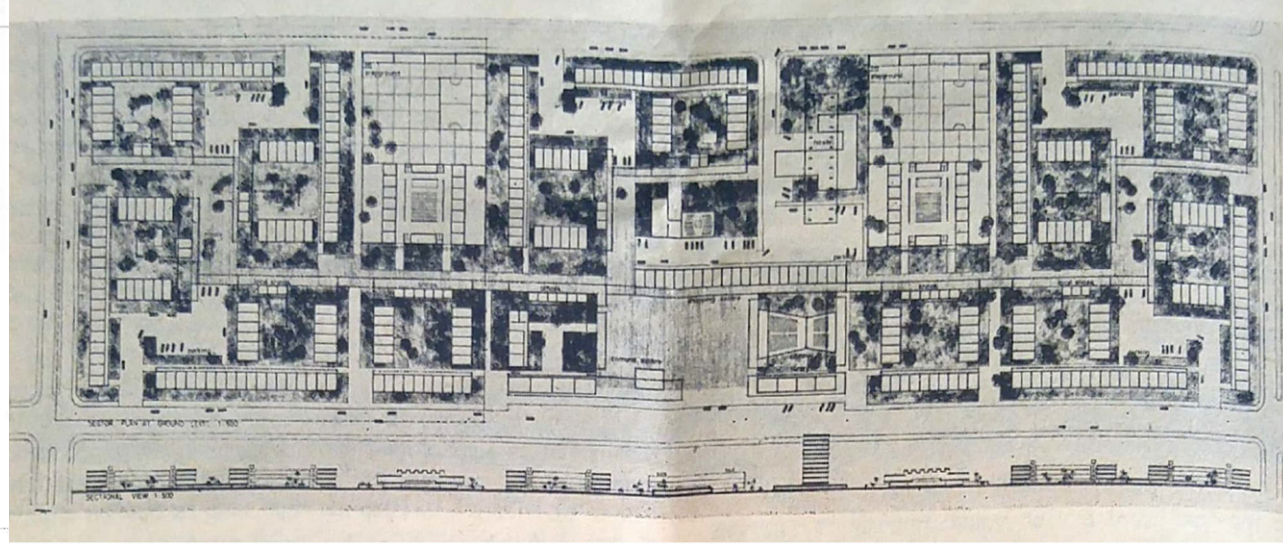


Figure 101: The first Master plan of the Victory Neighborhood -1963. in: D. Eitan, Y.Yashar , *A linear master plan for Dimona*, "Journal of the Association of engineers and architects in Israel" Vol.29, Moshe Shoham publishing house Ltd, Tel Aviv, 1963. p. 29



Figure 102: Aerial view of the current status. in: Mapi- the national mapping center of Israel web site, 2019.

model and the Patio houses¹⁵⁸), and described them as meager negative slum structures that severely damage the town's image. Nevertheless, the planners found it valuable to note the new model of 4- story residential structure, which uniquely manifested in its unconventional height and its modern size apartments (the apartment size was expanded from 50 m² to 85²).

By 1969, Dimona comprised six defined regions: 4 residential areas, a city center, and the industrial area. The four residential areas were: the veteran southern neighborhood (Shivat Ha-minim), the veteran western neighborhood (Ha-Arava), the new eastern neighborhood (Yoseftal), and the new northern neighborhood. The veteran neighborhoods, as previously noted, had been built on the remains of the transition camp and mainly contained the Blockon model, the patio house model, and some asbestos sheds. The new eastern neighborhood (the Yoseftal neighborhood) was built in 1962 - 1963, spread across 265,000 m² and primarily contained a large number of four-story buildings. By contrast, the new northern neighborhood consisted of two sections, which eventually became two separate neighborhoods: the 'Victory neighborhood,' and the 'Exemplar' neighborhood. Those experimental models were considered revolutionary models that were planned and constructed by the elite of Israeli architects in an effort to enhance the model of the residential unit of the Negev while making use of clear motifs from the Brutalist movement.¹⁵⁹

The Victory neighborhood was initially planned in 1963 by Yitzhak Yashar¹⁶⁰ and Dan Eitan¹⁶¹, but only towards 1968 did the plans get approved for construction. The plan's source was in the experimental processes conducted by the same architects in Jaffa, where they attempted to change the axis of the four-story apartment buildings and thereby 'break' the repetitive row pattern predominant during that period in most development towns. The purpose of this rearrangement was to create a kind of intimate internal courtyard system as a way of reflecting ancient desert structures¹⁶² and cause the urban texture to become similar to a modern Tower of Babel.

The allocated space was set to hold some 800 residential units. Planners felt this capacity could balance the residential needs of the expected immigration wave. The final outcome of this experiment included groups of buildings arranged in a 'P' shaped letter, where each 'arm' of the complex held about 120 residential units.

¹⁵⁸ For additional information regarding the different initial models – see chapter 3.3.2

¹⁵⁹ D. Raich, op. cit.,p.110-111

¹⁶⁰ Yitzhak Yashar (1920-2011) was an Israeli architect and Rokah award recipient for architecture.

¹⁶¹ Dan Eitan (1931) is an Israeli architect and Israel award recipient for architecture.

¹⁶² The ancient desert structures is referring to the Nabataean's ancient houses.

Figure 103: The Exemplar neighborhood master plan. In: Z. Hashimshoni, S.Yavin, M.Yaron, H.Martens, B.Chelnov, A.Doron, *Models of Urban development, The engineers and architects association in Israel, the ministry of construction and housing press, Tel Aviv, 1972. p.20*

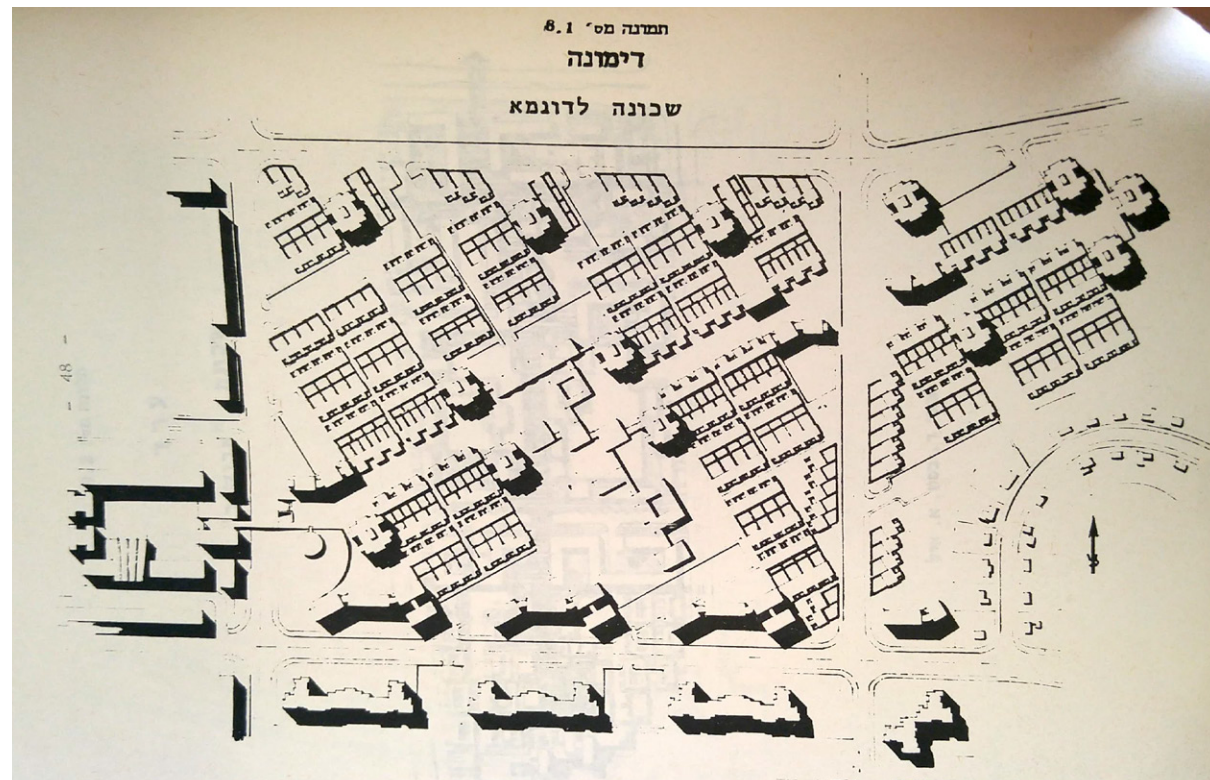


Figure 104: Panoramic view of the patio houses. In: "Israel Builds 1973" magazine, the planning, and engineering department, Ministry of Construction and Housing, Jerusalem, 1973. p. 194



The concept behind this unusual arrangement dictates the importance of gradual subdivision between the 'public' spaces and 'private' space. The concept was put into practice when the entrance to the entire residential complex included a passage that starts in the external parking area and leads to an enclosed covered passage that overlooks the inner court. Gradually, the inner court provided access to the staircase of the building. The element of the staircase was carefully designed and positioned on the overlapping seams between one block and another but was intentionally left open to allow its users the chance to overlook the inner court. The apartments that were planned for the entire neighborhood included two primary models, sized 48 or 72 m². Each was equipped with an internal balcony facing the inner court, and an external balcony overlooking the complex's exterior.

In 1969, when only the southern section of the neighborhood was built, the partnership between the architects disbanded, and it was decided to give the northern section a different tone. An additional experiment was earmarked for this area: turning the apartment blocks around into a slanted configuration shape so that the rectangular classic residential complex would be closed off by a diagonal block. At the final stage of the planning process, it was decided that at the center of this ruptured neighborhood, a school and small shopping center would be built to serve the neighborhood residents exclusively¹⁶³.

The 'Exemplar' neighborhood was initially planned by a group of architects comprising Yasky, Alexandroni, Zolotov, Havkin, together with Karmi, Meltzer¹⁶⁴, as early as 1955. This experiment was later copied and redrafted several times in other central cities, including Eilat, Be'er Sheva, Tel Aviv, and Haifa, until it reached its final configuration in Dimona in 1969.

Unlike the classic 'neighborhood unit' built according to Sharon's plan,¹⁶⁵ the 'Exemplar' neighborhood was planned from the start as being intentionally suited to its location: in other words, to the desert climate and its humble inhabitant. For the first time, the disparity between the utopian European ideals and the extant reality was formulated, evident in the preliminary plans for Israel's new towns. Moreover, the disparity between the utopian human, a product of Zionist ideology which gloried those who worked the land, and the new immigrants who were burdened with consummating this ideal, was expressed in realistic terms.

Therefore, the planners decided to create a high protective perimeter wall, assembled by four-story residential blocks that 'embrace' the core of the low-dense structure of the neighborhood. The role of the 'perimeter wall' was to establish a stable barrier between the neighborhood and the desert's desolation,

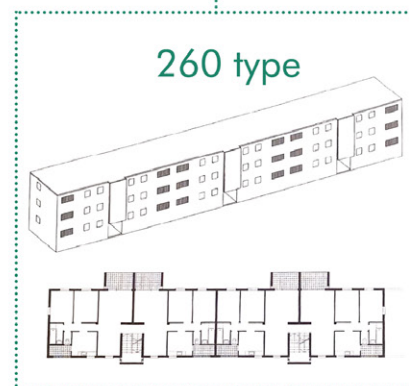
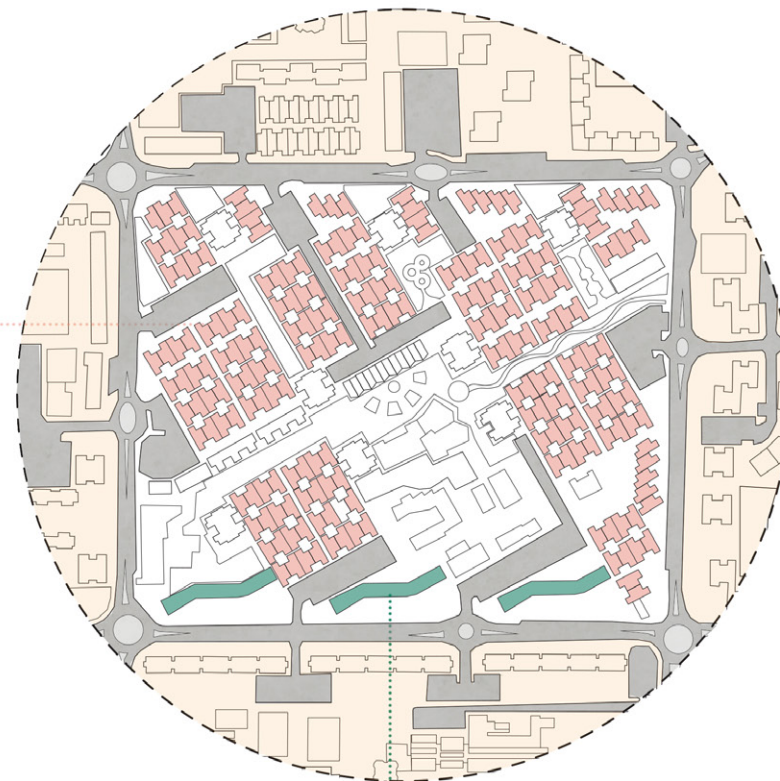
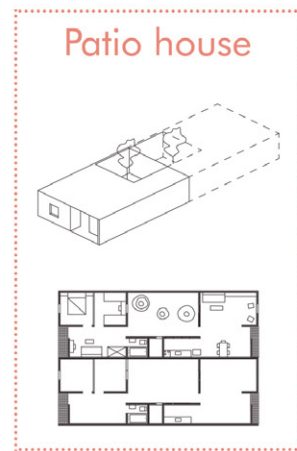
¹⁶³ M. Yacobson, *A walkabout in the Victory neighborhood – a short tour with the original planner Dan Eitan*, Rear window blog website, 2016.

¹⁶⁴ Abraham Yasky (1927-2014), Amnon Alexandroni (1929), Nahum Zolotov (1926-2014), Daniel Havkin (1925-1993), Dov Karmi (1905-1962), Zvi Meltzer (1925-2015)

¹⁶⁵ For additional details regarding the Sharon plan – see chapter 1.2



The Exemplar neighborhood



and defined the neighborhood boundaries in the urban system.

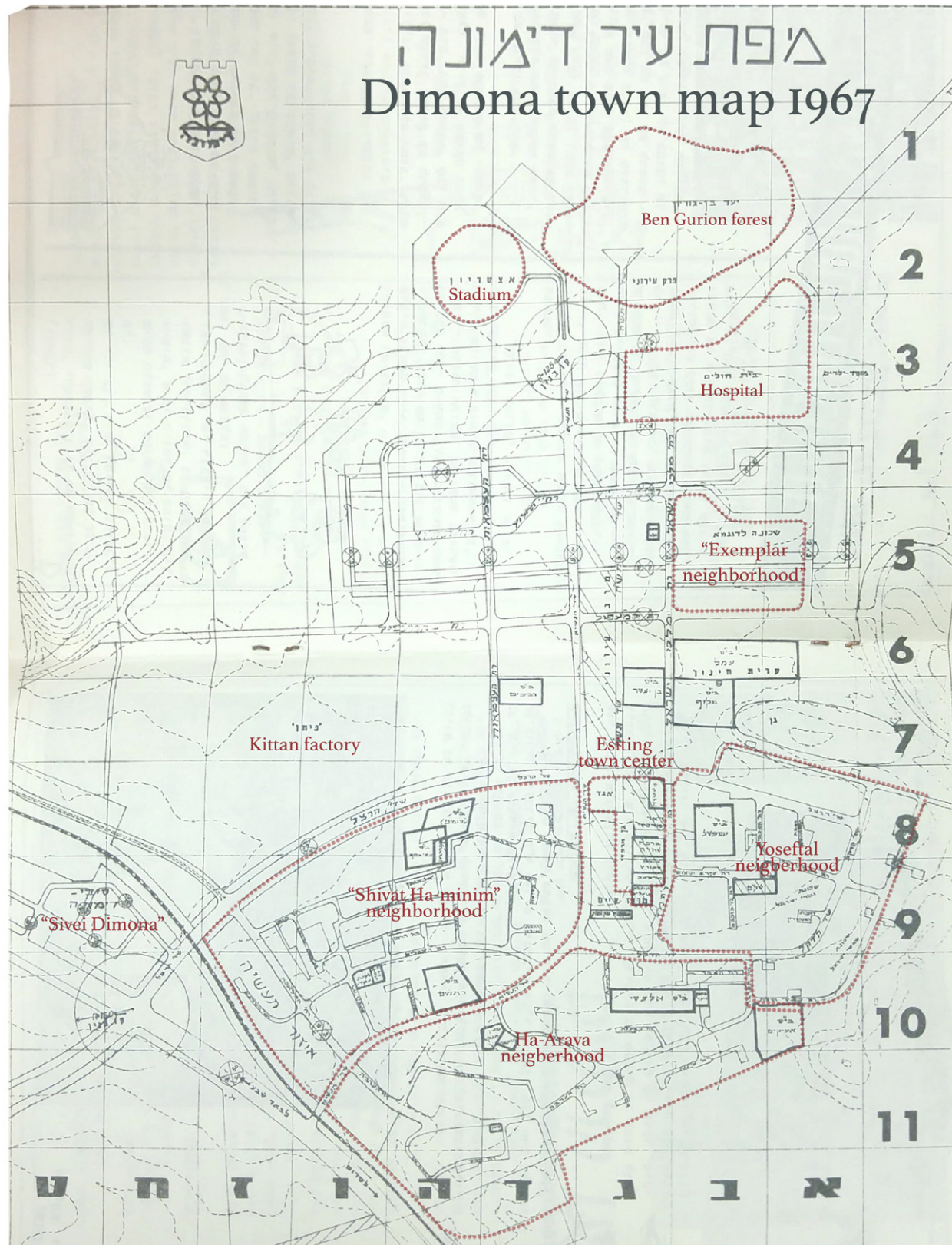
The neighborhood's internal section, characterized by low level, dense building, was identified as 'the carpet' by its own residents. In Hebrew, the words carpet, region, and flatness share a common root. The neighborhood mimicked a carpet in many ways: a closely-knit urban space that prevented the winds from bringing desert sand in, and along with it, the sense of desert desolation. In this instance, the planning strategy filled its two objectives: adapting to the location physical attributes, and adaptation to the local tendency of the inhabitants. Specifically, In the absence of external funds and investment, these immigrants were not able to regularly maintain green privet nor public space. Therefore, the dense urban texture was the right decision for them.

The 'carpet' contained column-shaped houses (a cluster of the Patio houses): single or double-story structures placed adjacent to each other. Each house was allocated with a small front yard and a larger rear yard that was perceived as a kind of extension of the living room. The two yards were initially delineated by height walls. Every two rows of structures were separated by a narrow lane of some 3 meters' width, which led directly to the structure's front entrance: in this way, the lane was defined by the front yards' walls, into which the front gate to each residential unit was installed. The lane, by virtue of being narrow and defined by high walls, helped protect against the blistering sun. Within this densely constructed layout, several paved public spaces were planned. The movement inside the neighborhood, similar to that of the Victory neighborhood, was strictly pedestrian.

As was previously mentioned, the 'growing Patio house' model was the optimal answer to those goals. The extended back yard, surrounded by high walls, met two requirements: the individual apartment could be enlarged without harming the public space, and it could meanwhile serve as a highly private space acting as an extension of the existing living area.

The usage of the 'growing patio model' was no coincidence. Glikson, the original architect of the model, was a member of the planning committee and indicated his satisfaction with the final model. However, unlike the original model, architects Zoltov and Havkin searched for an improvement in the internal division plan. They recommended several additional models which, in their vision, could serve the residents more efficiently. These models included single-story apartments divided in the center space by a load-bearing wall adjacent to which the house's closets were positioned. The wall divided the given space into a private area containing bedrooms and bathroom, and a public area containing the kitchen and living room.

Havkin and Zoltov also planned several two-story experimental units, where the plan clearly indicates that the staircase and the loud-bearing wall were the only structural elements at the ground floor level. However, the upper floor, which contained the bedrooms, was extended beyond the given framework shell toward the front yard, causing a compelling shading effect to the inferior space. In more advanced versions, the traditional living space was doubled by height, where the main bedroom on the



second floor faces it. The similarity between the extended living space in Le Corbusier's 'Unita d'Habitat' and this model is strongly evident.

Consequently, the 'Exemplar' neighborhood's positive outcome was enthusiastically received, primarily by architects, and gained international recognition, considered as one of the important achievements of the period.¹⁶⁶

3.4.3 Experimental town layout

The failure of first-generation Israeli towns led to an outburst of public criticism against planning a new town around a disadvantaged population such as new immigrants, and criticism against the sloppy urban planning approach.

Similarly, the criticism against the new Israeli towns shares identical characteristics to Britain's new town movement: A lack of identity, deficiency in the urban texture (such as lack in urban construction continuity), and inadequacy in municipal basic given services. However, unlike Britain's new towns, the dominant issue in Israeli criticism focused on the problematic issue of gradual urban construction. The head of the town's planning committee, Hanan Martins, explains it in his critical article: [...] since the development process was conducted in different periods, it is nearly impossible to predict when the town will reach its anticipated- fully-functioning size. As a result, several of these unsettled areas have begun to sprout thorns, and are becoming sites for garbage disposal [...] Following these efforts; it is clear that the most critical requirement of planning a new town is completion in any condition¹⁶⁷, which cannot be achieved in the current format of the 'neighborhood unit' model¹⁶⁸.

In other words, creating a town based on sporadic neighborhood construction creates uncertainty regarding the town's identity and its prime location of the main commercial- public center. On the one hand, placing the town's center at a too early stage would also determine its undeveloped fate, which could lead to total abandonment. On the other hand, building it too late in the overall complete texture would not be beneficial to the town's development, since the residents would become accustomed to modest insufficient local centers, or even escape the town in pursuit of better conditions. Either way, the empty lots intended for the public activity would increase its disintegration sensation.

The solution was found when changes were inserted into the desired new town model. Planners,

¹⁶⁶ Z. Efrat, M. Yagid –Haimovich, op. cit., p.329-350; H. Sheder, op. cit., p.92-96.

¹⁶⁷ The term 'completion in any condition' is referring to a frequent physical link between the neighborhood and the town's center, so the different periodical neighborhood will not be engaged in the current neighborhood's development.

¹⁶⁸ H. Mertens, *Karmiel: new town in the center of the Galilee* in Journal of the Association of engineers and architects in Israel Vol.5 (25), Moshe Shoham publishing house Ltd, Tel Aviv, 1967. p. 52-66.

Figure 106: Dimona town map 1967. In: Dimona's local newspaper, Unknown publisher, Dimona. 18.1.1967. p. 18-19

Figure 107: Oscar Niemeyer and David Reznik during their visit in Ovdar archeological site in 1964. In: Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol. 2, Tel Aviv Museum for art press, Tel Aviv, 2004.p. 800

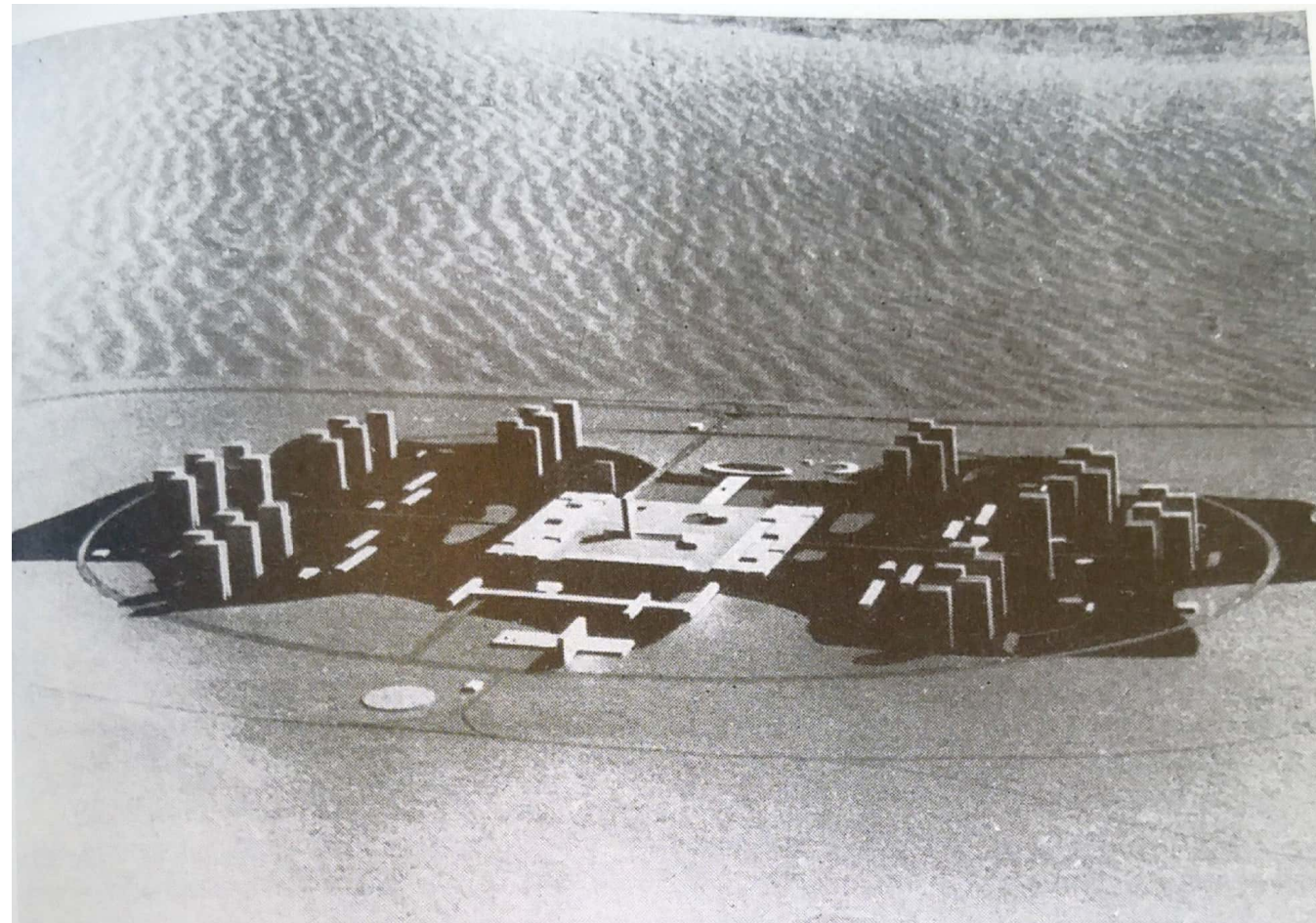


Figure 108: Oscar Niemeyer's 'City of the Negev' idea. In: Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol. 2, Tel Aviv Museum for art press, Tel Aviv, 2004.p. 802

such as Mertens¹⁶⁹, decided to drop the zoning concentration strategy and to focus their efforts in the linear town model. Martins described it as the *construction of residential zones on both sides of a boulevard that will reinforce the social and economic possibilities inherent in the heart of any town*¹⁷⁰. In other words, a linear center would solve the sporadic construction since each new residential neighborhood would be placed around the town's center. Moreover, the decision to embrace the linear town model reflects on the maturity progression the planners have adopted over this decade.

Initially, the main inspiration for this model came to the attention of Israeli planners when studying the British town of 'Hook' programmed by the Greater London Council. Unlike other British first-generation towns based on the 'garden city' theory¹⁷¹, Hook was planned as a town within a garden: a compact town surrounded by a park. The town's nucleus, intended for some 60,000 residents, was designed to circle the linear primary commercial center with 'low- dense' residential continuity. The town's density degree was an important aspect of the model while it concentrated near the center and diffused at the margins, much like naturally accumulated settlements¹⁷².

As Dimona's 10th-anniversary celebrations approached in August 1965, the second town center program based on the linear model was submitted. The new center enfolded hopes that it would 'arouse urban renewal drama,' becoming a place for diverse social groups to meet and find their economic-commercial and administrative needs, as well as culture, entertainment, and social interaction needs. The planners also decided that the center would enjoy the additional advantage of free pedestrian movement, in which vehicular traffic would be banned. Moreover, the aim was to create a balanced public space with various commercial and social functions while integrating elements such as foliage, sports activities, and social services. Initially, a ground floor was planned, primarily designated for commercial ventures such as shops selling food, clothes, textiles, and housewares; hair and beauty salons; financial services; and general trades such as tailors, shoemakers, glaziers, and more. Soon, municipal services, social welfare services, a cinema, a library, and a hotel were incorporated in the center.

The second half of Dimona's first decade saw highly accelerated growth. Unlike the initial development experience, when the first immigrant had arrived at Dimona and refused to disembark from the agency's trucks, people began moving toward Dimona from their own free will,

¹⁶⁹ Hanan Mertens (unknown) was an Israeli architect and the head of the town's planning committee in the ministry of housing and construction.

¹⁷⁰ H.Martens, op. cit., p.54

¹⁷¹ For additional information regarding 'the garden city' theory – see chapter 2.2

¹⁷² H. Sheder, op. cit., p.104-113

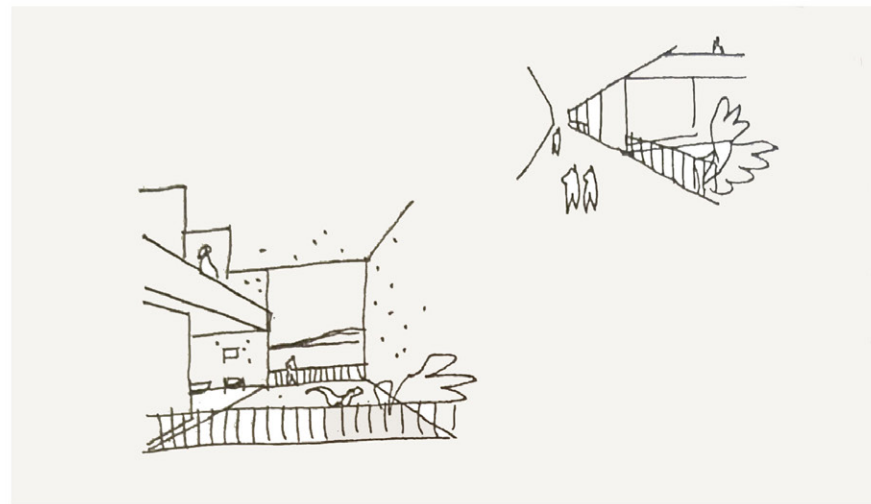
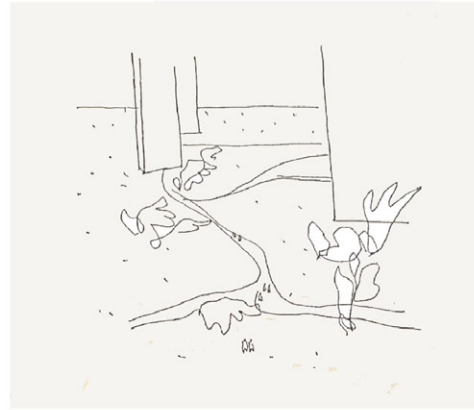
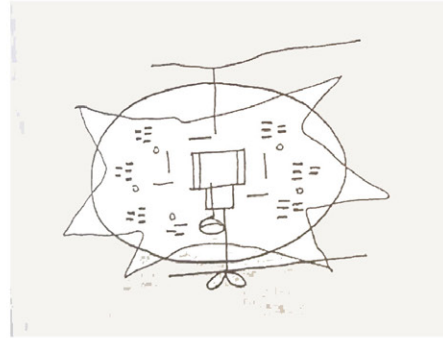
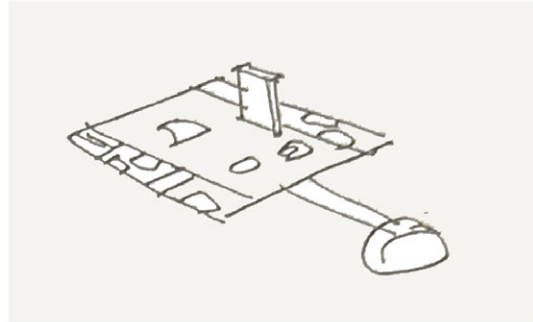


Figure 109: Doodles by Oscar Niemeyer on the 'City of the Negev' idea. In: Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol. 1, Tel Aviv Museum for art press, Tel Aviv, 2004.p. 284-287

following other family members and friends. The textile factories also drew experts from central Israel, who helped develop the town simply by virtue of demanding the variety of services they were accustomed to in the fields of education, housing, culture, and more. Most of all, the textile industry had increased the town's value. It was time for Dimona to shine.¹⁷³

3.4.4 Reflecting on Oscar Niemeyer's 'City of the Negev' idea

In March 1964, the renowned Brazilian architect Oscar Niemeyer arrived in Israel as the guest of entrepreneur and businessman Yekutiel Federman. Niemeyer, a declared communist, was exiled from Brazil in the wake of the military coup and stayed in Israel for about six months. During this period, he managed to design a series of large projects, such as the Nordia compound, Tel Aviv's Kikar Hamedina plaza, a university campus, the "Panorama" commercial center in Haifa, an additional wing to the King David Hotel in Jerusalem, Apartment houses, hotels and villas in Tel Aviv, Caesarea and Herzliya and "the city of the Negev."

His work list of 1964 is devoted almost entirely to projects in Israel.

Oscar Niemeyer, the great master of late modernism, is one of the leading interpreters of Le Corbusier and, in the first half of the 20th century, led the modernist revolution in Brazilian architecture. The new "free-form modernism" challenged the straight angle of the avant-garde architecture of early European modernism and sought to integrate it with local eclectic construction traditions and Brazil's extreme climatic conditions. The attention to shading and masking details was at the heart of his study as he refined the "Brise soleil" developed by Le Corbusier in the 1920s. The sophisticated climate treatment of the building façade was also a relevant topic to the new architecture generation in Israel in the 1950s. The Brazilian Brise soleil ("iron shutters" or "barizim," as Dov Karmi named it) had a dominant presence in early Israeli architecture, both high and widespread. Niemeyer's "Brise soleil" reached Israel almost two decades before Niemeyer himself.

From Niemeyer's diary, he was impressed by the Zionist-socialist-enterprise and the natural landscapes of the country, along with harsh criticism of the low-level and wasteful Israeli planning paradigm, which acted only on behalf of ideological and strategic considerations. In the majority part of his proposals for projects in Israel, his position is expressed with what he identified as the crisis of Israel's architectural identity, which, he says, hesitates between the modern and the vernacular, between urban and agrarian, between vertical and horizontal. In his proposal for a new city in the Negev - commissioned by Yosef Almogi, then Minister of Housing and construction, as part of an experimental trend to develop alternative approaches to planning new cities - Niemeyer's radical critique of urban planning in Israel is most clearly embodied.

173 D.H.K Amiran, A. Shachar, op. cit., p. 55-76

On his tour to the Negev desert, Niemeyer asked his hosts to visit the new desert towns that were already built - Yeruham, Kiryat Gat, Eilat - and the new neighborhoods of Be'er Sheva. He was disappointed by the conservatism and shortsightedness of the planning authorities in Israel. In the first place, he sought to qualify his proposal for a 'City of the Negev' as a utopian-ideological text without a specific site. The ideal city he designed, based on forty or fifty stories skyscrapers, was described in the Brazilian journal "Modulo" as "a new type of metropolitan kibbutz, which has spread, expanded and updated without losing its human qualities - enthusiasm, solidarity and idealism" (the shape of the circle surrounding Niemeyer's city was referring to local memory as a reference to Nahalal¹⁷⁴). The "City of the Negev" program goes against the ideology that copied the desert into sparsely populated urban towns that were born in a different cultural climate and set an alternative scheme of saving land and preventing the waste of infrastructure and resources, even in remote areas, as a substitute for the wasteful construction plans of the new neighborhoods in Be'er Sheva and Eilat. The City of the Negev was not only a critical manifesto against the hegemonic policy planning of cities in Israel; it also gives Niemeyer a chance to reexamine his controversial design of the civic buildings he planned in Brasilia (alongside the urban planner Lúcio Costa), which had been inaugurated a few years earlier and had been severely criticized. If we take into consideration the dense-compressed approach of the city of the Negev, the way it refers to the medieval city on the one hand. The kibbutz, on the other, its vertical streets, the hanging gardens on the high floors, constituted an antithesis to the Brazilian concrete surfaces, the vast distances on which it spans, and the rigid functional separation is created. Its inhuman nature. If Brasilia was the city of tomorrow, in the eyes of Niemeyer, the 'city of the Negev' represented the social-city of the future. Nevertheless, Niemeyer was aware of the antagonism the program might provoke. In the "Modulo" issue, which dealt with his significant works in Israel, he recommended to his critics that the city plan be stored and examined again after some time.

Niemeyer wrote in his memories: "When they offered me the project, they announced that I should plan low buildings, only four to eight stories high. I have attached here the opening text of the project from the exhibition. The planned project will not repeat (with or without variations) what has already been built in this country, but something quite different - somewhat fantastical for skeptical eyes, yet fair and dignified. In the project, I envisioned the solution to future problems. Its excellent planning will grow and secede in Israel - a country of culture and optimism that believes in advanced solutions, solutions that other countries, rich and industrialized, tend to reject without a glance.

We ask our evaluators to first compare the project to what has already been built in Israel - in Be'er Sheva and Eilat, for example - and to consider in an open mind the advantages of these projects against the

¹⁷⁴ Nahalal- is a northern settlement (Moshav) best known for its general layout, as designed by Richard Kauffmann: slightly oval round, similar to a spoke wheel with its public buildings at the "hub" and individual plots of agricultural land radiating from it like spokes with symmetrically placed roads creating eight equal sectors, an inner ring of residential buildings, and an outer ring road.

considerable disadvantages of the existing construction methods so that they would understand the reasons for the establishment of the vertical city that I have planned: economic benefits for minimum usage of terrain; leave behind the need for streets and paths; withdraw the need for hundreds of blocks of apartment buildings, which extend over a vast area, solve problems of traffic and transportation and avoid complication in the water system, sewage, electricity, etc. However, if this comparison fails to convince the examiners whether the current virtues of the project will not overcome obstacles of prejudice, I will also ask the examiners not to reject our project indefinitely, but to keep the plan in their drawers in order to reflect on the idea in three-four years out of goodwill. I am certain that by then, the concerned parties will understand the motives that guide me and will regret they were previously ignored; after all, this project is an inevitable projection of the impulses of progress, technology, and life itself.

The Negev project, as we have named it, seeks to integrate man on a scale of medieval system, in which the man can move quickly, without the worries and dangers posed by traffic in the city of today, from home to work, to school, or anywhere else offered by modern life, or by the car parked near the house and ready to transport him to any area in the city he desires. The new city is treated as a park, without unnecessary asphalt roads but with a broad, unpaved, picturesque, greenery systems between the dwelling blocks. Trade and culture services are scattered among small pedestrian streets, sometimes the small streets lead to rustic squares and sometimes to grass plot in front of residential areas. All of that was meticulously processed under the movement's guiding principles that govern the entire project.

The division of the Negev city is simple and defined. In the center - the municipality, commerce, and leisure; Around them - the residential units, the culture, and education area, the areas designated for the culture of sports; The city's boundary is the ring avenue, which regulates the vehicle's movement.

The vehicle's movement is one of the most important aspects that characterize the nature of the Negev city, based on the complete separation between motorized and pedestrian traffic. Most of the traffic is concentrated on the outskirts of the city, but the route shaped ring enables direct connection to each of the city's areas, to the point where the parking lots are located. A large plaza that contains a parking lot for 10,000 cars is located near the commercial and leisure center and also serves as the «entrance gate» to the city - the intersection point for all motorized traffic. On the lower level of the same previous plaza, the inhabitants will come across the train station, the taxi cabins, the central police station, and the auxiliary services such as restaurants, cafes, shops, hairdressing salons, and so on. This lower level is supposed to connect directly to the commercial and leisure areas using a wide walking passage. The motorized movement in these areas is very limited. It concentrates on the "service streets" stretched at the low level, which guarantees controlled movement at all times.

The issue of dwelling in the Negev city demanded careful research since it was not possible to settle for the accepted method. The solution required a dialectical thought and harmony between the many problems

of the city offers so that it could adequately serve the idea- the spirit of the project. Indeed, if we were planning low buildings such as six or ten or even 15 stories, it would not be possible to preserve the spirit of the original idea of the city with distances of no more than 500 meters, while relinquishing the almost absolute dependence on a car and replacing it with quiet and calm use of the ground. The horizontal solution – which was a large number of residential blocks spread over a large area - would not have allowed the guiding principle of separating between motorized traffic and pedestrian traffic.

We do not believe in the arguments of vertical opponents, who speak of problems of elevators, winds, maintenance, etc. We know that these arguments originate from a routine, with prejudices that have been fixed over time, with the need to protect conventional methods of construction - which is very common among professionals. In a building of thirty or fifty stories, the elevator is seen as an essential transportation tool, maintained by a skilled worker who handles it with dedication. This solves the problems associated with the use of automatic elevators by children - the only relevant problem because it is economically clear that elevators for a fifty-story building will cost less than five or six elevators in ten-story buildings. The problem of height remains, and in this case, there is only one thing left to ask: What is the difference between an apartment on the fourth floor and another on the tenth or fifth floor? There are differences in the positive aspects of the elevation solution: avoiding the dust and sandstorms, enjoy the fresh air, and the magnificent landscape offered by the Negev.

Of course, the vertical housing solution we offer requires proper planning, adapted to the typical demands of the project, to specific problems that require a specific solution. Our residential study takes into account these specific conditions and produces apartments with a sense of a real private home. Access to the apartments is through an internal path, and the entrance to each apartment is by a private garden that everyone dreams of. Moreover, this garden serves as the primary landscape for the living-room and the bedrooms according to personal preferences, and even the openings sector - doors and windows - will be designed at the discretion of the tenants, without allowing the destruction of the architectural aspect of the entire building. These housing units will be marketed to the public not as fixed and unchangeable housing solutions, but rather as spaces open to personal planning and limited by a minimal number of fixed data, such as the access path, the entrance garden, and the sanitary units. The rest will be flexible and will allow countless consideration arguments, including the construction of internal levels.

These are the solution's attributes that we adopted for planning residential housing in the Negev, a solution that combines the urban concept with gardens and greenery and the convenient planning of education, leisure, and commercial services; A solution that allows a person to live in the heart of the hostile nature of the desert, which he seeks to correct and soften. During the planning process, we compared this solution with other accepted solutions, and the comparison showed us how logical and economical it is. [...] We will have to think about how a city like Eilat could have been seen if a similar plan had been applied – with such attributes of eliminated the need for the streets between scattered buildings while



Le Centre Commercial

מרכז הקניונים



Figure 110: The town's square
In: Ministry of Aliyah and Integration, *Your house in Dimona – Votre foyer a Dimona*, Ministry of Aliyah and Integration press, Jerusalem, 1970. p.18

preserving the land and the magnificent landscape. [...] The Negev project will be a model that can be applied time and time again along Israel's main roads, while it will also define agricultural, industrial and recreational areas while bringing the spirit of progress - in organic and organized approach - from the periphery to the state's center".¹⁷⁵

Aftermath

Niemeyer's proposals never came to execution level in Israel, and in fact, not a single building was built. Some of the ideas were implemented with far-reaching changes by Israeli architects but never an exact realization. In Israel in the mid-1960s, Niemeyer's proposals were perceived as extreme and imaginary, flamboyant, and mannerism modernism did not come to a genuine understanding among the Israeli architectural society.

The sequence events between the economic recession of 1967-1965 (which caused severe damage in the construction industry sector) and his confusing designs led to a complete abandonment of Niemeyer's ideas. Moreover, even after the economic boom (that arose after the 1967 war), there was no tendency toward reviving his plans: the additional new territories in the West Bank gave the perception of a 'borderless terrain.' They led to even a greater doubt toward the relevance of Niemeyer's plans in the eyes of the Israeli architectural society.

His 'vertical socialism' was then contradicted both the horizontal expansionist impulse of "Greater Israel" and its accelerated distancing from the ethos of the Worker's company (proletarian vs. capitalism). Niemeyer's repressed ideas were brought back to 'the surface' in the 1990s, accompanied by the rapid growth in the country's population (due to the arrival of former Soviet Union residence between the years of 1998-2001) and the increasing rate of the Israeli society and its future capacity of the land's terrain.

The apocalypse warnings of flatness and dispersion of Niemeyer's plan echoes once again in the 'new master plan for Israel,' presented by a planning team in 1997. The details of the plan focused on: analyzes on the expected accelerated development and the significant increase in density; The unbalanced management of the land-use system and the shrinking of reserved territories in the state's center; The poor urban quality of the Israeli cities; The irreversible damage to the landscape and environmental uniqueness of the country's regions and more. The plan proposes, among other things, concentrated - dense development, avoiding the establishment of new settlements, and creating condensed-compressed solutions for existing urban centers - three solutions that Niemeyer had already answered during his work in Israel in 1964.¹⁷⁶

¹⁷⁵ O. Niemeyer, *Quase Memórias: Viagens – Tempos de Entusiasmo e Revolta 1961-1966* translated by Tanya Meltzer, Rio de Janeiro: Editora civilização Brasileira, Brasília, 1968. p. 30-48

¹⁷⁶ Z. Elhayani, *Niemeyer in Israel*, in Z. Efrat, M. Yagid-Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1, Tel Aviv Museum for art press, Tel Aviv, 2004. p.280-288



Figure 111: The Gil Hotel and cinema. Unknown photographer, unknown year. In: Pickiwicki nostalgic website



Figure 112: The town's square. In: Municipality of Dimona, *Dimona – story of a city*, Ahdot press, Tel Aviv, 1973.p. 20

3.5 Prosperity era of the '70 to early '90

3.5.1 'Dimona for Display'

By the end of the 1960s, Dimona entered a period of prosperity that lasted until the early 1990s. While in previous decades, Dimona was still struggling to establish its underlying infrastructure, now it began experiencing a period of accelerated growth in every sector.

Primarily, the most influential factor was the industry element, which already existed before the actual establishment, but gained its most significant progress only during the late '60s.

The industrialization process gave Dimona's residents hope for financial stability and helped repair its problematic image that had been consistent during its previous years.

By the early 1990s, a dramatic change had occurred in Dimona's image. Its population rate was nearly tripled, six new neighborhoods were assembled ('Best' in 1969, 'Neve David' in 1977, 'Neve Gan' in 1975, 'Bneh Beitkha' in 1985, 'Neve Aviv' in 1990 and 'Kahmei Israel' in 1990), a renewal process for the old 'Shivat Ha-Minim' (1982) and 'Ha-Arava' (1990) neighborhoods had begun. A central commercial center located in the town's center was launched. Furthermore, in 1981 a branch of the nationwide 'Shekem' chain inaugurated the town's first supermarket; small commercial centers scattered among the new neighborhoods began to operate, and a new branch of the Be'er Sheva's Bazar was opened.

Another essential element that was heavily influenced by the accelerated progress was the public transportation sector, wherein 1976, a decision was made to form the first official central bus station in Dimona. Simultaneously, the town also began developing green areas as initially envisioned by the planners in the 1950s, by setting down broad green strips across the town's outskirts. Specifically, in 1983, when an accelerated planting process for the Ben Gurion Park had begun, alongside additional public actives such as sports center and stadium.

It is essential to understand that the rate of Dimona's growth was strongly influenced by national political processes occurring during those years in Israel. This chapter will focus on the national periodical changes which directly impacted Dimona, its municipal contours, its residential development attributes, and their value.

1) The late 1960s to mid-1970s: Growth between wars

The period between 1966 and 1978 could be characterized as an exceptionally turbulent time. During its initial phase, recessions and unemployment grew, and immigration waves were nearly ceased. In 1967 the Six-Day War¹⁷⁷ Broke out, resulting in an extremely significant increase in the landmass of

¹⁷⁷ The Six-Day War (1967) was fought between 5 and 10 June 1967 by Israel and the neighboring states of Egypt, Jordan, and Syria. Following the war, Israel experienced a wave of national euphoria when Israel captured the Gaza strip, the Sinai Peninsula, the west bank (Judea and Samaria) and Golan Heights.

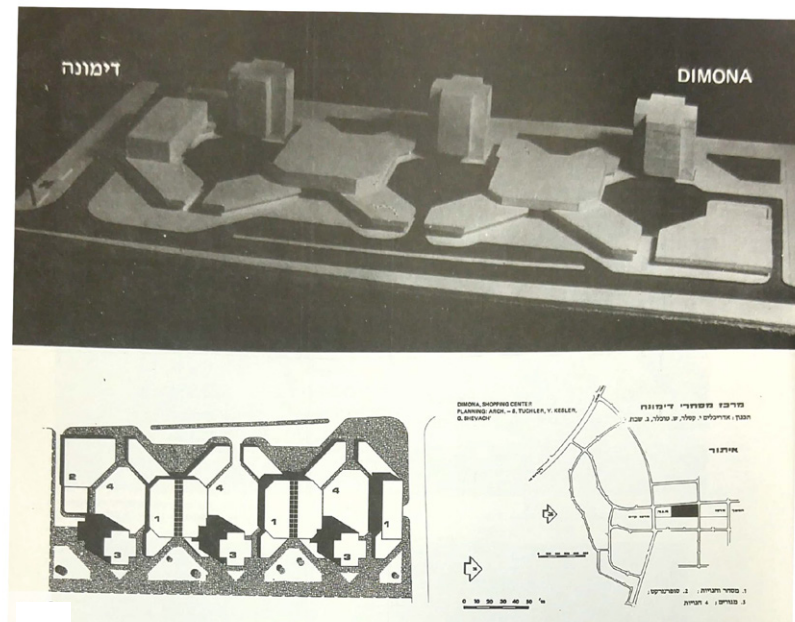


Figure 113: A proposal to the potential extension of the town's center. In: "Israel builds 1973" magazine, the planning and engineering department' Ministry of Housing and Construction, Jerusalem, 1973, p. 201

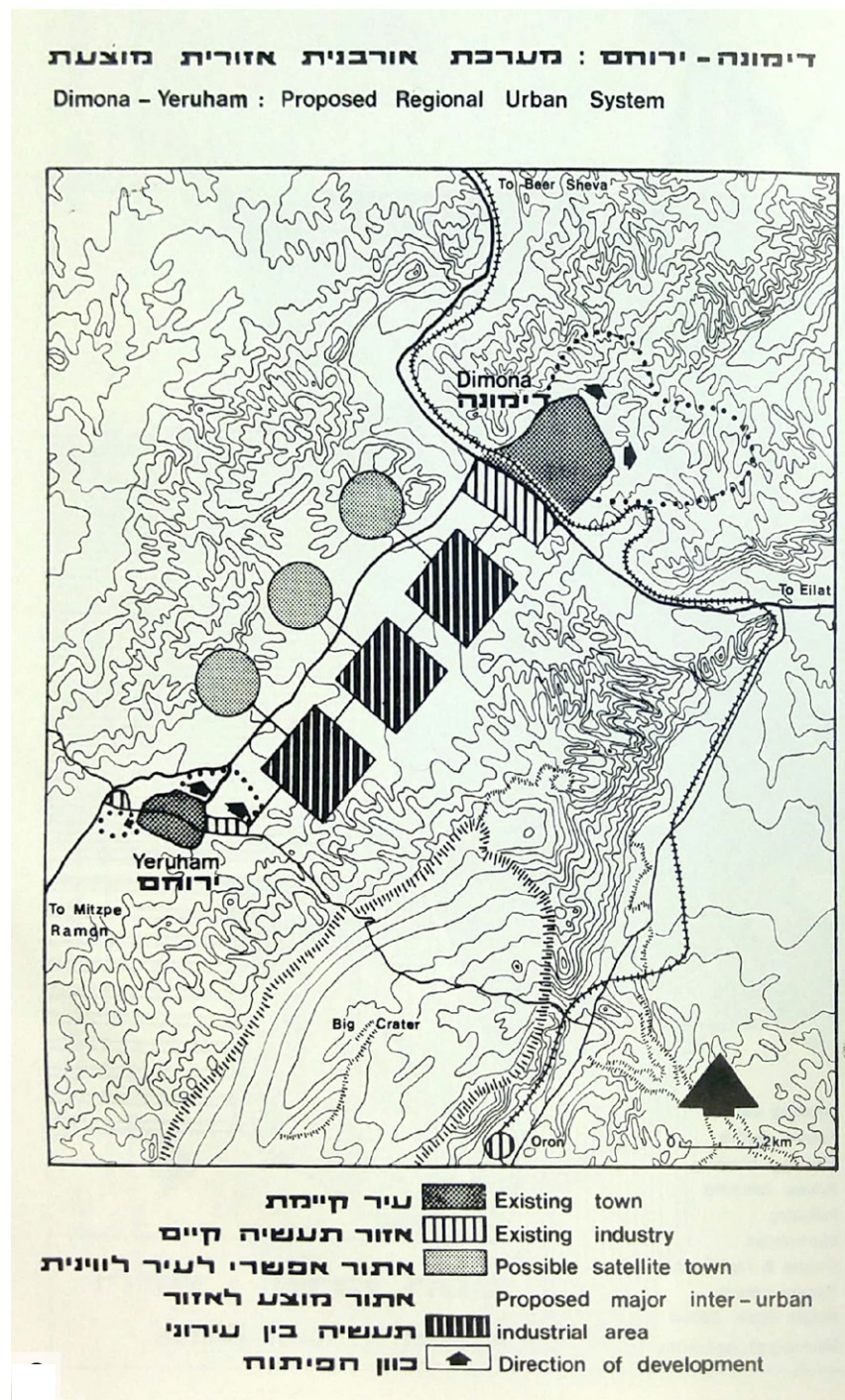


Figure 114: Dimona - Yeruham: proposed regional urban system. In: "Israel builds 1973" magazine, the planning and engineering department' Ministry of Housing and Construction, Jerusalem, 1973, p. 77



Figure 115: The town's swimming pool
 In: Ministry of Aliyah and Integration, *Your house in Dimona - Votre foyer a Dimona*, Ministry of Aliyah and Integration press, Jerusalem, 1970, p. 16



Figure 116: The everyday life in Dimona .In: Ministry of Aliyah and Integration, *Your house in Dimona – Votre foyer a Dimona*, Ministry of Aliyah and Integration press, Jerusalem, 1970. p.17

some 68,590 Km²- four times bigger than the original state size¹⁷⁸. The war's outcome also dramatically increased the financial status alongside the population's immense of exuberance. In the period between 1971 to 1973, violent outbreaks based on discrimination among social sectors occurred. The direct outcome had undermined the country's economic status as well as the social position. In 1973 the Yom Kippur War burst and left Israel hart and divided as it was never before.

As was previously mentioned, the 1967 Six-Day War outcome was significantly positive toward the national atmosphere, to the land capacity, as well as to the financial status. In this postwar period, it is possible to indicate Three intensive development processes that took shape. The first process occurred between 1970 and 1973 with the massive, first wave of Russian immigrants¹⁷⁹. The existing situation required the immediate renewed of public construction at a scope of more than 50% of the current national construction rate¹⁸⁰. Simultaneously, the second trend occurred when projects were assembled in order to link nearby development towns to each other as a means of expanding the workforce and encouraging the regional industry. One project that was strongly identified with this trend was the plan to connect Dimona and Yerucham by establishing the industrial and regional residential area in the actual space between the towns – to fill financially and physically the gap between the two towns¹⁸¹. The third trend was most likely to be associated with the outcome of the Six-Day War when 41 new regional towns were established by the Zionist settlement division and Ministry of Housing and construction. The location of the new towns was mainly concentrated on the Sinai Peninsula and Judea and Samaria¹⁸².

Following the recent trends, the Ministry of Housing and construction had decided to formulate its official policy regarding its national, economic, and social objectives. The national goal remained as it always had been: an attempt to settle the population. The financial aim was to maintain stability in the constriction sector, and the social objective was to ensure suitable housing conditions for the general population, and in particular, housing for underprivileged groups, such as new immigrants, young couples, and large families. Equally important, was to provide a balanced environment between those different groups, by regulating a standard mix between the units' sizes. The most recognizable example of this objective was the 'Glikson neighborhood' founded in 1967 in Quryat Gat. The neighborhood, which

178 A. Mosery, *Strategic- regional planning and the national strategy of Israel*, Technion –technological institute, Haifa, 1996, p. 25-27.

179 The 1970's Soviet Union wave – was a mass emigration of Soviet Jews. In 1968, 231 Jews were granted exit visas to Israel, Followed by 3033 in 1969. From that point on, the USSR began granting exit visas in growing numbers.

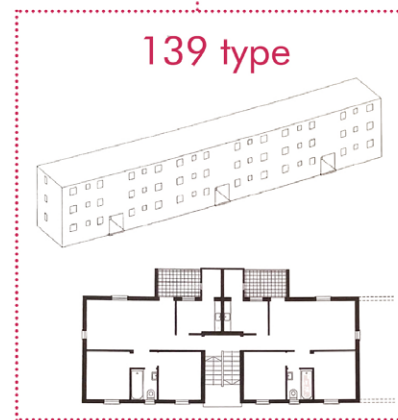
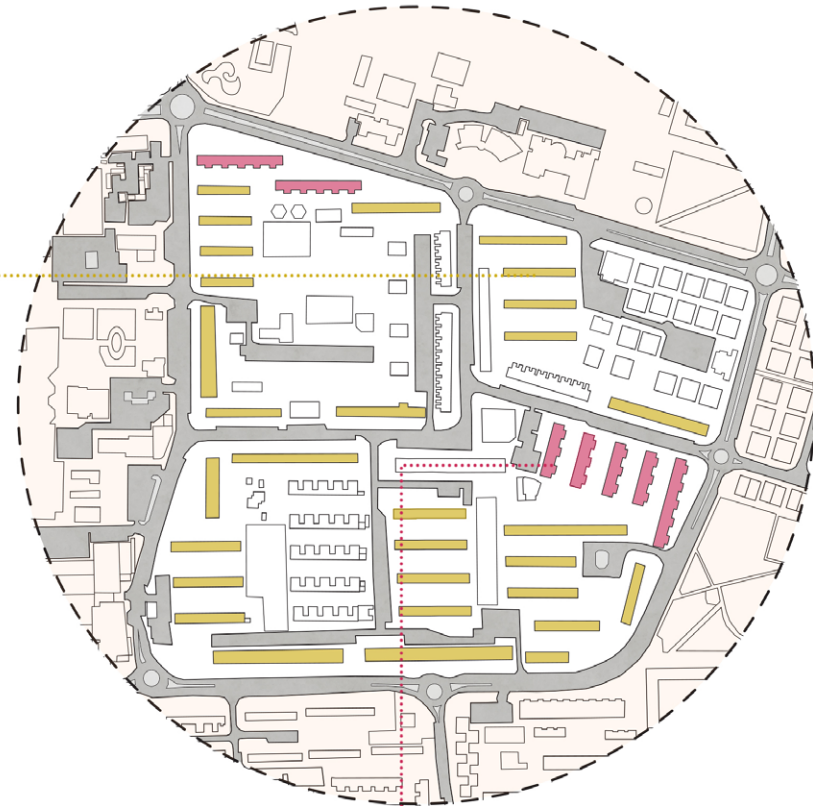
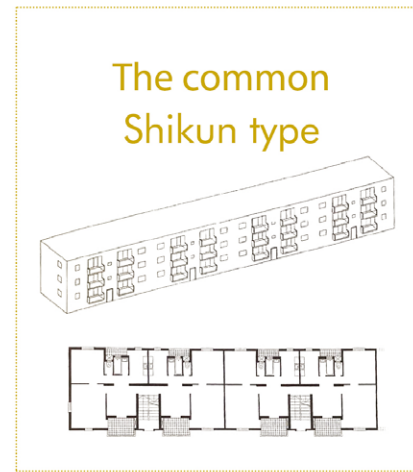
180 R. Zilberberg, *The population dispersal in Israel 1948-1972*, The Ministry of finance and the authority for financial planning, Jerusalem, 1973. p.37-38

181 Y. Golani, *Yerucham, Master Plan*, in *Israel Builds 1973* magazine, the planning, and engineering department, Ministry of Housing and Construction, Jerusalem, 1973, p. 77.

182 The Ministry of Housing and constructing, *The settlement element across two decades: 20 years to the Six-Day War events*, the governmental press, Jerusalem, 1987. p.40-45



The Yoseftal neighborhood



was named after its planner Artur Glikson was prepared according to various studies to maximize its integration impact over its future residence. For instance, an Economic survey was conducted to examine the future employment possibility, an environmental survey to explore the local soil, and a demographic study to determine its future density. Once the survey's result crystalized into a comprehensive strategy, Glikson began planning different typologies of residential models in an attempt to reach a new urban texture accustomed to its tenants' needs .

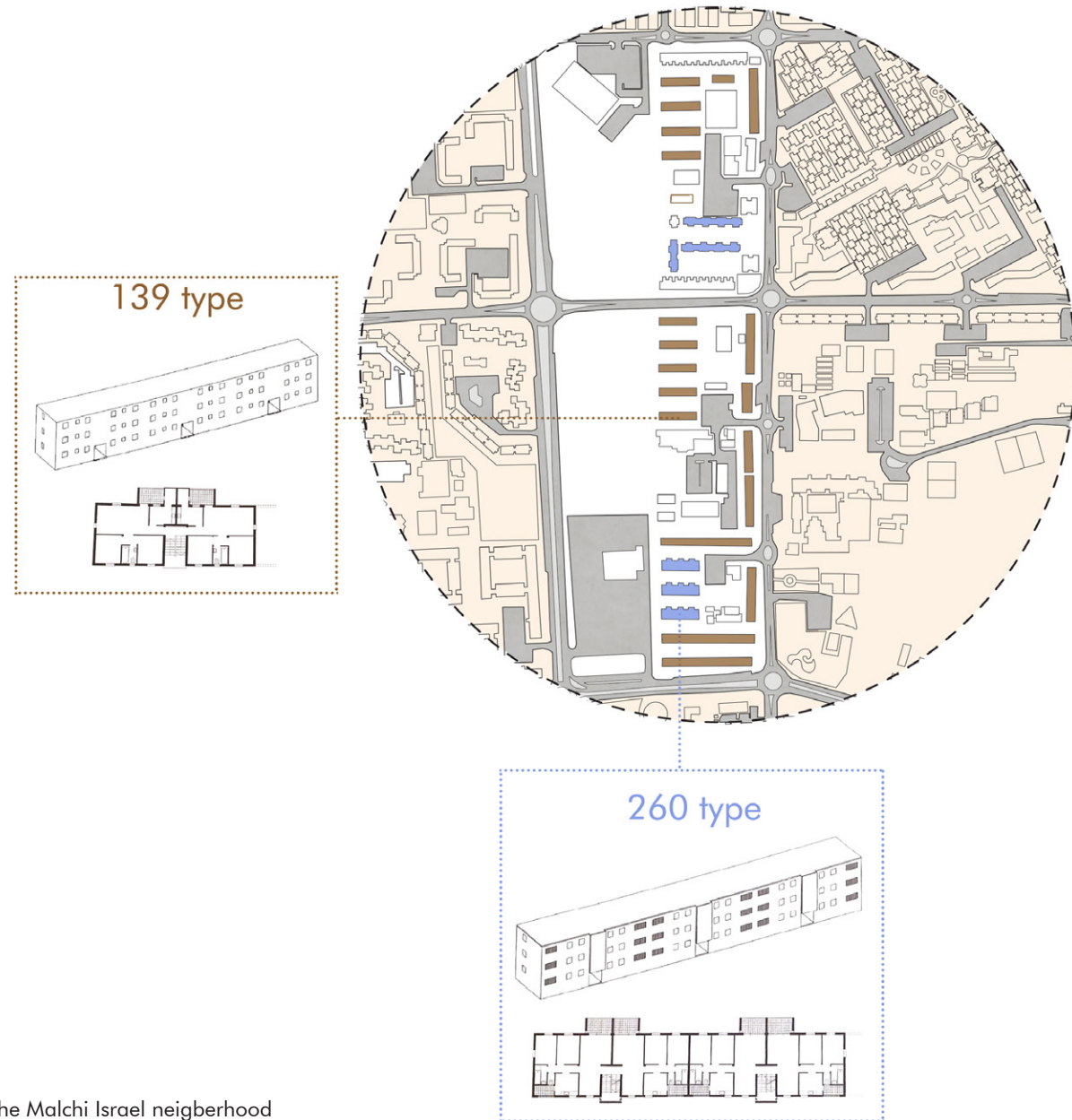
Later on, the phenomenal success of the 'Glikson model' led the government planners to use the same articulated method upon different neighborhoods across the state. In Dimona, the neighborhood that was constructed under the similar influential guidelines of the Glikson model was the 'Best' neighborhood (named after its planner David Best) in 1969 and the 'Neve David' in 1977. Similar to the original 'Glikson model,' both neighborhoods attempted to create social integration through the use of different residential structures and sizes such as low and wide structures combined with vertical prefabricated structures.

Another essential topic that required the planner's attention was the ongoing development in the traffic sector. The recent upgrade in the quality of life and an increasing number of ownership of private vehicles had created a new set of problems regarding main safety. The solution for the recently discovered hazard was to develop a differentiated space so that vehicles remained outside the neighborhood residential boundaries and would 'penetrate' the parameter only as far as parking bays that dissect from bypass roads. Residents, according to the new adjustments, were meant to park in designated areas and reach their homes after a brief walk. Since the parking bays were adjacent to the residential complex, a level of comfort was preserved. The new regulation regarding traffic placemat had divided the neighborhood unit into two parts. The first was pedestrian orientated where the home entrances and central public area (such as playgrounds and kindergartens) were placed to encourage vital communication among the neighborhood resident. The second part was defined as 'secondary service areas' where the access roads passed, and functional rooms such as bathrooms, storage units, and laundry balconies were placed.

It is important to note that the separation between pedestrian and traffic movement was not a 1970s innovation and could be easily found in plenty of other designs from the 1950s and 1960s. Nevertheless, the late addition of private vehicles required additional attention to the neighborhood attitude toward the fragile balance between public spaced and traffic zones. Therefore, a balanced neighborhood unit, according to the planners, should be accessible on one hand while still maintain occasional human encounters from the other.



The Malchi Israel neighborhood



In 1973 the Yom Kippur War¹⁸³ Broke out and led to the loss of more than 2500 soldiers. The mutual feeling of grief and confusion had led to publicly harsh accusations toward Prime Minister Golda Meir. In 1974 Prime Minister Meir had resigned, and a new political turn had begun. Throughout this entire period, the public's ideological approach had started drifting away from the 'ideal-collective' philosophy toward the 'individual – autonomous' position.

The phenomenon had begun showing its early symptoms shortly after the Six-Day War, where upraising tension in Israeli society had started to sprout. Israeli society began to look inwards and discovered extremely large gaps between the different social groups. Various civil movements such as the 'Black Panthers'¹⁸⁴ Began to grow, fueling claims of discrimination among layers of the population and their residential locales. If in the Six-Day War, Israeli society still held faith in the power of the centralized government, then after the Yom Kippur War, it all but vanished. On the background of the recent events, planners sought to restore the traditional community neighborhoods in order to heal the growing rapture in Israeli society.¹⁸⁵

In the financial market, a similar development had occurred when the privatization process¹⁸⁶ infiltrated the traditional-concentrated market, accompanied by independent companies and external entrepreneurs. The market, which was once exclusively controlled by the government, was starting to show significant deterioration symptoms. Particularly, in the Ministry of housing and construction, where it was decided that the Ministry will remain responsible only for the overall planning procedure but won't take part in any actual construction operation¹⁸⁷.

Moreover, the public housing activity, which was once exclusively conducted by the Ministry of housing, changed its strategy by deflecting its efforts toward the 'costumer' and not the 'product.' Or in other words, the ministry would focus on providing financial aid and beneficial mortgage instead of supplying actual public residential units.¹⁸⁸

¹⁸³ The Yom Kippur War (1973) was a war fought by a coalition of Arab states led by Egypt and Syria against Israel. The war took place mostly in the Sinai Peninsula and the Golan Heights. Follow the war, Egypt gain control over the Suez Canal, and Israel maintains control over the southern part of the Suez Canal as well as 500Km² in the Golan Heights.

¹⁸⁴ The Black Panthers were an Israeli protest movement of second-generation Jewish immigrants from North Africa and Middle Eastern countries. (Founded 1971)

¹⁸⁵ H. Sheder, op. cit., p.122- 142

¹⁸⁶ Privatization – The transfer of ownership, property or business from the government to the privet sector.

¹⁸⁷ D. Raz, *Thoughts behind the planning guideline instruction*, in Journal of the Association of engineers and architects in Israel Vol.6, Moshe Shoham publishing house Ltd, Tel Aviv, 1984, p. 34-35

¹⁸⁸ E. Rozin, *The influence of the industrial organization structure on the development towns in Israel*, the Hebrew University, Jerusalem, 1985, p. 165-167.



Figure 119: The front page of the "Quarterly of the Israel Institute of Architects Association of Engineers and Architects in Israel" Vol.6, Unknown press, Herzelya, 1984.p.23



Figure 120: Different examples of 'Bneh Beitkha' structures. In: H. Shadar, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of construction and housing, Tel Aviv, 2014, p.179

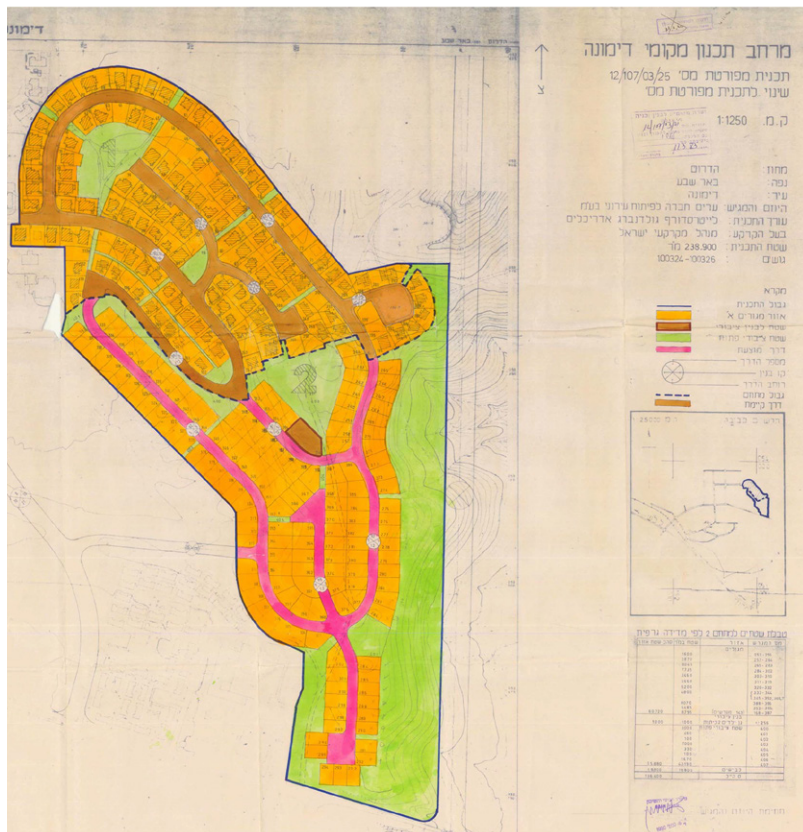


Figure 121: A proposal for additional change in the 'Bneh Beitkha' neighborhood. In: The Ministry of Finance - The Israel Planning Administration website, 1983.

2) The late 1970s to mid-1980s: Rehabilitation and prosperity

The 1977 elections saw the center-socialist Labor government, which had held power for almost 30 years, toppled by the center-right Likud party. Locally nicknamed 'the revolution.' The changing of hands brought with it a new array of approaches toward settlement policies. The new ideology promoted and enhanced the value of the individual and diminishing the value of the collective.

At the start of the 1980s, a sharp shift occurred when the new administration decided that Israel's master plan was no longer relevant due to slow population growth and low immigration numbers. This decision led to new initiatives in developing a national plan encompassing projected activities up to 2010¹⁸⁹. The ideological vision that had supported this plan claimed that there was no longer a need to promote the large cities. On the contrary, they should be demoted in preference to advancing different development towns.

The Likud Party's rise in 1977 was no coincidence. Its voters were not part of the hegemony but came from the other side of Israeli society- the side that resided in the peripheries, development towns, and disadvantaged neighborhoods. Since most of these immigrants were initially placed in the new cities, the points of encounter between them and the veteran population were merely existent. Once they did, it was accompanied by a sense of condescending superiority. The Likud party well understood the fragility of the current status and asked for a change it by motivating experimental public project across the state. The two projects that most stood out through this period were: the 'neighborhood renewal project,' and the 'Bneh Beitkha' ('Build Your Own Home' in Hebrew) projects.

The neighborhood renewal project and the Bneh Beitkha project shared common causes: to reduce social disparities in the Israeli society and to avoid negative immigration movements¹⁹⁰ away from the development towns. Both programs sought to improve the towns' image by ensuring the individual's wellbeing, as well as upgrading the neighborhood's appearance.

Indeed, shortly after the elections, in 1977, the new Prime Minister, Menachem Begin, set about announcing the neighborhood renewal project as a national mission, which must be completed within five years¹⁹¹. Moreover, the approach of the new Minister of housing and construction, David Levi, regarding the project was even more far-reaching than Begin intended to do all along.

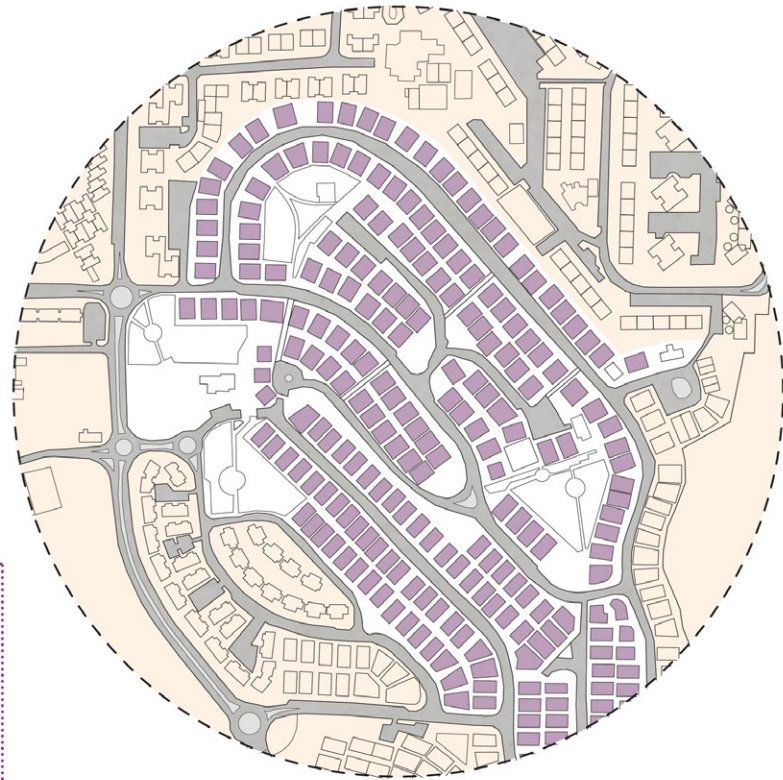
¹⁸⁹ M. Geron, I. Leibzon, R. Frankovich, *National Master plan for seven million inhabitants in Israel Vol.2*, The Ministry of internal affairs, Jerusalem, 1985, p.7.

¹⁹⁰ The migration rate is the difference between the number of immigrants and the number of emigrants. When the number of emigrates is larger than the number of immigrants, a 'negative migration' rate occurs, meaning that more people are leaving the entering the area.

¹⁹¹ A. Elzon, *The renewal neighborhood project* in A. Harlaf, *Israel Builds 1988 magazine*, The Planning and Engineering Department, Ministry of Housing and Construction, Jerusalem, 1988, p. 35-42.



The Beni Beitha neighborhood



Post modern type

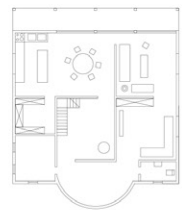
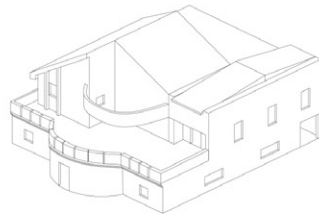
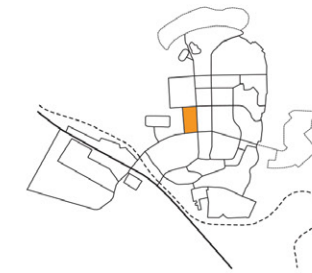


Figure 122: The Beni Beitha neighborhood



The Victory A+B neighborhood

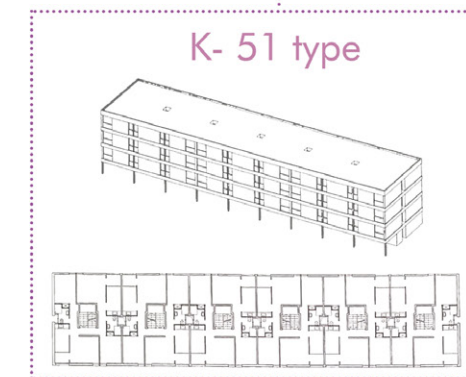
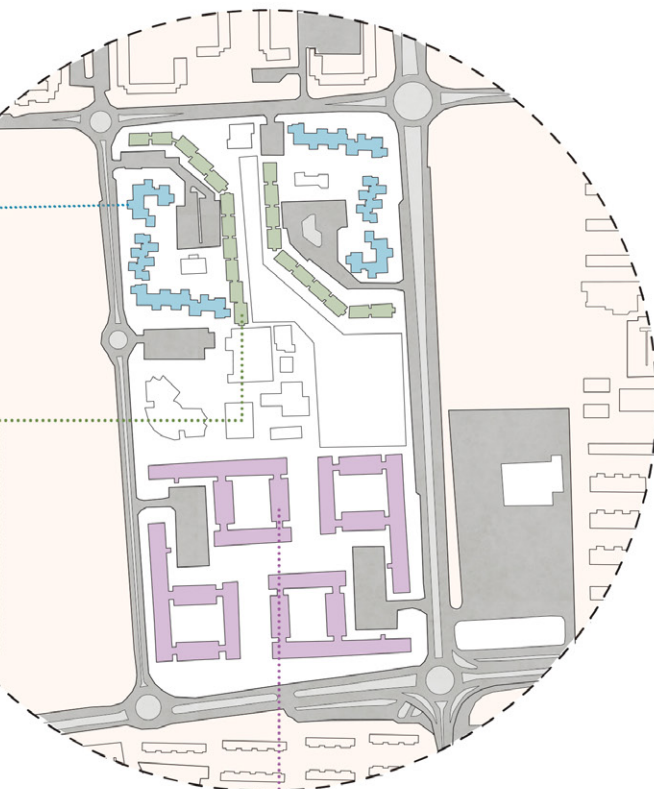
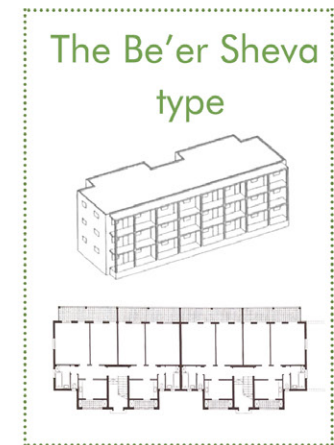
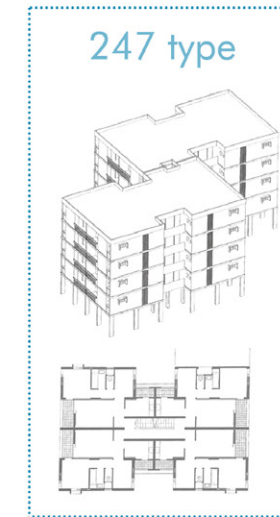


Figure 123: The Victory A+B neighborhood



Figure 124-125: Structures From Benei Bitha in Dimona . 08.2019

Specifically, the government's policy sought to change fundamental order within the Israeli society or, in other words, it aimed to turn neighborhood residents and especially the younger generation into an actively involved public interested in leveraging the neighborhood's resources for their betterment¹⁹². Moreover, this particular attitude touched on the very heart of the issue: neighborhood residents' lack of faith in government.

Since visible results of physical improvement can be seen faster than those of social recovery, the Ministry of housing had chosen to use immediate actions which aimed at the resident's 'soft spot' - their home. Accordingly, residential structures were first to be re-plastered, stairwells were cleaned up and refurbished, antennas were installed on top of the roofs, and small apartments were enlarged with generous government subsidies¹⁹³. Later on, new residential units were incorporated inside the old neighborhood's texture as a way of infusing 'fresh blood' into the neighborhood's existing condition.

Simultaneous to those activities, the Ministry of Housing and Construction, had conducted a large scale study concerning the neighborhood's infrastructure current status to determine the amount of involvement each neighborhood would require. Accordingly, drainage and sewage systems were repaired, access roads and pavements were placed, and new functions were assigned to 'neglected' public spaces such as green parks and children's playgrounds. The outcome, as far as the individual's wellbeing was extremely positive. The physical disadvantages were eased, and the 'negative immigration' decreased significantly. Moreover, the outcome also encouraged self-employed professionals to engage in the construction market and, therefore, initiate an utterly new sector that didn't exist before the project.

In Dimona, the renewal project began in the 'Shivat Ha-Minim' neighborhood in 1982¹⁹⁴ When it was decided to demolish any temporary residential units and enlarge the basic permanent residential houses. Later, the project was assigned to the 'Ha-Arava' neighborhood in 1990, with a decision to integrate the neighborhood into urban continuity by adding new buildings adjacent to the veteran nucleus, upgrading the old buildings' façade, and redefining the neighborhood's streets and lanes. At the current time (2019), the municipality of Dimona is working on the renewal of the 'Exemplar neighborhood.'

Comparatively to the neighborhood renewal projects, the 'Bneh Beitkha' project had begun before the 1977 elections but was fast-tracked during the Likud's service period. The 'Bneh Beitkha project aimed to attract new, substantial populations into the development towns while preserving the existing population core. Initially, in order to execute the project, the planners chose to use the most available

¹⁹² N. Carmon, *Reconstruction of slum neighborhoods- project in Israel*, Technion – Israel Institute of technology press, Haifa, 1987. p. 62-66.

¹⁹³ A.Elzon, op. cit., p. 35-42

¹⁹⁴ Tahel engineering and consulting Ltd, *Dimona's development portfolio*, The committee for planning coordination in the Negev and the Ministry of Internal affairs, Tel Aviv, 1982, p. 88-89; Ministry of housing and construction, *The Shivat Ha Minim neighborhood – preliminary survey for future renewal*, Governmental Press, Jerusalem, 1980, p. 1-19.

resource the development towns had to offer: state lands. During the late '70s, there was no significant demand for those particular lands, and therefore they were considered an optimal solution to the government's needs. Furthermore, to increase the project attractiveness, special tax Benefits were promised to each of the potential new settlers, so that the 'bourgeois dream' could be attainable even to the middle-class workers.

Soon after, on the margins of the development towns, new neighborhoods with higher quality images began to sprout. The freedom for personal design choices in those neighborhoods was a kind of antithesis to the modernist principles. Instead of the classic minimalism structures that were built during the '60s, the 'Bneh Beikha' structures were characterized as an extravagance. Instead of the small size units, the new structures were spacious; Instead of standardized construction materials, the new structures were constructed by advance materials; Instead of clean straight lines, these houses were composed of unexpected angles and arches; and Instead of the anonymity that pervaded the veteran neighborhoods, each 'Bneh Beikha' home had its unique personality, embodying and externalizing what their residents wished to publicize: the wish for a world that condemns the failed monotonies standardization concept.

Consequently, in the late 1980s, the planners began to comprehend the need for some control over this unrestrained 'bizarre show' of home design by providing specific fundamental guidelines¹⁹⁵. In an article published in the 'Architects and Urban Planners Journal' by Ram Carmi, the Head Architect of the Ministry of housing, a harshly critical review was written. Carmi had argued that not only the buildings of the 'Bneh Beikha' neighborhood were built in a tasteless matter, but they also carry a great danger to the local environment - cultural hazard¹⁹⁶. What Carmi was asking to explain to his fellow architect, was the harmful implication such a project could cause to the veteran unprivileged community.

Subsequently, in 1986, a conceptual competition, which aimed to cope with the project's aesthetic concerns, was announced. One set of suggestions offered by the office of Mansfield Kehat¹⁹⁷ In 1986 talked about limiting the height of structures, increasing distances between structures, and increasing the amount of greenery. Or in other words, the suggestions were ways of manipulating the neighborhood's appearance so that the houses would not be so visibly blunt or 'kitsch' as Carmi labeled them. Eventually, a series of strict regulations were published by the ministry of housing, which indicated precisely how each residential unit should be constructed.¹⁹⁸

The Dimona 'Bneh Beikha' project was built in 1985. It contained all the main features of the

¹⁹⁵ D.Raz, op. cit., p. 55-68.

¹⁹⁶ D. Knafo, *Bneh Beikha: Architecture or kitsch?* In: *Quarterly of the Israel Institute of Architects Association of Engineers and Architects in Israel* Vol.6, Unknown press, Herzelia, 1988, p.6-7.

¹⁹⁷ The studio was founded by the noted Prof Al (Alfred) Mansfeld (1912-2004) and Haim Kaht (1943)

¹⁹⁸ H.Sheder, op. cit., p.168-181.

initial model: an individual- self – exuberant structure, which drastically contrasted with the rest of the town's image. Later on, other 'Bneh Beithka' projects were established in Dimona according to the new regulations. These were the 'Neve Aviv' neighborhood in 1990, the 'Mamshit' neighborhood in 2003, the 'Neve Khoresh' and 'Neve Halali' in 2005, and the 'Har Nof' neighborhood which is currently under construction in the town's north edge.

3) The late 1980s to early 1990s: Turning back to immigration patterns

A dramatic, unexpected change in immigration trends occurred in 1989 when The Iron Curtain fell¹⁹⁹. That year, just over 24,000 immigrants from the former USSR entered Israel, followed by almost 200,000 in 1990 and some 176,000 in 1991. That same year, large numbers of Ethiopian Jews also arrived in Israel.²⁰⁰

Unlike the 1950's immigration waves, the bulk of the new immigrants were characterized as well educated and financially established audience. The old population dispersion policy was irrelevant, not only because of the different nature of these immigrants but because Israel's socio-ideological perspectives had changed.

Notwithstanding, there was also a practical consideration- the inventory of public housing under government ownership had been intentionally depleted in the 1980s as part of the thrust in the privatization process. In the turn of events, a well-known approach was adopted - support the consumer (in this case, the new immigrants) rather than the product (constructing additional public housing projects). Indeed, the government provided immigrants with financial packages to cover apartment rentals fee for their first five years, either granted them with preferential mortgage conditions.

The immigrants, who initially preferred settling in the state center, found themselves moving towards the periphery's regions as a result of continually climbing prices in the central regions²⁰¹. The Ministry of Housing and Construction understood that some immediate actions need to be done. Therefore, the Ministry obligated to provide permanent and temporary residential solutions while maintaining reasonable price ranges. However, the Ministry had to face some difficult decisions: there was almost no public housing project available, and the scale or quantity of the 'new wave' remains unknown. Soon, the planners gathered all the Plans that were under advanced planning stages and immediately approved them. Additionally, The Ministry had accelerated the rate of planning authorization by shortening bureaucratic

¹⁹⁹ The Iron Curtain collapse is referring to the dissolution process of the Soviet Union which began on 26 Dec 1991.

²⁰⁰ The Central Bureau of Statistics 'Yearly statistical survey No.51', table No.2.1/2.25, The Prime minister's office, Jerusalem, 2000, p. 2-8, 62-65.

²⁰¹ H. Lithwick, Y. Gradus, I. Lithwick, *From Frontier to Periphery: The Development of Israel's Negev* in Y. Gradus, H. Lithwick *Frontiers in Regional Development*, Rowman & Littlefield Publishers Inc., Lanham, 1996, p. 143-170.

processes relative to urban outlines.

Indeed, similar to past models, the Ministry's public residential units were noticeably smaller than the average apartment in the private sector. As in the first 30 years of Israel's existence, extensive use of duplication of the same model to assemble a residential neighborhood unit was used. However, unlike past cases, the scale of the new neighborhoods was relatively smaller due to the time table considerations²⁰².

In Dimona, the 'Khahmei Israel' neighborhood was constructed in 1990. The neighborhood, like many others across Israel, was assigned to answer the housing crisis of the former USSR immigrants. Three-story apartment buildings from prefabricated blocks characterized the neighborhood construction. Accordingly, each of the buildings was placed inside a semi-circle shape that was assembled from 3-4 buildings that were facing the access road and parking bays. Similarly, the methods and materials were much comparable to the construction conducted in the '60s²⁰³.

In conclusion, the constant struggle between the centralized government approach and the Neo-liberal individual one in this period exemplifies exactly how turbulent and complicated this episode was. It raises many dilemmas regarding which is considered 'better' for the general public and which social group gets the greater benefit. Admittedly, between those two ideologies stood a solid product of planning, which could be measured by objective architectural tools. Nevertheless, the same solid product was 'conceived' under certain circumstances for a target audience and, therefore, represents a population that could be on both ends of the society's scale.

202 H.Sheder, op. cit., p.186-190.

203 D. Levi, *On the way up- Dimona and the Khahmei Yisrael neighborhood results*, "Calcalist" Daily financial newspaper, Rishon Le Zion, 22.9.11

Chapter 4

Dimona: Crisis to Abandonment & decaying

(1990-2015)



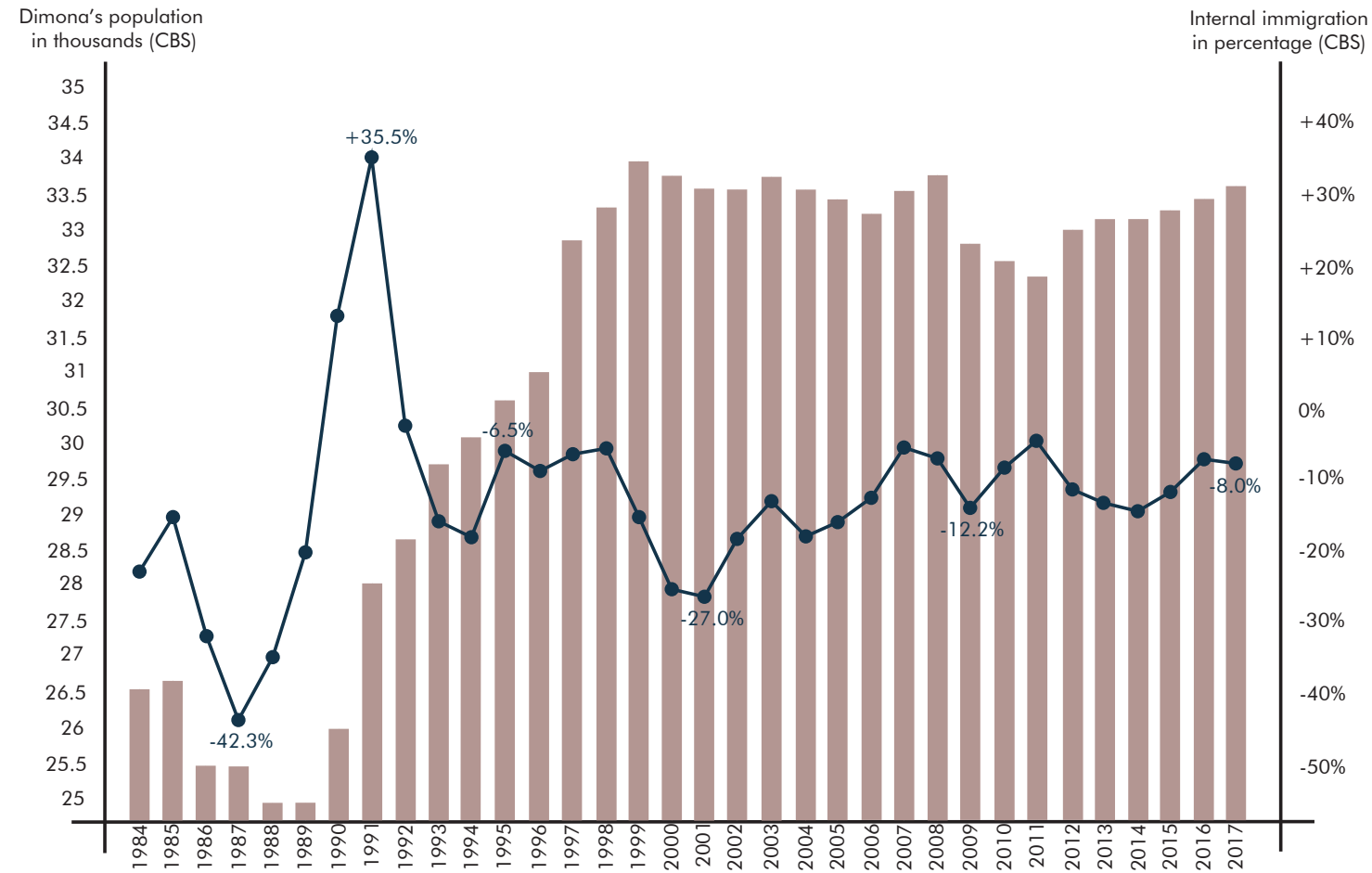
Figure 126: Abandoned manufacturing hall at Kifan Dimona 08.2019

The period between the early '60s and the mid-'80s was considered a significant period for the industrial branch in the peripheral areas as well as in Israel in general. During this period, as was previously motioned, the main stakeholders in the national industries were encouraged to reduce/copy their industrial activity from the state's center toward the peripheral areas by using generous incentives such as subsidies, tax reduction, and other financial benefits.

The turning point for this period had occurred immediately after the Yom Kippur War (1983) when the first signs of post-war effects in Israel began to surface. The essential financial aid and subsidies were significantly downsized, and others were revoked entirely. A remarkable portion of the general budget was redirected toward the defense budget as a direct conclusion from the recent war trauma, leaving the industrial sector to cope with its new status. Correspondingly, the different enterprises understood that saver changes must be taken into consideration in order to survive in a unique situation. This particular turning point was much researched throughout the mid to late '80s in the hope of retrieving some of its main features as well as offering different alternative courses of action for the future of the industrial branch in the Negev.

Above all researchers, two main conclusions stood out. The first was the need for diversity in the industrial sectors, with a direct implication towards the high-tech industry. The second was to urgently start operating different 'effectiveness strategies,' which will include severe dismissals in the existing workforce. Eventually, those exact conclusions will be adapted by the government officials and industry entrepreneurs during the mid-'90s and early 2000, only to realize that they were long overdue their actual surviving limit.

This chapter will primarily focus on describing the industrial status through chronological timeline development in order to fully capacitate the first signs of the abandonment and the decayed phenomenon. The first part of the chapter will be dedicated to the preexisting problems in the industrial sector that eventually played a crucial role during the decay process. The second part will mainly focus on the workforce component and its ongoing status throughout the period. Eventually, the last part will conclude the series of motives leading to the decay of the sector by elaborating on the globalization process that had greatly influence over the motioned motives (the first and second part of this subchapter) as well local market in Israel. Furthermore, the last part will engage with the crisis consequences by describing the actual abandonment process in Dimona as well as in its nearby surrounding area.



Tabel A: Poplation rate vers Internal immigration rate in Dimona 1984-2017 according to data from annual raports of CBS.

4.1 preliminary distress symptoms- financial crisis

4.1.1 Preexisting conditions

In order to understand the roots of the financial crises in the development towns in general and in Dimona in particular, one's must acknowledge three main preexisting conditions that were evident since the initial establishment in the late '50s. The first was the 'island phenomenon' which refers to the physical attributes of the industry away from the state's center; the second was the frequent use in the 'maximizes subsidiary' principle which refers to the financial insufficiency in the branch as well as the constant exploitation of subsidies for personal profit; the third was the absence of industrial diversity which refers to the inability to keep up with the technological adjustments of the globalization process.

Initially, even before the actual establishment of the industrialization process in Israel, it was well understood among the different stakeholders from the political side as well as the financial one that the peripheral industry will suffer from future isolation consequences due to physical-existing distance. Throughout the various discussions, several different courses of action we are taking into consideration in order to reduce the actual distance by different complementary alternatives. The leading solutions that were offered mainly targeted the sole usage of local resources in order to prevent future operational complications. However, most ideas regarding proximity to the raw materials (in the case of the mineral industries) or toward the employment source (in the case of the Dimona, Yerucham, Arad, and Mitzpe Ramon) were negligible once the neutral (footloose¹) industries were inserted into the area².

Certainly, when the neutral industries were set out, a new operational struggle has begun in order to try to reduce the never-ending gap between the local industries and the state's operational center, which was based in the coastal plain. In the research of Prof. Shinan³, this condition was named the 'island phenomenon' as it was referring to the actual distance as a solitude factor that is directly implicated over the different life terms in the development of town existence. A good example of the phenomenon could be portrayed in the decision to separate between the management headquarter of the factories and the actual operating factories. The separation initially occurred when most enterprises insisted on remaining close to the national financial district while simultaneously pushing the manufacturing factories toward the peripheral areas. The questionable consequences of such an irrational situation may be fatal to the future development of the factory when one can only base his future decision on numbers, columns, and

¹ 'Footloose industries' is a general term for an industry that can be placed and located at any location without effect from factors of production such as resources 'land' labor and capital.

² E. Burkhov, *The Industry and its problems in the development towns*, University of Tel Aviv press, Tel Aviv, 1988. p.17-20

³ L. Shinan-Shamir, *The suitability of Industries to non-metropolitan communities: The case of the Israeli development towns of Yerucham and Dimona*, Hebrew university of Jerusalem, the Technion - Israel Institute of Technology and Massachusetts Institute of Technology, Jerusalem, 1984.

Summary of internal immigration in the development towns 2006-2016

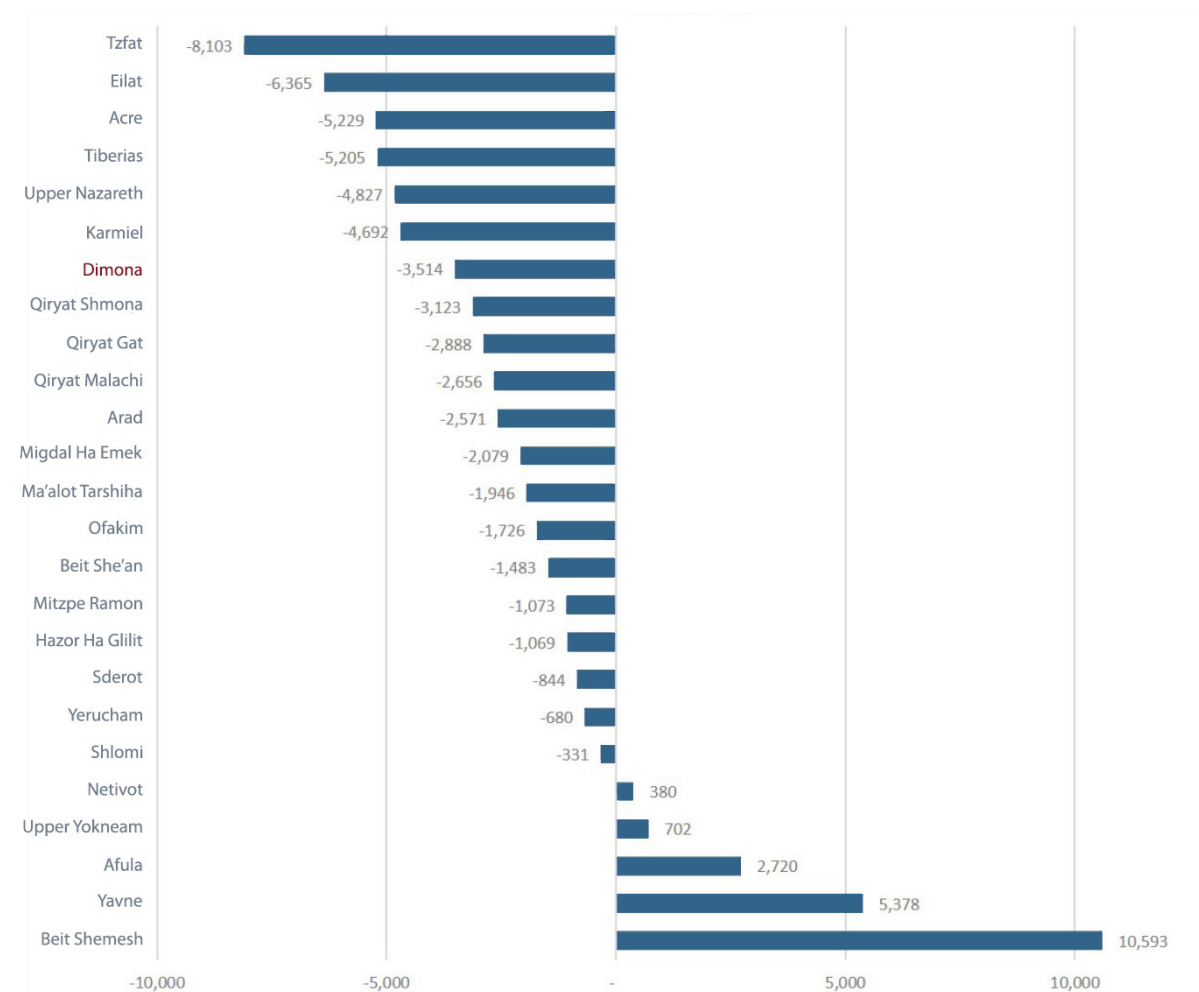


Table B: Summary of Internal immigration in the development towns 2006-2016. In: The Knesset of Israel, *A look at the development towns in Israel 1972-2016 for the annual day to honor the development town*, the Knesset press, Jerusalem, 2018. p.5

generic reports without even been evident once to the production process itself.⁴

The second preexisting condition that was evident from the initial establishment of the local industry was the constant tendency of the private and national enterprises to use subsidies funds for their benefit.

According to a preliminary analysis of the incentive data incorporated in the 'Capital Investment Encouragement Law' (1965), it can be learned that the 'letter of the law' was intentionally consistent with positive encouragement toward the local industry. Nevertheless, it could be claimed that the law had not precisely specified different clarification regarding which actions the funding could be used for nor for which specific targets the funds could be directed at.

The problem regarding the inaccuracy of the law had generated additional doubts regarding the true intention of the beneficiaries. As it seems, the majority of the recipients had not intended to increase any of their limited goods and were mainly concentrated only on producing traditional simple products without any additional innovation.⁵ That being the case, why should an industry that insists on remaining unprofitable to the local and national market be the primary beneficiary of that law?

A possible explanation regarding this irregular situation can be found in Prof. Shinan's study, where it was claimed that there was a clear tendency among the 'first generation' enterprises⁶ in the development towns to run their industries according to the principle called "maximize subsidies."⁷ This principle, which was mainly referred to as a specific type of management, indicates a certain negative behavior that tries to exploit all subsidies available by the management without even trying to be efficient or productive. In this case, the management does not encourage future upgrading of technologies nor employees' training as expected from a regular plant that maximized its profits⁸. Furthermore, in the case of the Israeli development towns, when the subsidies became unavailable, and the plant was at risk, the management turns to pressure the government officials for additional grants. Their main leverage was the fact that the plant held a large percentage of the town's employment, and by not supporting it, the rate of unemployment

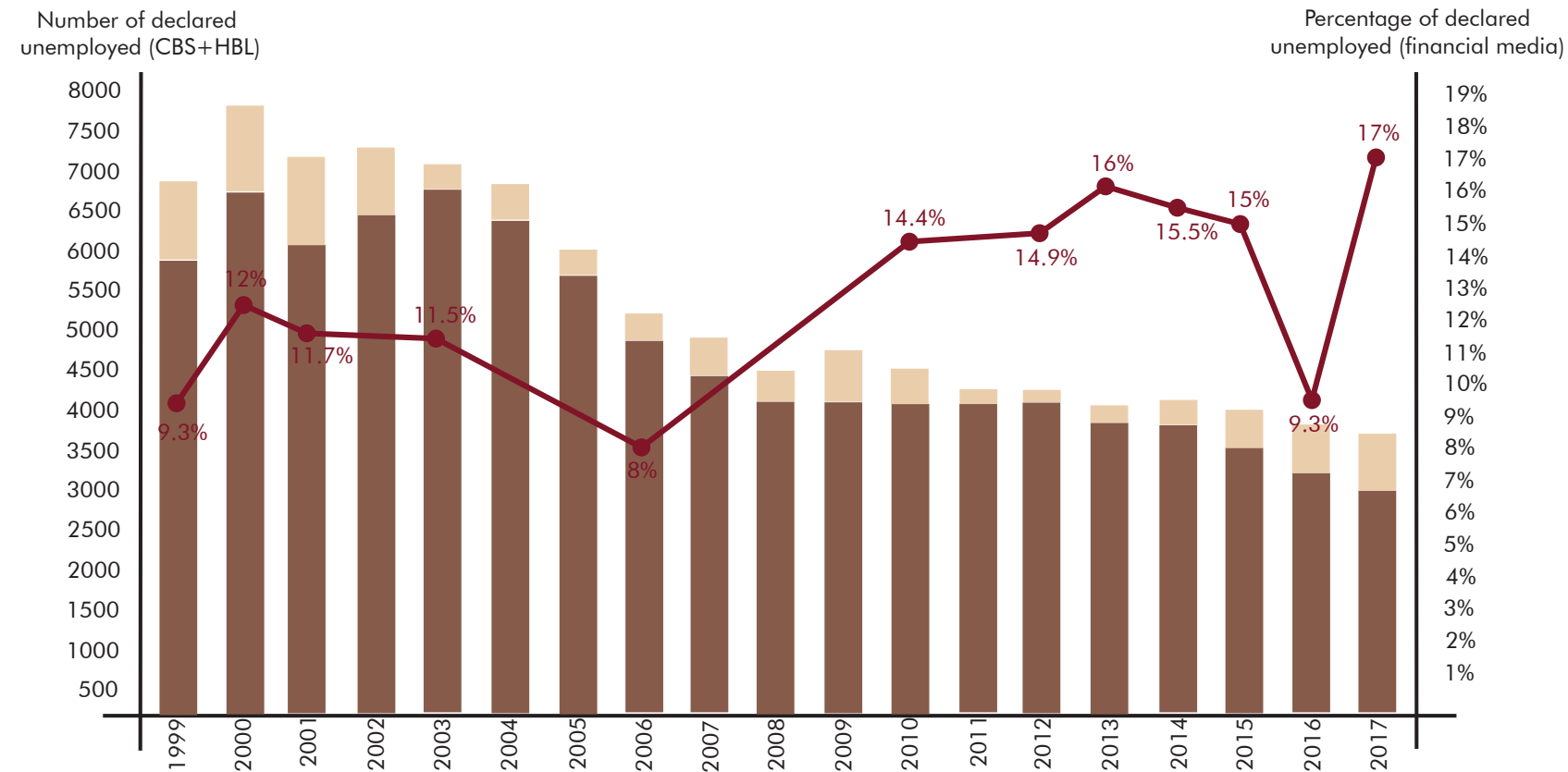
⁴ Shinan-Shamir. op. cit., p.370

⁵ E. Rozin, *The influence of the industrial organization structure on the development towns in Israel*, the Hebrew University, 1985. p.56-58.

⁶ 'First generation enterprises' is a general term for all industries established during the late 50's and early 60's. In the case of Dimona, the industries included under this title are: the Kittan Dimona textile factory, the 'Dimona Textile' Factory, the 'Sdom metal' factory and the 'Sakom Dimona' factory.

⁷ Shinan-Shamir. op. cit., p.374

⁸ D. Shwartz, *The effective incentive embodied in the Capital Investment Encouragement Law*, The Economic Quarterly Israel's Scientific journal No.124, Urin press, Jerusalem, 1985. p.12-21.



Tabel C: Unemployment rate in Dimona 1999-2017 according to data from CBS, HBL, and the financial media ("The marker" and "Globes" newspapers).

will significantly rise⁹. Under those circumstances, the government officials did not have any choice but to continue to support the development of the town's industries.

This particular tendency had pushed the enterprise owners to be unmotivated to operate their factories more efficiently, as they will gain their profit in any given case.¹⁰

Unquestionably, from this point on, it is possible to refer to the subsidies subject as a 'duel paradox' that will continue to 'hunt' the industry branch as well as the development town itself for the rest of its existence. The paradox thrives from one hand, as it was given primarily to encourage prosperity, good internal immigration balance, and low unemployment rate. However, the reality, as it turned out, was the complete opposite of the main target of these subsidies. The negative results of these subsidies turn the factories to outdated facilities, where progression and modernity were not reached, and the quality of the final products has not been improved or, in some cases, got even worse. This paradox will continue to outstanding not only in the industrial sector but in most of Dimona's municipal infrastructure levels as well as in the local's personal life¹¹.

The third preexisting condition that was evident in the Negev's industry at that period was the lack of diversity between the different types of industries.

The subject first surface into the governmental discussions after the Yom Kippur war in 1983, when the Israeli economy has suffered its first local economic crises and searched for additional alternatives to ensure the future stability of the sector. Additional justification to that idea came from academic studies that were conducted during the mid-'80s. In those studies, the researchers had supported the claim for industrial diversity, but at the same time, they specifically indicated the high-tech industries as the desirable branch for the industrial environment of the development towns in the Negev¹². This specific indication as opposed to the traditional branches was driven from the understanding that those towns should improve their professional –high –quality' workforce as well as to lure additional external personal to immigrate to their town, and improve their internal immigration rate. Moreover, the tremendous benefit that could prosper for the entry of the high-tech industry into the existing status was the possibility to achieve a 'financial safety net,' as this specific industry thrives through external international enterprises that do not rely on different national subsidies as well as on the influence of the local financial market.

⁹ Shinan-Shamir. op. cit., p.374

¹⁰ Shinan-Shamir. op. cit., p.223

¹¹ Shinan-Shamir. op. cit., p.395

¹² E. Rozin, *Closing factories in development towns 1975-1983*, The company for researching the land of Israel and its antiques Vol. 12, The Hebrew University, Jerusalem, 1986; E. Burkhov, *The Industry and its problems in the development towns*, University of Tel Aviv press, Tel Aviv, 1988; L. Shinan-Shamir, *The suitability of Industries to non-metropolitan communities: The case of the Israeli development towns of Yerucham and Dimona*, Hebrew university of Jerusalem, the Technion – Israel Institute of Technology and Massachusetts Institute of Technology, Jerusalem, 1984; D. Shefer, A. Frenkel *Job creation in development towns in Israel*, Technion – Israel Institute of Technology press, Haifa, 1989.

Nevertheless, the reality of the current status was much more complicated; then, it appears to meet the eye. The majority of entrepreneurs that were approached by government officials rejected the request by claiming that the location was far too remote for the industry to be developed as a technological center for manufacturing activities. The additional claim was regarding the lack of advanced infrastructure that should be accustomed to modern adjustment and should encourage the factories to reach their maximum production capacity. The last claim was orientated toward the lack of professional personnel in the development town and the unwillingness of the external workforce to move to the development town¹³. Be that as it may, the government's efforts to develop the high tech industry in the Eastern Negev had succeeded when three high-tech factories were opened during the early 90's - the Vishay factory by the large enterprise 'Dell' in Dimona in 1986, Flextronics in Arad in 1987 and Epsilor in Dimona in 1990. Despite this great achievement, most of the mentioned factories had suffered from a lack of professional workforce, and they were compelled to reduce their manufacturing activities over time. Consequently, two out of the three mentioned factories, couldn't sustain profitably and were forced to close their gates in 2012 (Epsilor) and in 2013 (Flextronics)¹⁴.

Given those points, it is possible to indicate that the preexisting conditions the industrial branch had suffered from were extremely acute and greatly codependent with the amount of 'generosity' the subsidies were given to them. Moreover, it is possible to recognize the fragility of the branch and to understand why the deterioration process had declined so rapidly in recent years.

4.1.2 The workforce struggle

Simultaneously to the undergoing financial reduction process, another disturbing yet important element was found critical to the factory productivity – it appeared as the factories had been suffering from low work ethics and from 'hidden unemployment' phenomenon¹⁵ that had caused substantial financial damages to the already troubled factories status.

The low working ethics was eventually a final result of preliminary symptoms that had been surfaced during the late '80s and early '90s.

The central symptom the local factories had suffered from was the lack of skilled management personal that could handle the recent changes of events in the industrial climate. In most cases, as the external enterprises claimed, the professional- skilled managers refused to resettle their families in the

¹³ D. Shefer, A. Frenkel, *Job creation in development towns in Israel*, Technion – Israel Institute of Technology press, Haifa, 1989. p.14-15; Y. Gardos, R. Nuriel, *The industry in the Negev: process, structure, location*, Ben Gurion University press, Be'er Sheva, 2008. p.59-60.

¹⁴ Y. Gardos, R. Nuriel. *op. cit.*, p.61

¹⁵ Hidden unemployment- a situation in which although people are technically in employment, their productivity is negligible or zero. This can occur when powerful trade unions can operate restrictive labor practices such as overmanning or where governments employ vast bureaucracies of civil servants. Definition by the Collins Dictionary of Economics 4th ed, HarperCollins Publishers, Glasgow, 2005.

development towns as they complained about the quality of life as well as the educational level that was insufficient to their desired needs. In an article published in 2003¹⁶, it was claimed that the disadvantages of moving into a development town outnumber the advantages. 'Being an administrator and living inside the community means being an administrator for twenty –four hours-a-day' says one of the managers. Eventually, due to the consistent refusal, the unskilled and unexperienced local management had to step in and take responsibility. Furthermore, In the eyes of the new candidates, the central encouragement to entre this fragile void was conceived as the perfect stepping stone to retreat from the monotonous harsh labor task and to gain additional political power for self-promotion and future opportunity in a higher comfortable position.

Under those circumstances, when the industrial crises started to show his implication during the early '90s, the small workshops began to closing their gats. However, unlike the small workshops that had struggles with the same financial difficulties, the larger industrial factories did not close. As was previously mentioned in the 'maximizes subsidies' principle, the large factories that were initially established due to government initiative activities and held the most significant employment percentage used that argument as leverage to pressure government officials to provide additional financial grants and discounts in order to keep the factories running.

The 'dual paradox' issue that had been discussed previously had surfaced back during that period and raised several crucial questions regarding the actual nature of the government's financial benefits. On the one hand, the government policy had delayed/prevented short-term unemployment and the collapse of the entire industrial sector, but at the same time, those same single benefits could not prevent the shrinking of factories' production activities as it's ongoing deterioration. The factories became less and less relevant as they offered low-quality products for the market as well as monotonous and boring occupational positions to the local workforce with low celerities and no promotion option. Furthermore, according to Prof. Shinan's research, the supply of labor and its profound benefits had a direct impact on the working population as well as their working ethics. Shinan had categorized the majority of the working employees in the industrial sector in Dimona as a 'secondary working market'¹⁷ or in other words, an unstructured working system, where there are no job ladders, few opportunities for promotion, unpredictable working relationships, primitive equipment, little variety in the range of jobs available and uniformly low wages¹⁸. Accordingly, the negative working environment had greatly influenced the willingness of the local work-

¹⁶D. Brush, *The Negev Complication*, "Ma'ariv" daily newspaper, Tel Aviv, 10.6.2003

¹⁷ According to the dual labor market theory, the industry's labor market is divided into two sectors: primary and secondary. The primary labor sector includes a structured working frame where there are job ladders, promotional channels, customary practices, a variety of job offers, high wages, employment stability and job security. Whether the second one is the complete opposite of the primary one and includes fewer opportunities in promotional channels as well as unstructured working frame that influence greatly on the working –cultural system.

¹⁸ Shinan–Shamir. *op. cit.*, p.161

force to improve their occupational capabilities and caused a severe shortage in the professional and technical workforce. By then, the enterprise management understood that they would be forced to use the incapable and unskilled personal to 'fill up the missing gaps' as well as to turn toward the 'second generation of workers'¹⁹ in the hope for a fresh and exuberant set of hands.

Although the second generation was considered the remedy for all the branch illnesses, it had rejected the possibility to join the working routine and even preferred to remain unemployed rather than to work under the existing conditions. Furthermore, one of the main obstacles in recruiting the 'second generation' was their high expectations regarding their future life in general and future employment conditions in particular²⁰. They complain bitterly against the available jobs, as they repeatedly stated against the low salaries compared to the actual amount of workload, let alone the outdated conditions, benefits, or promotion in the working place. Moreover, the unemployment benefits that were paid to the discharged soldiers²¹ increased the unwillingness feelings they had as the amount was almost comparable to the salaries paid in the textile plants²².

The new approach the second generation had portrayed reveals not only the changes the working culture had gained but also the local society as well. If, in the past, a position in the large factories was considered a decent workplace to support the rest of the family, then during the late '80s and early '90s, the position turned to be an unattractive spot that considered inferior and insufficient in the eyes of the second generation.

The reason behind this argument may be the outcome of the encounter of the local youth with the metropolitan life during their military service, as they started to compare their life conditions to others living in the state's center. In an article published in 2015, it was indicated that more than half of the second generation population hadn't returned to live in the Negev's development towns after their military service²³.

Undoubtedly, under those critical conditions, it was clear to the heads of the enterprises that severe acts must be taken in order to keep the factories running. In 'Kittan Dimona, the first step was to reduce the workforce to the minimum possible (The main dismissals occur between early 2000 to 2012) when

¹⁹ The second generation of workers is a general term for the population that was born and raised in Israel after the establishment of the development towns of Dimona.

²⁰ Shinan-Shamir. *op. cit.*, p.383

²¹ The mandatory service law obliges every person at the age of 18 to enlist to a mandatory service in the IDF for a period of 3 years, in the case of women the mandatory service is 2 years. At the end of the period all soldiers are entitled to a financial benefit in order to help them to integrate back to their civil personal lives.

²² E. Rozin, *The influence of the industrial organization structure on the development towns in Israel*, the Hebrew University, Jerusalem, 1985. p.52-28.

²³ S. Sade, *The tragedy of the periphery: the young generation flee to the center - and take the chance for a better future*, "The Marker" financial newspaper, Tel Aviv, 27.8.2015



Figure127: Abandoned sewing department at Kittan Dimona. 08.2018

the final result was only 40 remaining employees in early 2013. In 'Dimona textile,' the same approach was embraced when more than half the working population was dismissed in the mid-'80s, and the remaining continue to be dismissed over the early '90s.

Those drastic acts were considered to be essential not only to the future of the industry but also to the future existence of the development town in its current status. Moreover, it is essential to remember that those factories were not only competing among each other inside the local market but hoping to increase their incomes by exporting their products internationally. However, in order to do so, they first will need to accustom themselves to the global modernization demands and to stand still in front of the highly competitive race of the other developing countries such as Taiwan, China, and India.

4.1.3 The globalization effect

In order to fully capacitate the repercussions of the industrial crisis in the branch, it is necessary to mention the additional globalization factor that had a significant influence on the economic situation in Israel, and on Dimona in particular.

Initially, it is crucial to recognize the globalization process as an essential development component in the national manufacturing industry in Israel.

In Israel's case, the globalization process²⁴, which began in the 1970s, had reached its pick in the 2000s. During those years, the government's prime target was mainly referred toward the disintegration of the concentrated national framework and the establishment of national and private alternative corporations. In other words, generate new and advance financial structures that will connect the individual to the world without additional interferences of mediation by the nation-state. Eventually, it can be claimed that since the 1970s, Israel has been progressing on the globalization axis: from the 'locality,'²⁵ which was dominated in the first thirty years of statehood to 'globalization.'²⁶

The Israeli economy had turned into a post-industrial economy. Its outputs were recently focused on more specialized productive services, and less about industrial primary- traditional products. The national economy was now facing toward integration between a complex production system of multinational

²⁴ Globalization is the process of interaction and integration among people, companies, and governments worldwide. As a complex and multifaceted phenomenon, globalization is considered by some as a form of capitalist expansion with entails the integration of local and national economies into a global market. Definition by: S. Guttal, *Globalisation, "Development in practice"* journal Vol.17 No.4/5, Taylor and Francis Ltd., London ,2007. p.523

²⁵ The term 'locality' is referring to a generalization of terms such as: nationalism, centralization of the local financial market and its derivatives such as the agriculture and industry branches.

²⁶ The term 'globalization' is referring to a generalization of terms such as: post-nationalism, individualization and high-tech and advance science industry.

companies with global dominance²⁷.

Towards the end of the 1980s, alongside the government's decision to reduce its financial involvement, the average standard of living has increased, and capitalism got even stronger, especially in the first half of the 1990s. The strengthening of capitalism had produced two significant shifts in national status. The first was orientated toward the financial sector, when the individual turned to be perceived as a unit of consumption (and not as a unit of production as before). The import of consumption goods has risen considerably and with it entered the global consumer culture, particularly the American one. However, the local traditional product in the face of such competition had lost its original value and become even more neglected than before. The second shift was regarding the disintegration of old frames and the elimination of past beliefs in the different life patterns. The deliberate reduction of government involvement has shrunk as privatization deepens. The globalization of Israeli society has magnified the market's economic attributes and intensified the deterioration of its Zionist pioneer values. Moreover, it had exposed the local market to an increased global competition where the original status of Israel had negatively turned²⁸.

Accordingly, the situation in Dimona was accurately representing the negative effects that the globalization process had on Israel's industrial market. Throughout a decade, the local industry and municipality, as well as government officials, struggled with maintaining the stabilization of the sector as well as keeping it alive.

The first factory to handle with those procedures was 'Kittan Dimona,' which was still maintaining the highest percentage of local employees in Dimona (approximately 2500 employees). One of the first crucial dismissals had occurred in 2005 when the factory had lost its franchise with the IDF (by then the factory was the sole uniform supplier for the entire organization), the silk department was closed down, and the sewing department had been reduced in half in order to maintain the factory running²⁹. In 2010, the plant was reduced as part of the recovery process to about 200 employees, and in 2012 another dismissal process was recorded in which only about 40 employees were remain employed in the factory. In 2013 the 'Kittan enterprise' had announced the closure of 'Kittan Dimona' and the Dismissal of the remaining employees³⁰. The closure of Kittan Dimona marked more than anything the beginning of the abandonment and deterioration of the town, from which it was impossible to recover. Massive demon-

²⁷ B. Kipnis, *Greater Tel Aviv as an international City: Global Network Focus in Israeli Territory in Tel Aviv Jaffa- from a garden city to international city: first hundred years*, Pardes press, Haifa and Tel Aviv, 2009. p. 265.

²⁸ H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014. p.222.

²⁹ According to an interview conducted with former director of human resource of the Kittan factory Mr. Ze'ev Michael in August 2018.

³⁰ O.Koren, *The historical factory of Kittan Dimona had been closed , the remaining 40 employees will be dismissed*, "The Marker" financial newspaper, Tel Aviv, 2.12.2012.

strations, fights, personal attacks, and even barricades inside the factory departments had indicated how much the factory served as an essential asset to the local community. Consequently, since the factory officially abandoned in 2013, the structure remains completely intact and evident from most of Dimona's houses without any substantial use in its different facilities. The local municipality had decided to avoid additional aggravation with the local community. Therefore the factory is still guarded and locked away from various illegal invaders or other financial enterprises.

Another substantial enterprise in the textile branch that had to handle the globalization process was the factory of 'Dimona textile.' The financial trouble that the factory had to handle initially dated to the early '80s, where the first economic distress had shown its first signs. As was previously mentioned, since the factory was considered unprofitable as seen in the eyes of the national enterprises, the factory began changing hands until it got closed and abandoned in 1996³¹. The structure remains completely abandoned until local entrepreneurs had purchased the structure in 2002 and turned it into the first modern commercial center outside the town's urban existing grid³².

In the metal industry of Dimona, the two leading factories were 'Sedom Metals' for manufacturing industrial steel products and 'Sakum industries' for manufacturing silverware for the local market. Comparatively to the textile industry, both factories held a significantly lower percentage of employees from Dimona and the surrounding. However, the metal industry was still considered the third's most significant employment source in Dimona³³.

Accordingly, similar to the textile industry, the globalization process effects in Israel had caused both factories to close down- Sakum industries in the early '90s and Sedom metals in 2004. The structure of Sedom metals remains abandoned and neglected with no plans regarding the restoration nor the destruction of the structure. However, the Sakum industries factory was sold to other enterprises in the mid-'90s and changed its initial production intention³⁴.

The relatively new branch of the high-tech industries that were mentioned in chapter 4.1.1 was also suffering from productive effectiveness as well as from financial struggles. The Epsilon plant, which opened its doors in 1990 and produced batteries and equipment for the military industry, had failed to maintain the high-quality workforce, nor did it generate the expected profits without additional financial aid and therefore closed and abandoned in 2012³⁵. Another high-tech factory that opened in 1986 was a Vishay plant, which was part of the 'Dell corporation' for computer and communication parts manufac-

31 Y. Levinson, *The closure of Dimona Textile factory*, "Sheva" local newspaper, Be'er Sheva, 24.10.96.

32 For Additional information regarding the current status of the factories – please see chapter 4.3.3.

33 D. Shefer, A. Frenkel. op. cit., p.41

34 The Israeli Labor movement and Beit Berl College website – unknown author

35 O. Petersburg, *The Epsilon factory had stop its activities*, "Yediot Ahronot" daily newspaper, Rishon Le Zion, 4.7.2012

turing. During the years of early 2000, the factory reported a relatively large shortage of quality workforce and supportive budgets³⁶. During recent years, the factory had been operating under the saver reduction of the workforce and maintained its existence mainly out of the international 'cooperation of Dell.'

Furthermore, it is essential to mention additional small factories in Dimona and the surrounding that got significantly damaged due to the globalization process in Israel.

Industries in Dimona: The Meteor plant (produce agricultural nets) got closed in 2015³⁷, and the factories of Al-bad (for manufacturing traditional textile supplements), as well as Tiv Ta'am (food processing industry), got a significant reduction in the workforce amount over the recent decade³⁸. According to the financial media, those factories continue to exist due to sporadic governmental grants given during difficult periods.

Industries in the surrounding of Dimona: The high-tech factory of Flextronics (former Motorola) in Arad was closed in 2013 while leaving a large number of employees from Dimona³⁹. Furthermore, an additional large factory of textile called 'Arad towels' that served as a 'safety net' for the dismissed employees of the Kittan Dimona got closed during 2014⁴⁰. In 2017 in Yerucham, the large factory of 'Negev Ceramics' got closed⁴¹, and in 2019 after constant struggles, the Emilia Cosmetics Laboratories got closed⁴². Even stable enterprises such as Cil (extraction and production of minerals from the Negev quarries) in Sedom that was considered to be one of the most stable industry due to its great proximity to the extracting mineral sites has also been facing financial difficulties and had to fire over 400 employees in the last years⁴³.

Admittedly, in light of the recent developments in the industrial branch in Dimona and its surroundings, it is solid to determine that the industrial sector had led the first deterioration step tower the

36 N. Zomer, *Vishay will fire additional 400 employees*, "Yediot Ahronot" daily newspaper, Rishon Le Zion, 28.01.2009

37 A. Kamer, I. Koriel, *The Dimona outcry: 'I'm afraid to propose marriage to my spouse, which future will my forthcoming children will have?'*, "Yediot Ahronot" daily newspaper, Rishon Le Zion, 15.05.2015

38 O. Koren, *Deari to Kahlon: assist in supporting Tiv Ta'am factory in Dimona*, "The Marker" financial newspaper, Tel Aviv, 21.5.2015; E.Azran, *Failed deal: Al Bad is closing yet another factory*, "The Marker" financial newspaper, Tel Aviv, 1.7.2018

39 Y. Azulay, *Crisis in the informatics branch: Flextronics is closing the factory in Arad*, "Globes" financial newspaper, Rishon Le Zion, 18.08.2013

40 D. Refaeli, *The Arad towels factory is closing its gates; 100 employees were fired two months ago, additional 170 will be fired today*, "Calcalist" financial newspaper, Rishon Le Zion, 19.10.2014.

41 G. Hazani, *Negev Ceramics is closing the factory in Yerucham, 120 employees will be fired*, "Calcalist" financial newspaper, Rishon Le Zion, 13.10.2017.

42 G. Hazani, *It's official: Emilia Cosmetics is closing its factory in Yerucham*, "Calcalist" financial newspaper, Rishon Le Zion, 06.05.2019.

43 H. Bior, *The Cil workers had demonstrated in Dimona: 'The dismissals will worsen the town's status, there are hardly any other employment alternatives'*, "The Marker" financial newspaper, Tel Aviv, 18.05.2015



Figure 128: The last employees in Kittan Dimona demonstrate in front of the factory's gate. In: R. Arad, *The closer of Kittan Dimona is a pre-meditated chronic behavior of burning tires*, "Ha Aretz" daily newspaper, Tel Aviv, 27.12.12.

abandonment process. Although the deterioration process hadn't happened at once, it was still evident in its first symptoms starting from the early '90s and mark its undeniable pick during 2013-2014 as most of the large factories had been shut down.

Correspondingly, the considerable amount of political conflicts, financial battles, and political negotiation written in daily articles regarding Dimona's status were and still are keeping the national financial community busy. The astonishment regarding its miraculous establishment of the industry was quickly turned into a daily defamation battle over Dimona's image and its future in the eyes of the national population. This particular negative image continues to hunt the town as long as the present status continues to the role.

4.2 The 'house of cards' effect⁴⁴ – a human crisis

The idea that ethnic-social groups are being orientated to settled around a specific place is not considered a revolutionary concept in the geographical research field. Furthermore, in the past, as in recent years, there were several serious attempts to genuinely address this topic by investigating how the organization of a group around a place imparts to its identity and image.

As far as the recent studies show, 'the place' is a central component in the resident's identities. At the same time, it has a direct influence over their social relationships component that takes part in its declared territory. Therefore, it is certain to say that 'the place' is not only considered a physical-geographical location but also serves as a shaping instrument to the identity and image of its residents. Nevertheless, it could be argued that not only the basic characteristics of the place can be accounted for all local and spatial relations. While 'the place' is considered a given physical element, it is still subjected to the nature of the social, economic, and political activity inside its boundaries. Moreover, it could be determined that those activities held a strong influence over the position of its residence in the social hierarchy scale and, accordingly, shape their perception concerning the changing image of the place⁴⁵.

In light of this critical research, several conclusions regarding the Dimona case could be projected over the local population as well as their self reflecting image. From a general perspective, the range of the images that Dimona had over the years mainly varies from a deprived population that was forced to live under harsh conditions in the desert to a unique integration malting put thriving against all the odds. However, unlike the '70s and '80s, most of the images regarding the '90s had been occupied with negative deprived images that continue to hunt the town to this very day.

As was previously noted, during the 1990s and 2000s, Dimona suffered from an ongoing finan-

⁴⁴ 'house of cards' effect - A plan, organization, or other entity that is destined to fail due to a weak structure or foundation. Definition by: *Farlex Idioms and slang dictionary* 5th edition, Farlex international, Pennsylvania, 2015

⁴⁵ A. Tzfadia, *Immigrants in peripheral towns in the Israeli settler society: Mizrahim in development towns face Russian migration*, Ben Gurion University, Be'er Sheva, 2003. p.14-16.



Figure 129: Fainting women in the last employees in Kitten Dimona demonstrate in front of the factory's gate. The sign says " Kitten - a Chinese work", In: R. Arad, *The closer of Kitten Dimona is a premeditated chronic behavior of burning tires*, "Ha Aretz" daily newspaper, Tel Aviv, 27.12.12.

cial-industrial crisis, which severely affected the labor force task in terms of the working conditions in the beginning and extensive layoffs in recent years. The final result for those ongoing process where the high rate percentage of unemployment among the different age groups in Dimona. Nevertheless, the price the 'human factor' had to pay for the ongoing financial crises was much more profound and broader than what it initially appeared to be seen.

The human factor had plenty of implications that were even more intensified in the face of the cold-shouldered policies from the government and the press all-together. These difficulties have evolved into several phenomena that have dominated in Dimona over the past decade.

Unemployment

The first phenomenon that can be directly attributed to the collapse of the leading factories in Dimona and its surroundings is the phenomenon of unemployment.

Initially, the phenomenon of unemployment can be defined as a secondary by-product, which forms an integral and natural part of the development of any ordinary industry. Nevertheless, looking closer into the severe economic crisis period, a growing and alarming increment of unemployed percentages can be identified, which constitutes a dangerous precedent for the continued development of the development town as a settlement model.

As this thesis began to trace the exact unemployment data in order to draw a clear picture of the phenomenon, significant inconsistencies were found. In order to understand why this discrepancy occurs, it is needed to explain the necessary regulation regarding the basic bureaucratic definitions.

It appears that, according to the Israeli government, there are two categories of the term 'unemployed.' The first refers to a person who is unemployed at the given moment and requests an unemployment allowance in an orderly manner until he/she finds a suitable place to work, and the second is a person who holds a job, but his salary does not reach the minimum legal salary and therefore must be entitled to an additional partial allowance. Thus, in order to present a clearer picture, this study presents the data from a vast official governmental source as well as concludes with a hypothesis regarding the reason for the inaccuracy.

According to Prof. Grados's report, between the years 1980-1989, the number of job seekers concerning the number of existing residents was low and manifested a natural tendency in the exchange of workforce in the workplaces. From the beginning of the 1990s, additional statistics can be found on the National Insurance Institute of Israel's (HBL)⁴⁶ website, which shows an estimated increase of double the amount of job seekers, compared to previous years. This phenomenon can be attributed to the entry of new immigrants from the former USSR into the local labor market, which did not substantially correlate

⁴⁶ The national insurance institute of Israel (HBL- Hebrew initials) is the national social security agency which generally responsible to transfer of supporting funds to disadvantages groups in the Israeli society.



Figure 130: Demonstration in the entrance junction of Dimona. In: I. Koral, *Dimona is prepared to strike: it's a national strike for us*, "Yedioth Ahronot" daily newspaper, 13.5.2015.

with the level of education or skills of new immigrants.

In the early 2000s, when the economic crisis began to intensify in Dimona, a new negative record was reached regarding unemployment data that crossed the national threshold and presented it as one of the most declining settlements in Israel. Nevertheless, due to the government's ambiguous definition of the real status of the unemployed, an inaccurate picture was created that did not fully reflect the severity of the situation and from which no conclusions could be drawn.

A representing example of the lack of clarity and inconsistency on this issue can be found in the year 2000 (see chart x). While the Central Bureau of Statistics (CBS) data regarding the number of unemployment benefit recipients stood on 1026⁴⁷ people, the HBL statistics indicated a completely different number - 6780 recipients⁴⁸. Furthermore, if we compare those numbers to the numbers that were published in the periodical reports the Adva Center⁴⁹ published, we discover that the percentage of unemployment stood on 12% or 4068 recipients for unemployment benefits. Under those circumstances, despite the problematic data, it can be said with certainty that the crisis does exist, but it is classified under various bureaucratic measures.

Towards the middle of the 2000s, it was evident that the unemployment trend was slowly declining, towered relatively stability. The reason for this decline is mainly attributable to government initiatives for economic support and prioritization of development towns under the annual national budget. Moreover, the policy of occasional subsidy benefits, continue to function in the background of the crisis as an additional instrument to decelerate the crisis.

Between 2013-2014, when the economic crisis was at its peak, and several factories were closed, an article published in the 'the marker' financial newspaper revealed that Dimona's real state is at a negative national peak of unemployed - 16% of the total population (about 5312 people from the town's population)⁵⁰. As was previously noted, the severity of the statue reflected from the governmental data of the CBS data and HBL are entirely different and represent a confusing misconception regarding the true nature of the crises. A probable explanation for this significant discrepancy can be found in an article published in 2015⁵¹, which argues that the Israeli government takes pride in low relative unemployment data as a positive national achievement. However, those questionable achievement has three main hy-

47 The Central Bureau of statistics of Israel, *The Dimona annual report*, The Prime Minister's office, Jerusalem, 2000.

48 E. Toledano, *Recipients of unemployment benefits for the year 2000*, the National Insurance Institute of Israel, Jerusalem, 2001.p. 53.

49 S. Savirsky, E.Konor, *Social report 2000*, The Adva center for information equality and social justice in Israel, Tel Aviv, 2001. p.16

50 T. Heruti -Sover, *The unemployment rate is decreasing, but in Dimona is still continue to rise above the 16 percent*, "The Marker" financial newspaper, Tel Aviv, 18.05.15

51 S.Pertz, *The dispute with Cil industries is the least of the problems the unemployment community has at the moment*, "The Marker" financial newspaper, Tel Aviv, 22.05.15



Figure 131: Demonstrate in Dimona concerning unemployment. In: S. Sidler, *Thousands of residences demonstrated in Dimona*, "Ha Aretz" daily newspaper, Tel Aviv, 17.5.2015.

pothetic contingencies: The first is that the low unemployment rate hides an increase in part-time workers and lower class workers with bare minimum wages, which does not allow for decent living conditions but provides a reasonable statistic for the government. The second probability is that the statistical unemployment rate is inaccurate due to a large number of residents who have been discouraged from seeking employment in a conventional legal way and have chosen to do what is necessary in order to survive the crisis (even if it means to use illegal/ borderline criminal acts). The third probability is that the low unemployment rate does not create a sense of urgency to build a modern labor market, thus encouraging government officials to keep the current situation as it is. Therefore, despite the partial figures and data on the extent of unemployment rates, there is a clear and problematic tendency regarding the employment situation as well as the first symptom indicating the beginning of the civil crisis in Dimona.

Negative migration

In an academic article published by the ministry of labor, social affairs, and social services⁵², researchers claim that unemployment, and especially ongoing unemployment condition, is causing a decline in living standards, impairing one's well-being and expanding behavioral patterns that harm one's surroundings. In addition to these findings and in light of the current state of Israel, it appears that there is a further link between ongoing unemployment in the developing towns and their negative immigration rates due to existing conditions.

The negative migration phenomenon is one of the most significant aspects indicating the harsh disappointment and disenchantment of the local community from the existing conditions.

In order to explore this phenomenon thoroughly, one must divide this complex subject into two different categories. The first refers to the general population motives in research for better quality living conditions in comparison to metropolitan areas where the several life-conditions were considered improved and modern, and the second refers to the disappointment the second wave of immigrants from the EX-USSR had experienced when they first settled in Dimona in the early '90s.

From a general perspective, the first generation of the population that came to live in Dimona as part of the population dispersal policy was mainly placed in the Negev in order to provide housing solutions for immigrants. But at the same time, it could be said that they were forced to move to the development town without any element of choice or prior knowledge, no need for persuasion or encouragement, nor even an attempt to motivate them. Either way, the historical part chooses to look at it; the final result will indicate that the local population was placed there because they did not have any other choice. However, this particular status is bound to change over time.

If in the 1950s it could be claimed that there was no alternative, due to shortage of time and resources,

⁵² J.Gal, I.Waiss, *Social workers, employment and unemployed in the "social and welfare" Journal* Vol. 25 No.4 , Ministry of labor, social affairs and social services , Jerusalem, 2005. p.489



Figure 132-133: The last employees in Kittan Dimona demonstrate in front of the factory's gate. In: R. Arad, *The closer of Kittan Dimona is a premeditated chronic behavior of burning tires*, "Ha Aretz" daily newspaper, Tel Aviv, 27.12.12.

then in the '80s and '90s, the tendency had changed entirely. The local population had started to face high rates of unemployment, and a lack of possibilities such as the metropolitan area has to offer. This situation forced the local community to reflect on its future alternatives and to seek better conditions.

In order to explore this argument, an academic study conducted by the Bank of Israel from 2006⁵³ shows that between the years 1983 to 1995, the first wave of negative immigration⁵⁴ took place. The study shows that middle-class families, as well as young, educated couples, tend to abandon the desert's development towns toward the metropolitan cities. According to the study, the tendency for internal migration increases with the level of education and income and decreases with age.

Furthermore, the authors that had conducted this study warn for future implications of the phenomenon. They claim that the transition of strong families from mixed urban communities (a community that incorporated by strong and weak components) to the metropolitan area will accelerate the process of social segregation, increases the sense of diversity among the different settlements, and even increase the disparity in the quality of educational systems between the various communities. Eventually, once this phenomenon is in motion, it will continue to intensify over time while causing the development model and its population to decrease till complete abandonment. This unfortunate prophecy was found quoted in several articles published in the financial media as part of interviews conducted with Knesset members⁵⁵ and residents who claim that "the periphery's biggest tragedy is that those who succeed - leave the development towns and flee to the state's center while leaving behind the disadvantaged and impoverished."⁵⁶

The second category that the negative migration was associated with was the Ex-USSR settlers in the '90s. This category, unlike the first one, was considered much more complex to explore due to lack of informative resources as well as a wide range of human emotions that surfaced prior, during, and after the entrance of those immigrants into the development towns.

Initially, prior to the actual arrival of the new immigrants, an extensive discussion regarding where the settlers should be placed was conducted under several occasions. In the academic research of A. Tzfadia, it was noted that by the early 1990s, a large number of the Negev municipals expressed their strong willingness to absorb the Soviet immigration into their urban settlements. Their enthusiasm could be explained by the fact that the Soviets were conceived as a quality community that could potentially increase the town's popularity as well as its financial flow and 'saves' the towns from their marginal-poor image.

⁵³ K. Braude, G. Navon, *Internal Migration in Israel*, research department of Bank of Israel, Jerusalem, 2006. p.30.

⁵⁴ The migration rate is the difference between the number of immigrants and the number of emigrants. When the number of emigrates is larger than the number of immigrants, a 'negative migration' rate occurs, meaning that more people are leaving the entering the area.

⁵⁵ The Knesset – is the unicameral national legislature authority of Israel.

⁵⁶ S. Sade, *The tragedy of the periphery: the young generation flee to the center - and take the chance for a better future*, "The Marker" financial newspaper, Tel Aviv, 27.8.2015.

However, unlike the local municipalities, the veteran community held a mixed attitude toward it. On the one hand, they sense empathy toward their status as new immigrants forced to move to an unknown territory. However, at the same time, the veteran community felt threatened by the entry of an entirely different attributes community into their homogenous social texture⁵⁷. The grounds for those feelings were expressed mainly throughout interviews conducted by the daily media in order to understand the source of the modern segregation inside the development towns in the Negev.

Particularly, it was claimed that the integration process had created a brutally visible distinction between new and old, or between privileged and disadvantaged. But more importantly, the integration discussion sparked the argument regarding the competition over the already reduced resources that were available to the town's residents. Examples such as public housing eligibility or available workplaces were considered an essential element in order to survive in the development towns, and by withholding one over the other caused the segregation to be even more profound.

Another critical argument regarding the new immigrants was concerned with their mixed emotions toward their new status in the development towns. For the most part, the new tenants felt they were discriminated as they were financially pushed toward the peripheral parts of Israel and were not assigned to the metropolitan area. Additionally, the residential projects there were rapidly approved and built in order to facilitate them were conducted in a dissatisfactory level that did not reflect the tenant's needs or desires but rather the government's poor abilities. But Above all arguments, stood the inadequate resources of work task offers that did not match their skills nor their basic financial needs in order to continue living in a decent matter.

An indication for this tendency could be found in the data collected by the CBS on the annual reports of Dimona⁵⁸ and the research work of Tzfadia⁵⁹. In those reports, it is evident that a large percentage of the immigrants that had officially arrived in Dimona in 1990-1991 had refused to settle and in a short period of time, they have begun departing towards the more established communities, such as Be'er Sheva and Dan Metropolitan⁶⁰ due to 'dissatisfaction with the proposed living conditions.'

In conclusion, the phenomenon of negative migration is considered one of the main influential factors to ignite the humanitarian crises in Dimona. It contains complicated and emotional tendencies that reflect not only to the town's analytical balance but rather to its ongoing rupture in its social texture

⁵⁷ A. Tzfadia, *Immigrants in peripheral towns in the Israeli settler society: Mizrahim in development towns face Russian migration*, Ben Gurion University, Be'er Sheva, 2003. p.340-349.

⁵⁸ The Central Bureau of statistics of Israel, *The Dimona annual report*, The Prime Minister's office, Jerusalem, 1990-1995.

⁵⁹ A. Tzfadia. *op. cit.*, p.56-57

⁶⁰ The Dan metropolitan is a general term for the massive urban aggregation that is located in the central plain of Israel. The metropolitan includes: Tel Aviv- Jaffa, Rishon Le Zion, Giva'atim, Ramat Gan etc.



Figure 134: Demonstrate in Dimona concerning unemployment. In: S. Sidler, *Thousands of residences demonstrated in Dimona*, "Ha Aretz" daily newspaper, Tel Aviv, 17.5.2015.

and its future implication regarding the remain population.

The deprivation tendency

'Israel's margins, which extends from Qiryat Shmona in the north to the Upper and Lower Galilee through the southern lowlands up until the Negev territory, encompass a large percentage of land which can be named as Israel's periphery. In most of these territories, there is a large aggregation of problematic characteristics, both geographical, demographic, as well as social and financial. Not only are these margins physically inferior, but they also populate the majority part of immigrants as well as disadvantaged and the misfortunate individuals who came to Israel in search of new life opportunities. For these communities, the ideological-pioneering slogans such as 'Israel's melting pot,' 'Kibbutz Galuyot,'⁶¹ and 'social integration' were considered only empty promises made by the state center as lip service for placing them in the first place in those positions. [...] Admittedly, those responsible for settling those communities have concisely sentenced them to reduced opportunities for future development, for future social inequality, for endless frustration against the ministry and, more importantly, for endless social deprivation"⁶².

According to the Cambridge dictionary, the definition for the 'deprivation' sentiment occurs once things or conditions that are usually considered necessary for a pleasant life condition are absent⁶³. In Dimona, the inadequacy of those conditions was existing prior to the financial crisis but got increasingly intensified in the face of its tragic consequences.

In most cases, the deprivation tendency could be described as a bleak vest of emotions such as alienation, rage, and desperation due to the indifference the hegemonic society held toward their existential distress. However, in much saver cases, the deprivation could be developed into a genuine frustration as the disadvantages communities were described in the national media as parasites to the national society. If at the beginning of the research, the hypothetical target communities were subjected mainly to the first generation population, then in the recent parts of the research, it is evident that the deprivation tendency was greatly permeated to the second generation as well. Be that as it may, the contradiction regarding the second generation remains enigmatic. Most of the second-generation individuals were born and raised in Israel, and maintain the possibilities to move away from the 'distressed area' once they turned to active adults or even try to improve their status by being a place at a better starting point then the first generation. However, despite the hypothetical opportunity they were given, the remaining part of the population chooses to inherited the sediments of bitterness and frustration and to continue memorizing past events

⁶¹ 'Kibbutz Galuyot' also can be called 'Ingathering of the Jewish diaspora' is a general term to pronounce the core idea of the Zionist movement – Gather all Jews in the promise land as the biblical promise given by Moses to the people of Israel (Deuteronomy 30:1-5)

⁶² S. Samuha, *Three Approaches in Sociology of Evidence Relations in Israel* in the "Megamut" multidisciplinary journal in social relations Vol.28 No.2-3, The Henrietta Szold Institute – The national institute for research in behavioral sciences press, Jerusalem,1984. p. 23

⁶³ The Cambridge academic content dictionary & Thesaurus, Cambridge University press, Cambridge, 2019.

at any given moment.

In order to understand better why the deprivation tendency was so empowering, one's must turn back to the establishment years of Dimona and explore the population status. According to several academic Researchers conducted in recent years, it was claimed that the source of the depravation emotion started when the prestige title of 'pioneers' was deprived form them. The researchers indicated that the immigrants of the first generation aspired to resemble those heroic pioneers that established Israel and considered themselves full partners in the Zionist settlement enterprise. However, as events turned, the state was reluctant to acknowledge their contribution and pushed them to the margins of Israeli existence. Although their actions were considered a substantial part of the settlement enterprise, their image continues to be reflected as a failed social desert experiment that deteriorates over time⁶⁴.

Correspondingly, all those harsh emotions surfaced throughout time and began to show severe consequences as foretold chronicle scenario.

In a protocol published by the Dimona Municipality in 2015, it was reported that due to the severe economic deterioration and rising unemployment rates, drug use had been increased by 22% and alcohol use by 130% among the general population. The report continues by stating that the number of criminal cases has significantly increased during previous years and stood on an average of about 3500 criminal cases per year⁶⁵. Furthermore, in a recent study regulated by the Knesset, the ranking of the local municipalities by their current socio-economic attributes, it became clear that the southern development towns and especially Dimona were contained the lowest ranking points relative to the national average. The categories where Dimona struggle spread over a large vest of classifications such as average income, the average number of private cars per household, the number of persons entitled to a matriculation certificate, the percentage of crime, and even the rate of drug consumption and alcoholism⁶⁶.

Undoubtedly, with the support of those reports, it is possible to indicate that social texture in Dimona was substantially damaged due to the financial crises. Nevertheless, according to the national media, a large amount of materials regarding the severity of the crises remains unrevealed and undocumented due to the inability of the municipality to control the crises as well as the unwillingness of the government to acknowledge it. In an article published on 2001, the acting mayor Albert Asaf (which his considered a member of the first generation in Dimona) was quoted saying that "In Dimona, there are dozens of undocumented cases where the head of the family is an alcoholic or drug addict that tends to take all

⁶⁴ A. pikar, *Inglorious pioneers: It's time to recognize the Zionist work of the development towns*, "Makor Rishon" newspaper, Jerusalem, 22.4.2018; Y. Shmariohu-Yeshuron, G.Ben Port, *Here to change: the settlement seeds in the periphery* in the "Megamut" multidisciplinary journal in social relations Vol.42 No.2, The Henrietta Szold Institute – The national institute for research in behavioral sciences press, Jerusalem, 2017. p.150-151

⁶⁵ The town of Dimona, *Council Meeting No. 31+33*, Nevo publisher, Jerusalem, 15.10.2015, 16.12.2015

⁶⁶ The Knesset of Israel, *A look at the development towns in Israel 1972-2016 for the anneal day to honor the development town*, the Knesset press, Jerusalem, 2018.

state-funded (unemployment benefits) toward alcohol and drug consumption. As a result of this behavior, his wife and children will be deprived of the necessary financial aid and will eventually be sentenced to hunger or even worse [...] to my knowledge, the capacity of this phenomenon is tremendous. While in Dimona, there are dozens of such horrifying cases, the southern development towns hold thousands more.”⁶⁷

The urgency reflected from such articles had bounded the Israeli public to observe the severity of crises and to pressure the government’s authorities to intervene with the current welfare programs and improve it. In a current scan regarding the number of welfare offices existing in Dimona today, it is possible to acknowledge a relatively high number of offices as well as unique programs oriented toward the specific needs of the local community. Among those offices, it is possible to find a shelter for distress teenage girls, a drug rehab institute, a shelter for domestic violence victims, as well as a prisoner rehabilitation center⁶⁸. Be that as it may, the help the government granted to support Dimona was already considered overdue in the face of its extensive dysfunctional existence. Its image continued to deteriorate as the deprivation of feelings among the local community continues to increase.

The vicious circle of subsidies and deprivation

There is no doubt that the initial designation of the government’s financial aid toward the development towns was essential. The development towns could not be established nor able to provide accommodation solutions to those who arrived in Israel during the 1950s without it. Nevertheless, it seems that this crucial yet primary element continues to accompany the town’s evolvement longer than expected and became the most controversial issue it had dealt with.

During the ’80s and ’90s, while the rest of the country was constantly changing and moderating, the Negev’s development towns continue to struggle with their vital evolvement. When they tried to redeem the balance, they discovered that they lack the necessary means to succeed. They decided to turn back to the government, deceived and depressed, to seek additional help. In return, the government understood the large potential this offer had encrypted in it and agreed to help. This is how the vicious cycle began to operate – while the government received ‘temporary silence’ by only providing financial aid, the residences intensified their dependence on it and continue demanding for more. This is the ‘original sin.’ It turns their dependency on the establishment to be constant⁶⁹. Moreover, it diminished the degree of resilience the population had left and sunk them in chronic distress.

This chronicle codependency behavior could be easily interpreted merely as a periodical financial en-

⁶⁷ Y. Elgazi, *Israel’s woodcutters and water carriers*, “Ha-Aretz” daily newspaper, Tel Aviv, 11.5.2001.

⁶⁸ Data according to Dimona official website 2019

⁶⁹ D. Ben Simon, *Dirty business in the south*, Keter publishing house Ltd., Jerusalem, 2002. p.11-12

Abandonment in Dimona

- Complete abandonment
- Abandoned public spaces

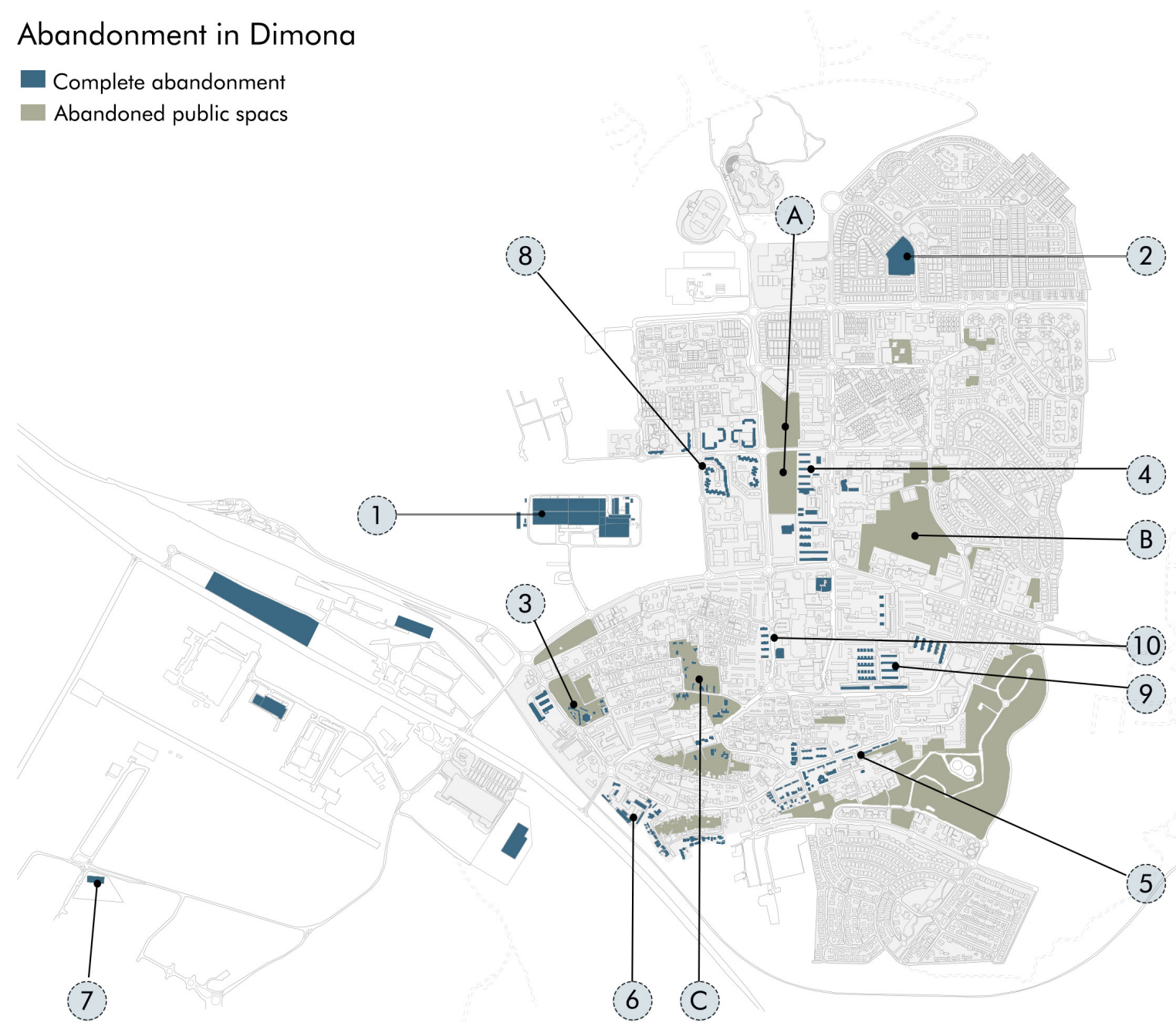


Figure 135: Abandonment in Dimona

couragement, when, in fact, it was considered a powerful political tool between the deprived local population and the endless financial support grant by the government's offices. To put it differently, as long as the town's image got worsens, the higher the subsidies it gets.

This type of chronicle behavior had turned poverty into a manipulated tool to pressure the government to provide additional financial support. Moreover, the constant complaints regarding the 'shortage' in resources and deprivation emotions had become synonymous with the development town's image. Therefore, the higher the unemployment rate will be, the more budgets for hiring and training and employees were being transferred, the higher the dropout rate will be, the more resources will be spent on improving educational programs, the more sewerage floods in the streets, the higher the budgets to improve the existing infrastructure. Nevertheless, while budgets continue to be spent, the town's image continues to be weaker and worse. The more the state invested in fulfilling those 'shortages,' the more the development town becomes dependent on the central establishment. Therefore, the same instrument that has been used continuously to 'rescue' Dimona became the main barrier to its evolution.⁷⁰

In the book 'Dirty business in the south' the journalist Daniel Ben Simon wrote that 'in the southern part of Israel, the people had grown accustomed to the eternal expectation that someone from above will rescue them at all costs from their distress, release them from their darkest uncertainty anguishes. Furthermore, if no major change will take place soon enough, it will be the biggest social disaster Israel has ever known'⁷¹.

4.3 Abandonment to decaying

Notably, the establishment process of the town of Dimona could be categorized as a 'force solution' upon the planning establishment in response to the 'emergency' state the state of Israel was in. From the first steps of the process, it was clear to the different stakeholders that this form of the settlement will be constituted with a necessary 'pressing' solution designed to provide the possibility of absorbing thousands of immigrants. Therefore, it is only logical that the planning and building establishment - the Jewish Agency and the Ministry of Housing - found no pretense to reach planning and construction qualities or to develop a life framework that would be designed to compete in the national market and attract population-based on freedom of choice.

The constraint to settle for basic architectural solutions had worked on both sides: the planning side as well as the tenants' side. The planners were forced to replicate and copy urban solutions in order to streamline and reduce construction, and the tenants were forced to enter those structures, without any alternative or future guarantees. For most of the development construction process, it is possible to indi-

⁷⁰ R. Davidovich- Marton, *From development towns to town's development* in M. Tovia-Bone, M. Bone, *The building of the land – Shikunim in the 50's, the united kibbutz and Red line publisher, Tel Aviv, 1999*.p. 148

⁷¹D. Ben Simon. *op. cit.*, p.165



Figure 136: Abandoned packing department of the Kattan factory. 08.2018

cate a few strong characteristics and different tendencies that stood out from the basic grid. Those strong 'impressions' that were once considered highly unusual and experimental in the urban landscape view had become an integral part of the urban texture gradually. Having said that, from a chronological point of view, those pioneering architecture projects that once perceived as a source of pride and progression became the main obstacle for the development of town landscape and imagery. Among the different characteristics, it could be found the monotonous duplication of building blocks, the lack of urban order and hierarchy among the different functions and parts, the lack of coherence in residential construction, and the use of public services spaces correctly.

This subchapter will deal with the abandonment and disintegration process of Dimona's architecture through the re-examination of status from the past years, describing the various issues of abandonment and neglect that exist in the town as well as the direct conclusions regarding contemporary urban trends.

The hollow urban values of the development town

A "Creation" of a place is not purely a proportional-architectural matter. While planning a residential structure or a neighborhood, there are additional values concerning the plasticity perception of the design, mainly those dealing with material and space. Those important values that continue to influence and shape the planning process are the main expressive tools for the planners' intention and approach. Meaning, those same values of material and space will express the planner's purpose, not only on the physical execution manner but rather on the abstract content that they wish to grant the place⁷². When the idea concerning Dimona was first proposed to the government officials, the 'new town model' suggestion portrayed as an urban-frontier-desert-settlement was perceived as a utopian- revolutionary idea. The enthusiasm that followed the revolutionary idea was supported by the use of 'modern architectural models' imported from Europe and America. Those models tried to resemble their foreign sources by impressively imitating and embedding their technical features in an attempt to produce the same architectural and social advancement. The aspirations for a new integrative community, whose quality will vary between advanced urbanism models and pioneering village, sparked the imagination of the Israeli planners and created endless utopian versions of that imaginary place.

However, in the face of utopian planning, the creation of 'the place' is bound to take into account the content it is going to be cast in to. Abstract content as historical content, cultural content, and aesthetic content, as well as the actual physical attribute content, must be taken into consideration during the planning process. Moreover, the use of those distinct abstract content can, more than anything, illuminate the planner's "vision" incorporated in the context of the project and highlight the important attributes

⁷² H. Sheder, *Three conceptions regarding the location of the public residential structure in Israel during the '50* in Reflection on the establishment of Israel Vol.16, The Ben Gurion Institute for researching Israel, the Zionism movement and Ben Gurion Legacy, Sade Boquer, 2006. p.373

the place has to offer. Notwithstanding, since most projects in Israel were conducted during the 1950s, additional social- immigration constraints were added to the content pail of consideration and force the planners to place them in a high priority in reference to the other contents ⁷³.

From past perspective and according to the quality of execution, it can be determined that the actual development town model, was planned and built without any substantial connection to the environmental, physical, social or urban ideology aspiration. The modern "models" on which the new cities in Europe and America were built became a significant turning point in opposite trends. Those cities' architecture served the cutting edge of social, ideological, and technological aspects, in the face of harsh constraints the reality in Israel had suffered from. Therefore, the model changed from a city that provides environmental qualities into a strain – frontier town that, throughout its development, continues consistently to seek competitive qualities with well-established cities. Reactions such as foreignness and isolation were thrown into development towns in Israel and continued to accompany them throughout their development, creating a problematic image that would hurt and even greatly influence their eventual collapse⁷⁴. If this was the case, then why those construction principles were still adopted and incorporated in the development towns in Israel? And why the planners had not responded adequately and changed the models simultaneously within the process?. In order to answer those questions, one must return to past architectural researches and examine the subject through a critical-periodical eye.

According to several academic publications⁷⁵, it is possible to indicate criticism toward the first urban model of Arie Sharon as it was categorized as an impractical model. The overly-green neighborhood units (taken from the garden city model) were perceived by planners as a futuristic oasis that will incorporate the rural atmosphere with a touch of urban tones. Yet, due to the aridity-desert characteristics, the model appeared as an impractical one. Additional criticism was referring to the extensive let alone wasteful use of structural space that had been conceived due to ground-level construction and the generous green belts that were planned between each structure. In this case, the planners had to raise additional doubts regarding the disproportionate amount of financial and physical efforts in order to develop the area.

In response to that criticism, the planners began searching for a remedy to the old model illness. They had begun systematically eliminating the green belts inside the urban texture and used the vicent

⁷³ A.Sharon , *Kibbutz + Bauhaus* ,Kraemer Verlag press, Stuttgart, 1976. p.148

⁷⁴ R. Davidovich- Marton. op. cit., p. 145-147

⁷⁵ E. Efrat, *Development Towns in Israel past or future?*, Tel Aviv University and Achiasaf Publishing House Ltd, Tel Aviv, 1987. p.16-20; E. Efrat, *Urbanization in Israel*, Croom Helm London & Canberra & St. Martin's Press, New York ,1984. P.158-162; N. Lichfield, *Israel's New Towns: A Strategy for their Future* (1971) in M. Tovia-Bone, M. Bone, *The building of the land – Shikunim in the 50's*, the united kibbutz and Red line publisher, Tel Aviv, 1999.p. 125-126; D. Knafo, *From Banalia to Local Monumentality - Changes in Contemporary Urbanism in Israel* in "Studio" Israeli art magazine Vol.28, Havazelet press, Tel Aviv. 1991. p.7

territories as appointed to insert additional structures inside the closed perimeter (the gaps between the residential structures was reduced compared significantly to Sharon's model). Furthermore, the use of open green public spaces (as public gardens) was reduced and obtained paved- structural elements rather than green natural ones.

Additional criticism was subjected to the ideal neighborhood format while disregarding to define the street value as well as the meaning of the total urban texture in the macro context. Therefore, the academic discussion turned to 'adopt' another functioning urban model in order to gather the loose fragments of the town. But even so, the continual use of the imported model remains a problematic issue. If in traditional well-established urban settlements in Europe, the link between the 'street space' uses and its sense of community was based on a long-standing and rooted urban heritage, in Israel, the connection was based on merely practical considerations. The street, in the eyes of the Israeli planners, remains a transition space where pedestrians, commercial centers, and neighborhood interactions do not exist. The old perception where the inner neighborhood space is the dominant element and its outer surface is mainly border elements caused the urban texture and the building sequence look fragmented, separate, and increased the sense of urban alienation⁷⁶. In the past perspective, Arc. Moshe Sfiadia had written a lesson from that planning approach, stating that 'The neighborhood models must not function as isolated independent communities.'⁷⁷

Consequently, due to the harsh critics regarding the old urban model, an undeniable shift in the urban texture approach had occurred. Unlike the 1960s and 1970s, when the Israeli architects' arguments were orientated exclusively toward the creation of a local identity inside the unitary neighborhood, the 1980s and 1990s arguments were extended toward flexible solutions that will help to gather the different fragments into a cohesive urban texture. By then, the idea of the central business district (CBD) that was inspired by the new town of Milton Keynes got developed, and the street status had turned to a 'fundamental element for the urban texture.'⁷⁸

The planners argued that by connecting the houses to the streets, they would metaphorically turn the 'space street' into the town's 'public living room' where it will be used as a social catalyst for the new social integration. Notwithstanding, this presuming revolutionary 'new idea' was copied from a much older model that was already existing in the pre-modern European towns – the town's main square.

Be that as it may, this link between aspirational community argument and physical -functional characteristics raises an important question: does mixing those elements create necessarily an integrative society

⁷⁶ H. Shedar, *Urban space – from forced community to individualism in the public urban structure in Reflection in the establishment of Israel*, The Ben Gurion Institute for researching Israel, the Zionism movement and Ben Gurion Legacy, Sade Boquer, 2006. p. 223-224.

⁷⁷ M. Sfiadia, *Modi'in: the story of the city's planning* in E.Meiron , *The city of Modi'in*, Yad Ben Zvi press, Jerusalem, 2014. p.206

⁷⁸ A. Harlep, *Israel builds 1988*, Ministry of housing and construction press, Jerusalem, 1988. p.93

and a sense of affinity to 'the place'?. The answers to this argument are positive. If, in general terms, the modernist city characteristics encouraged alienation - then mixing anti-modernist contents is automatically linked to hypothetical positive community sense.

However, in the case of the development town, the planners had not created revolutionary ideas in the first place but instead choose to imitate existing urban configurations and typologies that had already have proven community life in a different context. In that case, will copying the different models will help the town regain the same values ?⁷⁹.

Admittedly, throughout the current research, there was no conclusive response to this dilemma in any of the academic articles. Therefore, During the next subchapter, this highly important dilemma concerning the usage of the urban imported model will continue to be investigated based on further visits in Dimona, interviews with the local population, and articles from the national media.

Hypostasis and impressions

During 2019-2018, within the research thesis here presented, six visits were made to Dimona in order to estimate its architectural qualities, their true content, and the actual assessment regarding the abandonment and deterioration in its current status. According to a pre-arranged schedule program, each of the town's various neighborhoods, both new, renewed, and old, was visited. In each of the visits, the same fixed parameters were measured and assessed in order to have the ability to compare the different models. The fixed parameters were: the quality and value of the local architecture, the public space and its interaction with the town's CBD, the quality of intermediate spaces (spaces that were without assigned function according to municipal protocols), and finally, the scope of the deterioration and abandonment phenomenon. During this subchapter and the next one, the research will try to focus on the impressions, results and the conclusions derived from the observation process, as well as to fill in the gaps regarding the unknown phenomenon that have not been appearing in the academic studies that were reviewed during the first part of the thesis.

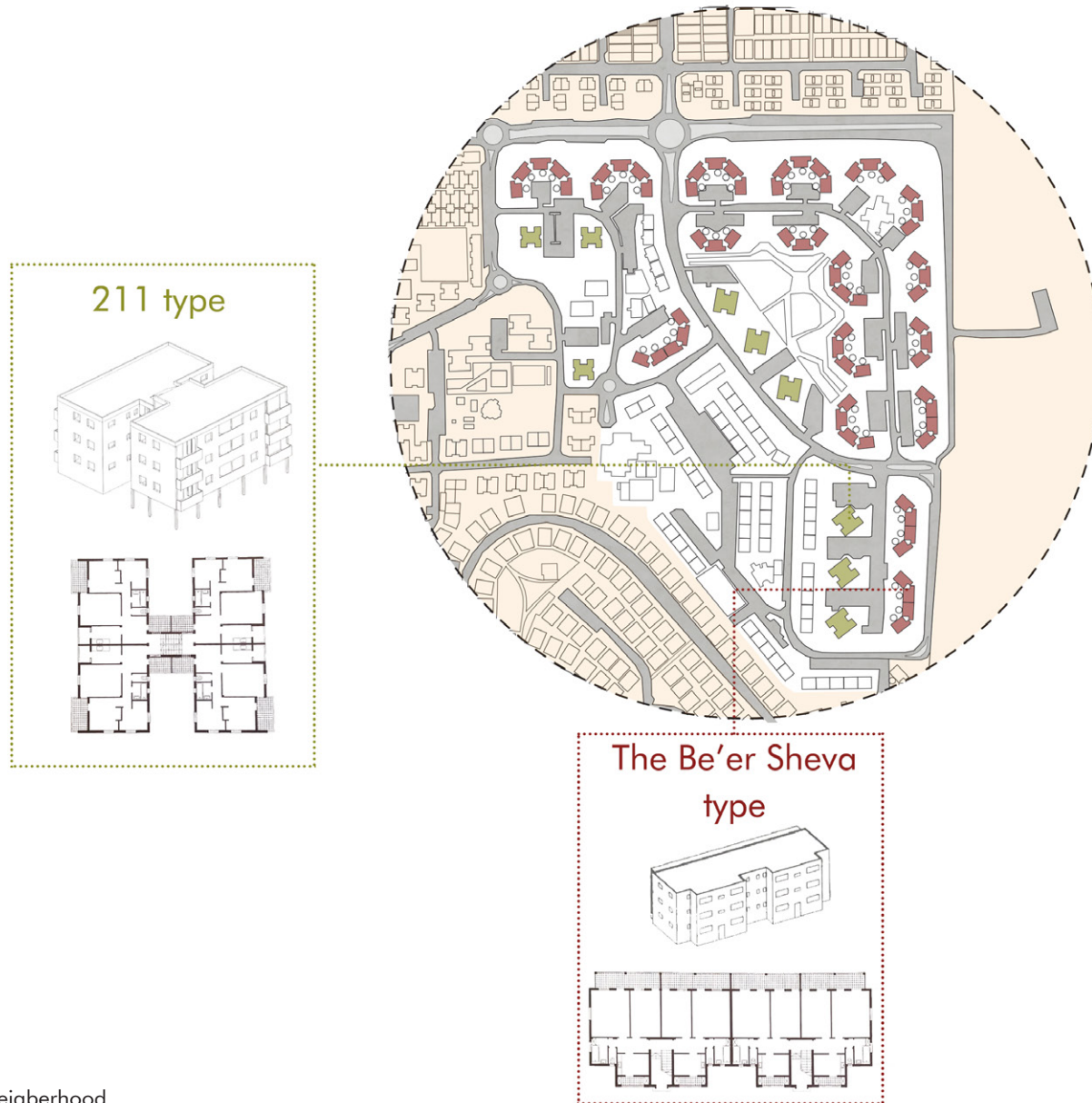
Initially, prior to the execution of the observation visits, a comparative assumption was needed: most studies regarding Dimona's architectural characteristics were concluded until the early 1980s, prior to the privatization and modernization penetration process, as well as to the different crises the town had suffered from. Although the academic studies continued to criticize Israeli construction and its new trends, a formal study concerning the specific architecture of the development towns and/or Dimona was not found.

Under those circumstances, in order to fill the missing informative gaps, it was necessary to approach alternative secondary resources (articles from the daily and economic press, reports from the

⁷⁹ H. Shedar (2006). *op. cit.*, p. 225



The Khahmei Israel neighborhood



National Bureau of Statistics, real estate website, and construction masterplan publicities approved by the Ministry of Housing and construction).

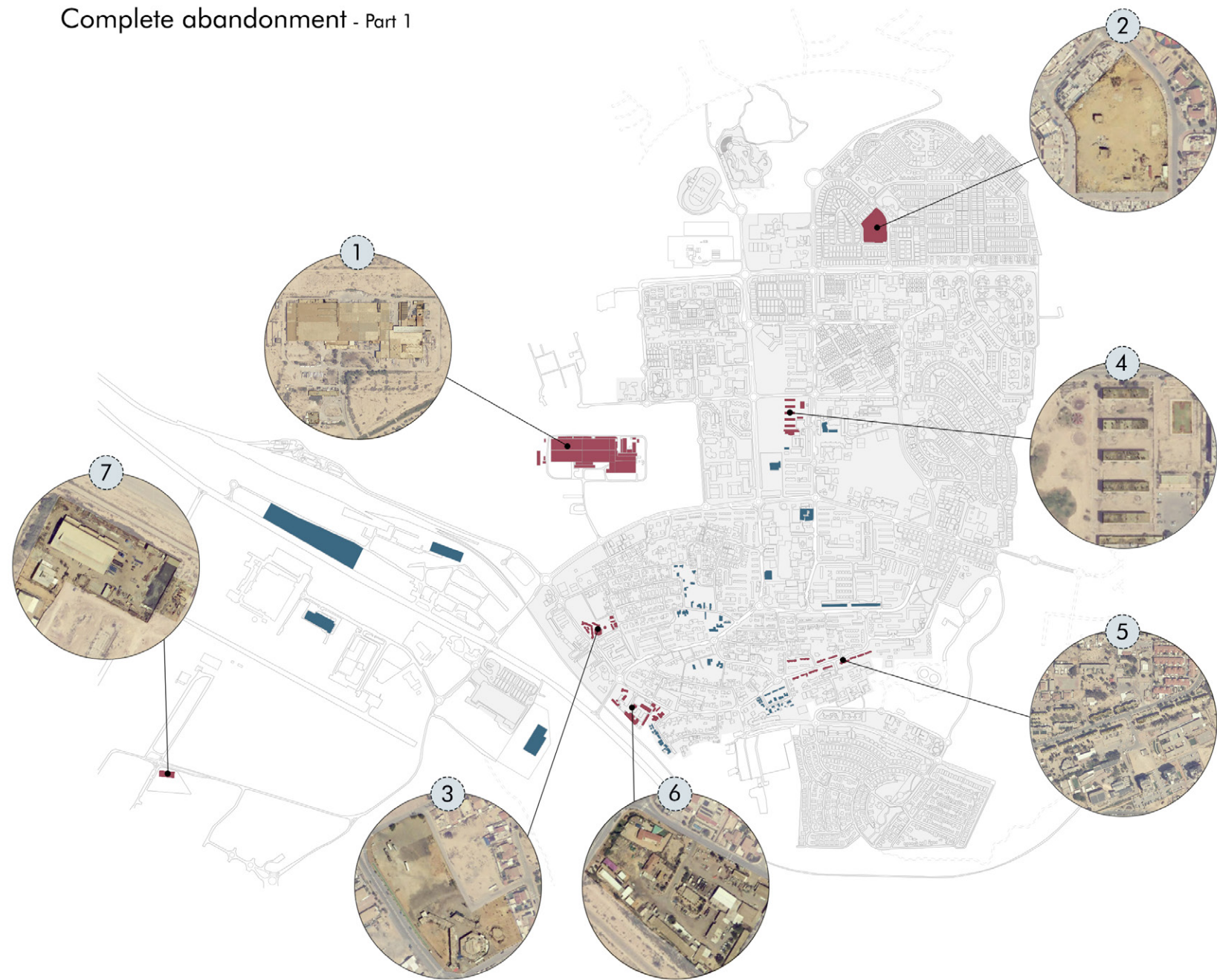
The first hypothesis regarding Dimona's actual status was about the expected low-quality attributes of the old southern neighborhood - mainly the Arava neighborhood and Shivat Ha Minim neighborhood compare to the rest of the town's neighborhoods. According to the municipalities programs that were published and approved during the years 1982 and 1990 under the title of 'Neighborhood renewal program,' it can be concluded that although these neighborhoods have undergone a necessary maintenance process, it cannot be determined that it was sufficiently comprehensive. Generally speaking, most programs that undergone with the same distinct nature were mainly focused on tidying up old residential structures, arranging and paving urban streets, adding street lighting and modern sewerage, water, and electricity infrastructure. Therefore, the main conclusion was that in most of these particular areas, the neighborhoods in question are to be expected bearing poor and dated architectural characteristics with a large percentage of neglecting and abandonment facilities.

Another hypothesis regarding experimental architectural neighborhoods was referring to the Exemplar neighborhood and the Victory neighborhood⁸⁰. Those in question were mainly based on the social and communal principals where the limited residential space (the minimal apartments sizes) and its orientation (the apartments were faced toward the internal communal space) served as a justification to the dominant hierarchy order of the urban planning texture toward the communal values the planners seek to grant the given space. That being the case, in retro-perspective to the entrance of modernity and individualism movement, the values of commodity and wellbeing became a desirable element greater than the old values of asceticism living space and communal space. The neighborhoods in question that still grasped the old values turned to an irrelevant 'product,' which in many cases was perceived as unsuitable in the eyes of the local residents. The 'Spartan' living spaces became too narrow and inflexible to adopt the modern needs of the local tenants, the imposed/forced community sense seems to exist, and most public space remains neglected or abandoned. Therefore, it can be presumed that these neighborhoods are partially inhabited and do not impose their role in trying to create social unity between the residents of the neighborhood.

As for the Benh Beitkha neighborhood and the Neve Halely neighborhood that was built by private investors under the individual establishment process, there were no precise details regarding the specific construction styles, such as photographic examples or critical reviews or charts. Therefore, it is extremely difficult to assess whether the postmodern architecture style had also penetrated the Dimona's part of the experiment or it was intentionally restraint to minimal attributes in order to withhold additional population segregation.

⁸⁰ for additional information regarding the Exemplar and Victory neighborhoods – see subchapter 3.4

Complete abandonment - Part 1



As for the Khahmei Israel neighborhood, which was approved and built in an expedited process following the immigration wave of the 1990s, the assumption was referring mainly to the quality of construction of the low population rate in its current status. The first part of the assumption was primarily based on municipal documentation that presented insufficiency in technical details or descriptions regarding the actual execution of the project. The second part of the assumption was driven as a conclusion from the official statistics showing the negative immigration rate out of Dimona, just a year after their initial arrival. The additional assumption regarding questionable technical deficiencies is evident in the relatively recent 'Mamshit neighborhood' (established in 2003). Unlike the previous examples, which were mainly concluded according to approved official documentation, this hypothesis was mainly based on articles published in the daily media⁸¹. These reports described severe construction failures that were discovered at the time of the construction. That being the case, it is possible to presume that, unlike other contemporary neighborhoods, this neighborhood is not fully populated and even neglected or abandoned in some particular parts.

As a final point, according to the annual reports of the CBS⁸², it can be learned that the municipal budget has been in deficit for more than two decades and has accumulated a considerable financial disadvantage since the mid-1990s. As a result of the limited financial resources, the yearly investment in the town's infrastructure and the development of the urban texture were extremely limited and concentrated only on essential repairs, such as the replacement of sewers pipe or a degraded paved road. Therefore, it can be stated with certainty that the state of Dimona in between the 90s to 2017 was considerably worse.

In light of these assumptions, the series of visits began to assess and determine the amount of deterioration and abandonment Dimona gain over the last decades. Throughout those visits, many hypotheses could be corroborated in the face of substantial evidence that where not to be found in any of the available academic sources. Furthermore, when the tours were orientated toward the deserted places, several similar trends emerged. Those in question maintain the same outcome of abandonment attributes, as unrestraint structures, lack of human-populated presents, neglect, and desertion. However, the argument regarding the initial creation was utterly different and held various reasons. That being the case, the phenomenon of abandonment can be categorized according to three general types: complete abandonment, temporary abandonment, and the abandonment of the public space.

Abandonment

The abandonment category is divided into two different types in order to categorize the phenomenon correctly by causes and official status.

⁸¹ G. Golan, *There are houses that termites have already eaten*, "Globes" financial newspaper, Rishon Le Zion, 13.6.2004.

⁸² The Central Bureau of statistics of Israel, *The Dimona annual report*, The Prime Minister's office, Jerusalem, 1999-2017.

Figure 137: Abandonment map



Figure 138: Abandoned packing department of the Kittan factory. 08.2018

The first type describes buildings that have not been inhabited for several years. In most cases, this phenomenon could be easily detected by massive industrial blocks assigned in their doorways and windows in order to prevent future intruders or other illegal sources of activities. In other cases, only close attention to the structure attributes reveals the outcome. Within this category, it is possible to indicate a lack of cohesion regarding the initial designation of the structure (the structure differs from industrial, commercial, and residential types) as well as their location (the structures are not accumulating under one concentrated area). Among the different abandoned buildings in Dimona, this study asks to shed light on seven representative examples that will demonstrate the presence of the abandonment phenomenon in Dimona.

1) The Kittan Dimona Plant

The first structure to be mentioned in context with the town's deterioration process was the Kittan Dimona textile plant. The representation that the plant had to offer concerned the town attributes regarding its financial, civil, and architectural implications. For starters, the factory location was deliberately placed near the residential urban texture in order to be represented among other things its future aspirations to become a symbol of advancement, success, and a primary source of employment to the town of Dimona. The plant's dominance in the town's landscape view is evident in every corner of the town, starting from the main access road to Dimona up to its appearance in almost every window in the nearby neighborhoods. Moreover, according to municipal reports⁸³, the plant's premises maintain 0.58 km² which is approximately 8% of the entire Dimona municipal territory.

Under those circumstances, it is possible to understand that when the plant officially got shut down in 2013, it was considered a more significant impact than what was initially assumed. More than anything, the closure of the factory symbolizes the deterioration of the development town model, the failure of the financial model, and the unresolved urban architectural system.

Perhaps it could explain why no one would like to change the current situation. Still today, the factory remains intact in its original form and location, without any substantial use in its structure or its premises. Moreover, most of its facilities and departments remain completely neglected and abandoned without any basic maintenance. The very existence of such an element inside Dimona's urban texture, continues to harm the urban structural continuity as well as to damage the regular functional activity and prevent the town from advancing and recuperating. But even so, unlike any other facilities in the list, the Kittan factory is still being guarded at all times, and the entrance to the premises is restricted only to the owners and authorized personnel.

⁸³ The District committee of construction in the Negev, Changes in plan No. 101/02/25, Israel land administration press, 1991.



Figure 139: The abandoned structure of the district hospital - 2005

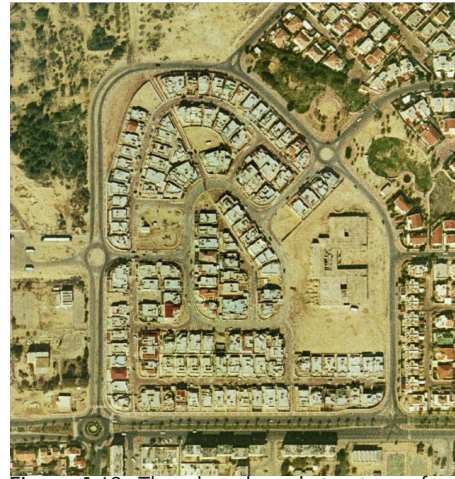


Figure 140: The abandoned structure of the district hospital - 2007



Figure 141: The abandoned structure of the district hospital - 2010



Figure 142: The abandoned structure of the district hospital - 2019. In: Mapi- Israel's official mapping center website

2) The district Hospital

The district hospital structure, which was constructed in 1967, was initially placed in an isolated northern part of the town's territory. During the early '70s, a controversial decision regarding the potential use of the facility had caused the construction process to completely stop while leaving behind only a base foundation structure and the ground floor standing. Over the years, the town development had expanded toward the north part, and the abandoned premises were brutally forced into the new modern urban texture as part of the Neve Halely neighborhood.

In 2000, an article in the financial Journal claimed that this area had been sold to a potential investor, in order to restore its healthcare purpose and transform it into a new geriatric center⁸⁴. However, by viewing the satellite image archive, it can be recognized that only in 2015, almost 12 years after the announcement, a partial demolition was conducted on the premises, leaving only the foundation and the elevators shafts standing (figure 137-140). In September 2019, when the last visit was conducted, the premises could not be approached due to a perimeter white metal fence that prevents direct access. Be that as it may, due to lack of working machinery, workforce, or constructional material, it could only be categorized at the moment as an abandoned premise.

3) The Old Market Area

The old market premises associated initially with the development stages of Dimona and was considered in past context to an enormous achievement to the local community – the import of a small portion of The Be'er Sheva Bazar to Dimona. The inauguration of the new premises was held on the intermediate area between the highway that connected Be'er Sheva and Sdom and the Shivat Ha- Minim Neighborhood. The proximity to the residential area was intended to grant the local tenants the sense of comfort and accessibility to shop their everyday products within walking distance. Nevertheless, in the face of repeated complaints regarding the amount of filth, noise, overcrowding, and disorganization that influence the rest of the residential area, the market, had to be evacuated. This action was eventually conducted under the first renewal project headed by the Likud right-wing party in 1982⁸⁵.

Over time, the old market complex remained deserted and neglected without receiving a new designation. The premises became a 'no man's land' by definition and were exposed to random intruders that frequently used the premises as an improvised shelter. During the visits conducted in August and September 2019, it was evident that illegal and even criminal elements overtook

⁸⁴ G. Golan, *Geriatric hospital will be established in Dimona with an investment of 15 million dollars*, "Globes" financial newspaper, Rishon Le Zion, 18.10.2000.

⁸⁵ Tahel engineering and consulting LTD, *Dimona's development portfolio*, the Ministry of Internal affairs press, Tel Aviv, 1982. p.88



Figure 143: Internal view of the abandoned premises of the district hospital. 08.2019

the area and turned it into a public hazard to the local community. Under those circumstances, it could be determined that over the life cycle of the premises, the problematic environmental –social issues were existing prior to the abandonment, but significantly increased after it.

4) The southern part of the Malchi Israel neighborhood

The Malchi Israel neighborhood was constructed in 1966 as an integral part of the uncompleted CBD of Dimona. The neighborhood mainly consisted of a repetitive series of a simple four-story residential block from type 139 of the Ministry of housing and construction (figure 144-146). Simultaneously to the construction of the neighborhood, an additional project of a 'sports promenade' was about to be established Parallel to the neighborhood structures. The planner's intention regarding both projects was to encourage the modern trend of centralizing the town toward its beating heart – the CBD. Moreover, the idea of incorporating a residential area with free well-being activities had charmed the local tenants and created what the planners wish for - encourage a greater sense of affinity toward the place there were living in.

Be that as it may, the neighborhood itself was declared as part of the public housing project, which destined its future evolvement up to the government's decision and restraint. Subsequently, it became nearly impossible to maintain a constant and stable population, both because of financial difficulties that the Ministry of housing determined in exchange for housing rents as well as the unappealing – poorly executed housing conditions. During the early 2000s, the southern part of the neighborhood got abandoned entirely, and the municipality had decided to seal the main entrances and windows in order to prevent future invaders. In a broadcast article for Channel 10, a member of the Knesset Ilan Gilon expresses his keenest disappointment from the government's policy on public housing while pointing out the results of that process by using the Malchi Israel neighborhood as a prime example. In the article, He claimed that the public housing structures are standing as a monumental symbol for the government's neglecting approach toward its residents⁸⁶.

With regard to his claim, it is possible to mark the ongoing paradox that had greatly influenced Dimona – from one hand a large stock of vacant apartments and on the other, designated population that cannot comply with the financial arrangement, as prescribed by law. As a result of this situation, the apartments remain empty at all times and become neglected and outdated. Since the limited budget is not sufficient to renovate or improve the condition, the government decided to block those structures and settle for the remaining ones.

During the visit in April 2019, it was evident that Sudanese immigrants and Palestinian illegal immigrants broke and intruded on the abandoned blocks.

⁸⁶ D. Gilhar, *Apartments for rent: Amidar's public housing project is abandon without future use*, Cannel 10, 1.12.2013.



Figure 144-145: Abandoned structure in Baba-Sali street 04.2020

5) The Baba-Sali Street inside the Arava Neighborhood

The Baba Sali street is considered the first main 'official' street in Dimona. Its location is inside the Arava neighborhood, and it contains the first 'hard construction' of Dimona after moving away from the transition camps. Most structures are three-story residential blocks with a single common-open air stairway case (type 210 of the Ministry of housing and construction- figure 236x). During the neighborhood renewal project in 1990, these buildings underwent a local restoration process that included re-plastering of the exterior walls, repainting the internal walls, and cleaning the common spaces of the structure⁸⁷. However, since then up to 2016, these buildings have not been maintained, and their poor structural quality has caused many of its residents to abandon them.

In 2016 it was published that another renovation project was launched in pursuance to turn those structures to a decent residential place. Notwithstanding, this renovation project, as it was conducted in the past, was restricted only to 'cosmetic changes' in the structure appearance without any substantial renovation for the actual facility as it was restricted only to the remaining populated structures⁸⁸.

During the tours that were conducted in 2018 and 2019, it is apparent that the majority part of these structures is completely abandoned. The remaining populated structures, as the local residence explained it, were offered to the disadvantaged, veteran population of Dimona for free as a gesture of goodwill.

6) The margins of the Arava neighborhood

On the margins of the Arava neighborhood, there is a closed area that served in the past as the transition camp area of Dimona. In 3.3.2 chapter, it was noted that when the residents began to move into the 'hard construction' structures, there were not enough apartments for all the town's residents. Therefore, the tenants had to continue living in the transition camp until they were told to move gradually towards the northern structural part of the neighborhood. Further on, when the premises became almost unoccupied (except for single tenants, couples without children and people who refused to be evacuated), it was decided to enclose the area with a high fence in order to prevent the future looting of the residents' property and from future protection of the remaining residents.

Today, this area still mostly consists of deconstructed asbestos/metal scraps that are placed in complete chaos. In the tour that took place in August 2019, the gates of the premises were breached, and the chaotic atmosphere continues to dominate. Additionally, In the surrounding

⁸⁷ Town of Dimona, *Dimona's renewal*, Unknown publisher, Dimona, 1994.

⁸⁸ A. Ben David, *Dimona: the renewal of neighborhoods project was lunched once again*, "Israel today" daily newspaper, Bat-Yam, 28.07.2016.



Figure 146-147: The abandoned residential structures of Malkei Israel neighborhood. 08.2019



Figure 148: The abandoned residential structures of Malkei Israel neighborhood. 08.2019

Complete abandonment - Part 2



Figure 149: Abandonment map - part 2

parameter of the area, there is a high percentage of abandoned cars that are disassembled and could not be moved. In attempting to review the municipal's approach regarding this area, there was no evidence that the area had been signed to an alternative urban function and, therefore, could be declared as an abandoned premise.

7) the Southern Part of Industrial district

The industrial district is located in the western part of Dimona, detached from the residential urban texture. In the past, this part contained a large number of large plants and small workshops, which contributed to the economic prosperity of the town until the mid-1980s. As was mentioned in Chapter 4.1.3, during the 2010-2014 period, when the economic crisis was at its peak, several large factories were closed and got abandoned. This category includes the Sodom metal plant, Sakum Dimona, and Dimona Textile. As previously noted, the Dimona Textile Factory was abandoned until the year 2002, when a group of construction entrepreneurs bought the structure and turned it to the first exterior commercial center of Dimona. The other two factories are remaining abandoned still today.

During the visits conducted in 2019, several attempts were made to revisit the abandoned factories, but all attempts failed due to obscurely blocked access roads.

The second type of abandonment refers to residential structures or compounds that were officially under existing ownership (of a private resident/ or government) but remains unpopulated for an extended period. Moreover, these structures are not considered abandoned according to the 'classic' abandonment definition due to their official title that they continue to hold under municipal records. This unique category includes two types of facilities: the first concerns residential apartments that are offered to be sold for an extended period (more than a decade) and the second concerns apartments under government's ownership that had not turned completely abandoned but continue to possess unpopulated characteristics due to their unsuitable-poor conditions. Accordingly, it is possible to presume that this phenomenon is considered even more problematic than the abandonment one. The reason for this presumption lies within the ambiguous identity these facilities possess. While the authority does not acknowledge the phenomenon and its actual scale, it continues to thrive and influence the immediate surroundings at all times. Among the different cases, this study asks to shed light on three representative examples that will demonstrate the presence of the phenomenon in Dimona its influence.

8) The northern part of the victory neighborhood

The northern part of the victory neighborhood is considered to be the second phase of the experimental project conducted by the architects Yitzhak Yashar and Dan Eitan in 1969. In chapter



Figure 150: The neglected 'sport promenade' parallel to the abandoned structures of Malkei Israel neighborhood. 08.2019



Figure 151: Internal facade of a residential structure in the Victory neighborhood. most apartments are vacant and still possible to see old 'for sale' signs. 08.2019

3.4, it was mentioned that this specific part was planned by an experimental diagonal shaped block as a border for the residential compound, which was considered a revolutionary idea in those days.

During a tour that was conducted in April 2019, an unusual number of "for sale" signs, as well as neglect compounds, were detected. Furthermore, in an enclosed conversation with the neighborhood's veteran residents, it was discovered that this particular part of the neighborhood had been unpopulated since the Kittan factory had been officially closed (since 2013). The hypothesis regarding the appearance of the phenomenon was divided into two. The first was officially connected to the Kittan Dimona factory as a past working place that no longer serves its purpose.

In interviews conducted with the local tenants, it was claimed that the factory served not only as a 'financial sources' but rather as a 'second home' for their social-integrative needs. Therefore, once the factory sees to function, the workers were severely hearts and seek for other alternatives elsewhere. The second hypothesis was concerning the shape of the experimental neighborhood and its inappropriate use in the modern age. As was mentioned in previous chapters, the modern life that had penetrated Dimona during the '90s changed the commune perception of communal life toward individualism and private personal priorities. Therefore, the social image the neighborhood had reflected ceased to corroborate with the modern conditions and began to appear as irrelevant to its tenants.

On the grounds of those hypotheses, additional research was conducted on the well-known national real estate website⁸⁹ in order to verify this phenomenon. As it appeared, the Victory neighborhood got the lowest real estate value in reference to all other neighborhoods, as well as the highest percentage in sales offers relative to other areas in Dimona (figures x).

9) The southern part of the Yoseftal neighborhood

The Yoseftal neighborhood (established in 1962/3) is considered to be the first neighborhood where imitation of modern residential models was implemented in the urban texture. The Long repetitive blocks that were proudly 'imported' from the Be'er Sheva metropolitan were initially inspired by the magnificent structures Le Corbusier had planned during those years.

In past perspective, it is possible to say that those particular blocks had reflected on the image of Dimona and served as a symbol of pride among the local tenants during the establishment years.

⁸⁹ The website of 'Madlen' is a commonly used tool among residents as professional in Israel to obtain 'transparency' in the national real state data.



Figure 152-154:
Internal facade of a
residential structure in the Victory
neighborhood.
08.2019

Nevertheless, that same symbol had turned over the years into a symbol of outdated clumsiness that reflects the unbalanced evolving the town had experienced. A comprehensive proof regarding the deteriorated status of the neighborhood is possible to find prior the actual visits, in the absence of any renewal project/initiative for this particular neighborhood. That being the case, it is only logical to find the neighborhood during the recent visits as an outdated, forgotten as well as inadequate compound that sees to function as a vital element in the urban texture.

During the visit conducted in September 2019, the Yoseftal neighborhood appeared to be almost uninhabited by local residence. The pedestrian movement was extremely minimal, while most structures maintain signs suggested that there were several attempts to sell some of the properties in the past. Moreover, most structures appear to be deteriorating, and the public spaces appeared to be neglected and filthy all around⁹⁰.

According to the Madlen website, the most residence had ranked this area as a substandard neighborhood in several relevant categories: cleanliness, absence of quality public area (such as parks or children's playground), lack of direct connection to the public transportation, lack of personal safety, lack of sense of community/ affinity to the neighborhood and lack of commodity for the pedestrians. In face of such results, it is possible to understand the symptoms that lead to the phenomenon in question as well as to be exposed to additional factors that had contributed to a lack of affinity toward the neighborhood.

10) The eastern part of the Shivat Ha-Minim neighborhood

The Shivat Ha-Minim neighborhood is considered one of first neighborhoods ever established in Dimona (alongside the Arava neighborhood). The eastern part of the neighborhood in question is located in parallel to Dimona's CBD and consisted of small and low residential blocks containing 4-6 apartments that spread over two floors of the structure. During the renewal project of the neighborhood, conducted in 1982, this area was not included in the plan and remain unrehabilitated until today. Nevertheless, due to the proximity to the town's CBD, it can be presumed that the demand and appealing attributes toward this area may be higher than expected. Be that as it may, during the visit that was conducted in August 2019, it appears as this area remain almost entirely uninhabited for an extended period. The main hypothesis regarding the appearance of the phenomenon may be connected to the low-outdated standard the facilities maintain, the limited living spaces the facilities provide as well as the decreasing relevance of the CBD have over the local tenants in modern times. Unfortunately, this hypothesis cannot be refuted nor to be

⁹⁰ For additional information regarding the quality of the public space – see the 4.3.3 subchapter

Abandoned public spaces

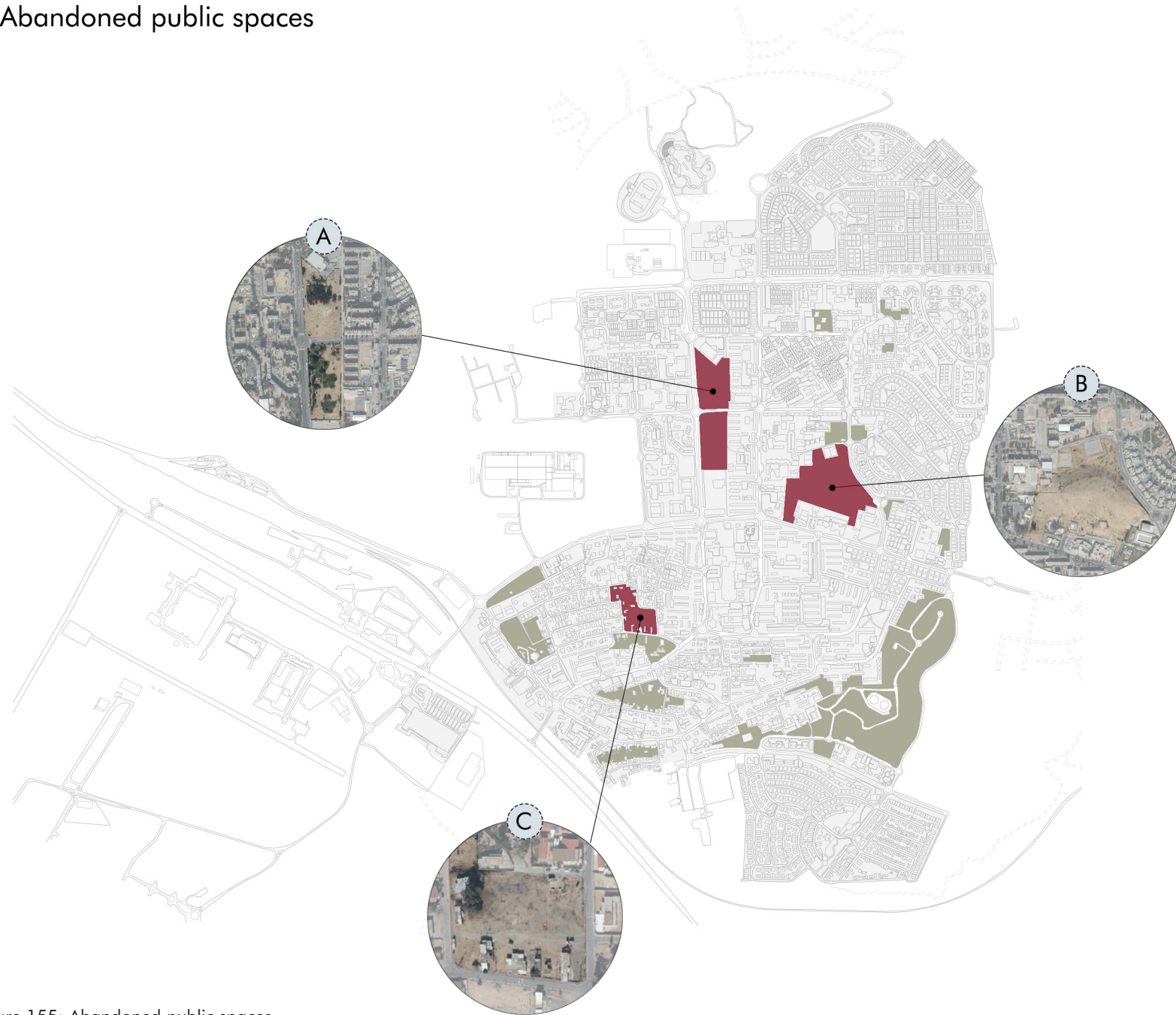


Figure 155: Abandoned public spaces

confirmed due to a lack of available information sources.

Abandonment of public spaces

The second category regarding the abandonment phenomenon is dedicated to public space. This category includes nonfunctioning open territories that were resulted by a primary planning error or/ and undesired obstruction while the compounds' establishment was in motion. Cases such as failure to complete urban projects as well as to assigned functions to the specific area by the municipality are the selected examples that represent the category in question accurately. Unquestionably, these areas considered to be a 'no man's land' that the authorities nor the local residency would take under their responsibility. The lack of appealingness of this area had been increasing over the years and turned those areas to an environmental hazards that continue to influence the nearby surroundings at all times.

The main attribute regarding this area includes an unpaved and unrestrained piece of land that has been frequently used as an illegal dumping site for domestic as well as industrial trash. Moreover, the negative effect thrives even more profound once the wild wondering animals, as well as pests and parasites, reach the site and continue to spread the filth all around. Alternatively, attributes to the negativity the area consists are regarding the homeless/ questionable groups that engage, in most cases, with illegal activities (such as drug dealing, prostitution, and gambling) and disrupted the local sense of security in their surroundings.

Among the different cases, this study asks to shed light on three representative examples that will demonstrate the presence of the phenomenon in the public space of Dimona.

1) Area A – the central area of the CBD

The area of the CBD was developed during the early 60 in a territory that coincides with both existing neighborhoods of Dimona (Arava and Shivat Ha Minim). The main motives to create the area was mainly to transform the closed patterns of Sharon neighborhoods into a common urban center where all town's different neighborhoods will coincide and increase the local integration among them. Additional motives regarding the area were related to the mix functions the territory should maintain in order to reinforce its vitality and the quality of the 'street space' surrounding it.

In its first years, it was possible to indicate extensive construction activities that granted the local tenants a positive influence as well as a source of pride. Facilities such as the town's hall, Gil cinema, and coffee shop, Gil Hotel, banks, indoor commercial center, and many others were placed in the southern part of the territory in order to increase integration between the two neigh-



Figure 156-157:
Aridity in the middle of
town. 08.2019

-2010) it is possible to presume several hypotheses regarding the creation of the phenomenon. The most common one is regarding a result of disorganization in the municipality masterplan. As was mentioned previously, the CBD was created precisely for this purpose, and the majority of the facilities were intended to be located in it. Due to the unexplainable process, the territory had turned to a secondary-temporary CBD to continue serving the local tenants for that time. The unjustified disorganization this territory hold reinforce this hypocrisy as there was never a declared masterplan for the area nor clear strategy regarding the different functions and their position.

During the visit that was conducted in August 2019, it seems that the area remains disorganized and neglected in the central of the area. Moreover, the territory in question disrupts the urban texture and physically separates the different functions in it. In other words, in order to move from one end of the premises to the other, a detour using the perimeter Roads is required.

3) Area C- the center of Shivat Ha Minim neighborhood

The intended area is situated right in the center of the Shivat Ha Minim neighborhood and considered to be a result of an unfinished project conducted by the local municipality. As was previously noted in the last chapters, the Shivat Ha Minim neighborhood was one of the neighborhoods that underwent the renewal project in 1982. As it was expressed in the approved masterplan created by Arc. Y Goduvitz, the area initially was occupied by typical low structured houses. Furthermore, in the approved plan, Goduvitz suggested removing the structures in order to create an open public space that will serve the neighborhood tenants.

In a visit that was conducted in September 2019, it was possible to recognize from far hills of garbage and dirt that were placed at the center of the area in question (figures xx). Furthermore, random animals were roaming close by at all times in search of potential food leftovers. The remaining structures that were not demolished during the renewal project appeared as neglected and been illegally occupied by several homeless that searched for an available shelter. Throughout the research regarding this area, no additional information, as well as future plans, were assigned to renewed this area.

Low quality of construction and buildings' decay

An additional prominent phenomenon that stood out during the different tours was regarding the low quality of construction that exists in several neighborhoods in Dimona. In this subchapter, the scope wishes to explore and assets representative examples in order to fully capacitate the neglect and deterioration scale in Dimona as well as to compare among the different structural qualities inside the urban

Figure 158: abandoned structure that had been penetrated by invaders in the heart of the Shivat Haminim neighborhood. 08.2019



Figure 159: abandoned structures in the heart of the Shivat Ha Minim neighborhood. 08.2019



borhoods together.

Further on, once the Dimona's masterplan had been determined, the orientation of future residential construction was directed toward the northern territories, and the CBD perimeter was correspondingly extended. In 1966 the Malchi Israel neighborhood was established in its middle eastern part, and in 1981 the area had received additional reinforcement once the first layer supermarket (the Shekem) was opened in its top northern part. Nevertheless, the large territory in the center of the CBD remains unoccupied and asked for additional development.

During the '70s, many suggestions regarding the functions, as well as its appearance had surfaced over the architectural magazines in order to solve the incomplete area. Still today, there are no exact answers in the available sources regarding the reason the CBD had not adequately been completed.

During a visit conducted in August 2018, the area appears to remain neglected and deserted without any substantial or functional use. The irony of this situation is highly visible. The incomplete structure the CBD presents is functioning in the opposite direction of what it was planned for initially. In other words, instead of collecting the different residential fragments, it physically divides them.

2) Area B- 'the secondary CBD'

The intended area is declared between the Malkei Israel neighborhood in the west and the first Benei Beitha neighborhood in the east. The premises maintain a large vest of public structures that serve the general population of Dimona. Among those structures, it is possible to indicate schools, health centers, magistrate courts, and sports halls. Furthermore, it is also possible to indicate that all structures are located within the boundaries of the territory without any occupational function in the core of the territory.

Through the scope for this thesis, it was never officially pronounced or declared under any official documentation regarding the primary function that was assigned to the area. The only indication regarding its title – 'Dimona's educational district,' was indicated in a map the municipality had created in 1995⁹¹.

According to the different establishment dates, the structures maintain (the Lihamn high school- mid 60', the magistrate court -1994, the Ah'ava school -2007 and the Mirage health center

⁹¹ The town of Dimona, *Site map for visiting Dimona*, Benyamin Blushtein publisher, Qiryat Yam, 1995.



Figure 160: trash and filth in the heart of the Shivat Ha Minim neighborhood. 08.2019

texture. Therefore, the first half of this subchapter will be dedicated to inadequate neighborhoods and the second half to adequate neighborhoods.

In previous chapters, as well as in the current one, it was specified regarding the renewal neighborhood project in Dimona. Admittedly, in past perspective, most of those projects can be classified as pure 'cosmetic' actions that had not involve any substantial change. Under this category, it is possible to mention the Shivat Ha Minim and the Ha Arava neighborhoods, which continue to suffer from outdated-low maintained structures that influence not only the local tenants but also the quality of their public space. During the recent visits, it was well noticed that most structures had maintained their original material characteristics (such houses from local stone as well as from wood). The Facilities of houses were perceived as deteriorating while improvised instruments were installed in order to maintain the structure standing (in most cases, the residence used structural blocks as well as wood pillars as a loadbearing element that will support the main structure). Moreover, Additional reinforcement to the outdated argument can be observed once most structures had not kept their original size and enlarged their facilities under improvised elements. (in most cases the additional extension was made out of constructional metal sheets or wood).

In the Yoseftal neighborhood, the situation is no less acute than the previous neighborhoods. Since this neighborhood had never gone through an official neighborhood renewal, it is possible to understand its current position. In recent visits, it was possible to recognize harsh neglect among the different facilities the neighborhood holds. In most cases, the structures are showing deterioration in plaster as well as saver cracks in the loadbearing exterior walls. The common area of the staircase is neglected and filthy while most stairs are broken or shattered into partial fragments. Moreover, the modern infrastructure (such as gas, electricity, and internet) have been connected to the structure in a various improvised position that could potentially create life-threatening hazards to the local tenants.

Another critical example regarding deteriorating complex could be found in the Khahmei Israel Neighborhood. Unlike previous cases, this neighborhood was constructed in 1990 and presumably supposed to maintain its structural attributes better than past cases. However, as was previously mentioned, the construction rate of this project got significantly accelerated in order to provide sufficient accommodation to the immigration wave that burst at the beginning of the '90s.

In recent visits, it was possible to distinguish that most structures had aged faster than usual and showed early signs of deterioration. In the tall apartment's building (8 stories high), most of the plaster appears to show signs of crumbling due to the low quality of plastering materials.



Figure 161: Deteriorating structure in Yoseftal neighborhood. 04.2020

Accordingly, also, the low residential houses suffer from deterioration symptoms. As it appears, many of the exterior walls show signs swelling in the plaster layer (due to constant wetness inside the structural wall) and ongoing crackers that appear to have existed for several years. Furthermore, it was evident that the decorative element that was used in the facade in order to ventilate the apartment (closed balcony inside the apartment premises) was not suitable for the local conditions and, in most cases, was brutally blocked by cement and industrial blocks. This action certainly affects the internal space of the apartment as it mainly harms the effectiveness of the isolation as well as exposing it to additional contractual problems.

Conversely to the previous cases, where the old neighborhoods had suffered from an unmaintained residential structure, the Exemplar neighborhood presents the exact opposite attributes. In general terms, the experimental frame of a structure that was copied and upgraded from several different sources proved that this unique formula works. The most famous attribute this neighborhood holds is the ability of each individual unit to expend its structural living space according to the dweller's needs and capabilities without harming the public spaces of the neighborhood itself. In other words, the flexibility benefits the neighborhood offered to its residence was relevant in the past as it is still relevant in the present.

Additional information regarding the current neighborhood status can be found in an article published in 2014⁹² that indicated that a renewal project was assigned to the neighborhood. The article specified that the majority of actions regarding the project were mainly focused on remodeling the existing unites into future expending possibilities under the existing restrictions (height and size) as well as re-plastering and strengthening the block structures that serve as 'perimeter border' of the neighborhood.

During the recent tours in the neighborhood, it seems that most houses, whether they were under their original design, expended, or renewal, still maintained functionality while still preserving their initial structural attributes. Although it was only possible to observe the privet structures from the outside, there was still an additional source to establish the preliminary impression from the recent visits. In an academic survey conducted by Tel Aviv University in 2011, the researchers have entered several structures in order to asses the modern changes/adaptations the current residence have gathered (while comparing them to the original figure). The conclusion clearly indicated that although many changes were conducted inside the structural perimeter, the neighborhood visible original attributes remain intact ⁹³ (Figures x).

Moreover, during the visits, it was highly visible that the flow of pedestrians in the neighborhood narrow

⁹² K. Rosenblum, *Stepping up*, "Ha-Aretz" daily newspaper, Tel Aviv, 23.01.2014.

⁹³ Laboratory for Contemporary Urban Design(LCUD), *The exemplar Neighborhood in Dimona*, Tel Aviv University press, Tel Aviv, 2011. p.20-25



Figure 162-163: Deteriorating structures in Yoseftal neighborhood. 04.2020

streets was frequent for most hours of the day as most residents prefer to engage with their neighbors regularly. The personal impression got additional validation throughout the survey when it included additional interviews with the local tenants claiming that the relationship among the neighborhood residents can be defined as 'very warm and welcoming as a small family.'⁹⁴

Finally, on the real estate website of Madlen, it is evident that the popularity of the neighborhood is relatively high, and most residences are content with the neighborhood's existing attributes.

Another well functioning example could be detected in the Bene bitekha projects that were established in Dimona over the years. Under the definition of the 'Bene bitekha project' stands the proposition created by the municipality to have the possibility to initiate and construct your own residential structure. In other words, the municipality grants the buyers with land, and the buyers are entitled to build their own house as they see fit.

In Dimona, the Bene Bitekha projects had become without a doubt popular, as several similar projects were constructed over time. Among those projects, one could consider: the first bene bitkha project / Ha Giva'a (1985), Neot Halleli (2002), Mamshit (2003), Neve Horesh (2003+2005), Neot Katif (2007), Har- Nof (ongoing construction) and Ha Shahar (ongoing construction).

As far as the quality of construction regarding, the projects can be divided chronologically into three groups. The first group consists of only the original neighborhood (Ha Giva'a), where most structures that were built in it were considered fairly standard and modest (in dimensions as well as materials) compare to future projects.

The second group consists of the Neot Halleli and the Mamshit neighborhoods, where most structures were inspired and constructed under the national trend of over-the-top kitsch structures. In recent visits, it was well evident that the majority of structures were not created nor planned under any constant regulation. Furthermore, it seems that the Avant-garde facade was used as an instrument to present the tenant's wealth as it mainly used out-of-context elements to glorify the main facade while using high-quality materials.

The Urban sprawl phenomenon- Macro scale variation

In its broadest sense, urban sprawl is another word for a certain type of metropolitan decentralization or suburbanization. Suburbanization occurs over time when a more significant percentage of the metropol-

⁹⁴ Laboratory for Contemporary Urban Design(LCUD). *op. cit.*, p.27-29



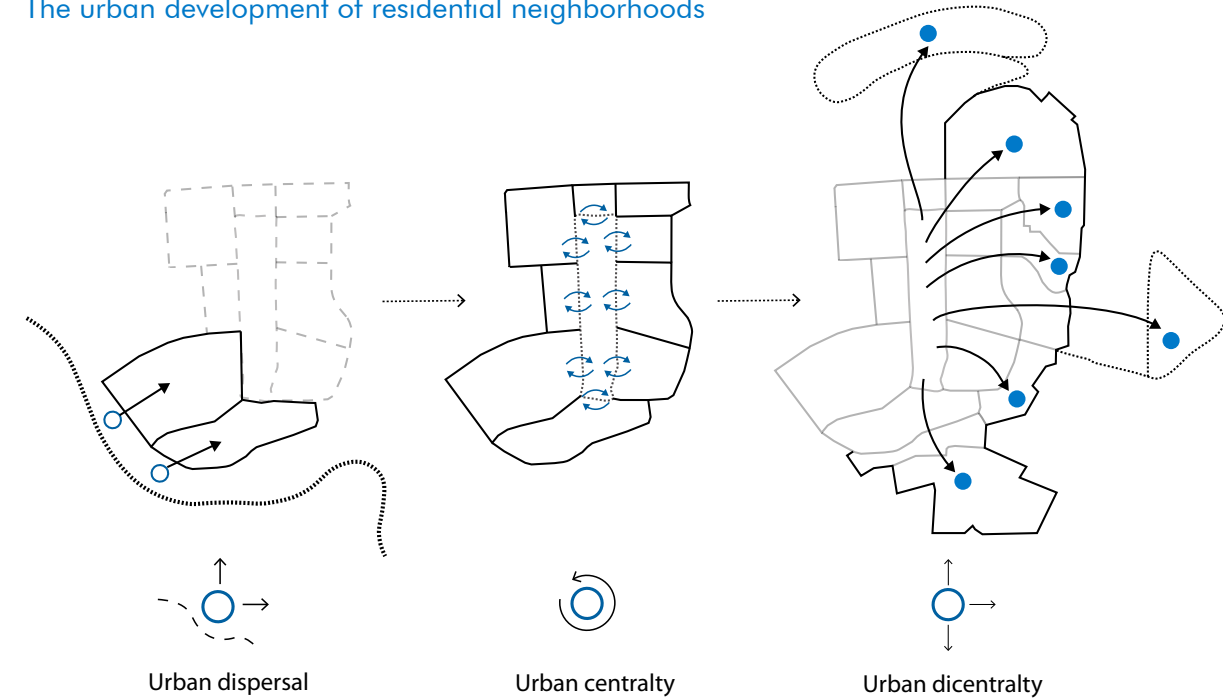
Figure 164-165 :Wetness at the exterior wall and absence of ceramic tiles at the external facade in Khahmei Israel neighborhood. 08.2019

itan area's residential and business activity takes place outside of its central location. This definition usually encompasses a metropolitan area's inner-ring districts, which in many cases in the 1990s faces the same grater losses of population and employment density as central cities.⁹⁵ This modern process, which had emerged as an international phenomenon in various urban centers, is also recognizable in Dimona. Towards the end of the 80s, when modernization pushed its way into the Israesociety, and the standard of living was significantly increasing, the value of the urban center began declining. Its plummeting value can be attributed to several arguments. The first may be connected to the fact that the CBD project was never completed and lacked essential functions that were intended to be placed in. At the same time, it could be claimed that the relevancy of existing functions sees to attract the intended audience since improved alternatives became available to the local tenants. The first symptoms regarding the incompetence of the CBD could be detected in the closure of significant functions as the local cinemas and the Gil hotel. Additionally, the local market's status was undermined when it began to be perceived as limited and outdated in face of modern consumption stores in the state center. Also, the values of the central bus station had been declining due to the ability of the residence to purchase their own privet car without having to be dependent on arbitrary schedules. Admittedly, the CBD gradually turned from a symbolic element that promoted modernity into an outdated, archaic center that serves, by default, only the remaining disadvantaged residences. The final stroke to the CBD status can be attributed to the turning of the old textile factory (Dimona textile) into a modern shopping center – The Peretz center in the southern industrial area of Dimona (2002). Prior to the actual establishment, the entrepreneurs had analyzed the needs of the local market and correspondingly created the first modern shopping center which included precisely the critical points that were missing in the original CBD – protected air-conditioned area, which incorporates a commercial center with dining services as well as administration services. Additionally, the entrepreneurs tried to grant the space with the same social principals that will continue encouraging the residence to interact and integrate among each other, only in better conditions. The success of the new center was explored during the tours in Dimona when an attempt was made to compare the new commercial center with the old one. While the tour was approaching the Peretz center, long traffic queues were evident at the very entrance to the premises. Additionally, a shortage in parking places was evident due to a large number of customers that tried to reach the center at different hours of the day. During the tour inside the premises, it was well evident that the center not only attracts the local residents of Dimona but also invites the workers in the nearby industry area as well as random visitors that were stopping along the highway of Sdom-Be'er Sheva. As the visit continued toward the old CBD, it appears that most of the shops were either closed or abandoned, and only a handful was open for serving clients. Additionally, the visitor traffic was abysmal and mainly directed towards the administrative facilities. In a conversation

⁹⁵ R. Wassmer, *Urban sprawl in the U.S metropolitan area: ways to measure and a comparison of the Sacramento area to similar metropolitan areas in California and the U.S*, California State University, Sacramento, 2000. p. 2-3.

The Urban sprawl phenomenon- Macro scale variation

The urban development of residential neighborhoods



The urban development of the CBD

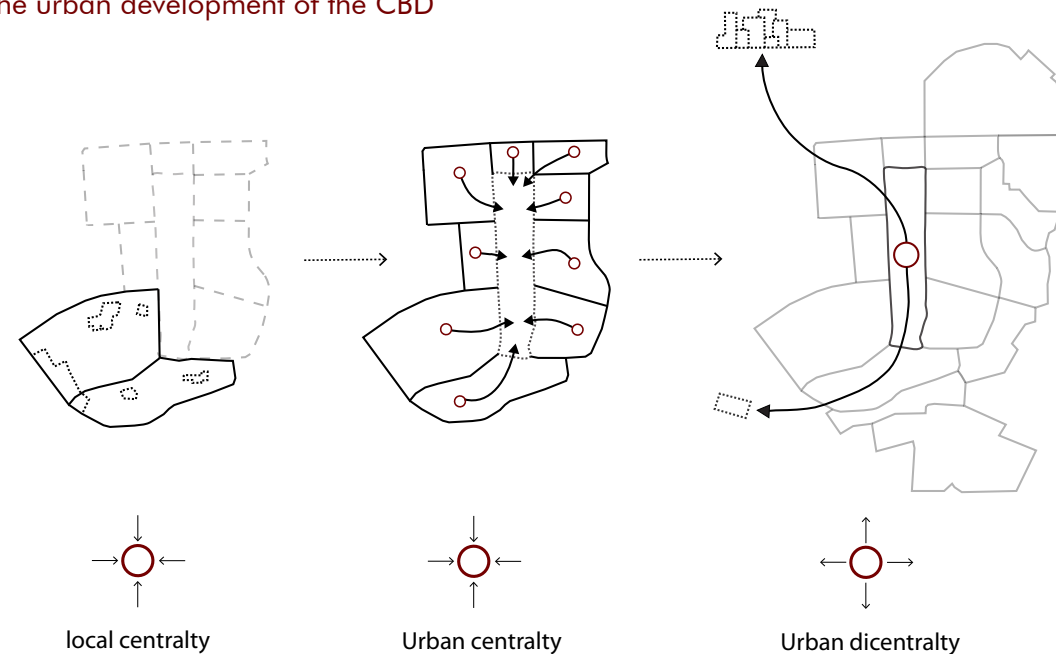


Figure 166: Urban sprawl phenomenon

with one of the town's veterans who holds a butcher shop in the indoor market, he admitted that the town center continues to be empty at all hours of the day, and sometimes he does not even find justification why he should open his shop.

A similar process of suburbanization can also be found in the urban development of residential neighborhoods. As was previously noted, the municipal administrators began to look for alluring solutions to attract more stable and educated populations to the peripheral areas. On this platform, land plots were given for private entrepreneurial construction, which would be in line with buyers' requirements - properties that would reflect their modern-individual-capitalist worldview. Accordingly, parallel with the decline in the value of CBD and the increasing use of private vehicles, the general understanding was created that the physical connection between the residential neighborhoods and the town center is not a necessity for establishing a modern residential neighborhood in Dimona. Indeed, the following residential neighborhoods of Dimona have begun to move away from the Town's center and the old neighborhoods in the urban existing texture. Furthermore, this disengagement has escalated in recent years as massive construction of the two new neighborhoods (Har Nof and Ha-Shahar) are currently being built completely detached from the town's existing structural texture and connected only by extended roads.

Causes of the decay phenomenon

1) Filthy streets

In any of the recent visits to Dimona, the most savvier abnormality that had consistently evident was the garbage piling in the streets. In the research of Dr. Raich regarding the initial development of Dimona, it was mentioned that parallel to the town's evolvement the municipality had struggled to educate the locals to gain responsibility regarding they surrounding by throwing their domestic waste in the designated trashcans⁹⁶. Having said that, the struggle that was mentioned in the research had occurred during the mid-'50s and did not appear as relevant to modern times. However, due to recent evidence, it is possible to claim that abnormality is still thriving, mainly in the old southern neighborhoods. Under those circumstances, it is possible to name the municipality as well as the local tenants responsible for this bleak result. As it appears, in most public areas, there is a saver shortage in trash cans as well as deficiencies in collecting the trash regularly in the already existing bins. The harsh tendency had progressed even deeper when the

⁹⁶ decade and its influence over the town's development, the human sciences faculty in Haifa university, Haifa, 2010. p.94-95



Figure 167: The Abandoned structure of the 'Dimona textile' factory in the southern industrial district. In: H.Zi'on , *The factory that wanted to be a mall*, "Yediot Ahronot" daily newspaper, 10.03.2012.



Figure 168-169: The renewed structure of the 'Dimona textile' - The modern shopping district- ' Pertz center'. In: Pertz Boni Ha Negev website

local tenants observe that the municipality had little responsibility compelling toward their public space, and in return, they behave accordingly. In other words, once the municipality began neglecting their responsibility toward the public space, the local tenants follow them and continue to abuse it.

2) Illegal construction

The illegal construction manifestation was not in any way mentioned in the available resources and was first revealed throughout the recent visits in Dimona.

The main presumption regarding the source of this abnormal tendency thrives from the lack of adequate public housing for the underprivileged-poor population of Dimona. As was previously mentioned, during the economic crisis, many of the town's residents have suffered from a lack of consistent income, which in most cases pushed them to use illegal means in order to survive the existing situation. That being the case, according to a 2013 survey conducted by the CBS, it can be evident that only in Dimona itself were approximately 2900 apartments designated for public housing purposes (almost 25% out of the total residential structures in Dimona)⁹⁷. Nevertheless, according to different sources, a large percentage of the apartments continue to stand empty and neglected in light of various bureaucratic complications that prevent residents from obtaining them⁹⁸. Under those circumstances, there is no doubt that the deprived population will have to settle for other survival alternatives.

The illegal construction solution in Dimona contains various attributes that can be easily detected throughout the neighborhoods' territory. The main dominant attribute is related to the location of those improvised structures. In most cases, the structure will be placed close to existing stable construction in order to benefit from additional durability as well as the illegal possibility to use the building's infrastructure for free. These impromptu attachments harm the structure facade and create additional hazards for all tenants using the facility. Furthermore, most improvised structures were comprised mainly of building material residues (industrial blocks, gypsum boards, asbestos, and metal planks) that were used to build the various neighborhoods in Dimona in the past.

⁹⁷ Bank of Israel and the central bureau for statistics, *The public housing in Israel*, Bank of Israel press, Jerusalem, 2015. p.5

⁹⁸ N. bosso, *30 thousand families are still waiting for their public housing*, "The marker" financial newspaper, Tel Aviv, 08.07.2015; The Knesset of Israel, *Protocol No.51: transparency in the data regarding the public housing status*, the Knesset of Israel press, Jerusalem, 2016. p.44-50; A. Biton, *Dicaied now or you will lose your housing privileges*, The hottest place in hall – independent journalist newspaper website, 16.03.2016; R. Amiran, *Amidar in the stuck market: thousands awaits for public houses, hundreds of deteriorating apartments*, The hottest place in hall – independent journalist newspaper website, 22.03.2018.



Figure 170: Filthy street in the 'Best' neighborhood. 08.2019

3) Low quality of the public space

The low quality of the public space in Dimona can be described according to two parameters that were visible during the recent visits. The first is regarding the deficiency in street furniture and the second is regarding the irrelevancy of the commune spaces.

Generally speaking, the element of street furniture refers to objects and facilities located in urban public spaces that provide various services and functions to the general public. It is one of the essential elements of the urban environment that contributes to humans in their routine activities throughout the day. Although comparatively small in scale, street furniture plays a significant role in determining the quality of an urban environment and in representing the town's image.

In Dimona, the implication regarding the deficiency in basic street furniture is considered savvier in the old as well as in the new neighborhoods. Among the different elements that are absent in the urban environment, it is possible to find: benches, shaded walking paths, equipped bus stops (with sunshade as well as benches), drinking fountains, street lights, and waste bins. A representative example regarding the severity of the situation can be found in the matter of the public benches. In the old neighborhoods, there is a minimal amount of benches spread across the public space, which maintains problematic attributes toward their users. As it occurs, all public benches in those areas were produced from sheets of metal, and during the daytime, when the sun is at its pick, it is nearly impossible to use those benches. Consequently, to this problematic issue, the local tenants improvised seating areas out of old neglected furniture in order to answer the necessity of the benches. Furthermore, an additional improvisation act was discovered once the local tenants dislocated the remaining metal benches and placed them in shaded backyards.

Correspondingly to the absence of street furniture, it is possible to indicate that the public parks, as well as children playgrounds, lack the majority of necessary facilities and were considered outdated, neglected, and dangerous for the tenants' use. Unlike the streets frequent pedestrian movement, in those areas, the tenants choose to avoid using those spaces and in saver cases, even avoid passing through.

In modern neighborhoods, the severity of the missing street furniture is considered much critical than in old neighborhoods. During the visits that were conducted in 2018-2019, it appears that most streets lack the majority of basic street furniture, which encourages the local tenants towards segregation among the close environment as well as for the rest of the town. If we return to the problematic 'public benches' example, it appears that in the modern neighborhoods, the benches were restricted only to the public parks and were completely absent in any of the street spaces of



Figure 171-172: illegal construction in the Shivat Ha Minim neighborhood. 08.2019

those neighborhoods. Furthermore, the lack of human pedestrian movement during most hours of the day suggests that there is a sense of alienation toward the incomplete public space.

As was previously explored, the Bene Bitkha projects tried to promote capitalistic-individual living conditions and, therefore, encouraged a great sense of comfort and privacy among their distinct attributes. For this reason, it is possible to understand why the absence of street furniture, as well as additional qualities, are considered to be indifferent in the local tenant's eyes. All premises contain large modern villas with private parking spaces as well as an enlarged backyard. Therefore, there is no actual necessity to engage with the public areas, but rather to pass through without stopping. This disturbing tendency thrives even deeper when even the well established public parks remain empty for the most hours of the day. Assuredly, even when the municipality tried to create an equipped –high-quality public parks that will encourage the Bene Bitkha projects to engage with others, it continues to remain deserted as the private premises continue to serve as a better alternative for the local tenants.

All things considered, most of the processes that shaped the town during the 1990s and 2000s had maintained a significant negative effect over the town's evolution. The deterioration course, which began with national economic-political processes, had turned into a financial crisis that had a crucial impact on its social and architectural status.

From a past perspective, the Dimona concept maintained a large amount of revolutionary ideas and projects that could hypothetically upgrade its existing conditions and caused flourishing prosperity throughout the town's attributes. However, the reality of most cases involved unfinished projects as well as disorganized/ corrupted financial behavior that influenced the town's image as a mark of disgrace and pushed its residents to feel deprived as they were constantly in need of rescue.

After years of promises, aspirations, and disappointments, it is time to learn from past mistakes and seek practical solutions that will help restore the town's existing status and correct its nonfunctioning mechanism. In order to do so, the fragile situation of Dimona demands a set of comprehensive conclusions as preliminary steps in order to avoid repetitive lapse as well as provide a complete overview picture regarding the different urban aspects altogether.

The next subchapter will attempt to 'touch,' indicate and emphasize the most substantial topics that were elaborated throughout this subchapter into a coherent set of conclusions.

4.4 Conclusions

Over the last chapter, the phenomenon of abandonment and deterioration concerning the town of Dimona was elaborated in a number of aspects that occurred during the 1990s and the 2000s. Planning



Figure 173: Low quality of the public space in Ha Arava neighborhood. 08.2019



Figure 174 : Low quality of the public space in Yosheftal neighborhood. 08.2019

approaches, theories, and core dissections regarding the development town in general and Dimona, in particular, were much examined and explored in order to fully capacitate the different point-of-views the complex structure the town had to offer.

Moreover, chapter four raises difficult questions regarding the town's economic and architectural choices and their continual influence over the town's image in recent decades.

This sub-chapter will deal primarily with conclusions derived from the research work conducted throughout chapter four with corresponding references to the economic, civil, and architectural arguments that have been discussed in previous chapters.

1) *Incorrect economic model*

With regard to the economic model that was chosen to serve Dimona from the mid-'50s, it is evident that the decision did not correspond with any of the fundamental characteristics the town had to offer and was considered the direct accountable element for the economic crisis.

It can be concluded that this model was considered a failure. The model was too general, impulsive, and naive. It did not include any possible alternatives or future security substitutes in case the model might crash.

2) *Unrestrained and Irresponsible financial behavior*

Over the course of decades, it is evident that financial behavior concerning the heads of the enterprises as well as the municipality leaked governmental supervision/ restrictions, which encourage the prosperity of exploitive, corrupted, and wasteful financial behavior.

3) *Deprivation as incorrect leverage for future development*

It can be determined that this particular approach had remarkably failed and was the main catalyzer for the neglecting and deterioration process in Dimona.

Under those circumstances, in order to break this vicious cycle, the residence, as well as the municipality, must acknowledge their deficiencies, prioritize them and assess according to realistic perception their future steps regarding the rehabilitation of Dimona in a practical matter.

4) *Incorrect use of adaptation of international models*

The sense of fulfillment and pioneering had turned the adaptation process to a naive desire to create new functional spaces in an unfamiliar environment.

Nevertheless, in light of the existing reality, it can be stated that the un-responsible, let alone unappropriated use of those models, for the most part, did not benefit for Dimona and its urban development. Most of the experimental projects did not carry out their expected potential but instead stood as a quilt



Figure175-176 : Low quality of the public space in Yosheftal neighborhood. 08.2019

of experimental patches forced to be gathered under one complete model.

5) Repeating pattern of incomplete projects

Under various ambiguous excuses, a relatively high number of important projects filed to be transmitted into real actions and were resulted in a partially executed manner or even not executed at all. The consequences for such progression had a direct impact on the urban texture, as it interrupted the urban continuity and caused severe environmental "hazards" that effected not only the appearance of the area but rather caused additional discomfort to the local residents.

6) Failure to fulfill the town's potential over time

Given the massive expectations confronted by the critical founding of chapter 4, it can only conclude that much of the town's embodied potential was not fulfilled.

The first part of the argument is regarding the failure to exploit the theoretical potential the town had (or, in other words, potential that remains only "on paper" and was never executed in reality). The second argument is regarding executed projects that did not reach real their full potential (or, in other words, conducted projects that missed their full target).

It is possible to determine with certainty that because those projects were not fully executed, their quality, as well as their image, continue to deteriorate and maintain poor characteristics at all times.

Conclusively, the writer Zvi Efrat had successfully manage to describe the Dimona case by his critical review on the Israeli architecture narrative infolded inside it. Even more, an identical process had occurred during this particular study when at the beginning of the research, the perception of the Dimona case started as only a Zionist enterprise that maintains a dogmatic, one-dimensional architectural attribute. Only during the research period, while many ideas' preceptions' decisions ' and development acts occurred, it appeared that the case itself is much more vibrant then it appears to meet the eye.

For that reason, this part is an opportunity to summarize the conclusions, to pass a 'section line' through the chapters, and try to offer a panoramic critical review over the 'Israeli project' in general and the 'Dimona project' in particular. In order to do so, the Dimona model will be reviewed according to three qualities: Immediacy, marginal, and borderline.

Immediacy

Immediacy is not only a cunning default in the face of extreme emergencies but also serves as an indoctrinated pattern that creates a pioneering ethos. In order to reach such transformation in the standard perception, one's must: present the 'emptiness the open space' as a negative narrative that must be conquered and vanquish at any cost. (as Ben Gurion precisely address that issue by saying: *If you look at the*



Figure 177: Alternativ benches in the Victory neighborhood. 08.2019

map you will see that there are many empty places in the south, and nothing is more terrifying to me, then this emptiness); By suspending private consciousness and increase the collective one (its never the time to self reflect the motives of one's project if it's answering the needs of a large percentage of the population); By stimulating the haste and panic throughout the enactment of emergency regulations and by abrupt standardization of the architectural object.

Immediacy is, therefore, a brief explanation of the miracles' appearance and adaptation of this type of architecture in Dimona. It also explains its development and its efficiency and fairness in providing essential housing solutions to a society of refugees and migrants that had resurfaced itself every few years. Nevertheless, immediacy is also a dark satin in the history of the Israeli target state: the essence of hubris and aggressiveness of the state-blitz architecture, which sought to impose itself on the landscape at once and at all costs without considering any of the pre-existing features (architecture without distinction).

Marginality

Marginality in the early Zionism periods communicates with the separation from Europe, with the revolutionary attempt to create a 'stationary' Jewish future, grounded and Suburban both outward (i.e., mimicking spatial patterns of pre-industrial societies) and inward (implementing 'soft' models of suburbans of garden cities).

Ideological margins dictate a minor, moderate, non-extravagant, 'equal for all' product. It builds a value-based priority and maintains relatively equally between aesthetics and ethics. However, marginal ideology tends to evolve rapidly into a marginalized culture, meaning a fairly 'free trade zone' that allows for a convenient meeting and quick mixing of imported canonical and indigenous cultures. Concerning the center, these areas are never quite developed - but it always evolves, always open to change, always maintain recycled/copied ideas. Its genius loci* (the spirit of the place) is a cultural adaptation and therefore has no pure styles, stable models, or great theories. It does not have a high-profile professional language that is documented over time, but only a spoken language of the moment, based on imitations and casuistry, distortions and exaggerations, hybrids and mutations or any other creative tactic, which provides the constant resident with a complete description of all the desire needs in order to proclaim the space as common 'regular' space, comparable to the center.

Borderline

Boundaries or the compulsive preoccupation with borders and restrictions, direct and indirect, approved or temporary arranged - is an endless process that distorts and complicates the inner and outer boundaries of the town and the state. The main argument, however, is that the boundary consciousness, fortified or hacked, is present in any outline, texture or object worthy of being called 'Israeli.' Therefore, the diagnosis of the Zionist act can be foreseen as an open process of settling and bargaining rather than striving



Figure178: Main facade of deteriorating structure in the Shaivat Ha Minim neighborhood. 08.2019

for a distinct shape or stable form.

After all, to reject the declaration of permanent form, to preserve hypothetical constant progression, to perpetuate a story and to shape the urban space as a constant bargaining area is a better alternative than any other constant solution⁹⁹.

⁹⁹ Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1, Tel Aviv Museum for art, Tel Aviv, 2004. p.25-31

Chapter 5

Achievable Rebirth

(2019-2020)

According to the Collins English Dictionary, the term 'rebirth' refers to revival or renaissance. This term, unquestionably, is very much worthy of the attention in the case study of Dimona in reference to the neglecting and deterioration that was elaborated throughout chapter 4. For the most part, many conclusions have presented commune idea regarding the complexity of the status and the unrestrained and irresponsible behavior that had led to the recent undesired outcome. Moreover, they conclusively dictate that the approach as well the methodology that was costmary throughout its existence must extensively change and present a 'new order.'

By way of contrast to the current status, the future 'remedy' for Dimona must involve a realistic point-of-view with regards to the actual situation (practical solutions rather than theoretical suggestions) and be compelled to the active involvement of the local municipality as well as the local tenants.

This chapter will involve different suggestions in their schematic guidelines representation to explore the various approaches the different stakeholders provide.

Accordingly, the chapter will be divided into two parts; the first will be focused on the future vision the Dimona municipality (alongside the government officials) obtains over its futuristic image (with regards to different scale projects), the second part will present hypothetical schematic suggestions for projects of neglects sites according to the town's need and the thises' conclusions.

5.1 The official vision - Municipal and Governmental insight

The municipal and governmental vision (concerning the case of Dimona) was mainly perceived, through the years, as a small fragment primarily derived from a larger national plan. The vision was never detailed or much specific regarding particular targets or ambitions. For this reason, the recommendation regarding the starting point the official authorities must embrace is to interrupt the misconception that Dimona is an ongoing experimental project and to enter a routine of quality-selective projects over time. To enable this transition, the authorities must help Dimona emerge from the 'vicious cycle' in which it is subjected to, and primarily face a threefold challenge. The first component will be to foster the growth of local leadership (encourage excellency attributes among its future leadership); the second is to promote the 'esprit de corps' (group spirit) and empowerment; the third is to drive a competitive economic de-

velopment versus national market forces (encourage and incentivize development processes that reflect local uniqueness, quality, and suitability to the physical as well as social and community environmental attributes).

Intending to embrace the change, it is crucial to reach a situation where the town not only 'receive' (financially and professional help) but also 'gives back' or 'contribute' to the national- general benefit. Therefore, the condition must be dependent on a development based on attractive and competitive qualities worthy of fair competition for the local market as well as for the national market. That being the case, the economic challenge requires that Dimona should be treated as a competitive product. No more subsidy and emergency constraints as a starting point for economic development, but instead, a pragmatic sense of ability and attractiveness. The reference to a town as a competitive product requires that its development be based on having relative advantages over its surroundings. Therefore, the challenge for the development towns in general, and Dimona in particular, is to focus all efforts on collaborating in different sectors that will eventually channel the municipal budgets to those public projects that require additional attention (improved educational system, parks, cultural institutes, etc.). Moreover, the challenge should not be subjected only to public institutes/sits but rather to the development of housing units competing with the national market. By definition, those units should maintain public qualities that will contribute to attracting 'strong populations' and for creating an advanced infrastructure that will strengthen the market forces and channel new investments (and new projects) to town.

Furthermore, it seems that the patterns and the typology of the industrial areas, like other components of the development town, must be rethought. Today the supply status exceeds demand (in the matter of variety and quantity of industrial plants in Israel) which sharpen the dilemma even further to whether it's current weight remains the same as it was in the past; Is it still required as national importance to maintain an industrial area in every development town in order to control its basic economic development? Perhaps, the ideal solution lies within regional cooperation between the different development towns in the eastern Negev. This solution may promote positive governmental attention as well as create an economic anchor that will attract local businesses and initiatives in sectors that are more appropriate to the place and its qualities. However, this solution will require the full cooperation of each municipality (each with its wishes, aspirations, and limitations), which is more complicated due to the different qualities and budgets constrains each municipality posses.

While the appropriate solution is still blurred, the main objectives remain all the same. No more external enterprises that are 'pushed' into the area based on artificial preferences and leave once the subsidy runs out, but rather businesses based on local resources or the local community. This positive effect may motivate the local community to continue to prosper as well as to keep living at the same place and reinforce the straight of the community. Initiatives of this kind can be promoted in education, culture, professional tourism, or based on any other resource that exists on the site. Development based on product renewal

Macro scale project - Governmental proposal
Dimona Master plan - plan No. 33/101/02/25

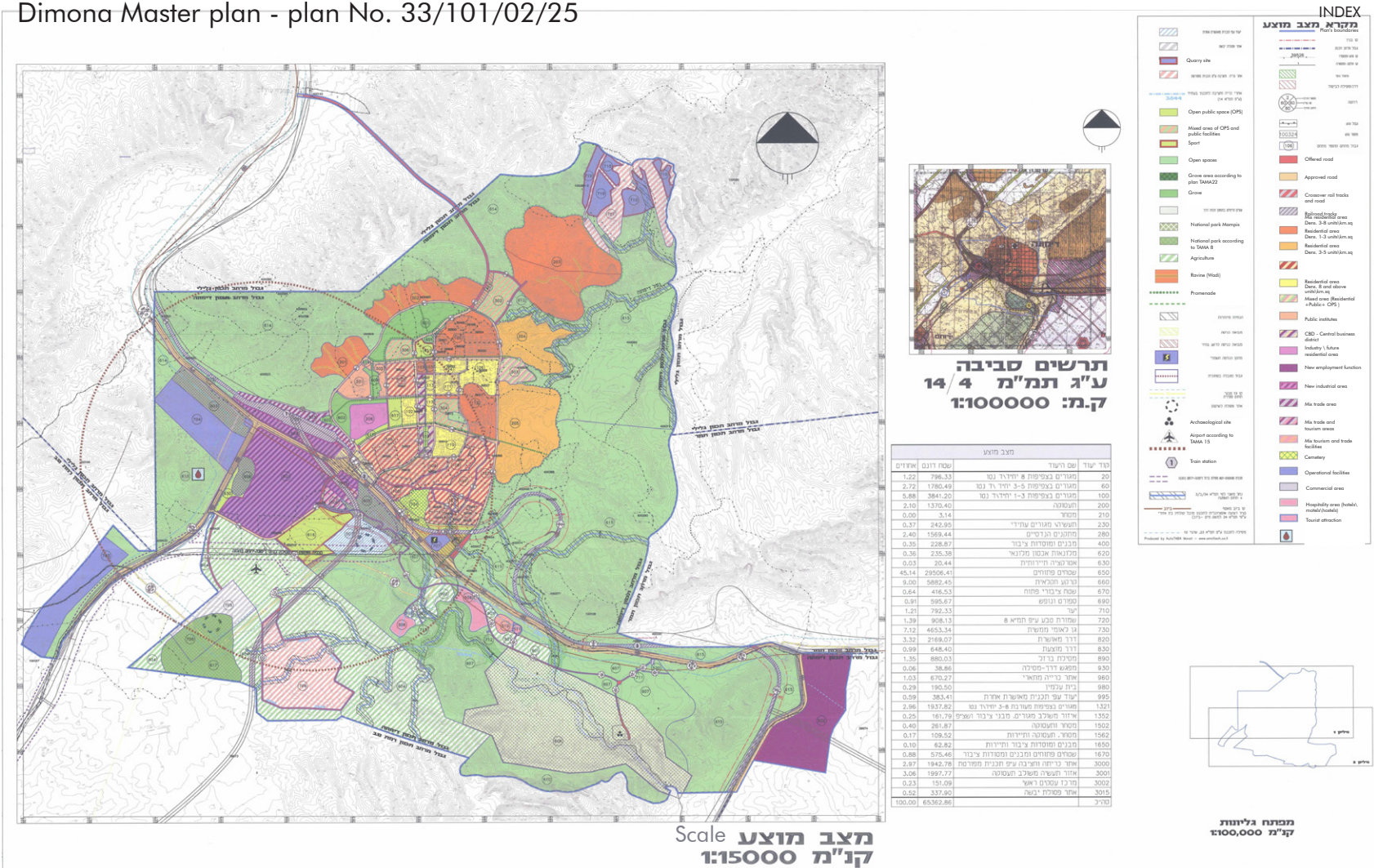


Figure 179: Plan No. 33/101/02/25 in Taba Achshav - Israel land authority website, 05/2019

(by declaring the town as a product) is a decent starting point for promoting a stable economic base that represents the place as a source for pride.¹

In this section, the focus will be on three main proposals made by the municipality (with the financial encouragement of the government) on a different scale, starting from a macro-urban scale to micro-individual areas in town.

5.1.1 Macroscale project - governmental proposal

On May 4, 2019, the national media had announced that the Ministry of Housing had approved the future master plan for Dimona and expected to begin its implementation in the upcoming years. The plan² outlines a 7000 housing units' construction (organized in five new neighborhoods) in addition to the currently approved accommodation projects - Har Nof neighborhood in the north and Ha Shagar neighborhood in the east. The total number of housing units at the end of the implementation stage will stand at about 23,000 housing units merged with new areas that will be restricted to commerce and public service functions inside the new neighborhoods. Additional significant use of land in the masterplan will be the 'open public spaces³ type which will be valid for territories that connect the old urban texture and the new one (in that approach the new neighborhoods shall be placed in the territorial margins of Dimona, separate by the open public spaces from the core of town).

Furthermore, the plan includes four critical sections, which will significantly improve the town position as well as its image in the regional and national scale. The first section in question refers to strengthening the town's image by integrating it (officially) into the Be'er Sheva metropolitan area as an anchor of commerce and tourism. Among the leading sites, the tourism plan offers to place emphasis and promote the Mamphis national archeological site and the Ben Gurion park in the north part of town.

The second section mainly refers to an increase in the landscaping municipality budget for the purpose of the visual improvement of public structures and urban gardens, elimination of public hazards, and provide cleaner public space⁴ for its tenants.

¹ R. Davidovitch-Martou, *From development towns to developing the towns*, in M. Tovia-Bone, M. Bone, *The building of the land – Shikunim in the '50s*, the united kibbutz and Red line publisher, Tel Aviv, 1999. p. 146-153

² The southern district- the local planning committee of Dimona, *the local masterplan for Dimona No. 33/101/02/25 Ed. 06/2019*, Dimona municipal press, Dimona, 2019. p. 1-24

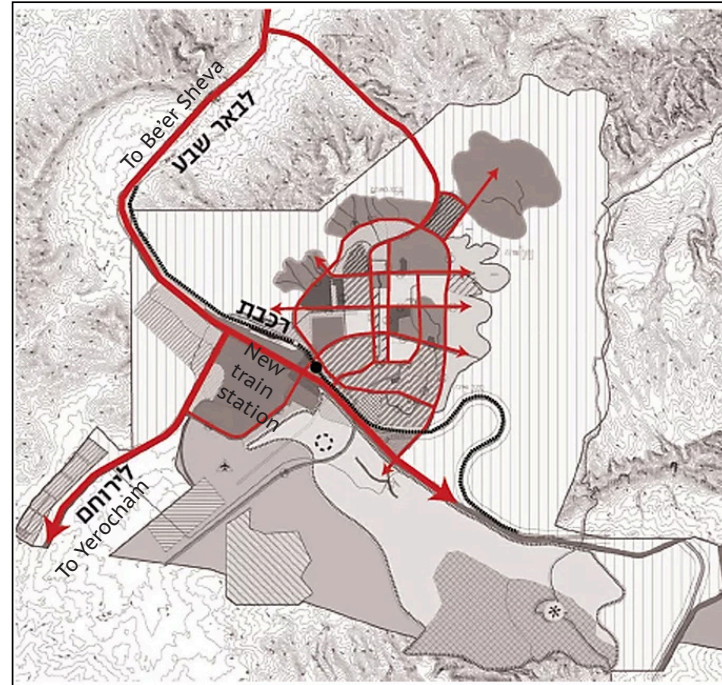
³ The term 'Open public space' refers to an open, publicly-owned space, which is legally defined as public domain and welfare. An open public space can be a public garden, an urban square, or any other public function that will be suitable for this typology. Open spaces are also called "green areas" and in their broader sense, they can be designated as forests, national parks, and nature reserves, as well as small scale porpuses (such as garden or grove). It is important to indicate that the official term "open public space" does not have one definite definition in the Planning and Building Law in Israel and therefore the definition can be interpreted in different directions.

⁴ The intention the planners are referring to as 'clean' maintain dual meanings. The first refers to clean residential area – free from polluted workshops/factories in its nearby environment, and the second refers to clean as free from actual rubbish in the town's streets.

Macro scale project - Governmental proposal

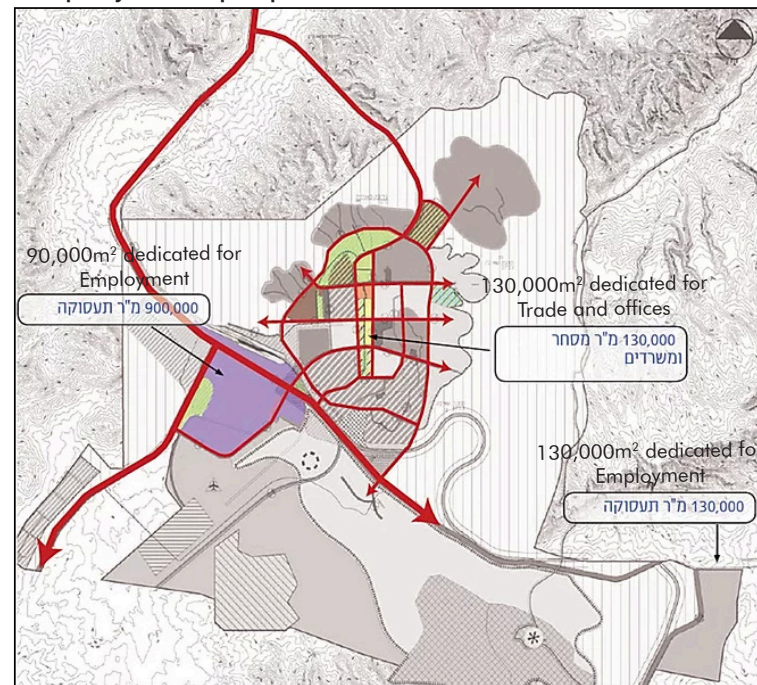
Dimona Master plan - plan No. 33/101/02/25

Mobility proposal



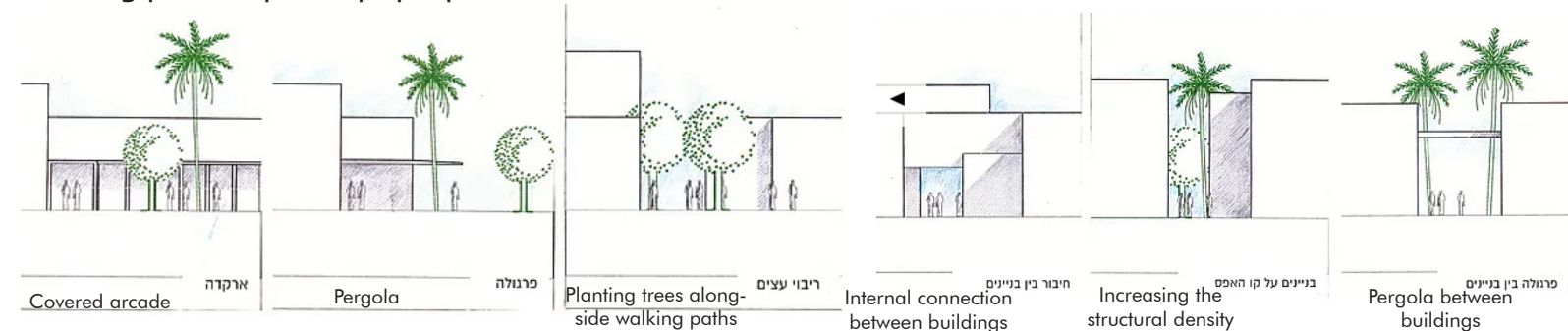
Mobility proposal
 Creating a radial grid while keeping the main orientation toward the central (north to south direction).
 Moreover, the program will increase the mobility capacity by upgrading its main highways, adding additional access point in the northern part of the urban structure, by moving the train station to close proximity with the CBD and incorporating public and bicycle lines through town.

Employment proposal



Employment proposal
 Creating a proportional balance between the upcoming increment in the town's population (additional neighborhoods) and employment rate by adding working positions. The occupational program will include the CBD area, the industrial zone in the south-west area and the new premises located near the Mamphis national park (southeast of Dimona).

Shading public spaces popropsosals



The third section refers mainly to the improvement of the viability element across town and its surroundings. Among many of the recommendations this section provided, this study will mention and specify only the most critical ones. To begin with, the section refers to improving the existing entrances (the main entrance to Hertzl street and the secondary to Ha Nassi avenue, both from the 25 road - Be'er Sheva to Sdom) and adding a third entrance from the northern side of town; Moreover, the section includes recommendations regarding improvement of the existing radial traffic system, alongside significant emphasis upon the public transportation system (by establishing an additional train station which will also serve as the new central bus terminal) at the entrance of the town and the integration of bicycle paths alongside the main roads.

The fourth section generally refers to the possibility to increase employment rats as well as an improvement in the town's industrial sector by the extensive development of the western industrial zone and by creating an additional industrial area in the eastern regional part of Dimona, near the entrance of the national archeological park of Mamphis.

At the closure section of masterplan specifications, the planners offered a critical description of their vision concerning Dimona from a future perspective. In their opinion, the most important principle that must be preserved while conducting the town development process is maintaining Dimona as a medium-size town, balanced between the different functions that are integrated into its urban texture and suitable for the desert environment climate. Moreover, the planners clearly indicated that the addition of housing units would not be achieved only by the construction of new neighborhoods but also through the upgrading and renovation of the existing urban tissue, with substantial emphasis on climatic adjusted accommodation conditions (desert-adapted construction as the patio houses in the Exemplar neighborhood). In Addition, the old and new constructions will have to provide: a variety of apartments in different types and sizes (as to sustain diversity among the neighborhood's tenants at all times) and a shaded environment in the declared walking paths (by the help of new buildings/green elements/large scale shaders) for the benefit of the pedestrians.⁵

In addition, inside Dimona's masterplan, there are several appendices regarding specific topics that were not appropriately addressed through the general guidelines regulation that was given.

These specific appendices were written by professional external consultants in order to include specific recommendations regarding issues of conservation, archeology, landscape development, transport, etc.

It is important to note that the official status of those appendices is considered only a general guideline recommendation regarding future projects. In other words, those guidelines will be compelled to be used

⁵ N. Melis, Architectural and urbanistic studio, Dimona's masterplan guidelines, the Na'ama Melis architecture and urbanistic studio website, 05.2019

Appendix No. 2.3.14
for sites and districts for conservation
to the municipal masterplan
No. 33/101/02/25

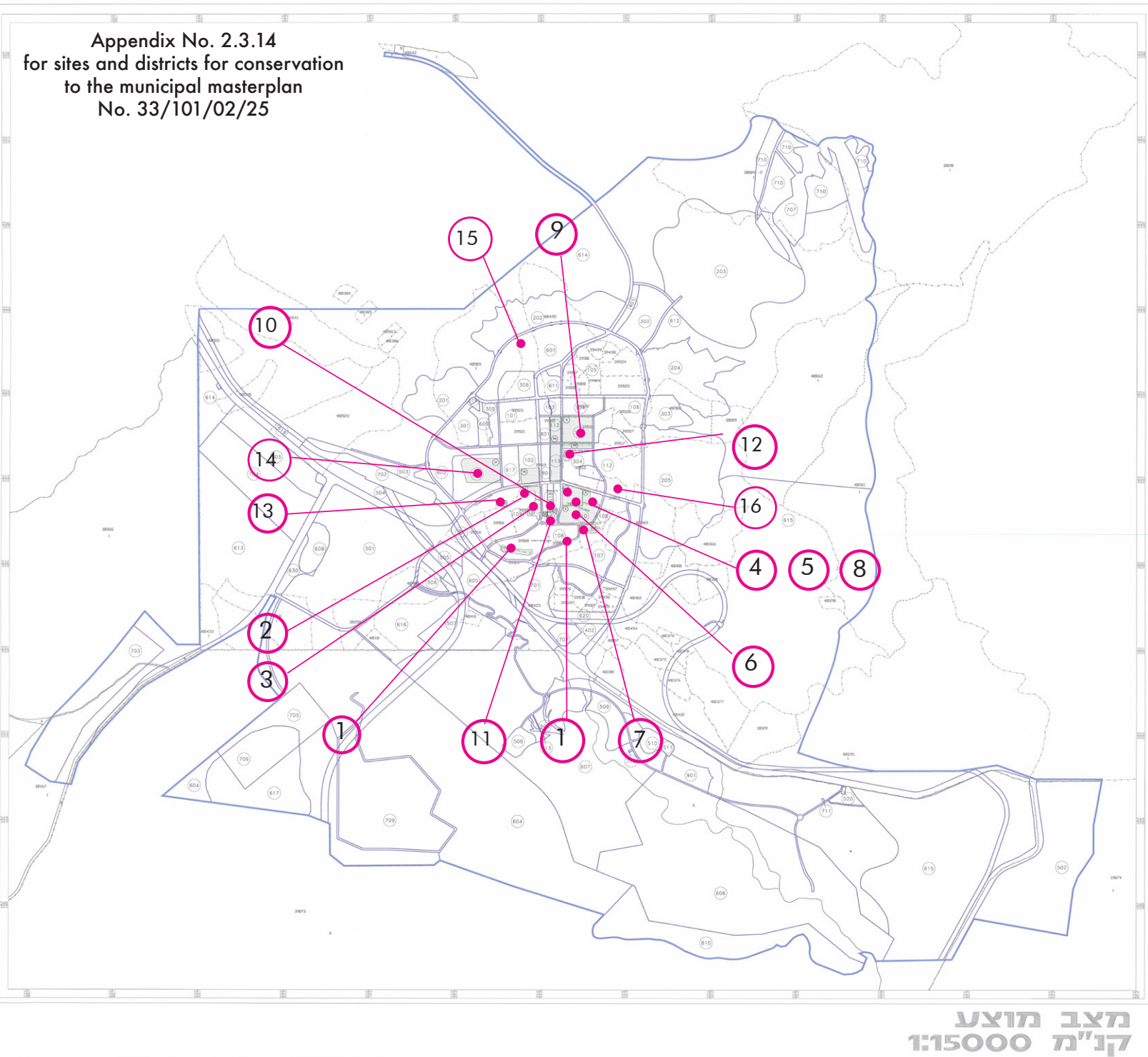


Figure 181: Appendix No. 2.3.14

in planning new future projects in Dimona alongside additional regulation regarding the specific territory the project will be established in.

This study will elaborate on two main appendices which considered relevant for understanding the ministry's opinion regarding the conservation of past settlement elements.

1) *The conservation appendix*

Generally speaking, the official declaration of preservations on specific sites must accompany an elaborate throw survey where each structure \ site receives specific ranking regarding his: historical value, architecture level (original and present status), and urban value regarding his presents inside the urban texture. After the survey is prepared and ranked, the sites will be divided into three large groups (in some cases, the number may change) and will be recommended for conservation according to rank. The group containing the highest value will mainly include 'conservation under strict regulation' which dictates that the site will be preserved authentic to its original form without additional extensions of any kind (without the possibility for example to add floors that may look identical to the original structure or a basement). The second group of the medium values will mainly be entitled to add modern adjustments to the structure or addition structure inside the same declared land (each case is being examined differently due to the nature of the complacently to generalize all cases). The last group of structures which maintain the lowest ranks will be address to two possible actions. The first is to place an indication sign next to the site (indicating information concerning the value of the site to potential visitors), and the second is to re-examine the site by a municipal conservation committee in order to reflect \ negotiate and determine the future potential of this site.

The conservation appendix of Dimona was written by an external architecture studio (Lir Architects) that presented general conclusions and recommendations regarding buildings\ neighborhoods \urban texture of Dimona. The amount of information that was released to the public eye regarding the survey conclusions was extremely restricted and did not include any written protocol but only a map that indicates several districts and structures that the committee is recommending without additional justification on the choice itself.

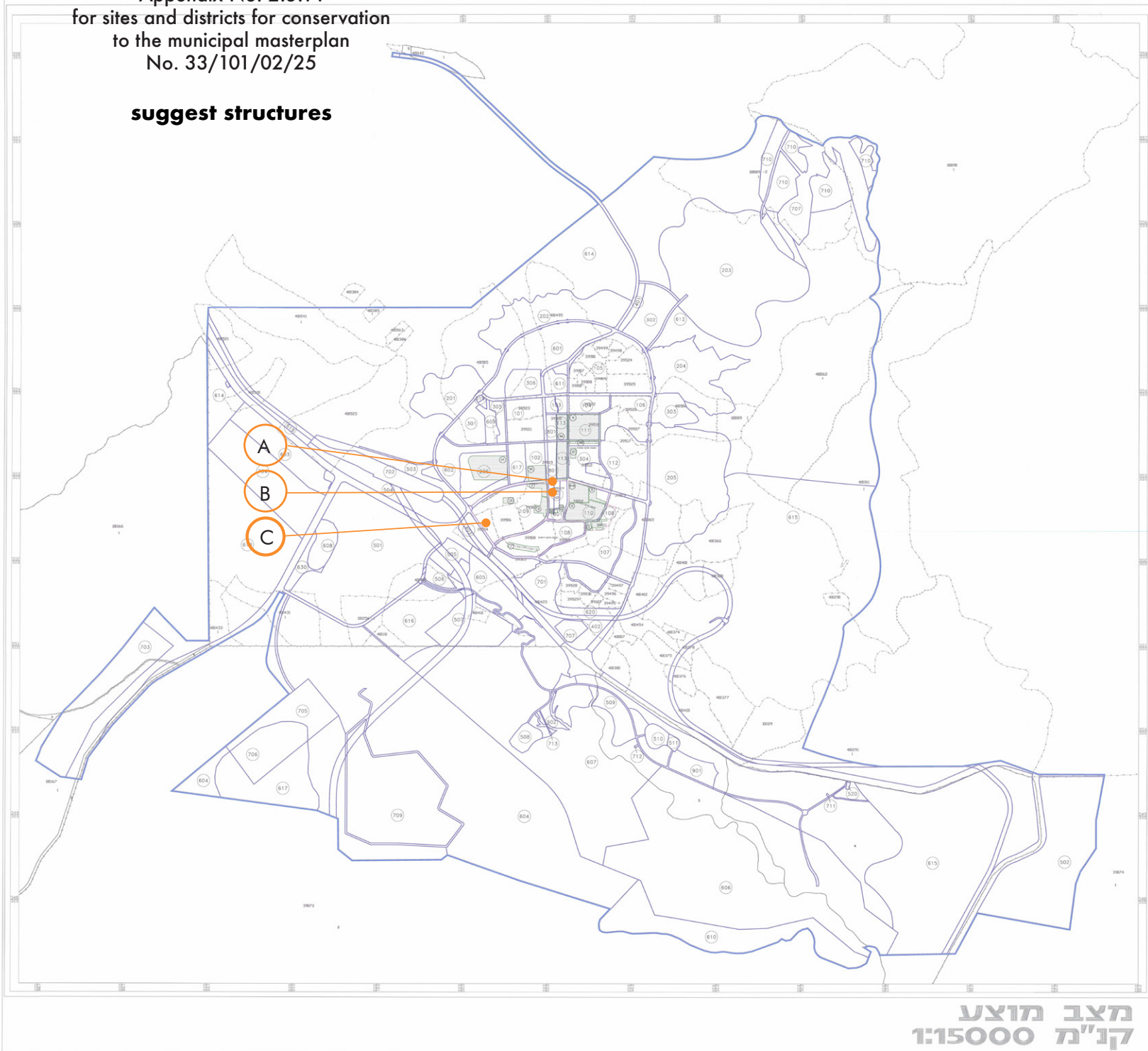
Therefore, this study will attempt to elaborate on each of the committee recommendation choices with a general description regarding each of its main characteristics/ elements and will suggest additional structures that were neglected to enter the committee's survey.

First district: The Baba Sally and Neve Midbar streets (Established in 1958-1956)

The district's location is within the Arava neighborhood borders and considered one of the first neighborhoods established in Dimona after the transformation from the temporary transition camp. The hi-

Appendix No. 2.3.14
for sites and districts for conservation
to the municipal masterplan
No. 33/101/02/25

suggest structures



erarchy of the internal streets considers these specific streets as central lines connecting the northwest edge to its southeastern edge. Moreover, they perceived as a present testimony to the first 'stationary construction' done in Dimona in the early establishment years. They reflect periodical characteristics regarding the preferred elements the residential house should maintain - minimalism (in terms of ascetic living space and the use of simple and exposed materials) and functionality in terms of internal division of the space.

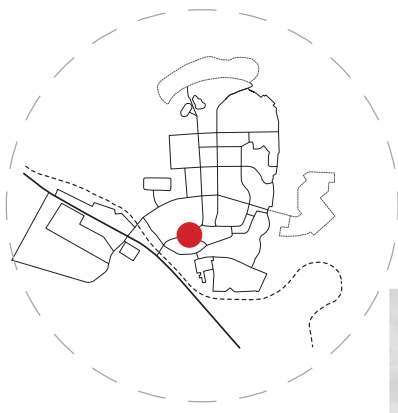
While some of these buildings have undergone various modern modifications such as blocked balconies/reorganization of the interior partitions / illegal additions to the exterior part of the building / different color of external plastering, the original skeleton and facade remain mainly genuine to the original elements which are clear evidence of the periodic construction of Dimona.

The recommendation of the preservation committee for this district relates to two types of residential buildings: the low-tech Blockon, which are mainly located along Neve Midbar Street and the beginning of Baba Sally Street and the 3-story residential block scattered on the eastern part of the Babba Sally Street.

The Blockon houses, which were built mainly at the beginning of the permanent construction (as a supplement to the simple tents or the wooden construction), were primarily constructed out of local blocks of stone. The structure itself was in a single-story rectangular shape and maintained perfect symmetry among its exterior and interior characteristics. In other words, each rectangle was divided up into four equal living units that tangent each unit with a common separation wall between them. In the original standard version of the building, each apartment included a kitchen facing the main front of the structure (the window that appears on the front facade) a simple bathroom including a simple sink/toilet and one living space facing the rare side of the block (with a large window).

According to modern adjustments, the remaining originals blocks have transformed to serving two families (reduction of 2 residential units) or, in extreme cases, only one family (reduction of 3 units). In addition, it can be seen that the main characteristics of the urban space (the streets) still maintain a relatively low structured height (only a handful of two stories structures), and the roof element (red tails) remain identical to its original planning.

Concerning the second type of structure the committee refers to, was the 139 type block. The primary material which it was initially built from were silicate bricks and in its modern version - from concrete. The building itself maintains a rectangle shape where, similarly to the Swedish shed, the plan floor was divided symmetrically to 4 residential units. Unlike the Swedish shed, the primary division between every two units was by the central open staircase of the block. Furthermore, each residential unit was equipped with, an entrance hall, a kitchen facing the rear side of the block and to the rare small balcony (to control the ventilation of the space as much as possible), a living room with two



First district

The Baba Sally and Neve Midbar streets



Figure 183-184 : Historical pictures of the Swedish shed in Dimona. In: The Central Zionist Archives website, Unknown photographer, Unknown year



Figure 185: The Blockon type appearance 04.2020

large windows, two bedrooms facing the central facade of the rectangle and a moderated bathroom (which include a Bath, toilet, and sink).

But the functionality of the structure was not only reflected through the floor plan but instead on the facade itself. A good example for demonstrating the argument could be observed through the living room windows. The windows were planned in a considerably larger size with respect to the other windows in order to maximize the illumination of the space during the day. Another good example could be found in the bathroom, where the planners created a modest thick grid instead of a window in order still to maintain constant ventilation and illumination in a filters element. Finally, the last example is regarding the open staircase, where the planners had created thin vertical openings across the volume in order still to maintain illumination and ventilation in the shared space while protecting it and making it easy to maintain over time (unlike external open staircase).

Today it can be seen that the vast majority of structures have undergone several moderating adjustments such as re-plastering of the walls with different colors, closure/blockage of front and rear balconies, and alterations in the sizes of the different windows.

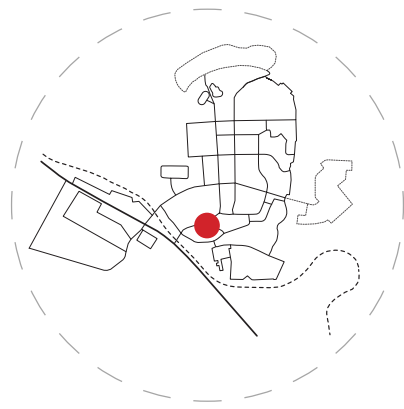
According to the conservation appendix, the committee is recommending to choose to conserve 2 to 3 structures that best represent the original features of the structures. The committee explains their choice by declaring that those structures genuinely represent the heart and soul of the original pioneering spirit that the first settlers had experience. Furthermore, it is not explicitly stated which type (or quantity of each type) should the municipality conserve.

Second and third district - Parts of the Shivat Ha Minim Neighborhood (1956-1960)

The district is located on the eastern and northeastern corner of the Shivat Ha Minim neighborhood, where the neighborhood appears tangible to the southern part of the CBD.

This district contains a combination between the 139 Model and the 217 model. In both cases, the structures are three stories high blocks that possess a similar rectangular floor plan (each floor is divided into four residential units). Nevertheless, the main difference between the two models, is that in the 139 model, the main balcony (which serves as a buffer zone between the interior and exterior spaces) is located at the rear side of the structure, while, in model 212 model there is a clear tendency to direct the buffer zone toward the central façade - i.e., to the main street.

Another noticeable difference between the two models is the internal division of the residential units. While in the 139 model the division options are relatively limited due to the rigid and minimal initial design, the model 217 generates a larger variations options (since there are two balconies in each apartment and the division of space is relatively flexible). In that case (of the 217 model), the planners had initially presented the possibility to adjusted the unit according to the tenant's composition



First district

The Baba Sally and Neve Midbar streets



Figure 186: The Blockon type appearance 04.2020

(families with a single child / with two children / couples, etc.). A good example of such a case is the possibility to take the classic unit's division (which is suitable to a composition of a family with children) and enlarge the main balcony (by eliminating the extra bedrooms) to create a comfortable unit for young couples.

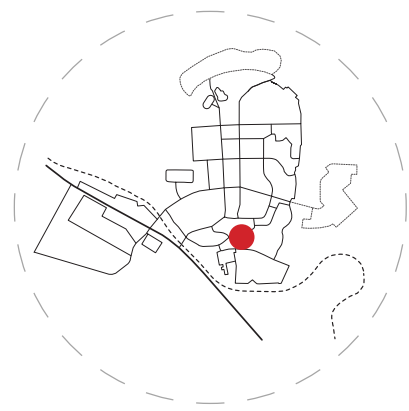
The current status of the original structures indicates that a vast majority of the buildings have undergone different moderation over the years. Among the various adjustments, it is possible to notice the illegal structural additions to the rear facade (to increase the living space) as well as the closure of the open staircases and the different balconies.

According to the conservation Appendix, the committee recommends to maintain the neighborhoods' structures height limit (as much as a three-story building at most) and the general orientation of the building towards the main street facing the CBD. Furthermore, the appendix hasn't explicitly stated what type/quantity/facade should be conserved, and therefore, it is not possible to determine the preference of the conservation plan.

The fourth, fifth and six districts – The entire Yoseftal neighborhood (1962-1963)

According to the committee's decision, the district in question includes all parts of the Yoseftal neighborhood. Within the boundaries of this district, it is possible to find evidence of a structural hierarchy as well as small specific structural diversity that distinguishes this neighborhood from the rest of the veteran neighborhoods in Dimona. First, the neighborhood is divided into small subunits, each with its distinct public center at the heart of each subdivision. Second, there are several distinct blocks from the common Shikun model and 139 model which were particularly enlarged and placed along the main borders of the neighborhood - the Yigal Alon Boulevard (the southern and eastern borders), M" G Ma'apilim street (western boundary) and Hertzal street (in the northern border). Furthermore, this tema continues to be evident also according to the subdivision tema, when enlarged structures were placed alongside its main streets - the Ezra and Nehemiah Street and the Maccabim Street.

Additional elements that appear to have been used for the first time among the veteran neighborhoods were the simple geometrical decoration alongside the balconies and the staircase volume as well as different color plaster on the exterior walls to arouse the sense of changing urban environment inside the repetitive block order. Furthermore, the use of the squared 64 model also appears for the first time in this neighborhood. Unlike the standard rectangle blocks, this three-story square model contains a line of pillars in its main facade (modern element). On each floor, there were four residential units divided into the four corners of the plan floor. Certainly, the division of the internal space is being reflected upon the structured facade when each apartment was granted with a modest balcony according to its placement inside the floor plan.



First district

The Baba Sally and Neve Midbar streets

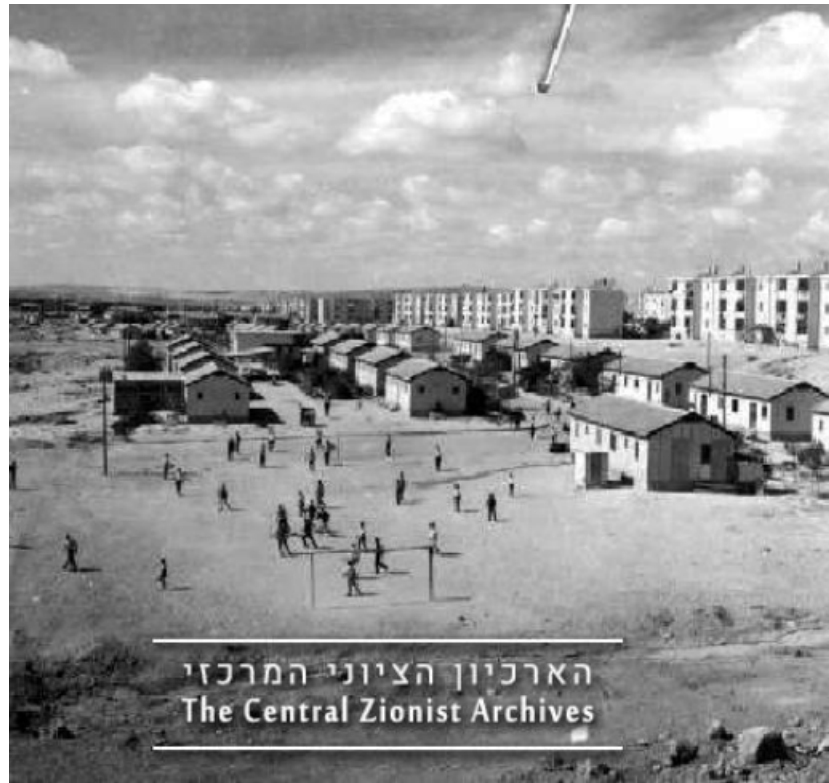
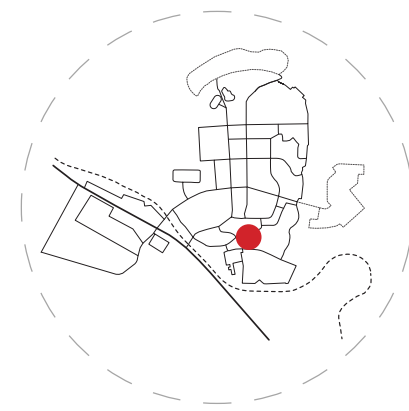


Figure 187: Historical pictures of the Blockon in the front and the 139 block model in Dimona, In: The Central Zionist Archives website, Unknown photographer, Unknown year.



First district

The Baba Sally and Neve Midbar streets



Figure 189-190: Main facade of un-restored and restored of the 139 model 04.2020

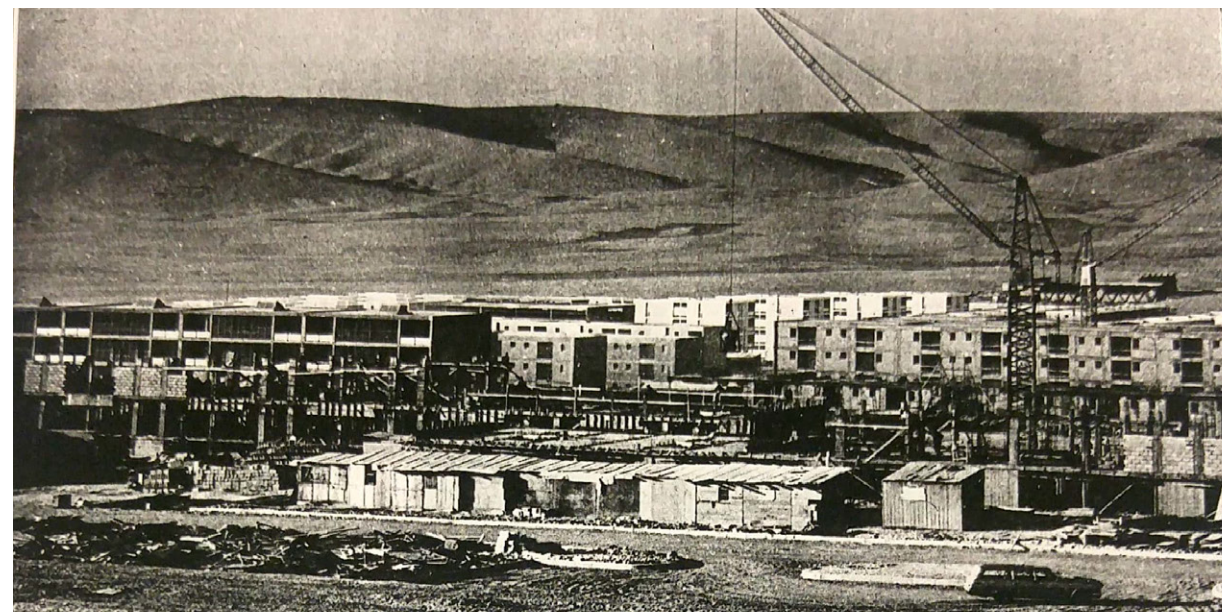
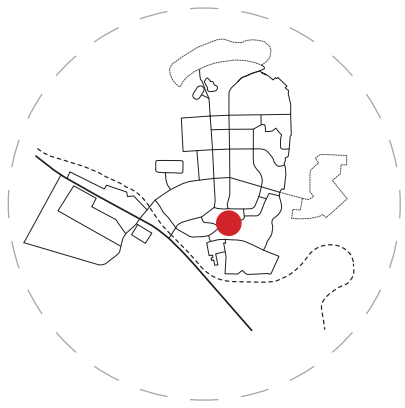


Figure 188: Historical pictures of the Ma'abara in the front and the 139 block model in Dimona, In: Y. Neshri, Dimona celebrates Bar Mitzvah (12 years), "Niv Yam Hamelach" magazine, 04.1968



Second and third district Parts of the Shivat Ha Minim Neighborhood



Above : Figure 191- The Main facade of unrestored 139 model 04.2020
Below: Figure 192- The Main facade of restored 139 model 04.2020



Above: Figure 193 -Historical panoramic view of the Hertzl boulevard and Gold Mayer boulevard .In: The municipality of Dimona, Dimona 1955-1995, Israel press Ltd, Jerusalem, 1995. p.6
Below: Figure 194- Rare facade of unrestored 139 model 04.2020



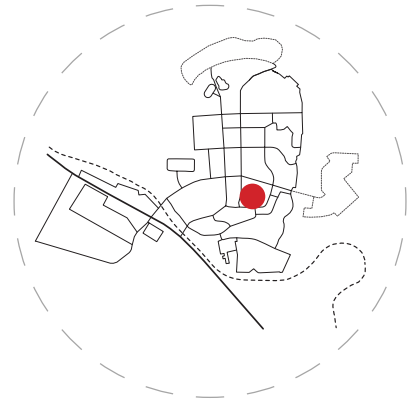
According to the conservation appendix, the committee recommends that, like the previous district, the height limit of the entire neighborhood should remain the same (3 stories as a maximum height) and that the urban texture should remain similar to its original design. It is important to mention that specific recommendations regarding model structure/quantities or even urban texture segments were not elaborated in the appendix. Therefore it is not possible to determine precisely what the conservation plan preference.

The seventh district – The entire ‘Best’ Neighborhood (1962-1963)

The Best neighborhood is located on the town’s margin - at the southeast end of Dimona. Originally, the neighborhood was designed by D. Best and A. Eyal in early 1969 by the initiative act of the ministry of housing and construction. The purpose of this neighborhood was to integrate as many different groups of communities as possible (immigrants, elders, and high-income families) without damaging the modern texture the planners tried to achieve. In order to create this atmosphere, the planners decided to lean on Glickson’s conclusions regarding his revolutionary neighborhood planning in Qiryat Gat and to embrace the possibility to use a wide range of residential units to ensure the commodity and the possibility to integrate all groups together. The original plan included several residential models: A. blocks with a modern feature of horizontal windows across the block (figure 207) B. checkers pattern structure where each vertical structure is connected to another structure only in its diagonally opposite corner (creating a structural sequence of full and empty). The connecting point (or the common edge) between each vertical structure was dedicated to an external exposed concrete staircase that granted additional ‘movement’ and ‘breaks’ the harsh rigidity of the vertical concrete structure.

In addition to the unique residential buildings in the neighborhood, the architects have designed several public buildings, which will provide a convenient response to the needs of the residents (each public building was originally designed with its own organized walking path access). Among the various public buildings, it is possible to mention the home for the elderly and the commercial center, which, like the blockhouses, are also characterized by large horizontal windows across their volume and represent a common key element in the planning design.

Since the neighborhood was physically divided by the Yigal Alon Boulevard, the planners preferred to preserve a relatively similar structural composition on both sides of the boulevard as a unifying element. A good example of that argument could be found in the use of the ‘checkers structure’ on both sides of the district as an expression to the borders of the neighborhood (the buildings were placed in eastern and western borders).



The fourth, fifth and six districts
The Yoseftal neighborhood

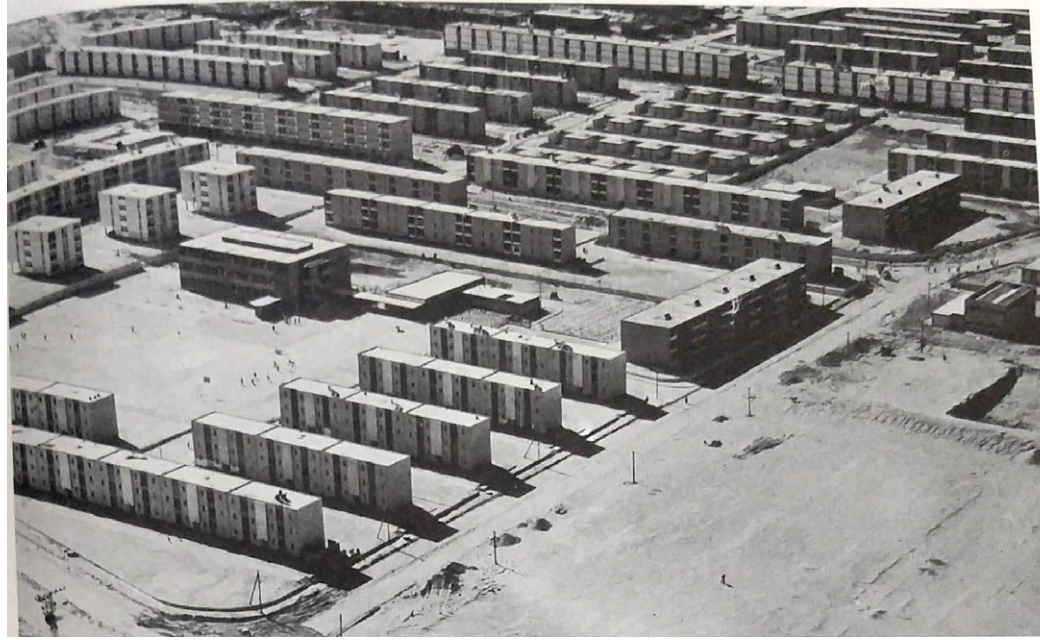
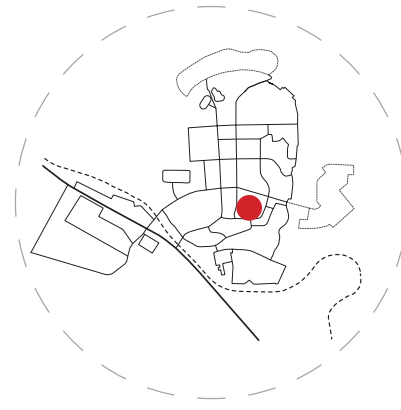


Figure 195: The Yoseftal aerial view during the '60s. In: Z. Efrat, M. Yagid-Haimovich, *The Israeli project – construction and architecture 1948-1973* Vol.1+2, Tel Aviv Museum for art, Tel Aviv, 2004. p.182



The fourth, fifth and six districts
The Yoseftal neighborhood

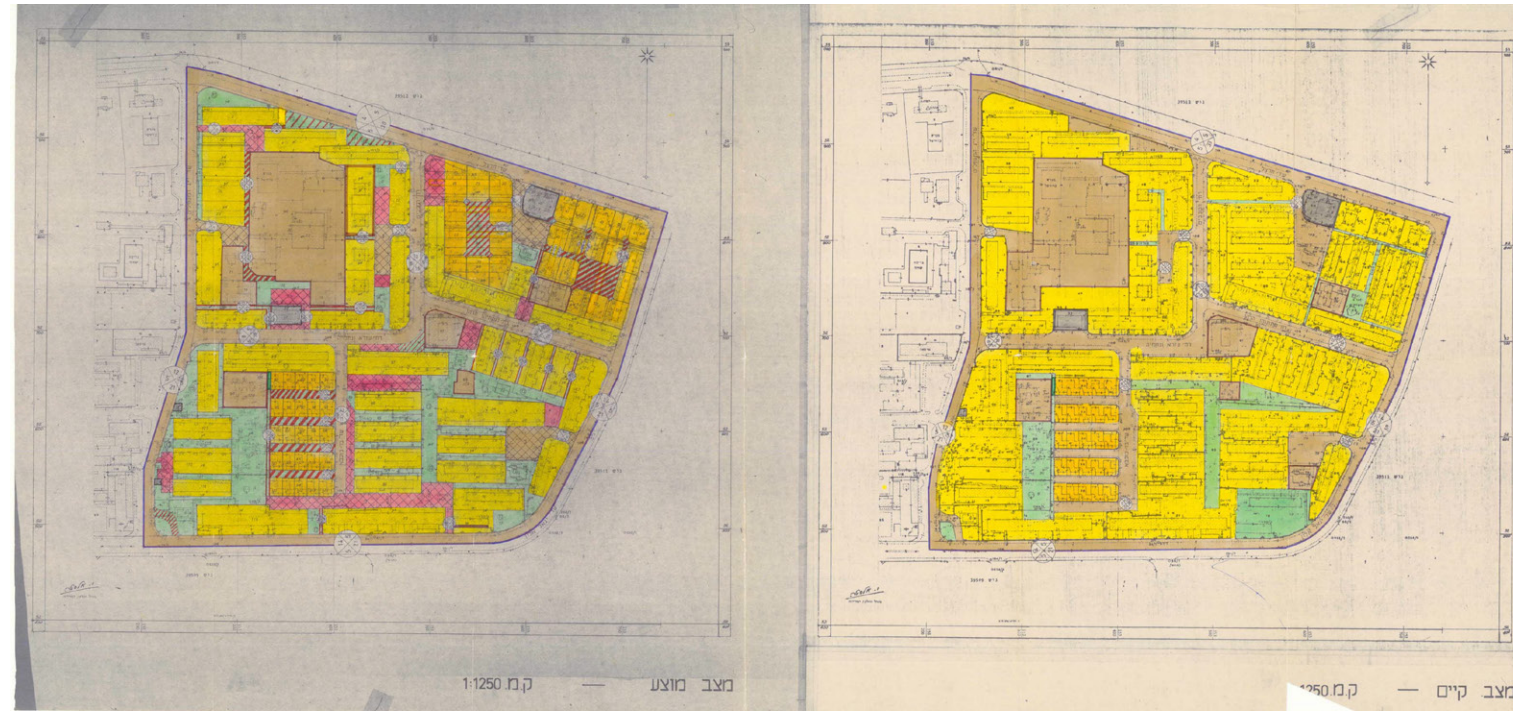
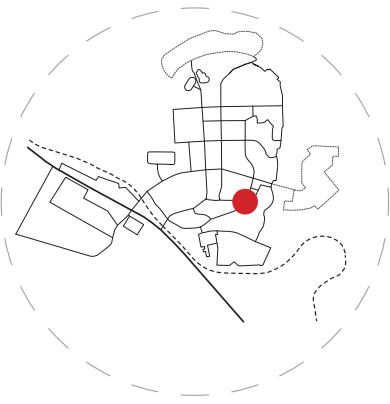


Figure 196: Plan for the Yoseftal neighborhood No. 7/101/02/25 - 1989. In: Taba achshav website



Figure 197-200: Different decorated facade inside the Yoseftal Neighborhood 04.2020



The seventh district The 'Best' Neighborhood

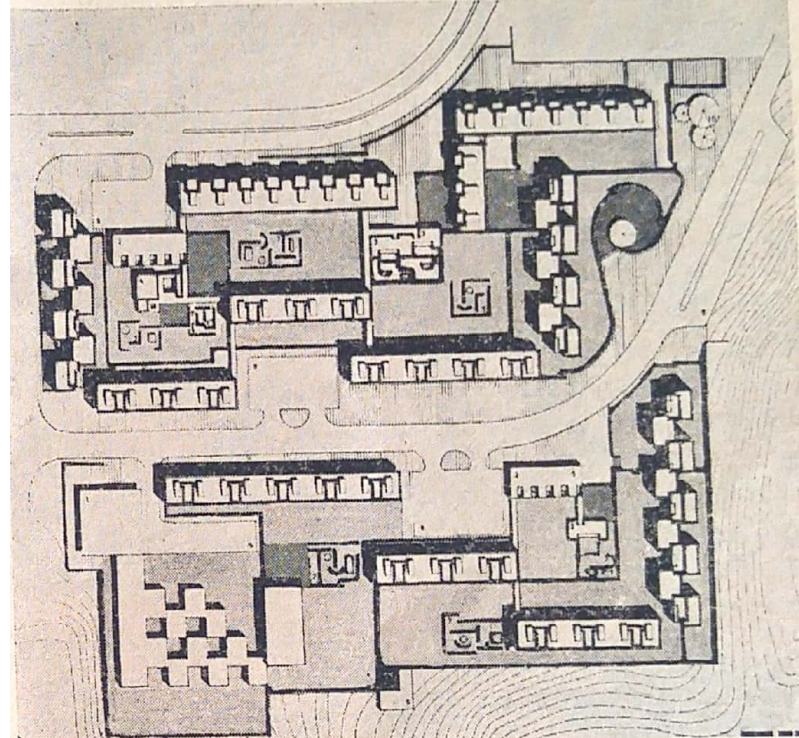
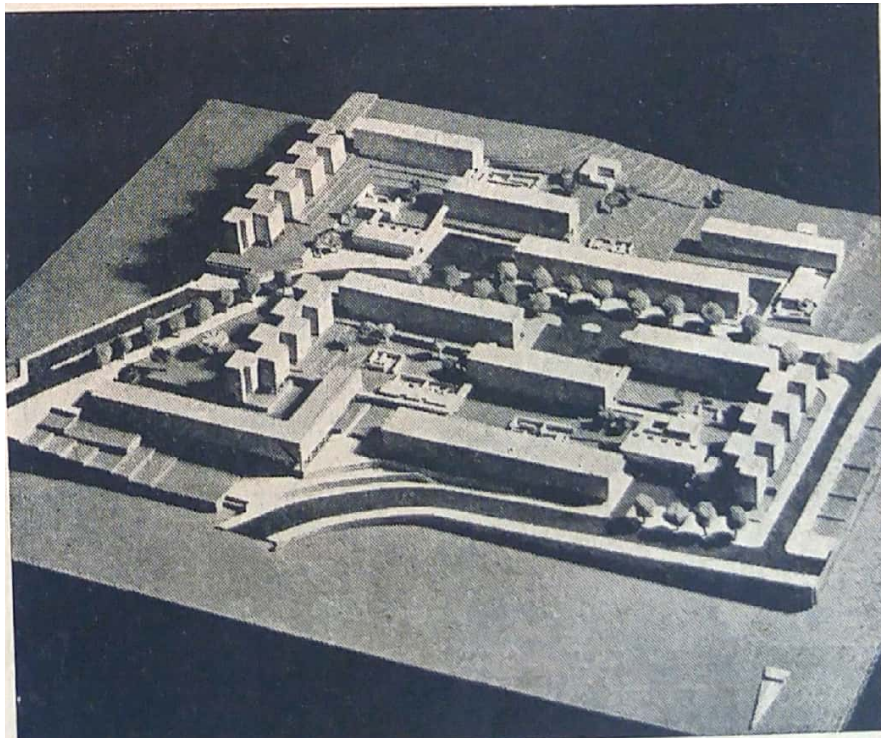


Figure 201-202: Masterplan and model of the 'Best' neighborhood. In: "Journal of the Association of engineers and architects in Israel" Vol.12 No. 4 Moshe Shoham publishing house Ltd, Tel Aviv, 1954. p.28

The additional emphasis that the planners took into account was referred to as the public space and its limitation regarding the use of green elements. The planners understood that the greenery element must be used sparingly (due to the high maintenance the green area requires). Therefore, they used it in a symbol manner only to emphasize the main characteristics of the neighborhood (such as the main boulevard). The rest of the public areas were either paved or structured from local stone material. Today, it is possible to notice that the majority of the original design still exists (only two structures were demolished). Nevertheless, additional moderations/modifications were conducted to several key elements of the original design. Most of the original exposed concrete was repainted in different tones or got covered by a ceramic tile (very popular solution to unflattering surfaces in the mid-'80s and early 90's in Israel). Moreover, a large amount of horizontal windows was blocked or simply sealed due to lack of functionality or due to new internal division inside the structure (figure 205). Finally, the public pedestrian roads and the paved areas did survive over time, unlike the original green element that got completely eliminated through the years.

According to the conservation appendix recommendation, the committee indicates that this neighborhood should be conserved entirely due to its use of innovative brutalism and modern architectural elements and due to its innovative attitude towards the public space.

The eighth district – The Ex Yoseftal School

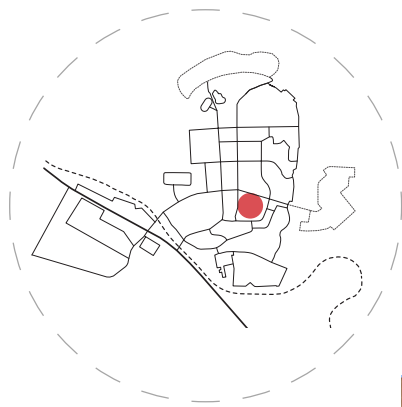
The district is located at the heart of the Yoseftal neighborhood, surrounded by the various residential blocks and considered one of the three first educational facilities in Dimona.

The district itself contains two separate structures - the school and its operational catering facility.

According to the 1969 survey of Dimona⁶, it is possible to learn that the school structure is a three-story building that also maintains a basement. The entrance to the structure is at the western facade, where it leads to a two-sided corridor that divides the general volume into two sections facing the northern and southern sides. The ground floor is mainly characterized as the 'operational floor' in which the main administrative functions were placed in it (Teacher's lounge, secretary, infirmary, and depository / small storage room). The rest of the structure (the second and the third floor) was almost entirely dedicated to classrooms across the floor plan.

Furthermore, several narrow spaces were placed on the western side of each floor for the use of a toilet or storage room. Those particular areas had required a different structural approach since the necessity for illumination and ventilation was different from the regular classroom requirements. The solution the planners had given to those particular spaces was very much similar to the solution of the

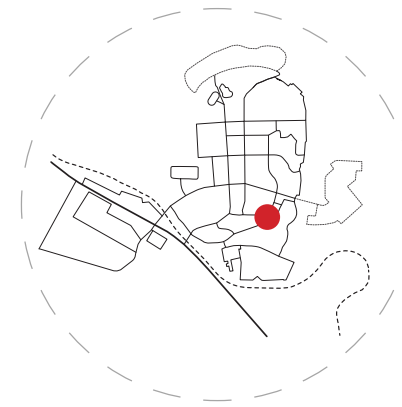
⁶ The municipality of Dimona, *Development survey in Dimona*, D. Zeslevsky press, Jerusalem, 1969. p.60 – 60a



The seventh district
The 'Best' Neighborhood



Figure 203- 206: The checkers structures inside the 'Best' Neighborhood 04.2020



The seventh district
The 'Best' Neighborhood



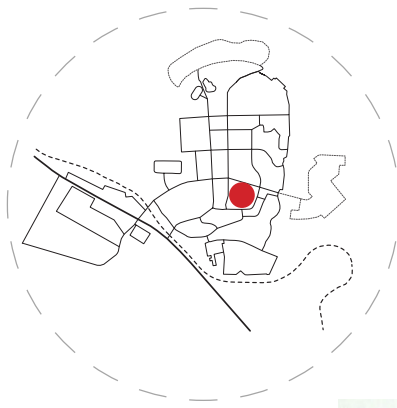
Figure 207: The elderly center structures inside the 'Best' Neighborhood 04.2020



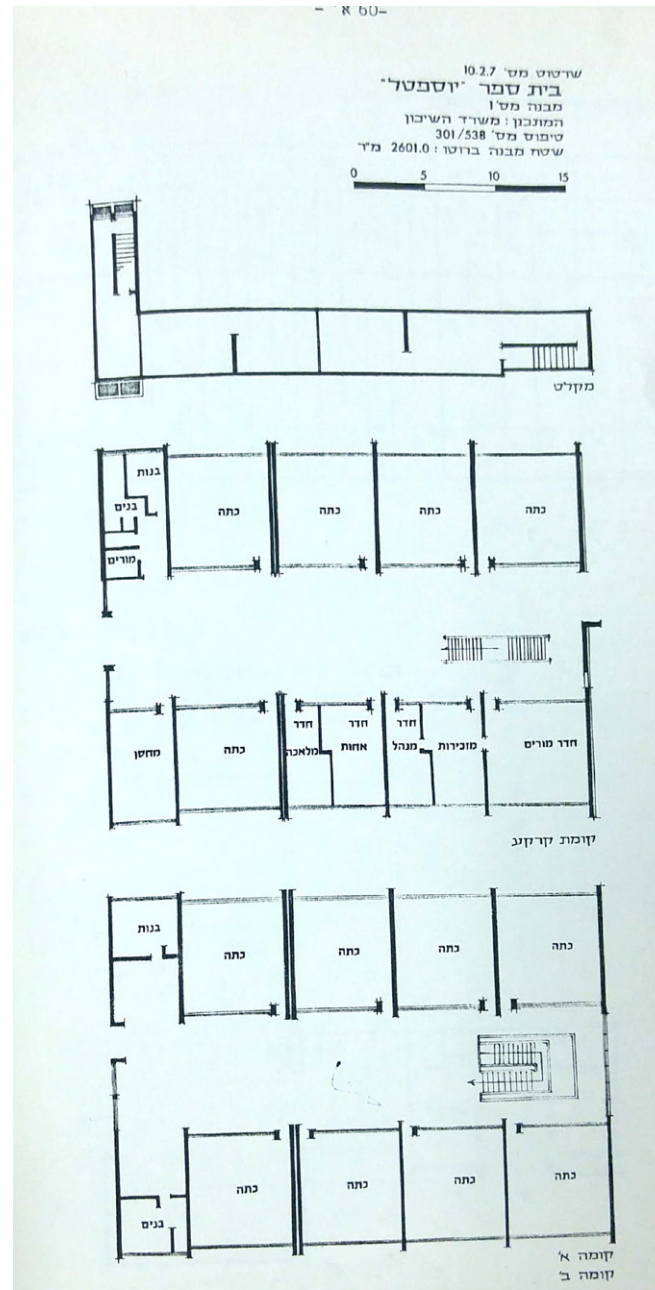
Figure 208: The commercial center structures inside the 'Best' Neighborhood 04.2020



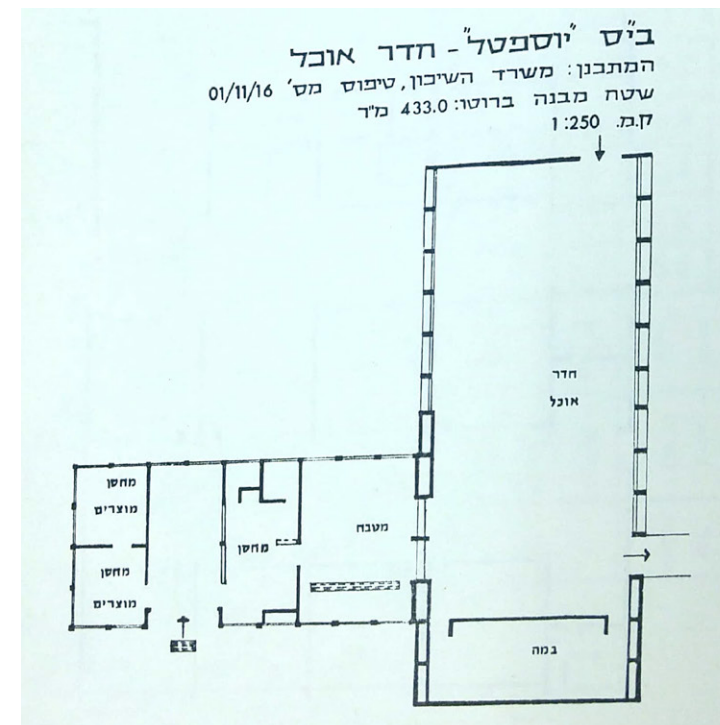
Figure 209: The partial blockage of the horizontal windows in the 'Best' Neighborhood 04.2020



The eighth district The Ex Yoseftal School



Above: Figure 212 - Historical picture of the Yoseftal school's main facade. In: The municipality of Dimona, *Dimona's local newspaper* No. 3, unknown press, 1966. p. 2



Right: Figure 210-211
The floor plan of the main Yoseftal school; on the right: the floor plan of the dining room of the Yoseftal school. In: The municipality of Dimona, *Development survey in Dimona, D.* Zeslevsky press, Jerusalem, 1969. p.60 – 60a

residential block's bathroom window – thick decorative concrete grid instead of a solid wall. Looking at the historical picture from 1966⁷, it appears that the functionality of the structure is reflected upon the school's facade – where repetitive large geometric windows were placed for the classroom units and a gridded decorative wall for operational functions. Furthermore, the functionality of the facade continues to operate also in the eastern facade, where the planners had placed two large windows to illuminate the internal staircase and the main corridor of the school.

As for the second structure, the planners decided to plan the building as a single-story structure in the shape of the letter 'L.' Its primary function is the school's dining room, placed alongside the long section and the dining's room operational functions (kitchen, preparation room, and warehouse) in the short section. The main idea for the flow orientation (of visitors) was directed towards the main structure where students were entering the facility from the northern side and exiting from its eastern side – right in front of the school's entrance. Furthermore, the different facades of the structure continue to support the functionality tema by creating large windows in the dining room to allow the young students to enjoy the external view and by narrow horizontal windows in the functional area to protect the functions from the heated sun while still maintain it ventilated.

It is important to mention, regarding this particular complex, that the commonness of an institutional structure pair with a separate dining room is highly rare in Dimona in particular and in Israel in those days in general (the several cases where a dining room did exist in Israel in the context of an educational facility, the function itself was imbedded inside the structure or simply did not exist). This claim got reinforced once the surveys conducted on Dimona in 1969⁸ and again in 1982⁹ haven't presented any school with even similar features regarding a separate dining room.

Nowadays, it is possible to notice that the central school structure, as well as the dining room, has undergone several moderated adaptations to correlate to the modern needs of the tenants. The central school structure (up until several years ago) served as a knowledge informatics center for young children (the new center used only the ground floor)¹⁰. In the last five years, the structure was transformed into a handicap center (also used only on the ground floor- as they renovated it)¹¹. The rest of the structure (the second and third floor) remain abandoned and complete according to the original

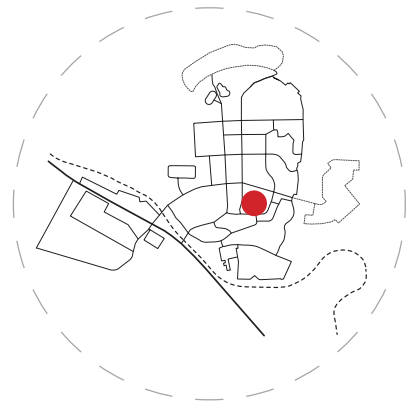
⁷ The municipality of Dimona, *Dimona's local newspaper* No. 3, unknown press, 1966. p. 2

⁸ The municipality of Dimona (1966). op. cit., p.55

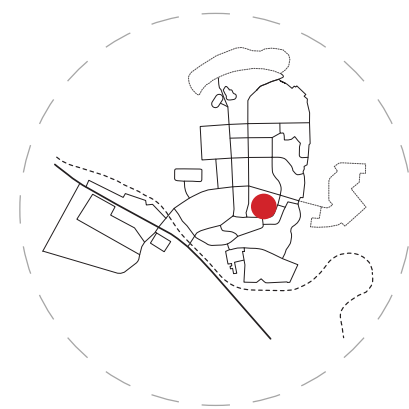
⁹ Tahel engineering and consulting LTD, Dimona's development portfolio, the Ministry of Internal affairs press, Tel Aviv, 1982. p.93

¹⁰ According to data that was recovered in the organization Facebook page

¹¹ According to an interview conducted with the current's facility's manager in 30.05.2020



The eighth district
The Ex Yoseftal School



The eighth district
The Ex Yoseftal School



Figure 215: The Dining structure of the Yoseftal school - Southern facade 04.2020



Figure 213-214: The main facade of the school structure - Southern facade 04.2020



Figure 216: The Dining structure of the Yoseftal school - Eastern facade (It is still possible to see the sign indicates of the function) 04.2020

The ninth district The Exemplar Neighborhood

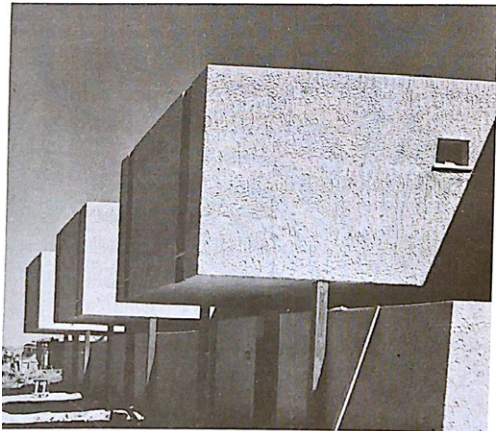
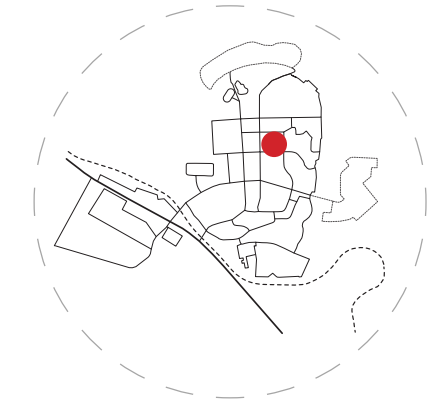


Figure 217: Panoramic view of the patio houses. In: "Israel Builds 1973" magazine, the planning, and engineering department, Ministry of Construction and Housing, Jerusalem, 1973. p. 192

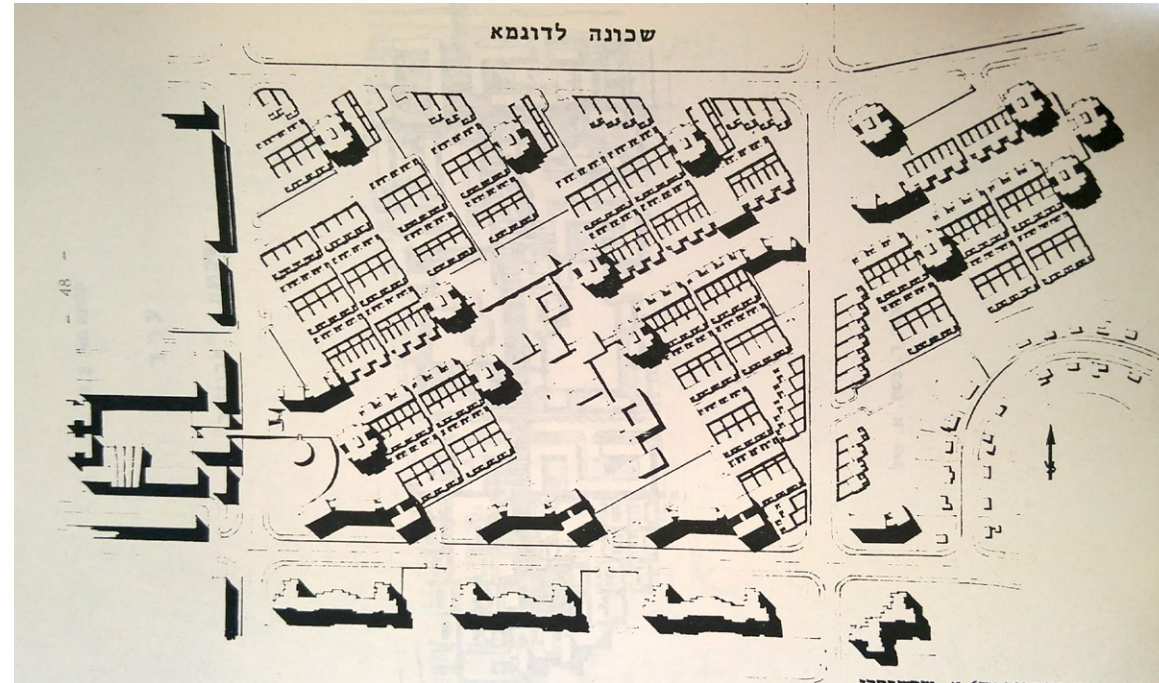


Figure 218: The Exemplar neighborhood master plan. In: Z. Hashimshoni, S.Yavin, M.Yaron, H.Martens, B.Chelnov, A.Doron, *Models of Urban development*, The engineers and architects association in Israel, the ministry of construction and housing press, Tel Aviv, 1972. p.20

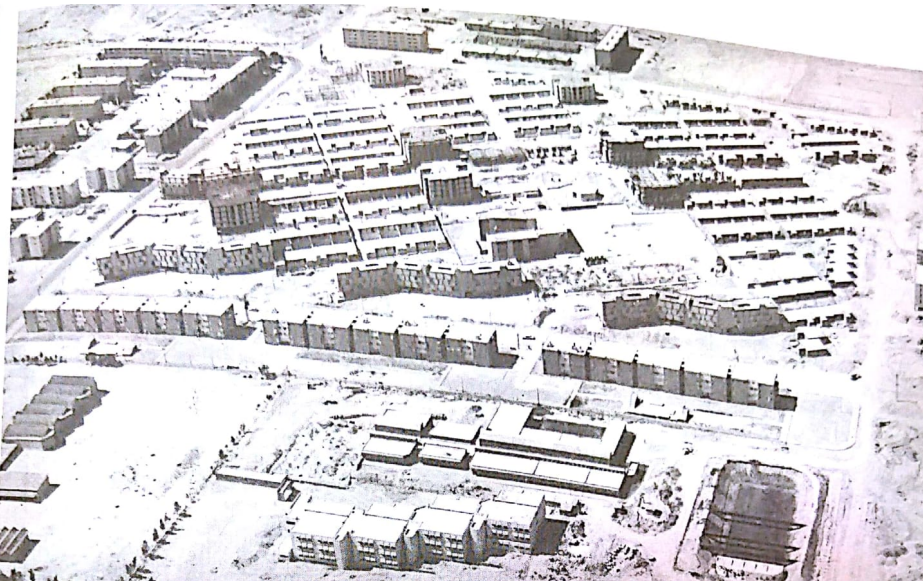


Figure 219: Aerial view of the Exemplar neighborhood. In: "Israel Builds 1973" magazine, the planning, and engineering department, Ministry of Construction and Housing, Jerusalem, 1973. p. 201



Figure 220: Typical street view inside the Exemplar neighborhood. In: "Israel Builds 1973" magazine, the planning, and engineering department, Ministry of Construction and Housing, Jerusalem, 1973. p. 195

school structure.

The facade of the structure remains completely original, aside from the new white plaster. As for the dining structure, it has been converted into a laundry store (a privet business unrelated to the handicapped center). The structure itself remains intact to its original form as only minimal adjustments were made (new white plaster and new minimal bars upon the horizontal windows).

According to the conservation appendix, the committee had recommended that this site is an outstanding example of the brutalist style in the Negev and, therefore, worthy of conservation declaration. Furthermore, it was not stated under which level of conservation the complex should be entitled to nor the specific elaborating regarding what method the conservation act is going to proceed.

The ninth district – The Exemplar Neighborhood (1965-1966)

The Exemplar neighborhood is located tangibly to the northern part of the CBD and includes (under the district definition) the entire neighborhood's elements, structure, and public spaces inside its quarter. The neighborhood itself represents a unique display of experimental desert architecture that tried to answer to multiply necessities and constraints that exists in the period in particular and the given condition in general - the aridness conditions (given condition), the shortage in residential units (period constraints), the shortage in financial means and materials (period restrictions), the ability to create an affordable and flexible residential unit to different family version (period constrains).

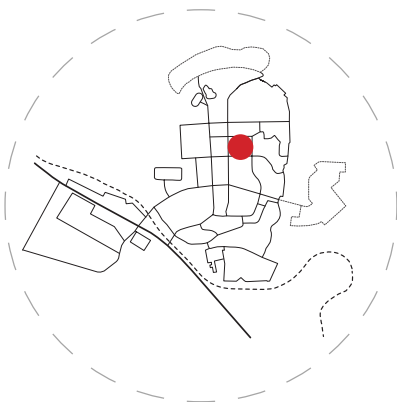
Throughout Chapter 3, the study discussed the conceptual evolution of the neighborhood in regards to the previous models leading to the current version existing in Dimona.

The neighborhood itself maintains two main types of residential structures: the bent 260 model block and the patio house. The 4-story blocks were spread across the southern border of the neighborhood in a slant orientation (western – eastern orientation) as a protective wall to the lower structural texture from potential sandstorms while still allowing frequent penetration of air into the neighborhood territory.

The second type (the patio houses) is scattered across 2/3 of the neighborhood's territory in low, dense texture that resembles a carpet form (the original planners had coined the term during the development of the model).

The uniqueness of those structures excels in the simplicity and functionality of the possibility to create flexible living space accustom to each tenant type. Furthermore, the benefit of the model doesn't stop in the internal division of the space but also expend to the idea that each change in the residential unit doesn't in under any circumstance harm the existing public texture surrounding the unit.

Furthermore, the public spaces inside the neighborhood grant additional positive validation when



The ninth district The Exemplar Neighborhood



Figure 221: Typical street view inside the 'carpet texture' - Southern facade 04.2020



Figure 223: Typical street view inside the 'carpet texture' - Southern facade 04.2020



Figure 222: Typical street view inside the 'carpet texture' - Southern facade 04.2020



Figure 224: A panoramic view of the 260 model block - Southern facade 04.2020

they exist mainly in small narrow streets and therefore are being shaded for the majority hours of the day as well as liberate the municipality and the neighborhood tenants to be occupied with maintains issue.

Nowadays, it is possible to notice that the value of the neighborhood continues to increase over time. Several conservation activities have been carried out over recent years. In the case of the residential blocks, the buildings were completely renovated in terms of reinforcement of the actual structure and got re-plastered. While in the case of the patio houses, the structures were only renovated partially in the front façade, and in some cases, specific privat renovations were conducted individually. It is impotent to mention that in any renovation case, the original size and height were kept.

According to the conservation appendix, the committee had stated that this neighborhood is characterized by exceptional architecture and therefore declared to be included inside the conservation list. The appendix hadn't explicitly maintained precisely what is the degree of conservation the site is entitled to nor any specific working program to preserve the existing structures.

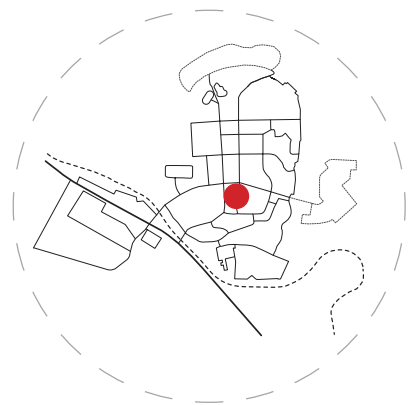
The tenth district – The Ex-Workers' Culture House

The structure is located in the southeastern part of the CBD zone and contains a single-story volume. According to the 1969 survey¹², the building was planned by Yehoshua Guirtzman as a part of a complex destined to serve the worker's council. This particular structure was mainly indented to serve as a cultural house for workers who wish to engage in small gatherings and to read books.

The building itself contains an entrance area (foyer), a gathering hall, a member's club, and a reading room. The distribution of the internal functions, as the planner suggested, indicates on pragmatic flexibility intentions toward its target audience. A good example of that claim could be found in the partial partitions that the center hall obtains. The planner's idea suggests that the hall could be easily adjusted according to the nature of the event (large or small) as needed. Furthermore, all functions are scattered along the structure's perimeter as all of them require a respectable amount of direct source illumination and ventilation. Another good example could be found in the position of the reading room in the southwest corner of the structure that 'received' additional isolation from the gathering hall by the entrance hall in the position of a buffer zone.

The most prominent element of the building is its unconventional roof. The structure itself contains triangular concrete slabs (In Hebrew – Gag Kemet), which create an interesting facade and section to the building, as well as improve the climate condition inside the structure (the absorption of sun bens is reduced due to the triangular shape). Moreover, the structure appears to have additional minimal

¹² The municipality of Dimona (1966). op. cit., p.77



The tenth district The Ex-Workers' Culture House

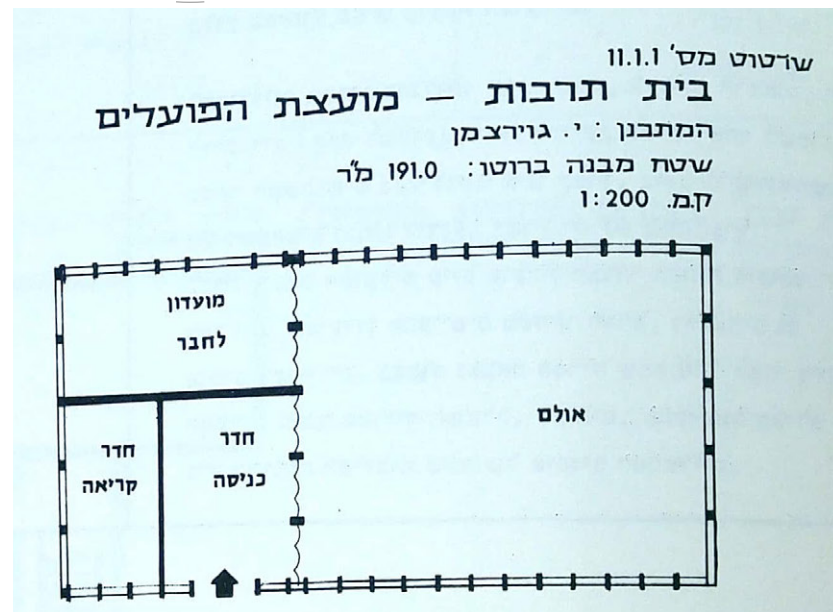


Figure 225: The floor plan design of the workers' cultural house. In: The municipality of Dimona, *Development survey in Dimona*, D. Zeslevsky press, Jerusalem, 1969. p.77



Figure 227: The main facade of the worker's cultural house - Southern facade 04.2020



370 Figure 226: The eastern facade of the worker's cultural house 04.2020



Figure 228: The western facade of the worker's cultural house 04.2020

decoration elements at its exterior bottom half, as to reinforce his appearance inside the worker's council's complex. (figure 223-226)

Today, the function of the worker's council complex seems to exist, and the different structures serve different purposes. The structure in question serves today as a small commercial center for different private stores. Its entire main facade has been breached and modified to serve the different stores as well as its original wall plaster (figure 226). The unconventional roof still exists but appears to be neglected and deteriorated in several internal points of the structure.

According to the conservation appendix, the committee had stated that this building is a candidate to enter the conservation list. According to this particular phrasing, it can be concluded that no comprehensive conservation survey has been conducted so far on the characteristics and value of the structure. Therefore, the committee hasn't declared an official announcement regarding this structure.

The eleventh district – Dimona's Municipality Building (1960)

The municipality building is located in the oldest (southern) part of the CBD and contains an elongated (block) structure that extends horizontally through the CBD'S width.

In the survey of 1969,¹³ as well as in the existing historical pictures (figure 228), the municipality structure appears to initially designed by Y. Lavi in 1959 as a two-story block with a small basement/shelter in its underground floor.

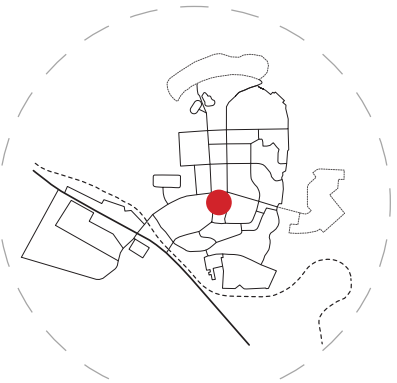
The ground floor was planned as an element of portico arcade (covered passage supported by columns and used for commercial purposes on one/both sides). The arched itself was planned in a double volume height and was orientated directly toward the town's main square, where it dictates its northern border. The commercial floor was initially embedded in the floor plan as part of a larger commercial plan for the town's square (the town's square originally maintained a supermarket, cinema, coffee shop, small private stores, and the town's second bazaar).

The first floor, according to the original plan was dedicated to the municipality's main offices and contained most of the various departments that existed in Dimona at the time (education, engineering, accounting, etc.) as well as operational functions such as a buffet, conference rooms, and toilets. This particular floor has been planned to maintain a central staircase that divides the floor into two equal parts of offices facing the northern and southern sides.

The main facade (southern facade) is characterized by the columned ground floor and continuous horizontal windows on the first floor.

Over the years (the specific date was not recovered at any of the available sources) additional two

¹³ The municipality of Dimona (1966). op. cit., p.18



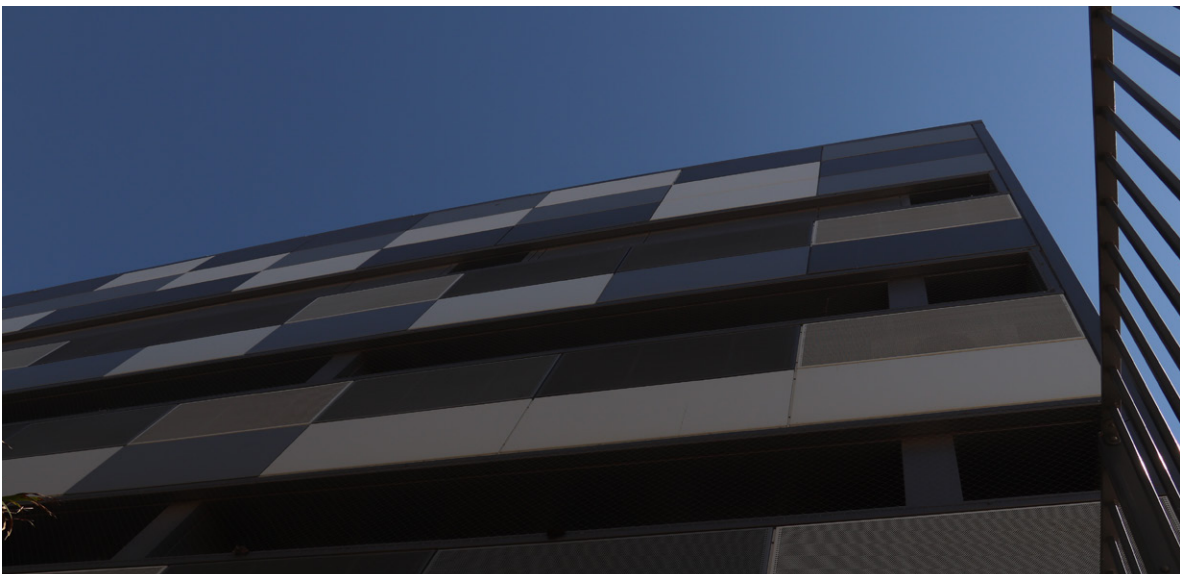
The eleventh district Dimona's Municipality Building



Figure 235: The western facade and a section view of the recent adjustment 04.2020



Figure 236: The southern facade of the municipality's building 04.2020



374 Figure 237-238: The northern facade of the municipality's building after the metallic coverage 04.2020



floors of offices were added to the original structure as well as an external elevator shaft was added to the southern main facade of the structure (by adding it, the facade became divided into two unequal parts). According to a 2012 street view¹⁴, the second floor was designed similarly to the first floor and maintain the same scale (in terms of actual size) and the identical imitation of the window's appearance rhythm. However, the third floor appears to share a few similar attributes to the ground floor, where the design included additional portico arcade elements with the same column rhythm as the ground floor. However, in terms of openings appearance, it seems that the floor had undergone a few modifications that caused the element to look too casual and detached to the rest of the structure. In October 2014, the structure had undergone another visual alternation, when it was covered in exterior thin aluminum pieces (as a second skin) to grant the structure a modern appearance. In the principal southern facade, the aluminum element is presented as a thin dense horizontal strip across the facade. On the northern side, the aluminum element is presented as colored rectangles pieces joint together. (figure 234-236)

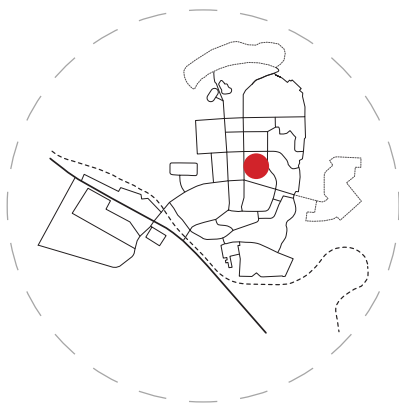
According to the conservation appendix, the committee states that this building is for preservation. The structure not only was placed in a very strategic point (inside the CBD) but also was designed to appear as a substantial symbolic fragment inside the town's square texture. In other words, for an extended period, this structure symbolized the modern brutalism appearance of Dimona to the rest of the country. Nevertheless, the conservation appendix does not specify the degree of conservation the structure was given nor which treatment should be conducted with the new additions.

The twelve district – The Ben-Atar School

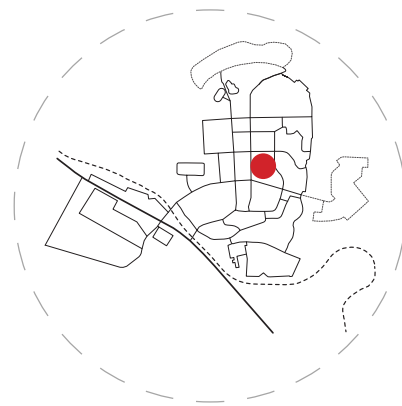
This complex is located at the northwest end of the 'education district,' tangible to the south side of the CBD. The structure in question used to be a part of the educational complex (the Ben-Atar school) during the '60s in Dimona. The architects A. Laitersdurff and A. Belziamn had planned the original complex for the use of a professional high school for textile and craftsmanship. The compound used to contain approximately four rectangular structures connected together where the entrance to the complex was a longitudinal rectangle that links the different functions of the complex. According to different periodical designs (figure 237-240), the complex had undergone several radical changes in structure throughout the years.

The specific structure the committee chooses to indicates (the southern structure) holds the most interesting features the complex used to maintain – a repetitive triangle roof with additional complementary diagonal pillars in the main façade (figure 240). This element (similar to the workers' Council

¹⁴ Google street of Dimona – 2012; The Alokai company's website



The twelve district
The Ben-Atar School



The twelve district
The Ben-Atar School



Above and left side: Figure 239-240 Historical view of the Ben-Atar school. In: A. Laitersdurff and A. Belziann website, unknown photographer, unknown year.



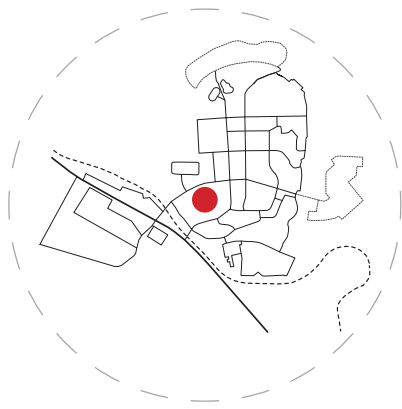
376 Figure 241: Students for textile in the Ben-Atar school. In: The central zionist archives website, unknown photographer, unknown year



Figure 242: Historical view of the Ben-Atar school. In: A. Laitersdurff and A. Belziann website, unknown photographer, unknown year.



Figure 243-244: The southern facade of the Ben-Atar school 04.2020



The thirteen district The Amiasaf School



Above: Figure 245- Part of the educational facilities map - with the Amiasaf school complex marked in dashed red line. In: The municipality of Dimona, Development survey in Dimona, D. Zeslevsky press, Jerusalem, 1969. p.28

Right side: Figure 246-247 The southern facade of the Amiasaf school 04.2020

structure) was used as a brutal decorative element with distinct claimant advantages inside the aridness surroundings.

Furthermore, according to satellite photos taken from 2011 to 2012¹⁵, the majority part of the educational complex was demolished, and two new structures were constructed. In 2019, the entire remaining structures of the original school were demolished except the remaining structure, which was abandoned in recent times.

According to the Conservation Appendix, this particular structure is for conservation due to its unique use in the brutalism attributes. The conservation appendix does not specify the level of conservation for the building itself.

The thirteen district – The Amiasaf School

The educational complex is located in the heart of the Shivat Ha Minim neighborhood. The original school building, as noted in the 1969 Dimona Survey¹⁶, contained nine separate units that, over time, were merged together into a two-story structure complex with an inner-courtyard. Prior to the merge, all fragments were placed in a deliberate configuration that creates a defined area that most likely served as the open schoolyard and later became the inner existing courtyard.

The original planning of the complex was a part of a broader educational complex that contains another boarding school and the town's conservatorium.

Its main facade is composed out of a repetitive window concrete pattern on the ground floor as well as the first floor and additional horizontal windows in the corridor area.

Today, it is not possible to determine whether the main facade/ secondary facade remains loyal to the original plan since there are no historical pictures of that complex. The only evident certainty is the complex was repainted and had additional modern adjustments throughout time.

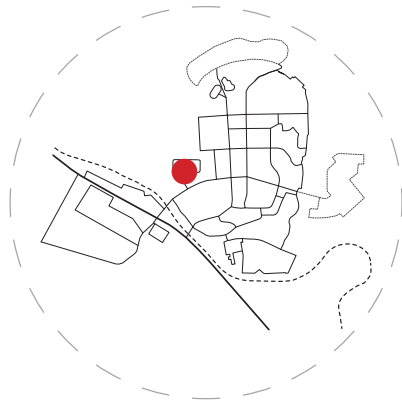
According to the conservation Appendix, the committee had stated that this complex is a declared site for conservation due to its distinctive use of brutal construction style. Nevertheless, the conservation appendix did not specify the conservation level or distinct observation regarding the original complex parts.

The fourteenth district – The Kittan plant

This district is located on the western border of Dimona's urban texture and includes all of the factory's facilities. The large main structure of the factory was designed by the Swiss architect company called

¹⁵ Mapi- Israel's official mapping center website

¹⁶ The municipality of Dimona (1966). op. cit., p.27-28



The fourteen district The Kitten plan



Right side: Figure 248 -Historical ariel view of the factory and surroundings. Unknown photographer, Unknown year.

Below: Figure 249-250 Different departments inside the factory. Unknown factory, Unknown year.

All photos are courtesy of the former HR of Kitten Dimona Michael Ze'evi



Gretz and was built by the national construction company called Solel Boneh.

The structure itself is a single-story structure that is divided internally to the different departments of the factory and a large basement placed underground. The main functions the factory holds were: office / administrative structure, sewing department, spinning hall, weaving department, cutting and coloring department, packaging area, and product development department. Furthermore, the structure also includes other operational functions such as warehouses, dining rooms, employee club, and maintenance cabinets.

The entire structure was constructed by large reinforced prefabricated concrete beams, which were arranged along the ceiling of the structure to obtain as much resistance as possible. Within the internal division of the beams, the planners had created a secondary reinforced concrete passageway system (attached to the ceiling) that could be functional in case the workers had to move from one hall to the other without actually passing through the manufacturing hall.

Furthermore, in several internal parts of the structure, the construction company had created a light partition floor in order to divide the vertical volume into two parts and to place inside the upper half several maintains offices.

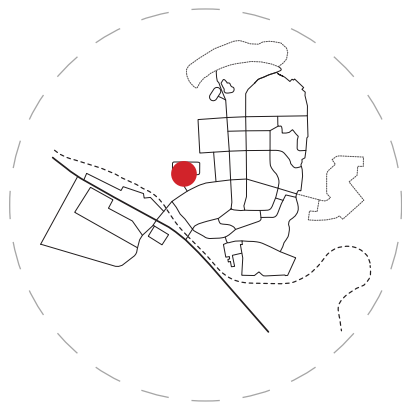
More than anything else, the most recognizable element the plant has to offer is the iconic main facade, which contains a system of geometric concrete squares windows spread horizontally in equal spaces across the facade. Aside from its decorative brutalist characteristics, the squares used as a permanent filter to regulate the amount of illumination to the manufacturing hall from the south side as well as support the ventilation system without the aggressive penetration of sandstorms inside the facility.

Today, the building is abandoned and not in regular use since 2012. Most facilities stand neglected, and in several places (in the warehouses' facilities), the roof began to collapse towards the interior space. In the past and today, several attempts were made to revive this structure for various uses, but for the current moment, no plan has been activated yet.

According to the Conservation appendix, the committee had declared that the structure is included in the conservation list. Through chapter 3, the kitten factory was elaborately maintained in almost every aspect regarding the evolution of the town of Dimona. This factory symbolizes more than anything else, the image of Dimona in its highest and lowest moments through its establishment years.

The fifteen district - Ben Gurion Park

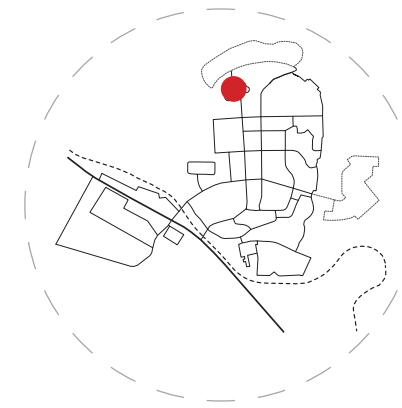
This district is located in the northern part of the urban texture of Dimona and includes a grove, an artificial lake, an open theater area, and a picnic area. Unlike the various conservation districts mentioned in this list, the main focus of this site is on the town's landscape development and less on its



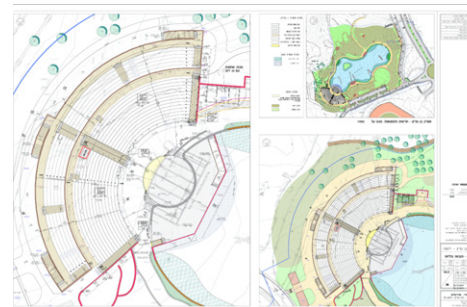
The fourteen district
The Kattan plan



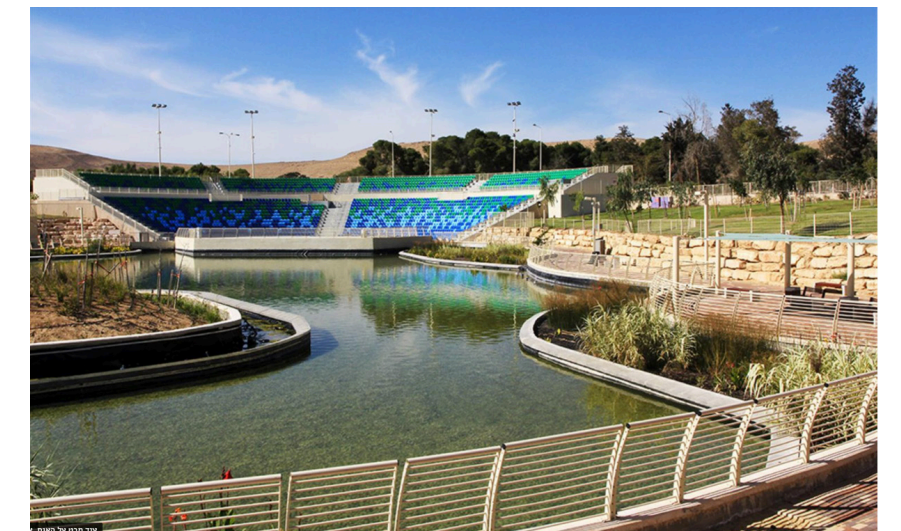
Figure 251-253: panoramic view of the southern iconic facade of the Kattan factory. 08.2018

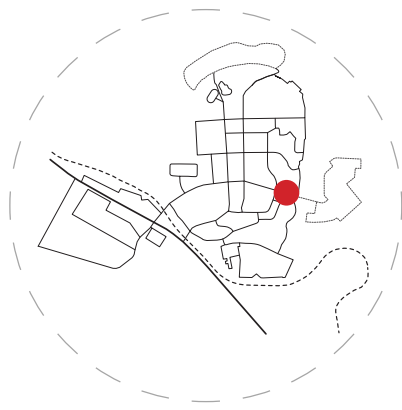


The fifteen district
Ben Gurion park



Above: figure 254- Satellite photo of the Ben Gurion park, 2019. In: Mapi- Israel's official mapping center website
Left side: figure 255- The artificial lake and open theater's masterplan, 2016. In: Avner Drori architecture and urban design website.
Below: figure 256-257. Panoramic view inside the park. In: Keren Kayemeth Lelsrael Jewish National Fund website





The sixteen district Kfar Shalom



Figure 258: Satellite photo of Kfar Shalom, 2019. In: Mapi- Israel's official mapping center website



Figure 259: Typical residential structure. In: O. Binder, A new report determines that the structures that the African Hebrew Israelite community are living in - are life hazard, "Ma'arive" newspaper online edition, 26.07.2009



Figure 260: Typical residential structure. 08.2018

constructed sits.

This area itself is one of the last fragments related to the initial masterplan plan for Dimona that was inspired by Sharon's approach. According to that plan, the town should be enriched with green belts across its urban texture (and in between each residential unit) in order to create a resemblance appearance image to a typical rustic village. Notwithstanding, the existing district symbolizes that the planners did partially embraced the idea, as they understood the necessity in barking the desert's panoramic view with a green belt area. Aside from the technical achievement of growing a grove in the middle of the desert area, this district represents the resourcefulness the residents discovered when they used recycled sewage water to irrigate the belt despite the water shortage they experience.

During the early 2000s, the artificial lake (with its open theater area) and the picnic area were built to enhance the quality of the district and to encourage the residence to enjoy the grove.

Today, this district is active and open to the public all year long.

In the current masterplan for Dimona¹⁷, it is evident that in the future, this area will serve as a green buffer zone between the new northern neighborhood (the Shahr neighborhood) and the existing urban texture on the south.

According to the Conservation Appendix, the committee had recommended that an elaborate survey (for the entire area and the trees) must be conducted in order to determine its actual value and its future conservation possibilities.

The sixteen district - Kfar Shalom neighborhood

The district is located in the eastern part of Dimona, south to the Bnei Bittha neighborhood. The district contains a low- dense residential sheds (i.e., single-story light constructed sheds) destined for the use of a unique population living in Dimona since the 1980s, the African Hebrew Israelite Nation of Jerusalem.

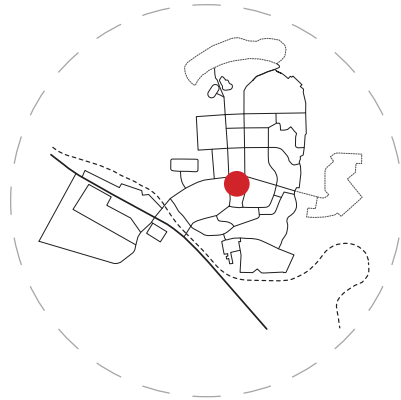
According to an article published online¹⁸, When the first believers had arrived in Dimona, the municipality had assigned this district as a decent settlement district for their community.

Since this community is relatively closed to the outside visitors in terms of privacy, it is not possible to obtain concrete information on the types of buildings as well as their development history.

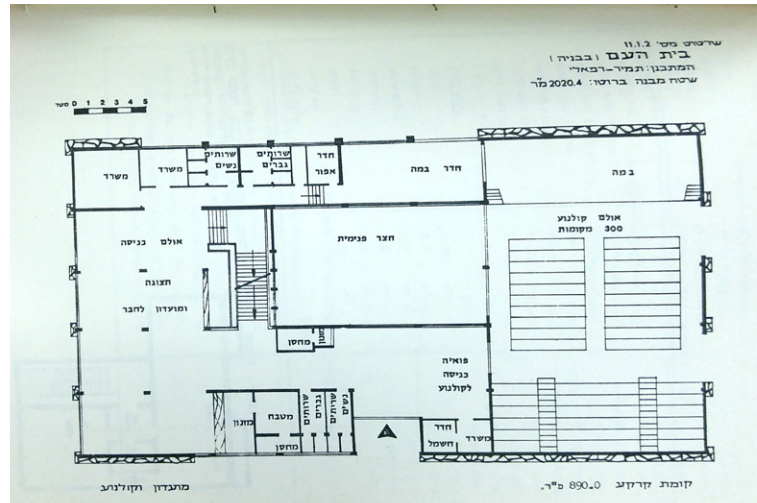
Today, the closed community continues to live in the same district they were originally assigned to. During the study visits, it had appeared that the structures remain in their original shape (light construction) aside from minor modern adjustments, such as water boilers on the roofs of the structures

¹⁷ The Dimona masterplan no.33/101/02/25

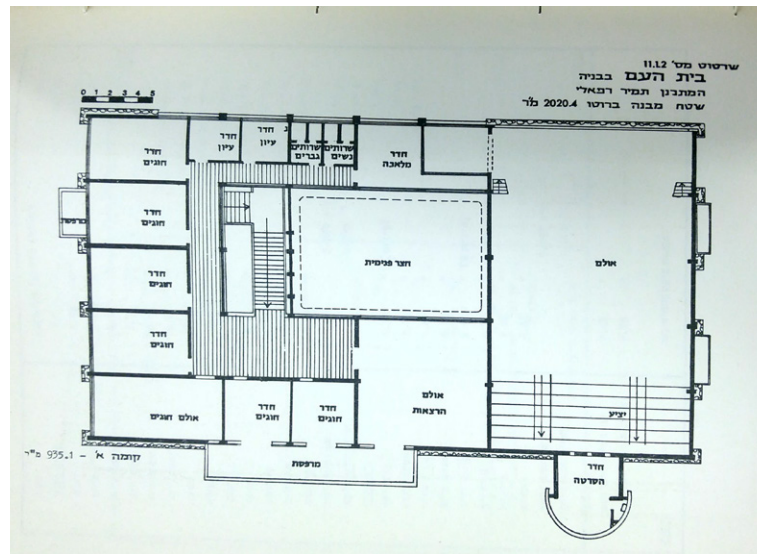
¹⁸ L. Rosovsky, *Incorrect rest*, the hottest place in hall online magazine, 26.08.2014



A. Town's cultural youth center - Former Dimona's community center



Above: figure 261- The ground floor plan; Below: figure 262- the first plan floor of Dimona's community center. In: The municipality of Dimona, *Development survey in Dimona*, D. Zeslevsky press, Jerusalem, 1969. p.80-81



Above : figure 263- The northern facade of Dimona's community center 04.2020
Below : figure 264- The southern facade of Dimona's community center 04.2020



or shade net above the entrance doors.

According to the conservation appendix, the committee decided to grant the site the lowest conservation level – as they will place informative signs regarding the main attributes of the site.

The thesis 's recommendation regarding additional buildings that were not mentioned in the conservation appendix and should be considered:

A. Town's cultural youth center - Former Dimona's community center

This structure is located in the heart of the CBD on the main junction of Hertzal boulevard and Ha Nassi boulevard. The structure was originally designed as the official community center of Dimona (a public building intended to contain a variety of functions and civic activities).

The building was designed by Yehuda Tamir and Gideon Rafaeli in 1967- 1968 as an interesting example of a brutalist construction combined with local elements.

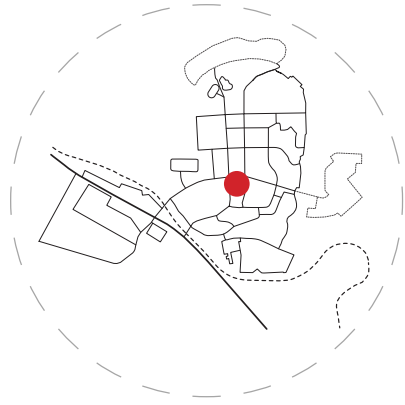
The building itself is a two stories structure that spread across 890sqm¹⁹. The ground floor is dedicated to an entrance hall (foyer), a cinema hall for about 300 participants (located on the eastern side of the building), and operational facilities. In the center of the floor, the planners initially designed an inner open-air courtyard that is connecting the two floors of the building and serves as a buffer zone between the cinema complex and the administrative functions (Offices, kitchen, buffet, warehouse, etc.). In addition to the inner courtyard, the main staircase was also placed in the center of the floor plan (next to the inner courtyard), for the participant to reach all functions of the structure easily.

On the first floor, according to a clear space hierarchy, it can be seen that the entire eastern half of the building is divided into medium and small lecture rooms suitable for different types of activities and population groups.

Furthermore, in the western part of the floor, the planners designed another medium hall which can be used either as a gathering hall or as an additional cinema. In order to prevent an additional waist of sqm with projector equipment, the planners suggested creating a unique addition to the structure. The unique addition is well evident in the floor plan as well as in the main facade, where the rigid square geometry boundaries are broken into a half-circle cylinder that exits the large volume. Nevertheless, the uniqueness of the facade doesn't end at that point when the planners decided to use an unusual combination between the exposed concrete (industrial gray material) and local stone cladding (colorful natural material) together. The use in this type of cladding technic does not exist anywhere else in Dimona, which makes to one-of-a-kind structure.

Today, this building serves as Dimona's youth cultural center (in Hebrew: Matnass). It is evident

¹⁹ The municipality of Dimona (1966). op. cit., p. 80-81



A. Town's cultural youth center - Former Dimona's community center



Figure 265: Exposed concrete and the original local stone cladding 04.2020



Figure 266: A recent addition to the structure - secondary entrance\exit in the western facade 04.2020

the structure itself maintains its original shape but had undergone different adjustments over the years. A marble cladding was used to cover all the exposed concrete walls (interior and exterior), the open-air inner garden was covered and blocked in the top second-floor ceiling, the additional entrance was added to the western side and an emergency light- staircases structure at the rear side (south side) of the structure.

According to the description and the existing conditions, it can be determined that this structure is worthy of entering the conservation list, not only because of its innovated brutalism form (and its local adaptation of materials) but also as an important value for the local community as well as for urban texture that the structure exists in.

B. Dimona's Central Library

This structure is located in the center of CBD in close approximate to the youth cultural center alongside the Ha Nassi boulevard. The structure was originally designed as the official municipal library to meet the formal requirement needs of the residents. (in the past there were several small libraries that could serve the entire community).²⁰

The building itself was originally designed by architects Yehuda Tamir and Gideon Rafaeli at the same time as the municipal community center from 1967 to 1968.

The structure maintains a rectangle single-story building (with a small basement) and spreads to an approximately 1194 square meters. This floor is divided into several spaces according to their functional needs. Therefore, the Northern wing of the library serves as a reading hall (as a comfort condition) while most of the southern wing is dedicated strictly to operational functions as a storage room and administration offices.

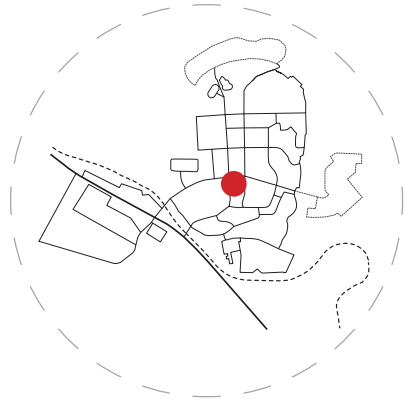
According to the survey done in 1969²¹, it is possible to see the planners added additional volume to the constructive concrete squared pillars in their outer shell as a brutal decorative element that outlined the structural rhythm.

Over the years, further extensions and renovations were made to the original building. (according to the Available sources it is not possible to determine when they were added).

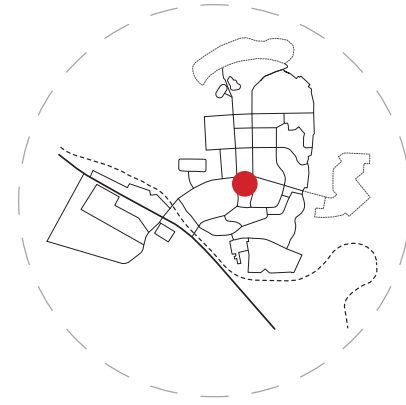
Today, the building still serves as Dimona's Public Library. Additional three structural extensions were added to the original building on the northern facade, on the western facade (which face President Avenue) and the southern facade (figure 267-269). These extensions are built in a trapezoidal vertical structure that extends the internal space of the library (from one side) and continues as a decorative continual external wall element of the structural pillars. The result of such an element could be observed by the outside

²⁰ The municipality of Dimona (1966). op. cit., p. 91

²¹ The municipality of Dimona (1966). op. cit., p. 92-93



B. Dimona's Central Library



B. Dimona's Central Library

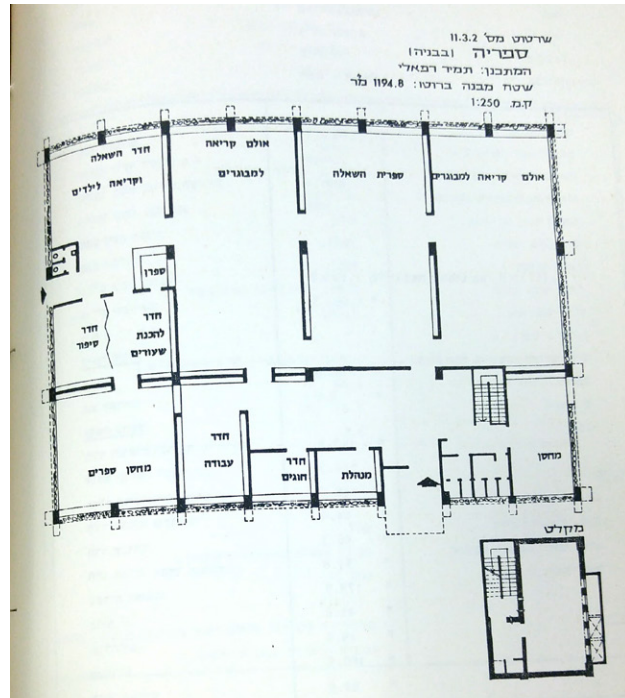


Figure 267: The floor plan of the central library. In: The municipality of Dimona, *Development survey in Dimona*, D. Zeslevsky press, Jerusalem, 1969. p.94

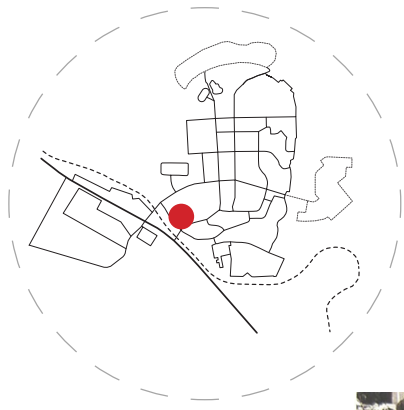


Figure 268: The main entrance to the central library 04.2020



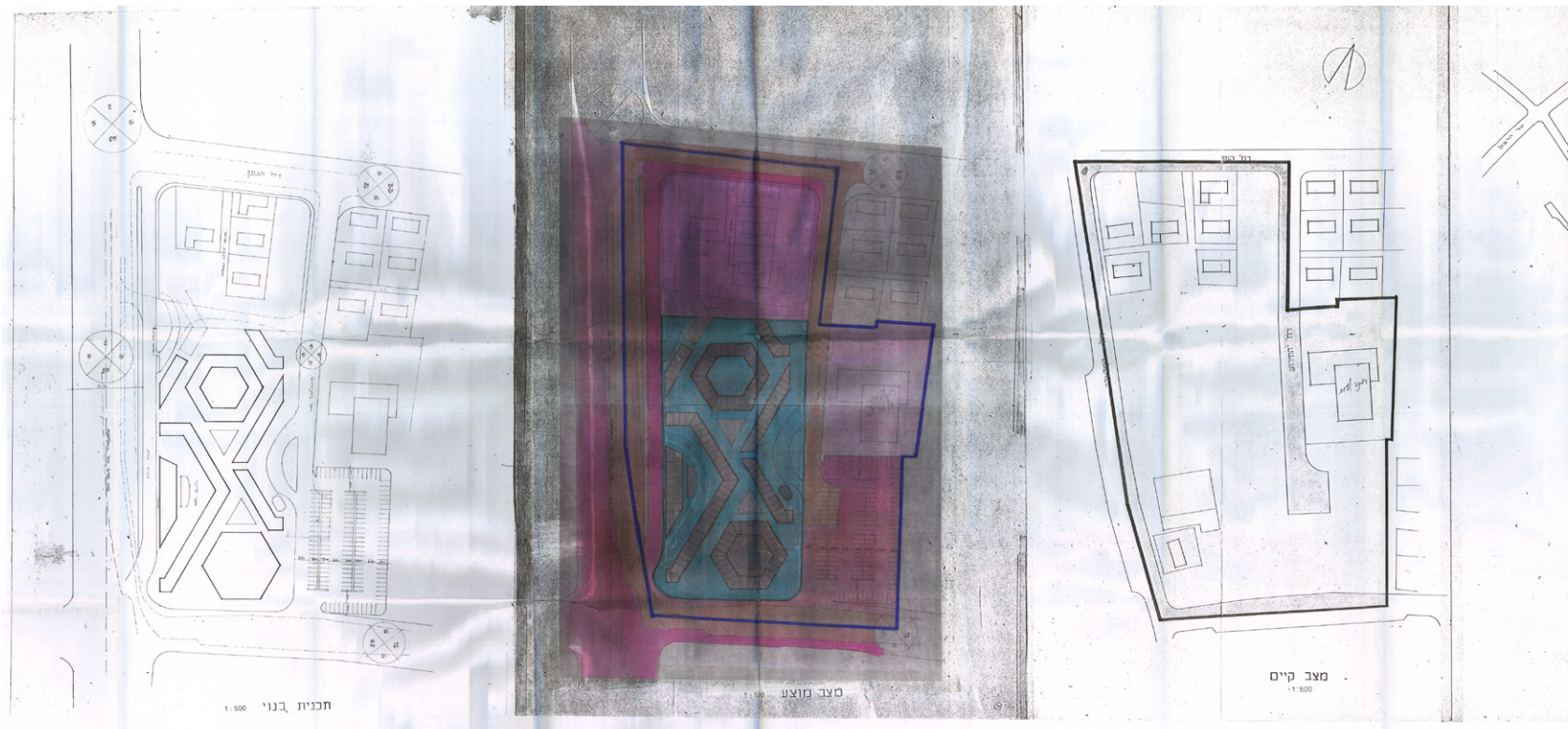
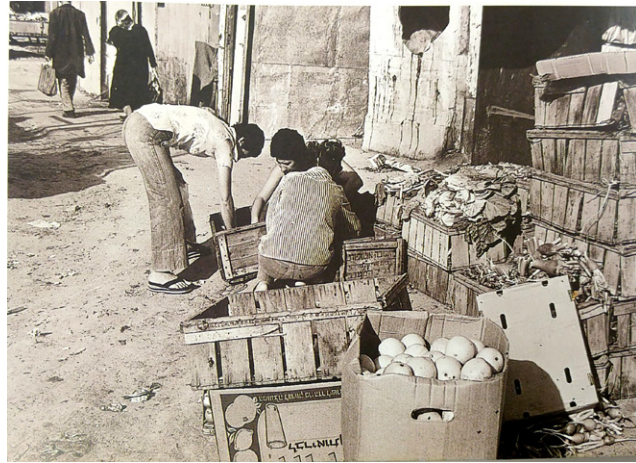
Figure 269-271: Panoramic view of the central library 04.2020





C. The Old Market

Right side: figure 272- The floor plan of the central library. In: The municipality of Dimona, *50 years to Dimona*, unknown press, 2005. p.47
 Below: Figure 273- The old market renovation master plan. In :S. Tochler, *Elaborated plan no.51473D*, unknown printer, 1979



viewer as triangle walls existing the squared main volume and creates an optical game of shadow and light.

Another important feature is the cladding of the entire structure with light brown granite plats over the original exposed concrete.

The third and final adjustment found in the area of the library is the landscape development that had to contribute to its main appearance. (according to the original design there were no existing designs regarding the development of the landscape of the structure). Most of the elements are made from original stone blocks that mark the main entrance to structure and the different height levels according to the street level. Furthermore, additional greenery was planted around the structure and could not be determined on which period they were placed.

Despite the changes the structure had gone through, this study finds it still appropriate to enter this structure to the conservation list. Its historical meaning, as well as its important position inside the urban texture (in the heart of the CBD) alongside its landscape development, are still serving the people of Dimona as well as the public space. Even if the renovated facade is entirely different from the original one, the structure still continues to have an exceptional visual appearance to the street view.

C. The Old Market

The area of the old market is located in the western border of the Shivat Ha Minim neighborhood, tangible to the main access road of Dimona. In Chapter 3, the market (as a commercial function) was described as a great achievement to the beneficiary of the local tenants who wished to enjoy an approachable possibility to buy a verity of products inside the town's boundaries.

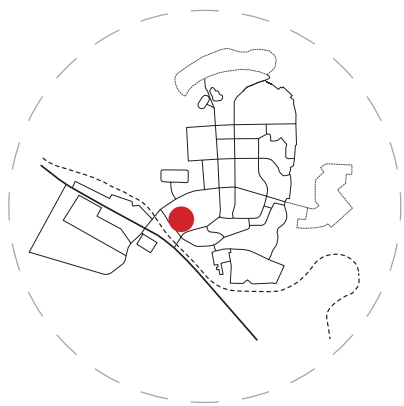
In a historical picture of the market,²² it is evident that the market's character lacked the necessary order, organization, and structure.

In 1979, a new master plan for the market was designed by an S. Tochler²³ and got approved three years later. The new masterplan included new order, hierarchy, and accessibility for all market visitors and workers. Tochler had created within the rectangular given shape, a unique network of walking paths that maximize the market's commercial space as well as stimulate the potential buyers since all walking paths are variant (not repetitive) nor revealing from start to end. The plan itself included two hexagon shapes and five low diagonal blocks in various lengths that were separated by a small concrete partition and small arches across the shape.

Moreover, the design also refers to the viability issue, when Tochler had created a regulated access road for large vehicles, a large parking lot in the eastern-southern side (also serves as a buffer zone from the

²² The municipality of Dimona, *50 years to Dimona*, unknown press, 2005

²³ S. Tochler, *Elaborated plan no.51473D*, unknown printer, 1979



C.The Old Market



Above and below: figure 274-275
Panoramic view of the old market area 04.2020



Above : figure 276- Satellite view of the old market - 2005.
Below : figure 277- Satellite view of the old market - 2019. In: Mapi- Israel's official mapping center website



residential area), and a loading bay at the southern corner of the complex.

Due to frequent complaints from the resident of the Shivat Ha Minim neighborhood, the complex was abandoned and relocated on the other side of the access road.

In a recent satellite image, it possible to indicates only the remains of one hexagon and few fragments of the block element from the original plan. (all of the remains are concentrated in the southern side of the area). Today, as discussed in Chapter 4, this complex is entirely deserted and is subject to the occasional use of street vendors and various criminal individuals who carry out illegal operations in the area.

Based on the given information regarding the premises, this research work finds it appropriate to specify this area inside the conservation list due to its unique historical value as well as its revolutionary geometry design.

2) *The Archeology Appendix*

The three sites the committee had chosen for increasing tourism in Dimona are representative settlement models from three different historical periods.

A. Mount Dimon: A Nomadic settlement from the Middle Bronze Age.

This archeological site exceeds A 60-acres, located on the eastern slopes of Mount Dimon on the eastern edge of the town of Dimona. Excavation activities were carried out by the Israel Antiquities Authority in 1991, and three archeological Middle Bronze Age sites were discovered. The first area reviled two remainings of periodical structures (mainly rooms) placed around the oval-shape courtyard. The walls were constructed from local unshaped stones as well as the internal standing pillars of the structure. In the second area, an elaborate rectangle building complex with simple stone partitions cells and courtyard was discovered. In the third site, ancient tombs and a stone quarry were discovered.

Unlike the other mentioned site, this particular one has been excavated inside the town's municipal boundaries, which grants the site additional attention. The committee finds the site to be an important demonstration of the middle bronze age in the historical period of the Negev. Therefore, the site must be included in all future development programs for Dimona as well as the creating of an official visiting site for future tourism potential.

B. Rehava wreckage: Border fortress from the First Temple Period (1025 B.C -586 B.C)

The site includes a small fortress on top of a hill south to the town of Dimona. The fortress was most likely built in the 10th century BC by one of the kings of the Judah kingdom during the late kingdom period. The fortress was considered a part of a defense system to the south of the kingdom of Judah. It was used to protect the biblical path that linked the Kadesh Barnea (biblical settlement in the border area between Israel and Egypt today) to the biblical city of Arad. The fortress was built in a semi-circle outline that matches the hilltop soil attributes of the hill. The fortress

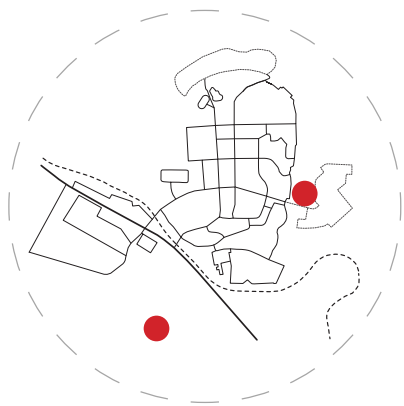


Figure 278: Mount Dimon design, In: Y. Govrin, *Archiology Appendix No. 2.3.8 to Masterplan No. 33/101/02/25*, Governmental Press, Jerusalem, 07.2019

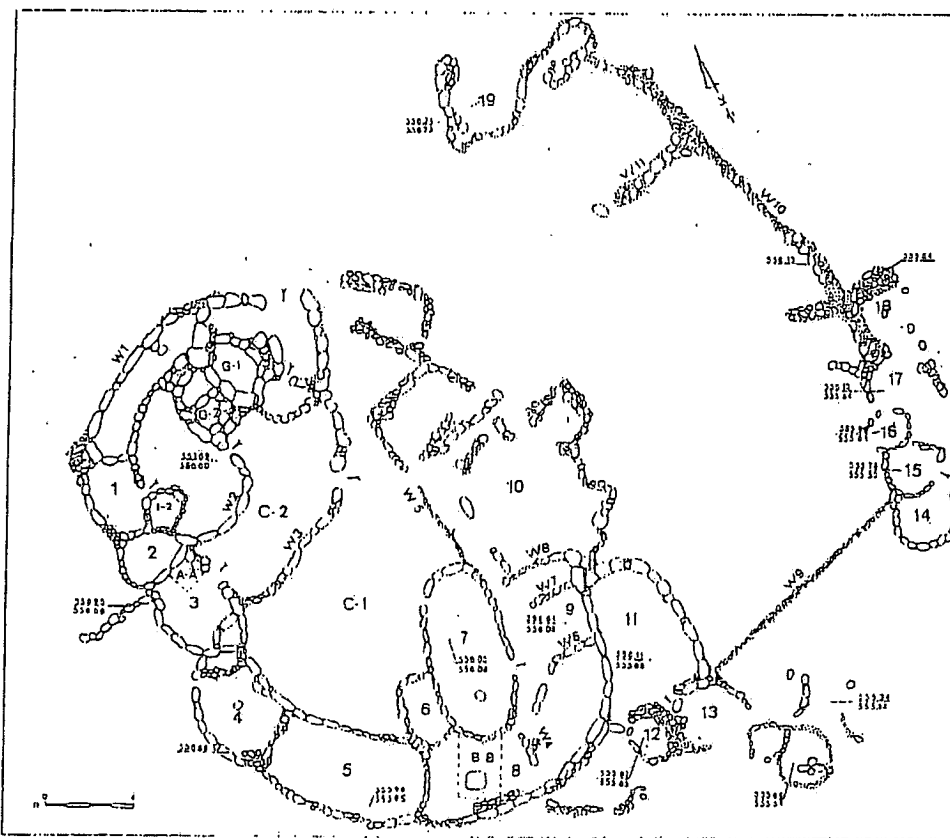
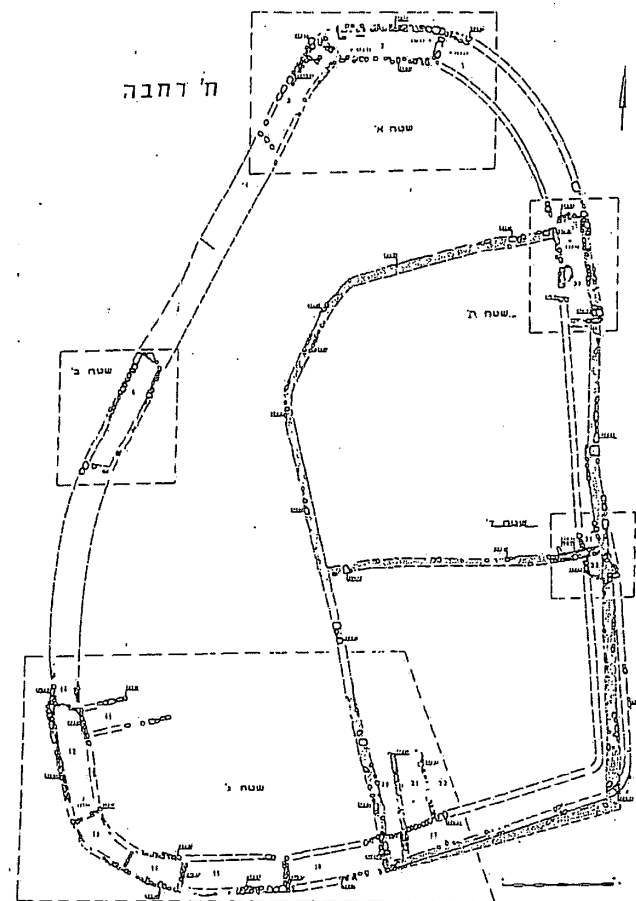


Figure 279: Rehava wreckage design, In: Y. Govrin, *Archiology Appendix No. 2.3.8 to Masterplan No. 33/101/02/25*, Governmental Press, Jerusalem, 07.2019



walls were made in a simple casemate structure that includes two defensive walls that lead into an open courtyard.

Due to the importance of the site and its close location to the modern town of Dimona, the committee is recommending to incorporated the site inside an open tourist park to increase the touristic potential of the area.

C. Mampsis: A Nabataean city from the Roman and Byzantine periods.

The site is located on the eastern, southern side of Dimona, 5.5 km from the modern town.

In the elaborated description written in chapter 3, it appears that this unique settlement obtains exceptional characteristics compare to other ancient Negev cities. The flourishing of Mampsis was due to its strategical position on the main 'scents road,' which provided a variety of services to the different trade convoys. Its most impressive assets are its extraordinary architecture facilities that were built and preserved over the years. The town's facilities included hostels, markets, churches, bathhouses, horse stables, and large residential buildings with unique internal division. Moreover, the unique water system that was based upon a network of dams and runoff collective pits was and still is one of the most impressive desert systems in the history of the Negev area.

Due to the importance of the site, extraordinarily preserved architecture and its close location to the modern town of Dimona the committee is recommending to include the site inside the new masterplan of Dimona and to incorporated it in the town's different tourist attractions by linking it (in the sense of convenient access) to the modern town.

5.1.2 Medium-scale project – the 'Merage foundation' proposal

During 2017, the Merage Foundation²⁴ conducted in-depth research in some 17 municipalities in the Negev. The purpose of the study was to produce vital tools for demographic growth while treating each authority as a resource for encouraging stable young populations to move to the Negev.

One of the key issues that stood in front of the foundation's eyes was the town's center and its crucial contribution to the growth and prosperity of the town. Furthermore, in their opinion, the invigoration of the town's center and the process of urban renewal are necessary for improving the quality of life of the inhabitants.

Consequently, During March 2018, the Mirage Foundation initiated an active collaborative planning convention in Dimona. The conference gathered: national professionals and consultants regarding urban renewal, the mayor and representatives from several offices of the municipality, representatives from the Ministry of environmental protection, and representatives from the Ministry of housing. Nevertheless, Among the different dissections and activities through the convention, the planners held a broad discus-

²⁴ The Merage Foundation is a philanthropic foundation owned by the Jewish-American Merage family since 1998.

Medium scale project - The Merage foundation proposal Alternative A : The southern half of the Central business district (CBD)

The plan offers additional construction inside the empty areas and in the parking lots inside the CBD area. The plan offers a broad spectrum of uses as well as educated and proportional exploitation of the land in order to reconnect the CBD to its surroundings (reinforcement of the street grid, the urban park and the commercial center in the south).

The offer includes :

1. Construction of additional public and commercial buildings alongside the Ha Nassi Ave.
2. Construction of residential buildings in the Eastern part of the park (in M"G Ha Ma'apilim St.)
3. Connecting the urban park to the southern commercial center (visually and physically)
4. Regenerating the urban park by adding uses, facilities, and activities to a large range of users
5. Additional treatment to the principle facades of the residential structures facing the Ha Nassi Ave.
6. Planting additional trees along the CBD area to create pleasant ambient for future visitors.
7. Adding additional 'street furniture'



Townhall square - Existing status



Townhall square - future proposal



Figure 280: The Merage Foundation, *The renewal of the heart of Dimona – conclusions from a joint process for physical and social renewal*, Merchav – movement for Israeli Urbanism press, Tel Aviv, 2018. p.28-33



sion combined with the participation of the residents in order to fully understand their wishes, opinions, needs, and suggestions regarding their vision on their local environment (each from its own neighborhood). Among the various subjects the convention had dealt with, it is possible to mention:

- A. The re-planning of the CBD – Thickening the urban texture by constructing in the vacant areas, Adding street furniture and proper street lightning, Increasing the number of public buildings alongside the public Library (increasing its value by enriching its surroundings with public structures and the human movement in its parameter area), renovating the principal facades of the public structures and adding new uses/ functions for the main square (in the southern part of the CBD), renovating the town's municipal park (Park Esqual).
- B. The organization of the street network (by defining and prioritizing a clear hierarchy among the different roads) and the completion of missing fragments paths in the internal neighborhood systems.
- C. The creation of efficient parking solutions around town in general and in the town's center in particular.
- D. Proposals for renewal and efficiencies regarding the small nucleus commercial center (in the heart of the 'neighborhood unit').
- E. Proposals for re-planning the Victory neighborhoods (A+B).²⁵

Microscale projects - the 'Dimona Development committee' proposals

A. The 'Transparent Mall' Complex – 'Demri Center'

The 'Transparent Mall' is a term coined by the locals in reference to the notorious hypothetical shopping center that was supposed to be constructed decades ago inside the CBD declared area (the northern part). As was previously mentioned, the initial Intentions regarding the creation of the commercial center in question have already been registered during the '70s when the first plans were published in the architectural and engineering association journal. However, due to a lack of budget, it was decided to freeze the project and return to it when the times come, and the right investor/entrepreneur would come along and support the project.

In the previous chapter, the CBD area was widely explored and discussed within the context of abandoned public space that creates alienation towards the town center as well as creates a significant visual and physical discontinuity in the urban texture. In that particular case, the absence of that structure/complex had left a strong mark upon the municipality members who wished to prioritize the project in a higher position comper to the different projects. Their ambition, as argued in the local newspaper 'Sheva,' while laying the cornerstone of the 'Damri center,' is to

²⁵ The Merage Foundation, *The renewal of the heart of Dimona – conclusions from a joint process for physical and social renewal*, Merchav – movement for Israeli Urbanism press, Tel Aviv, 2018. p.3-25

Medium scale project - The Mergage foundation proposal
 Alternative B : Merger between the Central business district (CBD) and
 the Victory neighborhood (A+B)

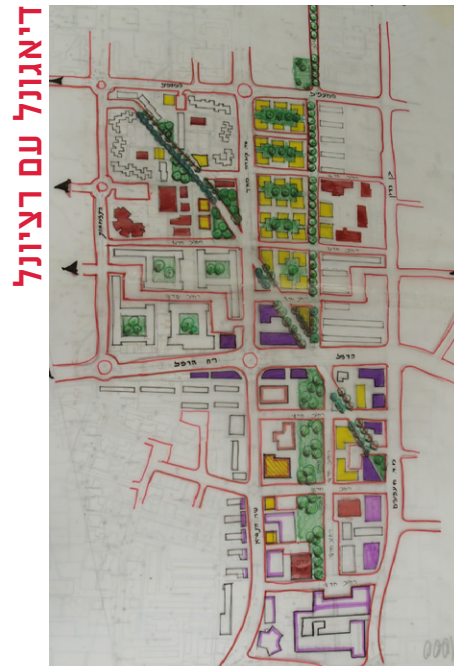


'The victory neigberhood A,B,C'

* An urban renewal model for the Victory Neighborhood which allows for new construction of neighborhood/ residential structures alongside the CBD undeveloped territories.

* usege of simplifide geometry (originated from the first part of the victory neigberhood) to creat small rectengal units.

* connecting the diffrent parts by assembling public and commercial structures alongside the centers of each neigberhood together as a continuens line.



'Rational Diagonal'

* Extention of the north diagonal elemnt toward the southern part of the CBD in order to creat two dominent axes in the town center and to connect physicly the two ares.

* reinforcing the resideial sequence by adding additional neigberhood in the resulted northern area between the two axes.



restore the centrality and 'gravity 'of the CBD to its rightful position as well as to encourage its residents to return to spend their free time, socialize and live near it.

In an article published in the Israeli Local Authorities Portal as well as in the local newspaper 'Sheva' on August 22, 2018²⁶, it was stated that due to the mayor's political pressure, the right investors were found and the general master plan of the complex was formulated and agreed by both parties. Furthermore, on the Dimona's Municipality official website, another announcement was published on March 17, 2019²⁷, which indicated that the construction period would begin in a short period and scheduled to be completed by 2020. The complex itself, according to the description of the promotional developer, will be spread over 14,000 square meters and include about 40 stores, office space of approximately 6500 square meters, as well as restaurants and cafes. (See X Illustrations)

Nevertheless, It is important to note in the context of the urban continuity that, even if and when this public center will be complete, the remaining territory of the CBD (the center territory) will remain incomplete without any further plans as to its definition.

B. New Sports Promenade

As part of the effort to improve the quality of life of the residents of Dimona, it was decided by the municipal authorities to invest in the sport and wellbeing sector and to build new premises related to the subject. As was formerly mentioned in the previous chapter, the Sports Promenade complex had been suffering from abandonment and deterioration phenomenon alongside the Malchi Israel neighborhood, both in the CBD area of Dimona.

According to the recent decision by the municipality, it was declared that the complex in question must be replaced and be subjected to other sports facilities to encourage potential visitors to enjoy the majority of sports facilities in one place. Therefore, the new declared area for the sports promenade will be between the new Dimona Country Club and the Ben Gurion park (the park with the artificial lake) in the northern part of town. More importantly, with this decision, the town's municipality is trying to promote three critical agendas. One is to concentrate the sports complex activities in the northern part of the town under one central, high-quality district. The second is to promote a constant flow of visitors to the Ben Gurion park in the north part of town, And the third is to reinforce the proper area as a future linking point in the urban continuum with the new northern neighborhood of Neve Har Nof and the older neighborhoods in the south.

According to the website, the new center, which is set to be completed by the end of 2020, will include bicycle lanes and walking paths that will continue towered the southern part of town.

²⁶ Y. Citren-Dahan, A shopping mall in the center town of Dimona, Sheva newspaper, Be'er Sheva, 22.08.2018

²⁷ The municipality of Dimona, The new Damri center, the official website of the town of Dimona, 17.03.2019.

Micro scale project - The Dimona development committee proposal
 The Damri center / The new sport promenond / The new traportation center



Figure 282-283: Dimona Municipality spokesman's office , The Damri center, Sheva Newspaper , Be'er Sheva, 22.08.2018



Left side: figure 284- illustration of the new sport promenond ; right side: figure 285- illustration of the new transportation center ; from the Dimona development committee website

Furthermore, it is noted that the new complex will be equipped with football, basketball, tennis, pétanque, public fitness facilities as well as CrossFit complex, and an open-air gym.

According to the publication on Dimona's website on 2.1.2019, the complex will be constructed by the investment of 4.5 million NIS, and that construction will commence in the upcoming months.

C. Construction of a combined new train station and new central bus terminal at the entrance of Dimona.

In the spirit of improving the residence quality of life in Dimona, it was decided to give a permanent 'active voice' to the residents regarding future urban projects, as the municipality believes that it is necessary to base their decision upon the real assessments and experiences.

One of the main allegations that were surfaced several times during the collaborated meetings was concerning the public transport sector, and its ineffectiveness towered the local population. In their argument, the residents explained that the distance from the existing train station to town is remarkably long (2.5 Km long) and inappropriate for pedestrians in terms of an absence of safe and shaded/protected walking lines to and from the train station. That being the case, most residences are required to use privet car / internal bus transportation, which dramatically complicates the essence of a nearby train station that destined to serves the town's tenants.

Additionally, in the second part of the claim, the tenants complained that the use of the existing central station is ungainly (since must busses struggle to maneuver in the town's center) and inconvenient (since the bus station structure is open and does not protect the users in terms of whether or various temperature differences).

In light of these claims, the Dimona municipality decided to establish a new transportation center in the vacant acreage located in the southern part of the town, adjected to the railway tracks and the Shivat Ha Minim neighborhood in its northern part, to the main Highway route 25 (Be'er Sheva – Sdom road) in its southern part and to the industrial district on its north-west part.

According to the Dimona Development Fund's website, the new complex will include a new and accessible train station (within walking distance from the town's center), an urban and interstate bus terminal, a reserved bicycle parking lot, separate public transport entrances to regulate future traffic congestion and an indoor parking lot for 1,500 cars and taxis. In addition, a bridge is planned to pass over route 25 and link the new transportation center with the existing Pertz shopping center, which is located across the highway. An additional future step is to create above the transportation center. In this new business center, thousands of employees will reach their work comfortably and encourage potential future workers to move their accommodation into Dimona. The projected is due to be completed in December 2023.

5.2 Three suggested renovation projects

During the research work on Dimona, quite a few arguments, as well as conclusions, were raised regarding the projection of a past event in the face of the current state.

In this subchapter, the study will trace the same impressions and conclusions that were drawn at the end of chapter 4 and try to offer alternative/ sustainable solutions that the available governmental materials do not supply. Therefore, the core of this subchapter will be subjected to 3 hypothetical suggestions that will involve significant abandoned/deteriorating sites and their possible appropriate solution as an objective to increase their current value.

With this intention in mind, a comprehensive set of strategic objectives/rules was composed to create a cohesive and consistent approach toward the different projects. The set includes:

- A. deterring the site's ongoing deterioration phenomenon by re-using the site in a complementary manner to the town's current necessities;
- B. the new function must include a positive projection on the site's environment or, in different words, the new function is complied to exploit not only the project in question but also the entire site's environment potential;
- C. the new function must be conditioned as a 'competitive product' with a potential financial value that could contribute to the town's subject and image as well as potentially attract young and strong populations to live in Dimona.

1. The Ammonoidea Center for Research and Education – the reuse of the Kittan Dimona plant

The name: Two different arguments could explain the chosen name for the center: the first is derived from the prehistoric fossils that were discovered in the Ramon makhtesh wall (which are a unique discovery to the world of geological research due to their shape in the crater wall, thus exposing the ancient geological strata); and the second is remarkably similar (in the pronunciation sound) to the phrase 'a lot of knowledge/information' in Hebrew.

The idea behind the project: At the heart of this tentative proposal stood the idea that the compound in question should be promoted while using its most distinctive characteristics: its large size, its various spaces and chambers inside the factory's structure and its unique position toward the town's structures texture (from one hand the compound is comparably near the town's center, and from the other, the compound is a closed premises that is distinctively detached from the town's center). As the recent masterplan for Dimona suggested, the future of the general employment sector will be relocated to the Southeastern area (alongside Route 25, between Dimona and Mampsis) and the southwestern industrial area in proximity to the central Dimona Junction.

That being the case, it can already be established that the proposed use for the complex will not include an industrial use anymore and could potentially be subjected to public service for the benefit of the general public. Moreover, due to its unique location, the premises could potentially host an extensive amount of visitors/ residents as well as to facilitate a large number of activities without disturbing the regular urban texture or daily residence routing (noise and crowding) while still maintaining the benefit of proximity and convenience excess to use the premises.

In addition, among all possible advantages of reusing the premises, its most distinctive one is the possibility not only to engage in replacing its original function but rather to improve the environment influence the premises to hold over its surroundings (the town's main entrance, the Victory neighborhood, the Neve David neighborhood) and its landscape dominated projection. Accordingly, in light of those claims combined with the set of objectives that were previously presented, a new function for the re-use of the factory complex was created.

The main tema for the premises includes a multi-function complex that incorporates research and development departments, teaching facilities, a visitor center, and accommodation facilities for the researchers as well as their families.

The complex, which will be named the Ammonoidea Center, will regularly integrate research activities regarding the land of the makhteshim and, by doing so, will link the structure to its natural surroundings. In addition, the complex will include a visitor and study center orientated to a variety of different populations (from different schools / organized groups/individuals) as well as a hotel where researchers can stay for short and long periods with the opportunity to accommodate their extended family (and by doing so, the complex will encourage more educated populations to move to Dimona). Furthermore, It is important to note that since currently, there is not any kind of large-scale research center in the vicinity of the makhteshim area (only the small research branch of the Ben Gurion University in Sede Boqer), the importance of responding to this need is particularly high. It is worthwhile to note that the research activities currently being conducted are not sufficiently accessible or convenient for the amount of research to be performed.

As for the teaching facilities, the usage in this platform regularly may potentially increase the town's education level by exposing students to their immediate environment (strengthening the population's relationship with their natural environment) and promote more academic studies in the local community.

Modification/adjustments to the original structure:

Under the circumstances specified above, the original volume of the plant will remain the same due to the benefit of including all functions under the same roof. However, the roof itself

will be replaced with suitable coverage, adequate to the climate conditions, and sustainable in terms of energy. The chosen shape of the roof will be 'square pieces' piled on top of each other in a scattered manner only to coincide in several points. The inspiration behind the idea thrives from two different sources. The first is the monumental reminder of the textile factory function that occupied the space prior to the project. The second is the ability to take advantage of the different heights to create narrow openings (windows) that will insert indirect light to the internal space 'as well as ventilation without the direct penetration of sandstorms inside the facility.

2. The 'End of the world' Community Center and Cinema – the reuse of the Malchi Israel neighborhood

The name: Two arguments could explain the chosen name for the center: the first is derived from the Hebrew language slang that describes a remote place at the end of a long road, and the second is the name of the successful Israeli film 'At the end of the World turn Left,' which was filmed in Dimona and described in a steric manner its early days.

The idea behind the project: In the previous chapters, this site was noted as the only residential neighborhood within the inside boundaries of the CBD. Additional information regarding its current status suggested that today, the premises is an abandon premise as well as an environmental hazard to the proximate surrounding due to recent infiltration of random individuals as homeless and illegal immigrants.

As the recent masterplan for Dimona suggested, this neighborhood will resume its past position as a residential neighborhood and shall not be expecting any future changes in its texture nor its vertical residential structures. That being the case, the proposition in question will suggest to move away from the functioning tema of a residential neighborhood and suggest turning it to a public/commercial zone as an integral part of the actual CBD. Accordingly, in light of the recent suggestion combined with the set of objectives that were previously presented, a new function for the re-use of the Malchi Israel neighborhood was created.

The main functions of the future premises are a community center and urban cinema. Since the main problem with areas filled with public structures is that they function under limited hours, and at the rest of the time, they become 'ghost zone' and eventually a thread to the nearby environment. By creating functions that 'works' in different timetables, the 'flow of the human movement' will exist at the majority part of the day and minimize the ability of the area to become a threat. Therefore, the 'End of the world' center, will be a unique complex that will operate around the clock in order to serve a higher section of population groups, avoid becoming a potential threat (becoming a ghost zone) to the surrounding area and encourage additional human movement from and to the CBD area at all hours of the

day. Another critical point that could become to the benefit of the new tema is the simplified neighborhood structure that could easily be manipulated and adapted according to the different functions. Therefore, the repetitive four stories-high blocks could potentially be used as an indoor activity space (such as offices). In contrast, the intermediate courtyards in between the blocks could be used as an outdoor activity area.

With this intention in mind, the elaborate plan will include in the first half of the day a new mother's professional services center, where most of the activities will be held indoor (the northern block will be converted to offices and joined spaces area). Then, during after school hours, the premises (the two central blocks of the neighborhood) will turn to a youth movement center (as a 'scouts' center) to improve the educational level as well as to encourage future leadership among the local youth (the activities will include indoor and outdoor activities). Then, in the late evening hours, the southern blocks (the remaining two) of the neighborhood will turn to a unique cinema that will combine an extraordinary encounter with the viewing audience. Additionally, the use in the cinema activity will serve as a symbolic gesture to the rising status of Dimona in the face of the closed cinemas that were functioning during the '60s.

Modification/adjustments to the original structure: Under the circumstances specified above, the different structures must be renovated in various methods to capacitate the new function they hold fully. Therefore, in the first three blocks, the internal walls of each residential unit will be demolished and modified according to the professionals' needs (as offices/open space for group activity/ resting area / personal treatment). However, the last two blocks of urban cinema will be treated differently. Each past-residential unit will become a private watching both with all the facilities included (small kitchen, toilet and living room for watching the film). Only the southern wall of the living room will be demolished and become a balcony for people to sit inside the apartment and enjoy the movie. The screening canvas will be spread on the opposite building and will provide the ability to use 16 watching compartments for a building (total of 32 watching compartments).

As a final point, all intermediate gardens/courtyards must be renovated in terms of pavement, street lighting, and greenery in order to maintain the ability to conduct organized outdoor activities and grant the place with a welcoming, safe feeling at all times.

2. Kornub Visitor Center – the reuse of the old Market complex near the Shivat Ha minim neighborhood

The name: Two arguments could explain the chosen name for the center: the first is after the ancient settlement that had colonized in the area before the modern era; the second is an ancient sweet drink (from milk and dates) that was commonly consumed and proposed to visitors arriving at a safe, sheltered spot.

The idea behind the project:

Over the past chapters, the old market complex has been demonstrated as a representative example of the municipal behavior towards an un-functioning public space. As in most cases, the municipality chose to prioritize the problematic public place in a lower position and, by doing so, created an even savor problem, to begin with. As the old market area was initially presented, the dense trading Bazaar was too close to the residential area and was chosen to relocate to the other side of the main access road. However, the new destination for the property has never reached a final decision (in terms of the municipality), which allowed the area to deteriorate and permit criminal activities to infiltrate and occupy the territory illegally. Under those circumstances, the initial problem was replaced with a much savor one.

As the recent masterplan for Dimona suggested, this area will resume its past position as a commercial trading area (as small structures positioned near the main road without a specific order or hierarchy). Also, the plan hadn't specified how the area would be incorporated and function next to the residential area (as to learn from past mistakes). Furthermore, the apparent advantage of its proximity to the main access road does not seem to influence any of the future features. The solution the masterplan offers is only a theoretical one up until the right entrepreneur/ investor will find it appropriate to invest and develop it. Since its current status is not expected to enhance shortly, the first tentative proposal will be to address the existing environmental hazard and try to suggest an improved plan to the current complex.

The new proposal will suggest moving away from the trade function (since it is no longer relevant for the local tenants in the last two decades) and do a transition to a public service facility that will provide an opportunity to leverage the old neighborhood and revitalize it.

Correspondingly, the combination of this decision and the initial objectives had created a new tema for the area. The tema will include a united complex of a history museum for the ancient settlements that were suggested in the Archeological appendix (Mampsis, Rehava wreckage and Mount Dimon) as well as a visitor center, which will serve as a new landmark in Dimona's urban texture. The tema will help reassert the property's value as well as invite additional improvements in the neighborhood surroundings (such as improvement in the infrastructure properties). Furthermore, due to its valuable location next to the town's entrance, the new landmark will 'enjoy' easy access to the property (by car or by bus). It could conceivably hold a bike-sharing station that will gain the opportunity to link the center to its regional attraction (the ancient Negev cities, the land of mahkteshim and even the dead sea) by creating additional regional walking paths and bike lanes.

The Kurnub center itself (the polygonal structure) will be divided as follows: the first floor will provide the visitors the opportunity to gain information regarding the Mampsis national her-

itage park as well as provide organized shuttles/tours to the site itself to those who seek to visit it; the second floor will be dedicated to the town's historical events which will allow the local tenants to tell their personal story, document it, and presented their pioneering actions through the years.

Modification/adjustments to the original structure: Under the circumstances specified above, the different structures must be renovated to capacitate the new function they hold fully. Therefore, the polygonal structure must be extended to a second floor to facilitate all the museum's features, and the lower continual warehouses will be converted into offices and commercial spaces. The extensive parking lot which is currently spreading over the remaining territory will be divided into two parts where the first (the nearest to the structures) will turn to a resting area/picnic area for the benefit of visitors who seek to enjoy the Negev panorama while sitting in a shaded /rain protected pleasant area and the second will remain a designated parking lot for buses, private cars, and the bike-sharing station.

Selected Bibliography

- E. Howard, *Garden cities of to-morrow*, Swan Sonnenschein & Co. Ltd, London, 1902
- L. Kahn, *Draft- a solution to Israel's housing crisis*, The Louis Kahn archive - Yale University, New Haven Connecticut, 1948-49
- A. Sharon, *Physical planning in Israel*, government printer, Jerusalem, 1952
- A. Sharon, *Planning in Israel*, government printer, Jerusalem, 1952
- H. Sacher, *Israel- the establishment of a state*, George weidenfeld& Nicolson publishing, London and New York, 1952
- D. Zaslavski, *Settling newcomers in Israel – construction, planning and development*, Am Oved Press, Tel Aviv, 1954
- N. Donovitz, *Tel Aviv: Sands turned to metropolitan*, Shoken press, Tel Aviv, 1959
- Y. Ben Sira, *Dwelling value survey*, the institute for structure and Technical researches and the engineering and architects' association in Israel, the ministry of housing and construction press, 1960
- The Central Bureau of Statistics, *Statistical survey from 1961 No.6*, Government Press, Jerusalem, 1962
- Y. Karmon, *Eilat*, The Israel exploration society centennial, Jerusalem, 1963
- B. Givoni, *Planning buildings in the Negev - a climate point of view*, Technion- Israel Institute of technology and the Ministry of housing and construction, Haifa, 1964
- E. Brutzkus, *Physical Planning in Israel – Problems and Achievements*, unknown Press, Jerusalem, 1964
- J. Dash, E. Efrat, *The Israeli physical master plan*, Ministry of the internal affairs press, Jerusalem, 1964
- Y. Erez, *The third Aliyah book*, Am Oved Publishing, Tel Aviv, 1964
- E. Efrat, E. Gabrieli, *Physical master plan of the northern Negev*, Ministry of the internal affairs press, Jerusalem, 1966
- E. Spiegel, *New towns in Israel – Urban and regional planning and development*, (translated into English by Annelie Rookwood) Frederick A. Praeger Publishers, New York & Washington, 1966
- O. Neimeyer, *Quase Memorias: Viagens – Tempos de Entusiasmo e Revolta 1961-1966* (translated by

Tanya Meltzer), Rio de Janeiro: Editora civilizacao Brasileira, Brasilia, 1968

Ministry of housing and construction, *Housing and construction in the Negev – summary of the Ministry's activity in the Negev district 1963-1968*, Government Press, Jerusalem, 1968

D.H.K. Amiran, A. Shachar, *Development Towns in Israel*, The Hebrew University, Jerusalem, 1969

Municipality of Dimona, *Development survey in Dimona*, D. Zeslevsky press, Jerusalem, 1969

A. Berler, *New towns in Israel*, Israel universities press, Jerusalem, 1970

Ministry of Aliyah and Integration, *Your house in Dimona – Votre foyer a Dimona*, Ministry of Aliyah and Integration press, Jerusalem, 1970

Municipality of Dimona, *Dimona 15*, Israel press Ltd, Jerusalem, 1970

Y. Gurni, *The Zionism movement – collective articles regarding the birth of the Zionism movement and the Jewish settlement in Palestine* Vol. 1, Tel Aviv University, Tel Aviv, 1970

A. Cohen, *The city in the Zionist Ideology*, The Hebrew University of Jerusalem, Jerusalem, 1972

Z. Hashimshoni, S.Yavin, M.Yaron, H.Martens, B.Chelnov, A.Doron, *Models of Urban development*, the ministry of housing and construction press, Tel Aviv, 1972

M. Curtis, M.S. Chertoff, *Israel social structure and change*, Transaction Books press, New Brunswick, 1973

Municipality of Dimona, *Dimona – story of a city*, Ahdot press, Tel Aviv, 1973

R. Zilberberg, *The population dispersal in Israel 1948-1972*, The Ministry of finance press, Jerusalem, 1973

E. Efrat, *Urbanization and towns in Israel*, University of Tel Aviv, Ahiasaf publishing, Tel Aviv, 1975

A.Sharon , *Kibbutz + Bauhaus*, Kraemer Verlag press, Stuttgart, 1976

E. Zohar, *The Desert: Past, Present, future*, Reshafim press, Tel Aviv, 1976

A. Grayzer, N. Kadmon, Z. Ron, Z. Zilker, *Ashdod: selected articles*, The Tel Aviv University Press, Tel Aviv, 1976

B. Z. Herzl, *The Jewish state* (Translation by Mordechai Yoeli), Yediot Aharonot Press, Tel Aviv, 1978

Y. Grados, A. Shmueli, M. Fama, *The land of the Negev: Man and Desert – selected bibliography* Vol.1 +2, Ministry of defense publishing house, Tel Aviv, 1978

B. Toren, *The support to the local textile factories in development towns 1965-1958*, The Hebrew University Press, Jerusalem, 1979

S. Reichmann, *From Outpost to Moshav: Creation of the Jewish Settlement Map in territorial Palestine 1918-1948*, Yad Ben Zvi Press, Jerusalem, 1979

Y. Rosenthal, *Chronology of the history of the Jewish settlement in Israel*, Yad Yitzhak Ben Zvi publishing, Jerusalem, 1979

Ministry of housing and construction, *The Shivat Ha Minim neighborhood – preliminary survey for future renewal*, Governmental Press, Jerusalem, 1980

Municipality of Dimona, *Preliminary survey for renewal in the 'Shivat ha-minim' neighborhood in Dimona*, Municipal engineer's department press, Dimona, 1980.

M. Tafuri, F. Del Co, *Modern architecture* (translated by Harry N. Abrams), Harry N. Abrams Inc. press, New York, 1980

M. Eliav, *The first Aliyah book Vol.1*, Yad Yitzhak Ben Zvi publishing, Jerusalem, 1982

Tahel engineering and consulting LTD, *Dimona's development portfolio*, the Ministry of Internal affairs press, Tel Aviv, 1982

E. Efrat, *Urbanization in Israel*, Croom Helm London & Canberra & St. Martin's Press, New York, 1984

L. Shinan-Shamir, *The suitability of Industries to non-metropolitan communities: The case of the Israeli development towns of Yerucham and Dimona*, Hebrew University of Jerusalem & Technion – Israel Institute of Technology & Massachusetts Institute of Technology, Jerusalem, 1984

E. Rozin, *The influence of the industrial organization structure on the development towns in Israel*, the Hebrew University Press, Jerusalem, 1985

M. Geron, I. Leibzon, R. Frankovich, *National Master plan for seven million inhabitants in Israel Vol.2*, The Ministry of internal affairs, Jerusalem, 1985

M. Naor, *The Negev settlements 1900-1960: sources, summaries and selected events*, Yad Yezhak Ben Zvi press, Jerusalem, 1985

Y. Gradus, *Desert Development: Man and Technology in Sparselands*, Ben Gurion University of the Negev, D.Reidel Publishing Company, Be'er Sheva, 1985

E. Rozin, *Closing factories in development towns 1975-1983*, The company for researching the land of Israel and its antiques Vol. 12, The Hebrew University Press, Jerusalem, 1986

N. Litchfield, *Preserving the construction legacy in Israel*, the Jerusalem Institute for searching Israel – The foundation of Ranson H. Charles press, Jerusalem, 1986

E. Efrat, *Development Towns in Israel past or future?*, Achiasaf Publishing House Ltd, Tel Aviv, 1987

Municipality of Dimona, *35 Dimona*, unknown press, 1987

N. Carmon, *Reconstruction of slum neighborhoods- project in Israel*, Technion – Israel Institute of technology press, Haifa, 1987

The Ministry of Housing and constructing, *The settlement element across two decades: 20 years to the Six-Day War events*, the governmental press, Jerusalem, 1987

E. Burkhov, *The Industry and its problems in the development towns*, University of Tel Aviv press, Tel Aviv, 1988

E. Efrat, *Geography and politics in Israel since 1967*, Frank Cass Publishing, London, 1988

Y. Ben Artzi, *The Jewish colony in Eretz Israel landscape 1882-1942*, Yad Yitzhak Ben Zvi publishing, Jerusalem, 1988

D. Shefer, A. Frenkel, *Job creation in development towns in Israel*, Technion – Israel Institute of Technology press, Haifa, 1989

The Central Bureau of statistics of Israel, *The Dimona annual report*, The Prime Minister's office press, Jerusalem, 1990-1995

Y. Grados, E. Levinson, D. Neyuman, *Appositions in the urban settlements of the Negev 1991-1989, part A: society, dwelling and services*, Ministry of housing and construction and university of Ben Gurion in the Negev press, Be'er Sheva, 1993

Municipality of Dimona, *Dimona's renewal*, unknown press, 1994

N. Smuk, *Houses from the sand - International style architecture in Tel Aviv 1931-1948*, The development fund for Tel Aviv press, Tel Aviv, 1994

Municipality of Dimona, *Dimona 1955-1995*, Israel press Ltd, Tel Aviv, 1995

A. Mosery, *Strategic- regional planning and the national strategy of Israel*, Technion –technological institute press, Haifa, 1996

Y. Gradus, H. Lithwich, *Frontiers in Regional Development*, Rowman & Littlefield Publishers Inc., Lanham, 1996

T. Z. Herzl, *Altneuland* (translation by M.krauss), Babylon press, Tel Aviv, 1997

Z. Zivan, *The Israeli deed and policy in the southern Negev 1949-1957* (part B), The Hebrew University Press, Jerusalem, 1998

M. Tovia-Bone, M. Bone, *The building of the land – Shikunim in the 50's*, the united kibbutz and Red line publisher, Tel Aviv, 1999

The Central Bureau of statistics of Israel, *The Dimona annual report*, The Prime Minister's office press, Jerusalem, 1999-2017

G. Solom, *Louis I. Kahn's Trenton Jewish community center*, Princeton Architectural Press, New York, 2000

R. Wassmer, *Urban sprawl in the U.S metropolitan area: ways to measure and a comparison of the Sacramento area to similar metropolitan areas in California and the U.S*, California State University Press, Sacramento, 2000

The Central Bureau of Statistics, *Yearly statistical survey No.51*, The Prime minister's office press, Jerusalem, 2000

B. Krasnov, E. Mazor, *The Makhteshim country: A laboratory of nature – Geological and ecological studies in the desert region of Israel*, Pensoft press, Sofia – Moscow, 2001

E. Toledano, *Recipients of unemployment benefits for the year 2000*, the National Insurance Institute of Israel press, Jerusalem, 2001

I.Meir, *Building Technology in the Negev in the Byzantine Period and its adaptation to the desert environment*, Ben Gurion University of the Negev Press, 2001

S. Savirsky, E.Konor, *Social report 2000*, The Adva center for information equality and social justice in Israel press, Tel Aviv, 2001

D. Ben Simon, *Dirty business in the south*, Keter publishing house Ltd., Jerusalem, 2002

O. Ruzin, *Immigration and Settlement - Conditions of Disgust - Parenting and Hygiene of Immigrants*

- from Islamic Countries in the eyes of Veterans in the 1950s*, Tel Aviv University Press, Tel Aviv, 2002
- A. Tzfadia, *Immigrants in peripheral towns in the Israeli settler society: Mizrahim in development towns face Russian migration*, Ben Gurion University Press, Be'er Sheva, 2003
- A. Halamish, *From a national home to a state in the Making: the Jewish community in Palestine between the world wars*, the open university press, Tel Aviv, 2004
- Z. Efrat, M. Yagid –Haimovich, *The Israeli project – construction and architecture 1948-1973 Vol.1+2*, Tel Aviv Museum for art press, Tel Aviv, 2004
- A. Pikar, *A train from Casablanca to a Moshav or to development area – receiving immigrants from north Africa and prophetic population in Israel between 1956-1954*, in social and economy in Israel: historical and contemporary look, Yad Yizhak ben zvi press, Jerusalem, 2005
- Municipality of Dimona, *50 years to Dimona*, unknown press, 2005
- A. Higgott, *Mediating modernism – architectural cultures in Britain*, Routledge Press, London ,2006
- D. Giladi, M.Naor, *Eretz Israel in the 20th century – From Yishuv to Statehood 1900-1950*, Naydet and the Ministry of defense press, Tel Aviv, 2006
- K. Braude, G. Navon, *Internal Migration in Israel*, Bank of Israel press, Jerusalem, 2006
- B.V. Canizaro, *Architectural Regionalism: Collected writings on place, Identity, Modernity, and tradition*, Princeton architectural press, New York, 2007
- S. Cohen, T. Amir, *Dwelling shapes: Architecture and society in Israel*, Hargol press, Tel Aviv, 2007
- Y. Gardus, R. Nuriel, *The industry in the Negev: process, structure, location*, Ben Gurion University Press, Be'er Sheva, 2008
- A. Alexander, *Britain's new Towns- garden cities to sustainable communities*, Routledge Press, London and New York, 2009
- B. Kipnis, *Greater Tel Aviv as an international City: Global Network Focus in Israeli Territory in Tel Aviv Jaffa- from a garden city to international city: first hundred years*, Pardes press, Haifa and Tel Aviv, 2009
- Z. Ztameret, A. Halamish, E. Meir-Glizenshtein, *The development towns*, Yad Yitzhak ben Zvi press, 2009
- D. Raich, *Dimona- the first decade and its influence over the town's development*, Haifa university press,

Haifa, 2010

E. Razin, *National, District and Metropolitan Planning in Israel*, the Hebrew University of Jerusalem press, Jerusalem, 2010

A. Clement, *Brutalism: post-war British architecture*, The Crowood Press, Ramsbury, 2011

Laboratory for Contemporary Urban Design, *The exemplar Neighborhood in Dimona*, Tel Aviv University, Tel Aviv, 2011

Faculty for architecture and urban planning, *The Be'er Sheva metropolitan Vol.4*, Technion University press, Haifa, 2012

Y. Yesascharov, *The exposed concert language in the architecture of the Ben Gurion University of the Negev: From Brutalism to Minimalism, a reflection on the changes in the perceptions for the architectural material in the Israeli architecture tradition*, University of Tel Aviv press, Tel Aviv, 2012

J. Habib, S. Spilerman, *Development Towns in Israel: The Role of Community in creating Ethnic disparities in Labor Force characteristics*, University of Wisconsin & adult human development, Jerusalem, 2013

N. Harpaz, *Zionist Architecture and Town Planning: The Building of Tel Aviv 1919-1929*, Purdue University Press, West Lafayette, 2013

T. Lerer, *Sand and Splendor – Eclectic style architecture in Tel Aviv*, The Bauhaus center press, Tel Aviv, 2013

E. Meiron, *The city of Modi'in*, Yad Ben Zvi Press, Jerusalem, 2014

H. Sheder, *The bricks of the public housing: six decades of Israeli urban construction in public intention*, The Ministry of housing and construction press, Tel Aviv, 2014

M. Carmona, L. Zagagi, *Documentaion project – the Aliuf house*, the municipality of Tel Aviv – Jaffa press, 2014

Bank of Israel and the central bureau for statistics, *The public housing in Israel*, Bank of Israel press, Jerusalem, 2015

Farlex Idioms and slang dictionary 5th edition, Farlex international, Pennsylvania, 2015

A. Shamai, I. Porta, D. Shech-Pinsel, T. Brown, D. Ross, *The New Israeli Project*, The Technion University Press, Haifa, 2016

M. Gross, *Between the private and public Domains- in Bauhaus and International style buildings in Tel*

Aviv, The Bauhaus center press, Tel Aviv, 2016

R. Wakeman, *Practicing Utopia – an intellectual history of the new town movement*, The University of Chicago Press, Chicago and London, 2016

The Knesset of Israel, *Protocol No.51: transparency in the data regarding the public housing status*, the Knesset of Israel press, Jerusalem, 2016

U. Prokop, *The Jewish Legacy in Viennese Architecture- the contribution of Jewish architecture to building in Vienna 1868-1939*, Bohlau press, Weimar, 2016

S. Arieli, *All Israel's Borders*, Sifry Aliyat Gag publishing, Tel Aviv, 2018

The Knesset of Israel, *A look at the development towns in Israel 1972-2016 for the annual day to honor the development town*, the Knesset press, Jerusalem, 2018

The Merage Foundation, *The renewal of the heart of Dimona – conclusions from a joint process for physical and social renewal*, Merchav – movement for Israeli Urbanism press, Tel Aviv, 2018

The Cambridge academic content dictionary & Thesaurus, Cambridge University Press, Cambridge, 2019

Periodical literature

Newspapers and magazines:

"Al Hamishmar" Daily newspaper – 09/1955, 12/1955, 09/1970, 10/1980

"Davar" Daily newspaper – 09/1955, 05/1956, 02/1957, 05/1957, 12/1960

"Ha- A'aretz" Daily newspaper – 12/1955, 05/1957, 08/1990, 05/2001, 07/2004, 09/2010, 07/2011, 09/2011, 12/2012, 01/2014, 05/2015

"Ha boqer" Daily newspaper – 07/1957, 04/1958

"Israel today" Daily newspaper- 07/2016

"Lamerhav" Daily newspaper - 05/1957, 07/1957

"Ma'ariv" Daily newspaper – 7/1955, 1970, 04/1980, 02/1981, 06/2003, 03/2010, 10/2010, 11/2011

"Yediut Ahronot" Daily newspaper – 05/1995, 01/2009, 11/2011, 03/2012, 07/2012,12/2012, 07/2013, 2014, 01/2015, 05/2015, 01/2017, 05/2019

"Chalchalist" Daily financial newspaper – 07/2011, 12/2012, 10/2014, 10/2017, 05/2019

"Globes" Daily financial newspaper – 1993, 10/2000, 06/2004, 08/2013

"The Marker" Daily financial newspaper – 09/2010, 12/2012, 10/2013,07/2014, 12/2014, 05/2015, 07/2015, 08/2015, 07/2018

"Makor Rishon" weekly newspaper, 4/2018

"Sheva" weekly magazine– 10/1996, 11/2018

"Tor Ha'arava" Monthly magazine – 12/1955

"Eco Dimona "Quarterly magazine – 07/1957

"Solel-Bonhe for workers" Annually magazine - 1950

"kitan Dimona Magazin" Biannually magazine – 1993

"Niv The Dead sea" Annually magazine – 04/1968

"Dimona local journal" Annually magazine – 07/1957,11/1966, 1965, 01/1967 ,04/1968,1970, 01/1976, 1980

Scholarly publications:

"Bulletin of the Jewish Palestine Exploratory Society" annually journal of The company for researching the land of Israel and its antiques Vol. 4,11,12,14, The Hebrew University Press, Jerusalem, 1963,1980,1986,1993.

"Cathedra" Quarterly Journal Vol. 104, Yad Yitzhak Ben Zvi publishing, Jerusalem, 2009

"City and region" Semi-monthly journal for urban and regional planning Vo.3, the Ministry of internal affairs press, Jerusalem, 1973

"Elazar's pages" No.16 Quarterly Journal of the institute for national security, Tel Aviv University Press, Tel Aviv, 1993.

"Eyonim", a Biannually multidisciplinary academic journal for researching Israel, Vol.5,15,23, The Ben

Gurion Institute for researching Israel & the Zionism movement and Ben Gurion Legacy, Sade Boquer, 1995, 2006, 2013

"Histoire Urbaine" Quadriennially journal for the Societe Francaise D'histoire Urbaine publishing, Vol.50, Paris ,2017

"Israel Builds" Quadriennially journal, Ministry of Housing and Construction press, Jerusalem, 1973, 1988

"Journal of International Trade Law and Policy" Triannually journal, Vol. 9 No.1, Emerald Publishing Limited, Bingley West Yorkshire, 2010

"Journal of the Association of engineers and architects in Israel" Quarterly journal, Vol. A, B, C, D,1,2,3,4,5,6,9 ,11,12, Moshe Shoham publishing house Ltd, Tel Aviv, 1949, 1952, 1953, 1954,1955,1957,1959 ,1961,1962,1964,1967,1988

"Journal of the American Institute of Planners" annually Journal, No.37, Taylor and Francis Press, Chicago,1971

"Karka", the Biannually academic journal of the Land policy research and land use institute, amal press, Tel Aviv, 1968

"Mada'a" Semi-monthly academic journal, Vol.15 No.4, The Weizmann institute for science and technology, Rehovot, 1971

"Megamut" multidisciplinary academic journal in social relations Vol.28,42 No.2,3, The Henrietta Szold Institute – The national institute for research in behavioral sciences press, Jerusalem,1984, 2017

"Researches in Israel's Geography" Triennially academic journal of the Hebrew University Vol.4,11, The Israel exploration society centennial Press, Jerusalem, 1964, 1980

"Social and welfare", Quarterly Journal, Vol. 25 No.4, Ministry of labor press, Jerusalem, 2005

"Studio" Bimonthly magazine for Israeli art magazine Vol.28, Keren Havazelet press, Tel Aviv. 1991

"The Economic Quarterly Israel's Scientific journal" Quarterly journal, No.124, Urim press, Jerusalem,1985

"The Journal of Israel Institute of Architects Association of Engineers and Architects in Israel", Vol.6, Unknown press, Herzelia, 1988

"The university" Quarterly academic journal, Vol. 14 part A, the Hebrew University Press, Jerusalem, 1968

"Tvai" Quarterly magazine for Architecture, town planning, industrial design and plastic arts No. 3,6, Levenda Press, Tel Aviv, 1970

Governmental Publications:

Israel Land authority:

Y. Goduvitz, *Local masterplan modification No. 30/102/02/25*, Governmental press, Jerusalem, 12.07.1981

M. Kons, *Local detailed masterplan No. 41/102/03/25*, Government Press, Jerusalem, 23.08.1987

A. Levin, *Local masterplan modification No. 102/03/25*, Government Press, Jerusalem, 01.1985

S. Tuchler, *Local detailed masterplan No. D51473*, Government Press, Jerusalem, 22.12.1982

Ministry of housing and construction, *local detailed masterplan No. 107/03/25*, Government Press, Jerusalem, 22.05.1967

M. Kons, *Local detailed masterplan No. 7/101/02/25*, Government Press, Jerusalem, 30.01.1989

N. Melis, *Local masterplan No. 33/101/02/25*, Government Press, Jerusalem, 06.2019

Lir architects, *Conservation Appendix No. 2.3.14 to Masterplan No. 33/101/02/25*, Government Press, Jerusalem, 06.2019

Y. Govrin, *Archeology Appendix No. 2.3.8 to Masterplan No. 33/101/02/25*, Government Press, Jerusalem, 07.2019

Y. perlshtein, *Local masterplan modification No. 101/02/24*, Government Press, Jerusalem, 3.8.1980

The Municipality of Mitzpe Ramon, *Local detailed masterplan No. 2/114/03/27*, Government Press, 19.09.1985

S. Tuchler, *Local detailed masterplan No. 101/02/25*, Government Press, Jerusalem, 10.1982

Israel State Archive:

L. Eshkol, L. Eshkol to Y. Ulster, ISA serial no. 6153/7, 3.2.1952

A. Arbel, A.Arbel to S. Doron, ISA serial No.6147/28, 31.3.1954

Y.Eilam, Y. Eilam to M. Barbash, ISA serial No. 6147/11, 4.10.1955

Y. Elal, Y.Elal to D. Ben Gurion ISA serial No. 5514/9, 20.11.1955

Y. Elal, Y. Elal to D. Ben Gurion ISA serial No. 5514/9, 23.11.1955

Y. weitz, Y. Weitz to and Y. Ilam, ISA serial No. 6147/11,28.11.1955

V. Nir, V. Nir to R. Avni, ISA serial No. 3445/18, 3.8.1956

Y. Almog, Y.almog and to regional 'Tamar' council, ISA serial No. 3445/12,14.9.1956

M. Barbash, M. Barbash to Y. Eilam, ISA serial No. 6147/11, 30.1.1957

G. Yoseftal, G.Yoseftal to D. Tena ,ISA serial No. 4352/36, 8.4.1957

G. Yoseftal, G.Yoseftal to Y. Tamir ,ISA serial No. 4352/36, 19.4.1957

D. Selifer, D. Selifer and B. Zohar, ISA serial No. 4581/2, 6.10.1957

M. Namir, M. Namir and D.Ben Gurion, ISA serial No. 7164/5, 16.11.1958.

A. Lardo, A. Lardo and G. Ya'akobi, ISA Serial No.2040/21, 19.12.60

M. Kantor, M. Kantor and K. luz, ISA serial No. 2040/21, 30.12.60

M. Bader, M. Bader and the Negev development committee, protocol in ISA 6118/26, 23.12.1964

Audio / visional content:

D. Gilhar, *Apartments for rent: Amidar's public housing project is abandoned without future use*, Cannel 10, 1.12.2013.

A. Gitai "architecture in Israel" series – filmed architectural dissection, The Ada Carmi episode, channel Kan 11, 2012-2013

A. Gitai "Architecture in Israel" series – filmed architectural dissection, The Zvi Efrat episode, channel Kan 11, 2012-2013.

A. Gitai, *Architecture in Israel* series – filmed architectural dissection, The mica Levin episode, channel Kan 11, 2012- 2013

Interviews:

Ze'ev Michaeli – former director of the human resource of the Kittan Dimona factory 08/2018

Aliza – local manger at the Ex Yoseftal school

Online sources:

The Alokai company website

A. Lidersdorff & A. Belitzman architect's website

Na'ama Melis architecture and urbanistic studio website

'Madlen' website

Mapi- Israel's official mapping center website

Michael Jacobson's Rear window blog website

Niza Smuk architects website

Pertz Boni Ha Negev website

Pickiwicki nostalgic website

Thaba achshave website

The Association for promoting of Brutalist Heritage in Israel website

The Central Zionist Archive website

The hottest place on hall online magazine 26.08.2014, 16.03.2016,22.03.2018
official website of the Municipality of Dimona

The Ministry of Education and Tel Aviv University Virtual Library

The official Bauhaus center in Israel website

The official website of the Municipality of Tel Aviv- Jaffa

Wikipedia website

Xnet online architectural magazine 2016, 1.10.2017

1914-1918 International Encyclopedia of the First World War online, issued by Freie Universität Berlin,
Berlin,2018