

# **DENSIFYING AND UPGRAING THE EXISTING HOUSING STOCK: AN EVALUATION STUDY OF AN INNOVATIVE PROGRAM**

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**המחקר נתמך בכספי ההקדש של גלס שלמה ופני לבן**

The research report was partly presented at the annual conference of ENHR –  
European Network of Housing Research, Lisbon, Portugal 2015

## **Abstract**

Cities around the world, in both developed and developing countries, cope with large old residential areas that do not fit the needs and preferences of residents in the 21<sup>st</sup> century. This paper, which is a part of a comparative research of urban regeneration strategies, presents an innovative program – TAMA 38 - for upgrading, strengthening and densifying existing housing in Israeli cities. Local governments are entitled to provide additional building rights to apartment owners in multi-family buildings, who sign an agreement with a developer to update their old residences and add new apartments (and residents), while adding also an elevators and parking places. The paper presents an evaluation of goals achievement; urban, social and economic goals are evaluated, with special attention to the residents' perspective. In conclusion, the big potential and some of the challenges in implementing such a multiple-goal program are discussed, emphasizing the Israeli context

**Keywords:** urban regeneration, housing, urban density, social mix, Israel

## **1. Introduction**

Cities in developed and developing countries cope with issues of urban renewal. Issues related to housing renewal are especially prominent, because they touch on the life of many city residents and because housing constitutes about 80% of the total constructed floor area in many cities. The PhD dissertation of the first author of this paper, supervised by the second author, deals with housing regeneration. It identifies and analyses renewal strategies that have been used around the world, it develops tools to evaluate these strategies, emphasizing subjects of social justice/social equity, and it makes use of these tools in evaluating three current strategies of urban housing renewal. The research is intended to contribute to the theoretical knowledge and to policy and planning implications related

to urban housing and its renewal. This paper presents part of the PhD research. We start the presentation from the point of view of relevant housing policy issues.

Cities around the world have to operate programs to renew existing housing that is physically and/or functionally obsolete and does not fit the needs and preferences of residents in the 21<sup>st</sup> century; this issue have served as a main motivation behind the first housing renewal programs in the UK and USA as well as present ones in India and throughout the developed and developing world (Wilson 1966; Gibbsom and Langstaff, 1982; Carmon, 1999; Sivaramakrishnan, 2011). In recent years, the awareness of risks has increased, including risks of climate change, earthquakes and terror attacks, and for this reason, cities are looking to make their existing housing more resilient (Godschalk, 2003; Savitch, 2014; Jabareen, 2015). In addition to these problems that are prevalent around the world, large cities frequently struggle with high demand for housing that make them think about densifying their residential areas (Angel, 2012; City of New York, 2015), with dramatically increasing prices of housing that make them reconsider the provision of affordable housing (Marom and Carmon, 2015). Progressive policy makers and planners criticize spreading gentrification and displacement that are the result of these changes (Smith, 2002; Atkinson and Bridge, 2004). One program currently being implemented in Israel tries to simultaneously tackle all of these problems: renewing obsolete residential buildings, making buildings more resilient, densifying the urban fabric, and increasing neighborhood social mix without displacing their less affluent residents. This innovative program is presented and evaluated in this paper.

## **2. TAMA 38 – The researched program**

TAMA 38 - National Outline Plan # 38 - was initiated by the Israeli Ministry of Interior in 2005, in order to strengthen old buildings and reduce damage from potential earthquakes. The buildings that require strengthening were built before the relevant construction regulation was adopted in 1980. They are scattered throughout the country, and almost all of them are urban multi-unit, multi-owners residential buildings, which means that in practice, TAMA 38 is a national urban regeneration program.

In order to enable the private market to finance and implement TAMA 38, the plan grants apartment owners (as a group) in each eligible building generous additional construction rights: the right to add spaces to the existing apartments - up to additional 25m<sup>2</sup>, the right to close for residential use a lower columns floor and to build another floor with new housing units (later it was changed to up to 2.5 floors) on the roof of each building. The plan encourages the apartment owners to organize and select a developer, who, in exchange for the right to sell the added housing units, will usually enlarge the existing apartments, typically by adding a balcony and one reinforced room that can stand missile attacks, renew its infrastructure (mainly electricity and water installation), add parking and downstairs storage spaces, and refurbish the exterior of the building, the yard and the staircase -all with no cost to the owners of the existing housing units. It used to be that all the owners had to agree on implementing the plan and selecting the developer; later on, the regulation changed so that if a “legal majority” of 80% agrees, the court may force the other owners to join the project.

A renovation-strengthening plan has to be prepared for each building or small group of buildings (usually up to 5) that organize and select a developer. The plan has to be approved by the local municipal planning committee, which has “to maintain the balance between the need to strengthen the

building and wider urban considerations" (TAMA 38 regulations, 2012). Local committees may prepare a city plan that dictates different construction rights to different city areas.

In spite of the generous construction rights and in light of the many benefits the apartment owners request from the developers, the latter insisted on receiving additional rights to make the plan economically viable. Following their pressure the rules were changed, first to allow an addition of 2.5 floors on the roof instead of one, and then to allow demolishing the existing building and combining construction rights from several sources to construct a new one building. Taxation benefits were also approved.

Despite these increased benefits, TAMA 38 took a while to be put into use. In 2012, seven years after the program was enacted, very few projects have been completed. But three years later, in the middle of 2015, a fairly reliable source reported that 123 projects were completed, most of them composed of one building only, and 2100 projects were in process, most of them in initial stages of the process (TAMA 38, The Central Site, 2015). The majority of both those completed and those in process are located in the larger cities of Israel, mostly in the metropolitan area of Tel Aviv, the economic and cultural capital of the country, where land values are very high<sup>1</sup>.

### 3. The Evaluation Research: Goals, Procedure and Selected Sites

The research reported in this paper was designed to evaluate selected outcomes of the first completed TAMA 38 projects, all of which from the type that involve strengthening, refurbishment and add-ons to the existing residential buildings. The goals were:

- A. To evaluate whether the implementation of TAMA 38 promotes the achievement of its following five **public goals**:
  - Strengthening old buildings to reduce potential damages of earthquakes;
  - Providing a sheltered room for every household to protect inhabitants in the case of a missiles attack;
  - Densifying existing urban fabrics;
  - Refurbishing existing urban housing;
  - Creating a social mix in residential areas.
- B. To evaluate the impact of the implementation of TAMA 38 from the **personal point of view of the residents** in the renewed projects/buildings, focusing on:
  - Changes in the living conditions
  - Social relations with neighbors

Information and data were collected from various sources, including: personal observations of the researcher in different hours of the day; semi-structured personal interviews with municipal officials, city planners, architects, developers, lawyers and others who were involved in the projects; review of internet sites of relevant public authorities and private developers; and analysis of available documents and architects' plans. A central tool of data collection was a structured questionnaire, used by the researcher to interview the residents of the renovated buildings. The questionnaire included questions about living conditions and satisfaction with those conditions before and after the renovation, relations with neighbors, and demographic data about the household. Most of the

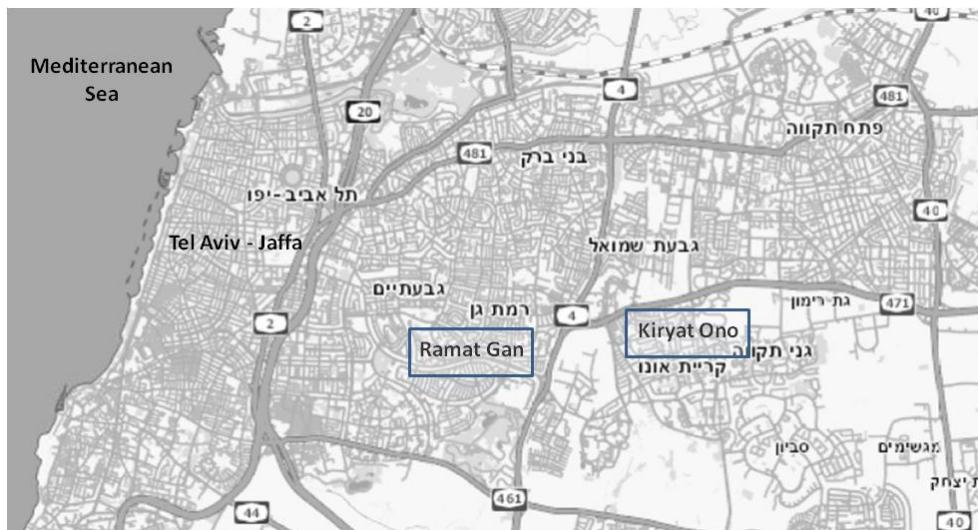
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<sup>1</sup> In Mercer's 2014 Cost of Living Survey, ranking 211 cities around the world by cost of living for expatriates, Tel Aviv was # 18, while New York City was # 16 and Paris # 27.

questions were closed, but a few were open and gave the residents an opportunity to relate their experience in their own words.

The selection of sites and buildings for intensive field work was determined by the decision to evaluate completed projects and to conduct a post-occupancy evaluation. Throughout Israel, very few projects were completed and fully inhabited when the field work started in 2014, almost all of them in the metropolitan area of Tel Aviv. Hence, the field work was conducted in two adjacent cities in Tel Aviv metropolitan area: Ramat Gan and Kiryat Ono (see Map 1).

**Map 1:** Location of the selected sites in the Tel Aviv Metropolitan area



Within each of the two cities, we found a site with renovated and fully inhabited TAMA 38 buildings. In Kiryat Ono the selected site is *Nofei Raisfeld* (haZamir street), in which we investigated three TAMA 38 buildings that had 4 floors and 16 apartments each before the renovation, and now have 2.5 additional new floors with 5 new housing units in each building, all together 48 old and renovated apartments and 15 new ones.

The selected site in Ramat Gan is *Negba Area*, in which we investigated seven TAMA 38 buildings, as follows: Two buildings with 4 floors and 8 apartments each before the renovation which now have 2 additional new floors with 4 new apartments in each building; (2) four buildings with 3 floors and 6 apartments each before the renovation which now have 2.5 additional new floors with 5 new apartments in each building; and (3) one building with 3 floors and 12 apartments before the renovation which now has 2.5 additional new floors with 5 new apartments. The total in this selected area is 52 old apartments and an additional 33 new apartments.

**Illustration 1:** One of the research buildings in Ramat Gan, before and after the renovation  
(Photos from the developer's website)



The first author with a graduate student research assistant interviewed 41 heads of households living in the 10 selected renovated buildings: 18 long term – households that lived in the building before and after the renovation (and usually stayed in it throughout the more-than-a-year construction period), and 23 new households who came to live in the new apartments that were added to the buildings.

## 4. Findings

The findings are organized by the above-mentioned two goals of the research, one that evaluates outcomes from a public perspective and one that is interested in the private/residents' perspective.

### 4.1 The public perspective

The discourse about TAMA 38, as expressed by journalists, developers, policy makers and planners, enabled us to reveal the high expectations of this national plan. Five public goals were disclosed: strengthening old buildings to reduce damages from potential earthquakes; providing sheltered area for every household to reduce damages of potential missiles attacks; densifying existing urban fabrics; refurbishing existing urban housing; and creating social mix in residential areas without displacing its less affluent residents. Below we present the rationale of each goal and our findings regarding its enhancement in the ten buildings selected for detailed evaluation.

#### 4.1.1 *Strengthening old buildings to reduce damages from potential earthquakes*

History shows that a major earthquake occurs in Israel about every hundred years. In 1980 Israeli Standard No. 413 was updated, requiring all new engineered structures, including residential buildings, to be made earthquake resistant. Structures built prior to 1980 are considered vulnerable to failure, and TAMA 38 was announced by the Ministry of Interior in order to strengthen those buildings. While there are several reinforcement methods, most contain three elements: (a) strengthening the foundation; (b) adding concrete or steel bracing around the building; (c) the common TAMA 38 practice of creating "towers" by adding reinforced concrete elevator shafts and shelter-room additions that run the entire height of the building. When floors are added on top of the building, their weight is transferred to these new towers and does not rest on the old structure.

Each construction permit for TAMA 38 depends on submitting a detailed strengthening plan prepared by a construction engineer with special training to the municipality. All the developers in the 10 buildings we studied passed this stage successfully. We could see signs of strengthened foundations in the 10 yards we visited, we were told about concrete bracing around the buildings, and in each building an elevator shaft and shelter-rooms one on top of the other were added. For now we know that considerable strengthening effort was invested in each of the ten sites. In the next months we will have additional information about the quality of these efforts.

**Illustration 2:** Strengthening the building foundation (photos from Ramat Gan municipality website)



#### **4.1.2 An in-door sheltered-room for every household**

Since the Gulf War in 1990-91 when residential areas in Israel suffered missiles attacks from Iraq, each new residential building in Israel is required to have an in-door or in-floor sheltered area. The government and the municipalities have tried to encourage home owners to add sheltered areas to their homes, but the implementation process advanced in very small steps. For this reason, the Ministry of the Interior decided to include the goal of increasing the number of households with protected rooms in TAMA 38.

TAMA 38 enables adding up to 25 m<sup>2</sup> to each existing apartment as an economic incentive to motivate the residents to strengthen their building. The addition is conditioned by the inclusion of a sheltered-room that is not smaller than 12 m<sup>2</sup> and is constructed according to very detailed specifications. In our field research we found that this goal was fully realized: 91% of the 41 residents interviewed in the 10 buildings have received a sheltered-room as part of the new construction and the other 9% are all on the first floor and were provided with a sheltered area in their floors. The residents know that they can trust these new rooms to fit the requested specifications, because of the special control by laboratories (the reinforced cement) and trained technicians that follow the construction of the sheltered areas.

**Illustration 3:** Schematic floor plan of a sheltered room and a photography of a steel door between the old living room and the new shelter room (Photo was taken in an interviewee's apartment).

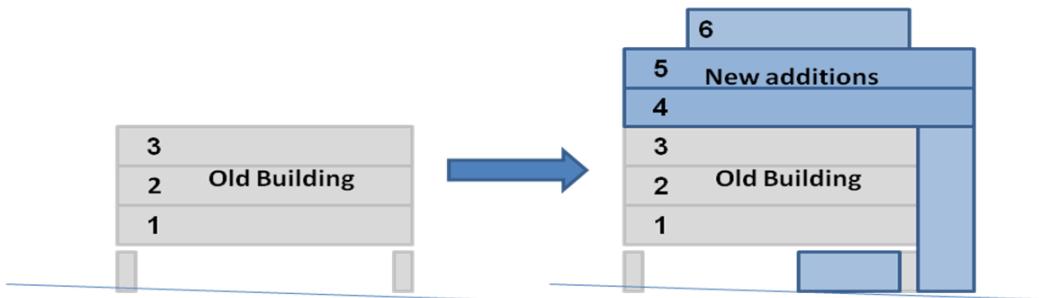


#### **4.1.3 Densifying existing urban fabrics**

"A more efficient use of the urban land", i.e., densification of the existing urban fabric, has been a main slogan of Israel Ministry of Construction and Housing for the last 20 years, and has been willingly accepted by big developers. Since the 1990's densification was presented as the major goal in urban renewal in Israel, to be carried out by Demolition and Redevelopment projects and other renewal programs. TAMA 38 has been perceived as another tool of densification. Originally it was meant to add 2-3 housing units to each building, with the hope that this would be a good enough incentive for developers to execute the strengthening projects. The developers protested and recruited economists to show that such small additions were not enough to cover their expenses which included strengthening the buildings and providing the existing residents with the many benefits they expected. Even in Tel Aviv metropolitan area, where land values and housing prices are very high, the developers claimed that two to three units were not enough for "economic viability of the program". Following the protests of the developers, it was decided to approve up to 2.5 addition floors in each TAMA 38, usually with 4-6 new housing units.

In the 10 research buildings in the two sites we investigated there were 100 apartments before the renovation, 48 new apartments were added by implementing TAMA 38 - an addition of 48% to the number of households in the renovated environments. Because the average household size among the new residents is somewhat higher than that of the old-timers (3.81 compared to 3.27), the addition of new residents is even higher – 56%. The conclusion is that the public goal to densify the existing urban fabric has been achieved by TAMA 38. Is such a significant addition to the existing population, without a change in the social and physical infrastructures (except of a few parking places) good for the city and its residents? We will come back to this question in the discussion section.

**Illustration 4:** Scheme of the building before upgrading (on the left), and upgraded building with additional new floors and apartments (on the right)



#### 4.1.4. Refurbishing existing urban housing

While the first three public goals were pushed ahead mainly by central government agencies, the fourth one has been promoted in particular by the municipalities, which are interested in enhancing the prestige of their streets and housing stock, and by the developers, who are interested in selling the new housing units for a good price. The majority of the buildings that are entitled to TAMA 38 are housing projects (*shikunim* in Hebrew) from the 1960's and 1970's that are known for the use of low-cost material in the construction process. Following some 50 years of intensive use, they need refurbishment.

In the 10 buildings we studied, we found that the external appearance of all of them was significantly improved and is currently in accord with new housing in their environments. The external refurbishment included treatment of the envelope of the buildings, an addition of a balcony to each apartment (old and new) with a wide exit to it, greening of the yards, especially at the fronts of the buildings and additional parking spaces usually not located in the front of the building. The implementation of TAMA 38 in the 10 buildings also included internal spaces of the building and the apartments. In each building an elevator was added, which was important not only to the residents of the upper new floors but also to those who live in the old third and fourth floor. In all the buildings the stair cases were refurbished as well as the entrance lobby, to which a new door with intercom was added. Inside all the old apartments, the water and electricity systems were replaced and sometimes sprinklers were installed. All these improvements were paid by the developer, in exchange for the right to sell the new housing units.

Out of 18 long-term residents we interviewed in the 10 buildings, 33% took the opportunity and completely renovated their own apartment (with their own money) and another 28% made minor renovations; 39% of the veterans did not add to the improvements executed by the developer.

**Illustration 5:** The research buildings in Kiryat Ono (HaZamir St.) before and after the renovation of TAMA 38 (Photos from Kiryat Ono municipal site, KA/413 plan)



#### ***4.1.5 Creating social mix in residential areas without displacing its less affluent residents***

Social mix in residential areas has been advocated for decades by progressive planners in various countries, including Israel. The "neighborhood effect" is expected to increase social equity, by means of residential proximity between households with different demographic and socio-economic characteristics (see the US experiment "Moving to Opportunity"; Briggs, 2010). However, in most of the cases in which social mix was implemented, especially by the "free market", it was accompanied by gentrification and displacement of the "weaker" population, especially poor people. The question of how to create social regeneration in an urban area without displacing its less affluent residents remains open.

**Table 1:** Characteristics of interviewed household heads in the research buildings (%)

Characteristics		Long-term residents (n=18)	New residents (n=23)
Age group	Up to 44	50	70
	45-64	28	17
	65+	22	13
Size of household	1-2	33	13
	3	16	22
	4+	50	65
Composition of households	Single	22	4
	Couples	11	9
	Family with young children	28	61
	Family with adolescents	39	26
Average household size		3.27	3.81
Education (years of schooling)	9-12	52	23
	13-15	42	36
	16+	6	41
Household income (self evidence)	Below average	39	35
	About average income	44	35
	Above average	17	30

Implementing TAMA 38 means building new apartments and attracting new population into an old residential area. In the 10 research buildings we compared the characteristics of long term and new residents to see whether social mix has been created. The findings in table 1 show that the two groups differ by:

- Age – while 70% of the heads of households among the new residents are relatively young – up to 44 years of age, and only 13% are 65 and up, the comparable rates among the long-term residents are 50% and 22%.
- Size and composition of households – the households of the new residents are larger and more of them – 61% compared to 46% - have young children at home.
- Level of education – here the differences are most striking: among the long-term residents 52% have just a high school education and only 6% are university graduates, while among the new residents the comparable rates are 23% and 41%.
- Income – the differences are less salient: in both groups about a third saw themselves as having below average household income, but among the new residents 30% said their income is above the average compared to only 17% who said the same among the long-term residents.

This analysis shows that social mix has been achieved in the research buildings; indeed, the level of household income (self-reported) is just slightly higher among the new residents, but they are clearly younger and richer in terms of educational capital residents, and they live together with older households whose heads had less years of schooling. This is not a mix between extremely different groups. Because TAMA 38 is implemented by the market that looks for profit, it does not enter poor deteriorated neighborhoods; it does work in old housing areas of the lower middle class in the center

of Israel, where land values are high. Therefore, what was found here is a mix between lower-middle class and upper-middle class populations.

What about displacement? TAMA 38 is directed to owners of apartments only. Before the renovation took place, about a third of the residents were renters. They did not have to leave; they could stay during the difficult construction period and remain in the expanded and renovated places for higher rents. Except for two households who remained, all of the other renters rejected this offer and left the apartment they lived in – in other words, they were displaced by the renovation process. The next question is whether the current social mix is sustainable, or in other words: will the mix remain in future years or will processes of displacement continue, as is often the case in areas that are subject to in-migration of higher middle-class population. This question will be discussed in the last section of this paper.

## 4.2 The private/residents' perspective

TAMA 38 is unique in its attitude to the residents: on the one hand side, as we saw in section 4.1, it works top-down: public authorities and planners try to promote public goals through this national program; on the other hand side, it gives a lot of power to the residents, as long as they are homeowners; they control the additional building rights. They negotiate with developers until they select one that seems reliable, and agree to give them more than others for the possibility to submit with them a plan to the local planning committee, and if it is approved, to expand and renovate the building and sell the new units for whoever is ready to buy them. As we see below, the residents use their power and benefit from it.

At the focus of our field research stood personal interviews with residents in TAMA 38 projects, aiming to evaluate the plan from their perspective. Forty one residents were interviewed in the 10 selected buildings, 18 long term who had lived there before the renovation took place and 23 residents who entered the new units that were added to the old buildings. Two main subjects were investigated: changes in the living conditions following the renovation process, and social relations among the residents in the 10 buildings selected for the research.

### 4.2.1 *Change in the living conditions of the residents and their attitudes towards it*

TAMA 38 enabled the residents who lived in the buildings before they were renovated to significantly improve their living conditions, without having to pay from it from their pocket, and provided the new residents an opportunity to buy or rent good housing in an area they wanted to live in.

After the renovation, all of the residents live in larger apartments. As we can see in table 2, two thirds of the long-term residents lived in 3 room apartments and a third in 4 rooms; after the renovations about 40% have 5 rooms plus a balcony and the others live in 4 rooms plus a balcony. The new households are divided evenly between those living in 4 and 5 rooms plus a balcony. The differences in the present number of rooms between the long-term and new residents is not large, but the apartments of the long-term residents are usually a mix between old and new rooms, while the new residents live in more spacious rooms in completely new units with higher standard of finish. The long-term residents, however, received the improvement without paying money for it (they paid in

terms of the inconvenience of living in the building when it was renovated), while the new residents had to pay for the full value of the new apartment.

**Table 2:** Size of apartments (by number of rooms) before and after the renewal (%)

	Long-term residents (n=18)		New residents (n=23)	
	Before	After	Before	After
Up to 2.5 rooms	0	0	13	0
3 rooms	68	0	48	0
4 rooms	32	61	26	48
5+ rooms	0	39	13	52
Total (n=41)	100	100	100	100

**Illustration 6:** A renewed entrance (on the right) and an old entrance (on the left).



**Illustration 7:** Walk-up staircase in a lower floor on the left and an upper new floor on the right.



In the buildings we studied, the long-term residents received new water and electricity systems within their apartments from the developer (they had to pay for other internal changes), and also received many unpaid-for improvements in the building and the yard. Probably, the most important one is the elevator that was added to 9 buildings and renovated in the 10<sup>th</sup>. One of the long-term residents, in her sixties expressed the importance of the elevator by saying: "*We could not have stayed here without TAMA 38; we used to live in the fourth floor, the roof was frequently leaking, and we were too tired from climbing the many stairs*". The lobby was redesigned and renewed, adding an entrance door with intercom. Storage spaces were added on the first floor. Walk-up staircases were painted, but remained narrow and uncomfortable. The difference between staircases on the lower old floor and the upper new floors are very noticeable.

The yards of the buildings were planted with some new greenery, but their size was usually reduced to allow for additional parking spaces. For each new housing unit one parking space was provided. Only in one building was an innovative parking structure with two floors and electric system of lifting cars was provided. Coping with the parking issue was always problematic and caused frictions between the developer and the neighbors.

Most of the long-term residents did not leave their apartments during the process of renovation that lasted 12-24 months. In spite of the long period they had to live within a construction site, and due to what they received as a result of their negotiation and readiness to go through the process, the long-term residents' level of satisfaction with the results of the renovation process is high, especially with their own apartment and the building exterior appearance and less so with the building maintenance (see table 3).

**Table 3:** Long-term residents' perspective: Satisfaction before and after the renovation (%)

	Less satisfied after renovation	Similar before and after renovation	More satisfied after renovation	Much more satisfied after renovation	Total
Satisfaction with the apartment	0	11	11	78	100 (n=18)
Satisfaction with the building exterior	0	0	22	78	100 (n=18)
Satisfaction with the building maintenance	14	36	21	29	100 (n=14)
Satisfaction with the neighbors	0	62	25	1	100 (n=18)

Satisfaction with the apartment was also investigated among the new residents. The comparison in table 4 shows that the situation was not bad even before the renewal operation. Close to two thirds from both groups were satisfied with their old apartments (the new residents with their old apartment before moving), but the percentages of both groups grew to 90% and more after it; especially high are the rates of those who are very satisfied with their present apartment: 65% and 67%.

**Table 4:** Satisfaction with the previous and present apartment among long-term and new residents (%)

	Long-term residents (n=18)		New residents (n=23)	
	Before	After	Before	After
Not satisfied	17	0	4	0
O.K.	17	11	35	4
Satisfied	33	22	22	31
Very satisfied	33	67	39	65
Total	100	100	100	100

In addition, we wanted to know whether living in the improved apartments and buildings changed the level of housing expenses. One could expect that the addition of 25 m<sup>2</sup>, and the other improvements would cause higher payments for electricity, water, building maintenance, and municipality taxes, and this is what table 5 shows: 94% of the long-term residents say they pay more, but only 11% say that their housing expenses are much higher, while 83% say just higher. The parallel rates among the new residents are lower, but still 76% of them pay more than they used to.

**Table 5:** Housing expenses in the renovated building compared with before renovation (%)

	Long-term residents (n=18)	New residents (n=21)	Total (n=39)
Lower expenses after	0	5	3
Similar to before	6	19	13
Higher expenses after	83	33	56
Much higher expenses after	11	43	28
Total	100	100	100

In conclusion: the field research found that the residents in TAMA 38 projects significantly improved their housing conditions. Indeed, their current housing expenses increased (not by much), yet a big majority of both long-term and new residents are satisfied with these results.

#### **4.2.2 Social relations in the extended and refurbished buildings and their environment**

Having relatives and friends within walking distance from one's home is common in Israel. While talking about the reasons to move into the renovated building, a new resident said: "*My daughter lives near the building and I wanted to live near her*". This tendency explains the findings in table 6: 43% of all the interviewees have relatives in vicinity of their home and 60% have friends living close by. More of the new residents have relatives and friends in the near area than the long term residents.

**Table 6:** Having relatives and friends in the neighborhood (%)

		Long-term residents (n=18)	New residents (n=22)	Total (n=40)
Relatives	Yes	33	50	43
	No	67	50	57
	Total	100	100	100
Friends	Yes	50	68	60
	No	50	32	40
	Total	100	100	100

Moving from the neighborhood level to the building level, we were especially interested in learning about the relationships between the new residents, who have lived in the research buildings from a few months to up to 2 years, and the long-term residents. By the length of period they lived in the building the long-term residents can be divided into three groups: a third who have lived in the building for 3 to 10 years, a third for 11 to 20 years, and another third who have lived there since the buildings were first constructed over 40 years ago. As the reader may recall, in section 4.1.5 above, we found that the long-term residents and the newcomers were two distinct groups with different characteristics, and concluded that the long-term residents were a lower-middle-class group, while the new residents were an upper-middle-class group. Now we can test our conclusion vis-a-vis the perceptions of residents of themselves.

**Table 7:** Perceptions of the economic status of the two groups in the buildings (%)

		Long-term residents (n=18)	New residents (n=23)
Perceptions of the economic status of the long-term residents	Lower-middle class	17	40
	Middle class	83	50
	Upper-middle class	0	10
	High class	0	0
	Total	100	100
Perceptions of the economic status of the new residents	Lower-middle class	0	0
	Middle class	5	0
	Upper-middle class	89	85
	High class	6	15
	Total	100	100

Table 7 shows that the perceptions go hand in hand with the conclusion that we based on table 1: in the renovated buildings live two groups that both belong to the middle class. In other words, the residents perceive themselves as belonging to different groups, different but not polarized. The new residents are perceived by themselves as well as by the long-term residents as being part of the upper-middle class. The long-term residents are perceived by themselves mainly as middle class; while half of the new residents agree with them, others perceive them as lower-middle class.

The next question was how these different groups get along together; do the residents have friends within the building, and if they do, are their friends from among their own group alone or also from the other group? Table 8 provides some answers to this question.

**Table 8:** Social relationships within the building

	Having friends in the building <b>all</b> the interviewees (n=39)	Having friends from among the <b>long-term</b> residents		Having friends from among the <b>new</b> residents	
		Long-term (n=16)	New (n=20)	Long-term (n=16)	New (n=20)
At least one	44	56	15	12	45
None	56	44	85	88	55
Total	100	100	100	100	100

All the residents of the 10 research buildings have recently gone through a difficult period: the long-term residents lived through the construction period that necessarily involves conflicts with the developer and usually also with neighbors; the new residents have moved into a new apartment in an old/renovated building, a step that frequently involves various struggles. Nevertheless, there were very few complaints about conflicts between neighbors and almost half of the interviewees has at least one friend in the building. The division between the two groups is evinced by the finding that most of the friends of the long-term residents are from among the long-term residents group in the building and most of the friends of the new residents belong to their own group.

In order to more fully understand the perspective of the residents, we asked all the interviewees whether they see those living in their building as one or two groups. Their answers are reported below.

**Table 9:** Perception of the social relationships with the other group (%)

	Long-term residents (n=17)	New residents (n=23)	Total (n=40)
We are two separate groups with no connections	18	22	20
We are two separate groups that get along together	47	48	47.5
There are no differences between long-term and new, we are one group	35	30	32
Total	100	100	100

Table 9 shows negligible differences in the distribution of answers of two groups; in both of them just a minority of 20% see the two groups in the building as separated with no connections between them; about 30% view them as one big group, while about half said “*we are two separate groups but we are on congenial terms*”. Hence, a short while after the renovation process was completed (half a year to two years after completion in the various buildings), and despite the fact that there are important differences between the long-term and the new residents, the two groups that were mixed in the buildings of TAMA 38 get along well.

## 5. In Conclusion

The empirical work presented in this paper covered two sites and ten renovated multi-unit residential buildings out of a few dozen of projects/buildings, which have been completed in the decade that have passed since TAMA 38 was established in Israel. The data was collected from various sources and stakeholders, including face-to-face interviews with 41 heads of households from among the long-term and new residents in the renovated buildings. A summary of the findings shows a significant success in achieving a combination of urban, social and economic goals, side by side with important undesirable results.

According to our findings, the following goals were promoted by TAMA 38:

### *Urban goals*

- *Improving the resilience of existing residential buildings* – adaptation of existing housing by strengthening old buildings, so that they can withstand - up to a calculated point - natural hazards such as earthquakes and floods, and/or man-made hazards such as war and terror attacks.
- *Preventive planning* – renewing old housing areas before they deteriorate.
- *Densification of the existing urban fabric* - providing additional housing units in large cities, where there is a strong demand and very little or no free-of-use land to build on.
- *City beatification* – refurbishment of old buildings in order to enhance the city image.

### *Social goals*

- *Improving the living conditions of long-term residents* – The program usually expanded each of the old apartments by 25 m<sup>2</sup>, used for a room (sheltered room that can serve as bedroom) and a balcony, in addition to the many improvements that were introduced into the public areas of the building, including: new elevator, renovated entrance, staircase, lobby, yard and more. Our study shows that almost all of the long-term residents are satisfied with their new housing conditions.
- *Providing urban residents with an opportunity for social mobility without geographical mobility* – many of the new residents in the apartments that were added to the renovated buildings used to live not far away from there and were looking for an opportunity to improve their housing conditions without changing their environment, in which they might have friends, employment, schools their children are used to etc.
- *Promoting social renovation and social mix in old residential areas* – the renovation project brought to the old area younger population with high human capital to live together with lower-middle-class population; the two groups – long-term and new residents, seems to go along well.

### *Economic goals*

- *Significant profits to the residents of the renovated buildings* – the residents received all the above-mentioned benefits without paying for them, in exchange for delivering the extra building rights to the developer; at the same time, the value of their old apartments significantly increased, due to the expanded size, the added amenities and renewed appearance of the building, in addition to the higher socio-economic status of their new neighbors, which also increase the value of their property.
- *Significant profits to the developers* – a study of developers' attitudes towards TAMA 38 found that in Tel Aviv area developers said that they would not take a project unless their calculations show a profit of 30-45% above the cost of implementation (Broides, 2012).

- *Expected profits to the municipality* – extended use (quantity and duration) of present physical and social services in old residential areas save the costs of building new ones for new population in new residential areas; in the short run, the municipality gave up development fees in order to encourage implementation of the project, but in the long run it expect additional property taxes from the expanded housing units and the additional ones.

However, undesirable societal and urban results of tama 38 are also revealed. Among them:

- (A) *The program is being implemented only in areas with high land values*, even though it is needed, sometimes urgently needed, in peripheral areas where the land values are low.
- (B) *The program provides many benefits to the more wealthy part of the population*, to developers and home owners in the central cities; thus, it increases social disparities within the city and in the society as a whole.
- (C) *The program applies only to home-owners, while almost all the renters were displaced* by TAMA 38. Renters constituted about a third of the households in the research buildings before they were renovated. Indeed, usually these renters were not poor households, because the program is not implemented in areas where poor people live; but still, many residents were displaced and had to re-enter the renting market that is becoming more expensive.
- (D) Last but not least: *An exaggerated addition of housing units and population without appropriate addition of physical and social infrastructure may turn the present success of TAMA 38 into an urban disaster*. TAMA 38 is a public-private partnership; the public partner initiated it and determined its rules, including the generous building rights, and the private sector, composed of individual homeowners and developers, was called to finance and implement it. It is a typical plan of the neo-liberal era that delivers functions from public authorities to hands in the free market. As such, it is threatened by *greediness*. Economists and journalists (see New York Times and The Gaurdian) blamed the greediness of bankers as a main cause of the global financial crisis in 2007/8. Greediness of the developers who pressure for increased building rights is threatening the urban environments in which TAMA 38 is being implemented. Our research found 50% increase in the number of households and 60% increase in the size of population living in the renovated buildings. This development has come about with no increase in infrastructure – roads, open spaces, schools, clinics etc. This is possible up to a point, but if it spreads around the city as plans for the future indicate, it is a serious threat to the quality of life in the city.

In the middle of 2015, TAMA 38 – the Israeli national program for upgrading and strengthening old residential buildings and densifying the urban fabric - seems to reach a crossroads: its benefits to specific private and public stakeholders have been recently disclosed, but the public interest is under threat. Above two thousands projects are waiting in line for approval, and the requests for densification, for adding more and more housing units to the existing neighborhoods, are reaching new heights. Policy makers who have to select an appropriate road are urged to consider the pros and cons of TAMA 38, as analyzed in this paper, in order to promote the goal of sustainable and equitable quality of urban life in Israel.

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