SEARCH FOR AN ALTERNATIVE HOUSING STRATEGY:
A New Approach to Mass Housing in Turkey

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INTRODUCTION

In Turkey, new alternatives and approaches are being searched to solve the enormous problems concerning mass housing. The existing numbers of dwellings, built over the last twenty years, are not sufficient anymore because of new developments in changing life-style. Adjustments, in terms of changing floor plans in some rooms is mostly impossible. The building structure and also the inner walls are not flexible or removable. New dwellings in mass housing are still being designed and built, based on the same standards and patterns as in the past. One is aware of the fact that new approaches are necessary to answer these problems.

In Open House International, Volume 15 Nos. 2 & 3, 1990, a short summary has been given concerning the results of a design course by students at the Faculty of Architecture, Taskisla University, who designed a small support structure in the field of mass housing. The purpose was to apply the principles of the SAR design method into the context of mass housing, providing an alternative and a new approach to mass housing in Turkey. During the course and the exercises by students a case study is done with the intention to prove the design methodology in an existing urban situation, and to design a small support structure for small apartments. The result of this case study can be seen in this publication.

NEW CONCEPTS

After many years the family structure in Turkey is changing, especially in the big cities. Families become smaller and at the same time, the required dwelling area for smaller families is decreasing in size. In the past, large size dwellings with 4 to 5 bedrooms used to be the norm. Today the norm is only tending towards nuclear families, elderly persons and individuals. Besides the fact that families are getting smaller, we can also perceive changing in life-style and cultural behaviour. In terms of housing this means, that new dwellings must provide possibilities for special needs in relation to the changing characteristics in the way of living in the past, but also in the future. Taking into account this conception of housing, and especially mass housing, a lot has to be done.

Up until now, designs of dwellings in the field of mass housing in the last decade in Turkey are mostly based on the same standards and living programmes. If we take into account the changing characteristics as mentioned, the need for different types of dwellings is increasing and also the need for flexibility inside the dwellings themselves. These days the statical and unchangeable dwelling does not give a solution for new patterns of living. The design of detached dwellings, row houses, or apartments, in which it is possible to arrange different patterns of dwellings in such a way that modifications, especially inside the dwelling, can be made by the occupants, should give an answer to this. From this point of view, it should be very important that the statical and unchangeable way of building in the field of mass housing in Turkey should be adjusted, and that the dweller should be introduced as a party in the decision-making process.

Housing differentiations in which the specific resident's wishes and the specific requirements of the situation are taken into consideration in Turkey, are scarcely realised. Looking around, we can, in general, confirm that designers and the building industry have created a great number of buildings, interesting in an architectural and constructional view, as a result of new methods and techniques. New building systems and relevant products have been approved and applied. Compared with these 'highlights', which we can see in all big cities, even in Turkey, the housing situation is not what it should be. In order to change the present way of designing and building in Turkey, other methods, building systems and techniques should be developed. In this respect, the application of the 'new' system of support structure and detachable units can give a contribution in solving the problems that were mentioned.

Usually, in Turkey it is not easy to make differences between supports and detachable units. Building in Turkey is very traditional and the notion of 'supports' in which it is possible to make different kinds of parcellations is very new. The use of components to fill in a support or a skeleton, which also can be seen as a 'support structure', is not usual and should be developed more and more. Apparently, for building supports and the production of detachable units, which must be easily removable, some
conditions have to be fulfilled:

- Agreements in the design and the production process;
- The use of a design method; and
- A good system of standardisation and modular co-ordination in production and fitting dimensions.

Without these agreements, it will be difficult to reach a higher standard in the production of buildings.

DESIGN OF THE SUPPORT

The situation

For the situation, the following starting points and demands are formulated:

1. The building height and sizes of the support, depending on the local situation;
2. The ability to use ground floor for small commercial activities;
3. Parking places, as much as possible, inside the building.

The situation, chosen for this sort of designing in an existing urban situation in Ortaköy, in the north of Istanbul, gave few possibilities. On the place itself, there are small shops with dwellings on the first and second floor. The existing block, as well as the existing buildings in the direct surroundings of this situation, has to be renovated or rebuilt. Figures 1, 2 and 3.

Based on a small investigation and analysis of the situation, the ultimate measures in terms of built and unbuilt, are appointed in an urban tissue of the site. Figure 4.

Support Design

For the design of the support, shops and dwellings which are going to be placed in the support, the following starting points are formulated:

Fig. 1 — Situation Ortaköy

Fig. 2 — Situation of the Site

Fig. 3 — Existing Situation

Fig. 4 — Urban Tissue

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SUPPORT DESIGN ORTAKÖY-ISTANBUL

1 The separation of support and detachable units. The support, or structural material consists of party walls between dwellings floors and roofs. The detachable units or elements consist of partition walls, sanitary cells, cupboards, and sometimes facades and other finishing elements;

2 The support and detachable units or elements can be developed in a way that standardisation can be carried through as far as possible;

3 Application of modular co-ordination based on 3 M (300mm);

4 It has to be possible to realise dwelling differentiation within the support and re-parcelling over time;

5 Detailing of the service ducts in such a way that flexibility is not detrimented;

6 Taking into account the local characteristics and existing regulations;

7 Taking into account the life style and the needs of the users.

Based on measure analyses of the existing building structure of shops and dwellings in the block itself, and in relation with the appointed urban tissue, a zoning system for the new support structure has been chosen. The support structure has been developed on the principle of parallel, unremovable, load-bearing walls, placed in the margin α, β, and δ. There are in principle, two spans of 2.70 and 3.90 m. The depths of zones and margins are based on analyses of specific rooms and utility spaces. The open spaces in the α-zoning between the basic variants, depending on which basic variant will be chosen, can be filled in with removable elements.

All material, such as loadbearing walls, detachable units or infill material is placed on a modular grid of 3 M. The accesses to the dwellings are by means of two main staircases.

Parceling-out in two levels is also possible by means of a private inner staircase. The place for the inner staircase is fixed in the support structure. The dwellings are serviced technically by means of two vertical ducts opposite the

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**Fig. 5 — Support Model and Measure System**

**Fig. 6 — Sectors**

**Fig. 7 — Parcelling-out Basic-Variants (Collected sectors into dwelling units)**
main staircases and fixed in the zone of 1.20 M. The vertical ducts are connected with a horizontal duct situated in the margins and fixed in the support in a way that flexibility, in terms of parcellation, is not detrimented.

Figure 5 shows the support model and measurement system as described.

Figure 6 shows a basic-variant type in which the various dwelling sectors and functions are marked out.

A number of possible parcelling-out variants, which are situated in the support system can be seen in Figure 7. All dwellings have one or more private balconies. Nevertheless, they have also terraces for collective use on top level at the south-side of the building in relation to the sun's attitude and traffic noise in front of the building. Figure 11.

The cross section of the support shows a cantelever
Fig. 11 — Subvariants 3rd Floor

Fig. 12 — Cross Section

Fig. 13 — Facade
solution between the ground floor and the upper levels. This has to be necessary in relation to the limited depth of the built surface on ground level. Figure 12.

Some different basic variants have been elaborated in sub-variants of "small" apartments as can be seen in the Figures 8, 9, 10 and 11.

CONCLUSION

As far as can be seen at the moment, the concept of support structure and detachable units is not yet suitable in the Turkish housing practice, in relation to the existing building industry. At all levels of decision-making, such as Government, building industry, designers and education institutes, one should be aware of the changing life-style and different needs of the dwellers or users and to provide new standards based on new developments. New concepts are necessary. The design as described shows a relatively new concept for Turkey. It also shows that it can be a universal applicable design and building method, in which it is possible to take into account local characteristics and existing regulations.

The situation of the site, specifically used for this case study, had some limitations, especially the limited area, but it has been taken into account. Strictly speaking, the system of support structure and detachable units can also be used without bearing in mind any specific situation. The application of a design methodology, flexibility and adaptability, the use of a good system of modular coordination and standardisation, based on agreements between all parties involved, can always give the possibility for adjustments later on.

If flexibility, changeability and adaptability would be applied, more certainly adjusted products will appear on the market, variation and products in the field of support and infill-elements.

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