

The Phoenix Strategy for Updating Housing Stock

Preventing Neighborhood Deterioration and Promoting Sustainable Development

Naomi Carmon

The Phoenix Strategy is a way to encourage and facilitate significant user-controlled improvements in existing housing, improvements that make old houses more like new ones. The strategy is based on an analysis of relevant experience in several countries, most notably Israel, and relies on public facilitation and private management and financing. It has worked well in low- to high-density residential areas with moderate- and middle-income households. It has benefitted the residents, the neighborhoods, and the public treasury, and contributed to environmental goals. This article suggests how the Phoenix Strategy may be used as a powerful tool to prevent or halt neighborhood deterioration and to promote sustainable urban development.

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The Phoenix Strategy is a way to facilitate and encourage user-controlled improvements in existing housing, improvements that update the residences by making old dwellings more like newly constructed ones. Where implemented on a large scale, the Phoenix Strategy significantly cuts the likelihood of neighborhood deterioration, mainly because it provides households with an opportunity to express social mobility without geographic mobility. It concurrently increases the life of residential buildings and their physical and social infrastructure and decreases the use of new land, energy, and other natural resources, thus promoting sustainable development.

Many nations have had experience with neighborhood deterioration and regeneration. Looking back at neighborhood remedies in the 20th century (analyzed by Carmon, 1997), we realize that comprehensive programs such as Model Cities in the U.S., the Neighborhood Improvement Program in Canada, and Project Renewal in Israel were intended to benefit both people and places. Evaluation studies concluded, however, that these programs, where they were actually implemented and improved the local services (housing, education, recreation, etc.), benefited people but not their places; they “did not reverse the deterioration of older neighborhoods” (Carter, 1991, p. 20) and were “not sufficient to change the status of the area” (Carmon & Baron, 1994, p. 1475). A main reason for not succeeding in improving the neighborhood is the tendency of residents who improved their social status to express their advancement by moving out of their old places. My conclusion is that improvement of social and physical services in the neighbor-

hoods that characterized such programs is not enough to benefit these places. A similar conclusion was reached by Varady (1983, 1986) on the basis of his empirical work and a review of American literature on neighborhood upgrading. On the other hand, evaluations of initiatives of the “third generation” of neighborhood policies, mainly gentrification and property-led regeneration projects, found that they did benefit places but usually failed to benefit their incumbent residents (Brownhill, 1990; Church, 1988; Fainstein, 1994). Hence, we are still in search of programs that benefit both people and places. By providing people with the opportunity to improve (in place) instead of move, the Phoenix Strategy significantly increases the chances of achieving this double goal and at the same time helps save land and energy, thus contributing to environmental goals as well.

The name of the strategy is borrowed from a mythical Egyptian bird. After completing one long cycle of life, the Phoenix rises anew from its own ashes to live another long period, drawing on its own internal resources for the transformation. In our case, the body of the Phoenix is a housing unit, and its soul is a household. Following one period of life, the housing unit goes through extensive transformation, which is initiated and managed by the household, and arises anew to serve its occupants for yet another period.

The first section of this article describes and analyzes the empirical experience on the basis of which the Phoenix Strategy, which is presented in the second section, was developed. The ideas on which the proposed strategy is based are not in themselves new. The innovation is in turning substantial updating of existing housing into a regular and common process within the urban fabric and in the assemblage of principles that can make it work. Some variation of the strategy could be adapted by almost every local government interested in preventing deterioration and/or encouraging regeneration of residential areas.

The Phoenix Strategy has been discussed in recent years in several international forums.¹ Its potential usefulness has been recognized by European colleagues, and together we have formed a consortium of researchers from six countries: the U.K., the Netherlands, Sweden, Italy, Hungary, and Israel. Our purpose is to collaborate in studying the applicability of the Phoenix Strategy to each of our countries, with an eye to other countries in the Europe. Suitability to the realities of housing in North America is less obvious, but the concerns and merits of the strategy warrant serious consideration by our North American colleagues as well.

The Empirical Basis: The Israeli Experience in Updating Housing

The majority of urban households in Israel live in 3- or 4-story residential buildings, while the remaining urban population resides in lower and higher buildings. Nearly 90% of the housing stock was constructed over the past 50 years. Most of what are currently considered small and outdated dwellings were built in the 1950s, 1960s, and early 1970s, a period when the new, undeveloped country was absorbing a large wave of immigration. The majority of the immigrants were penniless refugees who came from Europe (after World War II), from Middle Eastern countries, and in the early 1970s, also from the USSR. The state felt obliged to provide housing for these immigrants. Inexpensive dwellings for hundreds of thousands of households were constructed by the government throughout the country—initially tiny apartments of approximately 30–45 m² in 1- or 2-story buildings and later 45–65 m² in 3–4- and 5–8-story blocks. The construction was solid (cement), but the design and finishing work were modest. Over time, with a rapid rise in the per capita GNP and the living standards in the country, housing standards rose steeply (Carmon & Czamanski, 1990), and the older stock was considered inadequate. The main drawback of the old stock is its small size. The average size of new dwelling units constructed in Israel in the 1990s was 140 m², while most of the units built in the 1950s and 1960s were less than half this size. Other common problems of the old housing units are having just one bathroom, insufficient size of the kitchen, thermal deficiencies, lack of elevators and other amenities, and a general low level of maintenance.

First Stage: Spontaneous Self-Help Process in Low-Income Neighborhoods (1960s and 1970s)

As soon as the new immigrants improved their economic situation, they looked for opportunities to improve their housing. Many decided to leave public housing and move into the private housing market. Others who had become attached to their places for various reasons, as well as those who could not afford to pay for both a better apartment and a better neighborhood, decided to invest where they lived. The public housing companies encouraged them to purchase their apartments, and many of them did decide to become apartment owners.

The new owners in low-rise (1–2 story) residential areas constructed in the 1950s started a self-help process of updating and enlarging their housing units. The “self-help” title actually means a user-controlled process: The residents initiated it and made all the critical decisions. Only 20% of those who enlarged their units did some

portion of the work with their own hands; the others either hired skilled workers or assigned the implementation to a local contractor, while they supervised the operation (Carmon, 2002). This was a partly legal process; the majority did receive legal permits, but the actual work did not always follow the precise specifications of the permit. The process was most common in neighborhoods on the periphery of large cities and in remote development towns, where law enforcement was less strict than in more central areas.

Empirical studies found that almost all the enlargers in this first stage were working heads of families with children, whose average income was two thirds of the average income for a salaried employee in Israel at the time. Without any assistance from public agencies, they managed to considerably improve their housing conditions: The average size of an apartment increased from 40 m² to 85 m². Researchers of the enlargement phenomenon (Carmon & Gavrieli, 1987; Carmon & Oxman, 1981, 1986; Oxman & Carmon, 1989) concluded that despite several drawbacks, the process was beneficial to the residents, their neighborhoods, and the housing stock of the country.

Second Stage: Institutionalized User-Controlled Process as Part of Project Renewal (1980s)

Project Renewal, Israel's large-scale program for rehabilitation of distressed neighborhoods (1979–present),² included many social programs and four main housing programs (Carmon, 1992; Lerman et al., 1984; Spiro & Laor, 1988). Here I focus on the program of housing enlargement, which was added to Project Renewal following reports of the advantages of the process that were described above. The target population of this program was mainly owner occupiers, who constituted 45% of all the households in the project's neighborhoods prior to its establishment (Carmon, 1989). Project Renewal used the possibility of participating in the enlargement program as an incentive to motivate renters to purchase their apartments (Spiro & Laor, 1988). The program helped raise the rate of owner occupiers in Project Renewal neighborhoods, which reached 67%, compared to 73% in Israel as a whole (Ministry of Construction and Housing [MC & H], 1999).

The reader may be puzzled by the title of this section: Is it possible for a process to be both “institutionalized” and “user-controlled”? The answer is that this is what Israel's Project Renewal sought to do and actually achieved. The enlargement program included raising awareness, providing subsidized loans (every owner occupier in the project's neighborhoods was eligible), and frequently offering legal and technical assistance (especially providing scheme options for remodeling and en-

largement). Yet all the critical decisions, such as whether to join the program, what and when to construct and/or remodel, and whom to hire to do the work, were made by each individual household and/or an elected building committee. Moreover, the residents paid for the improvements, although many of them used the subsidized loans (not grants) offered by the project. The average cost of an enlargement was \$23,000. The average loan was about 60% of this sum (MC & H, 1999), which means residents invested substantial amounts of their own resources. The value of the public subsidy for each enlargement was about \$4,000 (Shwartz, 1999).

The average addition to an apartment in the project's neighborhoods was about 30 m². Figures 1 and 2 show examples of the variety of designs that resulted from this user-controlled process. Figure 1 is typical of many enlarged buildings, where the exterior is the same from one enlarged apartment to the next while the interior expresses the different needs of the various households. There are neighborhoods, however, with many backyard enlargements that do not please the eye, such as the ones in Figure 2.

Under the auspices of Project Renewal, about 35,000 apartments were enlarged in the 1980s and 1990s, over 20% of the housing stock in the target neighborhoods (MC & H, 1999). While in the 1960s and 1970s almost all the enlargements took place in low-rise homes, the majority of enlargements under Project Renewal were in 3- to 4-story buildings, the most common residential buildings in the country. The additions to apartments in these blocks were, on average, approximately 60% of the floor area (Lerman et al., 1984), compared to additions of 110% to the apartments in the low-rise buildings made in the 1960s and 1970s. The majority added at least one if not two rooms, frequently another bathroom, and/or a balcony (see floor plans in Figure 1). In most cases, the residents did not leave their homes while the construction work took place (see Figure 3).

Evaluation studies (Carmon, 1992; Spiro & Laor, 1988) analyzed the pros and cons of the program. On the negative side were aesthetic problems and some construction deficiencies. On the positive side, the program increased and diversified the population of the enlargers (compared to those of the first stage), raised housing satisfaction, and contributed to housing durability. It served as an impetus for a continuous process of housing improvements; whenever an enlargement process was begun in one house or on one street, the prospects that it would occur in a neighboring building or street were significantly raised. Most importantly, the program increased the will of people to stay in their neighborhoods and invest in their houses instead of moving. An evaluation of 10 Project Renewal neighborhoods

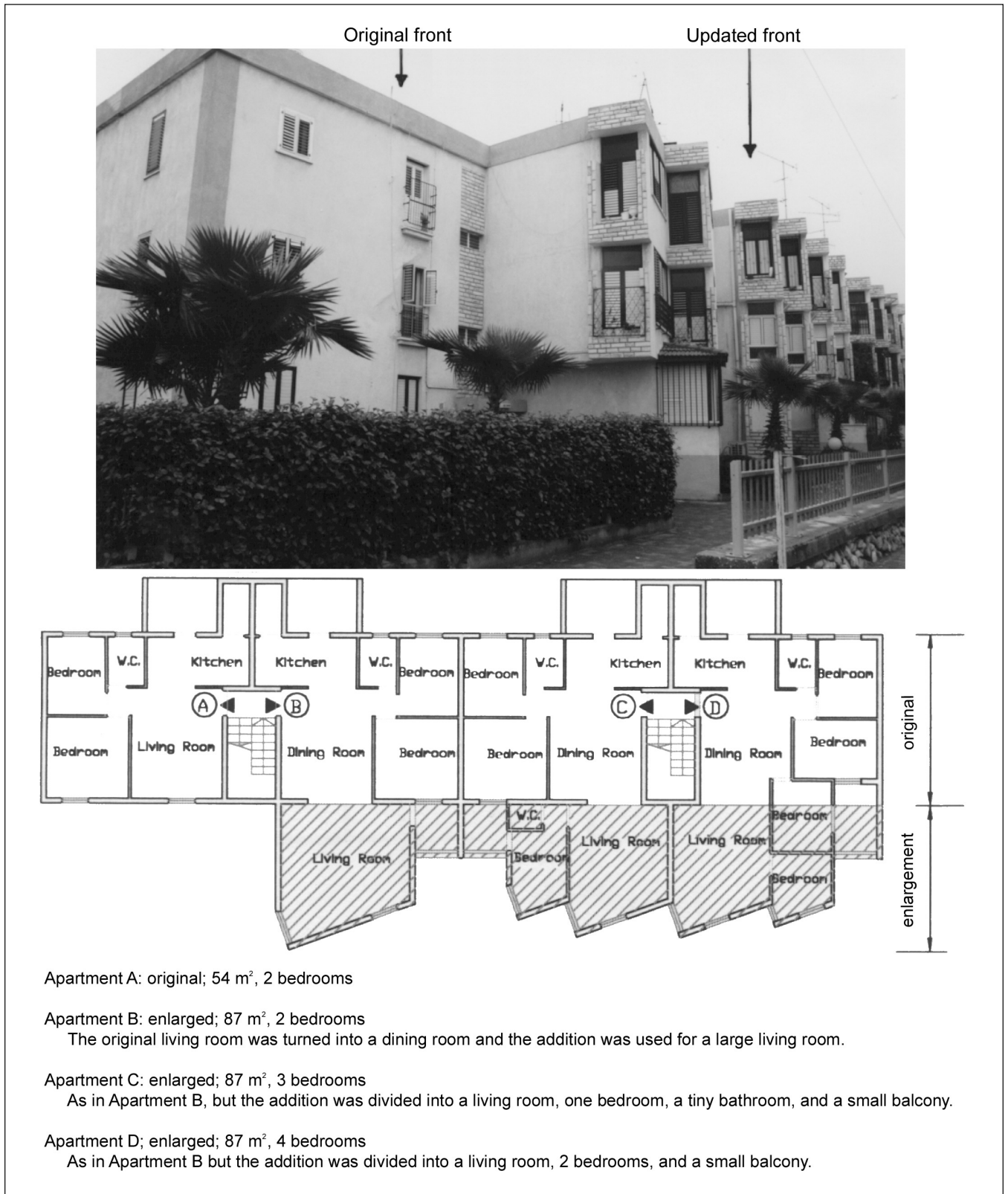


FIGURE 1. Front enlargements and floor plans of four apartments in Or Yehuda, a moderate-income small town.



FIGURE 2. Backyard enlargements to an apartment building in Sha'ar Ha'Alyia, a moderate-income neighborhood in Haifa.

(Ginsberg-Gershoni et al., 1996) found that their populations in the research period grew by 19–64% (average 40%, compared to 32% in the Israeli population at the same time). The growth was enabled by occupying empty apartments and constructing additional residential buildings. The new population was usually younger and with somewhat higher socioeconomic characteristics than the original residents; it often included children of the original residents, who had left the neighborhood in the past and came back when it started to improve. A main factor in attracting such a population was the change in housing conditions in the neighborhoods. The enlargement (23% of all the dwellings in Project Renewal neighborhoods) and the external renovation (57% of the dwellings) programs made the supply of housing units more similar to those found in middle-class areas. The overall conclusion was that the program was successful in preventing deterioration, and in some cases also in promoting regeneration without gentrification.

Third Stage: User-Controlled Housing Enlargements in Middle-Class Neighborhoods (Late 1980s and 1990s)

The next step in the Israeli saga of user-controlled housing renovation was completely unexpected: The “contagious” enlargement and updating trend entered middle-class residential areas (Lamdoon, 1988). Without any top-down initiative or guidelines, enlargement processes moved from building to building and from neighborhood to neighborhood. Meretz (2002) studied the enlargements in middle-class neighborhoods, and this section of the article is based mainly on her findings.

All the middle-class enlargers were owner occupiers, their average age was 43, and about half had an academic degree. Of these households, 80% were families with children at home, and in 70% both spouses were in the work force. In less than half the cases it was innerdwelling density that motivated the enlargers, while most of the others were motivated by a wish for a higher standard of living and/or by considerations of profit: The cost was usually lower than the increased value of the dwelling.

The process would usually start in a single building with one or two residents who saw an enlargement somewhere else and regarded it as an excellent way to improve their own living conditions. They would invite their neighbors to a meeting and start convincing them of the benefits of the process. Unless they were highly motivated and had leadership qualities and sufficient stamina, nothing would happen; other neighbors and the municipal bureaucracy would always try to stop them. In the studied cases, in almost every multiunit building there were one or more neighbors who refused to take part in the process, in spite of its apparent benefits, either because they felt they did not need it or because they could not afford it. If the organizers managed to convince the majority of the neighbors to find a solution for the minority of opponents (see below for possible solutions), they turned to obtaining a building permit. Usually, each building submitted its own request (in a third of the studied cases each entrance did it separately). Frequently they failed; where they succeeded, obtaining a permit took up to 1 year in 50% and more than 3 years in 20% of the cases. About half of the enlargers financed the improvements mainly from their savings, while others depended on private loans. The design decisions regarding the envelope of the building were usually made in a meeting between the residents and an architect, who was usually selected by an elected committee of the building. In a third of the cases, this architect also did the internal design of the housing units, while a third hired their own architects and the rest designed the internal changes themselves.

The trend usually took place in lower-middle- and middle-middle-class neighborhoods, yet it was also found in a few upper-middle-class neighborhoods (see Figure 4), especially where there was a significant difference between the standard of the apartments built some 30 years ago and those built in the 1990s. Most of the residential buildings where units were enlarged and updated in this third stage were 3–8 stories (6–48 units), a few up to 13 stories, and made of a cement skeleton and cement blocks—the type of housing construction most common in Israel. None of the buildings was dilapidated before the process started; in most cases, they were in good to very good condition structurally.

The common enlargement in the multiunit buildings of the middle class reached 20–30 m²; two thirds added 20–50% to their dwelling area. For a cost of \$600–\$1,000 per added square meter, families added one or two sizable rooms and expanded other home areas, such as kitchens, bathrooms, and balconies, in addition to doing internal and external renovation work. In most cases, there was enough open space around a building to accommodate the enlargement and still leave the min-



FIGURE 3. Enlargements in process in Tel Aviv. The households continued living in their apartments while the construction work took place.

imum required space (at least 6 meters) between buildings. The process seldom led to connecting buildings within a block.

The results of the effort were usually good in terms of external appearance. The large additions were either hardly noticeable, because they were designed to join the original contour lines of the building, or highly visible, because they were intended to give the building a new look (see Figure 4). The latter has become more common in recent years. The architects of these enlargements tended to hide the old cubical shape, which characterizes most of the old stock, and add postmodern design elements as well as advanced amenities such as elevators, providing their clients and the city with updated prod-

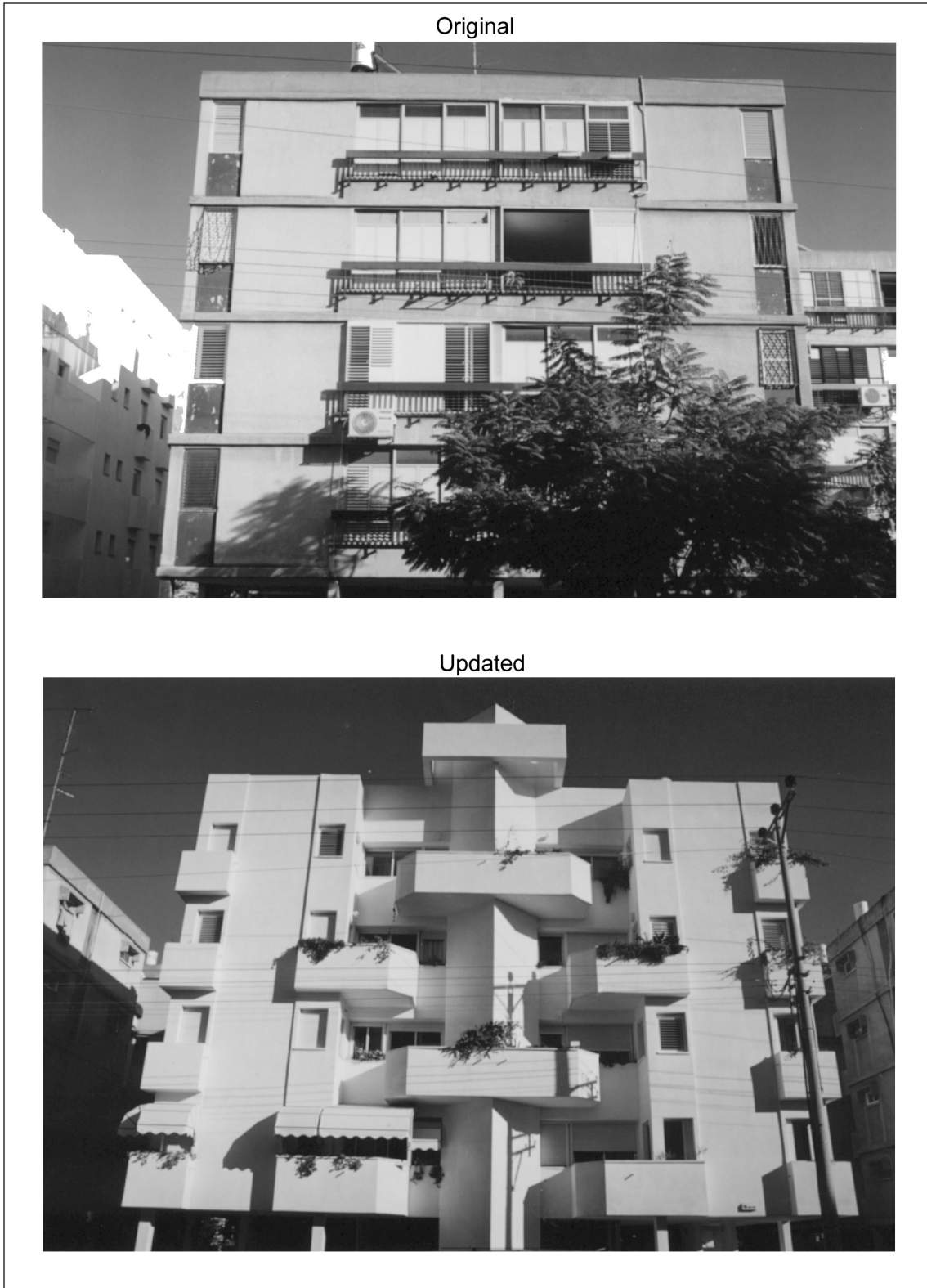


FIGURE 4. Considerable updating of a typical building of middle-class households in Tel Aviv. Apartments updated from 3 rooms, 1 bath to 4 larger rooms, 2 baths. An elevator was also added to the building.

ucts. These new designs usually added to the status of the buildings and raised their property values. Enlargers expressed their satisfaction with the changes (80%); many added that they would have left their old home had they not discovered the opportunity to substantially improve it. The frequent estimation of the added value is 1.5–3.0 times the amount they invested in the enlargement and renovation process.

A minority of the middle-class improvers used an innovative way to finance their projects, taking advantage of recent regulatory changes in several inner-city areas designed to facilitate higher inner-city densities and thereby reduce urban sprawl. In a few places, the new regulations enabled the addition of new housing units on the roofs of existing residential buildings (Finkelstein, 1997). The resident owners sold the rights to build on their roofs to developers who then paid them by updating (and sometimes enlarging) their old units, adding elevators and other improvements.

Two kinds of obstacles prevented a rapid spread of the updating process: bureaucratic difficulties and the need to reach consensus among different households. In the 1980s and early 1990s, the bureaucratic obstacles seemed to be the bottleneck. Citing the need for law and order, municipalities strongly rejected the demands of citizens to relax their procedures. However, by the second half of the 1990s, a few municipalities had changed their attitudes. Several mayors (mainly in Tel-Aviv, the economic heart of Israel) are now aware of the value of user-controlled housing renovation and enlargement as an effective and relatively inexpensive way to keep families in the city and bring new life to older areas. In their cities, new plans for old neighborhoods were approved, thereby creating a legal basis for enlargements, paving a smoother and shorter path to obtaining a construction permit. This legal change accelerated the process, even though no other means, such as technical or financial assistance, were offered.

Currently, the main obstacle is the challenge of reaching a consensus among owner occupiers in multi-story buildings who have different needs, preferences, and economic capabilities. Agreeing on the size of enlargements and coordinating the time frame and payments is not impossible, as is evident by thousands of examples throughout Israel, but these difficulties considerably reduce the number of participating multifamily buildings. There is a variety of possible solutions. A popular one requires that interested neighbors organize and cover the expenses for the external structure of the enlargement of the few apartments whose dwellers refuse to partake in or cannot afford the operation. If and when those dwellers want to use the additional space, they have to repay their neighbors. Another com-

mon solution disregards the external appearance of the building and grants flexibility to potential enlargers, with the condition that they receive written approval of the neighbors. This option may include the addition of rooms built on 2- or 3-floor-high columns that stand at the face of lower apartments (see Figure 2); there are municipalities that approve this, as long as it is done only in back yards. Another possible solution is the implementation of enlargements in multistory buildings without imposing them on first- and/or top-story dwellers. The most appropriate solution to this problem of reaching an agreement among neighbors is to view it as a design challenge for architects: They may be able to design different enlargements and still make the building aesthetically pleasing. Ideally, a modular design, which uses advanced construction systems (possibly a variation of Habraken's [1972] supports), would enable each household in a multifamily building to remodel and change the size of its apartment according to its needs and preferences, independent of its neighbors.

Conclusions from the Israeli Experience

“Who pays?” and “Who benefits?” are critical evaluation questions. In the Israeli cases, the principal actors were local residents; they invested most of the money and effort, and they were the main beneficiaries. They benefited from improving their housing according to their own preferences, without relocation (even temporarily), and they often benefited from a high rate of return on their investment, especially where land values were high. Furthermore, researchers (Carmon & Gavrieli, 1987; Spiro & Laor, 1988) found a higher motivation to participate in the work force and higher actual rates of participation as a result of the housing improvement process, more frequently among the women of the enlargers' households than among the men. This important consequence was sustained after the housing project was completed.

The other main actors were the public authorities—municipalities and the central government. The government subsidized renovation projects (in the second stage only) and benefited from improved and longer standing housing stock for a very low cost, only a few thousand dollars per dwelling in the subsidized cases. The municipalities paid little but benefited considerably, as the process of updating halted the exodus of better-off households from older neighborhoods and also attracted new residents with above-modest incomes. These newcomers were not “gentrifiers” of the upper-middle class; they were households with somewhat higher socioeconomic status compared to the average incumbent resident, whose entrance assisted in stabilizing the status of the neighborhood.

A main conclusion of the Israeli experience is that where moderate- and middle-income residents of old housing see an opportunity to improve their homes considerably in accordance with their preferences, they invest in the improvement much more than they would under different circumstances. In addition, each of the three stages of the Israeli story holds interesting lessons. We learn from the first stage that in low-rise urban residential areas, considerable user-controlled housing improvement may occur without public assistance, even among low-income households (not the lowest), if the process is not hindered by too many regulations. From the second stage we learn that such user-controlled upgrading is possible also in middle-rise housing projects (3–12 stories); low- and moderate-income households may need technical support and some (limited) financial aid to carry out initiatives of this kind. The main lesson of the third stage is that user-controlled housing improvement may flourish in middle-class residential areas. Promoting the process in such areas requires involvement of the local government but does not require direct investment of public funds.

The Israeli experience shows that facilitating user-controlled updating of dwellings helps prevent neighborhood deterioration. It provides upwardly mobile households with an opportunity to express social mobility by updating the homes they have rather than by moving somewhere else. Many such households join the updating process because of its contagious nature, and the vicious cycle of physical and social deterioration is prevented and mixed-income housing is preserved.

Additional Relevant Experience

The Israeli experience was not the only one studied on the way to developing a general strategy of user-controlled updating of housing stock. Information on relevant experiences in other countries was also collected and analyzed (Carmon, 2002). Especially worthwhile mentioning here is the work of architect N. J. Habraken and his followers. They created the Open Building system, which enables residents to shape their dwellings and change layouts according to changing needs and preferences without interfering with neighbors (Habraken, 1972, 1993; Kendal, 1999). This system has been implemented in the U.S., the Netherlands, the U.K., Finland, and Japan (Cuperus & Kaptaijns, 1993; Dekker, 1994; Sewada, 1996).

Greger and Steinberg (1988) advocate “housing as a process that needs adaptability and user involvement that can create identity and ‘personal’ places” (p. 33). They describe examples of implementation of such housing processes in developing and developed coun-

tries. One of them is a model project in Denmark that was executed through residents’ self-help (or self-managed) contributions, resulting in many different apartment types that are flexible for future changes, including enlargements. Many examples can be found in France. In one 5-story concrete apartment building in Savigny-sur-Orge, the updating process increased the habitable floor area by 32% and decreased the heating costs by about 45% (by insulating the walls and ceilings and installing new heaters; Chandler, 1991). Another French enlargement project appears in Figure 5, and an especially interesting one (from a visual point of view) was presented by Kroll (1987). Tavolato (1986) brings an example from Hollabrunn in Austria, and Grossi et al. (1985) from Cesena in Italy. Finally, plans of Community Architecture in the U.K., which shares some aspects with our user-controlled approach, have become popular there and in other countries (Wates & Knevitt, 1987).

The Phoenix Strategy and its Working Principles

The analysis of the Israeli experience and the study of the additional relevant experiences created the basis for developing a generic strategy for updating housing stock that was called the Phoenix Strategy. It aims to make updating of existing housing into a regular and common process within the urban fabric, thus benefiting both people and places. The ultimate goal of the Phoenix Strategy is sustainable urban development.

Assuming that sustainability means promoting not only environmental goals (protecting natural resources) but also economic goals (material well-being) and social goals (social equity),³ the strategy is designed to promote simultaneously the following three sets of objectives:

- *Urban objectives:* maintaining neighborhoods’ health and preventing deterioration, halting deterioration where it starts, and supporting neighborhood regeneration;
- *Social objectives:* improving the quality of life of the participating households, diversifying neighborhoods, and enhancing social equity; and
- *Economic-environmental objectives:* extending the useful life of existing residential buildings, their physical infrastructure (roads, pipes), and social services (schools, clinics), and thus achieving for individuals and public bodies financial savings as well as environmental benefits; these benefits include preventing urban sprawl, saving open spaces, decreasing dependence on private vehicles, reducing energy consumption and air pollution,

and introducing ecology-friendly materials and systems into the existing urban fabric.

Even though increased social equity is among its goals, the Phoenix Strategy is not designed to solve the difficulties of the most distressed populations, whose housing and neighborhood problems are the most severe. These people and places need strategies that focus on generating employment and income and on providing better social services rather than on effective housing renewal. The Phoenix Strategy may be relevant to low-income families in the 2nd and 3rd deciles of the national income distribution and is certainly relevant to moderate-income households who belong to the 3rd and 4th deciles, as well as to middle-income households of the 5th to 7th deciles. This is a sufficiently large population to deserve the development of a special strategy.

The Phoenix Strategy includes six working principles that are detailed below.

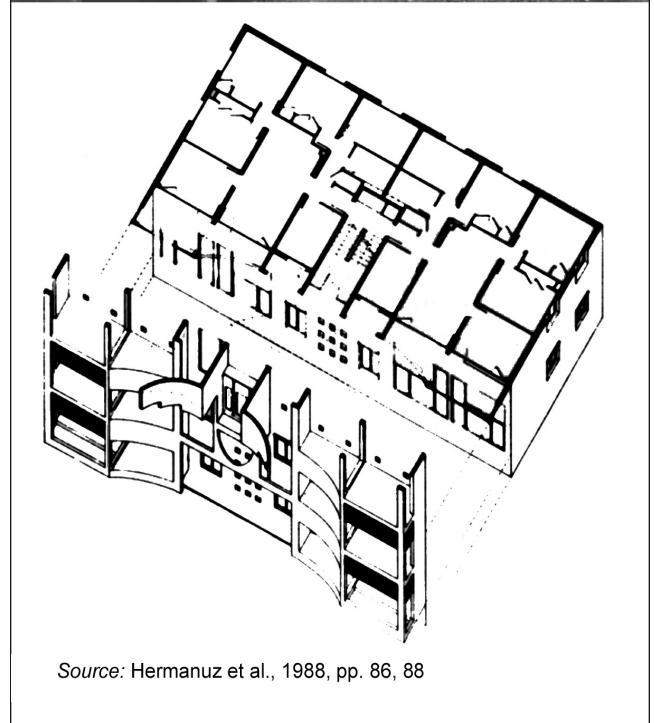
Housing Updating

A prevailing concept in our era is that whatever cannot be changed and adapted to new trends is doomed to deterioration and eventual abandonment. This seems to apply to old residential buildings and their environments as it does to old factories. The Phoenix Strategy argues that it is possible and desirable—technically, socially, economically, and environmentally—to update old houses and housing projects.

Updating goes beyond renovation. Housing renovation usually includes exterior painting and replacing pipes and windows, which bring about limited change in housing conditions. Updating refers to more substantial changes that are compatible with the changing needs and tastes of the dwellers and that bring the residence closer to current common standards of new homes. Updating usually involves a significant change in *more than one* of the following:

- *Size*: expanding (adding habitable spaces) or subdividing the unit;
- *Type and standard of interior spaces*: mainly kitchen and bathrooms, but also dining area, work area, entertainment area, etc.;
- *Type and quality of main building facilities*: elevator, energy-saving heating system, etc.; and
- *Exterior features*: fashionable exterior shape or texture, sun decks/balconies, access to greenery (not necessarily on ground), additional/improved parking space.

Housing updating is in essence an individual enterprise; it can be carried out one household or one building at a time, as actually happened in many Israeli cases, es-



Source: Hermanuz et al., 1988, pp. 86, 88

FIGURE 5. Enlargements of kitchens and front terraces in a 5-story housing project in Ronseray-Glonnieres, Le Mans, France.

pecially in the first and third stages described above. However, in order to create significant positive externalities that can change the image of a neighborhood, a large number of dwellings in the same environment should be updated; the chances of motivating many neighbors to join the process is higher where there is some public initiative on a neighborhood basis (see the role of public authorities below).

User Control

User control is expressed in the residents' decision-making roles regarding the updating of their housing units. Residents are expected to make most of the choices regarding options, timing, and expenses. Residents may delegate some of the decisions to professionals, as long as the residents or their representatives choose the professionals and communicate with them. The objective is to enable people—as much as possible—to turn their old residences into their dream homes, to provide them with at least some of the freedom in shaping their homes that is often reserved only for high-income households. This is part of a general trend of the postindustrial era that restores people's power to shape their lives and the products they use, a right they were deprived of by the mass production of the industrial era.

Special Partnerships, Particularly for Financing

Public/private partnership is the name of the game. In the framework of the Phoenix Strategy, public agencies always have a role as facilitators, and sometimes they also provide technical assistance and/or financial support to insure and/or subsidize arrangements. Yet the strategy avoids heavy reliance on public funding. It is expected that the residents themselves (as private market actors) will handle the majority of the decisions and all or much of the financing. Local banks participate by providing loan arrangements, which often include special financial counseling (on the development of the "counseling industry" in banks, see McCarthy & Quercia, 2000). Some or all of the costs may be financed by attracting private developers to the process by offering them rights to build and sell apartments on the roofs and/or adjacent to the buildings (or other forms of infill housing) in exchange for carrying out the updating work. Finally, the "third sector" almost always participates in the housing updating scene. In the Israeli case, the main role of nongovernmental organizations was organizing building committees, which became a main driving force in the process of user-controlled housing renovation.

Ecological Friendliness

The Phoenix Strategy uses the opportunity of updating to introduce "green" materials (paints, for example) into existing buildings and to integrate design methods and equipment that save energy (such as those discussed by Clark & Berry, 1995) and conserve water (see examples in Carmon et al., 1997; Kennedy Engineers, 1992) into the existing urban fabric. Combining improvement of old buildings and neighborhoods with concern for environmental objectives is a new practice

in most places, although there have been a few precedents, as in Denmark and Australia (Morck, 1995; Scheurer, 1998) and in Sweden (especially the pilot project of Inspektoren; SUREURO, 2002). In addition to its value in environmental terms, the introduction of environmentally friendly equipment provides the involved neighborhoods with a contemporary symbol of high status, as "green" neighborhoods are advertised as prestigious residential areas for well-to-do residents.

Adaptability to Local Conditions

The Phoenix Strategy may be called an *appropriate strategy*, akin to the concept of *appropriate technology*. Both terms represent the idea that introducing a new activity into a given society requires adaptation in accordance with the specific social, political, economic, and physical/environmental characteristics of that society. The analysis of experiences in Israel and other countries has shown that user-controlled housing updating is adaptable to a variety of conditions, among them the following:

- *Various population groups*: from low-income (not lowest) to middle-income households, in various stages of their life cycle;
- *Various types of residential buildings*: from single-family, one-story houses to multiunit buildings, frequently 3–8 stories, but also more than 10;
- *Various types of physical transformations*: from changing the area of the dwelling (adding or subdividing space) to adding advanced facilities to individual dwellings or the building; and
- *Various degrees of public agency [government] involvement*: from low (eliminating formal obstacles) to high (offering and providing assistance in a variety of ways).

Targeting Suitable Neighborhoods and Creating Neighborhood Impact

Many programs to upgrade housing failed to create a regeneration momentum in each neighborhood as a whole. In the case of Urban Homesteading, for example, not more than 1% of the housing stock in each neighborhood was influenced (Varady, 1986). The Phoenix Strategy is based on lessons from former failures. Indeed, it can disperse without guidance and continue on an individual basis, but where neighborhood impact is a target, selecting suitable neighborhoods is important. Suitable neighborhoods are those in which the conditions for implementation (see below) exist or can be easily reached and that have not yet deteriorated physically and socially, or those that have started to deteriorate but are not experiencing rapid down filtering of population. Moreover, the strategy includes built-in

mechanisms to motivate *many* households in the selected areas to invest in their old homes, and thus to achieve positive externalities that can create neighborhood impact. Unlike former programs, it does not deal only with physical changes but deliberately uses several means to change motivations and attitudes of residents. It therefore has a good chance to succeed where former strategies failed.

Conditions for Implementation

Four *necessary conditions* should exist or be deliberately promoted in order for a process of housing updating to be implemented on a large scale and thus become a major component of sustainable urban policy. In addition, the existence or deliberate advancement of four *supporting conditions* may contribute significantly to the spread, speed, and success of implementing the Phoenix Strategy.

Necessary Conditions

Households Motivated to Upgrade their Current Dwelling. The existence of households who wish to improve their housing conditions and to do this where they currently live rather than leave in search of a better residence is the first necessary condition. Preferably, the residents should be upwardly mobile (socially driven and economically able to improve their socioeconomic status) and attached to their current place of residence for psychological, social, and/or economic reasons. Such households are motivated or can easily be motivated to invest in their current dwellings. A second-best scenario is a situation in which residents decide to improve their housing but cannot afford both a better dwelling and a better address. Attractive terms for updating their homes according to their preferences and—where less-than-middle-income residents are involved—access to convenient loans may convince such households to invest in their old homes.

Households with Adequate Steady Income (see below for possible substitutes). As a user-controlled approach that usually requires user financing, the Phoenix Strategy depends on residents who can commit to repay loans. This means that the strategy is most appropriate for the typical population of neighborhoods of the 3rd to 7th deciles of income distribution. Yet it does not mean that only middle-income households are capable of participating. In the Israeli cases described above, many moderate-income families with working heads participated in the updating process using their own savings and/or loans received from various private sources. The first stage of the Israeli experience was based on such moder-

ate- and even low-income families (the working poor), and in the second stage they constituted a considerable, although unknown, number. However, where a neighborhood includes a large share of low- and moderate-income households, publicly insured and/or subsidized loans can significantly increase the rate of participation. In addition, where land values are high enough to attract private developers to build additional apartments attached to the old ones (on the roofs or adjacent), sophisticated “linkage agreements” with the developers can substitute for public financial support and allow more families to join the process.

Cooperation Among Residents. While the main responsibility for the updating process lies with individual households, some level of cooperation among residents is necessary, at least because noncooperative neighbors can block the operation. For several additional reasons, organization among residents is desirable. First, it can help to push forward the bureaucratic process by providing a louder voice in lobbying for changes in planning and zoning regulations, without which the process cannot start. Second, cooperation can reduce the cost of the construction and renovation work, as well as help to ensure the ongoing maintenance of common property in multifamily buildings. Furthermore, cooperative action strengthens people’s confidence in the future of their neighborhood, and having such confidence positively influences private decisions to invest in housing renovation (Galster, 1987; Goetze, 1976).

Responsive and Flexible Local Authorities. Local authorities that tend to respond to demands of their citizens and to recognize the need for flexibility in issuing permits for significant housing transformations is the fourth necessary condition. Housing regulatory systems tend to be very rigid and usually do not permit design changes that influence the exterior of an existing building. The implementation of the Phoenix Strategy frequently requires both internal and external changes, including changes in area density and percentage of the permitted built area. Hence, it relies on the existence of responsive local authorities that listen to requests of groups of citizens and respond by facilitating the process, either by changing local city plans and zoning regulations or granting much greater flexibility in the interpretation of the existing ones. In addition to this necessary responsiveness, it may help if the municipality goes further. Even though housing updating may be initiated by individual residents (as happened in many Israeli cases), turning it into an urban strategy relies on entrepreneurial municipalities. Once a local government recognizes the benefits of the strategy to the people, to their neigh-

borhoods, and to the municipality, it can start the process by identifying suitable target neighborhoods⁴ in which the conditions for implementation exist (or can be reached relatively easily) and by creating place-related incentives. A new plan for the residential area may be a strong incentive if it includes additional building rights. In an old and stable neighborhood of the middle class, creating such a plan may be all that is needed to start a process of housing updating that will prevent future deterioration. In moderate-income neighborhoods, this may not be enough. Active negotiations with the potential partners—local residents, private developers, banks, and relevant voluntary associations—may be required to start the process. In all neighborhoods, public investments in physical and social infrastructure increase the value of the residents' investments in their old homes, and thus serve as additional important incentives.

Supporting Conditions

Secured Housing Tenure. The majority of households in most developed countries live in dwelling units they own. Not only in the U.S., but also in the majority of developed and developing countries, individual ownership has become the most popular form of housing tenure. The Phoenix Strategy is highly appropriate for homeowners who have control over their houses and can use their ownership to receive loans for the updating work. However, individual ownership is not a necessary condition. The strategy can work in all kinds of cooperative ownership and also in public/social housing, where the public owner is ready to finance the project and let the tenants partake in the process (it worked this way in a few cases in Israel's Project Renewal and in the Netherlands, as van der Flier and de Jonge [2000] tell us). The important condition is secured housing tenure. A reason to avoid introducing this strategy to a neighborhood of privately owned rental units is that it may cause a large increase in rent and subsequent displacement of residents.

Creative and Innovative Architectural Design. Housing updating requires change in the internal design of dwelling units and often in the external design as well. Implementing it confronts three types of difficulties: legal, technical, and organizational. Creative architectural design may significantly assist in alleviating the last two. Good design assists in solving technical problems; when dwelling enlargement is part of the process, particularly in multistory buildings where there are fewer than three fronts per dwelling, innovative, "outside the box" design can significantly improve the quality of life in the transformed dwellings (light, air, privacy, and more) as well as the external appearance of the building.

Getting neighbors to agree on the nature of the change and its timing can also be facilitated by creative design; attractive design may motivate dwellers of old houses to invest in their current residences instead of leaving them, thus promoting the first necessary condition for implementing the updating process (for interesting examples, see Lucien Kroll, 1987). Ideally, the suggested design would offer neighbors with different needs and preferences different types of housing transformations (external and internal) that could be applied at different times, with minimum disturbance to neighbors.

Figure 6 is a computer simulation of a creative and innovative architectural design that encourages a process of user-controlled housing renovation. A spider-like steel structure was erected upon a monotonous old building. It provides structural support that allows homeowners in this building to add spaces to their housing units in their own time and according to their own preferences, independently of their neighbors. The building as a whole is unique and aesthetically pleasing, in spite of, and possibly thanks to, the variety of additions.

High Demand for Housing. The Phoenix Strategy has better chance of being widely implemented in areas where there is high demand for housing. Expected high returns on housing investments in such areas can serve as a driving force of a process of housing updating. This does not mean that the process cannot work in less desirable housing areas. This is because the value of a home, from the point of view of its occupier, does not depend only on its future sale price but also on the current service it provides. Therefore, it is not rare to see residents of poor neighborhoods investing large portions of their limited resources in improving their homes.

Some Form of Metropolitan Planning. The housing market in any region is composed of inter-related parts; changing one influences others (Galster, 1987; Rothenberg et al. 1991). If planners encourage an increase in the supply of updated dwellings of a certain quality, as suggested by this article, they have to adjust the supply of newly constructed units of similar quality in other parts of the same region. This is especially important in regions with low demand for housing, but no housing market is flexible enough to significantly increase the demand whenever there is a surplus. A surplus of newly constructed dwellings may prevent people from investing in older ones and may lead to housing abandonment. To avoid working at cross purposes, some form of metropolitan planning is desirable. Due in part to the growing concern over environmental deterioration, several countries have established or strengthened regional planning in recent years (European Commission, 1994). Even in the U.S., a few states and cities have made



FIGURE 6. A computer simulation of preprovision of supports for independent enlargements in a multiunit building in the moderate-income small town of Migdal HaEmek. (Courtesy of architects Avi Sela and Eyal Nir.)

progress towards coordinating metropolitan planning and intensifying the use of existing urban fabrics (Yaro & Janairo, 2000).

Applicability of the Phoenix Strategy in the United States

The adaptability of many of the Phoenix Strategy's components renders it applicable to a variety of cities in many countries. As mentioned earlier, colleagues in several European countries have recognized its applicability to their realities, especially to post-World War II housing stock, which has been a primary target of urban renewal efforts in recent decades (Priemus & Metselaar, 1992).

This section focuses on the applicability of the Phoenix Strategy to the U.S. housing market. The examples discussed below are related to submarkets of low- and middle-class housing in big cities as well as to middle-class suburban developments.

Kelly (1993) analyzed home improvements in Levittown, New Jersey, a well known example of the post-World War II American suburbs. The processes she exposed were similar to those characteristic of the user-controlled transformations described above.⁵ She found that the original size of Levittown houses virtually demanded enlargement to bring them in line with the customary middle-class homes of the time. As in the Israeli case, Kelly also found that granting renters the

opportunity to make such improvements increased the likelihood that they would purchase their homes rather than relocate. The impact of purchasing and investing in improvements, according to her analysis, was

... a process of inclusion. The lower-income homeowner was gradually drawn into the newly expanded middle class; the provision for full financing of mortgages for lower-income workers succeeded in expanding ... the number of those who ... have a stake in American society. (p. 168)

Can such updating processes be relevant to current U.S. housing realities? It seems that the most promising type of residential areas for implementing the Phoenix Strategy in the U.S. are the neighborhoods identified over 20 years ago as appropriate places for incumbent upgrading (Clay, 1979). These neighborhoods are characterized by (1) structurally sound housing stock and (2) settled families with children and longstanding tenure. These characteristics can be found in inner-city townhouses and walkup apartments, as well as in the first line of suburbs built around American cities.

Low-Income, Working-Class Neighborhoods

African American neighborhoods in New York City, such as those studied by Owens (1997), are good examples of low-income, working-class neighborhoods where the Phoenix Strategy would be applicable. In South Jamaica, Queens, Owens found a diversity of housing units, ranging from early-20th-century tenements, through single- and two-family wooden frame houses, to public housing projects. The residents' level of education was low, but the rate of unemployment was only 12%, and nearly half of the households owned their dwellings. This mix of population and housing options enabled local community development corporations (CDCs) to carry out policies and programs that encouraged home ownership, incumbent upgrading, and middle-class resettlement. Hence, their strategy is generally in line with what is suggested in this article, yet the Phoenix Strategy includes an important addition. Instead of the modest renovation of the existing housing stock (painting and some modernization) supported by the CDCs, the Phoenix Strategy (like the process that occurred in Levittown) promotes updating—substantial improvement in the housing conditions—which is necessary for keeping upwardly mobile households in the old neighborhood.

Immigrant Neighborhoods

Immigrant neighborhoods in the U.S., notably with Asian and probably also with Hispanic and other immigrant residents, are appropriate targets for the Phoenix

Strategy. In Los Angeles, for example, Myers et al. (1996) found overcrowding in a considerable percentage of the dwellings studied; these crowded places are usually populated by immigrants. Many immigrants are reluctant to leave their communities and at the same time are eager to and often capable of improving their living conditions. Hence, implementing a strategy that facilitates enlargements and updating of the existing housing units may be both desirable and possible in many immigrant neighborhoods.

Older Neighborhoods and Suburbs of the Middle Class

All the figures in this article show multiunit residential buildings because the housing stock in Israel is composed mainly of this type of dwelling. However, updating à la the Phoenix Strategy is relevant and actually easier to implement in the single-family homes which characterize U.S. suburbs. In many cases, the typical one-family house and/or its lot are larger than what is needed and can be afforded by growing parts of the middle class, such as empty-nest households and young (married or unmarried) persons. Updating this housing stock may mean subdivision of houses and lots, thereby leading to a reduction of the price per unit. The incumbent owners will still benefit, because they will have two units instead of one.

The path toward such subdivisions in homes of the North American middle class has been somewhat paved by the slow-spreading phenomenon of accessory housing units, sometimes also called second units or “granny flats” (Gellen, 1986; Rudel, 1984). Howe (1990) provides a perspective on “the flexible house,” a single-family house that can include an accessory apartment and thus may be changed according to the changing needs of its occupants. She argues that this housing form can be developed and used in accordance with zoning regulations and standards. Hare's (1998) study shows that in areas where zoning provisions are not a burden for homeowners, the national rate of construction of accessory apartments in the U.S. is about 10 new homes per 1,000 existing homes per year. As he says, almost all of this additional housing is affordable, and none of it requires public subsidy.

The term *accessory unit* covers both accessory apartments (subdivision of houses) and accessory cottages (subdivision of lots). Both forms tend to raise strong opposition among neighbors and civic associations. However, the demand for middle-class houses at reduced prices has grown in recent years and is expected to continue to grow in the future due to demographic trends and reasons related to the restructuring of postindustrial economies. This growing demand works against

this resistance of neighbors. Another trend that works against it is the spread of environmental awareness. Appealing to middle-class residents in certain areas in the name of environmental preservation (saving open spaces to be used by present and future generations) may significantly reduce their opposition to granny flats as well as to other Phoenix Strategy-style innovations.

The most basic necessary conditions of the Phoenix Strategy—residents with adequate and steady sources of income who would like to stay in their current residences—are commonly found in older neighborhoods and suburbs of the middle class in the U.S. Hence, combining experience from successful cases of accessory housing units with the principles of operation of the Phoenix approach merits consideration as a strategy for avoiding excessive urban sprawl and preventing deterioration of suburbs close to the city.

Public Housing

Although a system for updating the existing housing worked well in Israeli public housing and appears to be appropriate for European social housing, on the face of it, the proposed Phoenix Strategy seems unfit for most American public projects. Some could adopt it, but the typical U.S. public housing project in which three quarters of the of nonelderly residents report having no income from employment (Vale, 1995), as well as projects in which “the majority of residents have extremely low incomes and are inadequately educated” (Abt Associates Inc. et al., 1996, p. 36), cannot meet the necessary condition of households with steady and adequate income. Yet the new philosophy of the HOPE VI public housing revitalization program of the U.S. Department of Housing and Urban Development (HUD) opens the way to such projects as well.

The philosophy behind HOPE VI is similar to that of the Phoenix Strategy. Both strive to improve the lives of residents and revitalize communities by transforming the housing environment, and both have acknowledged the importance of neighborhood diversity, resident involvement, and the creation of partnerships. Both want their neighborhoods to look like residential areas in the surrounding community. HOPE VI pursues revitalization through a variety of approaches, including demolition, deconcentration and dispersion, renovation of current developments, and construction of infill housing (Abt Associates Inc. et al., 1996). The Phoenix Strategy may be integrated into the renovation and infill approaches. Support by HUD can overcome the problem of inadequate income of the residents. Moreover, the public agency can channel part of the profits made by the developers of infill houses to cover at least some of the renovation and updating expenses of neighboring

buildings. Thus, integrating the working principles of the Phoenix Strategy into HOPE VI projects may reduce the required budgets and serve the ambitious goals well.

Construction of “Growing Homes”

The implementation of the Phoenix Strategy could be much simpler and cheaper if new housing construction more frequently used the “growing home” method. “Growing homes” are houses that can be sold inexpensively because the developer delivers them incomplete to the buyers. The buyers can complete them by adding spaces and facilities (inside or outside the original envelope of the house, depending on the specific plan) whenever they need additional space and can afford it. The idea is not new, but “growing homes” have become especially relevant in recent years in light of demographic, social, and economic changes that resulted in a larger share of moderate-income households among homebuyers. Friedman (2001) analyzed these changes in North America and offered as a solution the Grow Home, a home with three floors of 500 sq. ft. each, in Montreal for CD \$70,000 (in 1990 dollars), including the costs of urban land, construction, overhead, and profit. Facilitating improvements in “growing” homes using the principles of the Phoenix Strategy would promote the provision of affordable decent housing for the growing populations that need them.

Discussion and Conclusion

The Phoenix Strategy is a mechanism for turning user-controlled substantial improvements in existing housing stock (multiunit buildings and single-family houses) into a regular and common process within the urban fabric. This article analyzed the origin of the strategy; presented its goals, working principles, and conditions for implementation; and discussed its applicability to the U.S. housing market. There are two main reasons why this strategy should be considered by American planners. First, the Phoenix Strategy advocates customization of the housing construction and renovation processes. This is a counter-movement to the institutionalization and standardization that characterized these processes in the industrial era (for elaboration, see Carmon, 2002; Hall, 1989). Enabling many people (not only those from the highest social class) to customize their homes in accordance with their needs and preferences increases their satisfaction with their living conditions, a vital component of their quality of life, and also promotes social equality.

Second, the physical space that a person calls home is very important. Many people are continuously involved in efforts to improve their homes. Currently, they

tend to equate significantly improved homes with new locations. The challenge taken by the Phoenix Strategy is to provide them with options to make a better home out of their current residential unit, or at least within the existing urban fabric. Where many of them use such options, the overall goal of the strategy—to benefit people, places, and the environment—is promoted. People benefit from better housing conditions, places benefit from prevention of neighborhood deterioration, and the environment benefits from less new construction on open land and from savings of energy and other natural resources.

Alongside its benefits, the Phoenix Strategy raises three issues of concern (for elaboration, see Carmon, 1999a). First, significant improvements in housing conditions in older buildings always raise the risk of displacement of incumbent households. Second, the Phoenix transformations improve the quality of dwellings and consequently bring about a rise in the cost of purchasing and renting the improved units; the present residents usually benefit, but future newcomers to the local housing market may suffer. Third, the physical changes to buildings in this process, especially housing enlargements, may endanger some urban/architectural qualities, particularly where culturally important buildings are part of the scene. Planners who are aware of these issues can either avoid them altogether or at least mitigate the severity of the negative effects.

The Phoenix Strategy is obviously not the ultimate answer that can save all old neighborhoods. A central lesson of 100 years of urban renewal and neighborhood regeneration is that different policies and programs are required for areas with different characteristics and difficulties (Carmon, 1999b). This strategy is just one recommended approach. Its uniqueness is both in its potential to benefit people, places, and the environment synergistically without placing a heavy burden on public treasuries and in its preventative nature, helping prevent neighborhood deterioration. Preventive planning, like preventive medicine, is an especially promising way to avoid unnecessary misery.

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NOTES

1. Among these forums are a keynote presentation at the annual meeting of the European Network of Housing Research in Cardiff, UK (September 1998); the 39th meeting of Association of Collegiate Schools of Planning in Fort Lauderdale, Florida, USA (November 1997); the 29th annual meeting of the Urban Affairs Association in Louisville, Kentucky, USA (April 1999); and another keynote presentation at the 14th meeting of the Association of European Schools of Planning in Brno, Czech Republic (July 2000). The author would like to thank the participants in these meetings whose comments assisted in consolidating the presentation of the Phoenix Strategy.
2. Project Renewal is a governmental program, with some participation of the local authorities. The project was very active in approximately 100 neighborhoods throughout the country in the 1980s and continued on a different scale (with a smaller budget and more neighborhoods and tasks) in the 1990s. One half of its large budget was devoted to social programs, while the other portion was designated to physical improvements, primarily housing. It has been extensively researched and evaluated (Alterman, 1988; Carmon, 1989, 1996; Carmon & Baron, 1994; Carmon & Hill, 1988; Churchman, 1990; Spiro, 1991).
3. The full definition of sustainable development as presented by Carmon (1998) also includes the “postulate of minimum requirement”: To be defined as sustainable, the development should promote at least one of the three sets of goals—social, economic, or environmental—with minimal negative effects on the other two (Carmon, 1998).
4. A method for selecting target neighborhoods for regeneration is suggested by Kaufman and Carmon (1992). It was not developed with the Phoenix Strategy in mind, but it can serve this strategy as well.
5. I would like to thank Jacqueline Leavitt from UCLA for drawing my attention to the similarity between Kelly’s findings and those upon which the Phoenix Strategy is based.

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