ENVIRONMENTAL DESIGN EVALUATION OF MULTI-FAMILY HOUSING IN BAGHDAD: USERS' SATISFACTION WITH THE EXTERNAL AREAS

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Chapter Seven

THE FIELD STUDY RESULTS: USERS'
SATISFACTION WITH THE SOCIAL AND
PHYSICAL ASPECTS OF THE EXTERNAL
HOUSING ENVIRONMENT

CHAPTER SEVEN

THE FIELD STUDY RESULTS: THE SOCIAL AND PHYSICAL ASPECTS OF THE EXTERNAL ENVIRONMENT AND USERS' SATISFACTION

7.1 INTRODUCTION

study concerns users' responses This to the residential environment in general, and toward the external environment outside the dwellings in particular. Responses for these purposes include both social psychological material -what people tell us about their attitudes towards the places where they live, and behavioural responses -what people tell us about what they do. The study also concerns the physical design of the residential environment: that is, the layout and spatial characteristics of the The major objective of the research, identifying users' characteristics, was to identify and the physical, social residential measure and characteristics which contribute to users' satisfaction with a multi-family housing environment. In the attitude survey, the rate of response achieved was 100%. Evaluating the survey as a whole, it does explain what it sets out to explain, having covered all the themes it needed to. The other objective is to explore the relevant importance of these different themes (which are more important than others).

In this chapter the statistical analysis of the data from the survey is discussed. In this study, the various aspects of the external environment identified in the studies elsewhere in the world as affecting user's satisfaction are investigated, and their relevance to users' satisfaction in Iraq is assessed. A variety of methods for ascertaining the relative importance of different elements and the internal consistency of the results yielded by these methods is described.

The evaluation of the interrelationships between each of the identified social and physical elements of the external environment and its effect on users' overall satisfaction is discussed in detail in the next chapter.

7.2 USERS' OVERALL SATISFACTION WITH THEIR HOUSING ENVIRONMENT

The data from the survey showed that the users of the three projects under study were generally satisfied with their housing environment. In total, 65% of the

respondents in the sample were found to be either "very satisfied" or "satisfied", as against 16.9% (about one in six) who were either "dissatisfied" or "very dissatisfied", with a little less than one fifth (18%) showing they were indifferent to their environment by their responses. If we simply take those respondents who answered either very positively or very negatively, it was found that one quarter were very satisfied and only 3.8% were very dissatisfied (Table 7.1).

The data also showed that among the three projects the Saydia 6 project was the one with the highest percentage of residents who considered living there to be very satisfactory, as one in three of the respondents were found to be very satisfied. In Saydia 7 one in four, and in the Zayoona project one in five of the respondents were found to be very satisfied (Table 7.1). In Saydia 6 no one was found to be very dissatisfied, and only one in twenty five was dissatisfied. In the Saydia 7 and Zayoona projects although there where few who were very dissatisfied, one in four respondents were dissatisfied in the former project and about one in six in the latter.

Residents were asked during the interviews to assess their feelings about living in their housing settings, by considering their reactions when they had a visitor. The responses showed that the majority of the respondents in

the sample were "very proud" or "proud" of their housing setting (Table 7.2). In the Saydia 6 project, 91.3% of the respondents were found to be "very proud" or "proud" of living there, and in Saydia 7, 81.8% of them fell into these categories, whilst in the Zayoona project only 67.1% were "very proud" or "proud" of where they lived (Table 7.3). A significant correlation was found between users' satisfaction and how they felt about their housing when they had visitors, since all those who were very satisfied were found to be "very proud" or "proud" of their living there, and about half of those who were "very dissatisfied" were found to consider themselves "humiliated" and "very humiliated" when they had visitors (Table 7.2).

Residents in the sample were also asked whether they would like to live in their current housing permanently or to move out when they had the chance to do so. In general, the proportion of respondents in the sample who opted to stay was about double those who wanted to move out (Table 7.4). In relation to this question, the respondents were very positive about their reaction; no one chose the option of "do not know" (Table 7.5). However, this proportion varied individually among the projects. In the Saydia 6 project more than three quarters of the respondents preferred to stay in their current housing, whilst in the other two projects only about half opted for this choice. Of those who opted to move out one quarter gave no reason

but the others stated they wanted to leave mainly because of problems with neighbours and because of the lack of privacy (Table 7.6).

A significant correlation was found between users' satisfaction and their degree of preference for remaining on the estate or leaving, as all of those who were "very satisfied" preferred to stay in their current housing situation and all those who were "dissatisfied" would prefer to move out.

These correlations between users' satisfaction and the aforementioned responses testify that residents generally satisfied with their housing environment. relationship between these two responses (being proud of and not intending to move) and users' where one lives satisfaction could also be seen as an effect of that level of satisfaction; they were satisfied in where they were living, therefore they were proud of it and did not want to However, the differences in the level move out. satisfaction between the projects is interesting and according to research carried out elsewhere and discussed in Chapter Four of this study is likely to be explained by the impact of the physical and social factors acting on the inhabitants. Thus, the Saydia 6 project had the highest percentage of satisfied residents among the three projects studied.

Table 7.1- RESIDENTS' OVERALL SATISFACTION WITH THEIR HOUSING PROJECTS

! ! PROJECT !	! !SAYDIA 7! !!		: !SAYDIA 6! !		! ! ZAYOONA !		!! ! TOTAL !!	
! ! Number in the sample	!	55		1 6	! !	! 32 !	! 18	! ! 33 !!
! OVERALL SATISFACTION !	! ! No	0/0	No.	QVO	No.	! oo !	! No. !	일 : !!
! !-Very satisfied.	: !14	25.5	16	34.8	16	! !19.5!	! 46	! ! 25.1!
!-Satisfied.	: !21 !	38.2	20	43.5	32	39.0!	! ! 73	39.9!
!-Neither satisfied nor ! dissatisfied.	! ! 6	10.9	. 8	17.4	19	23.2	! ! 33	18.0
!-Dissatisfied.	!11	20.0	2	4.3	11	13.4!	! 24	13.1!
!-Very dissatisfied. ! !	! 3 !	5.4!		!	4	4.9!	. 7 !	3.8!

Table 7.2- CROSS-TABULATION OF "DO YOU FEEL PROUD WHEN HAVING VISITORS" BY "GENERAL SATISFACTION"

COUNT ROW PCT COL PCT	!!!	GENERAL SATISFACTION								
TOT PCT ! ! PROUD	! !V.Sat- !isfied !l				! !V.Dissa !tisfied !5					
! 1.V.proud ! ! ! ! ! !	! 41 ! 45.6 ! 89.1 ! 22.4	! 40 ! 44.4 ! 54.8 ! 21.9	! 15.2		! ! !	! 90 ! 49.2 !				
! 2. Proud ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	! 9.6 ! 10.9 ! 2.7	26 ! 50.0 ! 35.6 ! 14.2	1 39.4	! 33.3	! ! !	! 52 ! 28.4 !				
! 3. Neither ! proud nor ! humiliated !	! ! !	20.0 ! 8.2 ! 3.3				30 16.4 !				
! 4. Humiliated !	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	1 ! 10.0 ! 1.4 ! .5	1 ! 10.0 ! 3.0 ! .5	. 5 ! 50.0 ! 20.8 ! 2.7	! 42.9	10 15.5 !				
!5.V.Humiliated!	!		! !	! ! !	! 1 ! 100.0 ! 14.3 ! .5	1 ! .5 !				
COLUMN TOTAL	46 25.1	73 39.9	33 18.0	24 13.1	7 3.8	183 100.0				

Table 7.3- RESIDENTS' ATTITUDE TOWARDS THEIR HOUSING ENVIRONMENT WHEN RECEIVING VISITORS.

PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6 !	! ZAYOONA ! ! ZAYOONA !
! ATTITUDE !	! ! % !	! ! %	! ! % ! !!
!-Very proud	! ! 54.5	50.0	45.1
!-Proud	27.3	41.3	22.0
!-Indifferent	! 7.3	8.7	26.8
! !-Humiliated	10.9		4.9
! !-Very humiliated !	! !	! !	! 1.2 ! ! 1.2 ! ! !

Table 7.4- CROSS-TABULATION OF "DO YOU LIKE TO LIVE HERE PERMANENTLY" BY "GENERAL SATISFACTION"

COUNT ROW PCT COL PCT	! GENERAL SATISFACTION!							
TOT PCT	! ! !V.Sat-	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	: ! ! ROW		
!LIKE TO STAY ! !OR MOVE	isfied	fied !2	erent !3	!isfied !4	tisfied !5	TOTAL		
!		!	! 	!	!	!		
!!l.Like to stay	46	! ! 56	! ! 11	! 1	!	114		
	40.4	49.1	! ! 9.6	! ! .9	! !	62.3		
!	100.0	76.7	33.3	! 4.2	! !			
!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	25.1	30.6	! ! 6.0	! ! .5	! ! !	<u> </u> - 		
			!	!	!	1		
! 2.Prefer to		: ! 17 .	<u>.</u> ! 22	! 23	! ! 7	69		
! ! move		24.6	31.9	1 33.3	1 10.1	37.7		
!		23.3	66.7	! ! 95.8	1 100.0	!		
!		9.3	12.0	! 12.6	! ! 3.8	<u> </u> 		
!	! 	! 	! 	!	: !	!		
COLUMN TOTAL	46 25.1	73 39.9	33 18.0	24 13.1	7 3.8	183 100.0		

Table 7.5- OPINION OF RESIDENTS ON WHETHER THEY PREFER TO LIVE IN THE PRESENT ESTATE PERMANENTLY OR PREFER TO MOVE OUT.

! ! PROJECT !	! ! SAYI !	DIA 7	! ! SAYI !	DIA 6	! ! ZAY(! ! ANOC !	! ! To	! ! LATC
! Answers !	! ! No. !	! ! %	! ! No. !	! ! % !	No.	! % ! ! % !	! ! No. !	! ! % ! !
! !- Prefer to remain. !	! 31	! ! 56.4	! 35	! 76.1!	48	! 58.5!	! 114	! 62.3 !
!- Prefer to move out.	24	43.6	: !11 .	23.9	34	41.5!	! 69	37.7
!- Don't know.	: ! – !	: ! !	: ! – !	! ! ! !	_	! ! !	: ! !	: !

Table 7.6- REASONS GIVEN FOR PREFERRING MOVING OUT.*

(The percentages are from those who preferred to move out).

! ! PROJECT !	! !SAYI	!!! DIA 7!SAYDIA 6!Z !!		•		! ! TOTAL !		
! ! REASONS !	! !No.	! ! %	No.	! ! %	No.	!	! ! No . !	! ! % ! !!
! !1.Unsuitable location	5	20.8	4	36.4	2	5.9!	!! 11	15.9
!2.Lack of schools	2	8.3	3	27.3	1	2.9!	! 6	8.7!
! 3. Lack of shops	_	: !	1	9.1	2	5.9!	! 3	4.3!
!4.Lack of privacy	. 7	29.2	4	36.4	13	38.2!	! 24	34.8 !
!5.Small size of flat	1	4.2	3	27.3	3	8.8!	! 7	10.1
! 6. Neighbours 'problems!	6	25.0	!		8	23.6!	! 14	20.3 !
! !7.Missing garden	2	8.3	· !		5	14.7!	! 7	10.1
! !8.Children's play ! disturbance	-		1	9.1	1	2.9!	!! 2	2.9
! !9.Much litter	2	8.3	-		_	! !	! 2	2.9
!!10.No reason given!	7	29.2	2	18.2	! 7 !	20.6! !!	! 16	23.2

^{*}The percentages can add to more than 100 because respondents could give more than one reason.

7.3 SOCIAL AND PHYSICAL FACTORS AFFECTING USERS' SATISFACTION WITH THEIR HOUSING ENVIRONMENT

Two statistical techniques were used on the findings in Baghdad concerning the users' from the social study overall satisfaction with the estate and various aspects of the external environment of their housing setting, in order to evaluate the reasons for user satisfaction in a more objective and precise way. The first is statistical correlation analysis. A statistical correlation measure of association between two characteristics things. Where there is no relation or association, the correlation (or r value) is zero (0.00). On the other hand, where there is a great association and perfect relationship then the correlation will be one (1.00). This implies that the higher the correlation (i.e the nearer to 1.00), the closer the association or relationship between the two variables under consideration. The association between the two variables could either be a positive one (i.e when an increase in one variable will be associated with a rise in the other) or negative (i.e an increase one variable will be associated with a decrease in the By using this technique it is possible to find other). out what proportion of the variation in a trait or response a question can probably be linked to differences in to

question. another trait responses to another or Considering levels of user satisfaction the dependent variable, one can expect to find out, using technique, the degree of association or the correlation it has with the independent variables i.e the various the external residential environment studied and that are believed to be likely to influence the levels satisfaction. On applying correlation analysis to the relationship between user satisfaction and forty-one aspects of the external residential environment studied, it found that certain of these aspects had an association with the users' overall satisfaction and others did result of this analysis is presented in Table 7.7, the correlation coefficients (r values) of the relationships of these aspects with users satisfaction are indicated. Those aspects which were not, or were only slightly, related were clearly not reasons for estate satisfaction, whilst those that were closely related were assumed to be significant reasons for satisfaction. These aspects, however, can only be assumed to be the because correlations only indicate association but not causation between variables. Table 7.7 shows that there are six variables which are closely related to housewives' satisfaction and that a further Seven, variables are related in a less degree. In addition, eight further variables are slightly related to satisfaction levels. This Table also number of variables which are not related to shows a

satisfaction at all.

It was interesting to note that the variable "liking estate" was found closely related to the levels of user satisfaction. This was not surprising to the present researcher, because when people in Iraq are asked whether they like their estate, their responses will, due cultural factors, be associated with the social rather than the physical setting of their environment. This was quite clear in Saydia 6, which despite the drabness in the physical characteristics of its external environment, scored the highest among the housing projects studied. Unlike the findings of the Western studies, the up-keep of the estate and residents' satisfaction with their housing environment were found in this study to be only slightly related. Although the reason for this could not detected, however, the responses could have been influenced by the unfinished site works of the estates, and that residents were optimistic about future improvement in the up-keep and maintenance of the estate. These responses could have also been affected by the lack of mailtenance policy for the open spaces in the current conduct of up-keep elsewhere in Baghdad (Fig. 7.1 to 7.4). Therefore, people did not expect much from the authority about the up-keep of their estates.



FIG.7.1 ...Lack of attention and maintenance of the external areas FIG.7.2 (high and medium -income housing)



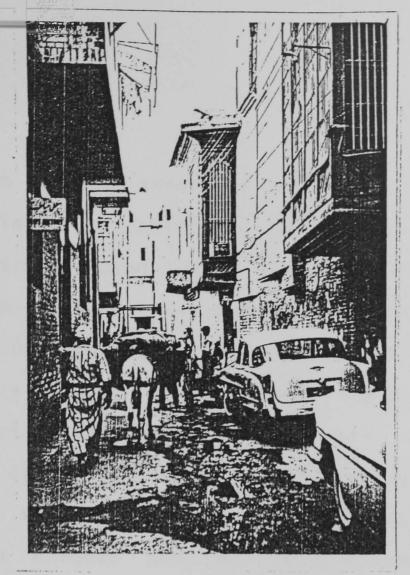


FIG. 7.3

Inner city Iow-income housing in Baghdad...



FIG.7.4

research, variables are social very often interrelated or overlap: for instance, this applies to from living rooms and spaciousness, or estate appearance and maintenance. Therefore, а second statistical technique -multiple regression analysis, necessary discover to the additional independent contribution of each variable to the total variation levels of satisfaction. If the independent variables are related to each others, stepwise multiple regression analysis selects the one which accounts for the largest proportion of the variation in the dependent variable and suppresses the others. Multiple regression analysis also shows the proportion of the variation in the dependent variable which all the independent variables added together account for. If this proportion is very large it indicates that the variables in the analysis have explained most of the variation and can be taken as giving a good indication reasons for the variation in the results. the proportion is low it indicates that the considered were not the important ones and that explanation of the variations lies elsewhere.

Table 7.7 - THE SIGNIFICANCE AND THE CORRELATION OF THE INDEPENDENT VARIABLES WITH THE DEPENDENT (overall satisfaction)

Independent Variable	Ρ.	r.
- Like to stay permanently	0.000	.692
- Like the estate	0.000	.645
- Proud of the estate	0.000	.642
- Noise not a problem	0.000	.616
- Like the flat	0.000	.593
- No problem with children	0.000	.525
- Appearance	0.000	.474
- Standard of prev. dwlg.	0.000	.470
- Not having problem with		•
neighbours	0.000	.466
- Vandalism not a problem	0.000	.435
- Density (not feel crowded)	0.000	.407
- Privacy inside the dwlg.	0.000	.343
- Views from living rooms	0.000	.333
- Standard of prev. estate	0.000	.288
- Education level of h.o.h.	0.000	.246
- Children safety from		
traffic around the estate	0.001	.241
- Cleanliness and tidyness		
of the estate	0.002	.216
- Whether housewife works	0.002	.214
- Blc. & gdn. orientation	0.002	.214
- Important to have garden	0.002	.213
 Standard of maintenance 	0.003	.207
 Children safety from 		
traffic on the estate	0.004	.193
 Shared tenure in previous 		
housing	0.005	.190
 Important to have a park 	0.006	.186
 Car park satisfactory 	0.008	.178
- Balcony liked	0.017	.156
- Blc. & gdn. size	0.018	.155
- Safety	0.018	.154
- Occupation type of h.o.h.	0.035	.134
 Activity restricted 	0.039	.131
- Having prev. friends on		
the estate	0.055	.119

^{1.} P: the significance of a variable is considered to be 0.00-0.05

^{2.} r: the coefficient of correlation

^{3.} The variable considered closely related if the (r) is 0.5 or over

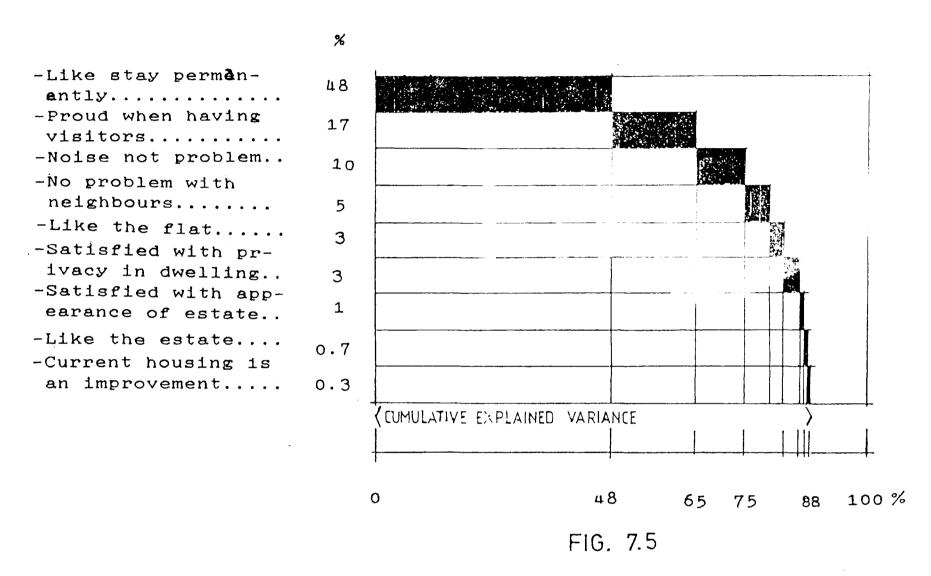
^{4.} The variable considered related if (r) is 0.3 to 0.5.

^{5.} The variable considered slightly related if the (r) is 0.2-0.3.

^{6.} The variable considered unrelated if the (r) is less than in (5).

Table 7.7d- THE UNSIGNIFICANT AND UNRELATED INDEPENDENT VARIABLES WITH THE DEPENDENT (overall satisfaction)

	Independent Variable	P.	r.
	Having close relatives Possession of car	0.073 0.087	.108
		0.092	.099
	Social interaction (p.n.n)	0.164	.073
_	Type of household(adult) (family)	0.261	.048
-	Neighbour not complaining of		
	children playing inside	0.181	.068
_	Refuse disposal problem	0.195	.064
	Income level	0.243	.052
_	Length of residency	0.299	.039
	Social interaction (e.v.)	0.75	.107
	Commencing alteration	0.368	.025



Predictors of Satisfaction With The Estate

Stepwise multiple regression analysis was therefore applied to the variables identified in Table 7.7 as having a considerable correlation with users satisfaction. result of the analysis is shown in Figure 7.5. It shows that, although in the present study "no problem children's play" was closely related to users' satisfaction (Table 7.7), it did not emerge from the multiple regression analysis as accounting for a large proportion of the variations in users' satisfaction. Instead, users' satisfaction was closely related to the noise level on the indirectly children's play is estate and hence analysis also shows that "prefer to live associated. The permanently on the estate", feeling proud of where live, having no problems with neighbours and liking the flat, are the variables which together account for the greatest proportion of the variation in levels of user satisfaction. Other factors which contributed a little explanation of variation were the privacy level inside the dwelling, the appearance of the estate, liking the and finding the current housing experience as an These variables added improvement on any previous one. for 88% of the variation in account together satisfaction. This result indicates that the variables have explained most of the variation and considered be considered as reasons for could therefore, satisfaction. It also implies that the study succeeded in achieving its aims.

The regression analysis showed that liking to stay permanently on the estate and being proud of it, as well as "noise level not being a problem" and not having problems with neighbours were the variables that best explained the reason for estate satisfaction and could best predict it.

It seems, then, that the questions asked in the survey covered most of the important factors influencing housewives' reactions and went a long way towards explaining why they were satisfied or dissatisfied with their housing environment. Having validated the survey as whole and shows that it provided good coverage of the important aspects affecting residens' satisfaction with their housing, the next stage is to go on to describe and discuss the relationship between each of these aspects with the user satisfaction. This is covered in Chapter Eight.

Chapter Eight

THE EVALUATION OF USERS' SATISFACTION WITH THE SOCIAL AND PHYSICAL ASPECTS OF THEIR EXTERNAL HOUSING ENVIRONMENT

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THE EVALUATION OF USERES' SATISFACTION WITH THE SOCIAL AND PHYSICAL ASPECTS OF THEIR EXTERNAL HOUSING ENVIRONMENT

8.1 SOCIAL INTERACTION

work on social interaction in residential areas reported in Chapter 4 of this thesis showed a substantial level of agreement has been achieved on several basic generalizations. For example, the research suggests strong relationship between patterns there is a friendship and the distances functionally separating other words "proximity" or "propinguity", dwellings. Ιn due to the physical features of the environment, provides the visual and auditory contact which leads to an awareness ofothers which is likely to be transformed form of interaction interaction between neighbours. The be positive, moderate or even negative. It has also may been suggested that the transformation of this relationship into positive terms is dependant on the homogeneity of the residents. It has also been suggested that the pattern and importance of the social interaction in a residential environment might vary in sub-cultures as well as

different cultures. Requirements for informal social networks are different in different social classes. For instance, lower-class groups tend to interact with their immediate neighbours more than middle and upper-class groups.

8.1.1 RESIDENTS' ATTITUDES TOWARD NEIGHBOURLINESS AND FRIENDSHIP FORMATION

In the present study, the relevance of those aforementioned views to the Iraqi situation was investigated. This included exploring the extent and the intensity of the friendship relationships among neighbours and the influence of proximity, as well as the influence of general aspects of homogeneity. The influence of social interaction on the residential environment was also investigated in relation to residents' overall satisfaction with their housing environments.

The importance of neighbourly relationships to the groups of residents in the sample was investigated. Resident priorities were questioned through asking whether a good flat* was more important than living in an

^{*} No explanation was offered to the respondents of the meaning of good flat; they were only told it was whatever they would perceive as a "good" flat.

unfriendly neighbourhood. About three quarters of them (71%) put the friendly neighbourhood as their first priority. Only 16% of the respondents gave the flat itself priority over the friendly neighbourhood, whilst the rest of the respondents (13%) were found to be neutral in their attitudes, claiming both to be of equal importance to them (Table 8.1.1).

Residents were also asked if they had any problems with their neighbours. Different percentages respondents who had problems with their neighbours emerged for each of the projects, with the lowest percentage recorded in the Saydia 6 project (13%), followed by that in the Saydia 7 (25.5%) and the Zayoona projects (32.9%) (Table 8.1.2). Cleaning of shared access areas within the housing blocks emerged as the prime problem, with children's play Two other problems another major concern. frequently mentioned were misuse of the shared areas and noise disturbance (Table 8.1.3).

To investigate the extent and the intensity of neighbour relations the three indices used by Kuper (1953) were employed to measure the correlation between spatial and personal characteristics. The measures used were: (a) the ability to name neighbours, (b) the extent of sociable activity among neighbours, and (c) the choice of most

preferred neighbours.

- (a) The data analysis showed that respondents from Saydia 7 project knew on average of 8.3 families by name; those in the sydia 6 project knew 8; and those project 9.9 families. Zayoona These average figures suggest that residents Zayoona in had the percentage of acquaintanceships, followed by the residents of Saydia 7, with the lowest percentage for the of the Saydia 6 project.
- (b) The intensity of social relations between the residents, demonstrated in exchanging visits with others on the estate, was found to be almost the same throughout the three projects. The data analysis showed that each family had exchanged visits in their housing setting with on average 2.5, 2.2 and 2.2 families in the Saydia 7, Saydia 6 and the Zayoona projects respectively.
- their three closest friends lived. The data from their replies showed a different pattern prevailing in the Zayoona project, with 78.2% of the Saydia 7 respondents and 84.8% of the Saydia 6 respondents having some of their closest friends in their current housing estate but only 56.1% in the Zayoona. In other words, the highest percentages of people having their friends in the locality

were attained in the Saydia 6 and the Saydia 7 projects, and the lowest was attained in the Zayoona. More than two fifths of the residents of the Zayoona project (43.9%) had their three best friends living outside their residential setting (Table 8.1.7).

In the present study, certain social characteristics of residents which appeared (from the described in Chapter 4) to be relevant in relation attitudes towards neighbours and friendship formation on the estate, were investigated. A number of questions were asked in order to identify the characteristics of residents in relation life-cycle and to the stage in socio-economic status. These characteristics of residents been discussed, separately for each case study, in Chapter 6 under the section "The Users". The residents sample proved to be homogeneous in some respects and heterogeneous in others (see Tables Apx.3.1 to Apx.3.6 in Appendix 3).

Table 8.1.1- RESIDENTS' PRIORITY OF DWELLING AND NEIGHBOURS.

(Residents' responses to the question, "If you have given the choice between a good flat in an unfriendly neighbourhood and less good flat* in friendly neighbourhood, which one do you prefer?)

PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6 !	! ! ZAYOONA !	! ! TOTAL !
! THE CHOICES !	. % !	! ! %	00	! % ! ! % !
! !-Good flat, unfriendly ! neighbourhood.	16.4	15.2	15.9	16.0
!-Less good flat, friend- ! ly neighbourhood. !	74.5	. 65.2 !	71.9	! 71.0! !
! !-Equally important. !	9.1	! 19.6 !!	12.2	! 13.0! ! 13.0!

^{*} The residents were not given a definition to "good flat". They were told to consider it as what they perceive as good flat.

Table 8.1.2- PROBLEMS WITH NEIGHBOURS.

(a) Do you have problems with your neighbours?

PROJECT	! ! SAY! !	DIA 7	! ! SAYI !	DIA 6	! ! ZAY(!	OONA	!! !! T	OTAL
! ! Answers !	! ! No. !!	! ! % !	! !No. !	! ! % !	! ! No . !	! ! %	!! !!No. !!	! % !
! !-Yes	! 14	! ! 25.5	! ! 6	! 13.0	! ! 27	! !32.9	!! !! 47	! ! 25.7
! ! - No !	! ! 41 !	! !74.5 !	: ! 40 !	! !87.0 !	: ! 55 !	: !67.1. !	:: !!136 !!	

Table 8.1.3- PROBLEMS WITH NEIGHBOURS.

(b) If "Yes", what sort of problems?

PROJECT!	! ! SAYI !	DIA 7	! ! SAYI	DIA 6	! ! ZAY(! ! ANOC	! ! TO !	TAL
! Causes of problems!	! ! No . ! !	! ! 응* !	! ! No !	! ! 응* !	! ! No . !	!	! ! No. !	! ! %* ! !!
! !-Cleaning common areas	! 7	50.0	! ! 4	! !66.6	! ! 17	! !63.0!	! ! 28	! !59.6!
! !-Children's play	<u>.</u> ! 7	50.0	! 2	133.3	10	137.01	! 19	140.5
! !-Misuse common areas	! ! 5	135.7	! ! 3	150.0	: ! 7 :	125.9!	! 15	131.9
! !-Noise	! ! 7	50.0	! ! 3	! !50.0	! ! 4	114.8!	! 14	29.8
! !-Social differences	! 1	7.1	<u>.</u> ! 2	133.3	: ! 9	133.3!	! 12	125.5
! !-Litter from upper ! floors	! ! ! 4	28.6	! ! ! 1	! ! !16.7	! ! 2	! ! ! 7.4!	! ! 7	!!14.9
! !-Others !	! ! 3 !	! !21.4 !	! ! 3 !	! !50.0 !	! ! 2 !	! 7.4! !!	! ! 8 !	17.0

^{*}These percentages are from those who have problems with neighbours

Table 8.1.4- NUMBER OF NEIGHBOURS WHICH THE RESPONDENTS KNEW BY NAME.

PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6!	ZAYOONA	TOTAL !
! ! NUMBER OF NEIGHBOURS !	. % !	%	00	90 !
! ! - None.	3.6	! !	1.2	1.6
! - 1 to 5 families.	30.9	32.6	39.0	35.0
! - 6 to ll families.	36.4	50.0	11.0	28.4
! - Over 11 families.	29.1	17.4 ! !!	48.8	35.0 !

Table 8.1.5- NUMBER OF NEIGHBOURS WHICH THE RESPONDENTS EXCHANGED VISITS WITH.

PROJECTS!	! !SAYDIA 7 !	! !SAYDIA 6	! ! ZAYOONA !	! TOTAL !	
! NUMBER OF NEIGHBOURS !	!	! ! %	00	%	
! ! - None.	18.2	! 13.0	20.7	18.0 !	
! - 1 & 2 families.	47.3	58.7	37.8	45.9	
! ! - 3 to 6 families.	23.6	28.3	37.8	31.2	
! - Over 6 families. !	10.9	! ! !	3.7	4.9	

Table 8.1.6- CROSS_TABULATION OF "PROBLEMS WITH NEIGHBOURS"

BY "GENERAL SATISFACTION"

	COUNT ROW PCT COL PCT	! GENERAL SATISFACTION !					
	TOT PCT	! !V.Sat-	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	: ! ! ROW
! ! !	PROBLEMS WITH NEIGHBOURS	! !isfied !l !	! ! fied !2 !	erent !3 !	! !isfied !4 !	! !tisfied !5 !	: ! TOTAL ! !
!	ll. Yes	! 2	12	12	! 16	! 5	! 47
!		! 4.3	25.5	25.5	1 34.0	10.6	25.7
!		! 4.3	! ! 16.4	36.4	! ! 66.7	! ! 71.4	<u> </u>
!		! 1.1	6.6	! 6.6 !	: ! 8.7 !	! 2.7 !	<u> </u>
!	2. No	! 44	61	21	! 8	! ! 2	! ! ! 136
!		1 32.4	44.9	15.4	! 5.9	1.5	1 74.3
!		95.7	83.6	63.6	33.3	28.6	
!		24.0	33.3	11.5	! ! 4.4 !	! ! 1.1 !	! ! !
	COLUMN	46	73	33	24	7	183
	TOTAL	25.1	39.9	18.0	13.1	3.8	100.0

Table 8.1.7- WHERE ABOUT DO YOUR BEST FRIENDS LIVE?

IN OR OUTSIDE THE PROJECT?

PROJECTS	! ! !SAYDIA 7 ! ! !		SAYDIA 6 !		ZAYOONA		! ! TOTAL ! !!
! ! Where Friends Live !	! ! No.!	00	! ! No.!	! ! ક	No.	! ! ! % ! !!	! ! ! % ! !!
! ! !-None in this project.	1 12	21.8	! ! ! 7	15.2	36	! ! !43.9!	30.1!
! !-Some in this project.!	43	78.2	39	! !84.8! !	46	! !56.1! ! !	! 69.9! ! 69.9!
!!	!	<u>.</u>	!	! ! ! !		!!!	! ! ! !

Table 8.1.8- WHERE ABOUT IN THE PROJECT DO YOUR BEST THREE FRIENDS LIVE?

! PROJECTS !	! !SAYDIA 7 ! !		! !SAYDIA 6 ! !		ZAYOONA!		! TOTAL!
! NUMBER OF FRIENDS	! ! No.	96	No.	! % ! ! % !	No.	! ! ! % !	! %!
! SAME FLOOR	!			!		!	!!!!
!- None. !- One. !- Two.			! 11	!76.1! !23.9! ! !		179.3! 119.5! 1.2!	
!-Total having friends	! ! 12 !	21.8	11	23.9	17	20.7!	! 21.9! ! !
! SAME BUILDING	!	!		1		!	!!!!
!- None. !- One. !- Two.	16	129.1	24 ! 3		15	!18.3! ! 6.1!	! 65.0! ! 30.1! ! 4.9!
!-Total having friends	! 17	•	•	! 58. 7 !	20		•
! NEXT BUILDING	!	: !	: ! !	: : !			
!- None. !- One. !- Two.	! 16		17	137.01	11		! 75.4! ! 24.0! ! .6!
!-Total having friends	! 16	! !29.1	1 18	139.2	11	113.4!	! 24.6!
PPOSITE BUILDING I I - None. I - One. I - Two.	! 12	121.8	! 4 !	! 8.7! ! !	6	! 7.3! ! !	
!!-Total having friends	! 13	! !23.6		!! ! 8.7!		•	!! ! 12.6! !
! OTHER BUILDINGS	!	<u>.</u>	!			!	!!!!
!! !- None. !- One. !- Two. !- Three,	! ! 45 ! 9 ! ! 1	!16.4 !	! 6 ! 1	! 84.8! !13.0! ! 2.2!	8	! 9.8! ! 6.1!	! 81.4! ! 12.6! ! 3.3! ! 2.7!
!-Total having friends	! 10	!18.2 !	. 7 !	!15.2! !	17	!20.8! !!	! 18.6!

Table 8.1.9- PERCENTAGES OF RESPONDENTS WHO HAVE ANY OF THEIR BEST FRIENDS LIVING ON THE ESTATE.

PROJECTS	! !SAYDIA 7	! !SAYDIA 6	! ZAYOONA
! WHERE ABOUT	% !	%	%
!	!		
!- Same floor.	21.8	23.9	20.7
!- Same block.	30.9	58.7	24.4
!- Next block.	29.1	39.2	13.4
! !- Opposite block.	! ! 23.6	8.7	7.3
! !- Other locations. !	! ! 18.2 !	! ! 15.2 !	20.8 !

8.1.2 USERS' SATISFACTION AND DISSATISFACTION IN RELATION TO SOCIAL INTERACTION

The statistical analysis for the data from the present study found no significant correlation between the pattern interaction, its extent and intensity, social residents' overall satisfaction. In other words, neither the number of people known by names to the residents, people with whom the residents exchanged number of visits had a significant correlation with their overall satisfaction with their housing environment. Nevertheless, significant correlation was found between residents having problems with neighbours and being dissatisfied with their housing (Table 8.1.6). The data analysis those respondents who were very satisfied that 95.7% of with their housing, and 83.6% of those who were satisfied problem with their neighbours. On the other hand 71.4% of those respondents who were very dissatisfied with their housing, and 66.7% of those who were dissatisfied had with their neighbours. A number of Western studies on housing environments have also underlined influence of positive social interactions on residents' satisfaction (Lansing et al, 1970; Cooper 1975, Mulvihill 1977; Ellis 1977; D.O.E, H.D.D, 1981).

When the residents were asked, in general, to mention things they most liked about living in these housing projects, liking the neighbours was one of the most frequently mentioned reasons, after liking the dwelling (Table 8.2.6). When the residents were asked whether would prefer to stay in their current housing or move out if they had the chance to do so, the majority wanted stay, and only about one third of the respondents would have liked to move out. However, the second most common reason cited by this group for wanting to move out was problems with the neighbours. About one fifth of them wanted to move out for this reason (Table 7.6). examples point to the importance of having good relations neighbours, they emphasize the importance of with "neighbourliness" to the group of people under study, and coincide with the social attitudes towards neighbour in Iraq, as described in Section 6.2.1.

Further evidence about the importance of neighbourliness to the residents under study was shown in their responses when their priorities were questioned. When they were asked to identify whether they would prefer a good flat in an unfriendly neighbourhood, or a less good flat in a friendly neighbourhood, about three quarters of them (71%) put the friendly neighbourhood as their first priority. This finding confirms the importance of

neighbourliness to the Iraqis, as most of the respondents quoted the Iraqi saying "Al jahr kabule al dar", which literally means that neighbours precede the dwelling, as was discussed earlier in Section 6.2.1.

The importance of neighbourly relations to the residents under study, and the influence of negative relationships with neighbours on their overall satisfaction their housing environment, seems contradicted by the lack of significant correlation between residents' overall satisfaction and the extent and intensity of their social interactions, (identified by the number of families they know by name, and the number they exchange visits with). However, this apparent contradiction can be interpreted as to cultural factors influencing attitudes toward due neighbourliness. In Iraq social interaction is taken for granted at the neighbourhood level, with every resident expected to know his neighbours by name, exchange visits with them frequently and be ready to help when help is needed. In other words, a resident's relationship with neighbours in Iraq has to be on a positive level for cultural reasons (Section 6.2.1). Therefore, only when residents in the sample could not keep their relationships on a positive level -that is, when they developed problems with their neighbours- did their satisfaction begin to decline.

HOMOGENEITY AND USERS' SATISFACTION

Among the three case studies differences in users' general satisfaction were found, as well as differences the percentages of residents having problems with their neighbours. Survey data indicates that the Saydia 6 and 7 projects, both had a higher percentage of satisfied residents than the Zayoona project. This finding could be ascribed to the greater homogeneity among the residents of the former projects, as empirical studies have suggested that social compatibility is crucial for promoting residents' satisfaction with the housing environment (Cooper 1975, Mulvihill 1977). Homogeneity among the residents of a housing community was seen, by the studies, crucial in developing the passive interaction between as the residents into a positive one (Gans 1967, Rosow 1961). findings from these studies suggest that there is a The relationship between residents' satisfaction with their housing environment, and whether they perceive others, living in the setting, as friendly or as similar to colleagues suggested social his that and Lansing compatibility among residents of a neighbourhood is second best predictor of their overall satisfaction, the first being a good level of up-keep of the neighbourhood (Lansing et.al. 1970, p.130).

The data from the three projects studied and presented Chapter Six and Appendix 3, revealed that residents of the Saydia 6 and Saydia 7 projects were fairly homogeneous their income, type of occupations, level of education and stage in life cycle. Both groups could be broadly low-income groups. also showed The data that residents of the Zayoona project were relatively heterogeneous in their income, type of occupation and level of education, as well as in their stage in the life cycle. They could be described as low-income and middle-income These findings suggest that, in Iraqi housing environments, the compatibility of the residents in terms of social class, stage in life cycle and education could be a crucial factor in promoting residents' satisfaction. shown in Chapter Four, similar conclusions were reached American studies: by Gans in his study of Levittown, by his colleagues in their study Lansing and residential environments in Boston, and by Clare Cooper in her study of Easter Hill Village (Gans 1967; Lansing et al., 1970; Cooper 1975). Other British and Irish studies have elicited similar conclusions (Ellis 1977, Mulvihill 1977), as has a study in Singapore (Yeh 1974).

It has been suggested that the homogeneity of a neighbourhood is a perceptual phenomenon; that is, it must be perceived to exist by the inhabitants themselves. It refers to residents' perceptions of each other in terms of

attitudes, opinions and social characteristics (Porteous 1977) and is well expressed in the phrase: "we are alike in this neighbourhood". In the present study during the survey, a relative heterogeneity in the stage in life cycle was noted on the level of the individual housing unit, where an unplanned mix of adult household and family households were grouped together. The S.O.H. policy of handing the flats over to their owners by lottery resulted in an accidental amalgamation of family households with adult-only households in the same blocks of flats. Moreover, in many instances the family households had their flats on the upper floors rather than the ground floors where the children could have had easy access to the outside. Complaints among the residents and even conflict between neighbours was noted in such situations. The lack adequate sound insulation between the floors exacerbated the influence of child disturbances. It was also noted that homogeneity in the stage of life cycle was likely to mitigate the effects of this situation. Thus, when two family households, living in the same unit block on top of each other, were asked whether they had problems with their neighbours, they would often say that "Well, they are noisy, but we are alike and we also have children and are used to their noises". Another comment was "Don't all here have children? We have to bear with each other in order to live peacefully". It seems that the people interviewed tolerate the situation when they feel alike.

This indicates that on the level of the individual housing block in multi-family housing, homogeneity among households who share the block, particularly as in life cycle, is an important influential factor on interaction and neighbourly relationships. aforementioned evidence emerged accidentally residents' replies to a question asking whether they had problems with neighbours. As characteristics of households this study were investigated on the level of the estate in general, and not on the level of the individual block, further research should be done on the level of the unit block itself, in order to investigate further the influence of homogeneity in the stage of life cycle on the residents' overall satisfaction with their housing environment. been suggested in the studies carried out in the West that social class -identified by income and education- and stage in life-cycle -identified by age of adults, marital status and age of children- are likely to be the indices in judging compatibility (Gans 1968, Athanasiou and 1973, Porteous 1977). Education has been suggested as perhaps the most important characteristic relation to residents' compatibility, as it affects choice, child-rearing occupational patterns and leisure-time preferences (Gans 1968).



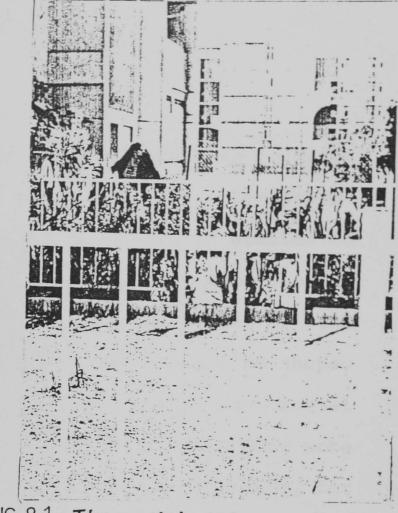


FIG. 8.1 The social difference in the Zayoona project.



FIG. 8.2 The relative homogeneity of residents' social status in the Saydia 7 and the Saydia 6 projects.

been suggested that positive social It has relationship is not only influenced by residents' perception of others in the neighbourhood as similar to them, but is also influenced by homogeneity in mutual needs and common motivations (Rosow 1961). At the time of survey, in the Saydia 6 project there were no shops, daycare centres, schools or any sort of public or social facilities on the estate, and people were therefore more likely to need other people's help in matters relating, for instance, to borrowing kitchen utensils, getting children school, getting to the shops or obtaining health care, as well as in caring for children or the infirm. homogeneity in needs and motivations among the residents in the Saydia 6 project is likely to have contributed to the notable lowest percentage among the three projects of people having problems with neighbours. Ιt has been suggested in another study that when people move into a new housing project and are brought together for the first considerable social solidarity springs up as they are faced with a variety of common jobs such as furniture fixing, lawn making..etc., which may need the help of others (Rosow 1961). However, in the case of the Saydia 6 project it seems that this situation continued after the settling-in period passed, and even when the first group of residents had been living in their flats for more than two and a half years.

The survey showed that there was a sense of sharing on the level of the individual block of flats, which was demonstrated in the participation of the housewives in the block in cleaning the lobby, the staircase, the landings and the (flat) roof. The sharing of these spaces, however, was not always desired by the residents. As the survey revealed, the prime reason for having problems with neighbours was disagreement among residents on the cleaning of the shared areas within the unit block. Here again multi-family housing, residents' homogeneity in their perception of the value of sharing responsibility with others, as well as in their attitudes toward cleanliness and hygiene, seems to be an important factor in promoting positive relationships between those who shared a block of flats.

Previous empirical studies had suggested that in particular housing environments, where the social life was perceived by the residents as satisfactory, the residents' content with their social interaction within their housing area was sufficient to make up for the inconveniences produced by deficiencies in the physical environment. Festinger, in the Westgate housing project, concluded that: "The adequate and satisfying social life was sufficient to override many inconveniences. The result was a rather happy social and psychological existence" (Festinger et al. 1950). Another study of users' reaction which was carried

in Singapore, a developing country where the community suffers from shortages in housing, sub-standard housing conditions and crowding, had emphasized even more the attribute of social relations with neighbours as a measure of residents' satisfaction. Ιt suggested "satisfaction with housing is mainly conditioned by the social relations with neighbours and that the view of the immediate social situation as satisfactory in a sense makes up for the unsatisfactory physical features of housing" (Yeh 1974, p.41). The present sudy showed that this suggestion seems to be aplicable in the Iraqi situation, as among the three projects, residents of the Saydia 6 project were the most satisfied and having the least problems neighbours despite that their estate lacked the local amenities.

"PROPINQUITY" OR "PROXIMITY" AND USERS' SATISFACTION

The present study investigated social interaction on the level of the estate in general, and a particular pattern of social interaction was noticed when residents were asked whereabouts in the project their three closest friends lived. Their responses indicated that a great deal of social interaction was happening among residents living in the same block of flats rather than elsewhere on the estate. The data from the survey showed that the highest degree of interaction was recorded for those respondents

who had one or more of their three best friends living in the same housing block, followed by the percentage for those whose friends were living on the next block, opposite block and in other locations on the estate, respectively. This finding pointed to the influence of propinquity on social interaction within the estates.

However, propinquity per se cannot be the determinant of social interaction because if this were so, it would have led to a higher degree of social interaction residents living on the same floor and opposite to each other, rather than with others living in the same block but not on the same floor. The data showed that in the projects only one fifth of the respondents had one of their nearest friends living on the same floor, which was less than expected if one considers the Iraqis' attitudes towards neighbours in addition to the physical proximity of opposite flats in the walk-up blocks (Table 7.1.9). This relatively low percentage suggests that propinquity is influential in making people aware of others living nearby, and this awareness is likely to flourish into friendship when residents' compatibility prevails. In addition this, in Iraq, friendship formation among neighbours is much influenced by culture and traditions. On the other such propinguity may be disliked by residents as too much contact is likely to have an adverse effect on people may produce a withdrawal reaction, so as to maintain and

privacy. The high percentage of ground floor residents (about 80%) who had opened a door from their balcony to the outside, and abandoned the entrance door from within the block, seems to support this statement. Therefore, to avoid conflict, it might be better to provide for easy visual contact rather than too much physical closeness.

Many studies have underlined the influence of planning of residential environments on social interaction. For instance, it has been suggested that where residences have been laid out around courtyards, the residents likely to make friends with persons in the same court, and within the court with those living physically closest To examine this notion a (Festinger 1950). themselves comparison was made between the extent of interaction on the Saydia 7 and Zayoona projects where the blocks were mainly laid out around courtyards, and that the Saydia 6 project where the blocks were laid out on found that on It was linear arrangement. respondents from the Saydia 7 and the Zayoona projects knew more families by name than did those from the Saydia 6 project. The relatively high number of acquaintanceships enjoyed by respondents from the Saydia 7 and Zayoona projects could be explained by the influence of the site the blocks of flats arranged around with courtyards which permit more visual exposure, and with residents able to see more of the others living in these blocks. This finding confirms Festinger's suggestion that people living in housing which is arranged around courts get to know other people from around the court more than others living elsewhere in the housing setting (Festinger 1950).

However, when the intensity of social interaction -that is, how many people a respondent exchanged visits with- was compared on the three projects only little variation emerged. This suggests that the intensity of social relationship has been influenced by other matters in addition to the proximity and visual contacts. The courts were not designed properly to cater for the needs of different age groups of children, nor for the needs adults or the elderly and were, in effect, left-over spaces between buildings. This had led to conflict between the parties who use the courts. For instance, the noise children's play in the courts had caused disturbance to the residents in their flats due to the lack of adequate sound insulation in the buildings. Conflicts between children were noticed to be transferred to conflicts between the families. The situation was exacerbated when density of children in the courts increased.

In relation to site planning influence, it has been suggested that designs which provide a sense of sharing a place, and facilitate passive social contacts, are likely

to reduce anonimity and would appear to be desirable to the residents (Mulvihill 1977). This implied that where dwellings are laid out around courtyards, the group of residents who share the use of these courtyards will get to know each other better, and the sense of sharing will provide for more desirable social relationships among them. However, in this study, this was not apparent in the Saydia 7 project, as the percentage of people having problems with their neighbours was higher than in the Saydia 6 project. The courtyards described in Section 6.3.1 were just empty of relatively large size, and the absence of any spaces individual detailed design made them seem lacking in and identity. It is unlikely that the residents character who lived around a courtyard in this condition would identify with it and develop a feeling of sharing it with their neighbours.

A number of Western studies have found that some groups of people in housing developments are more likely than others to choose their friends, on the basis of propinguity, from the immediate area of their dwellings. For instance, low-income groups were found to be seriously dependent on their local area as regards social interaction (Rosow 1961, Yancy 1982). Lower-class residents were also found to be less choosy than the middle-class when looking for friendship, and to tend to make friends with neighbours nearest to them (Rosow 1961, Yancy 1982). The findings

from this study, shown in Table 8.1.7, supported these conclusions. It was found that in the Saydia 7 and Saydia 6 projects, where the people were broadly described as low-income groups with low percentages of car ownership, the percentage of those who had their nearest friends their immediate locality was much higher than those having their friends from outside the project. In the project, where residents were а mix of low middle-income groups with a higher level of car ownership, it was found that a little less than half respondents (43.9%) had none of their three best friends from the locality. This was double the percentage in the Saydia 7 project (21.8%) and about triple that of Saydia 6 project (15.2%).

These findings confirm the suggestion that low-income groups tend to choose their friends on the basis of propinquity, and that this factor applies in the Iraqi context as well as in Western situations.

For the Iraqis the relationship with one's neighbours is quite an important feature of social life. Neighbourliness in Iraq is a type of social interaction which has different characteristics from friendship and needs to be kept on a relatively positive level. Though it has been suggested in other studies, of Western culture, that as time passes and newcomers to a neighbourhood settle

in, the effect of physical proximity will fade away and they will look for friendship from farther away according to homogeneity in particular factors (Gans 1967).

The data from these three projects revealed that residents of the Saydia 6 and Saydia 7 projects, who evinced the highest level of satisfaction with the housing environment and had the least number of problems with their neighbours, were more homogeneous in their socio-economic status in terms of income, occupations, level of education stage in the life cycle. Despite the relative homogeneity in these respects between residents of the Saydia 7 and Saydia 6 projects, a higher percentage of residents having problems with their neighbours, as well as lower percentage of satisfaction, were found in the Saydia 7 than in the Saydia 6 project. The average size of household varied considerably between the two projects, implying a higher child density which is likely to be responsible for the higher percentage of residents having problems with their neighbours in the Saydia 7 project when compared with the Saydia 6 project (25.5% versus 13%). When those respondents who had problems with neighbours were asked to identify them the percentage of those who gave children's play as a reason for the problem in Saydia 7 was one and a half times that in the Saydia 6 project.

8.2 THE DWELLING

Findings from many studies have suggested that for most people the dwelling is the most important aspect immediate physical environment, as discussed Chapter Four. It has also been suggested that the level of residents' satisfaction with their dwellings is affected mainly by the size of the dwelling and the way it is planned. Satisfaction was also found to be affected by the open spaces immediately outside the dwelling. However, in addition to these factors the level of satisfaction with the current dwelling is affected by the level dwelling experience, and how much the current one previous is perceived by the residents as an improvement on previous.

8.2.1 RESIDENTS' ATTITUDES TOWARD THE DWELLING

To examine these suggestions and the discussion in Section 6.2.3 about the meaning of the dwelling to the individual head of household in Iraq, the residents in the sample were asked to assess their satisfaction with their flats. A five point scale was offered for this assessment, ranging from "liked it very much" to "disliked it very much". The majority (81.4%) of the respondents had a positive response towards their flats, where they either

"liked it very much" or "liked it". A little over third of all the respondents (37.7%) stated that they "liked it very much". Only a minority of respondents (1.6%) were found to "disliked" their flats and none of the respondents stated that they "very much disliked" them noticed, however, (Table 8.2.2). It was that percentages of the level of satisfaction slightly varied among the projects. The highest percentage of residents who had a positive response towards their flats was recorded in the Saydia 6 project (89.2%), higher than that in the Saydia 7 (80%) and the Zayoona project (78.1%) (Table 8.2.2).

Respondents were also asked to assess their satisfaction with their current dwelling in comparison with the previous one. They were offered three choices which were: prefer the current dwelling, prefer the previous dwelling, or both are similar. The data showed that the majority preferred the current dwelling (76%), whilst only 19.1% of the respondents preferred the previous dwelling, and 4.9% of them were found to be indifferent (Table 8.2.3).

When the residents were asked, in general, to mention the things they most liked about living in these projects, different factors were mentioned in the answers. However, the recorded factors mainly fell into three groups. These

groups consisted of factors which related to (a) the dwelling, (b) the neighbours and (c) the estate. The most often mentioned factors were those related to the dwelling, followed by those related to neighbours. Factors relating to the estate came last. Those relating to the dwelling included the ownership of the flat, and the flat design, of aspect. Flat design covered which room layout is one issues such as the easiness of cleaning and maintaining the flats, the appreciated standards of the construction and finishing materials used in the building, and domestic facilities such as the hot and cold water and the air cooling system, as well as the level of privacy inside the flat (Table 8.2.6). These responses indicated, in general, that the emotional factors related to the dwelling came first and practical aspects followed.

When the residents in the sample were asked what they disliked most about living in these housing environments the first five of the most often mentioned factors related to the estate. In the sixth category, and of equal weight, were unfriendly neighbours and the inadequate size of the flat (Table 8.2.7). The latter was the main criticism in relation to the dwelling, followed by the the room sizes, which were perceived by the residents as inadequate. Bedrooms were most often criticised in this regard. It is also worth mentioning that other complaints about the housing blocks were also recorded, as residents living in

the five storey blocks complained about the services inside the blocks: such as the lifts, and those who were living in the walk-up blocks complained about the location of the air-cooling devices on the floors above them.

In order to check these responses, residents asked to imagine that the architect would start to design the whole residential environment again. Ιn that situation, they were invited to say what they most wanted changed, and what they most wanted to be provided in their housing environment. The majority of the suggestions concerned the physical design of the dwelling itself and the areas immediately outside it. The most often expressed requirement wanted by almost all the respondents, was a proper storage area to be provided in the flats, as the flats lacked such space. The second demand was for larger bedroom areas, particularly for those living in two bedroom number of respondents stated that they wanted flats. Α their kitchens to be larger (Table 8.2.5).

The balcony, as the only form of private open area provided to the residents immediately outside the dwelling, caused many complaints and suggestions for alterations. Complaints related to its detailed design and its location will be further discussed in Section 8.7. The data analysis showed that this area was often a target for resident complaints. The respondents who had developed

private gardens also had considerable complaints about them, which will be discussed in Section 8.7 under the heading of "The private open spaces". However, the data analysis showed that the complaints associated with these areas were not related to residents' satisfaction with their dwellings.

Table 8.2.1- CROSS-TABULATION OF "DO YOU LIKE THIS FLAT?"

BY "GENERAL SATISFACTION"

COUNT ROW PCT COL PCT	!	GENERA	L SATISF	ACTION		! ! !
TOT PCT	! !V.Sat-	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	! ! ROW
! LIKE THE FLAT!				! !isfied !4 !	! !tisfied !5 !	! ! TOTAL ! !
! !l. Like it ! very much !	! 36 ! 52.2 ! 78.3 ! 19.7	. 38.4	! 4 ! 5.8 ! 12.1 ! 2.2	! 4.2	! ! ! !	! ! 69 ! 37.7 !
!	8.8 15.2 3.8	54.8	! 60.6	10 12.5 41.7 5.5	! 42.9	! 80 ! 43.7 !
! !3. Neither ! like it nor ! dislike it !		. 6.8	9 ! 29.0 ! 27.3 ! 4.9		28.6	
! !4. Dislike it ! !				! 1 ! 33.3 ! 4.2 ! .5	2 ! 66.7 ! 28.6 ! 1.1	! ! 3 ! 1.6 !
COLUMN TOTAL	46 25.1	73 39.9	33 18.0	24 13.1	7 3.8	183 100.0

Table 8.2.2- RESIDENTS' ASSESSMENT FOR THEIR CURRENT DWELLINGS AND ESTATES.

PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6 !	! ! ZAYOONA !
! ! ATTITUDE !	1	<u> </u>	! ! !
! !- The Dwelling	!		<u>!</u> !
!(1)Like it very much.	34.5	45.7	35.4
! !(2)Like it.	45.5	43.5	42.7
! !(3)Neither like nor dislike it!	16.4	10.8	20.7
! !(4)Dislike it.	3.6		1.2
! !(5)Dislike it very much. !		 	! ! ! !
! !- The Estate	!		
(1) Like it very much.	36.4	30.4	17.1
! !(2)Like it.	40.0	43.5	40.2
! !(3)Neither like nor dislike it!	3.6	21.7	28.0
! (4) Dislike it.	18.2	4.3	14.7
!(5)Dislike it very much.!	1.8		

Table 8.2.3- RESIDENTS' ATTITUDE TOWARDS SATISFACTION IN

THE PREVIOUS AND CURRENT DWELLINGS AND ESTATES

PROJECTS !	! !SAYDIA ! 7 !	! !SAYDIA! ! 6	! ZAYOO - ! ! NA !	! TOTAL! !
! SATISFACTION!	9 !		9 !	ું ૄ
! !-Which dwelling is more ! satisfying. !			!	! ! !
! (1) The current dwelling.	74.5	84.8	71.9	76.0
! (2) The previous dwelling.	25.5	15.2	17.1	19.1
! (3) Both are similar. !	! !	!	11.0	4.9!
! !-Which estate is more ! satisfying. !	!	!		!
! !(1) The current estate.	! ! 36.4	! ! 45.7	30.5	36.1
! (2) The previous estate.	! ! 36.4	1 32.6	50.0	41.5 !
! (3) Both are similar. !	! 27.2 !	21.7	19.5	22.4

Table 8.2.4- TYPE OF OCCUPANCY OF THE PREVIOUS DWELLING.

! ! PROJECTS ! !	! ! !SAYDIA 7 ! ! !		! !SAYDIA 6 !		ZAY	! ! ANOC!	! ! TO	TOTAL !		
! !PREVIOUS DWELLING! !	No.	! ! % !	! ! No.	! ! % !	No.	! % ! ! % !	! ! No.	! ! % !		
! !-Non shared.	26	! 47.3!	23	50.0!	44	!	! 93	50.8!		
!-Shared with kin.!	17	!30.9!	! 19 .	41.3	29	35.4!	! 65 !	35.5		
!-Shared with ! others. !	12	21.8	4	8.7	9	! !11.0! ! !	! ! 25 !	13.7		

Table 8.2.5- DESIGN IMPROVEMENTS ON THE ESTATES AS SUGGESTED BY THE RESIDENTS.

PROJECTS	! ! !SAYDIA 7 ! ! !		! ! AYDIA 7 !SAYDIA 6 ! ! !		ZAYOONA	
! ! IMPROVEMENTS !	No.	! ! ^{ગુ}	No.	. 응 . !!	No.	! % ! ! % !
! !-The flat. !	34	61.8	36	! ! 78.3! !	63	! !76.8! !
!-Private open ! ! spaces. !	1 11	! ! 20.0	1 12	! !26.1!	26	! !31.7!
!-Building layout ! ! and services. !	1 14	25.5	6	13.0	28	! !34.1!
!-Site planning & ! ! open spaces. !	! 5	! ! 9.1	9	! !19.6!	11	! !13.4!
!-Supporting faci-!! lities.	! ! 2	! ! 3.6	! ! 5 !	! !10.9!	3	! ! ! 3.7!
!-None.	4	1 7.3	1	2.2	9	11.0
! !-Do not know. !	! ! 9 !	! !16.4 !	! 4 !	! ! 8.7! !	2	. 2.4! ! 2.4!

Table 8.2.6- ASPECTS RESIDENTS MOST LIKED ABOUT LIVING HERE.

! PROJECT!	! ! SAYI !	DIA 7	! ! SAY!	DIA 6	! ! ZAY(!! !! ANOC	TO	TAL !
! Answers !	No.	. % !	No.	! % ! %	No.	! !! ! 응 !! !!	No.	! ! %! !!
! !-Ownership of the flat, ! stability, security.		! ! !67.3	25	! ! ! 54 . 3	35	! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	97	! ! ! 53.0!
!-Good neighbourhood, ! nice, friendly.	116	29.1	10	! ! 21.7	15	! !!!	41	! ! 22.4!
!-Quietness, peacefull.	! 1	1.8	18	39.1	10	12.2!!	29	115.8!
!-Planning of the flat, ! layout.	! 11	20.0	21	45.6	138	! !! ! !! !46.3!!	70	! ! ! !38.2!
!-Easy to clean the ! flat, tidy up.	! ! 7	12.7	5	10.9	19	! ! 23.2!!	31	! !16.9!
!-Adequate size of flat.	9	16.4			15	18.3!!	24	13.1!
!-Good finishing ! materials.	! ! 9	116.4	5	10.9	10	! !! !12.2!!	24	13.1!
!-The flat is cold in ! summer, warm in winter.	1 3	5.5	7	15.2	5	! ! 6.1!!	15	8.21
!-Good domestic services:	10	18.2	7	15.2	4	4.9!!	21	11.5!
! !-Privacy.	5	9.1	9	19.6	4	4.9!!	18	9.8!
! !-Location of estate.	1	1.8	1	2.2	14	! ! 17.1!!	16	! ! ! 8.7!
! !-Saftey of property & ! self.	!!!!	1.8	. 2 !	! ! 4.3!	! ! ! ! 5 !	!! !! ! 6.1!!	8	! ! ! 4.4!
! !-Better class estate.	- !	!	- !	!	7	8.5!!	7	3.8!
! !-Nothing. !	4	7.3	2	4.3		! !! ! !!	•	! 3.3! !!

^{*} The percentages can add to more than 100 because respondents could give more than one answer.

Table 8.2.7- ASPECTS RESIDENTS MOST DISLIKED ABOUT LIVING HERE.*

PROJECT	SAYE	SAYDIA 7!SAYDIA 6!2		ZAYOONA!		! TO?	ral :	
Answers	No.	0,0	No.	010	No.	. 응 !	! No. !	%
! !-Lack of shops and ! amenities.	6	10.9	! ! ! 33	71.7	! ! !19	! ! !23.2!	! ! ! 58	! ! 31. 7
!-Too much dust in summ- ! er & mud in winter.		3.6	23	50.0	24	29.3!	! 49	26.8
! !-Lack of schools.	! ! 6 !	10.9	25	54.3	! !17 .	20.7!	! ! 48	26.2
!-Lack of services in ! the blocks & flats.	! 2	3.6	! 2	4.3	32	! ! 39.0!	1 36	19.7
!-Lack of greenery and ! plantation.	! ! 2	! ! 3.6	! ! 5	10.9	22	26.81	! ! 29	15.8
!-Children play problems	! 9	116.4	! 4	8.7	! 11 !	113.4!	. 24	13.1
!-Social problems.	: ! 4	! 7.3	! 2	4.3	112	14.6!	1 18	9.8
! !-Inadequate flat area.	: ! 4	1 7.3	! 4	! 8.7	!10	12.2!	! 18	9.8
!-Far from public tran- ! sport routes.	: ! ! 5	! ! ! 9.1	: ! ! 5	! ! !10.9	! ! 7	! ! 8.5! ! !	! ! 17	9.3
!-Too much litter,uneff- ! icient garbage system.	! ! ! 6	! !10.9	! ! 6 !	! !13.0	! ! 3	! ! ! 3.7! ! !	! ! 15	! ! 8.2
!-Access problems within ! the block of flats.	! ! 8	! !14.5	! ! – !	! !	! ! 5 !	! ! ! 6.1! ! !	! ! 13 !	! ! 7.1 !
!-Lack of privacy in ! private open spaces.	! ! 5	! ! 9.1	! -	!	! ! 5	! ! ! 6.1!	! ! 10	! ! 5.5 !
!-Too much insects, flies	: ! 1	1 1.8	! 8	17.4	! – !	! ! ! - !	! 9 !	! 4.9 !
!-Lack of privacy in ! flats.	! ! 1	: ! ! 1.8	! ! –	! !	! ! 7 !	! ! ! 8.5! ! !		! ! 4.4 !
! !-Noise.	! 3	. 5.5	: ! -	!	! 5	! 6.1!		1 4.4
! !-Nothing. !	! ! 22 !	40.0	! 2 !	! 4.3 !	! 12 !	14.6!	! 36	!19.7 !

^{*} The percentages can add to more than 100 because respondents could give more than one answer.

8.2.2 USERS' SATISFACTION AND DISSATISFACTION WITH THE DWELLING

was apparent from the data of the survey that the majority of the respondents were satisfied with their A cross-tabulation between data of residents' attitudes toward their dwellings and their overall satisfaction with their housing environment showed significant correlation between the two (Table 8.2.1). majority of more than three quarters of those residents who "very satisfied" with their overall environment also "very much liked" their flats. On the other hand, two in every seven of those residents who were "very dissatisfied" with their housing environment also "disliked" their flats. This suggests that the dwelling has a significant influence on residents' satisfaction with their housing environment. This finding confirms those of many other studies carried out in America, the U.K. Ireland (D.O.E., Db. 25, 1972, Cooper 1975, Mulvihill 1977, Ellis 1977, Coulson 1980, D.O.E., H.D.D. 1981).

The data from the survey revealed, in residents' responses to a general question about what they most liked about living in the current housing environment, that in relation to the flats they liked the layout of the flat, the perceived easiness of cleaning the flat and maintaining it, the good standards of construction and finishing

materials of the flat, as well as the domestic facilities in the flats such as the hot and cold water and provided the built-in air-cooling system. factors These mentioned, here, according to their number or recurrence in the responses. The influence of these factors residents' satisfaction with their dwellings has been another study, where Peter Ellis suggested in noticed that residents' satisfaction with their dwellings affected by the details of the design, such as the arrangement of rooms in the dwelling and the finishing materials -the latter being perceived by the residents as influencing the cleaning and maintaining chores.

However, the data showed that the residents of complaints in relation to their dwellings. commonest complaint was about the size of the flat. complaint seems to be influenced by the lack of a store in all the types of flats within the three projects, because when the respondents were asked what they would like provided for them if the architect started designing the whole project again, there was a consensus of opinion among projects regarding all the of requirements, in addition to requirements which specific to the individual project. The primary demand, in to the flats, was for a proper storage area in relation them, as the current flats lacked such an area. It was noted during the survey that many of the private balconies

had been closed off to be used as a store, while the rest were also used for storage but without alteration.

The second most frequently reported complaint about the flats concerned the size of the rooms, and particularly the bedrooms. The survey showed that many of the two bedroom flats were over-populated. The two bedroom flats, being cheaper, had been sought after by lower income people who were often, unfortunately, ones with large families. It was notable that the number of these families was higher Saydia 7 project than in the others. Therefore, a considerable number of the respondents found the size of bedrooms inadequate to accommodate extra beds beyond the number designated by the designer. The average number of persons in a two bedroom flat in the Saydia 7, the Saydia 6 Zayoona projects were 7.12, 5.60 the respectively.

In the walk-up flats only a few households in the sample were noted, during the interviews, to have dining furniture in their living rooms; for instance, there were 2 examples in the Saydia 7 and 2 in the Saydia 6 projects, as well as 4 in the Zayoona project. The majority of households in the five storey blocks were noted to have dining furniture. Nevertheless, no complaints about the size of the living room were recorded. However, some of the residents wanted their kitchen to be bigger, though the

reason for this was not clear. It may reflect the absence of a store in the flat and a consequent need to keep food substances in a dry place, or it may be because the living room is too small to accommodate dining furniture and the kitchen must be used instead.

Other less frequent complaints related to services within the housing blocks which affected the residents of individual flats, as, for example, the location of the air-cooling devices in the walk-up blocks, and the problems related to lift maintenance in the five storey blocks.

In relation to the private outdoor spaces, many of the recorded complaints concerned the balconies. Some of the residents in the walk-up flats suggested an increase in the area of the balcony. The reason for this was not clear, but may have been because residents were compelled to used the balcony for storing their household extras, or because of the things they would like to do in them. Complaints in relation to private gardens were also mentioned by those who had made one; these complaints will be discussed under the section about Private Open Spaces (8.7). However, the number of those in the sample who had a garden was so small that it cannot be considered a relevant factor.

Nevertheless, despite these residents' complaints, and despite the differences in the physical characteristics of

the flats and the relatively different social characteristics of the residents, a high percentage of respondents in the three projects had a positive attitude towards their flats with only slight variations between the projects. This suggests that factors other physical characteristics of the flats were contributing result. instance, the residents' perception of For the actual improvement in the current housing experience compared with the previous one might have contributed to the high percentages of residents' satisfaction with their flats. By cross-checking the general characteristics of the residents' previous housing, it was found that the residents were living in accommodation shared of either with kin or with others (Table 8.2.4). respondents who previously shared their accommodation with others generally had occupied one or two rooms in a house, and apparently had experienced acute problems with shortage living and storage space. This situation also implied of that the household shared with the other occupants all spaces such as the kitchen, bathroom and toilet. Moreover, a considerable number of the residents lived in sub-standard housing. having reported as Therefore, the residents were likely to be happier living autonomously in a dwelling, and were more likely to be satisfied with the better standard of the current flats, in relation to number of rooms, and the domestic facilities cold and hot water and the air-cooling system as such

provided for them. Many of the respondents mentioned during the interview that: "we are better off here, having more furniture than before, particularly the living room furniture and the kitchen cupboards and equipment, because we did not have room for them in the previous dwelling". This finding suggests that experience of previous dwelling is likely to influence residents' satisfaction with current one; when they perceive their new environment as an improvement on the earlier one it is more likely to promote their satisfaction with the current dwelling. A study on residents' satisfaction done in Singapore has pointed to similar findings, as has an American study which suggested that when people perceive their new environment as improvement, it may reconcile them to deficiencies in other aspects of the physical environment (Yeh 1974, Francescato et al., 1975).

The ownership of the flats might be another factor which contributed to residents' satisfaction with their dwellings, and might have compensated for deficiencies in the physical design of the flats. Having one's own home implies "settling in", the association with a definite place of one's own, as well as the security and stability that it provides for the family. With regard to the discussion in Section 6.2.3 about the meaning of a dwelling for the individual head of household in Iraqi society, and its psychological value as a symbol of family, security and

stability, the ownership factor is likely to be very influential in promoting residents' satisfaction with their dwellings. Another emotional factor in addition to the perceived satisfaction of ownership is the newness of the dwelling: being the first occupiers adds to residents' enjoyment. Moving to a new home is a major event in people's lives, and people can recall the experience a few months or years later.

In addition to the significant influence of the ownership of the flat on residents' satisfaction, there was another, hidden, factor at work. This was the great investment involved in buying the flats. At the time the survey was carried out, three and a half years after the first owner moved in, the price of the individual flat had tripled. It was revealed in one of the studies that the least satisfied residents were those who felt that their home was a relatively bad investment (Lansing et al. 1970, p.128).

Another factor might be the good neighbourly relationships among the residents, as findings from other studies suggest that residents' perception of the immediate social situation as being satisfactory, can make up for unsatisfactory physical features of the housing (Yeh 1974, Gans 1967). This factor seems applicable in this study as the majority of residents enjoyed positive social

relationships within their estates.

Another factor which is likely to compensate for deficiencies in the physical environment may be the level of privacy in the dwelling, as visual privacy was found to be important to the sample under study, as discussed in Section 8.4. It might be that the "right" level of privacy which the new dwelling provided had contributed to residents' satisfaction.

The findings from the present study showed that inside the dwelling is favoured spaciousness by the majority of households regardless of their status. Unfortunately, more space means more money, which the poor cannot afford. They should at least, therefore, have space where it is most wanted, which for the residents in the sample under study was in the bedrooms. The findings also emphasize the importance of residents' satisfaction with the dwelling in relation to their overall satisfaction with their housing environment, and that their satisfaction with the dwelling is influenced by their previous housing experience. When residents perceived the change in their environment as an improvement, it tended to reconcile them to the deficiencies of the physical environment in other In other words, the findings from this study aspects. indicate that the physical characteristics of the dwelling design only influence residents' overall satisfaction with their housing environment to a degree; people will be satisfied if the housing environment offers them other benefits which are likely to compensate for any deficiency in the design.

In summary, it seems from this study that other aspects of the environment have made up for deficiencies in the physical design of the flats as, for example, the perception of the current dwelling as an improvement on the previous one; the ownership of the dwelling; its value as an investment; satisfactory social relationships; and the degree of privacy in the dwelling.

8.3 NOISE

It has been found in many studies that in the residential environment noise is a major source of complaints as described in Chapter 4. It has also been underlined in the studies that the noises engendered by children's play, and noises from neighbours in other flats, are the major causes of complaint about noise in multi-family housing.

8.3.1 RESIDENTS' ATTITUDES TOWARD NOISE

The residents in the sample were asked to assess level within their dwelling area. A scale of four points was used for the assessment, so noise could be described as being a "great problem", "slight problem", "normal" or "no problem". The majority (56.8%) in the sample found noise either "normal" or "no problem". Only the respondents considered noise a of problem", with 39.9% not considering noise a problem at all (Table 8.3.1). However, the percentages of residents' responses varied among the projects. In the Zayoona the Saydia 7 projects the percentages of residents who considered noise a "great problem" were higher than in the Saydia 6 project; the percentage of residents who did not consider noise a problem was also highest in the Saydia 6 project (Table 8.3.2).

Respondents were also asked to identify the sources of noise they were bothered by. The primary sources of noise, reported by the respondents, were children playing and voices of neighbours in other flats. Of residents who considered noise a problem, the levels of complaint about the noises from other flats were almost equal in the Saydia 7 and Saydia 6 projects (82.1% and 80.0%), and themselves were about double the level of complaints in the Zayoona project (44.4%). In the Zayoona project, it was also found that more people were bothered with children's play noise than with the noise from other flats.

In general, only a few in the sample mentioned noise from traffic among the sources of noise which bothered them (16.5%). Complaints about traffic noise were higher in the Zayoona project than in the Saydia 7 project, and no complaint about it was reported in the Saydia 6 project (Table 8.3.3).

Table 8.3.1- CROSS-TABULATION OF "DO YOU FIND NOISE A PROBLEM"

BY "GENERAL SATISFACTION"

20.1117							
COUNT ROW PCT COL PCT	GENERAL SATISFACTION !						
TOT PCT	! !V.Sat-	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	! ! ROW	
! NOISE !	! !isfied !l !				! !tisfied !5 !	! ! TOTAL !	
! !l. Great ! Problem !		20.7 1 8.2 1 3.3	7 ! 24.1 ! 21.2 ! 3.8			29 15.8	
! !2. Slight ! Problem !	3 ! 6.0 ! 6.5 ! 1.6	24 48.0 32.9 13.1		! 33.3		! ! 50 ! 27.3 !	
! !3. Normal ! !	2 ! 6.5 ! 4.3 ! 1.1	20 ! 64.5 ! 27.4 ! 10.9	25.8 24.2 4.4		!	! ! 31 ! 16.9 !	
! !4. Not a ! Problem !	! 41 ! 56.2 ! 89.1 ! 22.4	31.5 31.5	! 6.8 ! 15.2	! 16.7	!	! ! 73 ! 39.9 !	
COLUMN	46	73	33	24	7	183	
TOTAL	25.1	39.9	18.0	13.1	3.8	100.0	

Table 8.3.2- RESIDENTS' ATTITUDE TOWARDS NOISE.

PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6 !	! ! ZAYOONA !
! ATTITUDE !	! ! %	! ! %	! ! % !
!-Great Problem	18.2	6.5	19.5
!-Slight Problem	32.7	26.1	24.4
!-Normal	20.0	13.0	17.1
!-No Problem	! 29.1 !	54.4 !	39.0 !

Table 8.3.3- SOURCES OF NOISE* (Only those who considered noise a problem in Table 8.3.2 may answer this question)

! ! PROJECTS !	! ! !SAYDIA 7 ! ! !		! !SAYDIA 6 ! !		! ZAYOONA !		! ! TO !	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	
! ! No. in sample. !	! ! ! ! 28 ! ! !		15		! ! 36 ! !		! ! 79 !		
! SOURCES OF NOISE	! No.	! %	No.	! % ! !!	No.	! % ! !!	! No.	! %!	
! !-Children's play.	! ! 2 2	! !78.6	! ! 9	! !60.0!	27	! ! !75.0!	! 58	!	
!-Other flats.	23	182.1	12	180.0!	16	! 44.4!	! 51	! 63.0!	
!-Traffic.	1 3	10.7		! ! ! - !	10	27.8!	: ! 13	16.5!	
!-Others. !	3	10.7	1	6.7! !!	1	2.8!	! 5 !	. 6.3! !!	

^{*} The percentages can add to more than 100 because respondents could give more than one source.

8.3.2 USERS' SATISFACTION AND DISSATISFACTION WITH THE LEVEL OF NOISE

The statistical analysis of the data from the present study showed a significant correlation between residents' general satisfaction and the level of noise (Table 7.7). A cross-tabulation between residents' attitudes toward noise and their overall satisfaction showed that 89.1% of people who were "very satisfied" with their housing environment had considered noise "not a problem" (Table 8.3.1). On the other hand, about three quarters of those who were "very dissatisfied" had considered noise a "great problem" (71.4%).

The data showed that the major sources of noise as perceived by the respondents were the noises engendered by children's play and noises from neighbours in other flats. These factors were also found as sources of complaints in many relevant studies elsewhere. Many of these studies, in the U.K. (MOHLG Db.17, 1969; D.O.E., Db.21, 1970; Db.25, 1972; Db.27, 1973; Research Report 6, 1977; H.D.D., 1981; Noble & Adams, 1968; Shankland Cox & Associates 1969 & 1977; Coulson 1980) and in America (Lansing et al. 1970; Cooper 1975 & 1982), as well as in Ireland (Mulvihill (a) & (b) 1977; Mulvihill & McHugh 1977), underlined these sources as major causes of complaints about noise on

housing estates, particularly in medium and high-density developments. Few residents, in this study, had complaints about other sources of noise such as the noise from traffic. The noise of construction machines on the site was another source of disturbance, which was mentioned by a few respondents. However, it seems that this did not affect their satisfaction -perhaps because they recognised the situation was only temporary and would cease with the end of construction work.

Although the majority of the respondents in the sample were satisfied with the level of noise on their estate, the percentage of respondents who considered noise as a "great varied among the projects, and the number of problem" reported complaints about different sources of noise also differed, as mentioned in Section 8.3.1. Perhaps more than one reason could be the cause of such variations, has been suggested that the level and type of noise in housing environments is influenced by household types, location, and the physical characteristics of the layout design, as well as the child density on the estate (D.O.E, D.O.E., Db.25, 1972; Shankland Cox & 1971; Db.22, Associates 1969 & 1977; Cooper, 1975; Coulson 1980). The influence of these factors will be discussed here, with the exception of households types, as the majority in the sample were family households, and the small number adult households were not sufficient to elicite a firm base for discussion. Thus, the level of noise and the major sources for it will be considered here in relation to the area location, the layout and the child density on the three estates.

(a) The Location

The findings from the data analysis seem to suggest that the location of the sites has influenced the level of noise on the estates in two ways: that is, in relation to noises from traffic and noises from children's play. For instance, the Saydia 6 project is located on the outskirts the city and is surrounded by vacant land. It is about 400m away from the nearest major road. This location away from major roads, together with the low percentage of car ownership on the estate, made it unlikely anyone on the estate would complain about traffic noise. The Saydia 7 project is also located on the city outskirts and has a low percentage of car ownership on it, but on the other hand is close to a major road. This major road abuts one side site, and affects only a few of those living in its proximity. Therefore, of the respondents who considered noise a problem, only one in ten had a complaint about noise from traffic. The Zayoona project is bounded by two major roads. One is directly adjacent to the site, while the other is separated from it by fifty five metres of green-belt. The percentage of people in this project who

complained about traffic noise was more than double that in the Saydia 7 project.

The location of the Saydia 7 project is close high-density low rise housing area, unlike the Saydia 6 project which is not near to any housing area. This the Saydia 7 area an attractive target for local children to come and play in its spacious courtyards. Moreover, the absence of primary and secondary schools in the compelled children from the project to attend schools in the adjacent housing area; consequently the children made friends with children from that area, and tended to bring their school friends to play on the estate. This situation increased the child density in some of the courtyards in the project and, therefore, increased the potential and actual disturbance from play noise. Another impact of location might be noted in the Zayoona project, where the five storey blocks are located near to the walk-up blocks flats on the site. The five storey blocks are accessed by lifts, and, as lifts are not widely used in Baghdad public buildings which are commonly visited by children, are certainly not found in contemporary housing, who live in the five storey blocks envisage the children lifts as play equipment. The lifts also are a source of tremendous attraction to children from the walk-up blocks, who come and play with them. This situation occasionally increases the child density in the areas around the lifts.

(b) The Layout

The layout is discussed here on two levels: one is the layout of the typical floor in the block of flats; that is, the way the flats are arranged on each floor. The other is the layout of the site, including the way the blocks of flats are arranged on the site, the locations where children play, and the detailed design of the external area

The data from the survey showed that the percentage of about noise from other flats was less in the Zayoona than in the other two projects. In the discussion about privacy in the dwelling in the next Section 8.4, it was suggested that the layout of the flats on a typical floor in the walk-up blocks in the Saydia 7 and the Saydia 6 projects has adversely affected aural privacy inside the opposite flats on the floor, and that the layout of the flats on a typical floor in the five storey blocks has had positive effect on aural privacy inside the opposite flats. Thus the way the flats are arranged on a floor in both of the housing blocks has influenced the level of noise inside them and, therefore, the layout likely to have contributed to the higher percentages of respondents complaining about noise from other flats in the Saydia 7 and the Saydia 6 projects than in the project. Thus, in multi-family housing, the way the flats are arranged within the block is likely to influence

level of noise in the flats, as well as to influence the residents' complaints about noise.

Studies have shown that complaints related to are commonest among ground floor residents (Shankland Cox & Associates, 1967). In this study many of the ground floor dwellers in the sample, in both types of housing blocks, had complaints about noises from upper floors and from children's play on access areas and on the immediately outside the flats, but their number in the sample was not sufficient to elicit solid confirmation. has been suggested in other studies that site planning has an influence on residents' complaints about their estate, and in particular, the noise from children's play outside the dwellings (Gutman 1966). The amount external area provided for children's play, and whether it is proportional to the number of children in the area, well as the location of these play areas in relation to the dwellings, are mainly blamed for residents' complaints about noise from children's play (Holme & Massie 1970; D.O.E., Db.27, 1973; Cooper & Sarkissian 1986). In the Saydia 6 project the blocks of flats are laid out in a linear arrangement. The designer intended the between the blocks, among other purposes, to be used for children's play, but without providing a detailed design for them. He identified them merely as green areas on the site plan, spotted with sporadic trees or shrubs and with a number of walkways running through them -as if grass and scattered trees are the only answer to children's play needs. At the time of the survey these spaces were barren -just voids among the masses of the housing blocks as the site work had not yet been done- which effectively made the whole area a children's playground. It was not in the scope of this study to calculate the average number of children using these spaces, as neither the time nor the resources available to the researcher were able to cater for it. Nevertheless, for the sake of the argument, if we theoretically assume that all the children will use these areas for play as the designer had assumed, then there will be, on average, 15sq.m for each child.

In the Saydia 7 project the blocks were mainly laid out around courtyards, which the designer intended, among other purposes, to be used for children's play. At the time of the survey, the condition of these courtyards was similar to the condition of the external areas in the Saydia 6 project, except that the walkways through them were paved and tarmaced. In this project courtyard dimensions vary, as described in Chapter Six. However, two major types can be identified, with 18.5sq.m for each child in one, and 15.5 sq.m for each child in one, and 15.5 sq.m for each child in the other.

In the Zayoona project where the housing blocks are mainly laid out around courtyards, the courts are generally

smaller than in the Saydia 7 project. In the areas surrounding the five storey blocks there is, on average, sq.m for each child; and in the courts amidst the walk-up blocks there is about 13.5 sq.m for each Where the housing blocks were arranged on the site in a linear arrangement, the space for children's play between two opposite blocks is, on average, 11.5 sq.m or less for each child. Thus the area for each child in this project far less than in the former two projects. However, these assumptions and calculations by no means are meant to suggest that the more open space provided per child, the residents will be satisfied. On the contrary, they are intended to indicate that the designated areas of outdoor space for children's play are not alone a proper predictor of residents' satisfaction, thus for each child in the Saydia 7 project the assumed amount of external play was higher than in the Saydia 6 project -yet the highest percentage of residents having problems with noise from children's play, and the lowest number of residents who were satisfied, was recorded in the former project. In the three projects generally, a relatively large proportion external play area outside the dwellings was of the available for each child -more than the minimum area recommended in the planning guides in other countries. instance, the minimum recommended area in the sq.m for each child bedspace in housing areas where there are ten or more child bedspaces (D.O.E. Circular

Scottish Housing Handbook 3, 1977). It seems that generous provision of play is inadequate if the areas have nothing in them to tempt the children to play away from the dwellings. Thus children tended to congregate around the base of the housing blocks.

Findings from the present study suggest that it is the lack of proper design for the external areas around housing blocks, and the location of the play areas immediately outside the blocks without any barrier zone, rather than the size of the area designated for play, that is likely to be the reason for residents' complaints about noise from children's play. The study also points to the importance of a proper detailed design for the external areas, and particularly those contiguous to the housing blocks. The designer should be cognizant of its influence on residents' complaints including, other things, complaints about noise, as well influence on their overall satisfaction. A German in Doxiadis 1974) has found that "children gauge (cited their freedom not by the extent of open areas around them, but by the liberty they have to be among things and people that excite them and fire their imagination. Another has found that when courtyards study British excessively large in size, children tend to congregate in other, more intimate places such as doorways, garages, driveways and so forth (Milton Keynes 1975).

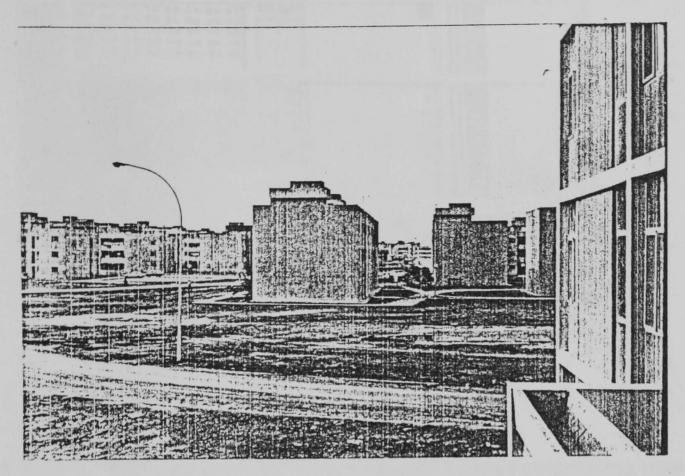
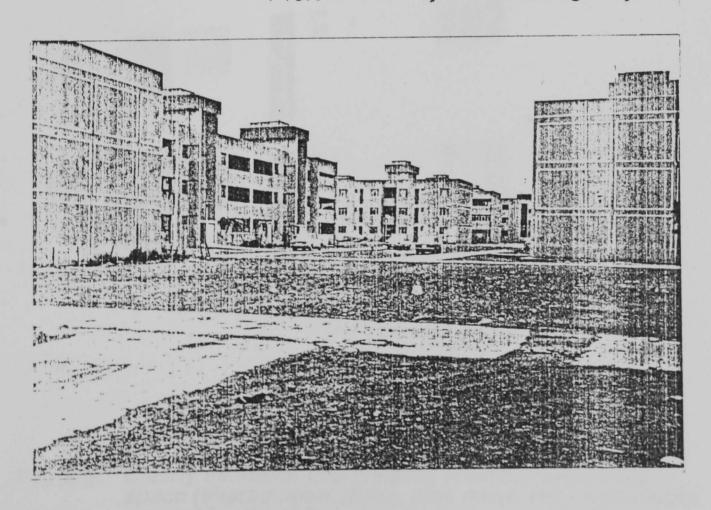


FIG.8.3 The Zayoona Housing Project.
No man's land.

FIG.8.4 The Saydia 7 Housing Project.



Lack of detailed design.



FIG.8.5 A design decision which caused a lot of complaints was the lack of separation between private and public spaces.

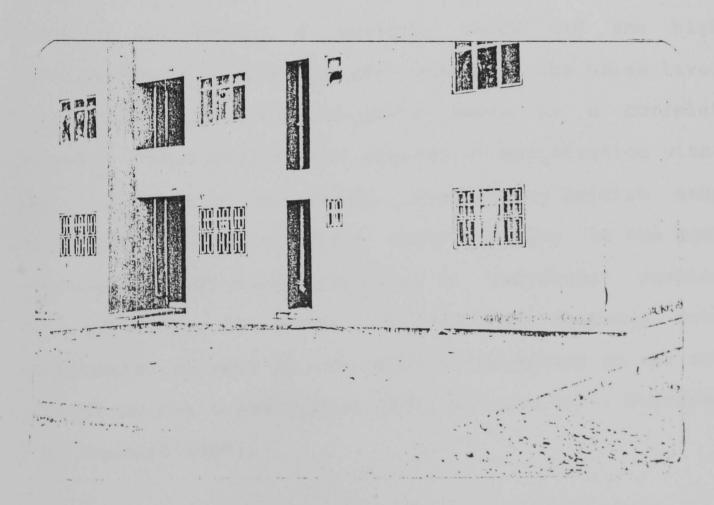


FIG. 8.6 Clearly delineate public space (streets) community space (shared open space, play areas, etc.) and private space (dwellings and private open spaces) (Newman, 1972).

(c) Children's Density

The data from the survey showed that the child density was relatively high on the three projects, being highest in the Saydia 7 project and lowest in the Saydia 6 project. The child density was 160 children/hectare (64 child/acre) Saydia 7 project, 112 children/hectare Zayoona, and 89 children/hectare (36 child/acre) in the child/acre) in the Saydia 6 projects. The highest child density occured in the Saydia 7 project, which also had the highest percentage of residents who considered the level of noise a "great problem". As the lowest child density was found in the Saydia 6 project, which had the highest percentage of residents who considered the noise level as "no problem", the study suggests there is a correlation between child density and residents' satisfaction with the level of noise on the estate. Many recent British studies have also suggested that child density in the housing environment influences the level of residents' complaints to noise, privacy and disputes between relation in neighbours, as well as the level of vandalism on the estate (Shankland Cox & Associates 1977, Willson 1977, Westminster City Council 1980).

The number of children in housing blocks was relatively high. The average number of children in a housing block in

the Saydia 7 project was 43 (3.6 per household), and in the Saydia 6 project it was 34 (2.9 per household). The number of children in the Zayoona project ranged from 28 walk-up blocks to 36 in the five storey blocks (2.4 per household). It has been found in the studies that children will always play near home, unless they general are attracted to play somewhere else (Holme and D.O.E., Db.27, 1973; Cooper & Sarkissian 1986). Therefore the high child density within the block means a higher percentage of children playing on the ground floors of the blocks and on areas immediately outside them -which likely to increase the residents' complaints about the noise level in the local area immediately outside block. Hence, the highest average number of children per block of flats in the Saydia 7 project is likely to be reason for the highest percentage among the projects of respondents considering noise as a "great problem". suggests that the high child density within the block is an important factor in relation to the noise level not only within the individual block, but also in the local immediately outside it. Thus in multi-family housing the child density per block is a relevant measure prediction of residents' satisfaction with the level of noise in their housing environment.

It is noteworthy that the actual child density per block in the Zayoona project was near to that in the Saydia

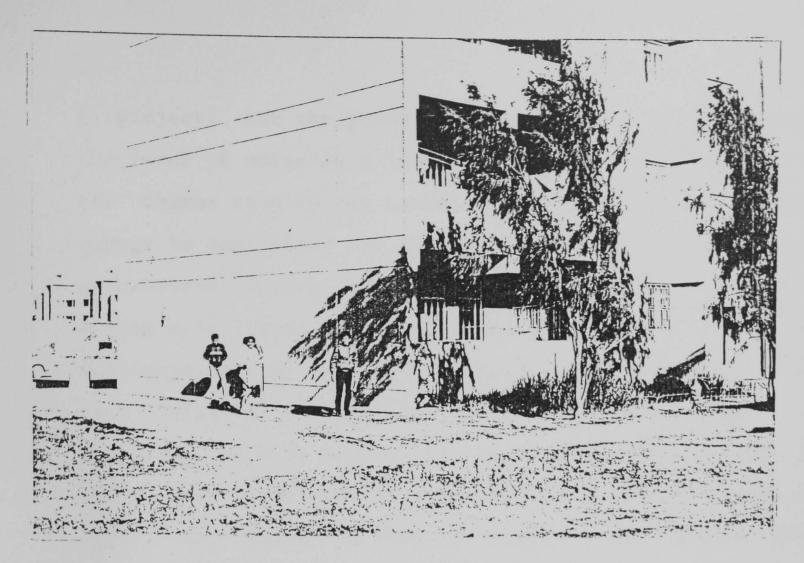


FIG. 8.7 Playing close to the housing block



FIG. 8.8 Children played on other people's immediate surroundings.

project, but the percentage of residents who considered the level of noise as a "great problem" was much higher the former than in the latter project. This finding might appear to contradict the previous statement, but an actual observation survey may prove otherwise. It was noted during site visits to the five storey blocks to interview residents, and by accidental observation during the visits, children congregated around the lift areas. addition, the high number of complaints about abuse lifts and vandalism in the five storey blocks seems to support the contention that the number of children in these blocks is rather more than the actual number elicited from the data of the survey. The occasional invasion of the five storey blocks by children from the walk-up blocks wanting to play with the lifts increases the child density within the blocks from time to time, which in turn raises residents' complaints about the level of noise.

In summary, the level of noise in this study was found to be influenced by the location of the housing development, the layout of flats within the housing blocks, and by the child density on the estate. The influence of site planning and the child density, as the data analysis has shown, suggests that the way the blocks are arranged on the site affects the local child density and thus residents' attitudes towards the level of noise on the estate. Hence, the high child density within the block has

an important influence on the noise level within the individual block and in the local area immediately outside it.

The study indicates that the layout of the estate to the provision and location of children's play areas, as well as the landscape details and screening, is a significant factor in residents' overall satisfaction with level of noise on their estates. It is apparent that no particular attention had been paid to the issues child density and child play behaviour. This was due to the designers' lack of knowledge of the characteristics the residents for whom they were designing, their ignorance of the importance of the areas around the dwellings in the their lack of awareness of residents' lives, and importance of children's play as a constructive factor in their development. It might also have been due designers being unaware of the link between child density and conflicts between adults and children. In addition this, the cutting of the budget by the financing Authority, concentration on spending on buildings so as to create more dwelling units, meant that little money was available for treating the spaces around the buildings.

8.4 PRIVACY

Privacy in the housing setting has been defined, in general, as freedom from social contact and observation when these are not desired (Halmos 1952), or it is freedom from intrusion which may be visual, aural or social. The findings from other research, as discussed in Chapter Four, suggested that the need for privacy varies according to culture (Hall 1966, Altman 1975, Ittelson et al. 1974). The meaning of privacy is also suggested to be variously perceived and valued by residents according to status and stage in life cycle (Willis 1963, Francescato et al. 1975, Ittelson et al. 1974). The findings of the studies also suggested that residents need privacy in the private areas immediately outside the dwellings as well as inside them (Cooper 1975, Coulson 1980).

8.4.1 RESIDENTS' ATTITUDES TOWARD PRIVACY

In this study residents' responses to privacy in the dwelling, as well as in the private areas immediately outside it, were investigated in general. A general definition for privacy was given to the respondents instead of the word "privacy", because there is no equivalent word in the Arabic language, (as discussed in Section 6.2.2). The definition was given, in broad terms, as "The freedom of personal behaviour for the household in the dwelling and

in the private areas immediately outside it". Similar definitions to this such as "no inhibitions on activities" and "freedom to live one's own life" have been found in a number of British studies, which were seeking to get a definition for privacy from the respondents, mainly from low-income groups, themselves (Willis 1963, Kuper 1953, Byrom 1979).

The respondents were asked to assess the level of privacy inside their dwellings on a three points scale. "Too little", "about right" and "too much" are the levels offered in the scale, plus the "do not know" option for those who were confused and uncertain about their attitude. The data analysis showed that the majority of the residents in the sample were satisfied with the level of privacy inside their flats, as 78.1% of them perceived the level of privacy as "about right". There was, however, a considerable percentage of residents who considered privacy level as "too little" (17.5%) as well as a minority of only 3.8% who considered it as "too much" (Table 8.4.1).

Despite the majority of residents in the sample being satisfied with the level of privacy inside their flats, considerable differences were recorded among the three projects. The highest percentage of residents' assessment of privacy as "about right" was found in the Saydia 6 project (95.7%), followed by the Saydia 7 project (80%) and

the Zayoona project (71.9%). The percentage of respondents in the Zayoona project who considered the level of privacy as "too little" was 23.2% -higher than that in the Saydia 7 (18.2%) and Saydia 6 projects (only 4.3%). The assessment of the level of privacy inside the flats as "Too much" was only recorded in the Zayoona project, though the percentage was only 4.9% (Table 8.4.2).

relation to privacy in the balconies and private Ιn gardens, a similar scale was offered to the residents assessment of the level of privacy in the areas the immediately outside their dwellings. The analysis of survey data showed that the majority of the residents in the sample (78.7%) considered the level of privacy in these areas as "about right", while nearly one quarter of respondents in the Saydia 7 and Zayoona projects (23.7% & 23.2%) considered the level of privacy as "too little"; none of the respondents had considered it as "too much" (Table 8.4.3). However, the factors contributing to the residents' perception of the level of privacy in the outside their dwellings as being "about private areas right", were suspicious. It seems that people had formed such an attitude although the foundations of such a position were not clear. In some cases it appeared to be an expression of apathy and in others an expression of conviction. This, will be discussed in the following Section.

Table 8.4.1- CROSS-TABULATION OF "PRIVACY INSIDE THE DWELLING"

BY "GENERAL SATISFACTION"

COUNT ROW PCT COL PCT	GENERAL SATISFACTION						
TOT PCT	! !V.Sat- :	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	! ! ROW	
! !PRIVACY INSIDE !	! !isfied !l !	! ! fied !2 !		! !isfied !4 !	! !tisfied !5 !	! ! TOTAL ! !	
! !l. Too Little ! !	! ! ! ! !	! ! 8 ! 25.0 ! 11.0 ! 4.4		! 7 ! 21.9 ! 29.2 ! 3.8		32 17.5	
! 2. About Right!!	! 31.5		. 63.6	15 10.5 62.5 8.2		! ! 143 ! 78.1 !	
! !3. Too Much ! !	! ! !	3 ! 42.9 ! 4.1 ! 1.6	2 28.6 6.1 1.1	8.3		! 7 ! 7 ! 3.8 !	
! !4. Don't Know ! !	! 1 1 ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !					! ! 1 ! .5	
COLUMN TOTAL	46 25.1	73 39.9	33 18.0	24 13.1	7 3.8	183 100.0	

Table 8.4.2- RESIDENTS' ATTITUDE TOWARDS PRIVACY INSIDE THEIR DWELLINGS.

PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6 !	! ! ZAYOONA !	!! !! TOTAL
! ATTITUDE !	! %	! ! %	8	9
! !-Too little	! 18.2	4.3	23.2	17.5
!-About right	! 80.0	95.7	71.9	1 78.1
!-Too much	! !		4.9	1 3.8 1
!-Don't know !	! ! 1.8 !	! ! !	! ! ! !	! 0.5 !

Table 8.4.3- RESIDENTS' ATTITUDE TOWARDS PRIVACY IN THE PRIVATE OPEN SPACES.

! PROJECTS !	! !SAYDIA 7 !	! !SAYDIA 6 !	!!ZAYOONA!!!!	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
! ! ATTITUDE !	! ! % !	! ! %	! ! % ! !!	! ! % ! !!
! !-Too little	! ! 23.7	13.0	23.2	! 20.8 !
!-About right	74.5	87.0	76.8	! 78.7 !
!-Too much			!	!!
! !-Don't know !	1.8			0.5

Table 8.4.4- CROSS-TABULATION OF "PRIVACY IN THE PRIVATE OPEN SPACES" BY "GENERAL SATISFACTION"

COUNT ROW PCT COL PCT	GENERAL SATISFACTION !						
TOT PCT	! !V.Sat-	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	! ! ROW	
	! !isfied !l !	! ! fied !2 !	! ! erent !3 !	! !isfied !4 !	! !tisfied !5 !	! ! TOTAL ! !	
! !l. Too Little ! !	! 1 ! 2.6 ! 2.2 ! .5	9 ! 23.7 ! 12.3 ! 4.9		! 12 ! 31.6 ! 50.0 ! 6.6	! 85.7	38 20.8	
! !2. About Right! !	1 30.6		9.7		1 .7 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1 .1	! ! 144 ! 78.7 !	
! 3. Too Much ! ! !	! ! ! !	! ! ! !	! ! ! ! !	! ! ! !	! ! !	! ! ! !	
! !4. Don't Know ! !	! 1 ! 100.0 ! 2.2 ! .5	! ! !	! ! ! ! !	! ! ! ! !		! ! .5 !	
COLUMN TOTAL	46 25.1	73 39.9	33 18.0	24 13.1	7 3.8	183 100.0	

8.4.2 USERS' SATISFACTION AND DISSATISFACTION WITH THE LEVEL OF PRIVACY IN THEIR HOUSING ENVIRONMENT

The statistical analysis of the data from the present study showed a significant correlation between privacy level and users' overall satisfaction: 97.8% of respondents who were very satisfied with their housing environment considered the level of privacy in their flats as "about right" (Table 8.4.1). On the other hand, 100% of the respondents who were very dissatisfied considered the privacy level in their flats as "too little". This finding underlines the importance of privacy to the residents in the sample. A number of studies in Western cultures on aspects of housing environments have suggested privacy, in general, significantly affects residents' satisfaction with their housing environment, and that the. lack of privacy or the excess of it is one of the underlying aspects of residents' dissatisfaction, described in Chapter Four.

Only a few respondents -that is, 3.8% of the whole sample- considered the privacy level "too much". Nevertheless, they were found to be not too bothered with it and were even generally satisfied. This could be attributed to the individual personalities of these few respondents as it has been suggested that privacy needs

vary according to personality -i.e. introverts seem to need it more than extroverts (Willis.C., 1963).

The findings here, however, emphasised the importance of privacy inside the dwelling for the residents under study, and its influence on residents' overall satisfaction with their housing environment. Other evidence from this study which testified to the importance of privacy for the residents is that the lack of privacy was the reason most often quoted by those people who wished to move out of the projects under study (Table 7.6). This finding also coincided with the discussion in Section 6.2.2 about the importance of privacy in dwellings in the Iraqi culture.

To investigate the variations recorded among the three projects in residents' assessment of the level of privacy inside their flats, the influence of the physical design of the three projects has to be questioned. As described physical investigation of the Six, the Chapter characteristics of the designs of the projects revealed certain differences among them. influence of the The physical characteristics of the design on the privacy level inside the flat, as perceived by the residents positively negatively, will be discussed in the following Section.

The data analysis has revealed a significant

correlation between privacy in the areas immediately outside the dwelling -that is, the private balconies gardens- and the level of residents' satisfaction (Table 8.4.4). It has been shown in the data that 95.7% of respondents who were very satisfied with their housing environment considered the privacy level in these areas "about right", and 85.7% of those who were dissatisfied had considered the privacy level as little". However, it has to be recognised here that the respondents answered this question about the level privacy in their private open space regardless of its form, whether they had a balcony, a garden or both. It was also not clear how they made their assessments: if according to the activities they performed in their balconies, to which of those activities did their judgement refer? Only a few used the balcony for sitting out, others used it for drying the washing or for children's play, Moreover, the physical for storage. it characteristics of the design of these areas varied with housing blocks; for instance, the characteristics of the the balcony of a typical flat in the walk-up blocks -such size, shape, location and the detail design of the as railing- were different from those in the five storey Therefore, these findings about the privacy level in private open space need to be taken cautiously as responses were not sufficiently specific.

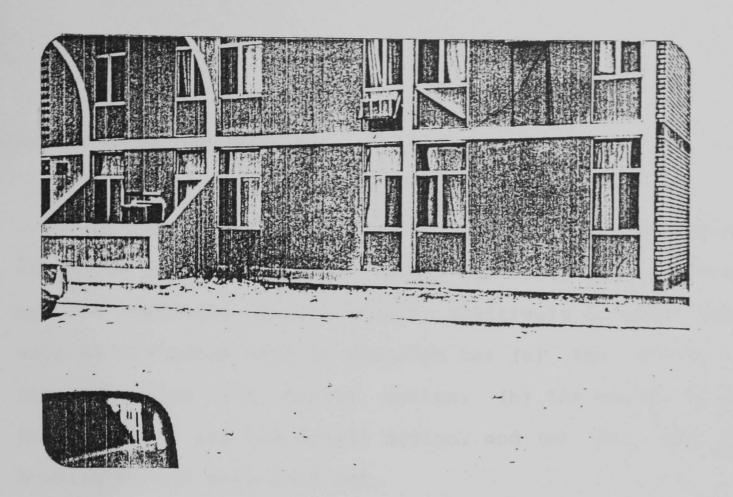


FIG.8.9 The five storey blocks: Curtains had to be drawn most of the time to retain privacy inside the dwelling.

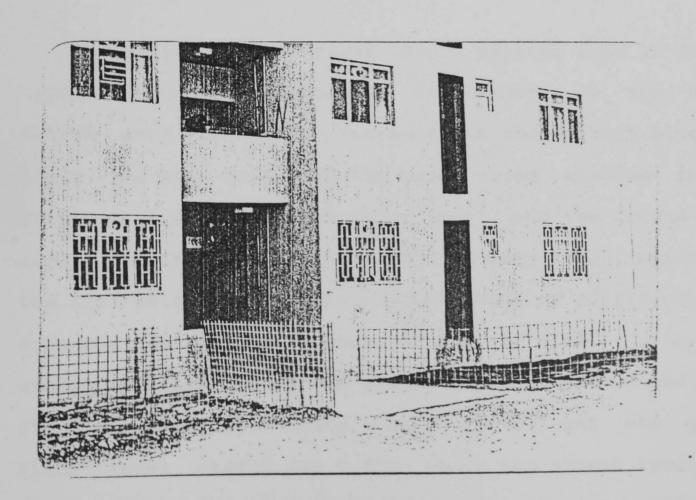


FIG. 8.10 The walk-up blocks: The higher window sills and the use of fly mesh screen on the whole window promotes privacy inside the dwelling.

PRIVACY INSIDE THE DWELLING

The influence of the physical characteristics of the design on the privacy level inside the flat, as perceived by the residents of each project positively or negatively, will be discussed here in relation to: (a) the design of the flat and its detail design, (b) the design of the housing block and its detail design, and (c) the way the housing blocks were laid out.

(a) The Flat Design:

Comparing the designs of a typical flat in the two types of blocks, considerable differences in the detail design were found. For instance, in the walk-up blocks of flats, the sill height of the major room windows in the flats was 1.30m above the floor level, and the ground floor level itself was 0.40m above the walkway level, which made the sill height well above the eye sight of passers-by and enhanced the level of privacy inside the flat. In the five storey blocks, where the window sills of the ground floor flats were only 1.0m above ground level, and the ground floor level itself was 0.40m above the street level, the inside of the flat was within eye sight of most passers-by.

Another difference between the two flats was detected the detail of the windows. The windows of the major rooms in the walk-up blocks had a metal fly-mesh outside which had a similar effect in relation to visual clarity as net curtains: in other words it was possible to see out but not in. In the five storey blocks the metal fly-mesh did not, as in the former type, cover the area of the windows but only the openable parts, and therefore was ineffectual in protecting the inside of flats from overlooking. It has been revealed in a number studies that ground floor dwellers often have complaints about privacy when neighbours and passers-by can easily look inside their dwellings (Cooper 1975 & 1986, Mulvihill seems that these particular 1977, Coulson 1980). Ιt details of the flat design had promoted a greater level of visual privacy inside flats in the walk-up blocks than in the five storey blocks; this was particularly so in relation to the ground floor flats.

(b) The Design of The Housing Block:

The detailed design of the two different blocks of flats was also investigated in relation to its influence on the level of privacy inside the individual flats. Noise is often the principle evidence of the life of neighbours, particularly during the early stages of residence. Gutman (1966) has suggested that noise from other flats such as

noises from loud entertainment equipment or inarticulate voices, when not accompanied by more civilised forms of communication and contact, accounts for much of nuisance and dissatisfaction reported by the occupants of multi-family housing. Physical proximity with a lack adequate sound insulation are the design factors to which complaints about sound transmission between flats multi-family and terrace housing are ascribed. typical floor in the walk-up blocks there are two only. The entrance doors of these flats are directly opposite to each other with a landing 2.75m. wide This physical proximity is likely to separating them. affect the level of aural privacy inside the flats, their entrance doors lacked sound particularly as insulation. Though the noise level inside these flats the researcher while interviewing measured, residents of such flats noticed that noise from loud conversation or music could easily be heard from the opposite flat. Moreover, once the main doors are open whole interior of the flats is exposed and could be easily overlooked by residents in the opposite flat. interviews with respondents who live in the five storey blocks where the distance between the opposite flats 5.75m -about double the distance in the walk-up floor is blocks- the researcher noted that noises from the opposite flat could hardly be heard. The investigation about pattern of social interaction within the projects under study, as discussed in Section 8.1.2, had revealed that some respondents had their nearest friends living in the same block of flats, but not much of the social interaction turned out to be between those who lived on the same floor and were physically nearest to each other. As discussed earlier, the physical proximity of the opposite flats, due to the design of the walk-up blocks (the most commonly used type of housing block in these projects), might be the cause of this pattern of social interaction. The large number of residents of ground floor flats in the walk-up blocks (80%) who opened a door from their balconies to the outside, and used this door as a substitute for the main entrance door from within the block, is likely to be reaction against such proximity between the opposite flats and might be taken as further evidence that such proximity undesirable -particularly as in the five storey blocks none in the sample were found to have made a doorway from pattern seems to indicate that too This their balcony. much contact and too much exposure of information about the self to others are likely to result in self-withdrawal, if In other words conflicts with neighbours. proximity is likely to negatively affect social Therefore, this finding indicates that designers need to be cognizant in their designs of the undesirablity of too much contact.

The site visits and the survey data showed that in the

walk-up blocks a considerable number of residents ground floor flats had opened a door from their balcony to This was used as a direct exit to the outside the outside. as well as to the private back gardens when the residents had made Residents were often found to use these these. doors as the main entrance to their flats, and the balcony as an entrance porch, abandoning the original main entrance within the block. The residents might have made this alteration for privacy reason, as the lack of space between the entrance door and the beginning of the staircase abutting it in the lobby was adversely affecting privacy level in the flats. Household's need for autonomy; that more private by not sharing an entrance hall with other residents of the block, could also be met by using entrance porch. The many complaints balcony as an recorded during the survey about the cleaning of the shared access areas and the abuse of it by young children who play there, indicate that this is an unpopular area within housing blocks.

Another feature to be investigated in the design of the multi-family housing blocks was the party wall between adjacent flats, as it has been suggested that the lack of adequate sound insulation in the party walls in multi-family housing negatively affects privacy in adjacent flats (Gutman 1966). In the walk-up blocks, when two unit blocks were joined together on the site, adequate sound

insulation was used in the party wall between the adjacent flats. In the five storey blocks there was no party wall between the flats on the same floor, as the floor has a "T Shape" form with each flat on a different side; in addition, the unit blocks were used individually on the site and not combined with others. Therefore, the situation in relation to noise from adjacent flats was similar in both types of blocks, with no noise from the adjacent flat detected by the researcher during the interviews which took place in them.

Investigating physical differences in the detail designs of the two types of blocks, no difference was found between the detail of the floors in them, as both lacked any sound insulation in them.

that in multi-family housing noise from other flats and from children's play is a major reason for residents' complaints (D.O.E., Db.25, 1972; Cooper 1975; Mulvihill 1977). In this study, though aural privacy was not specifically investigated, complaints about noise from the respondents in the sample were recorded which were associated with noise from children's play and the noise from other flats. As discussed in Section 7.3, the percentages of these complaints about noise from other flats were found in the Saydia 7 and the Saydia 6 projects

to be higher than that found in the Zayoona project. These findings suggest that the physical design of the five storey blocks promoted a higher level of aural privacy in the flats than that of the walk-up blocks.

Ιt seems here that the aforementioned physical characteristics of the flat design had participated in promoting a high level of visual privacy inside the flats of the walk-up blocks compared with those in the five storey blocks. On the other hand, the physical characteristics of the block design of the five storey blocks had positively influenced the level of aural privacy in the flats, unlike the design of the walk-up blocks. Thus these findings underline the influence of the physical characteristics of the flat design, as well as the design individual block, on the residents' perception of the level of privacy; and that is their detailed design in particular which is likely to affect the level of privacy inside the flats.

These complaints about noises from other flats, though existing in the current study, seem not to have significantly affected the residents' satisfaction with the privacy level in their housing environment, as where the majority of residents of the three projects were found to be generally satisfied with the level of privacy inside their flats. Residents might have been influenced in this

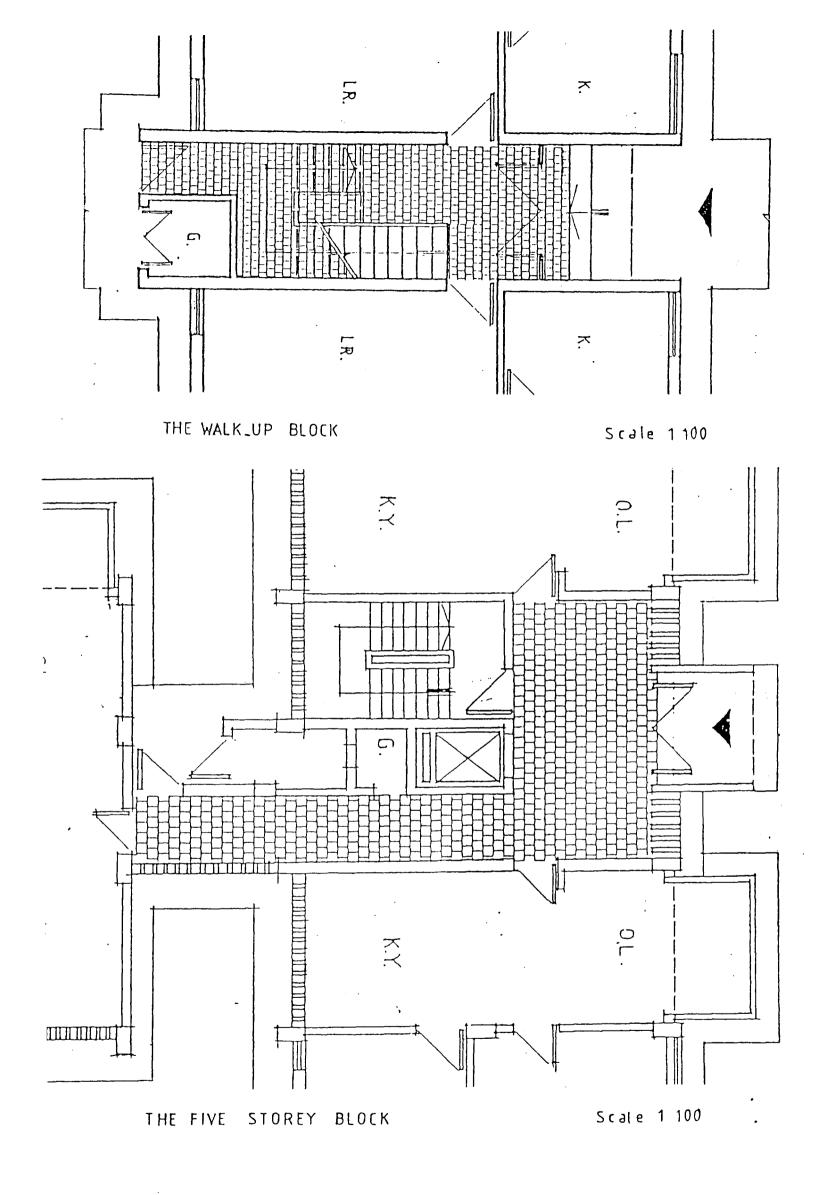


Fig. 8.11 The lobby area on ground and typical floor.

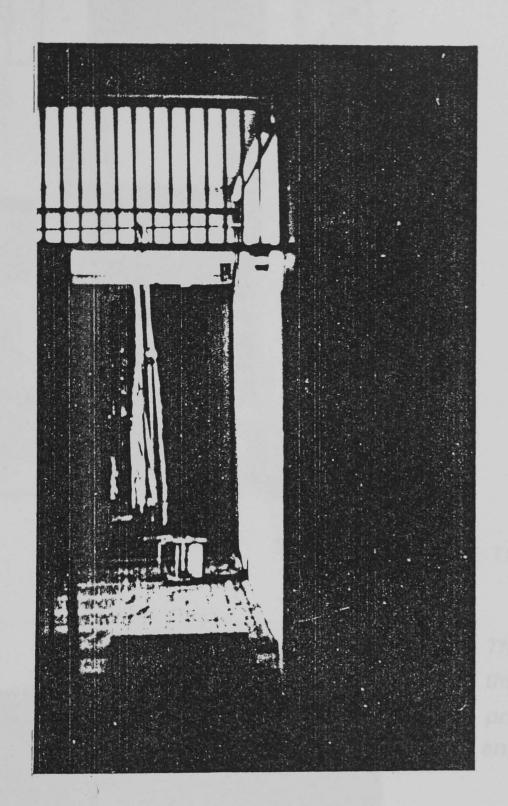


FIG.8.12 Passage area between opposite flats.

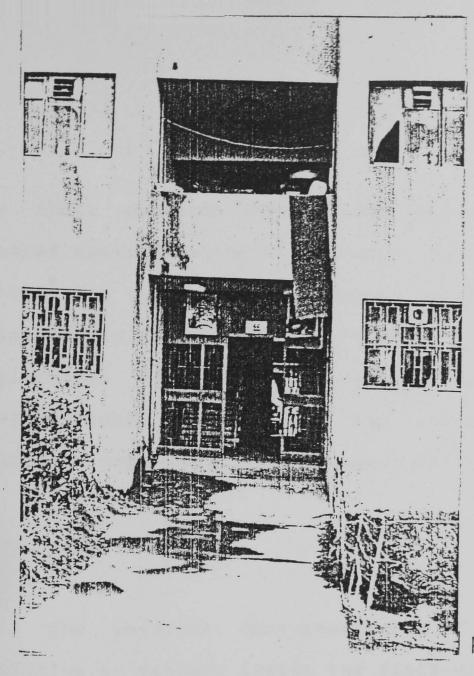


FIG.8.13 The walk-up blocks.



FIG.8.14 The awkward location the staircase in close proximity to the flats' entrance door.

by their previous housing experience, as most of them had shared their dwelling with others and many of them had lived in overcrowded housing where noise and child disturbance were normal occurrence. Francescato and his colleagues suggested that privacy needs are determined by expectations, by comparing the existing situation with previous experiences (Francescato et al., 1975).

(c) The Layout Design:

physical characteristics of the layout design in relation to privacy inside the flats were investigated three projects in terms of the arrangement of the blocks of flats on the site and the distances between blocks. The investigation has revealed differences between the projects in these physical characteristics in the spatial arrangement and the way the housing blocks were arranged on the sites (Fig 6.2 & 6.16 & 6.30). The housing the Saydia 7 and the Zayoona projects were arranged around courtyards, whilst they were arranged in a on the site of the Saydia 6 project. linear manner inter-block distance, which helped to enhance the level privacy between the opposite blocks, was 26m (86 feet), on average, in the Saydia 6 project, and the shortest distance between opposite blocks was 22m (73 feet) in the Saydia 7 project. In the Zayoona project the inter-block distances

varied, from 32m (106 feet) on average amidst the five storey blocks, whilst amidst the walk-up blocks it was 13, 15, 19 and 22m. (43, 50, 63, 73 feet). The courtyards in Saydia 7 project tended to be large. In general, the average size of a courtyard in the Zayoona project was smaller than that in the Saydia 7 project. It seems from this study that it is not only the way the housing blocks are arranged that matters in relation to residents' privacy, but the inter-block distances, as the percentage people who considered privacy level as "about right" in the Saydia 6 project was higher than those in the Saydia 7 the Zayoona projects. However, comparing the two and latter projects, about one quarter of the respondents project considered their privacy level the Zayoona inadequate, which was more than that in the Saydia 7 project where the percentage was about one fifth. result indicates that the inter-block distances and courtyard sizes, which were larger in the Saydia 7 than in the Zayoona project, are likely to have influenced degree of residents' satisfaction with the privacy level. The influence of the size of the courtyards on privacy has been indicated in other studies in America, the U.K and Ireland (Cooper 1975, Milton Keynes 1975, Mulvihill 1977). Clare Cooper in her study of Easter Hill Village in California, found that people facing onto a street were likely to be more satisfied with their housing environment than those facing directly onto a small courtyard, because

the layout affected the privacy of those who lived around the court and led to irritation and conflicts amongst residents. Another study of Milton Keynes New Town has also indicated that dwellings around a courtyard have less privacy than dwellings on a street. It also indicated that when the size of the courtyard was 1400-2970sq.m, about 80% of the residents were satisfied, whilst when the courtyards size was reduced to 1300 sq.m the residents' satisfaction dropped to 55%. On the other hand, it has also been found in Milton Keynes, that an excessively large size courtyard was not appreciated by the residents (Cooper & Sarkissian 1986, p.121).

study indicated this findings from The satisfaction with privacy among those residents who live in housing blocks arranged on the site in a linear likely to be higher than among those which their housing arranged around courtyards. The size of courtyards also had some effect on residents' satisfaction as it affected the privacy level of the housing blocks around them. Thus, these findings emphasize the importance influence of both site planning and the detailed design of the physical elements of the built environment on peoples' lives.

To summarize the findings from this study in relation to privacy, it seems that the significant correlation

between residents' satisfaction and their perception of the level of privacy inside their flats as "about right" is likely to be due to the high value placed on visual privacy in the dwellings. Aural and social forms of privacy did not seem to have a crucial influence on residents' overall satisfaction, despite there being indications of residents' having complaints about them, as discussed earlier. It also seems that the "right" level of visual privacy, as perceived by the residents, has compensated for the lack in aural privacy both in terms of residents' satisfaction with privacy inside the flat, and of their overall satisfaction with their housing environment.

The findings underline the influence of the physical characteristics of the design of the flat itself, the individual housing block, and the layout of the blocks on the site, on the residents' perception of the level of privacy in their housing environment. The findings also indicated that when the housing blocks were arranged around courtyards, the size of the courtyards was a factor in residents' general satisfaction with the level of visual privacy.

PRIVACY IN THE PRIVATE OPEN SPACES IMMEDIATELY OUTSIDE THE DWELLING

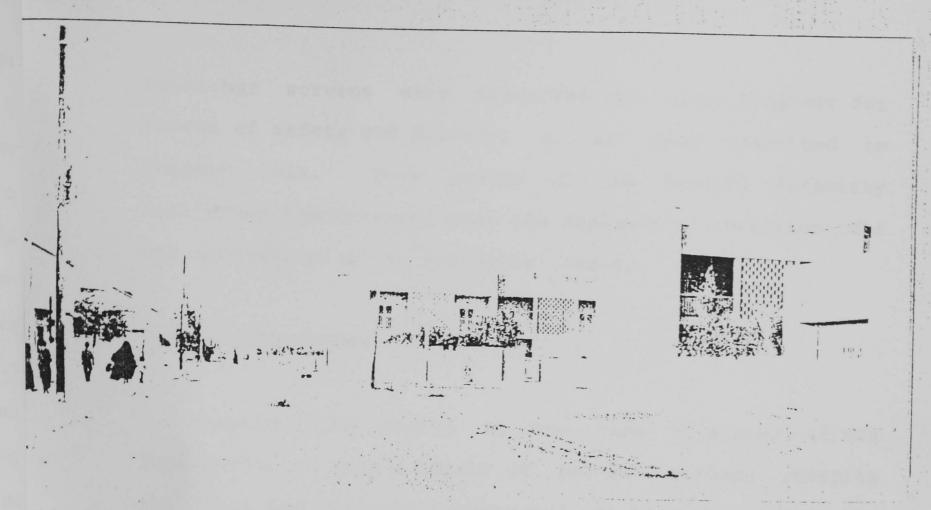
(a) The Balcony

designers had opted to provide balconies as a private open space for all the flats in both types housing block, including the ground floor flats. five storey blocks the designer provided additional semi-open space in flats, which has been termed the "outdoor living" space and "kitchen yard". It was notable, at the time of the survey, that a considerable number alterations had been made to the balconies and the semi-open spaces, as has been discussed in Chapter 6. data from the survey revealed different usage patterns for these areas than those intended for them by the designers, which will be further discussed in Section 8.7.

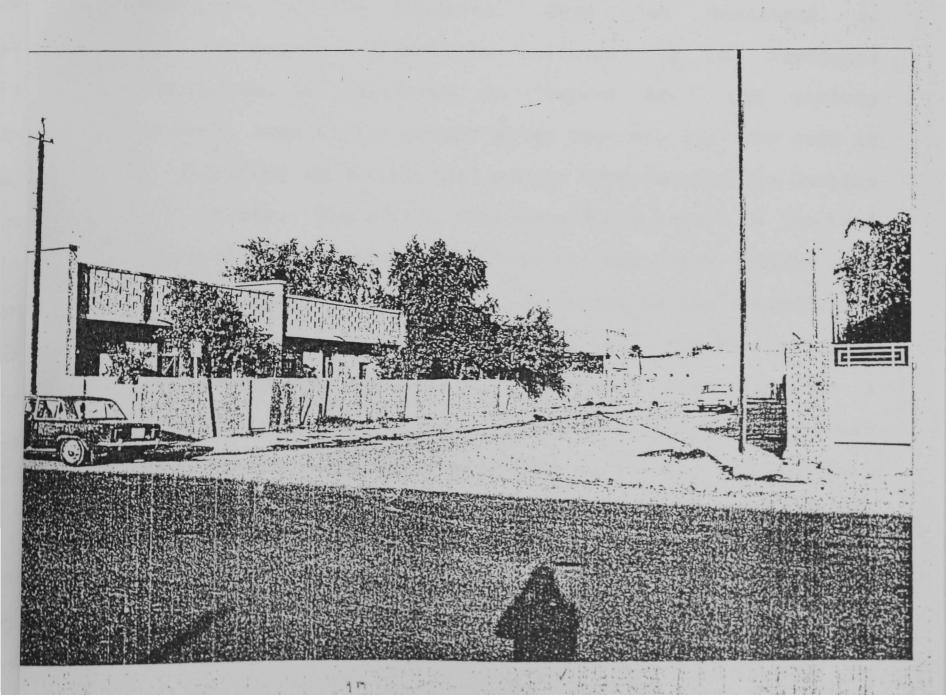
The data analysis showed that the majority of the residents considered the level of privacy in their balconies as "about right". However, this finding has to be regarded cautiously as residents gave their assessment about the level of privacy on their balcony even if they had closed it off. Moreover, they also gave their assessment regardless of what they were using their balcony for: for instance those who were using it for sitting out

might need a different level of privacy than those who used storing extra household goods. It has suggested, in relation to privacy in private open spaces, that the variations in demand for privacy are very much related to the type of activities to be performed within them (Cook 1969). In addition to these factors, there were considerable differences between the physical characteristics of the design of the balconies after the alterations took place, as well as the differences already existing between balconies in the walk-up blocks and the five storey blocks. Moreover, some of the ground floor dwellers who had a private garden outside their balcony had better privacy protection for their balconies than those who did not. Further research is therefore needed sample out the types of balconies according to their physical differences, and according to a list of uses based on the findings of this study. This will allow the activities being performed to be correlated with residents' assessment of the privacy level in A sample including ground floor flats only balconies. should also be investigated to find out residents' reaction towards privacy in their balconies.

Another alteration in the balconies of ground floor flats of the walk-up blocks was particularly noted in the Saydia 6 project, where all the balconies were changed during the implementation process by the Housing Authority.



.8.15 & 8.16 Privacy inside the house... balcony and garden.



Steel-bar screens were installed to close them off for reason of safety and privacy, as has been described in Chapter Six. This action of the Housing Authority explicitly demonstrated that the designer's intention did not coincide with the residents' needs.

(b) The Private Garden

During site visits at the time of survey, it was interesting to note a number of private gardens -despite the fact that private gardens had not been intended by the designers of the projects. They had developed post-occupancy alterations initiated by the residents themselves, as described in Chapter Six. For various reasons some of the ground floor dwellers felt the need to do something about the arid public land immediately outside their flats. Therefore, they fenced off a part of the land immediately abutting their flats at the back and/or the These "gardens" areas varied in their condition: front. different types of fencing had been used, and some had been planted and some had not, but in general they were in a When those residents in the sample who had state. made a garden were asked what they used their garden for, slightly less than half of them said that they did not use it for any activity, and that they only made it to provide barrier to keep people at distant (Section 8.7). Therefore, it seems that many of the ground floor dwellers,

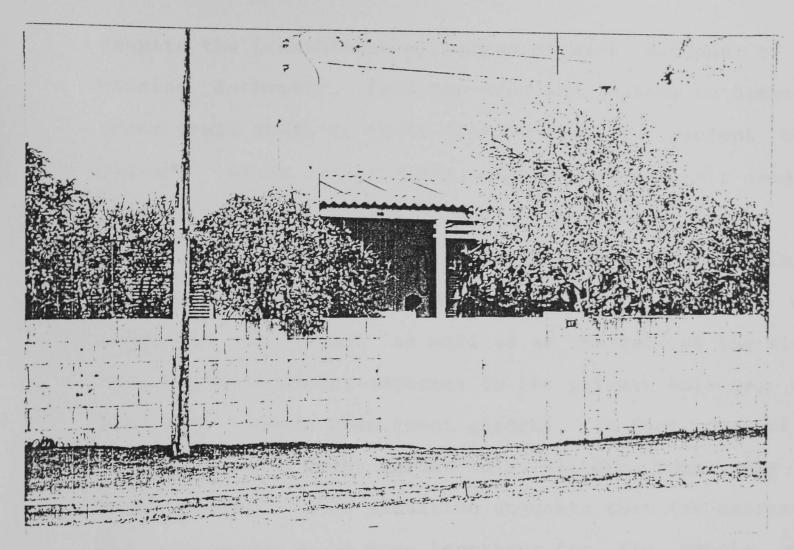


FIG. 8.17 Visual privacy is very important to the Iraqis. High fences around the house and garden.



despite the prohibition of making private gardens by the Housing Authority, felt the need and urgency to demarcate these areas abutting their flats so as to protect their privacy inside their flats, and to express their need for dominating and defending their territory inside immediately outside their dwellings by differentiating between what is private and what is public. Gardens noted at the front as well as at the back of the flats, though back gardens, adjacent to the private balcony, were more common than front gardens. In fact, none of the residents had a front garden only, although some only had back gardens. This situation suggests that the barrier at the back seems to be more important for the people under It was a barrier between private open space (the balcony) and public spaces, whether road, walkway or courtyard.

Those ground floor dwellers who had a garden were asked to assess the privacy level in it. Only one in the sample of the Saydia 6 project, and one in the Zayoona project, said they were satisfied, whilst all the remainder of the sample said they were dissatisfied (Section 8.7). Moreover, when those residents who had a garden were asked to state any problem they had with their gardens, all of them without exception said that they wanted it to be fenced off. This kind of response was not unexpected because in general private gardens elsewhere in Baghdad



FIG.8.18 People tend to demarcate their territory in any possible way.

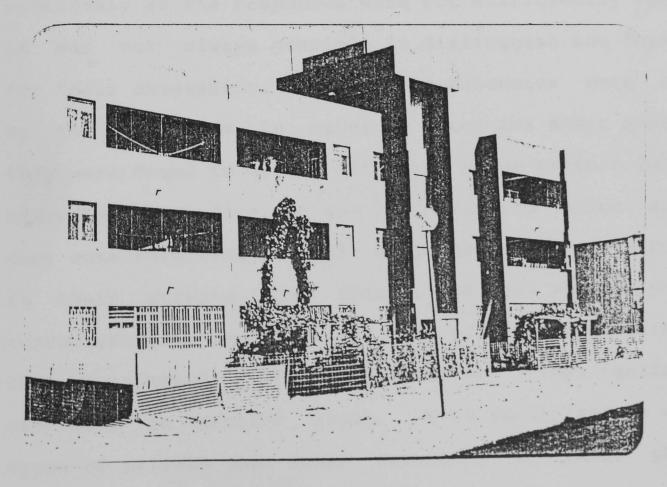
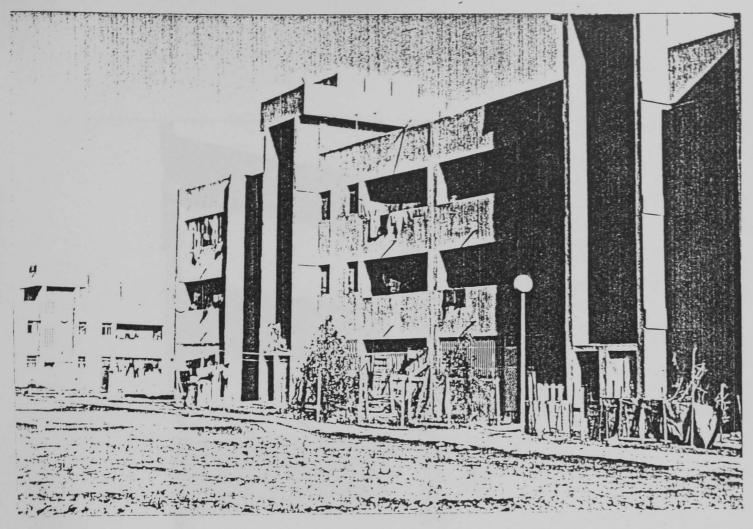


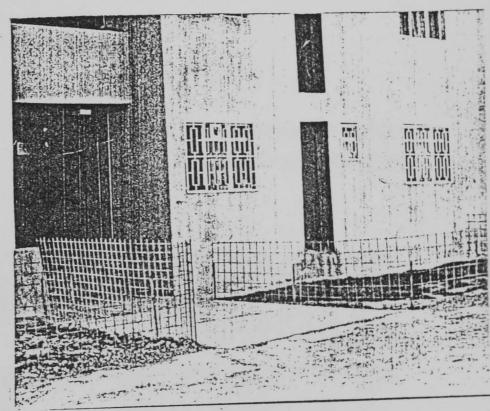
FIG. 8.19 The private garden as a barrier.

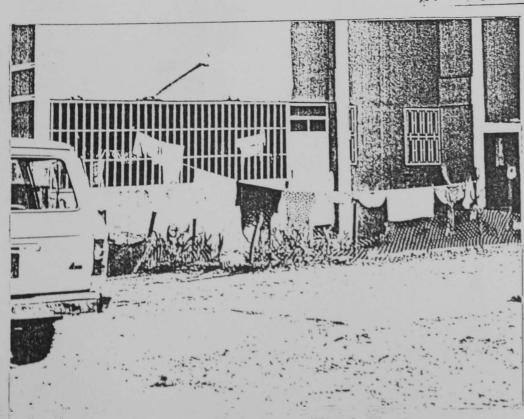
have a high wall around them. Nevertheless, it has been suggested elsewhere that fencing of private open spaces is crucial, particularly if the area abuts a public space. Clare Cooper and Sarkissian (1986) suggested that screening should be provided where private activities are likely to occur, and to delimit private from communal open space; in their argument they quoted Zeisel and Griffin who also suggest that "delimitation is specially necessary where private open spaces abut onto communal landscaped areas" (Zeisel & Griffin 1975).

findings of this study in relation to privacy in the private areas outside the dwellings need to be cautiously as the responses were not sufficiently specific. was not always possible to distinguish the foundation for their assessment. Many of the balconies were altered by the residents in order to cater for their needs, and they were found to have a different usage pattern for their balconies, therefore, it was not clear to which activity they were referring in their responses to the privacy level in their private open spaces, and what was the physical characteristics in the design that might be responsible for Therefore, further investigation that assessment. necessary in another study. This should sample out the types of private open space according to their physical differences, and establish types of activity based on a list of those which were found from this study to



20 Various attempts to demarcate one's territory.





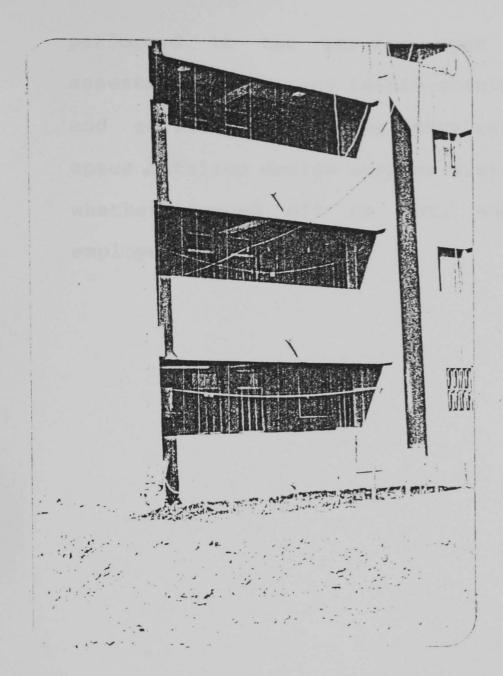


FIG.8. 21 Attempts to keep people at a distance.



performed in the private open spaces. The residents' assessment of privacy levels should then be investigated and correlated with the physical characteristics of open space detailed design such as size, shape, and location, whether fenced off or not, and the type of fencing employed.

8.5 THE APPEARANCE OF THE HOUSING ESTATE

The findings from many surveys carried out in the Western countries have tended to show that the "appearance" of the housing area is a major factor influencing users' overall satisfaction with their housing environment (Chapter Four). These studies suggest that people feel mors satisfied if they perceive their estate as attractive.

8.5.1 RESIDENTS' ATTITUDE TOWARDS THE APPEARANCE OF THEIR HOUSING ESTATE

The residents in the sample under study were asked to assess the quality of the appearance of their estate. A five points scale was used for the assessment, ranging from "very attractive" to "very unattractive". The majority in the three projects found the "appearance" either very attractive or attractive. These represent 72.8% in the Saydia 7, 91.3% in the Saydia 6 and 76.9% in the Zayoona project (Table 8.5.2). The percentage of those who considered their estate appearance as unattractive was relatively low, with the highest percentage recorded in the Saydia 7 project (14.5%). "Very unattractive" was only recorded in the Zayoona project (7.2%).

Residents were also asked their opinions on the

appearance of the housing blocks on their estates. A question was offered with one of three options for an answer: did they prefer the buildings to look alike, or to look different, or were they indifferent to the appearance. The percentage of those who preferred the housing blocks to look alike was double the figure of those who preferred them to look different (64.5% versus 31.1%). The remaining 4.4% were passive in their responses, saying they felt indifferent about it or did not know (Table 8.5.3).

The respondents in the sample were asked in another question if they considered some parts of their estates to be better than others. The data from the survey showed that similar percentages of the respondents in the Saydia 7 and Saydia 6 projects (40.0 and 37.0% respectively) said "yes", while the percentage of respondents in the Zayoona project who gave this answer was 78.1%, which is about double those at the former projects, as shown in Table 8.5.4.

who considered some parts of their respondents estates as better than others were then asked to advantageous what and were, these parts where characteristics they had. The answers presented in showed that a considerable percentage of respondents location near in the three projects considered a other services or schools, public transport

advantage. Spaciousness and quietness were also mentioned by a large number of respondents. Better appearance and design of some parts of the estates were the major factors mentioned by the respondents in the Zayoona project as the reason for considering these parts better than the others. 65.6% of the respondents in Zayoona mentioned this, while very few respondents in the Saydia 7 and 6 projects mentioned the appearance or the design of the buildings.

Table 8.5.1- CROSS-TABULATION OF "DO YOU LIKE THE APPEARANCE OF THE ESTATE" BY "GENERAL SATISFACTION"

COUNT ROW PCT COL PCT	! APPEARANCE !						
	! !V.att- !ractive !l			!ractive	! !V.unatt !ractive !5		
!l.V.satisfied ! !	28 ! 60.9 ! 50.0 ! 15.3	17 ! 37.0 ! 19.1 ! 9.3	! 1 ! 2.2 ! 4.3 ! .5	! ! ! !	! ! !	! ! 46 ! 25.1 !	
! 2.Satisfied ! ! ! ! !	21 ! 28.8 ! 37.5 ! 11.5	37 ! 50.7 ! 41.6 ! 20.2	! 11 ! 15.1 ! 47.8 ! 6.0			73 139.9	
!3.Indifferent !	18.2 10.7 1 3.3	21 ! 63.6 ! 23.6 ! 11.5	15.2 121.7 2.7	1 ! 3.0 ! 7.1 ! .5	!	33 18.0	
! 4.Dissatisfied ! ! ! !		12 ! 50.0 ! 13.5 ! 6.6	! 4 ! 16.7 ! 17.4 ! 2.2	8 ! 33.3 ! 57.1 ! 4.4	!	24 13.1	
!5.Very ! dissatisfied !	1 14.3 1.8 .5	2.2	! 8.7	1 7.1			
COLUMN TOTAL	56 30.6	89 48.6	23 12.6	14 7.7	1 .5	183 100.0	

Table 8.5.2- RESIDENTS' ATTITUDE TOWARDS THE APPEARANCE OF THE ESTATE.

PROJECTS	! !SAYDIA 7	!	! ! 7 A YOO N A	
	!	!	!	
! ATTITUDE	! ! % !	! ! %	! ! %	
	<u>.</u>	<u> </u>	<u></u>	
!-Very attractive	27.3	26.1	35.4	
!-Attractive	45.5	65.2	41.5	
!-Neither attractive nor	<u>.</u> !		<u>.</u> !	
! unattractive	12.7	2.2	13.5	
!-Unattractive	14.5	6.5	1 2.4	
! !-Very unattractive	! ! !		! ! 7.2 !	
	!		!!	

Table 8.5.3- RESIDENTS' ATTITUDE TOWARDS THE APPEARANCE OF THE HOUSING BLOCKS.

(Do you prefer all the blocks to look the same or different?)

! ! PROJECTS !	! !SAYD !	IA 7	! !SAYD !	IA 6	ZAY	! ! ANOO !	! ! TOTAL!
! ATTITUDE!	! ! No. !	! ! % !	! ! No.	! ! % !	No.	! ! ! % ! !!	! %!
! !- The same.	! 38	! 69.1	36	! !78.3!	44	! ! !53.6!	! 64.5 !
!- Different.	! 14	122.5	10	121.7	33	!40.3!	131.1
! !- Indifferent.	! 2	1 3.6	! !	: ! ! !	4	1 4.9!	! 3.3 !
!- Don't know. !	! 1 !	! 1.8 !	!	! ! !!	1	! 1.2! !!	! 1.1 ! !!

Table 8.5.4- DO YOU CONSIDER SOME PARTS OF THE ESTATE BETTER THAN OTHERS?

! PROJECTS	! ! ! SAYDIA 7 ! !		SAYDIA 6		! ! ZAYOONA !	
! ANSWERS !	! No. !	90	No.	9	No.	90
! !- Yes	22	40.0	17	37.0	64	78.1!
! - No	. 28	50.9!	28	60.9	17	20.7
!- Don't know	! 5 ! 5	9.1	1	2.1	1 !	1.2!

Table 8.5.5- IF YOUR ANSWER TO THE ABOVE QUESTION WAS "YES", WHICH PARTS ARE BETTER AND WHY?*

! ! PROJECTS !	SAYDIA 7		SAYDIA 6		! ZAYOONA	
! Number in sample	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !		17		64	
! ! ANSWERS !	No.	! ! % !	No.	! ! %	No.	! ! % !
! !-Near schools,services.	4	18.2	5	29.4	22	34.4
! !-Near public transport.!	3	13.6	7	41.1	20	31.2
! !-More spacious.	8	36.4	10	58.8	16	25.0
! !-Quiteness & privacy.	9	40.9!	2	11.8	5	! 7.8!
! !-Better design and ! appearance.	3	13.6!	2	11.8	42	65.61
! !-Better class neighbors!	3	13.6	_	!	3	4.7
! !-Fewer children.	-	! !	2	11.8	-	: ! !
! !-Safer for children. ! !	1	! 4.5! !!		! ! !!	- -	! !

*The percentages can add to more than 100 because respondents could give more than one answer.

8.5.2 USERS' SATISFACTION AND DISSATISFACTION WITH THE APPEARANCE OF THEIR HOUSING ESTATE

analysis of the data from the survey showed that satisfaction with the appearance of their housing estate is significant to residents. Residents' opinions on the appearance of the estate were found to have a fairly close correlation with their overall satisfaction with housing environment (Table 7.7). It was also found that 97.9% of those residents who were very satisfied or satisfied with their housing environment have assessed the appearance of their estate as very attractive or attractive, and 28.6% of the very dissatisfied respondents have considered their estate as very unattractive or unattractive (Table 8.5.1). This finding about the significance of the "appearance" to residents, coincides with the findings from other studies undertaken in Western cultures: in America, Britain and Ireland (Cooper 1975 & 1982, D.O.E., Db.25 1972, Coulson 1980, Mulvihill 1977).

In judging the appearance of their housing environment, people usually describe it positively as attractive and desirable, or negatively as "slum". There are no tangible characteristics in a housing environment which would promote residents' satisfaction with its appearance. However, the findings from a number of studies

have suggested that the "spaciousness" or "openness" of an estate, the pleasantness of the environment it provides (including adequate level of up-keep), and whether it is "interesting", are factors often associated positively with residents' perception of the "appearance" as attractive (D.O.E., Db.25, 1972, Cooper 1975 & 1982, Coulson 1980, Lansing et al. 1970).

"Spaciousness" in the housing areas, defined as the lack of spatial enclosure in front of the group of housing the neighbourhood (Lansing & Marans 1969), was also found in this study to be a major factor in promoting a high level of satisfaction with the appearance. applied both when residents viewed the housing blocks from outside, and when they viewed the estate and housing blocks from their own windows. The majority of people in the sample liked the open and long views (see Section 8.8). As a sense of "spaciousness" is linked to the proportional relationship between the height of the housing blocks and the shortest horizontal distance between them, it can influenced by the relationship of building height to street width and set backs, and by the number and size of trees, fences and screens on the street or in the open abutting the building. At the time the survey was carried out, the external spaces in the projects were barren, with no planting and no fences or screens, except in those relatively few instances where private gardens had been

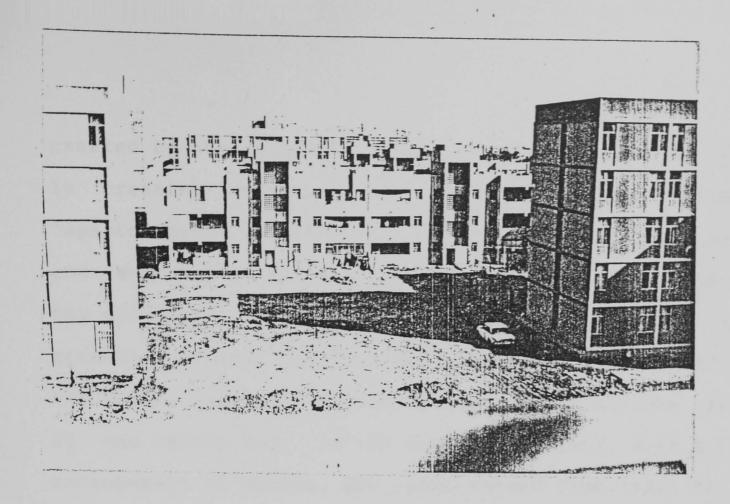


FIG.8.22

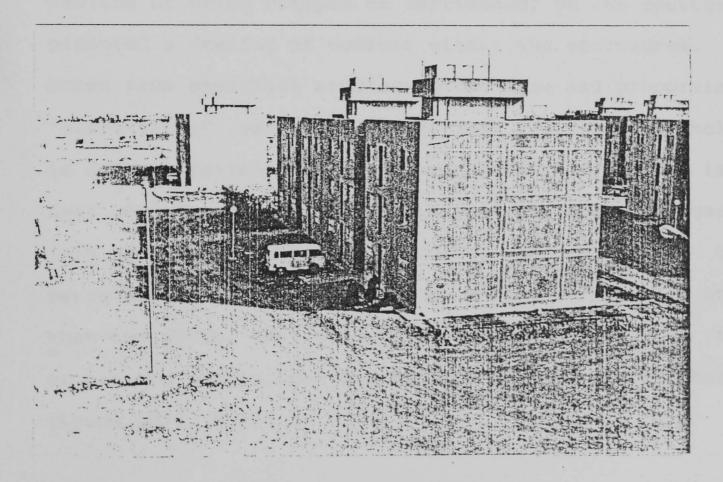


FIG.8.23

Residents appreciated the "spaciousness" of the environment. .

created by the residents. Thus the most effective element in creating enclosure and influencing the feeling of "spaciousness" was the ratio between the blocks' heights the width between them. This ratio was analysed for the different projects under study. With the blocks arranged around courtyards, the ratio ranged from 1:2 to 1:4 in the Saydia 7 project, whilst in the Zayoona project it was mainly 1:2. In the Saydia 6 project, with a linear arrangement of blocks, the ratio ranged from 1:2.5 to 1:3. cases it could not be considered as engendering a feeling of being cramped or imprisoned; on the contrary, it promoted a feeling of comfort within the enclosures. It is known from empirical studies on the size and proportion of "comfortable" external spaces that the external enclosure is most comfortable when the height of its walls half or one third of the width of the space enclosed; if this ratio falls below one fourth, the space is hardly perceived as enclosed. If the height of walls is greater than the width, then the space comes to resemble a trench or pit and people feel limited and cramped within that area (Lynch 1971, p.194).

"Pleasantness", and whether the surroundings are interesting or dull, are other aspects which have been suggested as promoting satisfaction with the appearance of a housing environment. Pleasantness has been defined as the level of satisfaction the environment represents to the

viewer (Lansing & Marans 1969). Pleasantness concerns: (a) architectural characteristics which embrace "richness" or dullness of dwelling appearance, appearance of the approach to the dwelling, and the spatial character created by the buildings; as well as (b) the spatial characteristics which contribute spatial to enclosure and are therefore influenced both by planting quality and variation in topography; and (c) the level maintenance. For the surroundings to be perceived as "interesting", a variation in these characteristics is sustains the residents' interest. Ιt which implied includes variation in architectural design, in plantation, topography and in spatial character.

The majority of respondents who lived in the Saydia 7 and the Saydia 6 projects liked the appearance of their estates and none of them considered them "very unattractive", whilst some respondents in the Zayoona project (7.2%) considered the appearance of their estate as "very unattractive".

Analysing residents' responses regarding some parts of their residential environment being better than others, the respondents in the Saydia 7 and the Saydia 6 projects appeared to base their judgement on practical benefits and not on aesthetic grounds, as the "better" locations they identified were on the periphery of the site or nearer to

public transportation and schools. The respondents in the Zayoona project, however, mentioned the five storey better than the walk-up blocks, and thus appeared to base their judgement on aesthetic values related to the architectural characteristics, as well as on practical grounds. this project two thirds of the On residents (65.6%) said that the five storey blocks had a better appearance and better design, and thus looked more attractive, than the walk-up blocks (Table 8.5.5). In Saydia 7 and Saydia 6 projects, where all the housing blocks are similar, being three storey walk-up blocks, only one respondent in eight mentioned the appearance or the design of these blocks as a reason for preferring certain parts of the estate, and these respondents were mostly referring to particular buildings where better quality materials such as flooring tiles or doors were employed.

It seems in these case studies that residents' opinions about the appearance of their housing environment were mainly influenced by the architecture of the housing blocks, and by their previous experience. This could be due to the fact that multi-family housing in Iraq is a new phenomenon and people lack knowledge about the range of possible architectural solutions to this form of housing. Therefore, when they experienced the "better" appearance of the five storey blocks on their estate (the Zayoona project), the residents were able to make a qualitative

assessment of the appearance of the housing blocks generally. However, this remains to be established. Another study has also suggested that residents' judgement of the "appearance" of their environment may be influenced by their previous living experiences, their knowledge and imagination (Francescato et al, 1975).

It has been suggested in other studies that class differences relating to income and level of education influence residents' attitudes towards the appearance of their environment (Lansing & Marans 1969, Goodchild 1974, Cooper 1975). It could not be established here whether such a factor might be influencing responses, and further investigation in this area is required. Clare Cooper (1983), in her introduction to guidelines for designers about residents' views in relation to the aesthetics of the external environment, has suggested that the perception of different standards of housing on one estate, particularly in relation to appearance of the dwellings, fosters a feeling of envy amongst the residents and therefore should be avoided, as it decreases the possibility of feeling satisfied with their housing environment.

The current unfinished condition of the external areas in the three projects under study meant that no further investigation was possible regarding people's perception of the "pleasantness" or interest of their external

environments. The up-keep of the estate -that is, whether it was well maintained and kept clean and tidy- could also not be assessed. In many American studies and in the U.K. factor was found to be crucial to people's perception of the appearance of the estate, and a fundamental factor residents' satisfaction with their housing environment. In this study it could not be investigated because residents considered the present state of their estates to be only interim. Although the cleanliness and litter of the external spaces were mentioned by some respondents as contributing to their opinions on the view from living room windows (Section 8.8), they were not mentioned as factors affecting the appearance of the estates. indicates that the immediate environ of the housing mattered the residents more, in relation to these aspects, than that of the estate in general. These aspects should be investigated when all the site works on the projects are finished.

However, at this stage the findings would seem to suggest that residents' attitudes towards the appearance of their estate are influenced by the knowledge they bring from their previous experiences and by their imagination. The study also suggests that designers of the housing environment should be wary of introducing different standards of housing on the same estate, as this is likely to reduce residents' satisfaction with their own housing.

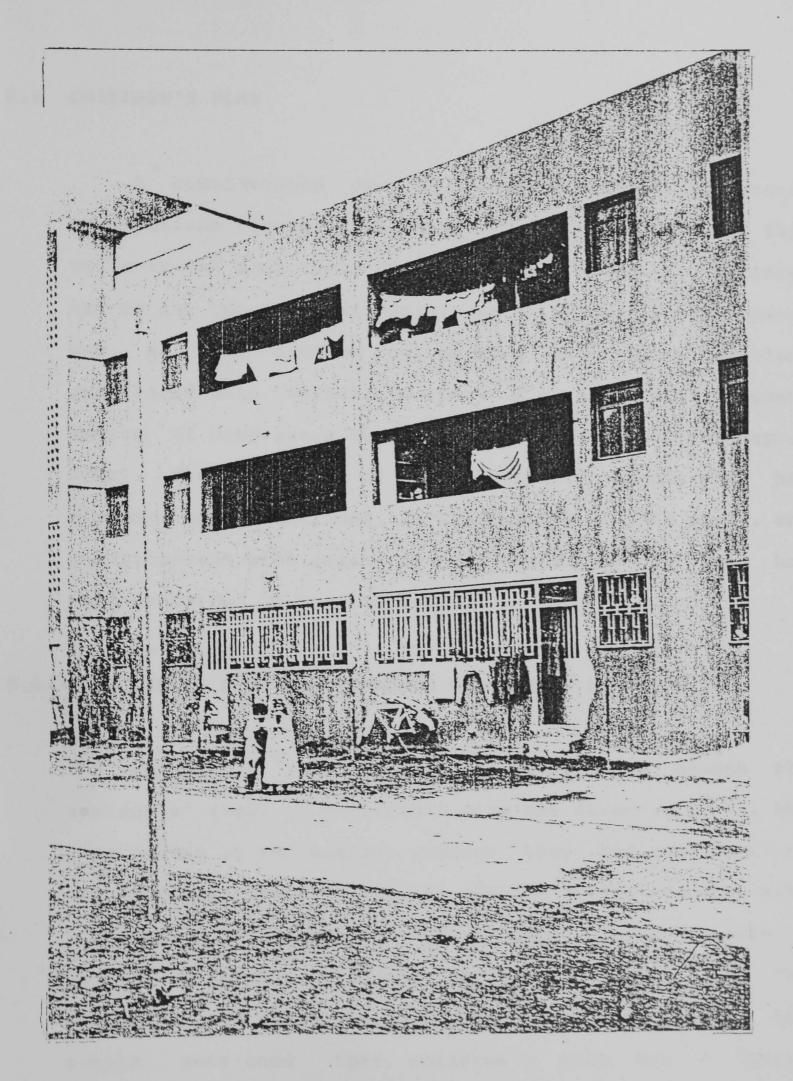


FIG8.24 Tomorrow's fa ther,.... Tomorrow's mother.

8.6 CHILDREN'S PLAY

A considerable part of the questionnaire was devoted to questions regarding children's play on the estate. This reflects the fact that, in multi-family housing, children are by far the greatest exploiters of outdoor public spaces and, as many studies on housing have found, problems associated with children's play are the most frequent source of complaints by residents (as described in Chapter Four). The importance of catering for children's play has already been mentioned in Chapter Two of this study, and the situation with regard to children's play in Iraq has been described in Section 6.2.4.

8.6.1 RESIDENTS' ATTITUDE TOWARDS CHILDREN'S PLAY

First, a general question aiming to assess the residents' views on children's play was directed to all the respondents in the sample, whether they had children or not. A four point scale was used in the assessment, with residents considering children's play on the estate a "great problem", "slight problem", "normal", or "no problem". One fifth (20.2%) of all the respondents in the sample mentioned that children's play was a "great problem", whereas another fifth (21.3%) did not consider children's play a problem at all (Table 8.6.2). However,

the majority (78.7%) of the respondents considered that there was some sort of problem in relation to children's play, ranging from those who considered children's play a problem", or "slight problem", to a "normal" "great problem. When the figures were broken down between three projects, the percentages were almost the same in the Saydia 7 and the Zayoona projects (83.6, 81.6%), but lower in the Saydia 6 project (67.4%). A considerable variation among the estates was noticed in the percentages of those residents who considered children's play a "great problem". The highest percentage was recorded in the Zayoona project (25.6%), followed by the Saydia 7 project (21.8%), and the lowest percentage was recorded in the Saydia 6 project (8.7%). On the other hand, for those who did not consider children's play a problem, the highest percentage recorded was in the Saydia 6 project (32.6%), and the lowest in the Saydia 7 project (16.4%), closely followed by the Zayoona project (18.3%) (Table 8.6.2).

The next part of the questionnaire was directed only at those in the sample who had children. This included detailed questions designed to elicit their views on children's play in the current housing environment, as well as in the previous one. They were asked whether any change had been noticed in the children's behaviour after moving to the current housing environment, when compared with their earlier behaviour, as well as the amount of time

that children played outside in the current housing compared with that in the previous one. The places on the estate where the children most often played were identified, as well as their physical conditions. In addition to this respondents were asked to identify the sorts of complaints they had relating to children's play, and when they thought problems with children were likely to increase. The questionnaire also aimed to find out the respondents' opinions on how to solve or decrease the problems they had identified.

The data analysis showed that moving to the current housing estate was perceived by mothers as having either good or bad effects on the children. The positive effects were such that they were happier, and healthier, played outside more and made more friends. Negative effects included being confined inside their flats, missing old friends, lacking entertainment on the estate, and difficulties in getting to schools. However, some mothers noticed no change in their children. The data also showed different percentages of children who were affected positively or negatively on the three projects. As regards the major good effect mentioned by mothers -that the children were happier- the percentages varied considerably between the Zayoona project (28.6%), and the Saydia 7 (48.0%) and Saydia 6 projects (61.9%) (Table 8.6.3). On the other hand, when the worst effect on the children was

considered -being confined inside their flats- the highest percentage was found in the Zayoona project (49.1%), compared with those in the Saydia 7 (20.0%) and the Saydia 6 projects (14.2%).

Respondents in the sample were asked to make a comparison between the current estate and the previous one in relation to the time the children played outside their dwelling. Four options were offered in the questionnaire: "more in the current housing", "more in the previous housing", "similar in both of them", as well as "don't know" for those who were uncertain about their opinion. The responses showed that the percentage of respondents who considered that their children played outside "more in the current housing", was higher in the Saydia 7 (47.1%) and the Saydia 6 projects (34.9%), than in the Zayoona project (12.9%) (Table 8.6.4). The percentage of respondents, who considered that their children played "more in the previous housing", was higher in the Zayoona project (56.4%) than in the Saydia 7 (21.5%) and Saydia 6 projects (25.6%).

The respondents were then asked whether they watched their children playing outside or not, and whether they accompanied them or not. Over half of the respondents (54.3%) said that they watched their children from time to time whilst they played outside, and about one third of them did not. 13.1% of the respondents mentioned that

their children only played outside when accompanied by an older member of the family (Table 8.6.5).

Answers about where the children play most of the time their current estate, showed that the percentage of children playing inside their flats was 78.3% in Zayoona project, which was higher than in the Saydia 7 (37.7%) and Saydia 6 (51.2%) projects (Table 8.6.6). percentage of respondents who said that the children play outside the dwellings most of the time was the lowest Zayoona project compared to the Saydia 7 and Saydia 6 projects. Some of the respondents (on average 12.1%) mentioned that their children often played on the access area to their dwellings. The percentage who said that the children played most of the time in the private gardens or very low (on average 5.5% of the on balconies was respondents), and very few mentioned their children playing the flat roofs of the housing blocks. However, this percentage was markedly higher in the Saydia 6 than in the other projects.

The residents were asked if their neighbours complained about their children's noise when they were playing inside their flats. Only 15% of them admitted that their neighbours had complaints about the noise from their children.

A list of common problems pertaining to children's play in the housing environment in the United Kingdom has been drawn up for use within The Housing Appraisal 1977). This was adapted for use in the Iraqi situation by the researcher. It was shown only to those respondents in the sample who considered children's play as a problem, whether "great" or "slight". They were asked to identify whether these problems related to children under or above five years of age. The data analysis showed that in general the problems associated with the over fives were very much greater than those with children under five. This was particularly so in relation to problems such as children being too noisy, or causing damage and engaging in vandalism, or that there were simply too many of them housing area (Table 8.6.7). However, problems to do the with provision and location of play areas affected under and over fives almost equally. They included the lack of proper play areas and play equipment, and the fact that children were restricted in their play and were at risk from traffic on the main roads around the estates. some of the identified problems were The percentages of relatively higher for the under fives: thus children could be left to play outside alone, were difficult to watch when they were playing outside, were at risk from traffic on the estate, and lacked sheltered play areas.

The responses showed that problems with children

mainly increase during the summer holiday, in the rainy season, at weekends, after school hours, and when the number of children rises due to visits exchanged by families with children (Table 8.6.8). Surprisingly, 28.9% of the respondents who said children's play caused problems said that they did not know when.

respondents were asked how to improve The situation in relation to children's play on their housing The most frequent suggestions were to provide estates. equipped play grounds, and to provide football pitches away from the dwellings (Table 8.6.9). Other common suggestions were to provide public facilities and services on the estates such as a youth centre, swimming pools and local schools. Some, in answering this question, also mentioned the need for other amenities for the children such public library, newsagent, and local stationery and book shop, as well as a health clinic. A few of the respondents remarked on the need to complete the roads and the walkway network, and to plant a variety of plants so as to improve the external environment for the children playing outside. These aspects were not suggested by more residents probably because they thought that the Housing Authority would eventually do it anyway. Again, 11% said they did not know what to suggest to improve the children's play situation.

Table 8.6.1- CROSS-TABULATION OF "ARE CHILDREN'S PLAY A PROBLEM"

BY "GENERAL SATISFACTION"

COUNT ROW PCT COL PCT	! ! !	GENERAL SATISFACTION								GENERAL SATISFACTION			GENERAL SATISFACTION				
TOT PCT	! !V.Sat-	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	! ! ROW											
! !CHILDRENS'PLAY !	· -	! ! fied !2 !			! !tisfied !5 !	! ! TOTAL ! !											
! !l. Great ! Problem !	! ! ! !	! 12 ! 32.4 ! 16.4 ! 6.6	24.2		! 13.6 ! 71.4	! ! 37 ! 20.2 !											
! !2. Slight ! Problem !	! 9 ! 14.3 ! 19.6 ! 4.9	! 41.1			! 28.6	! ! 63 ! 34.4 !											
! !3. Normal ! !	! 16 ! 36.4 ! 34.8 ! 8.7	! 21.9		! 16.7	! ! ! ! !	! ! 44 ! 24.0 ! !											
! !4. Not a ! Problem !	! 21 ! 53.8 ! 45.7 ! 11.5	! 38.5 ! 20.5	! 7.7 ! 9.1	!	! ! ! !	! ! 39 ! 21.3 !											
COLUMN	46	73	33	24	7	183											
TOTAL	25.1	39.9	18.0	13.1	3.8	100.0											

Table 8.6.2- RESIDENTS' ATTITUDE TOWARDS CHILDREN'S PLAY.

! PROJECTS !	! !SAYDIA 7 !	! ! YDIA 7 !SAYDIA 6 ! ! !		! TOTAL!
! ! Size of sample !	! ! 55 !	! ! 46 !	! 82 ! ! 82 !	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
! ! ATTITUDE !	! ! ! %	! No.! %	! No.! % ! ! No.! % !	!
! Great problem.	! 12 !21.8	! ! ! 8.7	21 !25.6!	! ! ! 20.2! ! 21.2!
! Slight problem.	! 17 !30.9	! 23 !50.0	23 !28.0!	! 34.4!
! Normal.	! 17 !30.9	1 4 1 8.7	23 !28.0!	24.1!
! No problem.	! 9 !16.4 ! !	! 15 !32.6 ! !	15 !18.3!	! 21.3! !!

Table 8.6.3- POSITIVE AND NEGATIVE REACTIONS NOTICED ON CHILDREN AFTER MOVING TO THE NEW DWELLING*.

			
PROJECTS	!SAYDIA 7	! !SAYDIA 6 !	! ! ZAYOONA !
REACTIONS	! %	! ! %	8
! ! POSITIVE REACTIONS !	! ! !		
! Happier.	! ! 48.0	61.9	28.6
Healthier.	18.0	23.8	12.7
Play outside more.	26.0	31.0	11.1
Make more friends.	10.0	14.2	1.6 ! !
NEGATIVE REACTIONS	! !		!
Confined in the flat.	! ! !! ! 20.0 !!	! !! ! 14.2 !	49.1 !
Missing old friends and old neighbourhood.	14.0	14.2	14.3
Missing private outspaces.	8.0	4.8	12.7
Missing entertainment.	8.0	2.4	7.9
Finding difficulty getting ! to school. !	10.0 !	19.0	3.1 !
Indifferent. !	4.0 !	3.6 !	8.6 !

^{*}Families with no children or only very young children when moving to the flat were not asked this question.

Table 8.6.4- COMPARISON OF CHILDREN'S PLAY OUTSIDE THE CURRENT AND PREVIOUS DWELLINGS*.

!!!	PROJECT	! !SAYDIA 7 !	! !SAYDIA 6 !	! ! ZAYOONA !	!! !!TOTAL !!	-! ! !
! ! CHII	DRENS' PLAY	! ! % !	} ! }	. % !	!! !! %	-! !
!		!	!		- !! !!	-! !
! More in ! estate.	the current	! ! 47.1 !	34.9	! ! 12.9 !	!! !! 30.1	!!!
! Less in ! estate.	the current	! ! 21.5 !	! ! 25.6 !	! ! 56.4 !	!! !! 36.5 !!	!!!
! ! Same in ! !	both estates.	! ! 31.4 !	! 39.5 !	1 1 30.7 1	!! !! 33.4 !!	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!

^{*} Families with no children or only very young children when moving to the new dwelling were not asked this question.

Table 8.6.5- DO YOU WATCH YOUR CHILDREN WHEN PLAYING OUTSIDE?

PROJECTS	! ! !SAYDIA 7 ! ! !		! !SAYDIA 6 ! !		! ZAYOONA !!		!! !! TC	TOTAL	
! ! Size of sample*.!	43		! 43 ! ! 43 !		. 52 ! ! 52 !		!! !!] !!	.38	
! ! THE ANSWERS !	No.	! ! %	No.	! ! % ! !!	No.	! ! %	!! !! No.	! ! % !	
! ! Watch them.	26	60.5	18	! !41.9!	31	! !59.6!	!! !! 75	! 54.3!	
: ! Stay with them.	: ! 3	7.0	1 11	! 25.6!	4	7.7	11 18	! 13.1!	
! Neither watch- ! nor stay.	! ! 14	32.5	! ! 14 !	! !32.5! !	17	! !32.6!	!! !! 45	! ! 32.6	

^{*} Only the families in the sample who have children play outside were asked this question.

Table 8.6.6- PLACES WHERE CHILDREN PLAY MOST OF THE TIME*.

(Only families with children under 18)

PROJECT	! !SAYI !	! DIA 7!	SAYE	! !DIA 6!	ZAYO	! ! ANO	!!!	! ! POTAL! !
! ! Size of Sample. !	!	53	! !	13 !	!	59 ! !	!! !! !!_	165 ! !
! ! PLACES OUTSIDE !	! !No.!	ે . ક	No.	% ! !!	No.	% ! !!	! ! ! ! ! ! _	% ! !
	!	!	!	!!	!	!	!!	
! ! In the flat.	! ! 20	37.7	22	51.2	54	78.3	!!	58.2 !
! Front & back areas**.	!36 !	67.9	26	60.5	21	30.4	1 1	50.0 !
! Access areas.	! 3	5.7	! 8	18.6	9	113.0	!!	12.1 !
Private gardens & balconies.	! ! 4	1 7.5	2	4.7	3	4.3	!!	5.5 !
! ! Buildings' roof.	<u>.</u> ! 2 .	3.8	1 3	7.0	3	4.3	! ! ! !	4.8 !
!	!	!	!	!	!	!	!!	!

^{*} The percentages can add to more than 100 because respondents could give more than one place in relation to different age and sex of children.

^{**} These areas include courtyards, car parks, walkways, streets,...etc.

Table 8.6.7- SORTS OF CHILDREN'S PLAY PROBLEMS*.

(Only residents who considered children's play in Table 8.6.2 as "great problem" or "slight problem").

PROJECT		! !SAYDIA 7!	SAYDIA 6	! ! !ZAYOONA !	! ! !TOTAL ! ! !
! ! PROBLEMS !		! ! !	90	% !	! ! % ! ! !
! !-Play on buildings'- ! access. ! !-Too noisy.	AGE ! < 5 ! > 5 ! < 5	! !	70.4 70.4 14.8 81.5	79.5 ! ! ! ! ! 31.8 !	! ! ! ! ! ! ! ! !
! !-Cause damages.	! ! <5 ! >5	! 41.4 ! 86.2	22.2 55.5	! ! ! 18.2 !	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
-	! ! <5 ! >5	! ! 44.8 ! 86.2	22.2		! ! 33.0 ! ! 68.0 !
!-Not enough play areas!	! ! <5 ! >5	! 31.0 ! 44.8	7.4 18.5	•	! 25.0 ! ! 45.0 !
	! ! < 5 ! > 5	! 37.9 ! 58.6	81.5 96.3	•	! 48.0 ! ! 78.0 !
. 2007. 02 0110202	! <5 ! >5 ! >5	! 41.4 ! 44.8	40.7 29.6	• • -	! 29.0 ! ! 31.0 !
!-Cannot leave children ! play alone.	_	! 34.5 ! 31.0	51.8 ! 29.6	1 34.0 !	! 35.0 ! ! 33.0 ! !
!-Difficult to watch- ! children when playing	! < 5 ! > 5		25.9 ! 3.7	! 18.2 ! ! 20.4 !	! 20.0 ! ! 17.0 !
	! <5 ! >5		! 25.9 ! 33.3	! 13.6 ! ! 25.0 !	! 15.0 ! ! 25.0 ! !
! !-Not safe from traffic ! within the estate.		! 37.9 ! 37.9	! 59.2 ! 40.7 !	•	! 38.0 ! ! 36.0 !
! !-Not safe from traffic ! around the estate. !	! <5 ! >5 ! > 5	. 24.1 ! 37.9 !	! 55.5 ! 96.3 !	27.3	! 28.0 ! ! 49.0 !

^{*}The percentages can add to more than 100 because respondents could give more than one answer.

Table 8.6.8- TIMES WHEN CHILDREN'S PLAY PROBLEMS INCREASE*.

(Only the residents who considered children's play in Table 8.6.2 as "great problem" or slight problem).

1			 		
PROJECT!	SAYDIA 7	SAYDIA 6	! ! ZAYOONA !	!! !!TOT !!	AL .
! TIMES	8	%	\ ! %	!! !! %	
!			· !	- : !! !!	
!-During summer holiday!	75.9	66.6	56.8	!! 65	. 0
! !-After school hours	13.8	3.7	18.3	!! 13	. 0
! !-In rainy season	3.4	11.1	4.5	!! 6	. 0
! !-At the week ends	3.4	3.7	6.9	!! 4	. 9
! !-When number of chil-	<u>.</u> <u>.</u>		<u>.</u> ! !	!!	
! dren increases during ! family visits.	3.4	3.7	6.9	!! 4 !!	. 9
! !-Do not know	17.3	33.4	34.1	!! 28	. 9
!	! 		! 	_!!	

^{*}The percentages can add to more than 100 because respondents could give more than one answer.

Table 8.6.9- RESIDENTS' SUGGESTIONS TO MITIGATE CHILDREN'S PLAY PROBLEMS*.

(only the residents who considered children's play in Table 8.6.2 as "great problem" or "slight problem").

! PROJECT !	! !SAYDIA 7 !	! !SAYDIA 6 ! !	! ZAYOONA !	! ! TOTAL ! !!
! ! SUGGESTION !	ુ	8	. % ! !!	! ! ! % ! !!
! !-Provide play areas.	65.4	59.3	! 49.9 !	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
!-Football pitches away ! from the dwellings.	! ! 48.3	! ! 55.5	49.9 !	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
!-Provide supportive fac- ! ilities; youth centres,		! !	! !	!!!!
! libraries, etc.	20.7	18.6	29.6	! 24.0 !
! !-Provide schools.	13.8	18.6	31.9	23.1
! !-Plantation & greenery.	! ! 20.7	! 14.8 !	9.1	! 14.1 !
!-Paving roads and ! walkways.	! ! 10.4 !	! ! 18.6 !	. 9.1 ! ! 9.1 !	! ! !! ! 12.1 !
!-Provide parks & public ! gardens.	! ! 6.8	! 11.1	! ! ! 11.4 !	! ! ! ! 10.1 !
! !-Provide various shops.	!	!	6.9	1 2.9
! !-Other suggestions.	34.5	18.6	13.6	21.0
! !-Do not know.	! ! 10.4	! 14.8	! ! 9.1 ! !	11.0
!	! 	!	!	!!!

^{*}The percentages can add to more than 100 because respondents could give more than one suggestion.

Table 8.6.10- COMPARISON BETWEEN CHILDREN'S REACTIONS TO MOVING TO THE FIVE STOREY AND WALK-UP BLOCKS OF FLATS IN ZAYOONA PROJECT.

!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	TYPE OF THE BLOCK !		.K-UP !	! ! 5 STOREY !		
! -	- Size of sample*.		!8	35		
!	REACTIONS !	No.!	8 ! !	No.!	8 ! !	
! ! - !	POSITIVE REACTIONS !	!	!	! !	!	
! ! –	Happier.	14 !	50.0 !	4 !	11.4 !	
! -	Healthier.	6 !	21.4	2 !	5.7 !	
! -	Play outside more.	9	32.1	:	!	
! ! !	Make more friends.	1 !	3.6	! !		
! - !	NEGATIVE REACTIONS	!			! ! ! !	
! ! –	Confined in the flat.	10	! ! 35.7 !	21	! ! 60.0 ! !	
! ! - !	Missing old friends and old neighbourhood.	1	3.6	! ! 8 !	! ! 22.9 ! !	
! -	Missing private open spaces.	2	7.1	! ! 6	! ! 17.1 !	
! ! –	Missing entertainment.	1	3.6	! 4	11.4	
! - !	Finding difficulty getting to school.	! ! ! 1	! ! 3.6 !	! ! 1 !	! ! 2.9 !	
!-	Indifferent.	! 3	! ! 10.7 !	! ! 9 !	! ! 25.7 !	

^{*} Families with no children or only very young children when moving to the flat are not included.

.6.2 RESIDENTS' SATISFACTION AND DISSATISFACTION WITH CHILDREN'S PLAY

statistical analysis showed a significant correlation between the residents' overall satisfaction with their housing environment, and their satisfaction with children's play on their estates. It also showed that 92.3% of the residents who considered children's play "not a problem" were satisfied, or very satisfied, with the overall housing environment, and none of the satisfied" respondents considered children's play a "great problem". On the other hand, 46% of the residents who considered children's play a "great problem" were dissatisfied, or very dissatisfied, with the overall housing environment (Table 8.6.1).

Among the three projects under study, the highest percentages of residents who considered children's play as a "great problem" were recorded in the Zayoona and the Saydia 7 projects. About one in four of the respondents in the former project, and one in five in the latter, considered children's play as a "great problem", whilst in the Saydia 6 project only one in eleven had considered it as such. To discuss these different results it is important to begin by analysing the situation in the Zayoona project, looking in particular at the physical and

the social characteristics of the housing settings to see if these might be contributory factors.

has been described earlier, a mix of two types of buildings are used in the Zayoona project: a five storey block which is accessed by lifts, and a three storey block of walk-up flats. In the other projects only a three storey walk-up block is used. The introduction of the five storey blocks for housing family households might be a reason for the higher percentage of residents considered children's play a "great problem" in this project. To begin with, mothers who live above the first or second floors cannot monitor their child's safety while it is playing outside; added to this is the fear of possible hazards to children using the lifts. The nuisance of children abusing the lifts and putting them out of order might also contribute to the view that children's play is a in this form of housing. Studies have found that these problems are particularly applicable to the fives, not only because of mothers' fears about their children's safety, but also because young children proved very likely to play close to home, as if they felt safer being close to their mother's influence (Newson & 1968, Hart 1979).

It seems that in multi-family housing the height of the flat above the ground is likely to influence the extent

to which children play outside, as differences in this respect have been found between children living near the ground and others living higher up. A British study revealed that children living above the first floor play less than their peers who live on the ground or first floor, and this was attributed to the factor of "Nearness to the ground" (D.O.E., Db.27, 1973). Other studies carried out in Sweden and Denmark have included the second floor in that domain as well (Wohlin 1961; Danish National Institute of Building Research 1969). These studies have found that children living on and below the second floor play, on average, an hour more than those living above.

the present study neither the time available, nor the researcher's resources, were enough to observe and calculate the time which children, on average, spent outside their dwelling on the estates under However, some evidence from the study strongly indicates that similar influences apply in Iraq. One piece of evidence was derived from a comparison of the extent children played outside in the housing projects under study with that in their previous housing. The data analysis showed that in the Zayoona project children in general than in their previous played outside less contrary to the situation in the Saydia 7 and the Saydia 6 projects where children in general played outside more than in their previous homes. More than half the mothers in the

Zayoona project reported that their children played outside less than before. This was more than double the number of the other two projects. On the other hand, comparing the percentages of mothers who reported that children played out in the current housing more than in the previous, the highest figure was recorded Saydia 7 project, which was about four times higher than that in the Zayoona project, followed by the Saydia 6 project (Table 8.6.4). Further evidence came from mothers reporting on changes noticed in their children after moving In the Zayoona project, the percentage of mothers who said that their children were now restricted to their flats was more than double that in the Saydia 7 project, about triple that in the Saydia 6 project. On the and other hand, about half the mothers in the Saydia 7 and Saydia 6 projects mentioned that their children had become happier. Less than one third of the mothers in the Zayoona project had reported this (Table 8.6.3).

The above findings indicate that children in the Zayoona project played outside less than those in the other projects -possibly because children living above the second floor are likely to play less outside, and their play may have more problems associated with it be seen as more problematic than those who live nearer to the ground. To examine this probability, a further analysis was conducted solely of the data recorded from the Zayoona project. A

comparison was made between the reactions to children's play of residents living in the walk-up blocks, and those living in the five storey blocks. The result of analysis showed a considerable variation in residents' reactions (Table 8.6.10). About one third of those respondents living in the walk-up flats said that their children played out more in the current estate than in the previous one, whilst none of those living in the five storey blocks mentioned this. As to the changes noticed in children after moving house, those who lived in the walk-up blocks reacted most positively. The percentage residents living in the three storey blocks who mentioned that their children were happier, was five times that of those who lived in the five storey blocks, and the percentage who mentioned that their children became healthier as four times that of those living in the five storey blocks. As for negative aspects such as children confined in their flats, the percentage of respondents living in the five storey blocks who mentioned about double that of those living in the walk-up that was blocks. The percentage of children living in the five storey blocks who were reported as still missing their old friends was about six times higher than the figure in walk-up blocks. This difference once again indicates that children in the five storey blocks could not easily mix with others, and had difficulty in making new friends in the locality. Thus the evidence suggests that children

living in the five storey blocks were less happy and more restricted in their play than their peers living in the walk-up flats, and suggests that the physical characteristics of housing blocks in multi-family housing, particularly in relation to accessibility to the ground, affect both residents' attitudes towards children's play, and the extent to which children play outside.

The data analysis also showed that the percentage of residents in the Saydia 7 project who considered children's play as a "great problem" was double that recorded in the Saydia 6 project. Since both projects consist of walk-up blocks, another factor must have caused the difference. A further scrutiny of the data from the survey revealed that household size and the average number of children per household varied considerably between the two projects, which suggested that these factors are possibly responsible for the difference.

The average size of household in the Saydia 7 project was 6.7 persons, and just under half of the households consisted of seven or more people, whilst in the Saydia 6 project the average household comprised 5.7 persons, and about one third were of seven people or more. Since the housing blocks contained only two and three bedroom flats, these figures indicate that the Saydia 7 project had the greatest number of overcrowded flats, and consequently the

lack of space for children to play inside their flats was more apparent there than in the Saydia 6 project. This in turn was likely to influence the percentage of residents' complaints about children's play. Indeed housing studies have already suggested that two design elements restrict children's play inside the dwelling: one is the lack of space for playing, particularly in crowded homes, and the other is the uninsulated noise which is inevitably engendered by children's play (Holme & Massie 1970, D.O.E., Db.27, 1973, Cooper 1975).

Ιn the Saydia 7 project, the average number children per household under the age of eighteen was 3.6, whereas in the Saydia 6 project it was 2.9. Therefore, the lack of sound insulation in the walk-up blocks made buildings in the Saydia 7 project slightly more vulnerable to children's play noises than their equivalents in Moreover, the noise level from project. Saydia children's play immediately outside the housing blocks likely to be much higher in the former project than in the latter due to the larger number of children per housing block, for it has been observed in other studies that children will always play near home regardless of (Holme & Massie 1970; D.O.E., Db.27, 1973; Cooper 1975). Therefore, as the number of children in the unit housing block will influence the level of noise just outside the block, this is likely to have a considerable effect on

residents' attitudes towards children's play.

Tension inside the dwelling might push the child outside the home in search of better opportunities for play (Holme & Massie 1970). Therefore, it can be expected that Saydia 7 project more children will tend to play outside more often than in the Saydia 6 project. Ιt has suggested that the physical arrangement of the buildings on the site has a significant influence the extent of children's outside play (Holme & Massie 1970; D.O.E., Db.25, 1972 & Db.27, 1973; Cooper 1975; Cooper & Therefore, as no data is available on Sarkissian 1986). how much children played out in both projects, further study should be carried out after all the site works are finished, to investigate the influence of the site planning on the extent to which children played out, and on their choice of locations. Nevertheless, there is evidence from this study to suggest that the arrangement of the housing the site has influenced the levels of noise and on blocks of privacy. This was discussed earlier in Section 8.3, the evidence indicated that the way the blocks were where arranged on the site of the Saydia 7 project was increasing the level of noise within the area. Moreover, the current condition of courtyards in the Saydia 7 project was seen as encouraging active ball games like football, which by its nature is a very noisy game, and therefore this could be another factor contributing to the rise in residents'

complaints about children's play. It has also been mentioned that the number of children on this project tends to increase occasionally when children from neighbouring housing areas come to play in the courtyards with the local children.

Thus, it seems from the findings above that in multi-family housing where the blocks are arranged around courtyards, the number of children to be found in these courtyards will be much higher than in the open space between housing blocks arranged on a linear pattern. It was not clear how much this situation was influenced by the number of children per unit housing block, by the current condition of the courtyards -barren, flat, and similar in scale to a football pitch- and by the failure to design a stimulating external environment that attracted children to play away from their homes.

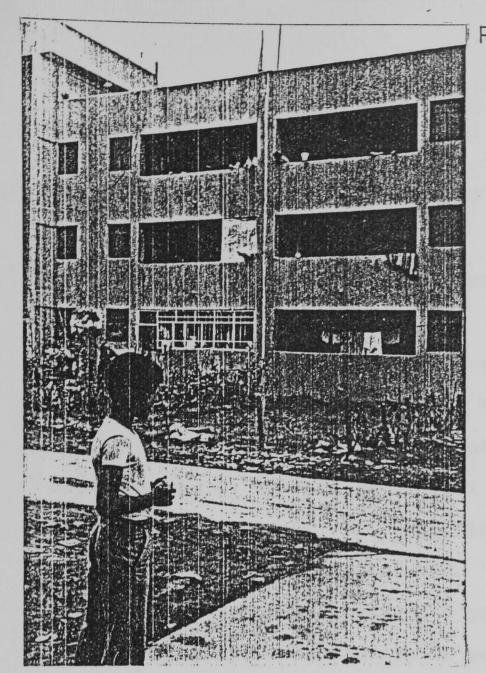


FIG.8.25 The external environment ...what's in it for him?



FIG.8.26 The external environment...what's in it for her?

.6.3 THE "PLAY SPACES" ON THE ESTATES

The designers of the projects under study mentioned when being interviewed that they planned housing around courtyards, or in a linear arrangement with traffic-free areas in between, on the assumption that courtyards and spaces provided would serve children's play requirements as well as the social and recreational needs of adults. However, it was noted during the site visits that there were no designated "play grounds" for children, or any indication of a particular arrangement for children's play. The courtyards and the spaces between the housing blocks were left barren, and lacked any noticeable attempt to make them attractive play spaces -possibly site works were not yet because the Nevertheless, when the site drawings were checked, the handling of the external spaces showed a lack of attention to children's needs. The plan had proposed open spaces (which were termed "green areas" on the document) with scattered trees and shrubs, and with a web of walkways going through them -as if a lawn and a few trees were all the child needs in the way of a play environment.

During the investigation and the site visits to the projects, remnants of play equipment were noted in some of the courtyards of the Saydia 7 project. This indicated

that a few pieces of play equipment had initially been installed there. They were now beyond repair, and in urgent need of removal as they represented a threat to the children's safety. The play equipment was located haphazardly in some of the courtyards, with each having one swing and a slide or a see-saw. The types of equipment, their number and condition suggest that they were chosen without any consideration of their suitability for the age range and number of children living in the blocks The Housing Authority officials had put each courtyard. this play equipment in some of the courtyards of the Saydia 7 project with the intention of providing play facilities had been done without any the children, but it for particular thought for their real needs. There had been no proper planning for play activities, and the remains of the play equipment testify to the lack of success of A study of children's play on fifteen "play areas". housing estates in Britain, suggested that the success play areas was related to the amount of play space provided children living on each proportional to the number of estate and by the types of equipment available (D.O.E., Db.27, 1973, p. 8). The lack of planning for play, and the deteriorating condition of the play equipment on the Saydia project, could be looked at in more than one way. the number of items of equipment in a courtyard might disproportionate to the number of children using courtyard. Heavy use of any equipment could have resulted

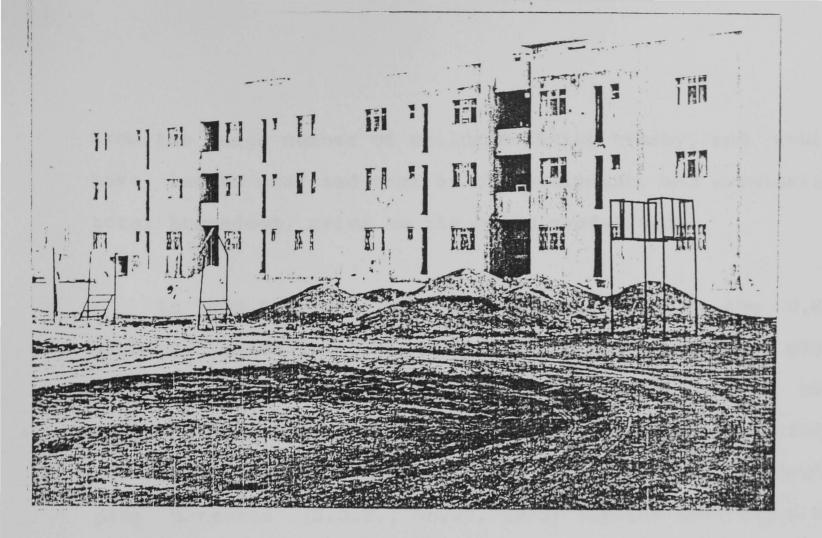


FIG.8.27 What remained from the slide and swing...

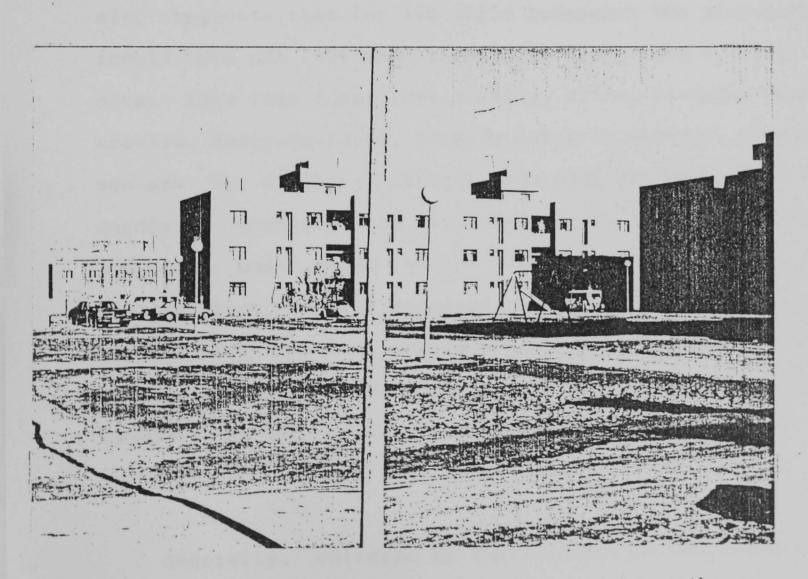


FIG.8.28 Is it the lack of maintenance...the lack of variety or the unproportional number of play equipment?

from the large number of children living nearby, and would have led to wear and tear on the equipment, and eventually total breakdown, prior to its being vandalised.

In 1972 the Department of the Environment in the U.K. produced guidelines, including a list of types of play equipment to be provided in residential areas having child bedspaces and over (D.O.E., Circular 79/72). circular produced as a result of research into children's play patterns (D.O.E., Db.27, 1973) implies that 3sq.m of playspace should be provided per each child bedspace. also suggests that for 100 child bedspaces the play ground should have not less than three play items from a list of nine. This list comprises: a swing, slide, climbing frame, see-saw, merry-go-round, rocking horse or similar, pendulum see-saw or similar, sandpit and paddling pool. For the Saydia 7 project, the available play area per child found to be higher than that of bedspace was aforementioned British standard, as has been discussed in Section 8.3. However, the play equipment installed in some of the courtyards was found to be below the British standard, as there were only two play items for about 120 children.

Generally, children by their nature do not spend long on any one activity; therefore the degree of use of an equipped playground has been shown to depend largely on the

variety of the equipment provided (Hole & Miller 1966; Holme & Massie 1970; D.O.E., Db.27, 1973; Cooper Sarkissian 1986). Diversity in the play equipment available on a playground has been found to stimulate children's play activities and to influence the extent to which they stay there (Holme & Massie 1970). Clare Cooper argued that play equipment should be expected to has stimulate a variety of activities: a play ground with three swings promotes only one activity, whereas a sensitively designed play tower may incorporate opportunities to climb, hide, swing, slide and fantasize (Cooper & Sarkissian 1986). One British study on the frequency of use of play ground, concluded that "the amount of equipment provides a clearer basis of differentiation than does The well-used playground offered a minimum of three area. items, whereas those which were not much used had average of 1.7 items" (Hole & Miller 1966, p.8). If all the equipment initially placed in the Saydia 7 project is counted, there were only 1.8 items per courtyard. This may have meant that they failed to provide stimulation which a greater variety of equipment could have supplied, and so were not much used and became the object of vandalism. Although both overuse and underuse could have resulted present state of the play equipment, it was not possible to establish which factor had operated in the Saydia 7 project.

lack of a maintenance policy, and the lack of defined responsibility for maintaining the play equipment, also have been a reason for the equipment's dilapidated condition. Most conventional items playground equipment need regular oiling and repainting as well as regular safety checks for wear and damage, and they also need replacement when beyond repair. The British Standards Institution recommends that "equipment.. should inspected by a responsible representative of purchaser at weekly intervals", and that "...a log book be and that the person kept for each item of apparatus responsible for maintenance should be required to certify, signing the log book each week, that the equipment is need of repair" (BS 3178: Part 1959). 1: the equipment can start with accidental Destruction of damage, be due to poor initial design or workmanship, the failure to complete a maintenance operation, or the failure to repair promptly a minor act of wilful damage. However, none of the housing managers or any other body was officially responsible for the play equipment at the time survey. Inevitably, the current lack maintenance policy will lead to the eventual deterioration of the equipment. The fate of the play equipment could, therefore, be expected as a result of this, even if the other factors had little or no impact.

The findings from the investigation, and the discussion of the condition of the play equipment in the Saydia 7 project, testify to the failure of the "play areas" on the project. They reveal a considerable lack of awareness by the designers about children's play needs generally, as well as in the selection of play equipment in terms both of types and numbers. The study findings also emphasize the importance of providing a variety of play equipment in order to stimulate a wider range of activities among the children and so keep them interested. Moreover, they underline the importance of maintenance and management policies in relation to designated playgrounds. Without them any playground is doomed to failure.

8.6.4 THE LOCATIONS USED BY THE CHILDREN FOR PLAY

All family households in the sample who had children of eighteen years old and under were asked where in housing environment their children played most of the time. About half of them reported that their children played most the time inside their flat. This figure included not of only children who played inside more than outside, but also those who did not play out at all. This group comprised the older children, as there was nothing for them in the external areas, those under two years old who could not play outside unsupervised, and girls over the age of twelve Iraq it is uncommon for the latter to play Ιn years. outside, as explained in Section 6.2.4.

In this study, the exact location of children's activities on the estates could not be identified in detail; instead locations have been indicated in broad four locations were identified by the Only terms. respondents: (a) the front and back courtyards (Saydia 7 and Zayoona projects), and the spaces between the blocks access areas; (c) the private open (b)the 6); (Saydia generalization This was roofs. (d) the spaces; and necessary partly because the respondents were imprecise in their identification of the locations where their children played, and partly because, at the time of the survey, the site works were only partially finished on the Saydia 7 and the Zayoona projects, and had not been started on the Saydia 6 project (see Section 6.3). For instance, mothers who said that their children played in the courtyards abutting their housing block could not be precise as to whether their children played on the front or back courtyards or the car park (as some of the courtyards were meant by the designer for car parking). It was also unclear whether they played on the courtyard itself, the walkways around it, or on the streets adjacent to it. Therefore, these play locations were all recorded under the broad headings of front and back courtyards.

The common pattern of new neighbourhood layouts elsewhere in Baghdad is the grid system, with housing laid out along streets and with the pavements running in parallel. In the older neighbourhoods the courtyard houses front directly onto narrow streets which are used both for traffic and pedestrian circulation. In this latter form of housing the children play either inside the internal courtyard, or in the street outside. In the newer form of housing all the houses have high fences around the garden, and here the children play either in the garden, which is considered as "the inside" of the house, or "outside" -that is, beyond the fence in the street. Therefore, before the three estates considered in this sample were built, it used to be fairly straightforward to describe where the children

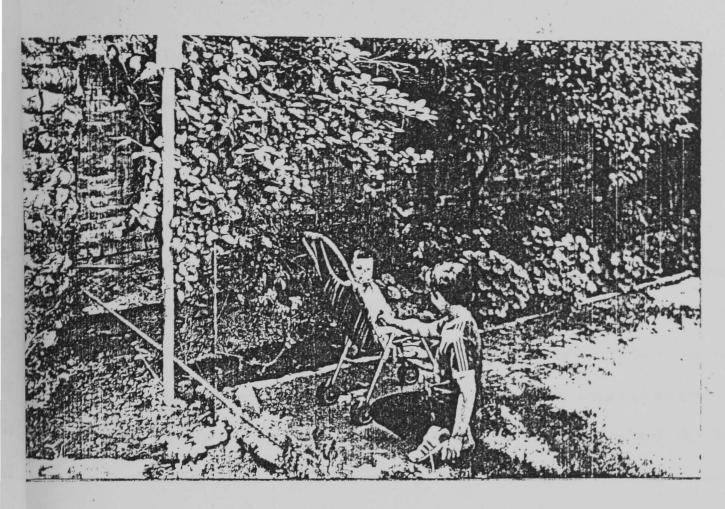


FIG. 8.29

children's play:

In private gardens, inner courtyards or in the street.





FIG. 8.30

played; the new housing forms employed in the projects have made such clear cut definitions of "in" or "out" much more difficult.

As estates with segregated traffic and no other pedestrian routes, or with traffic-free areas, had been developed elsewhere in Baghdad, the residents in the projects seemed to be confused about the layout of their current estates as they had never experienced such a layout before. This confusion was exacerbated by the unfinished site work. The survey showed that people were confusing the walkways around the courtyards with streets, as often during the site visits cars were noticed using these Cars were also parked immediately outside the housing blocks, and not in the designated car parks. During the interviews, many respondents mentioned that their children played on the streets -whereas they were, in fact, referring either to the areas between the rows housing blocks (the Saydia 6 project), or to the walkways around the courtyards which abutted their dwellings Zayoona projects). This confusion had 7 and Saydia possibly been fostered because residents had not properly informed about the new idea of traffic-free areas and traffic-pedestrian segregation on their estates. interviewed talked about their current being people estates, they seemed to have in mind the common forms housing which they had previously experienced. Therefore,

when the children played outside, mothers considered them to be in the street outside the house. They could not be more precise in their answers, and were unable to specify whether their children played in the courtyards, on the car parks (some courtyards were designated for car parking), on the walkways, or in the streets. Thus, the data on where the children played outside the dwellings is fairly general. As it is important to identify in detail where children play on the estate, an observation method ideally needs be used to complement the questionnaire. However, that was not possible for this study.

In general, however, the data showed that half the children played most often in their immediate environs, which included the courtyards (in the Saydia 7 and the Zayoona projects), the spaces between the rows of blocks of flats (in the Saydia 6 project), car parks, walkways and streets (Table 8.6.6). Many other studies observing children playing outside have confirmed that, regardless of age group, children tend to play near home (Hole & Miller 1966; Holme & Massie 1970; D.O.E., Db.27, 1973; Beer 1983; Cooper & Sarkissian 1986)

Access areas were the next most often identified locations for children's play: about one in eight of the children played on the approach to the housing blocks, in entrance lobbies and on staircase landings. Many other

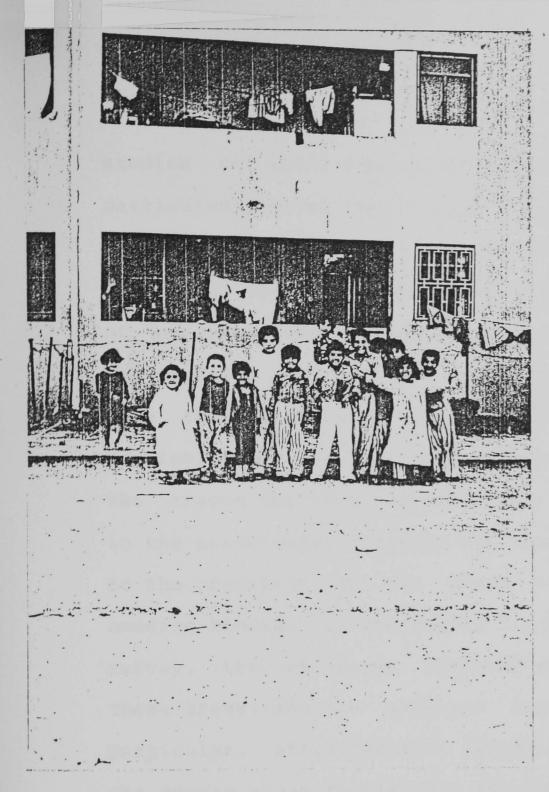


FIG. 8.31 Small children stayed clos to home.

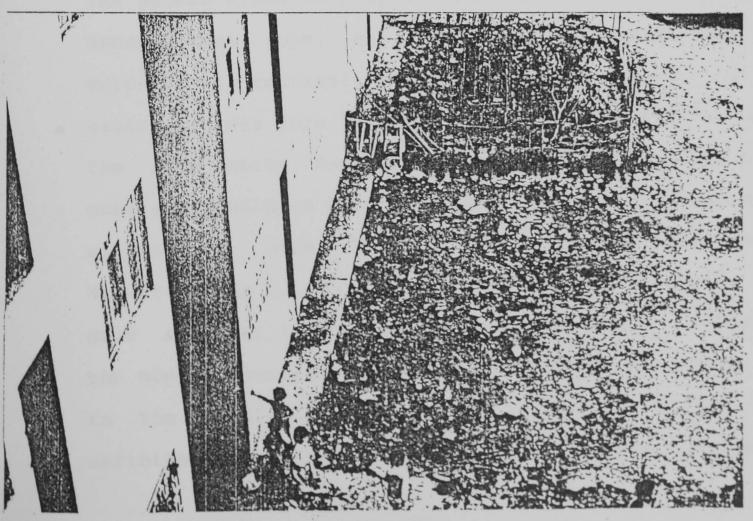


FIG.8.32 The young ones playing on access areas.

studies of multi-family housing have found that children, particularly young ones, tend to play on access areas (D.O.E., 1972; D.O.E. Db.,27, 1973, Cooper & Db.25, Sarkissian 1986). In the Saydia 6 project the percentage children who played on these areas was triple that in of the Saydia 7 project, even though both projects had the same form of housing block, and the number of under fives per family was only a little higher in the latter project. The reason for this was not clear. However, the variation in the percentages recorded for these projects might relate to the condition of the areas immediately outside the housing blocks. In the Saydia 7 project at the time of the survey, the walkways, carparks and roads were paved, and these areas, and the walkways around the courtyards particular, attracted some of the young children away from the access areas to play out on them with tricycles other wheel toys, as well as for games needing a hard surface. In contrast, in the Saydia 6 project all external areas were just flat, barren and dusty, as none of had been done yet. Many other studies site works observing children have confirmed that most play occurs walkways or other hard surfaces (Becker 1976; Cooper & Hackett 1968; D.O.E., Db.22, 1971; D.O.E., Db.27, 1973; Hole & Miller 1966; Cooper & Sarkissian 1986). Therefore, the higher percentage of children playing on access areas the Saydia 6 project is likely to relate to the in unfinished condition of the areas immediately outside the

housing blocks.

The data also showed that only a few of the children played on private open space -that is, the balcony or garden. This is discussed in Section 8.7.

Only a small number of children were also reported as playing on the roofs of the housing blocks. The designer stated that the roofs in this form of housing were intended to be used by all the residents of the block for drying the washing, as well as for the installation of cooling devices for the second floor flats and the water tanks for the individual block. The designer had never intended that the roofs be used for children's play. order to control access to the roofs, each family living in the block had been given a key for the access door to the roof, to be used only when needed. It was envisaged by the designer that the door would otherwise be locked. However, many of the access doors were vandalised by children or left unlocked by the residents, and this made the roofs accessible to children. As children will play anywhere to which they are attracted, the large, flat, hard surface (paved with concrete flags) provided by each encouraged its use for play. It is a safe fenced area with parapets, which is near to home as well as being very exciting for play, as children can come up to the roof via one set of staircases and go down from another and so enter

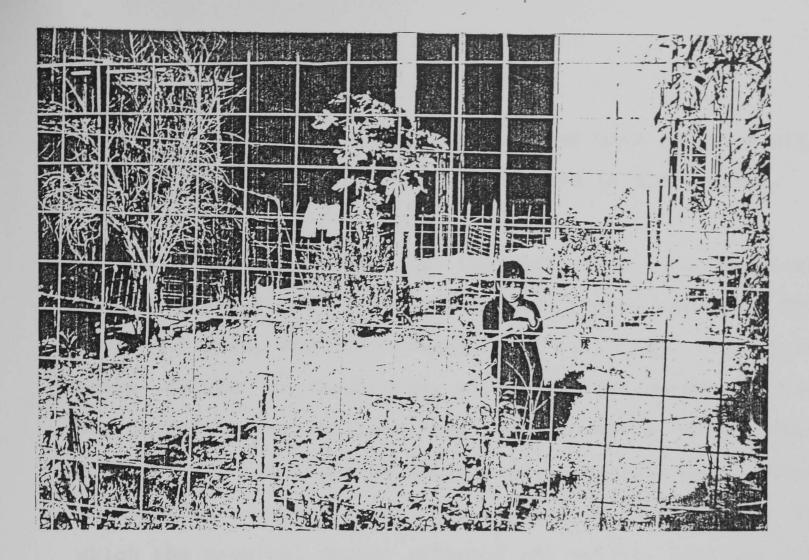


FIG.8.33 Young children played in fenced private gardens.

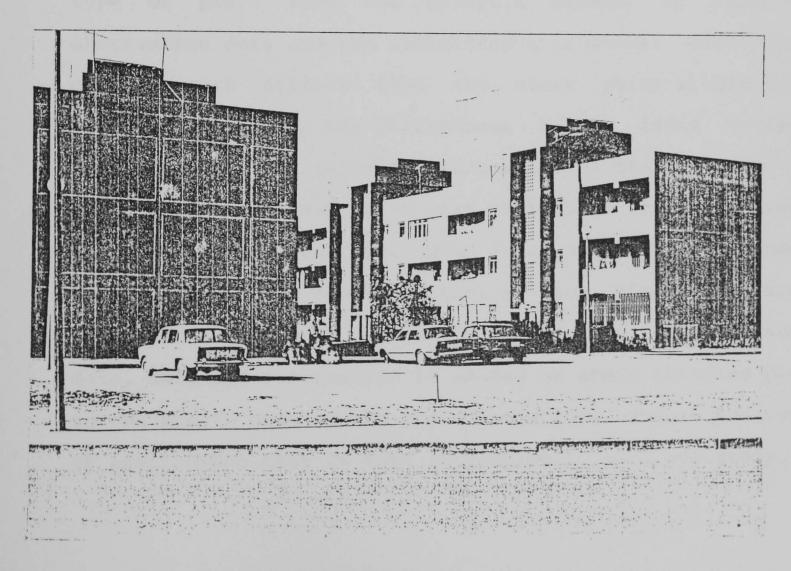


FIG. 8.34 Older children often play in car parks.

"unknown" territory. The washing wires have became a play feature and the cooling devices are used to hide behind.

The evidence seems to indicate that the physical characteristics of the layouts of these estates, housing blocks, the flat itself, and the way the built units relate to each other all affect the amount of time the children play out, and the places where they play. However, in the projects under study, specific conclusions on the time children spent in play, and on the degree to which the physical design affected the extent, location and type of play, were not possible because of lack of observation data and the unfinished site works. Each site differs from the other parts within each the project, as well as the differences to be found projects, and if reliable information on the influence of the physical environment on play pattern is to be arrived at, the use of each site needs to be separately examined. This further study should be carried out after the works are finished. When it is possible to gather such data, detailed information is needed on where children play in the public open spaces and for how long, and on the type of environment that is most attractive to each age group.

8.6.5 PROBLEMS ASSOCIATED WITH CHILDREN'S PLAY

respondents who considered children's play on the estate to be a problem were given a list of problems common in residential areas, and were asked to identify the sort problems they had, and whether those problems were of related to children under five or over five. The commonest problems were: (a) children were too noisy; (b) the lack equipped playgrounds; (c)children playing on access areas; (d)children causing damage; and (e)that there were too many children. A considerable difference emerged under and over fives, as the percentage of the problems recorded for the latter group was more than double that for the former. These problems were closely followed by others such as the danger to children from traffic on and around estate, the fact that children could not be left out alone and the difficulty of supervision, the lack sheltered play areas, and the restrictions on children's (see Table 8.6.7). All these problems occured to much the same extent in all the projects.

In relation to the first set of problems mentioned above, the statistical analysis of the data from the survey showed a similar result for each project. However, all the problems scored their highest percentages in the Saydia 7 project rather than in the other two, except for the lack of equipped playground. It is interesting to note that the

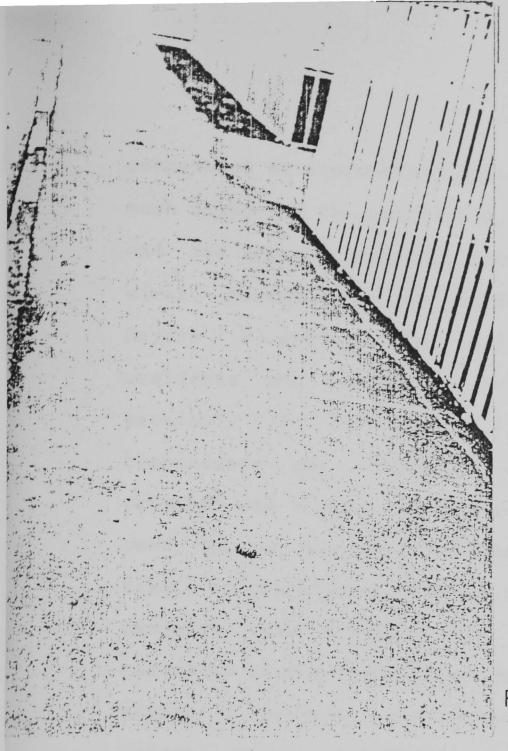


FIG.8.35Playing Hopscotch on the walky



FIG.8. 36 One of the chief complaints was lack of specific play areas.

percentage of respondents who considered this a problem was much higher in the Saydia 6 project than in the Saydia 7 and the Zayoona projects, though the reason for it was not Moreover, it was rather confusing to find that Saydia project also had the lowest percentage of who considered children's play as residents problem". In the Saydia 7 project, the percentage of respondents who considered children's play a "great problem" was higher, but the lack of play equipment was not seen by as many residents as a problem. Two factors are likely to contribute to this possible anomaly. are situated not far from each other, residents of the Saydia 6 project frequently pass by the Saydia 7 project, particularly children on their way to school. They have noticed, therefore, that play equipment been freely provided by the Housing Authority in the has latter project, whilst no provision has been made for their estate, despite the fact that they paid the same amount of money for their flats as those in the Saydia 7 project. consequence they feel that they too are entitled to have play equipment for their children. However, people in Saydia 7 project who previously had play equipment in some of the courtyards have seen it vandalised; only remnants of it were noted during the survey. They had also experienced some problems to do with this equipment, such as conflicts children about using the equipment and the between the older children bullying the younger ones. Such problems were likely to end up in conflicts between the parents. The injuries their children experienced as a consequence of the lack of safety in the design of the equipment, and of the lack of maintenance and repair work, also contributed to negative views about play equipment. Therefore, most of the residents did not consider the lack of play equipment as a problem.

The percentage of residents who felt that there were too many children on their estate varied considerably between the projects, with the highest percentage recorded in the Saydia 7 project. The difference in the percentages was to be expected, as the data from the survey revealed that the average number of children per household in the Saydia 7 project was 3.6. This was the highest figure in the projects, and to it can be added children living in the nearby housing areas, who frequently come to play with their friends on the project.

Another major difference noticed between the Saydia 7 project and the others related to the problem of children causing damage on the estate. It appears that the high number of children on the estate contributed to this problem. In the Saydia 7 project the child density was 160 children per hectare (64 child/acre) -the highest among the three projects. The evidence from studies elsewhere has suggested a link between child density and residents'

general satisfaction. For instance, the findings from a study of a housing estate in Liverpool suggested that the successful areas on the estate only had about 25 children per acre; the unsuccessful areas had 47 children per acre (Shankland Cox & Associates 1977). Findings from a study of Lambeth, Inner-London, suggested that when the child density exceeds 20 children per acre, problems of noise and vandalism, and disputes between neighbours are likely to become more marked (Shankland Cox & Associates 1977).

Another study has suggested a link between the density, and in particular those in the more active age group, in the individual housing block and the rate of vandalism. Sheena Wilson in her study of fifty-two Inner-London estates suggested that vandalism is likely to children aged between five and occur once the ratio of sixteen exceeds 20 children per block of flats (Wilson In the Saydia 7 project there were, on average, 43 1977). children per housing block, of whom 23 were in that age From these studies, albeit from a group. different culture, it could be expected that there would be problems related to child density in the estates in this survey, and it is interesting to note that this out despite the very different social controls operating in influence of the high child density in the The Iraq. Saydia 7 project on residents' complaints about noise

privacy has been discussed in Sections 8.3 & 8.4.

listed problems were more salient to the Two project than to the others. These problems concerned child safety in relation to traffic on and around estate. It seems that the younger children were the ones whom the respondents worried about most. notable that the Saydia 6 project recorded the highest percentage of this problem. For instance, it was more than double that in the Zayoona project, despite car ownership the estate being half that in the Zayoona project. on likely that this problem has Therefore, it is aggravat d in the Saydia 6 project by another factor rather than the number of cars on the estate. At the time of investigation, when no roads or walkways had been paved, the construction vehicles were running everywhere through around the project all the day. This might be the reason for scoring this problem so highly on the list of problems, and particularly for the young ones, as other children will be at schools away from the estate during the day. On the other hand, in relation to children's around the estate, almost all the residents were concerned about it, because at the time of the survey there was school of any type in the Saydia 6 project. This compelled children there to go to schools outside their estate, the which involved crossing a major road with fast and heavy traffic. Thus, the problem of children being in danger

from the traffic around the estate was foremost in the mothers' minds in the Saydia 6 project, and was therefore seen as a major problem.

None of the aforementioned problems were unexpected or surprising, in view of the high child density on the estates, and because the physical characteristics of the external areas immediately outside the dwellings nothing to mitigate the effects of the high density, and might have aggravated them. The physical characteristics the design reflected the lack of knowledge on the part of of the designers about the type of households they for, and a lack of awareness about children's designing their residential in in the external areas They also revealed the designers' failure to environment. convince the Planning Authority about the need to allocate money for the external areas, and to emphasize to them the importance of these areas for the residents. It seems that residents' attitudes towards the children's play situation the estates under study were affected by the lack of awareness of society in general of the importance of for children's physical, mental, emotional and social development. These issues need to be looked rationally.



FIG. 8.37 Shading is necessary for Children's, play in hot climates.



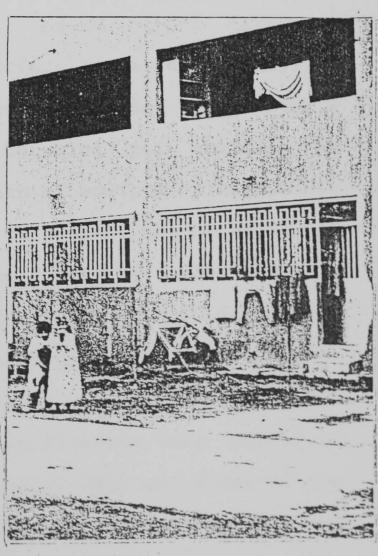


FIG.838 Children always play near hom,

8.6.6 THE OCCASIONS WHEN CHILDREN'S PLAY PROBLEMS INCREASE

respondents who considered children's play a The problem were asked to identify when the problems increase. The times when this happened and their categorization were similar on the three estates, with little variation being recorded (see Table 8.6.8). The majority of respondents mentioned that problems with children's play increase during the summer holiday. This is to be expected, elsewhere it is common for children's play to create more problems during the summer holiday. In Iraq children school have lots of daily homework ranging from an hour to three hours long, which influences the amount children during termtime. outdoors after school hours play Therefore, their play pattern differs considerably during holidays, particularly the summer holiday. The notable lack, on all the estates, of catering for children of school age -evident in the dreath of equipped playgrounds, particularly for those aged six to twelve, and of provision for sports activities, particularly for the over twelvespresages an increase in children's play problems during the summer holiday. Moreover, the hostile external environment around the dwellings has nothing in it cater for to children's needs. Its openess and flatness only encourage active ball games which, in the courtyards and close to the dwellings, considerably affect the level of noise, and cause disturbance to the residents living in the surrounding blocks. Cycling is another activity which could be encouraged by the condition of the external areas, but is restricted by the lack of space within the flats and the housing blocks for storing.

Another period identified by the respondents as a time when disturbance increased was after school hours. It was noticed that this period was only mentioned by a few of the respondents in the Saydia 6 project. This might be attributed to the lack of schools on the estate, which compelled children attending school to walk long distances, so that by the time they reached home they were tired and not in the mood for play.

The respondents identified other times when problems occasionally increased, such as during the rainy season in winter. Considering the condition of the external areas at the time of the survey, it was hardly surprising that most of the respondents mentioned a rise in problems during wet Winter days due to the muddy external environment. Some mentioned the difficulty of getting children It was also unsurprising to find that school. percentage of the respondents who identified this problem highest in the Saydia 6 project. However, no-one was outdoors for sheltered areas criticised the lack of children to play under.

Problems with children's play increased at two other times according to the respondents: at the weekends and during family visits. This was particularly the case in the Zayoona project. Indeed, as family visits usually commenced at the weekend, the two factors tended to overlap (see the Housewives' Diary in Appendix 2). Their higher recorded incidence in the Zayoona project might have been influenced by the housing form, as in the five storey blocks there are fifteen flats and, therefore, many more potential visitors. The child density in the Zayoona project was 2.4 children per flat and 36 children per block, which would normally rise considerably during the family visits.

It was rather surprising that a considerable percentage of the respondents -more than one fifth- could not identify times when children's play problems increased, and just said that they did not know. This might indicate that housewives were overwhelmed by the responsibilities of raising children in general, without paying particular regard to children's play, and thus saw children as a continuous source of problems (see Housewives' Diary).

8.6.7 THE RESIDENTS' SUGGESTIONS FOR IMPROVING CHILDREN'S PLAY ON THE ESTATE

When residents of the three projects who considered children's play a problem were asked how things could be improved, it was interesting to find that the suggestions made in each of the projects were very similar, and were similarly categorized. The commonest suggestions for improving the situation were to provide (a) play areas and equipped playground on the estates, (b) football pitches and kick-about areas away from the dwellings, and (c) gardens and parks for children's play.

Other sets of suggestions which were less frequently mentioned but were also directly related to children's play included providing hard surfaces for children to play on, "Youth Centres", and swimming pools. Improvement to the external environment in general which would implicitly affect play were also mentioned, such as completing site on the projects, and particularly the walkways and works generous landscaping to provide shelter, and greenery. Providing schools for all age screening and groups and a public library were suggested considerable number of residents. A newsagent, bookshops, and a local health clinic were also thought by residents to be important for children.

It was perhaps rather surprising that a considerable number of respondents who admitted that childrens' play on their estate was a problem had no suggestion to make for its solution. This attitude might reflect the social conception of child-caring as a family responsibility and not Society's; therefore, housewives could not conceive that a public body such as the Housing Authority might involve itself in improving children's play on the estate, and thus they were unable to offer suggestions when they were asked.

8.7 PRIVATE OPEN SPACES

Having a private open space was not found, in the studies of residential areas, to be directly related residents' satisfaction overall with their environment (Cook 1969; D.O.E., Db.25, 1972). However, discussed in Chapter Four, the studies suggested that private open space, whether it be a garden, patio, or balcony, is a highly significant component of the housing environment, which is appreciated and used by the majority residents for outdoor living and as an extension of the indoor living area, as well as for leisure and hobbies. out Activities such as sitting for relaxation, contemplation, entertaining friends, having an occasional alfresco meal, younger children's play, drying washing, growing plants and watching birds all take place in these spaces are also used for keeping pets, Such spaces. storing cherished junk, or doing odd jobs. The types of in these areas were noticed in a activity carried out number of studies to be related to their physical the size and shape of the space characteristics, such as The location (Milton Keynes 1975, Coulson 1980). private open spaces, and front and back gardens in particular, as well as their accessibility from dwelling, also influenced the type and frequency of activity for which they were used (Shankland Cox 1967 & 1977; Cooper 1975; Cooper & Sarkissian Associates

1986; Mulvihill 1977). Other influences on the use of these spaces according to the studies, included weather conditions and socio-cultural factors such as the type of household, social status and attitude toward privacy (D.O.E., Db.25, 1972; Mulvihill 1977; Cooper & Sarkissian 1986).

8.7.1 RESIDENTS' ATTITUDE TOWARDS PRIVATE OPEN SPACES

The planners' and designers' intentions in relation to the project areas under study, were to provide the residents with only one type of private open space: a balcony. Thus all the flats, whether on or above ground level, have a balcony. The physical characteristics of these balconies, as well as the designers' intentions about their usage patterns are described in Chapter Six.

During the site visits, a few private gardens were noted which some of the ground floor dwellers had made; therefore, this form of private open space will also be discussed here.

THE BALCONY

To investigate the relevance of the findings from the previous studies to the present study, a number of questions relating to the design aspects of the balconies,

and to users' activities in them, were posed to the respondents in the sample. They were asked what they used their balcony for. All the respondents were set this question regardless of the alterations which they had made to their balconies. The majority in the sample proved to be using it, totally or partially, for storage, with the figures being 70.9% in the Saydia 7 project, 82.6% in the Saydia 6 project, and 91.5% in the Zayoona project (Table 8.7.1).

The next most frequent activity mentioned was drying the washing, with nearly half the respondents in the sample using their balconies in this way (54.5% in the Saydia 7 and 45.7% in the Saydia 6 projects, and 51.2% in the Zayoona project). Sitting out was another, but less common, activity, with about a quarter of the respondents saying that they occasionally used their balconies for this. The percentage of the respondents who used the balcony for sitting out in the Zayoona project was 34.1%, which was higher than in the Saydia 7 (12.7%) and the Saydia 6 (15.2%) projects.

Only a few of the residents slept out on the balcony during the summer nights (5.5% in the Saydia 7 project, none in the Saydia 6, and 7.3% in the Zayoona project), and only a few respondents mentioned that their children played on the balcony (12.7% in the Saydia 7 project, 4.3% in the

Saydia 6 and 7.3% in the Zayoona). Other uses for the balconies emerged in the residents' replies, though only a few mentioned them; they included using the balcony to grow pot plants, and as a place from which to watch their children's activities outside the dwelling.

It was noted during the investigation and the site visits that the majority of ground floor residents in the sample, in the walk-up blocks, had made a door from the balcony to the outside of the flat. 81.2%, 78.6% and 72.7% in the Saydia 7, Saydia 6 and Zayoona projects respectively had done this. However, in the sample, none of the ground floor residents of the five storey block in the Zayoona project had made a door from the balcony.

The asked respondents were to assess their satisfaction with the physical characteristics of their balconies, and with behavioural aspects related to usage of these balconies. The assessment included: the level of privacy from the passers-by and from other flats, the orientation, the size, the views seen from it and the level of safety and security in it. A five point scale was used for the assessment ranging from "very satisfied" to "very dissatisfied". Apart from those who closed off their balconies and altered them into a different space, a considerable variation in residents' attitudes towards

physical characteristics was noted among the three projects (Table 8.7.2).

The respondents, other than those living in ground floor flats, were asked if they would have preferred to have a private garden instead of the balcony. The answers showed great differences among the projects. About four fifths of the respondents in the Saydia 7 project, one fifth in the Saydia 6 and two fifths in the Zayoona project wished to have a garden instead of their balcony (Table 8.7.3).

THE PRIVATE GARDEN

A number of gardens were noted around some ground floor flats at the time of the site visits, despite this being prohibited by Housing Authorities. These gardens were generally in medium or poor condition. Some could hardly be identified as gardens, for they were merely barren areas of land or with a little vegetation which seemed to be haphazardly planted, and were poorly fenced or demarcated.

A number of questions were presented to the respondents in the sample in relation to gardens. Some of these questions were general and related to all the respondents, and others were only for those who lived in a

ground floor flat and had made a private garden. Ground floor dwellers in the sample who did not have a garden were not asked why, as gardens are officially prohibited.

All the respondents were asked if they considered it important to have a private garden. The majority thought a private garden was important: 87.3% in the Saydia 7 and 71.7% in the Saydia 6 projects, and 70.7% in the Zayoona project.

Residents of ground floor flats in the sample who had made gardens were asked how they used their gardens. The answers varied within the three projects but showed that in general people hardly used their gardens for sitting out. The majority replied that they used their gardens as something to look at, or as a barrier between their flat and the street or walkway. Some said that they used their gardens for nothing. However, many respondents mentioned that they used their gardens for gardening and for drying the washing, while a few said that they sat out in their garden or the children played in it (Table 8.7.4).

These respondents were also asked to assess their satisfaction with the physical characteristics of their gardens, and with factors affecting their usage such as the level of privacy from passers-by and from other flats, the orientation of the garden, the views seen from it, its

size, and the level of safety and security in it. The answers showed considerable consensus in the respondents' attitudes towards privacy level in their gardens, with the majority dissatisfied. There was agreement too about garden sizes and the level of safety in them, as all the respondents were found to be satisfied with them. The answers also showed little variation in the respondents' attitudes to the orientation of their gardens, though opinions were more varied on the views seen from the gardens (Table 8.7.5).

Table 8.7.1- THE USAGES OF THE BALCONIES.

PROJECTS !	Saydi	.a 7 !	Sayo	lia 6 !	Zay	oona	
No. in sample!	55	! 	! 46 !		82		
USAGE!	No. !	0/0	No.	% !	No. !	%	
!-Storage. !	39	70.9	38	82.6	75	91.5	
!-Drying- ! washing. !	30	54.5	21	45.7	42	51.2	
! !-Sitting. !	7	12.7	! ! 7	15.2	28	34.1	
! !-Pot planting!	5	9.1	1 3	6.5	11	13.4	
!Childrens' ! !Childrens' ! ! play. !	7 !	12.7	! ! ! 2	! ! ! 4.3	! ! 6	7.3	
! !-Sleeping out!	3	5.5	: ! – !	: ! !	! 6	7.3	
!-Look out !! ! on road.	2	3.6	! ! 2	! 4.3	! ! ! 3	! 3.3	
! !-Entrance**	13	81.2	: ! 11	1 78.6	! 8 !	! 72.7	
! !-Living room*!	_	! !	! -	!	! 47 !	! 57.3	
! !	! !	! !	!	!	!	!	

^{*} Using part of the balcony as living room was noted in all the flats at the five-storey blocks.

^{**} This kind of usage was noted in some ground floor flats at the walk-up blocks. The percentages here are out of the total number of the ground floor flats in the sample.

Table 8.7.2- RESIDENTS' SATISFACTION WITH THEIR BALCONIES.

(Those who closed off their balconies are not included).

PROJECT	SAYDIA 7		SAYDIA 6		! ZAYOONA !	
Number in sample !	37 !		26		65	
THE ASPECTS	No.	! % !	No.	!	No.	! % ! !
Privacy from passer-by! 1. Very satisfied ! 2. Satisfied ! 3. Neither ! 4. Dissatisfied ! 5. Very dissatisfied !	1 7 1 21 1 4	! 18.9 ! !56.8 ! !10.8 ! !13.5 !	25	! 96.1 ! ! 3.9 !	35 1 8	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
Privacy from flats 1. Very satisfied 2. Satisfied 3. Neither 4. Dissatisfied 5. Very dissatisfied	! 20 ! 3	! 10.8 ! 54.1 ! 8.1 ! 24.3 ! 2.7 !		! !80.8 ! !19.2	27 2 17	!
! Orientation ! 1. Very satisfied ! 2. Satisfied ! 3. Neither ! 4. Dissatisfied ! 5. Very dissatisfied	! 8 ! 19 ! 6 ! 4	! !21.6 !51.4 !16.2 !10.8	19	! ! 3.8 !73.1 !19.2 ! 3.9 !	30	! ! !29.2 ! !46.2 ! !13.8 ! ! 9.2 ! ! 1.6 !
<pre>! View from balcony ! 1. Very satisfied ! 2. Satisfied ! 3. Neither ! 4. Dissatisfied ! 5. Very dissatisfied</pre>	! 7 ! 9 ! 9 ! 10 ! 2	! !18.9 !24.3 !24.3 !27.1 ! 5.4	! 15 ! 3 ! 8	! ! !57.7 !11.5 !30.8 !	! ! 18 ! 24 ! 5 ! 18 !	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
! Size ! 1. Very satisfied ! 2. Satisfied ! 3. Neither ! 4. Dissatisfied ! 5. Very dissatisfied	! ! 6 ! 10 ! 3 ! 17 ! 1	! !16.2 !27.1 ! 8.1 !46.1 ! 2.7	! 14 ! 1 ! 11	! !53.8 ! 3.9 !42.3	! 1	! 9.3 ! ! 47.7 ! ! 1.5 ! ! 40.0 ! 1.5 !
! Saftey and security ! 1. Very satisfied ! 2. Satisfied	! 11 ! 20	! !29.7 !54.1		! ! 3.8 !88.6	_	! !23.1 !55.4
<pre>! 3. Neither ! 4. Dissatisfied ! 5. Very dissatisfied !</pre>	! ! 5 ! 1 !	! !13.5 ! 2.7	_	! 3.8 ! 3.8 !	! 12 ! 2 !	!18.5 ! 3.0 !

Table 8.7.3- RESIDENTS WISHING TO HAVE A GARDEN INSTEAD OF A BALCONY.

(The ground floor dwellers are not included).

!						
! ! !! !! !! !! !! !! !! !! !! !! !! !!	SAYDIA 7		! ! SAYDIA 6 !		! ZAYOONA !	
! ! Number in the sample.!	39		! ! 32		! ! 64	
! THE ANSWERS !	No.!	. oo	No.	! ^૦ ૦	No.	! % !
! ! ! Yes !!	31 !	179.4	7	121.9	! ! 26	! !40.6
! 2. No !	4	10.3	24	75.0	1 34	: !53.1
! 3. Do not know!!	4 !	10.3	1	3.1	! 4 !	! 6.3 !

Table 8.7.4- THE USAGE OF PRIVATE GARDENS. (Ground floor dwellers who made gardens only).

! PROJECTS !	Saydia 7 !		Sayd	lia 6 !	! Zayoona ! ! Zayoona !		
! !No. in sample!	9)	11		15		
! USAGE	No.!	%	No.	ે	No.	% ! !	
! !- Gardening	6	66.6	9	81.8	10	66.6	
! - View	6	66.6	4	36.4	8	53.3	
!- Drying- ! washing	6	66.6	! 5	45.5	! ! 2	13.3	
!- Child-play	3	33.3	1 4	36.4	. 7	46.7	
! !- Sitting	3	33.3	: ! 1	9.1	1 6	40.0	
! !- Storage	1	11.1	! -	: !	: ! – !	! !	
! !- Barrier	4	44.4	<u>.</u> ! 5	! 45.5	<u>.</u> ! 8	53.3	
! !- Nothing !	! ! 3 !	! ! 33.3 !	! ! 2 !	! ! 18.2 !	! ! 4 !	! ! 26.7 !	

Table 8.7.5- RESIDENTS' SATISFACTION WITH THEIR GARDENS. (Ground floor dwellers who made gardens only).

PROJECT	SAYDIA 7		SAYDIA 6		! ZAYOONA	
Number in the sample.		·	11		15	
THE ASPECTS	No. !	% <u> </u>	No.	% !	No. !	% ! !
!-Privacy from passer-by! ! 1. Very satisfied ! 2. Satisfied ! 3.Neith. sat. nor dis.! ! 4. Dissatisfied ! 5. Very dissatisfied !	 9		1 ! 9	9.1 ! 9.1 ! 9.1 ! 81.8 !	1 ! 12 !	. 6.7 ! 6.7 ! 80.0 ! 6.6 !
!-Privacy from flats ! 1. Very satisfied ! 2. Satisfied ! 3.Neith. sat. nor dis. ! 4. Dissatisfied ! 5. Very dissatisfied	. 9	! ! ! ! ! 100.0!	1 9	9.1 ! 9.1 ! 9.1 ! 81.8 !	3 !	6.7 ! 20.0 ! 66.6 ! 66.7 !
!-Orientation ! 1. Very satisfied ! 2. Satisfied ! 3. Neith. sat. nor dis. ! 4. Dissatisfied ! 5. Very dissatisfied	•	! ! ! 11.1 ! 88.9 ! !	6	9.1 ! 54.5 ! 27.3 ! 9.1 !	10 4 1	
!-View from the garden ! 1. Very satisfied ! 2. Satisfied ! 3.Neith. sat. nor dis. ! 4. Dissatisfied ! 5. Very dissatisfied	! 2 ! 6	! ! !11.1 !22.2 !66.7 !	! 2 ! 4	! ! 36.4 ! 18.1 ! 36.4 ! 9.1	! 1 ! 5	! ! !60.0 ! ! 6.7 ! !33.3 ! ! !
!-Size ! 1. Very satisfied ! 2. Satisfied ! 3.Neith. sat. nor dis. ! 4. Dissatisfied ! 5. Very dissatisfied	!	! ! ! 100.0 ! ! !	! ! 11 ! ! !	! !100.0 ! !		! ! !100.0! ! ! ! !
!-Saftey and security ! 1. Very satisfied ! 2. Satisfied ! 3.Neith. sat. nor dis. ! 4. Dissatisfied ! 5. Very dissatisfied	! 1	! ! !55.6 !11.1 !33.3 !	! 10	! 9.1 !90.9 ! !	! ! ! 12 ! ! 3 !	!

8.7.2 USERS' SATISFACTION AND DISSATISFACTION WITH THEIR PRIVATE OPEN SPACES.

THE BALCONY

The data from the survey showed that the residents in the sample were generally satisfied with the balcony in their flats. Nevertheless, residents' satisfaction with aspects relating to their balcony was not found to have a strong correlation with residents satisfaction with their housing environment, it was found to be only slightly related (Table 7.7). Having a private open space was not found to be directly related to residents' overall satisfaction with their housing environment in a number of British studies (D.O.E., Db.25, 1972).

Despite all the respondents in the sample having a balcony not all of them used it as an outdoor area, as some of them had closed off their balcony and altered it into a different space for different functions. They were, therefore, using it for other purposes than the designer had intended. As stated earlier the designers of the projects intended the balconies to be used for sitting out, for children's play and for sleeping out on summer nights. However, for those respondents who did not close off their balconies, the data from the survey revealed different

usage pattern for the balconies than those intended by the designers.

considerable number of residents had closed off their balconies as described in section 6.3, although many The reasons for closing off the balconies were did not. found to be mainly related to the households need indoor storage or living space. Some of balconies of ground floor flats were found to be closed off for additional reason: for security. However, many of balconies have not been closed off. This should not always interpreted as meaning the residents did not need an be extra indoor space. It might be because the residents do have the financial ability to pay for this alteration. Alternatively it could be because they did not want to disobey the housing authority by altering the external appearance of the housing block. The residents had all told by the housing authority that they were not been allowed to make any external alteration to their flats, as it would negatively affect the appearance of the block of flats as well as the overall appearance of the estate.

In the walk-up blocks, about one third of the Saydia 7 respondents, two fifths of the Saydia 6 and one fifth of the Zayoona project respondents mentioned that they had closed off their balconies partially or totally. In the five storey blocks of the Zayoona project, even more

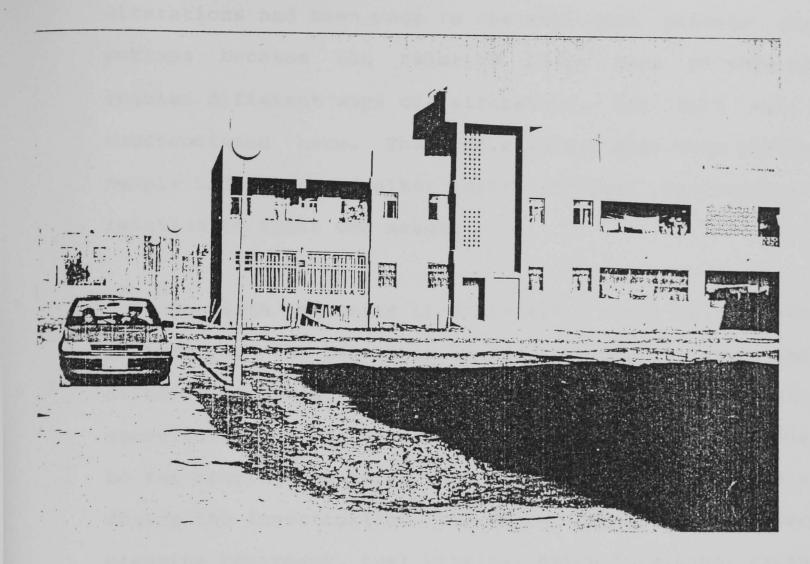


FIG. 8.39 Alterations in balconies. Different usage of balconies due to different users' needs.

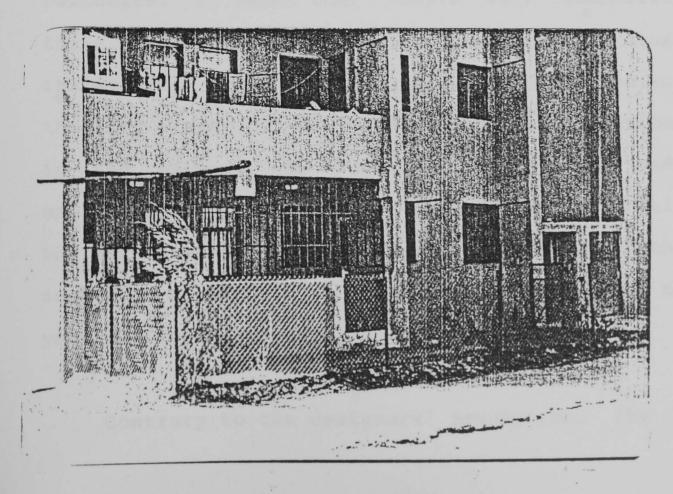


FIG.8.40 Balconies as stores.

alterations had been made to the semi-open private areas, perhaps because the relative large area of this space enabled different ways of alteration, but this was not substantiated here. Thus, this survey does show that many people had chosen to alter their physical environment in relation to their own needs.

The data presented in Table 8.7.1 shows that the usage the balconies by the respondents in the sample pattern of differ, and shows how this differs from the designer speculations. The main usage of the balcony was found to be for storing the extra household goods. People were seen during the investigation to store dry food substances, cleaning equipment, fuel bottles, extra furniture, children and sometimes an extra cooling device (either an air-conditioning unit or a desert air-cooler unit) on their balconies. It seems that people were compelled to use their balcony as a store due to the lack of a storage space inside the flats in both types of blocks; the walk-up and the five storey blocks. Storing the above mentioned items in the balcony was seen as creating an inadequate or unattractive environment for those other activities which the architect had envisaged would take place in the balcony sitting out, sleeping out on summer nights and young children playing.

Contrary to the designers' assumption, the residents

were observed during the site visits to use their balconies for drying out the washing, in spite of that officially forbidden by the Housing Authority. Residents advised to use the roofs of their housing blocks However, drying the washing was the second most instead. activity to frequent take place in the balconies (Table 8.7.1).The figures shown in this table might represent the actual percentages of residents using the balcony for this purpose, because some of them might have been reluctant to to disobeyed the regulations. admit Twice during the survey, while photographs were being taken the housing blocks, the house wife came out to apologise about the washing being hung out on their balcony. The reason most often mentioned by the housewives for their preference for drying washing on the balcony rather than the roof was that they had no control over who used the roof. Children often play on the roof made it unsafe to hang out their housewives felt this washing. Many housewives mentioned experiences of children damaging the washing or even cutting the washing wires letting all the washing down onto the floor. Such an catastrophic situation, occurence is perceived as a particularly by busy housewives with a large family.

Sitting out on balconies was never observed during the site visits. Nevertheless, some residents did mention that they used their balconies for sitting out, though rarely.

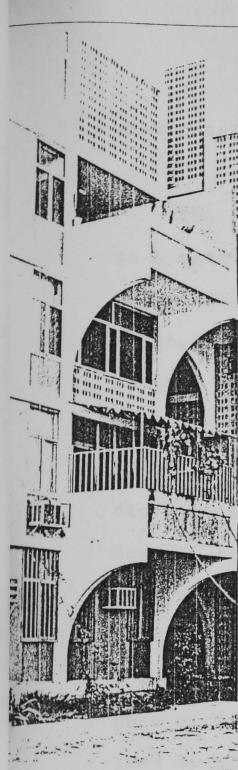
They also mentioned that this only happened during the evenings when it is dark, they are then unseen by others and cannot be accused of watching others. One in three of the respondents in the Zayoona used their balconies for sitting but only about one in seven in the two Saydia projects did (Table 8.7.1). The relatively low percentage of people sitting out in the balconies would appear to be related to social tradition and to be due to the lack of privacy in those balconies. It might also relate to lack of amenity, for it is not pleasant to sit out on a balcony among the junk of household goods and under the washing wires.

It was also contrary to the designers' intentions that such a small percentage of the respondents mentioned that their children play out in the balcony. Only 12.7% of the respondents in the Saydia 7 project allowed their children to play out on their balconies, 4.3% in the Saydia 6 project and 7.3% in the Zayoona project. It was surprising to find these percentage so low because of the relatively high number of children on these housing projects. Two factors are likely to explain this although they remain to be substantiate, one might be the lack of space, that is the balcony was filled up with the household goods leaving no room for children to play, the other might be that the balconies are unsafe for the children. Mothers of young children were reluctant to let their children, particularly

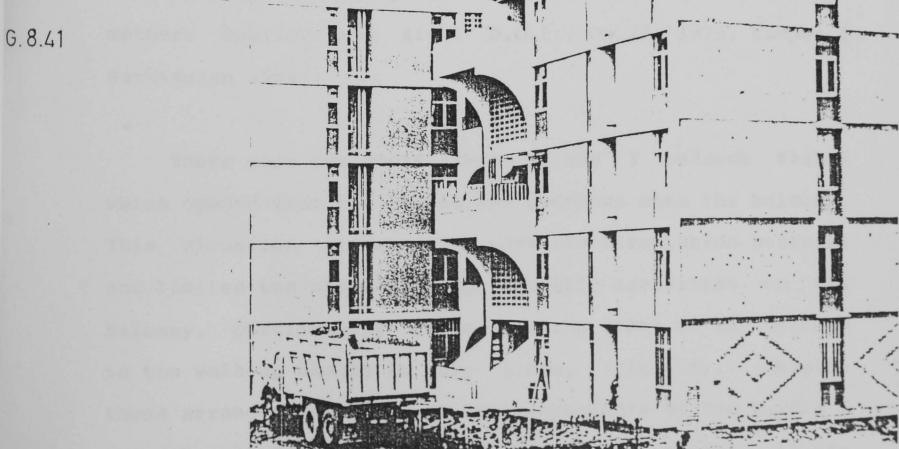
the young ones, to play there. The factors which made them unsafe were: (a) storing the extra furniture on the balcony making it unsafe for children to play unsupervised as they could climb over the junk stored there and fall off the railing, (b) storing the extra paraffin bottles or gas cylinders on the balcony makes it very unsafe to let children play there unattended, and (c) using the balcony for drying the washing, means that many washing wires have to be strung out within the balconies also making it unsafe for children to play.

Another additional factor, relating to the physical design of the balconies in the five storey blocks of Zayoona project, influenced use of balconies by children. Here it was found that children were not allowed to play on the balcony because mothers did not consider its railing high enough (100cm). This reaction might have been emphasized by a fatal accident of a child who fell off a balcony on the fifth floor. This factor, in particular, is likely to contribute to the low percentage of children playing on balconies in the Zayoona project (7.3%). The height of the railing on few of these balconies had been increased by the residents.

However, studies elsewhere have also found that children only infrequently play on balconies either because the balconies are too small or because mothers consider



The five storey blocks: Balconies unsafe for child's play



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them unsafe (D.O.E., Db.25, 1972).

other reason limiting the function of the balcony as a setting for young children's play was also likely to be a design factor. The balcony in the walk-up blocks is located away from the kitchen, as the designer chose locate the balcony abutting the bedrooms and adjacent to the living room in order to facilitate their usage for sitting out and sleeping out during summer time. decision left the kitchen, the place where housewives spend most of their time working, without a direct connection with the balcony. Mothers of young children were found to allow them to play only where they could easily observe them, hear them and so be able to reach them promptly in case of emergency. Young children have also been found tend to play where they feel safe, and that is within their mothers hearing and sight (D.O.E., Db.27, 1973; Cooper & Sarkissian 1986).

There were two doors (three in the 3 bedroom flats) which opened from the living and bedrooms onto the balcony. This situation affected the possible circulation patterns and limited the space free for specific activities on the balcony, particularly so because the width of the balcony in the walk-up blocks is only 1.65m, (Fig.6.5). Despite those arrangements, none of the respondents of the Saydia 6 project was found to have slept out in the balcony, in the

Saydia 7 three of them did and only six in the Zayoona project.

Sleeping on the roof (flat roofs) has traditionally been a feature of the Iraqis life style in summer This feature has been gradually diminishing consequence of the social changes, and particularly since introduction of the advanced domestic cooling devices the to the country from the mid 1950s onwards as mentioned Appendix 2. Sleeping out is now more a feature of the lifestyle of the poor, those who cannot afford the cooling devices. The built-in cooling system provided in the flats was seen as contributing to a better standard of living in the new housing. It is, therefore, perhaps surprising that the designer opted to provide this additional option for open air sleeping on summer nights, whilst on the other hand omitting the provision of a store area in the flats.

Sleeping out on the roof, is a very pleasant experience providing certain elements are available to facilitate it. Primarily, an adequate level of privacy needs to be ensured. People, previously, used to sleep out on roofs surrounded by high parapets (not less than 1.4m in height), which ensured that they could not be overlooked by neighbours from other roofs. No such level of privacy was provided in the balconies within these project areas because their railing height was only 1.2m, this gave no

adequate screening. The location of those balconies on different levels made it easier for those on the lower levels to be overlooked from the upper ones. Moreover, the main requirement for sleeping out to take place is adequacy of the size of the open area for the number of people in the family, it also needs to be open and large enough so as not to obstruct the free circulation of air. The analysis of the design drawings showed that the balcony the walk-up blocks was not capable of accommodation for more than two bedspaces, because of its shape and because of the two doors which open onto it. average size of the households in the three projects in the sample ranged from 5.0 to 6.7 persons, thus the balcony areas were inappropriate for the average household size if they were to sleep there. Thus it seems that neither characteristics physical of the balcony particularly its size, nor the level of privacy in it The built in cooling adequate for outdoor sleeping. system in the flats might have been another factor encouraging people to abandon sleeping outdoors, as it saves them the considerable chore of moving the beds twice a day in and out to the balcony. The lack of storage space inside the flats made it impossible to retain extra beds and soft furniture just for sleeping out in summer.

The site visits and the survey data showed that in the walk-up blocks a considerable number of residents in the

ground floor flats had opened a door from their balcony to the outside. Residents were often found to use this door as the main entrance to their flats, and the balcony as an entrance porch, abandoning the original main entrance from within the block to maintain their privacy (see Sections 8.1, 8.3 and 8.4).

When the residents were asked their opinion about the size of the balcony, it was interesting to find that there was little difference between the percentages of respondents who were satisfied with the size of their balcony and those who were not (see Table 8.7.2). This indicates that residents had very different opinions about the size, which was likely to be related to their own usage pattern of their balconies, which in its turn was related to the individual household specific needs.

In relation to the orientation of the balcony, it seems that the majority were satisfied, and only a minority were found to be dissatisfied (Table 8.7.2). These opinions could also be seen to be dependant on the function or the household activities which took place on the balcony.

The respondents in the sample were also asked their opinion in relation to the views seen from their balcony, as well as about its level of safety. The data showed that

the majority were satisfied with the views from their balconies and with the level of safety in them. Though, the reasons for their attitudes were not clear.

findings from the attitude survey and observations about the actual usage pattern of balconies did not coincide with those of the designers' intentions, as has been illustrated. This suggests that the designers lacked the information about the residents for whom they were designing, such as their actual needs of indoor as well as of private outdoor spaces, and the designers were also not aware of how those residents would their balconies. As the data analysis from this study revealed, the prime usage of the balconies was for storage for drying the washing, further research is needed to investigate whether, if residents had a proper store inside their flats and had a properly designed place to dry the they would have used their balconies in washing, different manner.

The findings also seems to suggest that residents' responses towards the physical aspects of design of the balconies is related to the individual use pattern of these balconies and to the social tradition, and that people will alter their physical environment according to their own needs. For example, some who used the balcony as a store only, when asked to assess the size of it, said they were

very satisfied, while others who used it for sitting out were unsatisfied with its size. Therefore, a further detailed investigation is needed to identify the residents responses to the physical aspects of the design in relation to each one of the activities which normally take place on balconies and to see whether these physical design aspects are facilitating or thwarting the commencement of a specific activity.

THE PRIVATE GARDEN

The statistical analysis of the data from the survey showed no significant correlation between residents having a garden and being generally satisfied with their housing environment. This result should not necessarily be taken at face value as the sample under study included very few respondents who had made a private garden, but there is evidence to support it. It seems that not having a garden did not have a significant influence on residents' general satisfaction, as most people in the sample were found to be satisfied even though the majority did not have a private garden. When the respondents were asked to state the things they most disliked about living in the current residential environment, not having a garden was mentioned by only one respondent.

However, when the importance of having a garden was questioned, the majority of the respondents in the sample -about three quarters of them- stated that it is important to have a private garden. The percentage who gave this reply was almost the same in each project. Moreover, when respondents were asked what improvements could be made to their housing environment if the architect were to redesign it from scratch, suggestions about the private gardens were the ones most often mentioned after suggestions about the

flats. Thus a garden was apparently considered important for the residents of the ground floor. This finding suggests that the absence of private gardens did not greatly affect residents' satisfaction, as they probably had it in mind when they chose to live in multi-family housing. However, once residents have a garden, as with those living on the ground floor, then it becomes important to them, and aspects of its physical character become sources of complaint when it fails to meet their needs.

Not all the ground floor residents had made a garden restrictions imposed by the Housing because of the Authority (Chapter Six). However, the existence private gardens at the time of the survey indicates that some residents did not feel bound by this restriction. shows that residents tend to change the environment according to their needs, as those particular residents felt impelled to do. As for the remaining ground floor residents who had not made a garden, unwillingness disobey the Housing Authority might not be the only reason for this. There might be other obstacles, whether social practical, which deterred them from making a garden. For instance, some residents of ground floor flats might be reluctant to make private gardens because they did not wish to offend the upper floor residents, as they considered those people had the same right as themselves to use the areas immediately outside their block of flats. Another

reason might be because they did not have the financial ability to do it; besides, people are not likely to put money and effort into gardens which they do not own, and the future of which is uncertain. Other reasons for not making a garden might be because residents lacked gardening skill, or did not have the time for maintaining a garden.

Despite the similarity among the projects in relation to the percentages of residents who considered the private gardens as important, the projects varied in the percentages of those who had actually made a garden. The data shows that in the Saydia 6 project three quarters of the ground floor dwellers in the sample had made a garden, which was more than in the Saydia 7 project, but close to the figure for the Zayoona project.

It was rather surprising to note that the Saydia 7 project, which had the same type of housing block as the Saydia 6 project and had the higher child density, had fewer private gardens in spite of people having lived in the former area longer than in the latter. Another phenomenon which is likely to explain this was noticed during the site visits and reported in the collected data: in the Saydia 7 area where the blocks are arranged around courtyards, the number of gardens on the side of the blocks abutting the courtyards was generally much fewer than the gardens on the other side of the blocks. The courtyards

The Zayoona project.

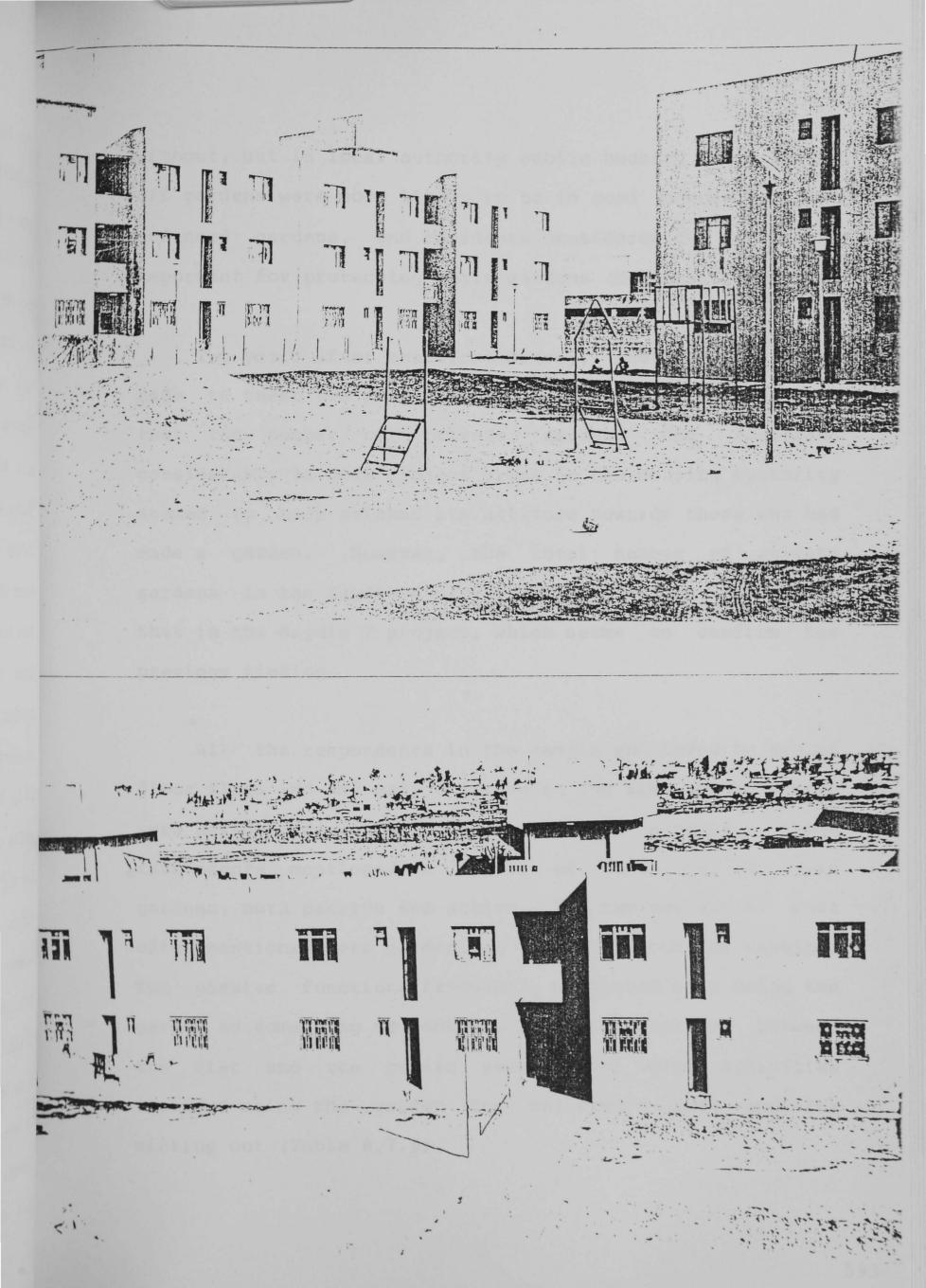


FIG. 8.43 Private gardens at front



FIG. 8. 44 ... and at back.

were large, flat, barren, unpaved and unplanted, very much resembling a football pitch and therefore tempting for active group games such as football. The congregation of a high number of children in these courtyards had affected development of private gardens around the courtyards the and, intentionally or unintentionally, had led to to their being vandalised shortly after being initiated. This had happened particularly where the gardens were unfenced, them were. At the time of the survey, the which most of gardens were either poorly fenced or unfenced, as Housing Authority had recently torn down all the garden fences which had originally been erected by some residents. These two factors -that is, the form of the layout and the higher child density recorded in the Saydia 7 project, together with the additional number of children coming from the nearest housing areas to play in the courtyards- are likely to have resulted in the lower percentage of private gardens on the side of the blocks abutting the courtyards. They might also explain the variation between the number of gardens in the Saydia 7 and the Saydia 6 projects. This fences finding also underlines the importance of in garden's maintenance and relation to a up-keep, particularly when abutting a public area where frequent use by children can be expected. In another study in Ireland, noticed that garden fences by themselves do not promote garden conditions -that is, in general, with fences were not rated in better condition than those



45 The private gardens: often rare around courtyards

without, but in local authority public housing areas fenced off gardens were more likely to be in good condition than unfenced gardens, and residents considered the fencing as important for protecting their gardens (Mulvihill 1977).

Two years after the first survey, another visit made to these two projects. On this occasion it was found that number of private gardens had increased considerably in both project areas as the Housing Authority to have relaxed its attitude towards those who had seemed However, the total number made a garden. of private gardens in the Saydia 6 project still remained higher than that in the Saydia 7 project, which seems to confirm previous finding.

the respondents in the sample who lived in ground floor flats and had made a garden at the time of the survey were asked to describe the use of their gardens. These respondents mentioned a number of functions for their The two activities gardens, both passive and active. often mentioned were gardening, and drying out the washing. functions frequently mentioned were using the Two passive garden as something to look at, and as a barrier the public areas. Less common activities flat and the included using the garden for children's play and sitting out (Table 8.7.4).

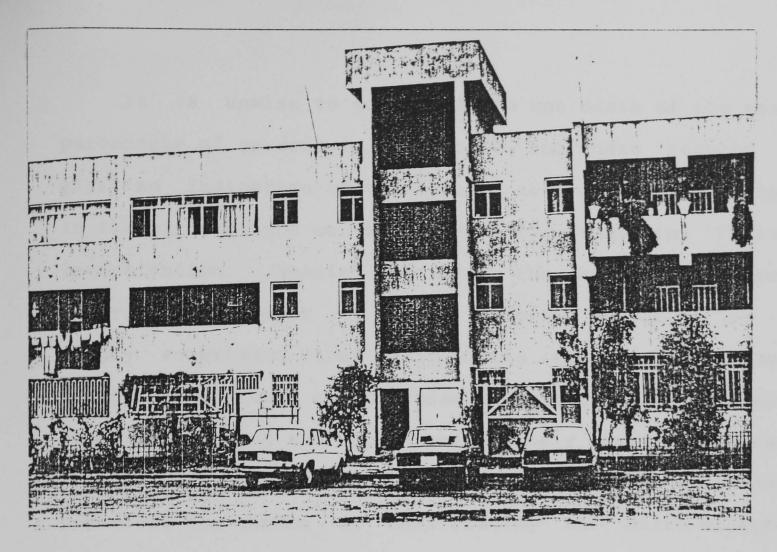
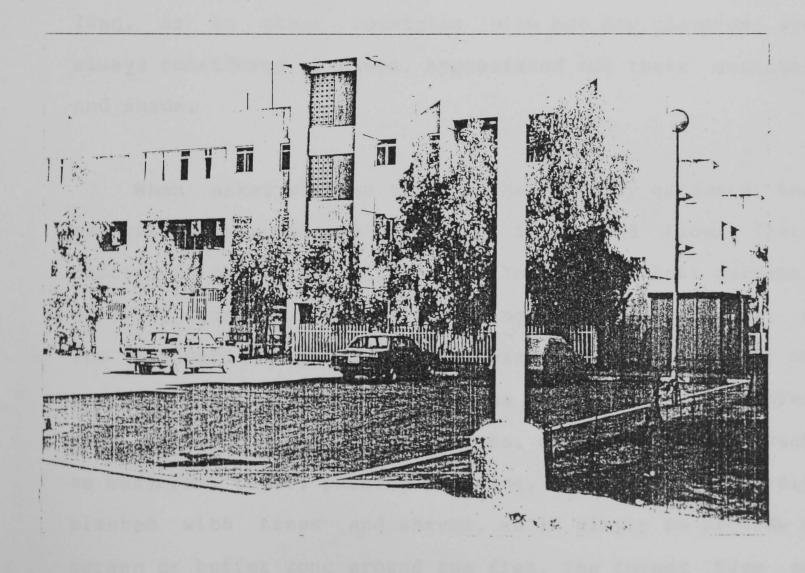


FIG. 8.46 At the time of the survey.
FIG. 8.47 ... and two years later.



It is unwise to generalise on the basis of the small percentage of gardens in the sample, but these results give an indication of the type of activities taking place in the gardens, and can help identify areas for further investigation. Bearing in mind the hostile and barren external environment of these housing projects, it hardly surprising that respondents most often mentioned using their gardens as something to look at, and considered them as improving the appearance of their flats and immediate environs. This might also imply that perceived the garden as ameliorating the micro-climate, though residents did not mention this explicitly -perhaps because they were not used to the terminology. Gardens in Iraq, as in other countries with hot dry climates, are always considered as oases, appreciated for their coolness and shade.

When asked whether they or their family gardened, the majority of respondents who lived in ground floor flats confirmed that they liked to look after their gardens. However, from the site visits during the investigation, a low standard of gardening was observed in the majority of gardens. Most were kitchen gardens planted with vegetables such as tomatoes, okra, peas, beans, onions, and herbs such as marjoram, thyme, parsley and mint, or were haphazardly planted with trees and shrubs, as if simply to provide a screen or buffer zone around the flat. The former type of

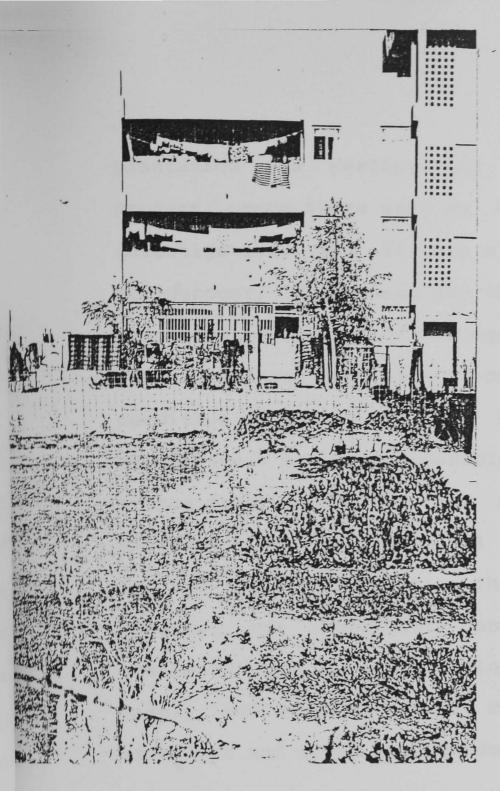


FIG.8.48 Kitchen garden

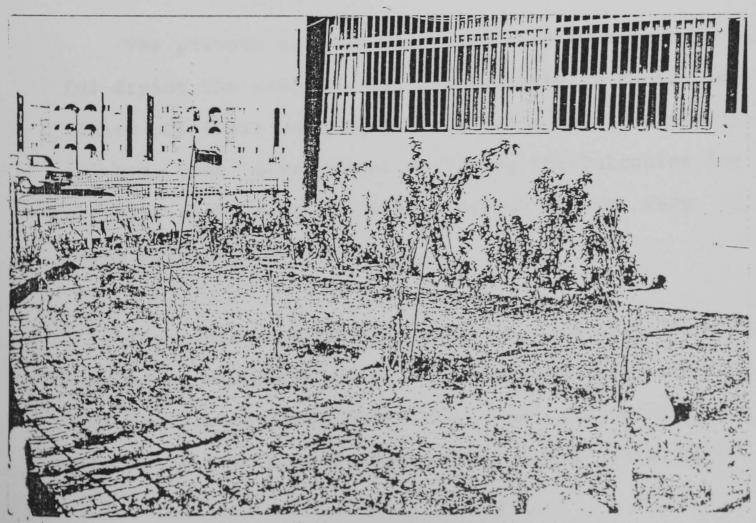


FIG.8.49 ...garden for view

plantation was particularly noticeable in the Saydia 6 project, where there were no shops at the time of investigation, and it was a long distance to the nearest greengrocer. The reason for the low standard, despite the respondents' claim of liking to look after their gardens, was not clear. Many factors could have contributed to this condition including a lack of gardening knowledge and experience, as a considerable percentage of the residents in the sample had not had a private garden in their previous dwelling (from 32% in the Zayoona project to 58% in the Saydia 7 project). The effect of unfencing the gardens, and uncertainty about their gardens' future as residents' had no right to claim the ground, were other likely influence. People cannot be expected to put lots of effort and money into gardens of unknown fate.

The private gardens were also used by many respondents for drying the washing, and particularly by those who had closed off their balconies. Residents gave the same reason as had been given about utilising the balconies for this purpose -that is, the official drying spaces were not an acceptable alternative.

The data showed that about half the residents in the sample who had made gardens said they had done so to distance themselves from the road or walkway. It was noticed that a considerable number of the respondents who

had put a few plants in the piece of land abutting their flats, and some who had also demarcated them, said during the interview that they used their gardens for nothing. Using the garden "for nothing", as the respondents put it, seems to refer to the fact that those respondents were not using their gardens as a place for a particular activity such as sitting out or children's play. Therefore, they only saw the garden as a passive element which formed a barrier between what was perceived as private -their flats-and public -the areas outside the dwellings. Using their private garden as a barrier, whether stated explicitly or implicitly, was mentioned by a considerable percentage of respondents of the three projects: more than two fifths in the Saydia 7 and the Saydia 6 projects, and more than half in the Zayoona project (Table 8.7.4).

Less frequently, as the data from the survey revealed, private gardens, were used for children's play and for sitting out. About one third of those who had a garden mentioned that their children sometimes played there (Table 8.7.4). This is considered relatively low in relation to areas with a high number of children per household, where a considerable percentage of them are in the younger age range. The reason for this is likely to be the lack of safety for young children playing unattended, as the gardens were not "toddler proof", being totally unfenced or poorly fenced. The location of the garden on the other

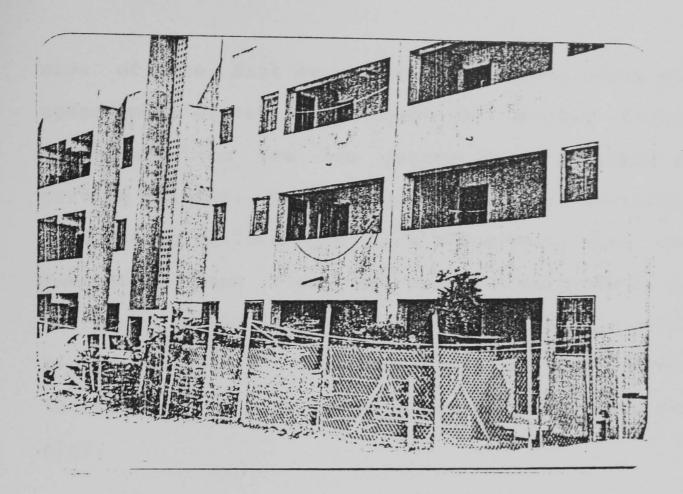


FIG.8.50

Sitting out in gardens only after dark.

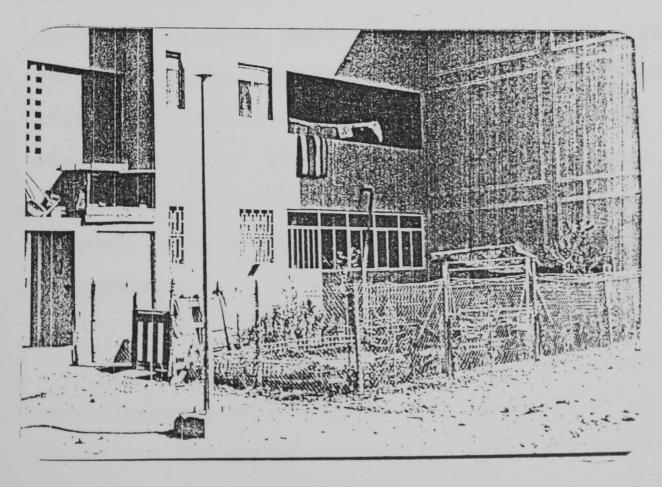


FIG.8.51

side of the flat away from the kitchen, where the mother spends most of her day, might be another factor which contributed to the low percentage of children using the private gardens. Mothers were found to be unwilling to let their young children play in a place where they could not see them, hear them and reach them promptly during an emergency (Holme & Massie 1970; D.O.E., Db.27, 1973). This finding points to the importance of both fencing and location of the private garden in relation to children's play.

Sitting out in private gardens was never noted during the site visits. Nevertheless, about one third of the respondents who had made gardens in the Saydia 7 and the Zayoona projects, mentioned that they used their gardens for sitting out, although rarely. They also mentioned that this only happened in the evenings when it was dark and they could not be overlooked by others. This situation indicates the importance of fencing private gardens, and suggests they might have a different usage pattern if they were fenced.

Physical and social aspects of the private gardens were investigated. The privacy level, size, orientation, views from the garden, and safety were all assessed by the respondents on a five point scale, ranging from "very satisfied" to "very dissatisfied". Since the gardens were

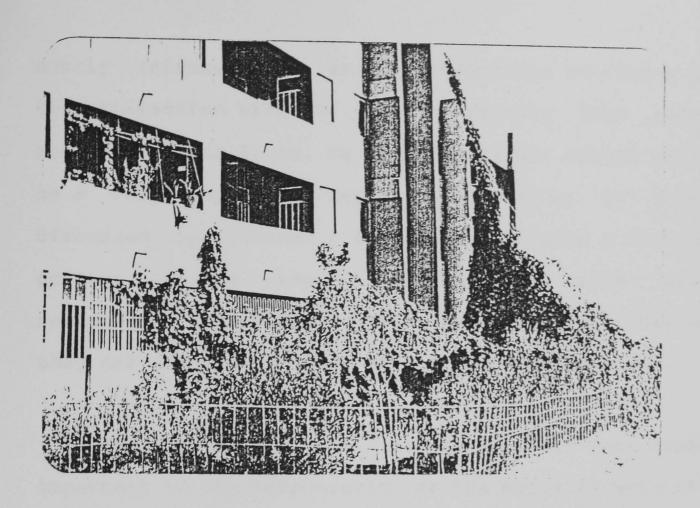


FIG.852 Dense vegetation to retain privacy inside the dwelling and balconey.

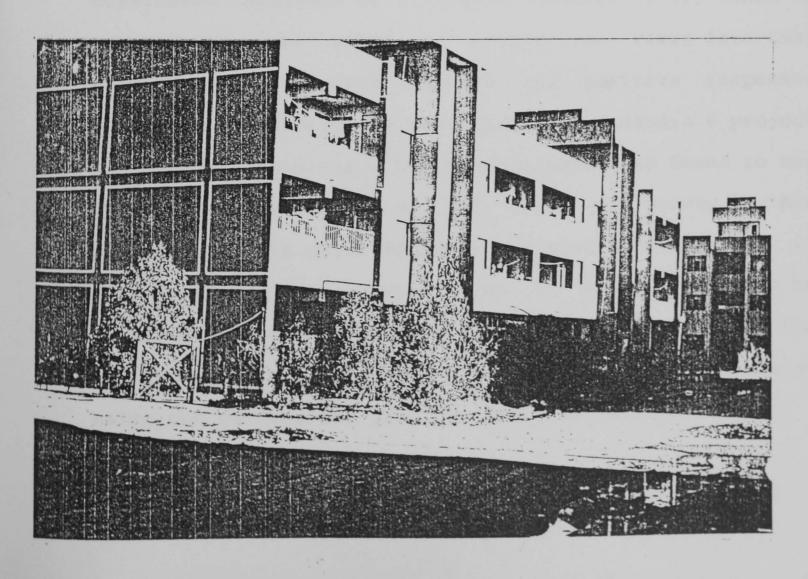


FIG. 8.53 Users' needs determine the usage of private gardens.

mostly unfenced, it was not surprising to find a general dissatisfaction with the level of privacy from passers-by and from other flats, as Iraqis consider visual privacy to be a very important aspect in housing, as previously discussed in Section 8.4. There was also a consensus of opinion on the size of the gardens, with all the respondents in the sample being satisfied, probably because they had decided the size of the garden themselves.

The orientation of the garden did not seem to be important to the respondents, as the majority were found to be either satisfied or indifferent. One each in the Saydia 6 and the Zayoona project areas was dissatisfied. A study in the U.K. also found that garden orientation was also not considered important by residents (Coulson 1980). When the respondents were asked to assess the views from their gardens there were both negative and positive responses, although the majority in the Saydia 7 and Saydia 6 projects had negative opinions. Respondents were also found to have the level of safety in their different assessments of gardens, but the majority had a positive opinion about it. This positive assessment seems to have referred to the safety of the washing hung out in the gardens, rather than to the safety of young children, as the latter were not using the gardens for play, as discussed earlier.

In summary, the results from the data analysis in

relation to the private gardens does not allow generalisations, but can only give an indication of aspects which need further investigation. Further research based on the attitude of a larger sample of ground floor residents is needed, to investigate the reasons why only of them have made a private garden. It is also important to identify the normal activities which place in private gardens in Iraq, and investigate the usage these gardens in relation to the identified pattern of activities. Such work should aim to show how the design of the garden influences the behavioural attitude of The physical characteristics of the design, respondents. such as size, shape, location, whether fenced or not, and the type of fencing used, need to be identified in order to investigate whether these characteristics encourage inhibit the development of the identified activities. would be useful, then, to investigate the correlation between having a private garden and the residents' overall satisfaction with their housing environment.

Nonetheless, the data from the survey has underlined certain physical characteristics of the garden design which are likely to influence residents' attitudes. For instance, there are indications that the location of the garden away from the kitchen was influencing its usage as a setting for young children's play, and that residents were less likely to make a private garden adjacent to a public

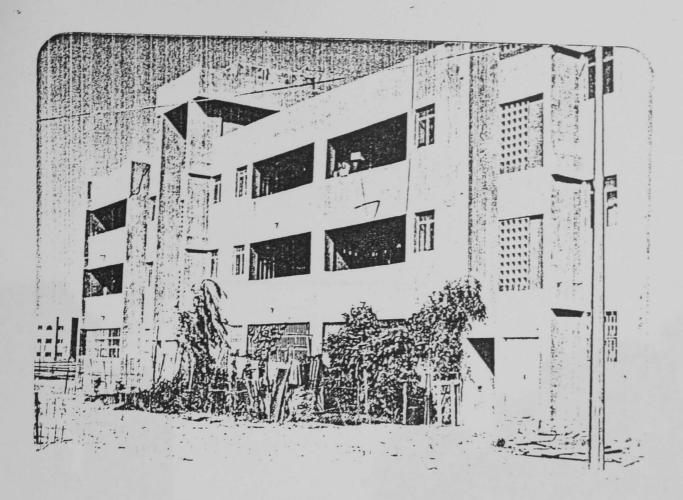


FIG.8.54 Various attempts to fence off private gardens.

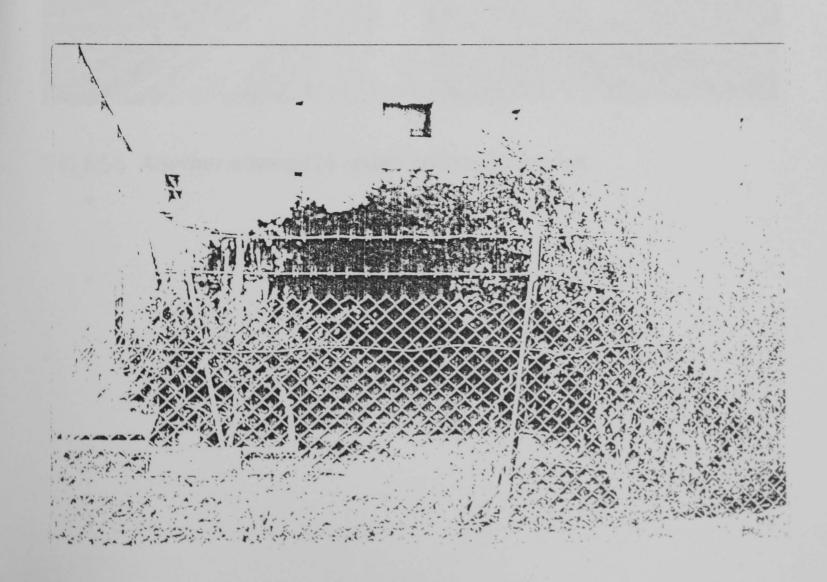




FIG.8.55 Another attempt to retain privacy in garden.

courtyard if they were not allowed to fence it off. Fencing off the garden if children are to play in it, and with fences high enough to provide privacy for those sitting out, also emerged as important.

Generally, it is important that the planners and designers of residential environments should be well aware of maintenance and management policies before making the decision to prohibit private gardens and provide public ones instead. They also need to be aware of the importance of providing a transitional threshold or buffer between what is perceived by the residents as private, and what is perceived as public -that is, between the inside of the flat and the public areas outside it.

8.8 VIEWS FROM LIVING ROOMS

People in a number of studies (reviewed in Chapter Four) were found to judge their housing environments, among other things, by the views from their windows (D.O.E., Db.21, 1970 & Db.25, 1972; Coulson 1980; Beer & Booth 1981).

8.8.1 RESIDENTS' ATTITUDE TO VIEWS FROM THE LIVING ROOM WINDOWS

All respondents in the sample were asked to assess the views which could be seen from their living room windows. In general, the residents' responses were positive, as more than half of them (53.6%) liked what they saw from their living room windows. 40.4% of them, however, did not like the views, and some said they were indifferent to them (6.1%).

However, the data analysis showed that the percentages of residents who liked the views varied slightly among the projects, as the percentage was 50.9% in the Saydia 7, 43.5% in the Saydia 6, and 61% in the Zayoona project (Table 8.8.2). The proportion of those residents who liked the views from their living rooms to those who did not therefore varied between the projects. There were three who liked the views for every two who disliked the views in

the Saydia 7 and the Zayoona projects, whilst in the Saydia 6 project it was nearly one to one.

An open ended question followed to find out why the respondents liked or disliked the views from their living The recorded answers to this question room windows. revealed a variety of reasons. However, the ones most mentioned by the respondents who liked the views often from their living room windows were: the spaciousness, the long open view, and the appearance of the opposite housing blocks. The former two reasons were most important in the Saydia 7 and the Saydia 6 projects, whereas in the Zayoona project the appearance of the blocks opposite was the prime reason for liking the view. Other reasons given by the respondents were: views of private gardens, views activities on main streets, and the cleanliness of external areas around the housing blocks. It has, however, be noted that a considerable number of the respondents did not give any reason for their opinions, as if they were not sure why they liked the view, or lacked confidence their judgement (Table 8.8.3).

Few reasons were given by the residents for disliking the views from their living room windows. However, the most often mentioned reason was the drabness of the surrounding areas, which was due to the lack of vegetation and greenery. Other frequently mentioned reasons were the

appearance of the opposite housing blocks, and the untidiness and dirtiness of the external areas around the blocks of flats. Just a few mentioned that they did not like the view of washing hanging out on others' balconies. A considerable number of respondents did not give any reason for their dislike. The recorded data shows differences between the projects in the occurence of each reason for residents' liking or disliking the views from their living rooms (Tables 8.8.3 & 8.8.4).

Table 8.8.1- CROSS-TABULATION OF "DO YOU LIKE THE VIEW FROM YOUR LIVING ROOM WINDOW" BY "GENERAL SATISFACTION".

COUNT ROW PCT COL PCT	GENERAL SATISFACTION					! !
TOT PCT	! !V.Sat-	! ! Satis-	! !Indiff-	! !Dissat-	! !V.Dissa	! ! ROW
! !LIKE THE VIEW !	! !isfied !l !	! ! fied !2 !	! ! erent !3 !	! !isfied !4 !	! !tisfied !5 !	! ! TOTAL !
!!!. Yes	! 34	! 45	11	! 8	!	98
!!	! ! 34.7	! ! 45.9	11.2	! ! 8.2	<u>.</u> !	53.6
! !	! ! 73.9	! ! 61.6	33.3	33.3	<u>.</u> 1	
! !	! ! 18.6 !	! ! 24.6 !	! ! 6.0 !	! ! 4.4 !	<u>!</u> !	! !
! ! 2. No	. 9	. 25	19	! 14	! 7	! ! 74
!	! ! 12.2	! ! 33.8	! ! 25.7	! ! 18.9	! 9.5	40.4
1	! ! 19.6	! 34.2	! ! 57.6	! ! 58.3	100.0	: ! !
! !	! ! 4.9	! ! 13.7 !	! ! 10.4 !	! ! 7.7 !	! ! 3.8 !	! !
! !3. Indifferent	3	3	1 3	! 2	!	! ! 11
!!	! ! 27.3	! ! 27.3	! ! 2 7.3	! ! 18.2	<u>!</u> !	6.0
! !	! ! 6.5	! ! 4.1	! ! 9.1	! ! 8.3	<u>!</u> !	<u>.</u> !
! ! !	! ! 1.6	! ! 1.6	! ! 1.6 !	! ! 1.1 !	: ! !	: ! !
COLUMN TOTAL	46 25.1	73 39.9	33 18.0	24 13.1	7 3.8	183 100.0

Table 8.8.2- OPINION OF RESIDENTS ON THE VIEWS FROM THEIR LIVINGROOM WINDOWS.

(Do you like the view from the living room window?)

! ! PROJECT !	SAYDIA 7		! !SAYI	DIA 6	ZAYOONA	
! ! Answers !	! No.	. % !	No.	! %	No.)
! !-Yes.	28	50.9	20	43.5	50	61.0
! - No.	20	36.4	22	47.8	32	39.0
!-Indifferent. !	! 7 !	12.7	4	8.7	 	! ! ! !

Table 8.8.3- IF "YES", SPECIFY WHAT VIEW YOU LIKED*.

PROJECT!	! ! !SAYDIA 7!S ! !		! ! SAY! !	DIA 6	! ! ZAY(!	! ANOC	! !All Pi	rojects		
! Number in sample !	!	28	! ! 8 ! 20 ! ! !		! !! B ! 20 ! 50 !! ! !!		! ! 50 !		!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	98
! ! Reasons given !	! ! No . !	! ! %	! ! No . !	! ! %	! ! No . !	! ! ! %! ! !	! ! No. !	! ! % !		
!-Long open view	! 5	!17.9	! 9	! 45.0	! 24	! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	! ! 38	1 38.7		
!-Spaciousness	! ! 5	!17.9	<u>.</u> ! 7	135.0	! 8	116.0!	20	20.4		
!-Appearance of bldgs	! 6	! 21.4	6	130.0	! 35	170.01	1 47	47.9		
! !-The private gardens	! ! 5	! 17.8	! 2	10.0	10	120.0!	1 17	! 7.3		
! !-The main street	! ! 2	! ! 7.1	_	! !	115	130.0!	1 17	17.3		
! !-Cleanliness	! ! 2	! ! 7.1	_	!	! ! 2	! 4.0!	! 4	4.1		
! !-No reason given !	! ! 7 !	! !25.0 !	! ! 2 !	10.0	! 2 !	4.0	! 11 !	11.2		

^{*}The percentages can add to more than 100 because respondents could give more than one reason.

Table 8.8.4- IF "NO", SPECIFY WHAT VIEW YOU DISLIKED*.

! ! PROJECT !	! !SAY!	! ! YDIA 7!SAYDIA 6!! ! !		ZAYOONA !!		! !All Projects !		
! ! Number in sample !	! 20 ! ! 20 !		22 ! !		32 !!		! ! 74 !	
! ! Reasons given !	! ! No . !	! ! % !	No.	90	No.	!	No.	! % ! ! % !
! !-The litter	! ! 3	! !15.0	! ! 7	! !36.8!	! ! 4	! !! !12.5!!	14	! 19.7 !
!-Opposite buildings	: ! 3 !	! !15.0	3	15.8	11	: !34.4!! !	17	! 23.9 ! !
!-No greenery	! 9 !	145.0	7	36.8	21	!65.6!!	37	! 52.1 ! !
!-Washing	! -	!	1	5.2	3	9.4!!	4	! 5.6!
!-No reason given !	! ! 5 !	! 25.0 !	3	15.8		: ! !! !!	8 !	! 11.3 ! _!!

^{*}The percentages can add to more than 100 because respondents could give more than one reason.

8.8.2 USERS' SATISFACTION AND DISSATISFACTION WITH THE VIEWS FROM THEIR LIVING ROOM WINDOWS

The statistical analysis for the data from the survey showed that residents' liking to the views from their living room windows is related to their satisfaction with their housing environment (Table 7.7). A cross-tabulation between residents' satisfaction, and their responses to from their living room windows, showed that views seen 73.9% of those residents who were very satisfied with their housing environment were found to like the view, and all of those residents who were very dissatisfied were found to dislike the view (Table 8.8.1). Findings from other studies of post-occupancy evaluation of housing environment had shown that views from windows, particularly of the most used during the day -that is, the living room and the kitchen- are important to residents' satisfaction with their environment (D.O.E., Db.21, 1970; D.O.E., Db.25, 1972; Coulson 1980; Beer & Booth 1981).

only 6% of the respondents felt indifferent towards the views from their living room windows, although a considerable number of those respondents who gave either a positive or negative response about the views failed to give any reason for their responses (11.2%), and therefore also appeared to be relatively indifferent to the views.

Nevertheless, as this survey took place in Iraq, where it is not socially acceptable to overlook others, it may be that some respondents were rather reluctant and hesitant to answer this question as they would not want to admit to looking out from their windows. This attitude may also cast doubt on other resident responses. It might be explained by their previous housing experience as well by the cultural requirement not to overlook neighbours. Living in multi-family housing blocks was a new and different experience for those who previously had only lived in the single family house, whether the traditional inward-oriented courtyard house, or the conventional compact house with high fences around. For those who live in a conventional single family house, the "Urf", a kind of rule of social conduct, requires one not to look over the neighbour's fence or into the inside of his house (see 6.2). These factors both influence people's Section attitude towards looking out of their windows. Iraqis have a strong dislike of being seen looking out on others.

Nevertheless, for the majority of those residents who liked the view, it was the spaciousness and the open views that they enjoyed -which also implied seeing part of the sky. For Iraqis to look out at the sky is very important. It seems that the sky plays an influential role in Arab perceptions. Hassan Fathy in his book "Architecture For

The Poor" emphasised this notion. He stated that "The kindly aspect of nature for the Arabs is the sky -pure, clean, promising coolness and life-giving water in its clouds, dwarfing even the expanse of the desert sand with the starry infinite of the whole universe-, it is no wonder that for the desert dwellers the sky became the house of God" (Fathy 1973).

It would appear that the Iraqis, in common with other Arabs, like spaciousness; they do not mind being crowded by people, but cannot tolerate being cramped and restricted. Edward Hall has pointed to a general Arab distaste for being bounded with a narrow view. He remarks that:

"Arabs do not mind being crowded by people but hate being hemmed by walls. They show a much greater overt sensitivity to architectural crowding than we do (Americans). Enclosed space must meet at least three requirements that I know of if it is to satisfy the Arabs: there must be plenty of unobstructed space in which to move around; very high ceilings so high in fact they do not normally impinge on the visual field; and, in addition, there must be an unobstructed view." (Hall 1966, P.151)

It was apparent from the site plans and from site observation that the projects under study mostly have

generous open spaces, with the housing blocks situated well apart from each other, though there are some areas in the projects where the buildings are closely juxtaposed. addition to this, the three projects are not bounded by high-rise buildings on any of their sides; they either abut main roads, or low-rise single family housing, or vacant Therefore, this spaciousness within each site, and the fact that the majority of residents are able to view the sky from their windows, are likely to be major factors in residents' satisfaction with the views from their living room windows. Studies in the U.K by the D.O.E. have also found that long prospects and spaciousness in views from the living room and kitchen windows are favoured by the residents (D.O.E., Db.21, 1970; D.O.E, Db.25, 1972). Other studies in America (Lansing & Marans 1969, Cooper 1982) and in Ireland (Mulvihill 1977) had similar findings.

The next reason mentioned by the residents of the Saydia 7 and the Saydia 6 projects for liking the views, as the data from the survey revealed, was the appearance of the housing blocks opposite their living room windows. This was the prime reason for those residents in the Zayoona project who liked the views, with other reasons such as the sight of plants and greenery also mentioned more often by these respondents than by respondents in the other two projects -probably because the site of the Zayoona project had a green strip abutting one of its

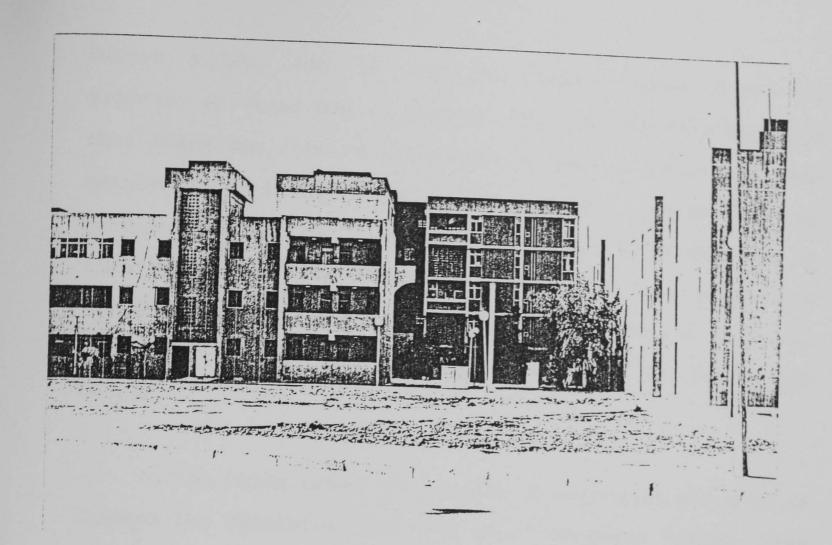


FIG.8.56 In the Zayoona project where the walk-up blocks were considered as less attractive and less superior than the five story blocks.



longer sides, and it had the highest number of private gardens, as described in Chapter Six. Respondents who said they liked the view of activities on main streets were also mainly those living in the Zayoona project, which may be because that was the only site surrounded on three sides by relatively busy main streets in addition to the internal streets. None of the respondents in the Saydia 6 project, and only a few in the Saydia 7 project, mentioned this factor.

On the other hand, the residents mentioned a number of reasons for disliking what they saw from their living room windows, although a considerable number of them -about one in ten- did not give any reason for their opinions. However, for respondents from all the projects the prime reason for disliking the view was the drabness of the external areas due to the lack of vegetation and greenery. The next reason was the appearance of the housing blocks opposite, and the dirtiness and untidiness of the areas around the blocks of flats (Table 8.8.4).

It is interesting to note that the appearance of opposite blocks was mentioned as a reason for liking the views as well as for disliking them: apparently the percentages of those who liked them were much higher than those who disliked them in all the projects (Tables 8.8.3 & 8.8.4). It is also worth remarking that in the Zayoona

project, where the percentage of residents who liked the appearance of opposite blocks was highest, and where this was the prime reason for their liking the view, the percentage of those who <u>disliked</u> the view for this same reason was more than double that in the other two projects.

the Zayoona project more than half the respondents Ιn (55.1%) mentioned the appearance of the housing blocks as a reason for liking or disliking the view. This was much higher than those in the other two projects (18.8% in Saydia 7 and 21.4% in Saydia 6). The proportion of respondents who mentioned the appearance of the blocks as a reason for liking the view, to those who mentioned it for disliking the view, was highest in the Zayoona project it was 3 to 1, while it was 2 to 1 in the other two projects. Nevertheless, the data also showed that of those in the sample who disliked the view, the percentage who mentioned the appearance of the housing blocks as a reason was higher in the Zayoona project than in the Saydia 7 and 6 projects. The Zayoona project, as discussed in Chapter Six, was the only site in the sample to contain five storey blocks of flats in addition to the walk-up blocks. The mixing of the two types seemed to attract the attention of many residents, positively or negatively, when asked their opinion on the views seen from their windows. The positive reaction could be attributed to the attractiveness of the five storey blocks as perceived by a large percentage of

respondents, as the data and the interviews showed. These blocks were considered by many residents to be superior the three storey walk-up blocks. The negative reaction, expressed by a considerable number of respondents appearance of the buildings, could be disliked the attributed to the appearance of the walk-up blocks. Although their appearance was liked by many of respondents in the Saydia 6 and the Saydia 7 projects, in the Zayoona project that some residents disliked the appearance of the walk-up blocks after experiencing the "better" appearance of the five storey blocks. People's judgements are bounded by their previous experience, their imagination, and the choices their environment has to offer (Rosow 1961; Francescato et al. 1975). Thus some of the walk-up flat dwellers did not like the appearance of their own housing after experiencing a better-looking one in their housing area, echoing the opinion some residents of the five storey blocks whose windows were opposite to a walk-up block.

In general, it was not clear whether the respondents based their opinions about the views on aesthetical values or cultural ones, though the latter probably was more influential. The previous housing experience of the respondents seems to have also influenced their opinions in this matter. The spaciousness and long open views were the most often mentioned factors for liking the views.

8.9 CAR PARKS

the time the survey was carried out, the site Αt works on the three projects were in different stages of completion (see Chapter Six). The roads, walkways and car parks were partially executed in the Saydia 7 and Zayoona projects, and nothing had yet been done in the Saydia 6 project. Therefore, respondents in the Saydia 6 project were omitted from the sample in the survey of residents' attitudes toward the car parks on their estate. different conditions in each project, as well as the variation between parts of the individual site, prevented any comparison of the physical characteristics of specific elements in the layouts of the two projects. effects of traffic-pedestrian segregation, traffic-free areas and car parks, as well as residents' attitudes towards them, were difficult to assess. It was also impossible to see if car park provision was having any impact on residents' overall satisfaction with their housing environment. Therefore, the investigation on car parks was limited to finding car-owners' general views on where they would like to park their cars, and to assessing the attitudes of those who used the available car parks, and the types of complaints they had, if any.

8.9.1 RESIDENTS' ATTITUDE TOWARD CAR PARKS

For each household with a car, a special questionnaire was given to the housewife during the interview, to be handed for completion to the person in the family who had the car. Owners were asked to state whether they used the official car parks or not, and whether they had any objections to them. They were also offered two options to choose from: would they prefer to park their car immediately outside the housing block, or in a car park away from the dwelling so as to leave the area traffic-free for children to play safely, as well as for better visual amenity.

In the Zayoona project, 30.8% of car-owners in the sample said that they used the car parks, and 55.8% of them said that they did not have a designated car park nearby, due to the unfinished site works. 36.5% of car-owners had complaints about the car parks, and only 7.7% had no complaint. In the Saydia 7 project, only 21.4% of the car-owners used the car parks, and 57.1% had complaints to make (Tables 8.9.1 & 8.9.2).

The major problem with the car parks, as identified by the car-owners of the Zayoona and the Saydia 7 projects, was the lack of safety and protection for cars, which was

mainly due to the car parks being unfenced and being situated in locations which could not be seen from the owners'flats. Indeed, the undesirable locations of the car parks and their poor accessibility were also major sources of complaint. The lack of a water outlet, lack of night lighting, and poor drainage in car parks were also cited as problems (Table 8.9.3).

Some differences in the level of complaints were detected between responses recorded in the Zayoona project and in the Saydia 7 project. The percentage of respondents in the Zayoona project who wanted shading for their cars was four times that in the Saydia 7 project. The lack of sufficient car spaces in car parks, and the lack of numbering of car spaces, were only reported as problems in the Zayoona project.

All the car owners in the sample were asked to identify their priorities in relation to the land-use of the areas immediately outside their housing. Two choices were given in the questionnaire: "do you prefer to park your car, (a) in car parks away from the dwellings to ensure the safety of children playing near home and to enjoy better views in the vicinity of your housing block, or (b) on the areas immediately outside your housing block for convenient access and for the safety of the cars?". The data analysis showed that the majority chose the second

option, with the figures being 64.3% of the respondents in the Saydia 7 project, and 65.4% in the Zayoona project. Many of those who were in favour of the first option were cautious in their reply, and mentioned that they would choose the first option only if the safety of their cars were guaranteed (Fig. 8.9.4).

Table 8.9.1- CAR OWNERSHIP AND CAR PARK USERS

! ! PROJECT !	! SAYDIA 7 ! !!		! ! SAYDIA 6 !		! ! ZAYOONA !	
! ! Size of sample !	55		! ! 46 !		! ! 82 !	
! THE ASPECT !	No.	! 응 !	No.	! %!	No.	! %
! ! Car ownership !	! 14 !	! ! 25.5 !	21	! ! 45.6 !	52	! !63.4 !
! ! Carpark Users* !	3	! ! 21.4 !	! !	! ! !	! ! 16	! ! 30 . 8 !

^{*}The percentages here are from the numbers of car owners.

Table 8.9.2- THE OBJECTIONS ON CAR PARKS

(Do you have any objection on the car parks)

PROJECT	! ! ! SAYDIA 7 ! ! !		SAYDIA 6		! ! ZAYOONA !	
! Size of sample*	! 14 ! ! !		21		! ! 52 !	
THE ASPECT	No.	! 응 !	No.	! %	No.	! % !
Objections on Carparks	<u>!</u> !	<u>!</u> !	<u>!</u> ! !	<u>!</u> !	! !	<u>:</u> ! !
! l. Yes.	. 8	!57.1	!	! !	! 19	136.5
! ! 2. No.	6	! 42.9	: !	: ! :	! 4 !	! 7.7 !
! ! 3. No carpark nearby. !	! ! !	!	: ! 21 !	100.0	. 29 !	155.8

^{*} Car owners only.

Table 8.9.3- REASONS FOR OBJECTION ON CAR PARKS (Car owners who had objections in Table 8.9.2)

PROJECT	SAYDIA 7	! ZAYOONA !
Size of sample*	8	19 !
THE ASPECT	No.	No.!
The Objections		!
l. Not safe.	6	6 !
2. No fence.	6	! ! 8 !
! ! 3. Out of site.	2	! ! 5 ! !
! 4. Inconvenient (access, ! location, distance).	-	! ! ! 6 !
! 5. No shading.	1	9 !
! ! 6. No water outlets.	1	1
! ! 7. No marking & numbering!	1	: ! 3 !
! 8. No enough spaces.	-	6
! ! 9. No drainage. !	! ! – !	! 5 ! !!

^{*}The numbers can add to more than the sample size because respondents could give more than one reason.

Table 8.9.4- CAR-OWNERS' PREFERENCES FOR PARKING

1		· · · · · · · · · · · · · · · · · · ·		,	 .	
! PROJECT !	!	SAY	DIA 7	: ! ZAYOONA !		
! ! Size of sample !	! ! !		14	52		
! THE OPTIONS*	! !	No.! %!		No.	! % !	
! ! l. Option l	!	2	! !14.3	! 11	! ! 21.1 !	
! ! 2. Option 2	! !	9	!64.3	: ! 34	165.4	
! ! 3. Provisionally option!	1!	3	! !21.4 !	! 7 !	!13.5 ! !!	

^{*} The choices offered to car-owners were:

Option 1: in car parks away from the dwelling to ensure the safety of children playing near home and to enjoy better views in the vicinity of housing blocks.

Option 2: on the areas immediately outside the housing block for convenient access and for the safety of the cars.

Provisionally option 1: These respondents were in favour of option 1 if the safety of their cars were guaranteed.

8.9.2 USERS' SATISFACTION AND DISSATISFACTION WITH THE CAR PARKS

The data analysis showed no significant correlation between residents' attitudes to car parks on their estates and their overall satisfaction. However, this finding can only be taken cautiously for the following reasons. Firstly, at the time of the survey the majority of residents were parking their cars according to their own convenience: that is, as near to their dwellings as possible and without anybody trying to deter them from so doing. Secondly, residents who had complaints about some of the physical deficiencies in car parks considered the present situation to be interim, and confidently expected things to improve when the construction of all the housing was finished.

In the Saydia 7 project, about one fifth of the carowners mentioned that they used the car parks, though it was not clear if they used them because they were the official place to park, or because the car parks nappened to be located immediately outside their block of flats. In the Zayoona project, a little less than one third of carowners in the sample mentioned that they used the car parks, and over half of them said that they did not have an official one near-by. However, the researcher had some

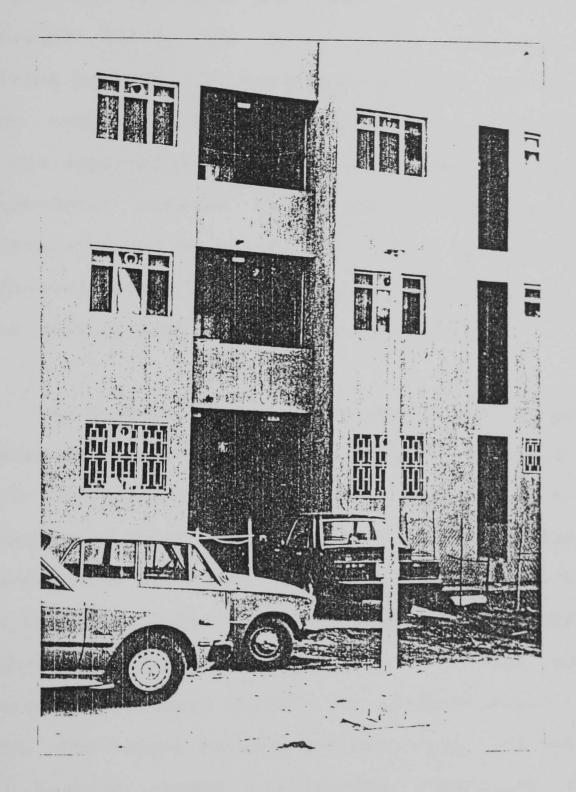


FIG.8.57 Cars parked as close to the dwelling as possible.

doubts about the percentage of car-owners in the Zayoona project who said that they used the car parks, as what was observed during the site visits indicated a different parking pattern. It could be that some of the residents were confusing the courtyards with the official car parks, as was apparent during the interviews when some of the respondents refered to the courtyard as a car park. This confusion could be due to the current barren, unpaved, and unplanted state of the courtyards which, in consequence, were used by many for parking their cars.

The confusion people felt about the purpose of different parts of the site seems to have resulted from a lack of communication between them and the Housing Authority, which ment they were poorly informed about the ideas behind the design of their housing projects, and the site plan would function. The design of these projects Iraq, such as introduced many innovations to segregation between traffic and pedestrians, traffic-free areas immediately outside the dwellings, and the clustering the Housing Thus, as housing around courtyards. of Authority did not inform residents of the design concepts the advantages these innovations would confer, people tended to behave in line with their previous experience detrimental to case might be -which in this environment, and most probably against the designer's intentions. One cannot expect a resident to use an

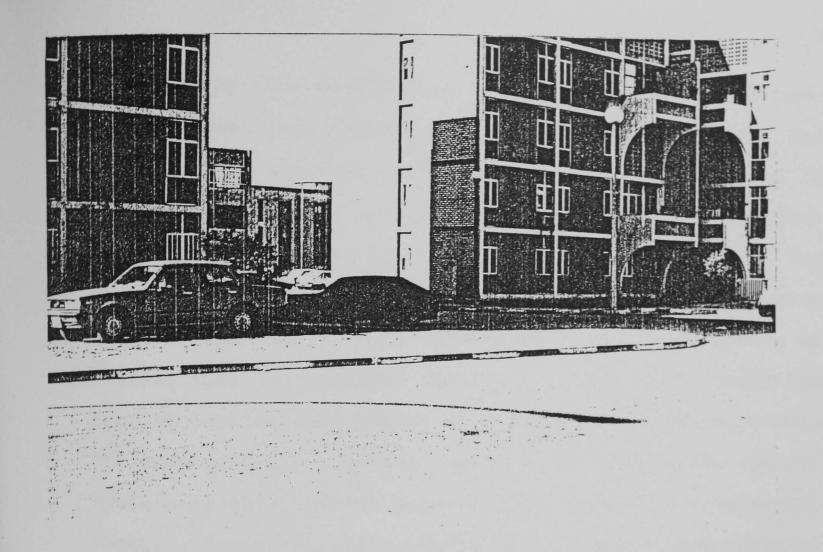


FIG.8.58 In the Zayoona project: not enough car spaces in car parks.



FIG.8.59 In the Saydia 7 project: empty car parks.

intended by the designer as a car park, which is far away from his dwelling, probably with inconvenient access, and in a location where it cannot be seen from his home when he can park his car immediately outside the housing block where it is safer for the car, and more convenient for him to do so. This can only be achieved by prohibiting parking outside the block. Ιt has been found in a number of studies that on-curtilage parking is the most preferred type of parking, and people will accept an alternative only if they thereby clearly benefit in some other respect (Mulvihill 1977, Milton Keynes 1975, Cooper & Sarkissian 1986). Therefore, users should be informed of the expected benefits of parking elsewere in order, hopefully, to use the environment in the way envisaged by the designer.

The data showed that car-owners in the sample had a number of complaints about car parks in the Saydia 7 and the Zayoona projects, as listed in Table 8.9.3. These complaints mainly emphasized the failure of the car-park design to fulfil residents' needs in two regards: the safety of cars and the convenience of their users. The location of car parks out of view of the flats was criticised by the respondents, as cars out of sight and without surveillance are vulnerable to theft and vandalism. Other respondents complained about the inconvenient distance of car-park locations.

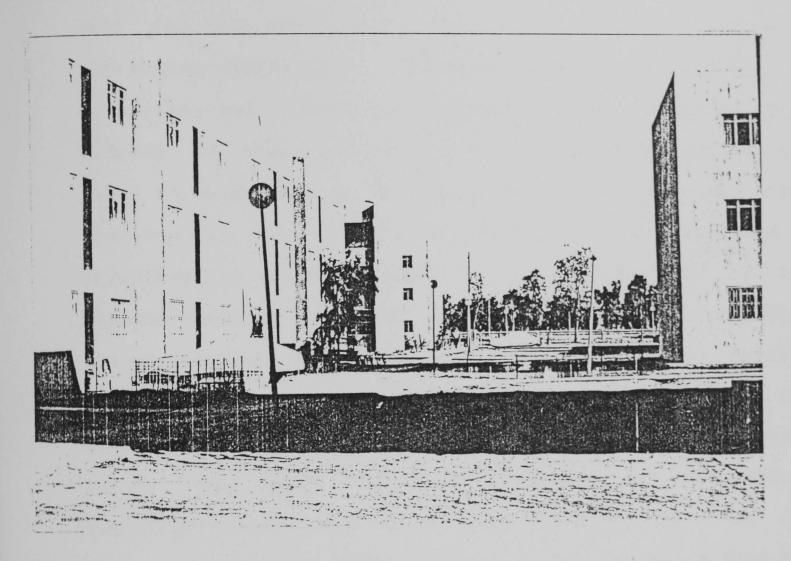
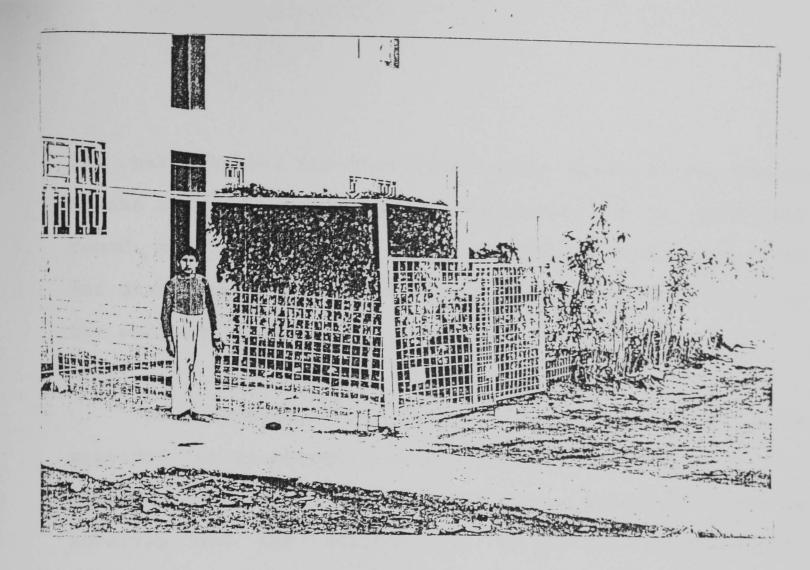


FIG.8.60 Cars need to be protected from direct sun

The physical detail of car-park design was criticised in many ways by the majority of respondents, with the fact that the car parks were unfenced a source of particular aggravation. Residents demanded fencing for the car parks, and claimed that it would deter children from playing in them; and some went further and wanted the car parks to be guarded by an attendant. The lack of night lighting in some of the car parks was also criticised as affecting car safety. Many of the respondents in the Zayoona project objected to the car parks being unshaded, and wanted their cars sheltered under a roof to them from the direct sun in summer, which affects the rubber and plastic materials in them as well as their The seats and steering-wheels of cars without paint. summer protection also become inconveniently hot for the Complaints that access to the car parks from the user. housing block was unpaved, or was inconveniently located, were also very common. The lack of a water tap for washing the cars, as well as bad drainage or the lack of any drainage, also provoked objections.

There were other complaints which were only reported by respondents in the Zayoona project. One refered to the lack of spaces in car parks, and to the lack of control over who parked where. This was most frequently mentioned by the respondents in the five storey blocks. The same residents also objected to the inconvenient location of the



Pergola for keeping cars in the shade

FIG8.61 The Saydia 6 project.

FIG.8.62 The Saydia 7 project.



car parks behind the block where they lacked direct access to the main entrance. This meant people had to walk all round the building to get to and from the car, and often had great difficulty if they were carrying their babies or the shopping bags.

The provision of car spaces, and the type of car parks provided on an estate, are related to car ownership on the estate, the socio-economic status of the residents, estate location and the availability of public transportation. However, the designers of the projects under study had applied the same criterion in estimating the car park capacities needed on all the projects. They used the ratio of one car for each two dwelling units. However, the data from the survey revealed a different ratio of car ownership on each project. It was 1:4 in the Saydia 7 project, 1:2.2 the Saydia 6 and 1:1.5 in the Zayoona project. the number of designated car spaces in the Saydia 7 project exceeded the residents' current needs. On the other hand, considerable number of car-owners in the Zayoona project who used the car parks complained about the shortage of car spaces in them.

Generally, it seems from the above-mentioned findings that residents' attitudes to the external environment, and their behaviour in it, were contrary to the designers' intentions. However, residents' attitudes were also

influenced by the current condition of the sites on the one hand, and by their lack of information about advantages they could derive from the new ideas of site planning on the other. The survey findings, therefore, suggest that residents, prior to their move into the area, should be informed about the design of their housing environment, particularly when it incorporates innovative idea, to enable them to make the most of its advantages. Moreover, the benefits of such ideas should, as much as possible, be evident at the time the residents first move into the new estate. This would give them the chance to make a balanced assessment of its amenities, and accept "trade offs" for some of the conveniences they have acquired. If residents are known prior to initiating the design process, it would be more appropriate to consult with them in advance so that people who do not agree with the ideas embodied in the scheme will not move Alternatively, the planners and designers should flexible enough to amend or even reject, innovative ideas if they prove inappropriate to the situation in hand.

Signing and numbering are crucial to the success of external areas, as is carefull detailing of the designed elements so that they "read" well and clearly indicate their function. This is particularly so in regard to roads and pedestrian routes. Regulations and rules to clarify the rights and duties of the users of the external areas

should be established by the Housing Authority in order to organize the usage pattern of these areas and prevent them from being abused. It is equally important that a maintenance policy should be set out by the Housing Authority for the designers prior to commencing the site planning.

Thus, the findings suggest that in housing environments, both site planning and the detailed design of site layout affect residents' behaviour in the external areas, but the extent of their influence on residents' overall satisfaction remained unclear for the aforementioned reasons. In relation to car parks, safety of cars and the convenience of their users were Both found to be the main concern of car owners. influenced by site planning and by the detailed design of the particular area. For instance, the location of the car park so as to be visible from the users' accomodation, and good access to them, were found to be important to the users. The physical characteristics of the car parks' design, and particularly those which affected car safety and users' convenience were also important. Thus would have liked shading for their cars, or locked garages for those who could afford them, as well as proper and drainage facilities. outlets water lighting, Therefore, planners and designers should consider requirements when making their decisions on site layout.

It seems from the survey, that the safety of cars and their own convenience are equally important to car owners, and are likely to take priority over children's play in the immediate areas outside the dwellings. However, responses to the question of priorities suggest that there might be a tendency to trade off convenience for children's play if the safety of parked cars away from the dwelling can be guaranteed, and if easy access to them is secured.

pter Nine

THE FIELD STUDY RESULTS: CHILDREN'S ATTITUDE TOWARD THEIR HOUSING ENVIRONMENT

CHAPTER NINE

CHILDREN'S VIEWS ON THEIR HOUSING ENVIRONMENT

9.1 INTRODUCTION

Most of the research on housing environments, which includes a considerable amount of information about children's play, often use adults as respondents in their surveys. They often investigate the residents' attitudes towards children's play and the impact of children's play on the residents' overall satisfaction with their housing environments (D.O.E., Db.25, 1972; Cooper 1975; Coulson 1980). The findings from such studies are useful in that they reveal the adults attitude towards children's play in the housing environment. They also disclose a variety of complaints, which adults have as a consequence of the conflict between their needs and the children's needs on the housing estate.

The studies which aimed to investigate children's play on the housing estate in particular, have also used the adults as respondents, but have augmented their studies by an unobtrusive observation of children at play on the estate; outside their dwellings (Holme & Massie 1970;

D.O.E., Db.27, 1973; Becker 1974). Using such a method in the investigation, could additionally provide information about where the children play and what activities they were engaged in and for how long. However, such studies do not provide information on how the children themselves perceive their housing environment, how they react to it, and they get on with the adults who share the environment with them. Another shortcoming of such studies is seem to provide information on what the children were doing time of the observation, rather than on what they would have liked to be doing and experiencing in their latter information could be environment. The external invaluable to the designer in helping him to design play areas for the children. Recently, a few studies have children themselves the emerged which involve sample of the study, and they also respondents in the observe the children closely during their play (Hart 1979, Becker 1974, Moore 1985).

The relative lack of studies involving children in the investigation is due to the difficulties involved with this approach. The method of observing children while playing outside their homes is more resource-consuming in terms of time and money. Using the children as respondents in interviews is rather difficult and needs a special skill of understanding children and being patient with them because children do not always have the patience to endure

an interview, and it needs a particular skill on the part of the interviewer in wording and addressing the questions to the children and in capturing and keeping their interests in answering the relevant questions for the investigation.

Investigating the adults opinions would only reveal one side of the coin, the childrens views would reveal For instance, it has been found that adults' other one. priorities in relation to children's play differs from those of the children themselves. The safety of the children, the ease of management and maintenance of the external environment and the ease of observation surveillance of the children are the probable priorities for the adults whether they are the parents, the other users, the managers or the caretaker of the housing (Holme Massie 1970; D.O.E., Db.27, 1973; Cooper 1975; Cooper & Sarkissian 1986). Whilst the children's priorities are likely to be the exploration, excitement, challenge, adventure, convenience and the satisfaction with the achievement that play can offer. Therefore, children's view on their housing environment, how they generally perceive it, their reactions to certain elements in its design and their level of satisfaction with it, is crucial terms of providing information to designers on how in children behave, particularly in relation to play within the housing environment.

The children on the housing estates should not be treated as passive bodies, they should be consulted as much as possible by the designers about their needs and preferences in the housing environment. This does not mean that all children's requirements are to be met despite its probable conflict with adults needs, but knowing the children's needs and priorities, as well as understanding their play behaviour, would facilitate for the designers the decision making in design solutions.

The researcher of this study was restricted by the limited resources for the investigation in terms of time and finance, as well as the difficulties imposed by the prevailing social and cultural norms in Iraq which render undertaking such a survey unlikely. Therefore, it was not possible to directly involve the children in the investigation as respondents in order to obtain their views about the physical and social environment in their current housing in general, and about the play situation in particular, or to observe them at play in the external areas.

Nevertheless, an attempt was made to include one group of children from one of the projects under study as respondents in an investigation of their general views on their housing environment. Thirty-five boys and girls in a

primary school, aged from 9 to 11 years, participated in this investigation. Their opinions and the evaluation of this attempt will be discussed here.

9.2 CHILDREN'S SATISFACTION AND DISSATISFACTION WITH THEIR

HOUSING ENVIRONMENT

This investigation was arranged in cooperation with the school administration of the primary school on the Saydia 6 project. A single, direct question was offered to children in this sample: "What housing environment do you prefer: the current or the previous, and why?". This was the topic of an essay which the children were asked to submit to their tutor as a class assignment.

Though general conclusions cannot be drawn from such a limited sample, it should show the type of responses youngsters had towards their housing environment, and might needing further investigation. The areas highlight findings from the children's view showed that the majority current the preferred children of environment, though a considerable number of them preferred the previous one. The major reasons given by the children for their preference were: better dwelling -referring particularly to the areas available inside the flatsbetter schools, and better play opportunities.

Keller, writing about children Suzanne communities, argued that "The move itself affects children considerably, though the adults are not always aware of how wrenching the move can be for a child of eight to ten to leave behind close friends and a familiar environment" (Keller 1978, p.381). Nevertheless, suggests that children tend to acclimatise rather faster than their parents. In this particular survey of the Saydia 6 project, three years after moving house, one sixth of the youngsters regretted leaving close friends behind (17.1%), and a little less than half (45.7%) cited the loss of a previous, familiar environment. However, despite these widespread negative reactions, rather more than half of the youngsters (54.3%) thought that the move had changed their lives for the better (Table 9.1).

The children concentrated on five items in their assessment of their housing environment: the dwelling, play, friends, schools and the estate. A little over one third (34.3%) of the sample indicated that the good flat and the better estate were the reasons for preferring the current housing (Table 9.2). It was interesting to note that only one in nine mentioned that play was better on the new estate, and these were all boys; none of the girls, who represented 60% of the sample, mentioned play. Another interesting point was that one in seven of the youngesters

Table 9.1- EFFECTS OF MOVING TO THE NEW ESTATE ON SCHOOL CHILDREN AT SAYDIA 6 PROJECT

! Sample !	Boys		! ! Girls !		! !Boys + Girls!	
! !-Sample's total !	14		21		! ! 35 !	
! ! The Effects !	! ! ! No.! !!	96	No.	્ર	No.	. 8 !
! !-Positive.	! ! ! 5 !	35.7	14	66.7	! 19	54.3
!-Negative. !	! 9 ! !!	64.3	7	33.3	16	45.7

Table 9.2- REASONS FOR PREFERRING THE CURRENT ESTATE

BY SCHOOL CHILDREN AT SAYDIA 6 PROJECT*

! ! Sample !	! ! Boys !		! ! Girls !		! !Boys + Girls! !!	
! ! Size of sample !	14		21		! ! 35 ! !!	
! ! The Reasons	! No.!	0/0	No.!	0/0	! ! No.! !	} ~ !
!-Good flat.	4	28.6	8	38.1	12	34.3
! !-Better estate.	! 4!	28.6	8 !	38.1	1 12	34.3
! !-Better school.	! 3!	21.4	4 !	19.0	. 7	20.0
! !-Ownership.	!!!	7.1	. 4 !	19.0	: ! 5 !	14.3
! !-Better play.	! 4!	28.6	! ! !		! 4	11.4
! !-More friends. !	! ! ! 1 ! ! !	7.1	1	4.8	! 2 !	5.7

^{*}The percentages can add to more than 100 because children could write more than one reason.

mentioned that they were better off in the current housing because their families owned their flats: 80% of these were girls. This seems to suggest that children care as much as adults do, about owning their dwelling, which implies that family ties and stability are important to them, as well as their standard of living. It is also in line with the discussion in Section 6.2.4 about girls in Iraq being dissuaded from playing outdoors from an early age.

For those children who preferred the previous housing, their preference was related, firstly, to the physical characteristics of the dwelling, as many of them said that their previous houses were more spacious, and more convenient for studying. Some also mentioned the garden of the previous dwelling as a place which they enjoyed playing in. Secondly, an equal number of children mentioned better schools and closer friends as reasons for preferring their previous housing. The latter was not described in detail, but aspects of its physical character, such as having a Youth Centre in it, or its location, such as nearness to a park, were often mentioned (Table 9.3).

The youngsters were very consistent in their comments on their need to see a "park" on their estate. More than half, (57.2%), regardless of whether their views about their current estate were negative or positive, complained about the lack of parks, although these had not been

Table 9.3- REASONS FOR PREFERRING THE PREVIOUS ESTATE

BY SCHOOL CHILDREN AT SAYDIA 6 PROJECT*

1			<u> </u>		1	
! Sample ! !	Boys!		! ! Girls !		! !Boys + Girls !	
! ! Size of sample ! !	14		21		! ! 35 !	
! ! The Reasons	No.!	0/0	! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	90	! !! ! No.!	90
!-Better house.	7	50.0	5	23.8	12	34.3
!-Near parks.	5 !	35.7	! 4!	19.0	! 9 !	25.7
! !-Better school. !	4 !	28.6	2 !	9.5	! 6 !	17.1
! !-Having friends.!	5 !	35.7	1 !	4.8	! 6 !	17.1
! !-Better estate. !	2!	14.3	1!	4.8	: ! 3 !	8.6
! !-Near youth- ! centre. !	! ! 2 !	14.3	! ! ! !		! ! ! ! 2 !	5.7

^{*}The percentages can add to more than 100 because children could write more than one reason.

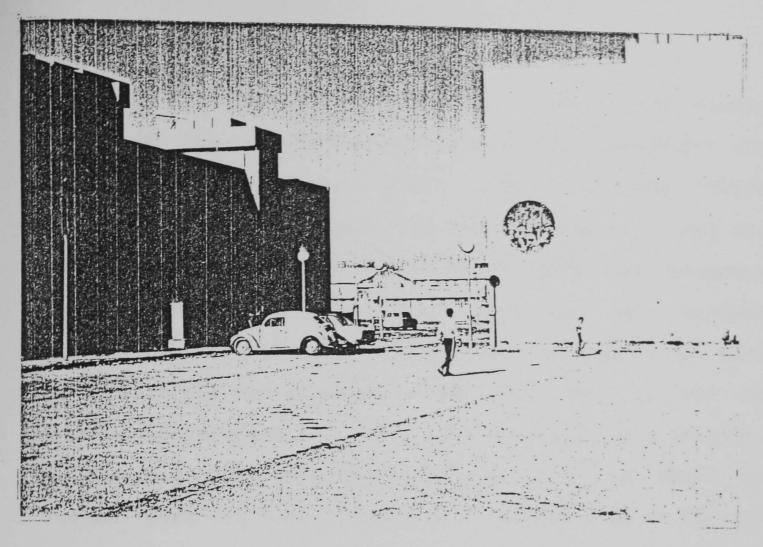
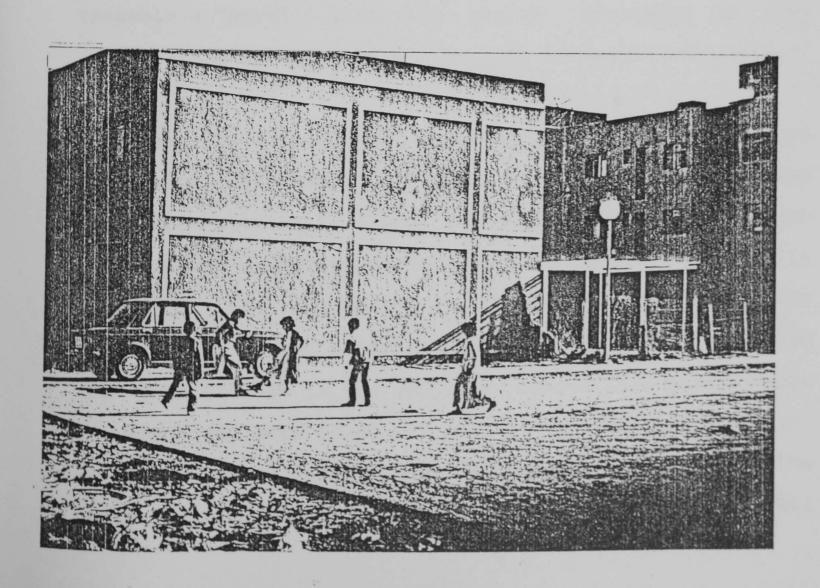


FIG.9.1 School age children often engaged in ball games in courtyards and car parks.

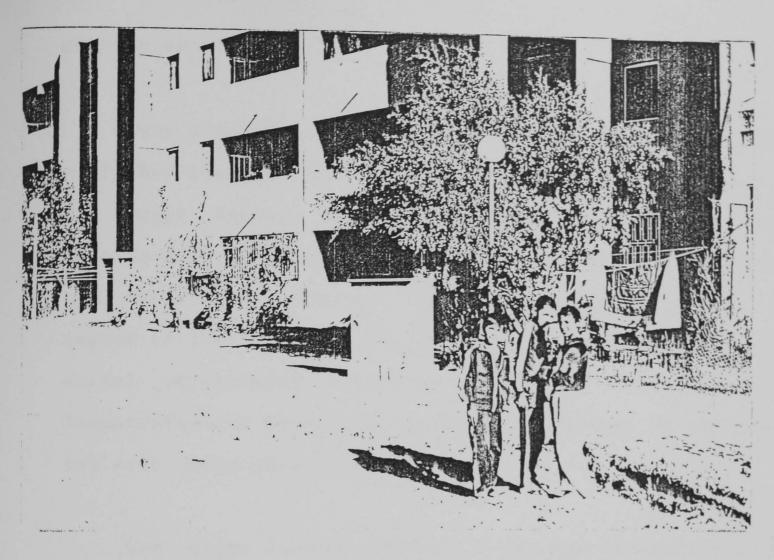


available in their previous housing areas. This clearly indicates the children's need to see and "comunicate" with plants and vegetation, which their current environment could not meet. On the other hand, it may also the children's need of an equipped playground on point to their estate, as it seems that they may have parks. Playgrounds in Baghdad are found playgrounds as neither in the old quarters of the city nor in the new housing developments. They are only available in public gardens and parks (see Section 6.2.4), both of which are termed "park" in Iraq, regardless of their size or the type recreation they provide. Therefore, it seems likely that children wanted the large open barren spaces between housing blocks changed into a setting that would implied provision of play resemble a "park", with its facilities surrounded by plantation, pavements and seats.

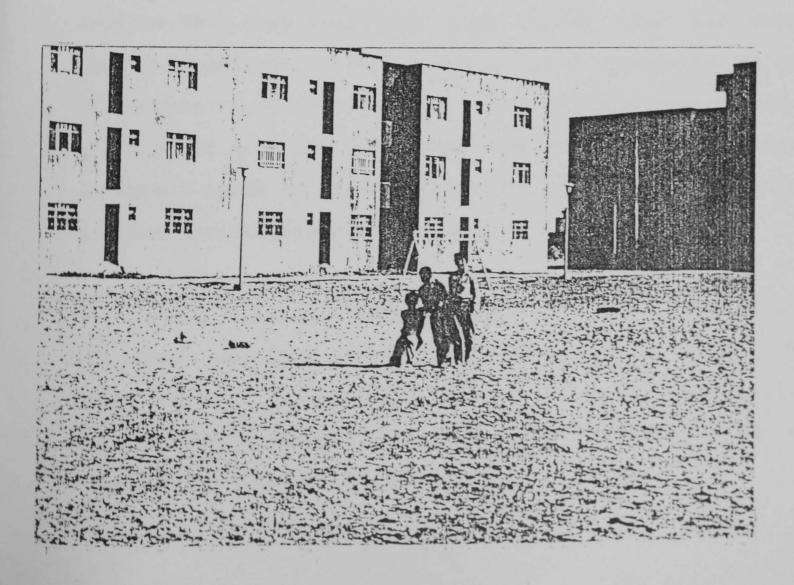
The flats evoked contradictory opinions in the youngsters, with more than one third saying they were satisfied with their flats, versus the same percentage who said they were dissatisfied (34.3%). This situation is likely to be related to the children's previous housing experiences, as the majority of those who said they liked the flat because it was spacious, comfortable and suitable for studying, were found to have lived before in shared dwellings where they occupied only one or two rooms. The children who did not like the flat, however, and felt

confined, often seemed to be mourning the loss of a familiar environment which they described as larger and more convenient, and with a garden where they enjoyed playing. Their attitudes might also be related to how their parents responded towards children's play. Children who were not allowed to play outside by their parents, and were therefore confined within their flats most of the time, would tend to feel frustrated and unsatisfied.

It was interesting to note a considerable difference in attitudes between boys and girls in this age group. instance, the girls appeared to be more satisfied with the current housing than the boys, as two thirds (66.7%) of all the girls in the sample were satisfied, as opposed to a little over one third of all the boys (35.7%). The boys' frequently environment assessments of their housing "better play" as contributing to referred to satisfaction with their housing, whilst none of the It was not clear though, what the boys mentioned this. meant by the term, as it might have referred to the type of games and activities for which the environment provided appropriate setting such as active ball games. However, it might equally well refer to the play spaces, the social group, or the freedom to play. Another difference noted between boys' and girls' attitude was that a girls mentioned a "good flat", and the proportion of Ownership of it, as reasons for their preference for the



Children will play active games whatever the environment, but it is the more leisurely activities, the "just sitting about", the passive, home oriented play that suffered.



current estate.

The findings from this survey of children's attitudes confirmed the findings from interviews with housewives in the major survey, that the move had affected the children considerably as a consequence of the change in the physical and social environment. Therefore, another survey is needed to identify what characteristics of the physical and social environment influence children's satisfaction or dissatisfaction with their housing environment in general, and with their play in particular.

Two major findings emerged from this investigation of the children's opinions. One was that young children care as much as adults do about owning their dwellings, which implies that they also care about family ties and about living standards. The other is its revelation of the difference in attitude between girls and boys towards play, which might mean that girls and boys in this age group have different needs in their housing environment which require further investigation in the future.

These findings suggest that it is useful to get children's opinions about their housing, and indicate the potential for using this method as a valid part of the data-gathering process to back up other techniques, or to spotlight additional information.

pter Ten

THE CONCLUSIONS AND RECOMMENDATIONS CONCERNING THE EXTERNAL AREAS OUTSIDE THE DWELLINGS

CONCLUSIONS AND RECOMMENDATIONS CONCERNING THE EXTERNAL AREAS OUTSIDE THE DWELLINGS

10.1 INTRODUCTION

Chapter Seven and Chapter Eight of this research have given an account of the findings that have emerged from the investigation described in Chapter Five and Chapter Six. This Chapter will attempt to evaluate how far the objectives described in Chapter One have been attained. In doing so the main findings will be recalled and the implications these carry for the planners and designers involved in the residential environment in Iraq will be discussed.

The physical environment was found to be not the only factor affecting user satisfaction with the housing environment; the relationship between user satisfaction and the external housing environment was a complex one and involved many factors. The findings from the study suggest

social, economic and cultural factors are that more influential than the physical environment and the characteristics of the individuals in relation to user satisfaction. This was the case in the context of mainly low-income families, first time buyers of dwellings low and medium-rise multi-family housing, in State projects of medium density.

The following lists the main findings according to their relative importance in relation to user satisfaction.

- (1)The social setting: The positive relationships with neighbours, where the neighbours were perceived as friendly were found to be important to residents and to contribute to their satisfaction with their housing environment. influenced by the homogeneity of the residents in characteristics such as income, stage in the family It has also been shown that user cycle and education. satisfaction is influenced by their values in relation to about raising children, sharing responsibilities and cleanliness and hygiene. Again, these values are also influenced by education and income.
- (2) The significance of the dwelling: The ownership of a dwelling, the family being settled in a home of its own and associated with a certain place were found to have a significant influence on residents' overall satisfaction.

This seems more likely to be influenced by culture. The house in Iraq represents family security, and is also considered as a status symbol.

- (3) The previous housing experience of the respondents have influenced their overall satisfaction with their housing environment. It seems that when people perceive the current environment as an improvement on the previous one, this reconciles them to the deficiencies in other aspects of that environment and is likely to contribute to their satisfaction.
- (4) The physical environment (The external areas outside the dwellings): The layout and the spatial characteristics of these areas were found to influence the attitude and behaviour of the users. They also affected the levels of social interaction, noise, privacy and children's play. The way the estate was designed and the users' perception of the estate as spacious were also influencial factors in user satisfaction.
- (5) The detailed design of the physical environment had a particular role in influencing residents' attitudes and behaviour. The layout of the flats within the housing block and the lack of adequate sound insulation between floors were often reasons for complaint about noise and lack of privacy.

- (6) The children in such housing are the major exploiters of the external areas outside the dwellings. Their needs and preferences and the understanding of the way they use these areas are an influential factor contributing to user satisfaction, in particular through their influence on the levels of noise, privacy and neighbourliness. It has been also found that the local density of children has a particular influence on residents' satisfaction with the housing environment.
- (7) Residents' attitudes and behaviour in the external environment were found in several instances not to coincide with the designers' intentions.

10.2 CONCLUSIONS

The conclusions from the present study may be summarized as follow:

10.2.1 SOCIAL INTERACTION

The findings from this study confirm the importance of neighbourliness to the Iraqis, which imply that resident's relationship with neighbours has to be on a positive level for cultural reasons.

The social relationships in the projects under study were generally perceived by residents as satisfactory. This seems to have a positive effect on residents' satisfaction with their housing environment. Similar findings in studies by Festinger et al, 1950, and Yeh 1974 were reached, as they concluded that where the social life was perceived by residents as satisfactory, the residents' level of content with the social interaction within their housing areas was sufficient to make up for the inconveniences produced by deficiencies in the physical environments.

The findings suggest that, in Iraqi housing environments, the homogeneity of residents in terms of

social class, education and stage in life cycle, could be a crucial factor in promoting residents' satisfaction. This agreement with conclusions suggested in Western in is studies, as reviewed in Chapter Four (Gans 1967, Lansing et al. 1970, Cooper 1975, Ellis 1977, and Mulvihill Another piece of evidence which emerged from the present study showed that homogeneity as regards stage in cycle, among the households who share a block of flats, is an important element of social interaction and neighbourly relationship. Homogeneity in mutual needs and motivation among residents of Saydia 6 project, at the time of survey, is likely to have contributed to the notable low percentage of people having problems with neighbours. similar conclusion was suggested in a study by Rosow (1961).

Friendship formation between residents from different floors on the same block of flats, was found to be more common than on the same floor. This indicates that propinquity may be disliked by residents, as too much contact is likely to have an adverse effect on people, and may produce a withdrawal reaction, so as to maintain privacy. In Iraq, friendship formation among neighbours is much influenced by culture and traditions. Therefore, to avoid conflict, it might be better for those designing the housing environment to provide for easy casual contact rather than too much physical closeness.

Another finding from this study showed that the low income groups of residents (Saydia 7 and 6 projects) in particular tend to choose their friends on the basis of propinguity. This bore out the conclusions from studies of the Western situation by Rosow (1961) and Yancy (1982).

In relation to the influence of site planning interaction, it had been suggested by a Western social study (Mulvihill 1977) that the sharing of courtyards produced a desirable level of social interaction amongst the residents. However, this study in particular relation to the courtyards of the Saydia 7 and Zayoona projects showed that this did not necessarily happen just shared courtyards. On the contrary, because people residents of Saydia 7 project living around courtyards were found to have more problems with neighbours than residents of Saydia 6 project living in the parallel blocks of flats. This might be attributed to the relatively large size of courtyards, their bareness, and the absence of any individual detailed design, which made them seem lacking in character and identity.

10.2.2 THE DWELLING

Ιt was apparent from the findings of this study that respondents were satisfied with their the majority of The findings also suggest that this satisfaction flats. significant influence residents' on satisfaction with their housing environment. findings confirm those of many studies carried out in America, U.K. and Ireland (D.O.E., Db.25 1972, Cooper 1975, Mulvihill 1977, Ellis 1977, Coulson 1980, and D.O.E., HDD 1981).

Although a considerable number of respondents had some complaints relating to the physical characteristics of the flats, these new dwellings were considered by the majority of the residents as better than their previous dwellings. This factor seems to have positively affected residents' satisfaction with their new environment. This confirms the findings of two studies carried out in America and Singapore, which suggested that when people perceive their new environment as an improvement, it may reconcile them to deficiencies in other aspects of the physical environment (Francescato et al, 1977, and Yeh 1974).

The ownership of the dwelling, which represent the security and stability for the family, proved to be of

particular importance to the respondents, and is likely to have been very influential in promoting residents' satisfaction with their dwellings. This finding confirms the information from the description of the social attitudes towards the dwelling in Iraq, as presented in Chapter Six.

Liking the details of the flat: its layout, the ease with which it can be cleaned and maintained, and the level of domestic facilities provided have contributed to residents' satisfaction. The influence of the details of design was born out by the reaction to the shortage of a proper storage area in the flat. This was condemned by nearly all the respondents on the three projects. A similar effect on satisfaction by such factors has been suggested by Peter Ellis (1977) and indicates that housing designers have to be aware of the detailed needs of the households.

10.2.3 THE LEVEL OF NOISE

A little more than half the respondents did not consider the level of noise on their estates as a problem. The major sources of noise mentioned by the remaining respondents, who considered noise as a problem, were the noise engendered by children's play and noise from neighbours. Much research in the Western countries,

reviewed in Chapter Four, underlined these sources as major causes of complaint about noise on housing estates. Complaints about noise from traffic by some residents, did not seem to affect their satisfaction with the estate. This confirms the suggestions by the D.O.E. D.b.25 (1972) and Coulson (1980), that traffic noise has scarcely influenced resident's satisfaction.

The findings from this study suggests three factors affect the perception of the level and type of noise on the estates. They are the location of the sites, the layout design and the child density on the estates. These factors, among others, were found in the West to have similar effect (D.O.E. Db. 22, 1970, Db. 25, 1972, Shakland Cox & Associates 1969 & 1977, Cooper 1975, Coulson 1980).

The location of the Zayoona project, abutting one major road and close to another, increased resident's complaints about traffic noise. The location of the Saydia 7 project, close to a high density, low-rise housing area, attracted the local children to come and play in its spacious courtyards, thus increasing the child density and the disturbance from play noise.

The layout of the flats on the typical floor in the walk-up blocks in the Saydia 7 and Saydia 6 projects =the entrance doors being directly opposite to each other and

the relatively narrow landing separating them = increased resident's complaints about noise from other flats on these two projects.

Despite the ample size of the external areas available on the three projects, about 80% of the residents in the sample who considered the level of noise a problem, mentioned children's play noise as the reason for their complaints. Findings from this study suggest that it is the lack of proper design of the external areas around the housing blocks, and the location of the play areas immediately outside the blocks without any barrier or buffer zone, rather than the size of the area designated for play, that is likely to be the reason for the residents' complaints about noise from children's play. The study also points to the importance of a proper landscape design for the external areas, and particularly those contiguous with the housing blocks. The designer should be cognizant of its influence on residents' complaints including, among other things, complaints about noise, as well as its influence on their overall satisfaction.

10.2.4 THE LEVEL OF PRIVACY

Although the majority of residents were satisfied with the level of privacy inside their flats, the findings underlined the influence of the physical characteristics on the residents' perception of the level of privacy inside the flats, the way the flat was designed and the design of the individual block of flats were seen as important. Visual privacy was found in this study to have more influence on residents' satisfaction with their housing environment than aural privacy.

the effect of the layout design on privacy As level as perceived by the residents, it seems from the findings of this study that it is not only the way the matters, but housing blocks are arranged that interblock distances. However, comparing the layout of the projects with courtyards (Saydia 7 and Zayoona two projects), it was found that residents' satisfaction with level of privacy tended to decrease when their housing the blocks were laid around a smaller courtyard. This finding in agreement with findings of many studies carried out is in the West (Cooper 1975, Milton Keynes 1975, and Mulvihill 1977).

It is not possible to derive a clear conclusion from

residents' assessment of the level of privacy on their balcony, as it seems that these assessment are not related to the actual usage pattern of the balcony. Many of the balconies were closed off or altered, and various usages were noted to take place on them. It has been suggested that the variations in demand for privacy in private open spaces are related to the type of activities to be performed within the space (Cook 1969). The alterations carried out on these balconies, whether by the Housing Authority during the implementation process or by the residents, demonstrate that the designer's intention did not coincide with the residents needs.

The findings from the study indicate that many of the ground floor dwellers had made a garden, in spite of the objection of the Housing Authority. They had done this in order to increase the level of privacy inside their flats and on balconies. The consensus of these residents in demanding that they be allowed to fence their gardens, may also be considered to related to the importance they place on privacy. This confirms the suggestion by Zeisel and Griffin (1975), that "delimitation is specially necessary where private open spaces abut onto communal landscape areas", and Clare Cooper and Sarkissian (1986), who suggested that screening should be provided where private activities are likely to occur, and to delimit private from communal open space.

10.2.5 THE APPEARANCE OF THE ESTATES AND THE VIEWS FROM LIVING ROOM'S WINDOWS

The majority of the residents in the sample liked the views from their living room's windows and considered the appearance of their estates as attractive, despite the drabness of the external areas. This could be attributed to the followings:

- (a) The generous open spaces between most of the housing blocks on the three projects which resulted from the medium density of dwellings. There were large areas of courtyards and wide spaces between the parallel housing blocks. "Spaciousness" was mentioned by a considerable percentage of residents as the reason for their opinion. Similar attitudes were found in many studies carried out in the U.K. (D.O.E., Db.21 1970, Db.25 1972, Reynolds 1969, Coulson 1980), America (Lansing et al, 1969, Cooper 1983), and Ireland (Mulvihill 1977).
- (b) A large proportion of the residents in the sample were from low income group, who had previously living in a high density, inner city area. Many of them had shared houses, mostly in poor condition, with others. Thus they perceived living in the new estate and its dwellings as an improvement to their previous sitution. The effect of the

previous experience had also been found to be an influential factor in residents' satisfaction with the appearance of their estate in other studies (D.O.E., HDD 1/1981, Francescato et al, 1974).

(c) The multi-family housing, being a new phenomenon Iraq, meant there was a lack of knowledge on the part of most respondents about the possible range of architectural to this form of housing. The effect of this solutions factor was clear in the Zayoona project (the only project containing the five storey blocks in addition to the walk-up blocks), it was here that the highest percentage of residents, among the three projects, mentioned appearance of the walk=up blocks of flats as a reason for their dissatisfaction with the views from the living room windows, or for considering the appearance of the estate as Experiencing the better design of unattractive. five-storey blocks on the same site might have been the This finding is in agreement this attitude. reason for with the conclusion of studies carried out by Rosow in 1967 and Francescato and his colleagues in 1977, who suggested that people's judgements of the appearance of their housing environments are limited by their previous experience, their imagination and the choices their present environment has to offer.

Drabness of the surrounding areas and the lack of

vegetation and greenery were the reasons most often given by residents for disliking the views from their living Many studies, reviewed in Chapter Four, room's windows. have shown that however good the design of the housing may be, the effect is spoiled if the ground space around them is drab. Therefore, the spatial arrangement around the housing and the careful design and detailing, which provide variety and ensure pleasantness, are likely to positively affect residents' satisfaction. More attention design of such areas could lead to an increased possibility residents being satisfied with their housing of environment.

10.2.6 PROBLEMS ASSOCIATED WITH CHILDREN'S PLAY

According to the data from this study, only one fifth of the respondents, did not consider children's play on the three estates as a problem. Another fifth considered it a "great problem", and the remaining three fifths, either slight or normal problem.

Since the physical characteristics of the external areas in the projects have nothing to mitigate the effects of the high local density of children, and might have even aggravated them, the high percentage of people perceiving children's play as a problem is not surprising. The physical characteristics of the design reflected the lack

of knowledge on the part of the designers about the households, as well as a particular lack of awareness about children's needs in the external areas in their residential environment. The study also shows that residents' attitudes towards the children's play situation were affected by the lack of the society's awareness of the importance of play for children's physical, mental, emotional and social developments. These issues need to be looked at in more depth.

The designer's intention that the courtyards and the traffic-free spaces between the blocks would cater for children's play requirements, as well as for the social and recreational needs of adults seems not to have worked. These areas were left barren, lacked any noticeable attempts to make them attractive play spaces and as a result, children were found to play everywhere on the estates, with the courtyards becoming mostly a football pitch for the school-age children.

The areas immediately adjacent to the housing blocks were also ignored by the designers, with no shelter or benches to act as a substitute for the "door-step" play spaces needed by the young children. This area was found to be a popular play area for children, particularly the young, in many studies (D.O.E., DB.27, 1973, Beer 1983).

The residents in the sample seemed to be confused about the layout of their estates mainly because they had never experienced such layout before (the segregated traffic and pedestrian routes, or the traffic-free areas). Therefore, it was not easy for the housewives to be precise in the identification of the locations in which their children play. However, the data from the survey suggested the majority of children were playing most often on their immediate environs, which included the courtyards, the spaces between the rows of blocks, the car parks, walkways and streets. This is in agreement with findings of many research workers who suggested that children tend to play near home (Hole 1966, Holme & Massie 1970, D.O.E., DB.27 1973, Beer 1983, Cooper & Sarkissian 1986).

The following conclusions are thought to be related to certain physical and household characteristics on the three projects investigated:

(a) When children's reactions to moving to the new housing, as reported by their mothers, were compared, there were clear indications that children living in the five storey blocks were affected negatively. The child was perceived as being confined in the flats, missing old friends and having difficulties in making new friends, and missing the old neighbourhood. Only one in every ten of these children felt happier in the current housing environment, against

50% in the walk=up blocks.

These findings strongly suggest that the physical characteristics of housing blocks in multi=family housing, particularly in relation to accessibility to the ground, affect both residents' attitudes towards children's play, and the extent children play outside. Similar conclusions have been reported in other studies carried out in Western countries (D.O.E., DB.27 1973, Wohlin 1961, Danish National Institute 1969).

The percentage of residents who considered children's (b) play a "great problem" in Saydia 7 project, was double that in Saydia 6 project, despite the similarity between the two projects in the type and design of the housing blocks, and the characteristics of the households in many aspects, such as, education, income, occupation and stage in life likely to be attributable to the higher This is cycle. household size and higher number of children per household in the Saydia 7 project, which results in more overcrowded flats and less space inside the flat for children's play. Lack of insulation in these blocks made the buildings in the Saydia 7 project more vulnerable to children's play noises, whether inside the flat or immediately outside the housing blocks. A similar effect from overcrowding lack of noise insulation was suggested by Holme & Massie (1970), D.O.E., DB.27 (1973), and Cooper (1975).

There was some evidence that the arrangement of housing blocks around courtyards in Saydia 7 project where it was different from the Saydia 6 project might have increased children's play noise, as discussed in section 10.2.3. This suggests that the physical arrangement of housing blocks on these estates might influence play being perceived as a problem. The physical arrangement of housing blocks was found in other studies to have a significant influence on the extent of children's outside playing (Holme & Massie 1970, D.O.E., DB.27 1973, Cooper 1975, Cooper & Sarkissian 1986). However, the location of the Saydia 7 project close to a high density low-rise housing area, from where additional children were attracted to play in the large courtyards of the project, might also be considered as contributing to the higher percentage of residents complaining about children's play.

(c) More children were found to play on the access areas of the housing blocks at Saydia 6 project than at Saydia 7 project. This is likely to be attributed to the fact that the walkways, roads and car parks on Saydia 7 project were surfaced, whereas in the Saydia 6 project none of the site works had been finished. Those paved areas at Saydia 7 project, with clean hard surfaces, were likely to have attracted some young children away from the access areas. This confirms findings from other studies which suggested

that most play occurs on walkways or other hard surfaces (Becker 1976, Cooper 1974, D.O.E, DB.22, 1971, DB.27, 1973, Hole 1966, Cooper & Sarkissian 1986).

(d) failure of the play equipment installed by the Housing Authority in some courtyards of the Saydia 7 project, suggests that neither the types, nor the amount of equipment, were suitable for the number of children living in the housing blocks. It also points to the lack of proper planning for play activities and the lack of knowledge of children needs. As suggested in a British study (D.O.E., DB.27, 1973), the success of play areas is partly related to the amount of play space provided proportional to the number of children living on each estate, and by the type of equipment available. Other studies also concluded that the degree of use of any equipped playground depends largely on the variety of the equipment provided (Hole 1966, Holme & Massie 1970, Cooper & Sarkissian 1986). The heavy vandalizing of the equipment at the Saydia 7 project, appears to confirm the suggestion by Beer (1983), that "such equipment can only keep children amused for a short period of time, and this might be one of the reasons they are so often vandalized".

The trend shown by the study, that the problems with children's play increase during summer holidays, points to the necessity of providing other recreation facilities such

as a youth centre, preferably containing a swimming pool and ball game courts, and in addition other recreational and social amenities which would allow children to enjoy their long summer holiday, instead of playing their noisy games close to the housing blocks and aggravating adults. Most residents suggested that the provision of such facilities, in addition to public gardens, parks, and playgrounds, would do much to mitigate children's play problems.

Specific conclusions on the time children spent in playing outdoors, and the degree to which the physical design affected the extent, location and type of play, were not possible because of lack of observation data and the unfinished state of the site works. Each part of the site differs from other parts within each project and there are also differences between the projects. Therefore, if reliable information on the influence of the physical environment on play patterns is to be arrived at, the use of each part of the site needs to be separately examined in further study, and this should happen after the site works are finished.

10.2.7 THE PRIVATE OPEN SPACES

THE BALCONY

The findings from this study showed that 83% of the residents in the sample were using their balconies, totally or partially, for storage. The next most frequent usage was for drying the washing. A considerable number of balconies were found closed off completely or partially by the residents to suit their own needs. Four fifths of the ground floor flats in the walk-up blocks had made a door from the balcony to the outside of the flat.

These data shows that the actual usage pattern of the balconies did not coincide with those the designers envisaged: sitting out, children's play, sleeping out at summer nights. Many factors are suggested here for these differences:

(a) The lack of storage space inside the flat drove the residents to use the balcony for storage. The unsuitability of the roof of the block of flats for drying the washing. These bear out the findings of many other studies, reviewed in Chapter Four, which suggested that people had chosen to alter their physical environment to suit their needs.

- (b) Residents did not use the balcony for sitting out and this appeared to be related to social tradition, and be partially at least due to the lack of privacy in the balcony.
- (c) Most of the children were not using the balcony for play, because the balcony was either filled with household goods, or because mothers considered the balcony unsafe for children's play. The location of the balcony away from the kitchen in the walk-up blocks, might be considered as another reason for young children not using it for play. Other studies have also found that young children often tend to play where they feel safe, that is within their mother's hearing and sight (D.O.E., Db.27, 1973, Holme & Massie 1970, Cooper & Sarkissian 1986).
- (d) The balconies were not used by residents for sleeping out and the investigation showed that neither the physical characteristics, particularly its size, nor the level of privacy in it, were adequate for outdoor sleeping.

These findings also show again the problems that can result when designers lack information about the actual needs of the people for whom they are designing.

THE PRIVATE GARDEN

Since the sample studied included a small number of ground floor residents, it was not possible to derive a general conclusion on aspects relating to the limited number of private gardens made by some residents. However, the findings from this investigation can give an indication of some aspects which need further investigation.

The majority of the residents, living on different floors, said that they consider having a private garden important. Gardens in Iraq, as in other countries with hot-dry climates, are always considered as oases, appreciated for their coolness and shade. Not allowing residents to fence off their private gardens properly was found to adversely affect the following functions:

- (a) Sitting out, because of lack of privacy.
- (b) Young children's play, because of lack of safety.
- (c) Level of up-keep, because of vandalism resulted from children playing ball games.

About half the residents who made private gardens considered them useful in distancing their dwellings from the public areas, the road, walkway or the courtyard. The back gardens were more common than front gardens, which

suggests that a barrier between the private open space (the balcony) and the public spaces was more desirable to these residents than between the rooms and the public spaces.

Generally, it is important that the planners and designers of residential environments should be aware of maintenance and management policies for all the external spaces before making the decision to prohibit private gardens and provide public ones instead. They also need to be aware of the importance of providing a transitional threshold or buffer between what is perceived by the residents as private, and what is perceived as public -that is, between the inside of the flat and the public areas outside it.

10.2.8 THE CAR PARKS

It was not possible to suggest specific conclusions about the car parks as so many of them were not completed at the time of the survey. However, the views of car-owners on aspects relating to car parks at the Zayoona and Saydia 7 projects were investigated, and the following general conclusions emerged:

(a) Only about one in four of car-owners used the few car parks which were available.

- (b) About half those who used the car parks had complaints. These mainly concerned the lack of safety due to the car parks being unfenced, being situated in locations which could not be seen from the owners' flats, being unshaded, having poor accessibility, lacking water outlets, lacking night lighting and having no proper drainage. These complaints emphasized the failure of the car-park design to fulfil residents' needs in regards the aforementioned aspects.
- (c) Other aspects of complaints, raised mainly by residents of the five-storey blocks in the Zayoona project, related to lack of spaces in car parks and the lack of control over who parked where. Such complaints might be attributed to car-ownership on this type of housing blocks and high might be considered an indication of the deficiencies these car parks. The of planning and management inconvenient location of the car parks behind the blocks, where they lacked direct access to the main entrance, was also criticized by some of these car-owners.
- (d) About two thirds of the car-owners preferred to park their cars on the areas immediately outside their housing blocks for convenient access and for the safety of their cars. Many of the remaining car-owners mentioned they would choose to park in the proper car park, even if it was

away from their flats, if their car's safety was guaranteed. This finding is in agreement with the conclusions of a number of other studies in the West which suggested that on-curtilage parking is the most preferred type of parking, and people will accept an alternative only if they thereby clearly benefit in some other respect (Mulvihill 1977, Milton Keynes 1975, Cooper & Sarkissian 1986). Therefore, unless users are informed of the expected benefits of parking elsewhere they will not use the environment in the way envisaged by the designer.

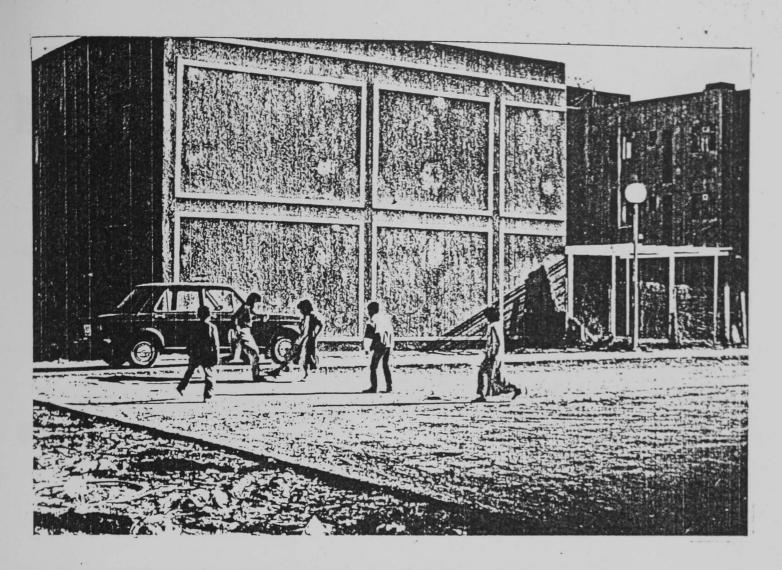


FIG 10.1 Car parked on the walkway...and children playing in the car park.

The reality of how an environment looks and is used, is often different from how the designer envisaged it.

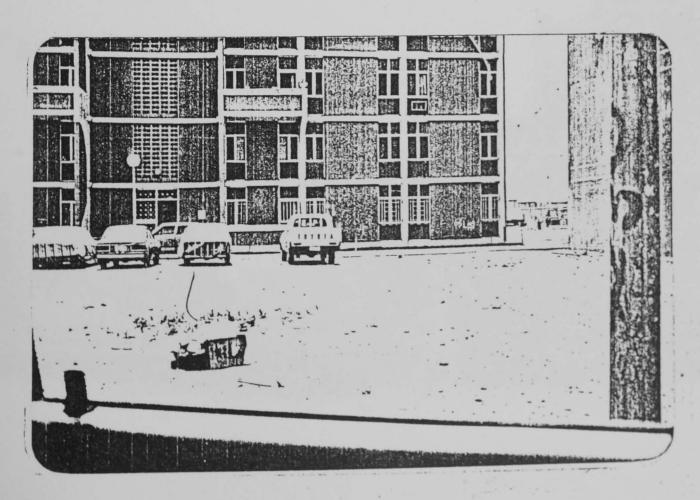


FIG.10.2 Courtyards: originally designed for children's play and adults needs.

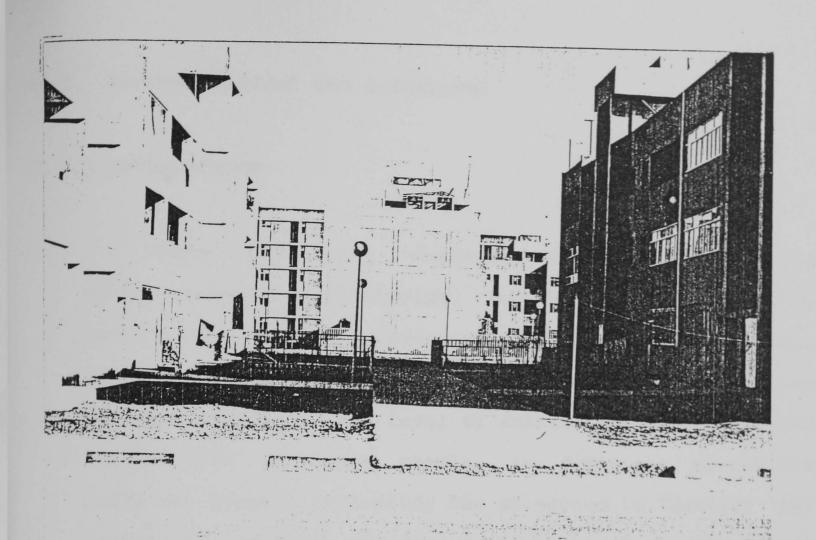
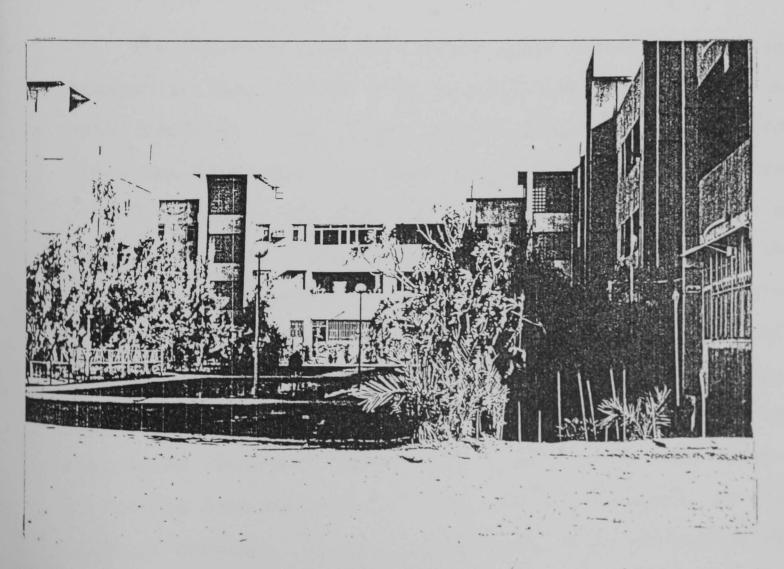


FIG.10.3 Where delimitation of private from public space has been less than adequate, residents will attempt to modify this environment.



10.3 RECOMMENDATIONS AND GUIDELINES

10.3.1 INTRODUCTION

There are many different elements involved in man-environment relationships. The physical environment is not the only factor affecting this relationship, since social, cultural, economic, religious and political factors are also involved. The level of influence of these factors varies with different people, in different places and different times. This study has attempted to identify the impact of various aspects of the physical environment on users' satisfaction with their housing in an Iraqi setting.

The findings from this study apply particularly to new housing in Iraq, though some similarities have been found with findings from other studies elsewhere in the world. Since the study has been based on sampling from only three projects, where the site works were at different stages of completion, the possibility of generalizing from suggested conclusions is inevitably limited. Therefore, recommendations and guidelines presented in the Chapter are far from complete, and represent only a sample be gleaned from a study of the vast what could There has been a Iraq. domain in unexplored housing noticeable lack of research and empirical study in field of housing. It is intended that these guidelines can act as a starting point for further research so that they can be tested and added to, developed or modified according to findings emerging from future studies. These guidelines are, therefore, only interim suggestions applicable to the current situation in Iraq when medium density, medium rise developments are planned. They concern the layout of the housing blocks, open spaces, play areas, circulation routes, car parks and other components that make up a housing site, but exclude the public buildings and community facilities. They are based on an environmental design evaluation which included an attitude survey towards the areas outside the dwellings, general observation during the survey and a design investigation of these areas.

The guidelines are based mainly on the findings from the present study, and where based on research findings elsewhere in the world this is noted and the study is cited. The author has chosen to order the material as the designer might need it: first the general site planning issues that need to be incorporated in the design brief are considered, then the issues that relate to the detailed design. A particular emphasis is placed on children's needs, not only because they are the main user of the external areas and, therefore, ought to have a major influence on design decisions, but also because they as a group of users have needs which are often ignored by the planners and designers.

10.3.2 THE RECOMMENDATIONS

1. THE URGENCY FOR RESEARCH ON HOUSING IN IRAQ:

Environmental design evaluation (a) of housing been used successfully in many Western developments has Countries to assess the degree to which а certain environment can implicitly and explicitly satisfy and support the users' needs and values. The main virtue of such evaluation is to provide information which helps those involved in the housing environment, particularly planners and designers, in their decision making. Such studies also help to increase the understanding of the professionals involved in housing developments about the users' needs, preference and values, so contributing to their being able to provide a supportive environment for users.

In Iraq, no such studies have yet been carried out. Therefore, it is recommended that the State Organization of Housing -the prime official body responsible for housing in Iraq- should consider the appropriateness of including environmental design evaluations as part of the design processes for all its new housing projects. The information from such studies could be used as a feed-back for future designs and could well result in more efficient use of public money, in particular by creating environments

in which people are proud to live and so willing to aid in their maintenance. Since most of the S.O.H. projects are phased, information from evaluating the first phase could be directly used to modify the next phase. A continuum of such studies could result in an accumulation of relevant information on housing, such that the S.O.H. could operate a data bank on the domain of housing for the whole country. This would stimulate the gradual development of site planning and design ideas appropriate to Iraq, supporting its special cultural and social needs.

also worthwhile studying the possibility of introducing environmental design evaluation as part of the curriculum for Architectural Studies in Iraqi universities. Co-operation between the S.O.H. and the Universities on this matter could also lead to cost saving. Such student students, the future studies would provide the professionals involved in the process of designing housing, with an awareness of the influence of environment on users. It would also train the future architects in the need to apply such evaluations regularly to their various designs in their future career.

(b) Further research on the S.O.H housing projects: The present study has shown relevant issues concerning the external housing environment in Baghdad which are in need of further research; these have already been described in

Chapter eight of this thesis. However, as an example of the required research private open spaces can be considered that is, the further research needed on private balconies and gardens.

- (i) Great differences in the level of residents' satisfaction and dissatisfaction on aspects relating to the physical characteristics of the balconies and their impact on social factors emerged in this study. This was attributed by the researcher to the variable needs of residents and to different usage patterns for the balcony those intended by the designers. than Α further residents' investigation is needed to identify the responses to the physical aspects of the design in relation each of the activities which normally take place on balconies and to see whether these physical design aspects facilitating or thwarting the commencement of a are specific activity.
- (ii) The results from this survey concerning private gardens do not allow generalisation because of the limited number of ground floor dwellers with a private garden at the time of the survey, due to the restrictions imposed by the Housing Authority. Further research based on the attitude of a larger sample of ground floor residents is needed, to investigate the reasons why some ground floor residents have or have not made a private garden. It is

also important to identify the normal activities which take place in the private gardens of the traditional single family houses in Iraq, and investigate the usage pattern of these gardens in relation to the identified activities. The physical characteristics of the garden's design need to be identified, so as to investigate whether these characteristics are facilitating or inhibiting the development of the identified activities.

Research on man-environment relationships in residential areas can play a significant role in supplying the designers with valuable information concerning users' in the external environment. The housing behaviour experience in Iraq is in great need of a diversity of such research: studies are needed such as those carried out elsewhere in the world (reviewed in Chapter Two and Four). A particular effort should be paid by the S.O.H. to importance of such research, and to highlighting the setting out particular incentives to encourage scientists and professionals from the relevant disciplines to of man=environment relationship, research issues participate in developing ideas on an appropriate form of housing for Iraq.

2. USERS' NEEDS IN THE EXTERNAL AREAS

If the design objective in the housing environment is the production of an environment for efficient and happy living, the main consideration of the designer should be the needs and preferences of the people who are to live in it. After assessing the site potential as it derives from the physical environment, the designer has to look for information on the needs of the users.

Several of the findings from the present study suggest that neither the planners nor the designers of the housing projects studied had an adequate level of knowledge of characteristics of residents for whom they were planning and designing. They were unable, therefore, to consider in any detail how the users' values and preferences design of the housing environment. influence the evidence which emerged from this study suggested that designers particularly lacked awareness of the importance of private open spaces, the areas immediately outside dwellings and other external areas, and the influence which users' attitudes to the whole housing these had on the main environment. Whilst the users were in their flats, the survey showed that many people had chosen to alter the physical environment in response their own needs. The evidence showed that the designer's

intentions were frequently missunderstood by the users. This suggests that users' needs and priorities were not considered realistically at the onset of the design process. Moreover, the crucial decision to allocate the flats to their owners by lottery, which did not allow account to be taken of the type and characteristics of the households, indicated that the Housing Authority too lacked an awareness of the fact that households' needs vary according to their characteristics. Such an allocation of housing can lead to conflicts which reduce the likelihood of a satisfactory housing environment.

planners and designers might argue that they lack information about users' characteristics in most housing schemes, and that the Housing Authority usually makes its decision on the procedure of allocation of the even after construction or units during the implementation of the projects, so that they cannot plan in However, gathering particular people. detail for the suggested environmental design information from evaluations and social surveys would ultimately provide much useful information for designers. It is acknowledged that this would take a considerable number of years before sufficient information was available. In the meantime, it is suggested on the basis of the findings of this study and studies from other countries, t**h**a**t** the review of designers might do well to consider other design solutions for the projects planned for the near future. Considering provision of variety in the designs of the dwellings and the surrounding spaces to cater for families with different characteristics might be an appropriate solution, as well as spreading the risk if one particular form fails. In addition it is suggested that consideration could be given by the departments concerned within the S.O.H. to allocating housing units according to households' characteristics.

3. CHILDREN'S NEEDS IN THE EXTERNAL ENVIRONMENT

The evidence which emerged from this study showed that children are the group of residents who are the major users of the external areas and are the most neglected by the designers in terms of their needs and preferences in the outdoor areas. It was evident that children's needs were not met by the physical design of the housing developments studied here. It is suggested that this was mainly because planners and designers were not fully aware of children's needs and children's behaviour in play.

In most developed countries play is recognised as essential to a child's full development, and guidelines are available, even if they are not always followed, to indicate that designers should attempt to ensure that

suitable opportunities for play are available to all children. In Iraq designers of the housing environment first need to acquire more knowledge on child's needs by pursuing the literature, such as that reviewed in the present study in Chapters Two and Four; they then need to commission studies of the child in Iraq to assess the relevance of such research to the Iraqi situation.

Information on theories of play which underline the importance of play in child development, the different needs of play in different age groups, together with information from empirical studies on what lessons could be learned from others, will increase the designers' understanding about the child's play behaviour. This information can help them decide on the appropriate design solutions for children.

In providing for children's play in new housing areas, the main need is for designers and planners to plan for the requirements of the children at the design stage of new schemes. In this way it will be possible from the outset to allocate resources and the right amount of space in the most suitable places (DOE, DB.27, 1973).

4. HOUSING FORM

Findings from this study showed that although the residents in general were satisfied with their housing environment, many of them have complained about various aspects of their housing, particularly in relation to external areas outside their dwellings, whether within the housing blocks or outside them.

The majority of the residents in the case study projects were family households, half of them with children under five; many of them were living in upper floors away from immediate access to open spaces. In these situations the lack of proper sound insulation between the floors, the way the flats were laid out within the block, the lack of space inside the flat and the location and the utilisation of the balconies had a marked influence on children's play. It meant that children were restrained in their play inside the flats. These problems were exacerbated in the cases where large families were occupying upper floors.

Outside the housing blocks the children utilised the external areas for playing with the contiguous areas to the housing blocks being the most used and often for noisy ball games. This situation seems to have caused many complaints

among the residents on aspects related to children's play such as the level of noise, privacy, conflict with neighbours and problems with maintenance.

Findings from the studies in the West on children play behaviour underlined the positive contribution of gardens in children's play experience in their housing environment Newson 1968, Hart 1979), and many other (Newson researchers have suggested that wherever possible, families with young children should be allocated houses with access to a garden (D.O.E, Db 25, 1972; Newman 1972; Cooper Sarkissian 1986). However, if the designated density or other design factors make it impossible to give each home a garden, then at least the dwellings on the ground and first floors of multi-storey buildings could be provided them (D.O.E., DB.27, 1973; Newman 1974); but this can cause upper floors feeling more problems, with those on the disadvantaged and can perhaps only work when a proper house allocation system is operated to ensure that those who want gardens have them.

The findings from the study, in particular the lack of private gardens as well as lack of both (a) a proper detail design of the external areas and (b) a maintenance and management policy for these areas indicated a low level of awareness of the importance of these areas to the users. At the same time showing a lack of knowledge on the users'

behaviour in such locations by the planners and designers who were mainly responsible for the design solutions.

Indeed these findings from the study underline importance of having a private garden for residents living in multi-family housing, such gardens are neccessary as extension to the interior of the dwelling activities in it, a proper play area for younger children and as a space for enhancing the level of privacy by acting buffer as zone between the private -inside- and the public -outside- as well as reducing the level of noise and maintenance cost of the public areas. The development of such gardens will enhance the appearance of the dwelling, living rooms, the general the views seen from the apprearance of the estate and thus are likely to contribute residents' satisfaction in general. Private gardens, particularly the front ones, are frequently seen as of display gardens where people express their identity. addition to these, gardens in general, whether private or climate hot-dry asset in public, are considered an A proper choice of planting countries like Iraq. appropriately positioned in relation to the buildings suggested as having a considerable influence on relative air temperature, increasing the reducing the improving human comfort inside the buildings humidity and as well as around them, which is highly desirable in the overheated periods during summer (Konya 1980, Lesiuk 1986).

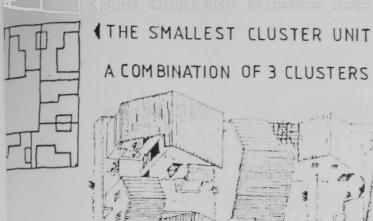
A study in Iraq (Poleservice 1972) found that for most Iraqis the single family house is the preferred form of housing. Since the housing projects of the S.O.H., such as those studied, are characterized by being of medium housing density, low and medium-rise, and often located on the outskirts of the cities, it might well be feasible to consider building a single family housing form instead of multi-family, without the density having to be lowered. As it is possible to achieve a housing density in single family housing similar to those attained in the S.O.H. projects, single family housing is likely to be a better solution for the type of residents housed on these estates.

The courtyard house is likely to be the proper single family housing for Iraq, as it has been for developed over centuries as the traditional building and can provide the best answer to the climatic challenges. has been borne at by many findings from studies in similar climates to Iraq (Olgyay & Olgyay 1963, Konya 1980, inward oriented is equally form, This Lesiuk 1986). sucessful in satifying the social need for privacy and the play needs of the younger children (Al-Azzawi 1969, Zaini 1976). A compact layout arrangement applying the courtyard been successfully used in many countries in system has India, Australia regions of hot-arid climate such as in (see Saini 1976), or in places where the social values are similar to those of Iraq such as Algeria (Moslim culture).

Fig. 10.4 shows a low-rise high density housing at Belahpur, it is one of the Indian examples of such housing designed by the internationally renowned architect Charles Correa, where the planning was based on hierarchy of courtyard spaces; from private -within the house- to community spaces. In this case the smallest unit includes 7 courtyard houses clustered around an intimate courtyard and then a grouping of three of these clusters combined to form a bigger module of 21 houses surrounding a bigger courtyard. Further, such modules interlock to define the next scale of community space (see Correa 1985).

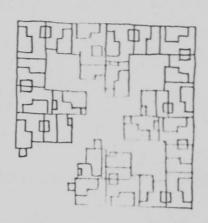
Having said that, a feasibility study is required to assess the economic factors involved in such design approach prior to any decision, but it is important that such a study should include a consideration of the site management and maintenance costs, not just capital costs. A site with low maintenance costs could prove in a short period more cost effective for society, even if initial building costs are higher.

Having suggested the single family housing as a preferred form of housing in Baghdad, certain steps could be recommended to improve the current approach of multi-family housing. The guidelines that follow are equally applicable to the design of new multi-family housing and to the improvement of the case study estates.



A COMBINATION OF 3 CLUSTERS TO FORM A BIGGER)





MODULS INTERLOCK TO DEFINE THE NEXT SCALE OF COMMUNITY SPACE

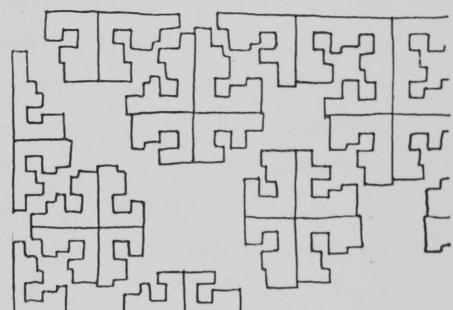


FIG.10.4 THE SMALLEST CLUSTER UNIT

BELAHPUR HOUSING IN INDIA (CORREA 1985)

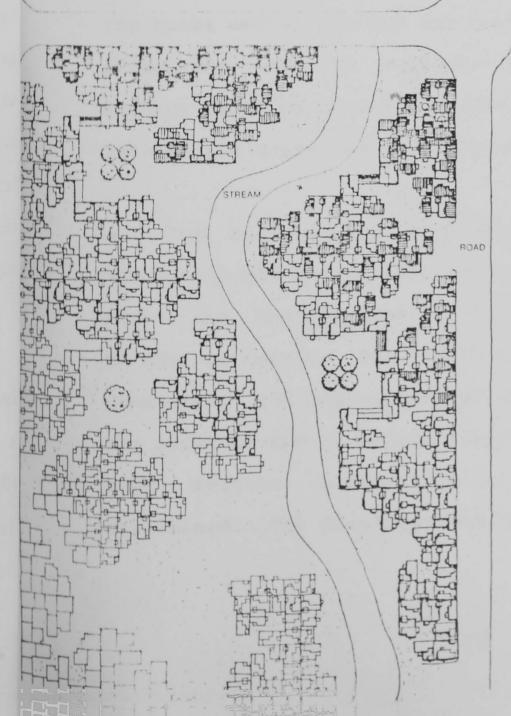


FIG. 10.5 GENERAL LAYOUT

5. MANAGEMENT AND MAINTENANCE POLICIES.

In multi=family housing the maintenance of the spaces around the housing blocks has been found to be difficult and this study supports these findings. This study showed that maintaining such estates presents quite different problems from those encountered in single family housing. single family housing, much of the space between the buildings is private gardens cared for by the residents, most of the space in multi-family housing is whereas public, utilized for a variety of shared activities and needs to be maintained by the public authority or another management organization paid for by the owners. Ιt crucial to recognise the importance of setting out clearly the rules and directives which clarify to the users management and the maintenance policies for these areas. Without these confusion and conflicts are bound to between the users and the management body.

The multi-family housing projects being new in Iraq, management and maintenance policies were not decided until after the handing over of the housing in the case studies to the new owners. The lack of any clear policies on management and maintenance of the publicly used spaces, at the onset of the designing activity, led the designers to make certain assumptions on how the site would be maintained. The findings from this study suggest that none

of the designers' assumptions have produced a successful solution to the site management problems. This lack of clear management and maintenance policies, together with an associated realization of the need for the external spaces to be designed to support a specific range of activities, seems to have been a major cause of problems on the estate. The drab conditions of the communal open spaces, as well as of the residents' confusion about how to use the areas immediately around their housing blocks, are a direct result of this lack of direction.

The management policy provided by the S.O.H. for these housing projects addressed the issues involved in only vague general terms. It implied the initiation of residents' management committees which would be responsible for maintaining the shared access areas and utilities within the housing blocks. The need to manage and maintain any part of the area outside the housing blocks was not mentioned as being within the resposibilities of this committee. Neither were any instructions or advice given to the residents on how to use and maintain their flats, the shared access areas or utilities within their housing blocks.

The significance of such policies was underlined in findings of many studies carried out elsewhere, which suggested that maintenance of communal open spaces is

strongly linked to residents overall satisfaction (Becker 1976, Lansing et al., 1970, Cooper & Sarkissian 1986). Therefore, the S.O.H. should be aware that unless the responsibility for maintenance of communal open space is clearly identified at the design and construction stage, and budgeted for, the space will tend to become a source of contention among neighbours, and between residents and the local maintenance authority (Byrom 1972, Shankland Cox & Associates 1969, Cooper & Sarkissian 1986).

10.3.3 GUIDELINES FOR THE DESIGNING OF THE EXTERNAL AREAS

general guidelines for new housing development in Baghdad, based on the findings from the study is list this section. Moreover, in order to develop designs for such housing which would better meet their users' needs and values, special attention should be paid by the designers planners to the influence of the local and factors users' cultural, religious and physical on satisfaction. It is particularly important to understand the significance of a positive neighbourly relationship, the type of sociable activities -specially the family visits at homes, the "meaning" of the dwelling to the household and the adequate level of privacy -the visual in particular, inside the dwelling as well as in the private open spaces, for the Iraqi households.

is also important to consider the influence of the external areas on the level of human comfort within of utilization the and the areas around by it important to It is vegetation within these areas. understand that the proper choice and right positioning of vegetation could ameliorate the local climate to provide amenable micro-climates for human habitation (See Lesiuk 1986). Therefore, designers should make a full of vegetation, whether in the form of trees, shrubs, ground cover, vines or creepers, to alter the extremes of temperature and to reduce the effects of undesired winds.

It has been shown from the findings of this study that the way the area immediately outside the dwellings has been its details, the identification between laid out, private, semi-private and public within it as well its level of maintenance, were likely to influence the level of residents complaints about the level of noise, level of privacy, neighbour disputes and problems with children's play, and consequently the level of users' satisfaction with their housing environment. Therefore, planners and designers should pay a particular attension for the detailed design of the external environment and provide a proper and sound management and maintenance policies They should also strive at the onset of the project to acquire the adequate funding from the Housing Authority for its implementation as well as for its maintenance.

following are general guidelines intended to be helpful to designers of multi-family housing projects they are based on the findings from this study and Iraq; should be read in conjunction with Section 10.3.1. For sections: two in grouped practicality, they are in general and (b) guidelines (a) guidelines for layout related to the spatial components of the layout: private open spaces, semi-private and public.

LAYOUT IN GENERAL

- 1. The designs of different buildings and spaces are likely to meet the requirements of their users more closely if designers carry out a more detailed analysis of these requirements. Identifying the actual needs and preferences of residents should be considered an essential component of the design process. Designers, therefore, need to learn more about the techniques of social surveys.
- 2. Ideally, direct contact with the future users would provide their needs and understanding of and full awareness preferences and the way they use the external spaces. not possible, visiting homes on similar completed this is projects or households similar to the prospective residents would supply the designer with invaluable information on Either approach would help to improve residents' needs. future designs of similar housing schemes, although the site conditions and the surrounding neighbourhood local have to be taken into account.
- 3. The planners need to prepare a management and maintenance policy for the external open spaces prior to the design stage and before construction begins, and a sufficient budget needs to be allowed for this. Designers should be aware of the policies prior to their design decisions.

They need to prepare a detailed maintenance policy for the external areas -courtyards, spaces between housing blocks, areas, car parks, walkways and roads-, to avoid confusion about use or responsibility for these areas, as confusion adversely affects users' satisfaction. such Control of the use of space has an impact on noise, privacy, views and problems associated with children's play is, therefore, very important to determine prior to commencement of the design process. It is essential site works should be executed before the dwellings are all occupied or confusion about use and responsibilities will develop. The designers need to prepare detailed maintenance policy for the external areas.

- 4. To reduce maintenance costs to the community, as much possible should be the responsibility of individuals. studies have recommended that residents' participation in the management and maintenance of their estate should not be underestimated, as their involvement upgrade their feeling of belonging and increase their will Eventually in willingness to care for their environment. long run this will reduce maintenance costs (Wilson the 1977, Cooper & Sarkissian 1986).
- 5. Special consideration needs to be taken of the prevailing hot-dry weather of Iraq when planning and designing such housing development. Micro-climate aspects which need to

be considered and which should have an impact on site layout and design are:

- (a) Reducing the size of open spaces between buildings in order to protect them from direct solar heat and reflections from glare.
- (b) Ameliorating the micro-climate through the use of vegetation so as to provide deep shade, reduce glare, protect exposed walls from direct solar radiation, increase the local relative humidity and reduce the influence of wind velocity. Utilizing native species of plants should be an essential component of design, as it will reduce the cost of maintenance and mean that the plants are more likely to survive.
- (c) Water should be introduced into the external areas wherever possible, as it will improve the micro-climate.

 Once introduced it should be properly maintained.
- 6. Since children have been found to be the prime users of the external areas in the projects studied, and the expected child density is a reasonable guide to identifying potential problems, it is important to consider child density when planning a housing project in addition to the overall population density.
- 7.Protecting the level of visual privacy required by Iraqi social customs inside the dwellings and in the private open spaces. The designer has to judge whether to create

privacy by keeping people physically at a distance, by providing adequate physical barriers such as walls, screens, fences, vegetation or by level difference. However, additionally, careful consideration has to be given to the size and location of the windows in the dwellings. Visual privacy from passers-by is particularly important for those living in ground-floor dwellings.

- 8. The designer should ensure that there is a clear definition of public, semi-private and private open spaces, so that there is no ambiguity as to who has access to each area and who has the responsibility for maintenance and control over the use of each space.
- 9. Providing only two types of housing blocks, with one generally perceived by residents as of more attractive appearance and to be of better quality than the other, often causes dissatisfaction for those inhabiting the more inferior accommodation. Care has to be taken by the designer to ensure that the appearance of all parts of the estate can be perceived to be of the same quality. This does not mean that all housing blocks have to be identical, but that they have to look of equal visual quality. The views from living room windows can be important to residents and should be carefully considered by designers.

- 10. Ways of discouraging children from near-by neighbourhoods from using the open areas of the new project for their play activities should be considered, even if this means making special provisions to upgrade facilities for those children from the other estates/areas.
- 11. The planners and those who allocate the dwellings should recognise that homogeneity of residents, in terms of stage in life cycle and social status, can encourage positive social interaction between neighbours, whilst mixing people with different characteristics in the same housing block is likely to cause dissatisfaction.
- 12. Households with different characteristics have different needs in terms of location and spaces. For example, families with small children should ideally be allocated houses with gardens. Therefore, the Housing Authority should strive wherever possible to house such families on ground-level flats with gardens.
- 13. Clustering large families in one block of flats should be avoided, as it increases the local child density and associated problems. An appropriate rule to follow would be to mix the family size, but cluster according to stage in life cycle.

- 14. The design should allow for reasonable proximity between the dwellings, but should not site the front doors too closely together on an access corridor, in particular not exactly opposite each other, as this arrangement may affect privacy and cause withdrawal rather than neighbourly contacts.
- 15. The whole site should be planned bearing in mind that children tend to play anywhere and everywhere and not just in designated play areas and, therefore, the process of planning for children will have a major impact on the site plan. This does not imply neglecting adults' needs of the external environment, but it underlines the role of the designer in provide a design which caters for users' needs, and through its detailed design encourages certain activities to take place, whilst thwarting others. This applies as much to designing for children as for adults.

SPATIAL COMPONENTS

- 16. When private open spaces are intended for young children's play, whether it be a balcony or a garden, their location should make them easily accessible from the kitchen, enabling mothers to see and hear them.
- 17. Considering the possibility of the provision of private gardens has been shown to be a vital component in the

success of multi-family housing developments, for they contribute to users' satisfaction in many respects. Such gardens, if properly fenced, are particularly important in Iraq in providing suitable levels of privacy and safety for families' sitting out, young children's play and women gardening. These gardens can also act as a buffer zone between the private and public spaces and enhance the privacy level inside the dwellings, also mitigating noise levels. A further function of private gardens is to ameliorate the micro-climate, not just of the individual home but of the surrounding area. The gardens also enhance the views from windows of the dwellings, and can contribute to the estate's appearance as a whole.

- 18. The safety and security of young children playing on the access area needs to be considered in the detailed design: avoiding slippery materials or sharp edges when deciding on finishing materials and the choice of locations for electric meters, switchboards etc.
- 19. The finishing materials and the detailed design of the access areas should not facilitate vandalism, and should be designed for heavy use. This will ultimately reduce maintainance costs. Children have been found to play in such areas and they should be designed accordingly.

- 20. Much information should be acquired by the designers on children's play needs for different age groups in Iraq (boys and girls). The physical design of the external environment should be responsive to these needs.
- 21. Adequate safety measures should be incorporated in the housing scheme to protect children from traffic accidents, especially when children have to cross a major road to reach their school. Cars and children should be kept apart where possible.
- 22.Outside the home, provision for the under fives play should be considered ideally a supervised sheltered play areas.
- 23. The provision of equipped playgrounds alone does not solve the problem of children's play. If they are to be successful they must be part of a planned approach to children's play which relates the amount of play space proportionately to the number of children living on the estate. The type of equipment made available is important as is its proper and regular maintenance. The degree of use of equipped playgrounds will depend largely on the variety of the equipment provided. However, ultimately it is the total environment for play not the equipment that matters.

- 24.Locating play areas immediately outside the housing blocks without any barrier or buffer zone, causes residents' complaints about children's play. A hierarchy of play spaces should be designed to encourage the more boisterous children's play activities to take place away from the housing blocks.
- 25. Noisy activities such as ball games should be provided away from the dwellings and separated by buffer zones to reduce the noise level in the dwelling areas.
- 26. Youth Centres were found to be popular with teenagers and wherever possible should be incorporated within the housing projects, but because of associated noise problems not near houses. Swimming pools could be a partial contributor to easing the children's play problem during summer holidays.
- 27. As a traffic-pedestrian segregation system is not familiar in Iraq, it might be better that such a system be experimented on a smaller scale before applying it to the large new housing development. It cannot be expected to operate if site works are unfinished at the time of occupation.
- 28. Garages are the best solutions for keeping cars in hot climates; where this is not feasible shaded car parks

should be provided. The location of these car parks should be within reasonable proximity of the housing block, easily accessible, under surveillance from the dwellings and separated from play areas.

29. The chosen system for garbage disposal should be suitable for users' needs and approved by the municipality.

THE SPATIAL ORGANIZATION OF THE EXTERNAL ENVIRONMENT

Having suggested the guidelines listed above it perhaps appropriate here to propose a diagramatic layout for the area immediately outside the dwellings, to show interrelationships of the spatial components which should be incorporated within any layout of multi-family housing in Baghdad (Fig. 10.6). This diagram emphasizes that (a) an adequate level of privacy for the dwellings passers-by and from other flats should be ensured. (b) private gardens for the ground floor flats should be back garden as well as properly a fenced provided: demarcated front garden. (c) the provision of play areas for the younger children near to home, which must include play equipment suitable for their age, as well as a sand pit and paddling pool. In addition, these areas should be to cater for the extreme weather partially shaded (d) For older children conditions of the hot season.

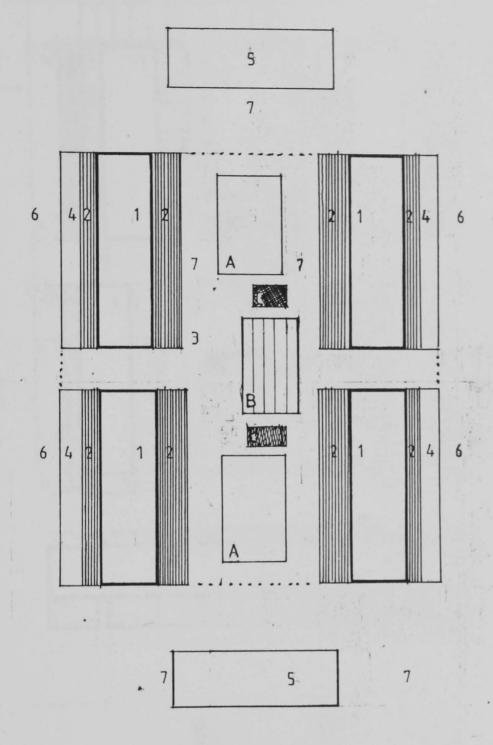
suitable play areas away from the dwellings should be provided for ball games. (e) The play areas should be separated from the vehicular routes. (f) Shaded car parks reasonably close to the dwellings should be provided for car owners, as well as sufficient car parks for visitors.

Moreover, the planting is highly recommended, particularly on the area immediately outside the dwellings; here, when the plants are properly positioned and intelligently chosen they will do much to improve the micro-climate and so increase the livability of the area as well as enhance the views from the dwellings and the general appearance of the estate. The incorporation of a water element in the form of fountains, jets or pools would further enhance the micro-climate and the views.

It is hoped that the diagramatic layout shown here could be interpreted by the designer involved in the housing environment into design solutions. The successful design for each case will ultimately be achieved only by the proper judgement by the individual designer of the influences of the interrelationships between the physical, social and cultural factors involved with that specific case, and thus it is the responsibility of the designer in charge to create the proper design solution. However, the following design is put foreward to illustrate the type of solution the designer might develop on the basis of the

guidelines (Fig. 10.7). This design is meant for groups of users of family and adult households, similar to those The design has taken into consideration the case studies. has been said in the guidelines as follows: (a) the privacy from other flats by the physical separation of the opposite blocks which is also enhanced by the planting. The privacy of ground floor flats is achieved by raising the ground floors for 60 cm above the level the walkway and by fencing off the back gardens which will equally ensure the privacy of the family sitting out and women gardening as well as secure the safety of the young children playing in these gardens. The front garden acts as a buffer zone between the inside of the flat and the public area outside it. These gardens contribute to and the enhance the views from the flats and general estate, as well as being where people the appearance of can express their identity. Both garages for those who them, and shaded car parks and open car parks afford for those who cannot, have been suggested. Particular attention is given to the area amidst the housing blocks to make it "read" as a semi-private space by using difference in levels, low fences and other symbolic means such as arches over the entrances. Special consideration is paid to the need of children to play safely in the vicinity of their home by excluding traffic from the area between the blocks of flats, and again this is achieved by the difference of levels, fences and bollards. Vehicular routes run around the blocks from the other side where the users can have convenient access to their dwelling as well as the easy monitoring of their parked cars. The use of pergolas of vines and other creapers is suggested for the shading of the car parks as it looks more pleasant, cheaper and also to improve the micro-climate.

variety of options are provided for the children. For the younger ones there are the private gardens, areas immediately outside the dwelling where they can play with others and where a variety of opportunities for play is available -sand, water and play equipment. There is also the opportunity to play in and among the planting. For the older children the play area is located little farther where their noise cannot disturb the adults and where they have opportunities to play freely. A supervised play area is also provided in the form of a "Youth Centre" which could serve all age groups. A shaded walkway is provided between the play areas which the children will happily use for play, as well as for the convenience of times of extreme weather condition in at adult users summer. This shade walkway is intended to connect the housing groups to the primary school, nursery and the local shops within the estate.

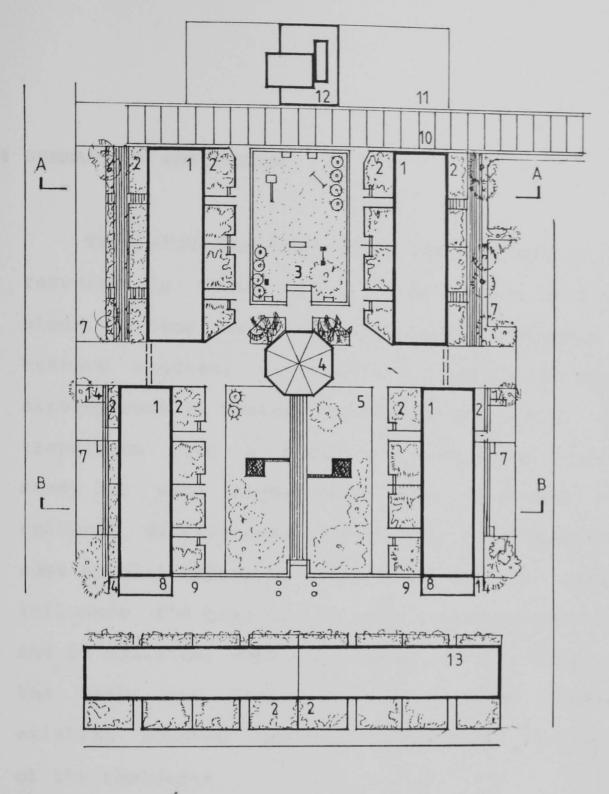


- 1. The housing blocks
- 2. Private apen areas (fenced back garden & demarcated front garden)
- 3. Semi_private areas including: _ A. play areas for younger children
 - B. Shaded areas
 - C. Water (fountain or pool)
- 4. Semi_public areas (shaded private car parks & and for visitors)
- 5. Play areas for older children
- 6. Public areas
- 7. The incorporating the proper vegetation in the right positions throughout the estate

FIG. 10.6 DIAGRAMATIC LAYOUT PLAN



ECTION A A



LAN



ECTION BB

FIG. 10.7 A PROPOSED LAYOUT

Scale 1:1000

- 1 HOUSING BLOCK
- PRIVATE GARDEN
- YOUNGER CHILDREN'S PLAY AREAS
- PAVILION
- AMENITY COMMUNAL GARDEN
- 6 WATER FOUNTAIN
- 7 SHADED CAR PARKS
- 8 GARAGES
- 9 CAR PARKS
- 10 SHADED WALKWAY,
- 11 OLDER CHILDREN'S PLAY AREA 12 SUPERVISED PLAY AREA OR YOUTH CENTRE
- 13 HOUSING BLOCK FOR ADULT_HOUSEHOLDS
- 14 GARBAGE LUNTAINER AREA

10.4 SUMMARY OF CONCLUSION

This study has shown that the application of Western research is valid to a large extent to Iraqi housing plans. If Iraq used the knowledge available in these Western studies, it could avoid making the same mistakes already made in Western Europe and the U.S.A. housing in transition from a rural to a more urban societies. This study has also highlighted some essential social and cultural differences, which mean that Iraq must develop some special approach. This study may be used both to influence the planning of future housing policies in Iraq and in addition, when more funds are available, to provide the basis for arranging the external environment on existing housing estates, to meet more closely the needs of the residents.

APPENDIX ONE: THE QUESTIONNAIRE

SAMPLE DATA AND HOUSEHOLD CHARACTERISTICS

CARD 1

Interview number:

!	Project No.	!	!	Block No.	!	!	Type of	block	!!!
! -		!	!	- <u>-</u>	.!	! _			!!
!	Floor No.	!	!	Flat No.	!	!	Type of	flat	!!!
Ī		Ī	Ī		Ţ	i			!!!

!	!	<u>!</u>	. !		arii			!								
!Household!	! Sex !	х ! !	Age,!	<u>.</u> !	stat	cus		! Education !			on!	<u>.</u> <u>!</u>	000	cupa	atio	on
! members	MIF	F !	years!	M	! S	! W	! D	1 1	2	3 !	4	1	2	! 3 !	4	! 5 !
н.о.н.	: :-	:			<u>:</u> —	: !	<u>:</u> —	<u>-</u>	!				!	<u>.</u> — .		: !
! Wife	!!-	: !			!	!	!	!	!			!	!	!		!
!Children!	!!!	! !			! !	!	!! !	! ! !	!	!			!	!	!	!
! 2	! ! -	!			•	•	!	! !	! ! !	•	! ! !		!	! ! !		! ! !
1 3	!	: !	· 		!	! !	!	!	!	!	! ! _ _		! !	! !	!	! !
! 4	:	: ! ! !			!	! ! !	! !	: ! !	! !	! !	!	!	! !	! !	! !	! !
5	! ! ! ! -	!		-	!	! !	! !	!	! ! :	! !	! !	!	! !	! !	! !	! !
! 6	! ! ! - ! -	!			! !	! !	! !	! !	! !	! !	!	! !	! !	! !	! !	! !
!Gr.father	! ! ! !				!	!	! !	!	! !	! !	!	! !	! !	! !	! !	! !
!Gr.mother		 !			!	!	!	!	! !	! !	! !	! !	! !	! !	! !	! !
!Relatives!!!	• •	: !			!	! !	! !	!	! ! !	! ! ! = =	! ! !	! ! !	! ! !	! ! !	! ! !	! ! !
! 2	! ! - ! !	! !		!	!!	!!	!	!	!	!	!	! !	! !	! !	! !	! !
! 3	! ! - ! ! ! !	! !		 !	!	! ! !	! ! !	 ! !	!	! !	! !	! !	! !	!	! !	!

THE QUESTIONNAIRE

CHARACTERISTICS OF THE PREVIOUS DWELLING

1. Give the following details on your previous dwelling.

! ! !Loca-		pe of elling		! ! Type! ! ten! !	e of ure		Type o		! !Perio! !occu		! !Number!
!	!	!	!	!	!	!	!	!	!	!	! of !
!ation	!Hou-	!Flat	! Ann-	!Own-	!Ten-	!Non-	!Sha-	!Sha-	!Yea-	!Mon-	! !
!	!se	!	!ex	!er-	!ancy	!sha-	!red	!red	!rs	!ths	!rooms !
!	!	!	!	!ship	!	!red	!(1) *	! (2) *	!	!	! !
1	!	!	!	!	!	!	!	!	!	!	!!!
!	!	!	!	!	!	!	!	!	!	!	!
!	!	!	!	!	!	!	!	!	!	!	<u>!</u> !
!	!	!	!	!	!	!	!	!	!	!	!!

- (1) * Shared with parents
- (2) * Shared with others
- 2. What of the following open spaces were available in the previous dwelling and the previous estate?

! !Private!	! ! Teri	race	! !Bal-	! !Flat	! !Court	! !Garage	! Car-	Public	Children
! !garden !				! !roof!	yard	<u>!</u> !	! !port!	garden	play!
!!!!	!red !	!vered!	!			1	!	· ! !	ground
!		!	1			·	·	·	
!!!!!		!	! !	!	! 	! 	!		

3.	What	is	the	average	monthly	income	of	the	household?	tick	+ha
	appro	pri	iate	box ple	ase.						CIIC

! !- Less than ID.200!	! !) ! ! ! !
! !- ID. 200-299 !	! ! ! !
! !- ID.300 and more !	! ! ! ! ! !

4. Do you like this flat? would you tell me which category best describes your feelings:-

!		!Neith	ner!			_!
!like it !	like	it!like	it !dis	slike !	dislike	!
! very !		!nor o	dis-!	it !	lit very	1
! much !		!like	it!	!	! much	!
1 1!		2!	3!	4 !	·	5!
! !		!	!			!
!!		!	!			!

5. Which dwelling you say that you were more satisfied with?

!	current	!previous!indiff	_	!
!	dwelling	!dwelling!erent		!
!	ĺ	! 2!	3	!
!				!
!		1 1		!

6.	Do you	like	this	estate?	would	you	tell	me	which
	catego	ry bes	st des	scribes	your f	eelir	ngs:-		

1 !		!Neit	ther!		1	
!like it !	like				!d	islike !
! very !		!nor	dis-!	it	! i	t very !
! much !		!like	e it!		!	much!
! 1!		2!	3!		4!	5!
!		!	!		!	!
!!!		!	!		1	!

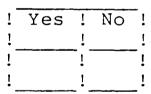
7. Which estate you say that you were more satisfied with?

		1
١	current !previous!indiff-	
į	dwelling!dwelling!erent	!
1	1! 2! 3	
1	! !	!
1	! !	

8. What are the main things you like about living here?

9. What are the main things you dislike about living here?

10. Did you choose living here because you have not got an alternative?



- 11. In addition to the previous question, which of the following reasons let you choose to live here?
 - (1) The price of the flat is suitable to your income.
 - (2) The location is near the place of job.
 - (3) Relatives or friends living in the same estate.
 - (4) Socially suitable.
 - (5) Adequate to family size.
 - (6) Better amenities and services.
 - (7) Near the previous living area.
 - (8) Near city centre.

12. In general, how do you categorize your satisfaction of living here?

<pre>!very sat-!satis- ! isfied ! fied ! !</pre>	!indiff-!dissati-!very dis- ! erent ! sfied !satisfied !!	!!!
!!	_!ii	!

13. When you have visitors, do you feel proud to show them the estate? Which category best describes your feeling?

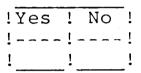
	very proud				!very hum-!! ilated!!
!		1	!	!	!
!		!	!	!	!!

14. Would you like to live here permanently or would you prefer to move out if you have the chance to do so?

!!!!!		prefer to! move out !	!
!	!	!	!
!	!	!	!

15. If you prefer to move out, why?

16. Since you moved into this flat, did you make any changes or alterations inside it or in the areas immediately outside?



17. If your answer to the previous question was "Yes", specify what.

18. Is there any hobby you like to persue inside or outside your flat and you can not do it?

!	Yes	1	No	!
į		!		!
ļ		!		!

BALCONIES

19.	What do you use your balcony for?
20.	Do you wish you have a garden instead? (not applicable
	for ground floor flats).
	! ! !Do not! ! Yes ! No ! know !
21.	Are you satisfied with your balcony? How do you assess
	the following aspects in affecting your satisfaction?
	A- privacy from other flats,
	- very satisfied !! - satisfied !! - indifferent !! - dissatisfied !!
	- dissatisfied! - very dissatisfied!!
	B- privacy from passers by,
	<pre>- very satisfied! - satisfied! - indifferent! - dissatisfied! - very dissatisfied.!</pre>
	- very dissacisfied

~~	~ '
C-	Oriantation

		- ve - sa - ir - di - ve	atis ndif .ssa	sfi Efe ati	ed. ren sfi	t ed.	• • •	• • •	! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
D –	View fr	om th	ne k	oal	con	У,			
		- Sa	atis ndif .ssa	sfi Efe ati	ed. ren sfi	t ed.	• • •	• • •	! !!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!
E-	Size,								
		- ve - sa - ir - di - ve	atīs ndif Issa	sfi Efe ati	ed. ren sfi	t. ed.	• • •	• • •	!!
F-	Safety	and s	secu	ıri	ty,				
		- ve - sa - ir - di - ve	atīs ndi:	sfi Efe ati	ed. ren sfi	it	• • •	• • •	

22. Is important, in your view, to have a private garden?

!	Yes	!!!	No	!Do not! ! know!
!		1		! !
!		!		1 1

23. What do you use your garden for? (ground floor flats only)

24. Do you or any member of your family look after it?

						_
!		!		!Do	o not	: :
i	Yes	!	No	! }	know	
1		!		!		_
1		-!-		-!		
i		!		!		

25.	Are	you satisfied with your garden? How do you assess
	the	following aspects in affecting your satisfaction?
		A- privacy from other flats,
		<pre>- very satisfied!! - satisfied!_! - indifferent!_! - dissatisfied!_! - very dissatisfied !!</pre>
		B- privacy from passers by,
		<pre>- very satisfied! - satisfied! - indifferent! - dissatisfied! - very dissatisfied.!</pre>
		C- Oriantation
		<pre>- very satisfied! - satisfied! - indifferent! - dissatisfied! - very dissatisfied!</pre>
		D- View from the garden,
		<pre>- very satisfied! - satisfied! - indifferent! - dissatisfied! - very dissatisfied!</pre>

E-	Size,	
	<pre>- very satisfied satisfied indifferent dissatisfied very dissatisfied</pre>	!! !! !!
F-	Safety and security,	
	<pre>- very satisfied satisfied indifferent dissatisfied very dissatisfied</pre>	! ! ! ! ! ! ! ! ! ! ! !

26. Do you have any comments on your garden?

PUBLIC GARDENS AND PARKS

27. Do you think it is important to have public gardens or park in the estate?

_	impor-!indiff	-	
!important!	tant ! erent	: ! ortant !	Know !
<u> </u>	<u></u>	ii	<u> </u>
11	<u> </u>	!!	!

28. If your answer is "very important" or "important", specify why.

29. When was your last visit to a park?

CAR PARKS			
	CAR	Dλ.	DVC

		
30. Do	o you have a car?	
	! Yes ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !	No ! ! !
31. Wh	here do you park your car overnight?	
(a)	immediately in front of the building	!!
(b)	in the street side away from the building	!!
(c)	in car park	1!
32. Ho	ow far is that from your dwelling?	
(a)	less than 70m	!!
(b)		!!
	200 130M 200 0000000000000000000000000000000000	!!
(d)	more than 150m	!!
	ow do you consider that distance?	
(a)	convenient	!!
(b)	fair	!!
(c)	not convenient	!!

34. Do you have any comment on the car parks here?
(a) Yes
35. If "Yes", specify.
36. Do your visitors find problems in parking their cars? ! Yes! No! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
37. Some people prefer to keep their cars on parking plot away from their dwellings for the safety of children playing near the dwellings, and because they do no like the view of arrayed cars when they look out o their windows. Others prefer to keep their cars in the immediate area in front of their dwellings for the safety of the cars; to be under a surveillance and fo convenient access. Which group do you put yourself in?
(a) First group !!
(b) Second group!!
(c) First group provided safety of cars is assured. !!

SOCIAL INTERACTION

38. Do yoy have relatives or old friends living in this estate? (if your answer is "Yes", mention the number of families)
! No !Yes!Number! ! Relatives! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! ! !
39. Living here for some time, how many families:-
(a) you know by names!!!!!
Accorded to the second friends live: inside
40. Where about do your three nearest friends live; inside
or outside this estate? state numbers.
(a) inside the estate!
(b) outside the estate!

41. If in this estate; where about? (put numbers	in the
appropriate boxes.)	No.
(a) on the same floor	! !!
(b) in the same building (not on same floor).	! !
(c) in the next building	! ! !
(d) in the opposite building	! !
(e) other buildings	! !
42. Do you have problems with your neighbours?	
! Yes	! No ! !! !!

43. If you answered "Yes", what sort of problems?

44.	Ιf	you	have	given	the	choi	ce i	bet w een	good	flat	in
				ighbourl					one		a
								•			a
		oar j	nergin	oour hood	a, wii	.cn or	ne wo	ould yo	u choo	ose?	
(a)	aoc	od fla	at in 1	unfriend	alv na	i ah ha	h		. —	 .	
(-/	50.			2111116110	ary ne	rgnbc	ourno	ooa	!	! !	
(b)	les	ss god	od fla	in fr	iendly	neig	ghboi	urhood.	!	!	
									•	·	
(c)	bot	th are	e of s	imilar i	import	ance.	• • • •	• • • • • •	!	<u>!</u>	
									!	!	
(b)	do	not k	cnow	· • • • • • •					, ——		
(-/					• • • • •	• • • • •	•••	• • • • • •	!	<u>.</u>	
45. D)o yo	ou thi	nk tha	at vanda	alism	has h	nappe	ened in	the e	state	<u> </u>
				ce of mi							
	as c	a cons	equem	e or mi	133436	. Dy	ome	OI CHE	16516	circ.	
					! N	o ! N	lorma	al! Too	!Do r	ot!	
					!	!			h! kno		
					;	;-		<u>;</u>	- i -	 ;	

46. If you answered "too much", what sort of vandalism? specify please.

PRIVACY

- 47. How would you categorize your privacy level while you are:-
 - A- inside the flat: (tick one box please)

too little!	!	!
! about wright !	!	!!!
! too much (cut off)	!	!
! do not know !	!	!

B- Immediately outside the dwelling; in your balcony or private garden: (tick one box please)

too little	!
about wright	!
too much (cut off)	!
do not know	!

NOISE LEVEL

48. Living here, how do you find noise? (tick one box please)

_		
!	great problem	1
	Jacob Probeom	
٠.		!!
1	slight problem	
:	bright problem	
Ī		!!
1	normal	ı ,
:	HOTMAT	•
!		!!
1	no problem	ı —— ,
•	no problem	•
!		!!
1	do not know	, ,
•	do not know	•
!		!!!
-		

49. If your answer is "great problem" or "slight problem", what source of noise worries you? specify please.

DENSITY

50. Some people might say that there are too many people and buildings here for the space available. What do you say about it? (tick one box please)

very crowded	!!!
just wright	! ! !!
uncrowded	! ! _!!
do not know	! _!!

51. Could you recognise strangers in your neighbourhood easily?

!	Yes	!	No	!
!		!		!
1-		- <u>!</u> -		_
1		!		!
•				

APPEARNCE AND VIEWS

52.	Do	you	thin	k tha	at	the	ap	pearance	of	the	acta	+0	i
	acc.	racti [.] ling 1	ve co	TOOK	at?	Wh	at	category	de	escri	ibes	λc	our

_
_

53. Some people prefer it when all the housing blocks in the neighbourhood look the same. Others like it better when they look differenently. What do you feel about it?

_								
!	like	them	to	look	the	same	!	 !
!_							.!_	 !
!	like	them	to	look	diff	erently	!	!
!							!	 !
!	indif	ferer	ıt				!	 !
!							!	!
! -	do no	ot kno)W				!	i
1							1	!
-								

54. Do you or your visitors find any difficulty in recognising your dwelling?

! -	Yes	!	No	!
!		!		!
! -		- <u> </u>		_!
1		1		!

55. Do you like the view from your living room window?

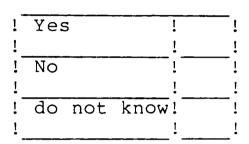
_		
!	Yes!	!
!	!	!
!	No !	 !
!	!	!
!	indifferent!	 !
!	!	!

56. If your answer is "Yes", why?

57. If your answer is "No", why?

LAYOUT

58. Do you think that some parts of the estate are better than others?



59. If "Yes", specify what and where?

60. Do you prefer more open spaces on the estate?

!	Yes	•	!
!	!	!	!
- !	No		!
1	!		!
• !	indifferent!		!
•		!	!
•			

CHILDREN PLAY

(Questions	61	to 67	are r	not ap	oplicab1	e if	ther	e are	no
children,	or	very y	oung	when	moving	into	the	flat)	110

61. How did your children react towards moving into the flat? (specify any changes in behaviour or family relationships)

62. Where do the children play most of the time?

63. Did your neighbours, living in the same block of flats, complain about the noise of chidren playing inside your flat?

!	Yes	!	No	_!
1		!		!
!		- <u>!</u> -		_ <u>!</u>
1		!		1

64. How much do your children play outside in the current estate compared with the previous one? (tick one box please)

!	more	!	
!		!	
!	less	!	
!		!	
!	same	!	
!		!	

65. While your children play outside, do you...

! watch them sometime	!
1	_!
! stay with them	!
!	_
! neither watch them nor stay with them	<u>.</u>

66. Do you take your children to parks, play fields or picnic areas away from home?

1	Yes	1	No	!
ŗ		!		
		- , -		- ,
•		1		1
÷		_ • _		_ •

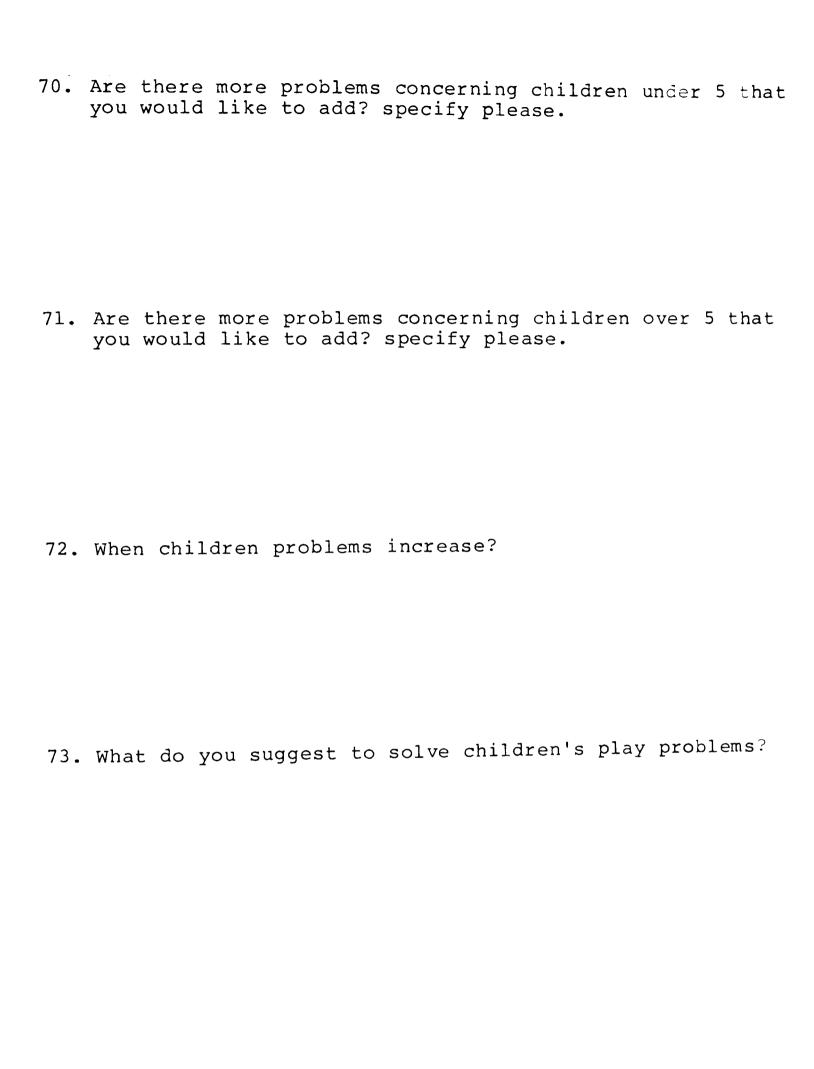
67. If your answer is "Yes", how often?

68. What do you think about children's play in this estate? (tick one box please)

great problem	!!
slight problem	! !
normal	!
not a problem	! .!
do not know	!

69. If your answer is "great problem" or "slight problem", specify what? (tick the appropriate boxes)

	!children	
The problem	! <5	! >5 '
endering play on access of dwelling	! !	
! !-children are too noisy !	! ! !	! !
! !-children cause damage on neighbourhood	!	
!-too many children in the neighbourhood!	! !	! !
! !-lot of restrictions on children play !	! ! !	
! !-not enough play areas !	!	
! !-lack of playing equipment for children !	! ! !	! !
! !-can not leave children play out alone !	! ! !	! ! !
!-difficult to watch children during ! playing outside or keep them in sight	! !	! !
!-lack of shades or shelters to protect! children during playing in summer!	!	!
! !-play areas are not safe to play in !	! ! !	!
!-children are not safe from traffic in!! the neighbourhood	! ! 	! !
-children are not safe from traffic! around the estate!	!	! !



74. If the residents were consulted about planning and designing the housing projects before construction, do you think that would have improved the project and consequently living here?

! !	very much	!	!
!	not much	! ! •	!
!	no	!	!
!	do not know	!	!
•			

75. If the designers start designing this project again, what would you think the changes they should consider to improve the current designs?

76. How do you categorize your satisfaction with the following aspects relevant to this project?

	! !		!	<u> </u>	!
Aspects	!V.good!	good	neither	bad	V.bad
Roads	! !	!			
Cleanliness & tidiness	! ! !	!	! !	!	:
Garbage collection	! !	!	!	! ! '	! !
Safety & security	!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!!	! !	· !	! ! _ = ·- !	
Car parks	· · · · · · · · · · · · · · · · · · ·	! !	· · · · · · · · · · · · · · · · · · ·	! ! !	!
Maintenance	!!!	!	!		

4 Harry or for APPENDIX TWO

THE DEVELOPMENT OF HOUSING FORM IN BAGHDAD

The urban house in Baghdad has been considerably changed since the beginning of this century. This coincides with changes in social values and other aspects of life due to the improvment of the economic level of the country because of the increasing oil revenue which, in its turn, has led to a rise in the standard of living. The increased contact with the Western culture, by trade and by the increased number of young people sent to be educated in the West, has been a further significant influence.

The change in the urban house did not take place all at once. It was observed to be identified within four successive periods.

- (1) The old traditional courtyard house before 1920.
 - (2) The modified courtyard house between 1920-1936.
 - (3) The closed traditional house between 1936-1945.
 - (4) The modern house from 1945 onwards.

The first type was built initially during the Babylonian era and has evolved through the centuries from extreme simplicity to considerable complexity. The primary features of this type could be identified: it was dominated by the courtyard with other features being the "sirdab" (cellar), the "Tarma" (porch) a transitional

space between the open courtyard and the closed rooms, and the "Malgaf" (air scoops which were a vital part of traditional "air cooling system" developed in this country of hot summer). Its plan was characterised by the bent entrance to exclude the possibility of looking straight into the house. The front facade had a blank appearance on the ground floor level as no window in this level opened to the outside. The first floor commonly projected on had the lattice windows called "Shenashil". outside and The house was typically on two floors. The rooms were laid out around a courtyard which was usually of a square or It varied in size according to the rectangular shape. The court, besides being the the house size itself. primary source of light, was also the focus of many family activities.

The features identified above reflected not only climatic but also social and religious needs, particularly the need for privacy.

This type of house was modified later in the period of the first World War. The main change was the disappearance of the "Shanashil" (the lattice windows); balconies appeared for the first time. These were projected so that they still shaded the walls below as before. Another important change was the use of external windows on the ground floor. However, the contribution of the new windows

was very small in illuminating and ventilating the rooms, because of the reluctance of the residents to open them fully for social reasons. The "Tarma" on the first floor, faced a different direction to that on the ground floor. It faced a southerly direction, in contrast to the northern facing "Tarma" on the ground floor. Thus they both had the best orientation for their functions, as the first floor one was designed to be used in winter time and the other to be used in summer time. It is also interesting to note that the entrance door was in two parts. This was to reduce the heat movement between the inside and the outside and to increase the internal privacy.

This type of house featured the introduction of new materials and devices. Steel I-beams and angles replaced tree trunks and planks in the construction. The use of electric fans replaced the use of air scoops (Malgaf) in the buildings, although the cellars were still retained. The Turkish bath was also one of the new features to be introduced at this time.

The third type of house is the one which showed the most considerable changes. It was totally influenced by Western culture. The influence came as a result of increased contacts with the West. The catalysts were the improved trading opportunities and the increased number of educated people, particularly the professionals, who were

impressed by the Western way of life. Moreover, the improved communication system, the use of radio, the publication of newspapers and the use of new modes of transportation; the trains, cars and bicycles all led to changed life styles.

In early 1936 the local authority promulgated a regulation concerned with plot sizes, the setting back of the building and the percentage of the built areas. This regulation had a considerable effect on the housing type from this period onwards. It recommended that the newly built houses should be surrounded by four metres of space. Therefore, the new houses were no longer attached to each other. Moreover, it reduced the area which could be devoted to the building which led to the abandoning of the design solutions involving courtyard.

The upper and middle classes, already influenced by Western lifestyle, were very much encouraged to adopt Western design solutions for their housing by regulation, as they were able to afford a bigger plot of Thus the new affluent suburbs came into existence. land. transition from the inner city to the suburbs This initiated a view that only the poor and educated less attitude in the old city quarters. This remained influenced those living in the old quarters to do as

others had already done and show their status by moving to the suburbs.

The new type of house was characterised by compactness and by the absence of courtyards and it was surrounded by a garden, which itself was surrounded by high walls (2=2.20m). These detached houses had large windows to all directions. Generally, the houses situated on the land nearest to the front side of the plot, leaving a larger area at the back of the house for garden Therefore, the back garden was the principal space. garden. This arrangement was influenced by what the people were used to in their old neighbourhoods: the direct relationship between the courtyard house and the street and the location of the courtyard at the back of the house and away from the street. Thus the back garden acted as a for the courtyard in relation to family substitute activities.

The streets in these suburbs followed a grid system and were much wider than those in the previous periods, to cater for the increased number of vehicles.

This type of house continued unchanged for some time. However, the late fifties and onwards witnessed a period of radical transition concerning a number of crucial aspects of life. This transition comprised a shift in politics,

values, and attitudes. Following a revolution in 1958, the government changed from a feudal monarchy into a republic. The new government brought in agrarian reform, reforms, programmes for public works, hygiene, city development and housing schemes. The expansion education included the establishment of the Department of Architecture in Baghdad University in 1959, and further student delegations to the developed countries in the East and West for higher education. Furthermore, the increasing oil revenue exacerbated the whole situation by enabling the funding of massive government inspired projects. new products, materials and the advanced influx of technology into the country accompanied by the modern media had their inluence too.

with these changes came a dramatic change in peoples' attitudes towards housing. Notably, people appeared to enjoy the changes, it was almost as if they were obssessed by them. There was a need to reject the memory of the past, as it was associated with a time of poverty. People looked to the future in the light of this new prosperity. People, therefore, had no choice but to follow the prevailing styles in housing designs which were seen as reflecting radical change.

The new dominant design of the modern house became a mixture of forms and patterns. Many of these appear to

have been copied, without sufficient thought as to their appropriateness, from Western ideas and patterns. Unfortunately these new housing areas abandoned all of the traditional characteristics of local housing and particularly its compatibility with the local environment. Inherent in this choice to copy Western design was acceptance of inferior solutions to the social, climatic and even economic questions of housing.

The common feature in this type of modern house is the large glass areas, usually unprotected from direct solar radiation. It is also characterised by its location in a fenced garden. The fences are lower than before, but still not less than 140cm. in height. The front garden has become the principal outdoor space, with only a few metres left at the back of the house for a kitchen garden. The houses are often detached and single storey. Terraced houses are not popular and only a few examples of them have been built.

The main form of house type is still is the single family house but with a few sporadic and scattered examples of units of multi-family housing blocks. Recently, the multi-family housing has become the common form in the State mass housing projects. The appropriateness of this approach to housing in Iraq was the main reason for this environmental design study.

THE INITIATION OF MULTI-FAMILY HOUSING

solution to the problem of a shortage in the As housing stock and to ameliorate the housing situation yraq, the Iraqi government adopted a policy in the mid seventies which aimed at helping the citizens, particularly of low and medium income. Those who did not have a dwelling of their own, would have one built as a part of the public housing programme. The Ministry of Housing and Construction set up the State Organization of Housing (S.O.H.) and appointed it as the authority responsible for the government policy on housing execution of the provision. The State Organization of Housing began design mass housing projects in 1976. These housing projects were termed "housing for the citizens". The three case studies investigated in this study are examples of projects begun under this programme.

An Act was passed by the government to facilitate the financing of these projects (Act No.1911, 1976). Under this law, the Mortgage Bank of the State is responsible for lending the required capital to the State Organization of Housing for financing mass housing projects. The Ministry of Housing and Construction has set regulations to implement this law. Under this regulation citizens eligible for such accommodation have to put down an advance

payment equals to 10-15% of the total cost of the dwelling, and the rest has to be paid in the form of interest free monthly instalments to the Mortgage Bank of the State, the mortgage being paid off over a 20=25 year period. The regulations also set out certain conditions and priorities relating to the process of applying for and handing over the new housing to eligible citizens. The conditions and the priorities are discussed in Appendix 2.

The State Organization of Housing decided that these public housing projects would consist of multi-family units, built in the form of low to medium rise buildings. The most common type was the three floor walk up block of flats. It was decided that the housing density for these projects should not to exceed 50 dwelling per hectare. It was also decided that these projects should be provided complete with the infra=structure services and that the educational, social, and commercial buildings would be built at the same time as the residential buildings. The sites for these projects were all chosen from land which was in government ownership.

The S.O.H. adopted a policy of providing equality of provision to all the residents, regardless of the variations in the characteristics of the households. This policy led to the decision to omit private gardens even for the ground floor flats and that all the external areas

provided on each of the estates should be for public use. All the flats were allocated to their owners by lottery. The application of this policy and its effects on the users attitudes is discussed in Chapter Eight.

The pioneering examples of such projects in Bagndad were chosen as the subject of this study. The "Saydia 7" project was the first which people moved into, and is the first case study. The other two case studies are the "Saydia 6" and the "Zayoona" projects. At the time of the investigation the three projects were not totally completed. However, people had lived in the flats for periods ranging from six months to three and a half years. A full description of the three projects and their degree of completion is included under the "Case Studies" in Chapter Six.

No regulations were promulgated by S.O.H for the management of these sites, nor were guidelines given to the designers of these projects on the type of site and housing management policy likely to be adopted. The designers themselves had little knowledge on the matter, as they had no previous experience of dealing with this type of building form. However, after these projects were partially occupied, a law was passed (The Law of Managing the Housing Communities, 1981), which was aimed more at regulating the maintenance of the individual blocks of flats than determining the overall management of the site.

THE CLIMATE OF IRAO

The factors shaping the climate of a given region are solar radiation, air temperature, humidity, wind and percipitation. The combination of these factors forms the variety of climates on the globe.

The climate of Iraq is considered as that tropical or sub-tropical region. Most of the country is mainly considered hot-dry in summer. The characteristics of this climate are the long overheated large periods and diurnal and annual temperature variations. Rain is scarce and the sky is usually cloudless. The days in summer are very warm, buildings have to serve to keep the occupants cool during this time. Nights are cool and calm in this season. Unobstructed solar radiation may heat the surface at daytime up to 70C (158F), but rapid loss of heat by long wave radiation during the night may cool the surface to 15C The fluctuations in air temperature are much smaller of course, but even so a diurnal range of 20C (36F) is not uncommon. Wind speed is generally low in the morning, rising towards noon to reach a maximum in the afternoon. Humidity is generally low, which facilitates cooling by evaporation. Tables Apx 2 show the climatic zoning for Baghdad (Zaini 1976).

The comfort requirement of cold climate regions is to ensure some minimum amount of solar radiation for lighting and heating. In tropic regions the requirement is to exclude solar radiation to prevent overheating and glare, while in sub-tropical areas, as in the case of Iraq, both requirements are needed to exclude the solar radiation and glare in summer and to ensure solar heat in winter. From the climatic zoning for Baghdad (Tables Apx. 2), it is obvious that dwellings have to satisfy two contrasting functions: keeping the heat out in summer, while conserving it inside in winter.

Orientation of the building affects the internal climate within a building with regard to solar radiation and wind direction. Building orientation as Olgyay (1963) put it, "is the position of a building in regard to insolation - the sun heat - which is important both positively in the cool periods to utilise the solar energy, and negatively in hot periods to avoid it". From climatic data for Baghdad we can conclude that south orientation is the best for all points of view, followed by north orientation, if the decision is to be taken in favour of the overheated period. The worst orientation is that of the west. In this context, Roy Choudhury(1965) quoted Zaini (1976) has pointed out that there can be a difference as much as 2.7 C (5 F) in air temperature in a building of

on summer afternoons between the worst and the best orientation. Generally speaking, the effects of orientation with respect to the sun can be minimized to a large extent with adequately insulated walls of light external colour, and effectively shaded windows (Zaini 1976).

Manipulating the building orientation on the site also influence the climate inside the building. The wind direction should be defined so as to eliminate unfavourable winds and conserve the favourable ones. In Iraq the most unfavourable is the southern winds them and accompanied by change in dust with carries pressure. Whilst, the north-west winds and northern give an almost uninterrupted air draught, which must be taken as a favourable factor.

the micro-climate around manipulation of buildings will obviously affects the climate inside Therefore, improving the micro-climate by the intellegent the proper vegetation and the utilization of them is an important task of the designer. of positioning This concept has been traditionally realised in the Islamic gardens; whether the garden contained (in the of courtyard) or the garden as "container" (surrounding the Water and vegetation are building) (Lesiuk 1986). major elements in this process in hot-dry regions. Water assists by evaporation, a process which increases

relative humidity of the surrounding air. Water pools, fountains and jets in courtyards and around the building improve micro-climate. Vegetation in their turns, whether trees, shrubs or ground covers have lots of virtues regard to improving the micro-climate as they can reduce load on buildings by intercepting direct heat solar radiation and by increasing the relative humidity of the surrounding air during the transpiration process. shrubs can also shield buildings from winds and filter the dust that they carry with them. The use of grass surfacing materials for the open areas creepers as immediately around the buildings and in the courtyards can help to reduce the air temperature and the glare too. Whilst using concrete and asphalt or other types of pavings are highly absorptive and therefore become very heated during the day's exposure to the sun.

Average R.H.	HG	AMT over 20°C		AMT. 15-20°C		AMT. under 15°C		
%		Day	Night	Day	Night		Night	
0 - 30	_	26-34	17- 25	23 -32	14 - 23	21-30	12 - 21	
30 - 50	2	25-31	17 - 24	22-30	14 - 22	20 -70	12-19	
50-70	3	23-29	17-'23	21 - 28	14-21	19 - 26	12 - 19	
70 - 100	4	22 -27	17 - 21	20-25	14 - 20	18-24	12 - 18	

COMFORT LIMITS

LIST OF APREVIATIONS

AMT : Annual mean Temperature.

MMR: Monthly mean Range.

AMR: Annual mean Range.

HG. : Humidity group -

H : Above comfort limits (HOT)

M : Withen comfort limits (COMFORTABLE)

: Below comfort limts (COLD)

		·	ij	F	М	'Α	М	J	J	Α	S	0	N	D
Monthly	mean	max.	15.9	18.5	22.2	25.0	35.8	40.5	43.4	43.5	39.9	33.9	24.5	17.7
Monthly	mean	min.	4.2	5 . 7	9.2	14.6	19.9	23.3	25.2	24.7	21.0	16.2	10.6	5.2
Monthly	moon	ronge	11.7	12.8	13.0	14.6	15.5	17.6	18.2	18.8	18.5	17.7	13.9	12.5

Highest	AMT
43.5	23.8
4.2	35.3
Lowest	AMR

AIR TEMPERATURE (°C)

F	RH·(perc	entage)	J	F	М	A	М	J	J	Α	S	0	N	D
M	onthly me	oan max, a.m	87.0	74.0	74.0	68.0	45.0	34.0	32.0	32.0	30.0	50.0	67.0	89.0
Mo	onthly me	aon min, p·m	50.0	41.0	35.0	27.0	21.0	13.0	12.0	13.0	15.0	21.0	39.0	51.0
		/·Average.	71.0	61.0	53.0	43.0	30.0	21.0	55.0	22.0	26.0	34.0	54.0	21.0
Н	umidity	group	4	3	3	2	2	1	1	1	1	2	3	4
(mm)	Average	of 30 days	24.5	24.8	28.5	15.5	7.1	0,1	0.0	0.0	0.1	3.0	21.5	25.7
Rain	max. In	24, hrs	35.3	38.0	55.6	25.0	65.0	2.5	0.0	0.0	0.6	15.8	48.5	40.0
W	/ind	Prevailing	. NAN	NW .	NW	NW	NW	NW	NW	I/W	11W	N.N	N₩	N'X'
		Secondary	SE	SE	SE	N	N	N	N	N	N	N	N	6E

150.6

HUMIDITY, RAIN AND WIND

		J	F	M	A	M	J	J	Α	S	0	N	D
Humidity grou		4	3	3	5	2	1	1	1	1	2	3	4
Temperature (°C) AMT			L	L		<u></u>	23.8						
Monthly mean	max.	15.5	18.5	22.2	25.0	35.8	40.5	43.4	43.5	39.9	33.5	24.5	17.7
Day comfort	Max.	27.0	25.0	25.0	31.0	31.0	34.0	34.0	34.0	34.0	31.0	25.0	27.0
_	Min .	22.0	23.0	23.0	25.0	25.0	26.0	26.0	26.0	26.0	25.0	23.0	22.0
Menthly mean		11.7	12.8	13.0	14.4	15.5	17.6	18.2	16.8	18.5	17.7	13.5	12.5
Night comfort	Max.	21.0	23.0	23.0	24.0	24.0	25.0	25.0	25.0	25.0	24.0	13.6	21.0
_	Min.	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.0	17.6	:7.0	12.7
Thermal stro													
	Doy	С	С	С	1.1	P	н	н	11	н			r
_		С	С	С	С	С	۲,	h.	1.	l	<u>"</u>	С	c

DIAGNOSIS

TABLES APX. 2 CLIMATIC ZONING FOR BAGHDAD

HOUSEWIVES WEEK DIARY

(1) THE NON-WORKING WIVES.

The housewives in the sample failed to provide a diary when they were asked to do so during the investigation. The reason, as they stated, was that they did not have the time for it. However, some of them provided notes which involved their daily activities.

These activities included the major responsibility of housewife of caring and raising up the children, as well as the daily care of the family and the house. The houswives diaries of the indicated that she usually gets only little help from the husband in relation to caring for the children but not in the house chores. Daughters usually are helpful to the mothers in this matter. A diary of such a busy housewife is described here at the weekend, which is considered as of less work than the weekdays. Friday is the only weekend day in Iraq where all the work in offices, firms, factories and shops stopped.

On Friday the housewife, is up by 8 am., serving breakfast between 8.30 and 9.00. The husband, not going to work, often have breakfast with children and wife. He then either goes out to meet friends in the "Chaykhana" (the coffe house), or stays at home doing repairs, odd jobs or

the car. The housewife then starts pre-cooking washing preparation, since the fast food and semi-prepared foods are not common in Iraq. Iraqi meals are very time consuming, the ingredients needs to go through different boiling, frying, mixing and simmering. of Hwever, the Iraqis used to have three hot meals a day and this pattern is similar to all type households. At 11.30 am. the wife should have almost finished these processes and put the pots on the cooker for simmering, usually this takes between one to two hours, during these hours it needs checking frequently. She starts then the daily chores of washing the breakfast crockeries, dusting the furniture, making the beds and tidying up. By 1.00 to 1.30 pm. the family will gather for lunch. At 2.30 the wife will enter the kitchen again for washing the dishes. The husband usually get a nap after lunch for about an hour while the wife continues the cleaning of the house. The floors usually are of terrazo tiles which need to be moped with damped clothes, whilst in winter the floors would be covered with carpets and rugs, thus it need to be swept. This process is done by vaccum cleaner machines, only for those who can afford them, otherwise it has to be done manually. Between 4.00 and 5.00 pm. the family will have the afernoon tea toghether.

It is usuall on friday that the whole family will go out to visit the grand parents, the near relatives or stay

at home to recieve their visit. The visit include a meal, usually the dinner. The family day will end at about 11.00 pm.

In addition to the above mentioned wife's responsibilities there are others such as washing, ironing and mending the clothes which will take place during the weekdays. Shopping usually is done during the weekdays.

It worths mentioning here that Thursday evevning is rather different than the other weekdays in beig the day of socializing with others, either by going out, visiting friends or recieving friends and entertaining them at home. It is also common to stay late at night.

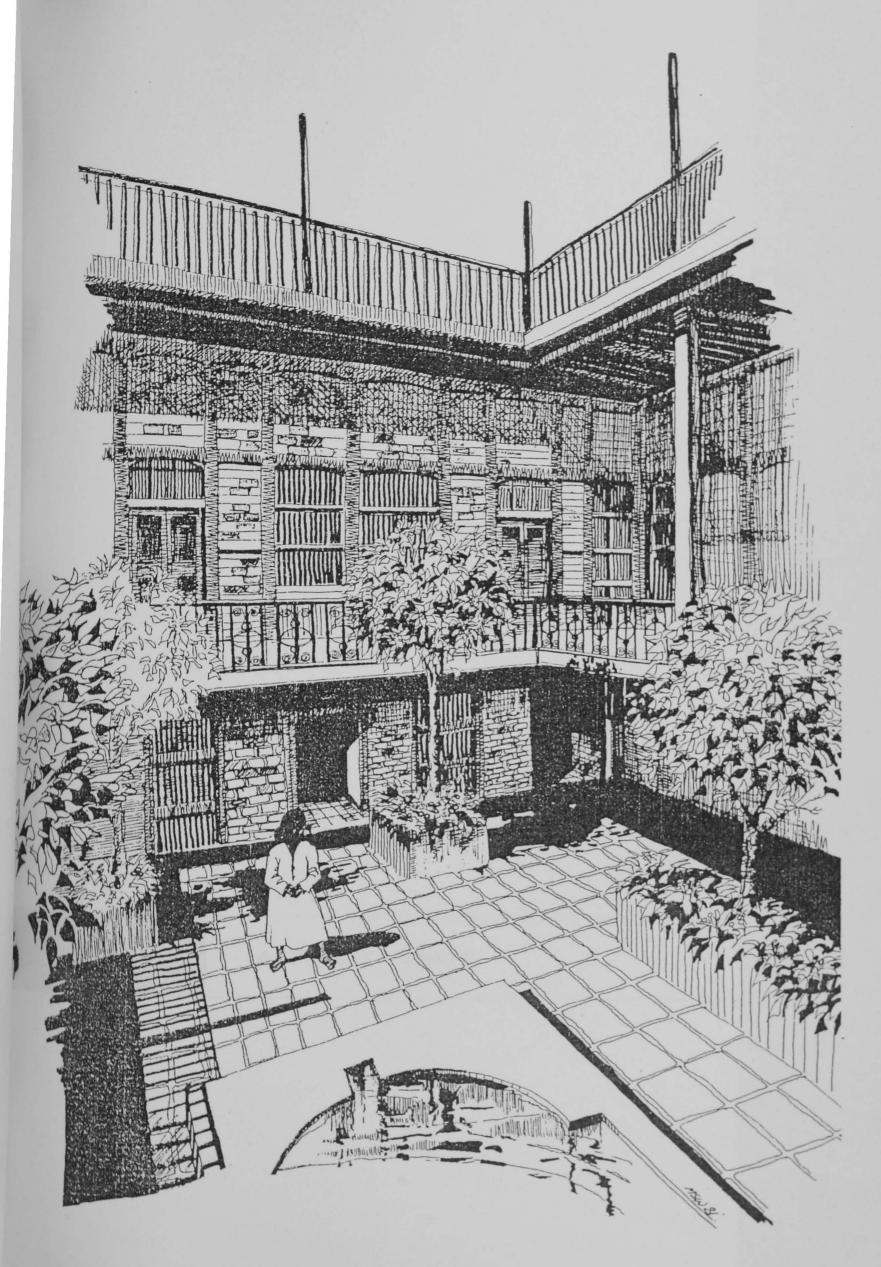
(2) THE EMPLOYED HOUSEWIVES

Although Friday is supposed to be the day of rest for the working housewife, it is even harder than itself for the non-working housewife. She usually gets up at 8.00 am. (later than in the weekdays) and she goes through the same morning tasks as the non-working housewife. In the afternoon and the evening she usually prepare the meals of the week and then keep them, semi-cooked or cooked, in the fridge or freezer. These meals will then need relatively short time to be ready when needed. She also does the washing of the week either during the morning or at the

afternoon. Such a housewife can not get out on friday more than once in a month.

Thursday for the working housewife is similar to that for the non-working housewife in relation to the engagement with friends and relatives.

It has to be mentioned here that the majority of housewives; employed or not, and mothers in particular do get help from their parents and near kin in child caring, cooking or other matters.



THREE

Table Apx.3.1- AVERAGE AGE AND AGE GROUPS OF HEADS OF HOUSEHOLD AND WIVES.

PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6 !	ZAYOONA	
! ! AGE !	! !Yrs or %	! !Yrs or % !	Yrs or % !	
! ! HEADS OF HOUSEHOLD	! !	! ! !	! ! !	
: ! - Average age	! 41.8 Yrs	! 39.6 Yrs !	43.4 Yrs!	
! - Age Groups ! 20-29 Years	! ! 1.8 %	! ! 8.7 %	! 2.4 % !	
30-39 Years	1 38.2 %	! 43.5 %	1 30.5 %	
40-60 Years	! 58.2 %	! 45.7 %	64.7 %	
over 60 Years	1.8 %	2.1 %	! 2.4 % ! !	
! WIVES	! !	!	!	
! ! - Average age	! ! 34.8 Yrs !	! 33.2 Yrs !	! 36.1 Yrs! !	
! - Age Groups ! 20-29 Years	! ! 27.3 %	! ! 34.8 %	! ! 21.0 %	
! ! 30-39 Years	! 47.3 %	፡ ! 47.8 %	! 48.1 %	
! ! 40-60 Years	! ! 25.4 %	: ! 17.4 %	! 30.9 % :	
over 60 Years	!	! !	!	

Table Apx.3.2- TYPE OF HOUSEHOLDS.

				
PROJECTS	! !SAYDIA 7 !	! !SAYDIA 6 !	! ! ZAYOONA	! ! TOTAL !
! ! TYPE OF HOUSEHOLDS !	! ! %	9	90	90
! ! -Adult Families (All ! members 18 or above) ! ! -Household Families	! ! ! 3.6 !	6.5	17.1	10.4
! (Having children ! under 18) !	! ! 96.4 ! !	93.5	82.9	89.6 !
! -Families having ! children under 5 !	! 70.9 ! ! 70.9 !	58.7 !	47.6	57.4 ! !

Table Apx.3.3- MONTHLY INCOME OF HOUSEHOLDS

PROJECTS!	! !SAYDIA 7 !	! !SAYDIA 6 !	! ! ZAYOONA !	! ! TOTAL !!
! MONTHLY INCOME, ID. !	! %	9	90	00
! -Average Income, ID. !	! ! 243	249	286	. 264 ! !
! -Less than ID. 200	43.6	32.6	36.6	37.7 !
! -ID. 200-299	30.9	34.8	17.1	25.7 !
! -ID. 300 and over	25.5 !	32.6	46.3	36.6
	!!	!		

Table Apx.3.4- EDUCATION AND OCCUPATION OF HEADS OF HOUSEHOLD

! PROJECTS !	SAYDIA 7!	SAYDIA 6!	! ZAYOONA !	! TOTAL ! !
! !- EDUCATION	%	%	\	96 !
!-Primary school and ! less.	47.3	52.2	21.9	37.2
!-Intermediate & high ! schools.	! 34.5 !	36.9	! 34.2 ! ! 34.2 !	35.0 !
! !-University. !	! ! 18.2 !	! ! 10.9 !	! ! 43.9 ! !!	27.8 ! !
!- OCCUPATION	!	!	! !	! ! !
! !- Civil servant.	! 65.4	! 43.5	! 45.1	50.8
! !- Skilled labour.	! ! 27.3	! ! 43.5	9.8	23.5
! !- Unskilled labour.	! ! 7.3	! ! 8.7	1 4.9	6.6
! !- Engineers & Doctors	! !	!	! 13.4	6.0
! !- Self employed.	! !	! ! 4.3	! 14.6	7.6
! !- Pensioners.	!	! !	! ! 12.2 !	! ! 5 .5 !
!	!	!	!	!

Table Apx.3.5- EDUCATION AND OCCUPATION OF WIVES.

PROJECTS	SAYDIA 7	SAYDIA 6!	! ZAYOONA !	TOTAL !
! - EDUCATION	8	%	9	? ?
!-Primary school and ! less.	70.9	69.6	45.7	59.3
!-Intermediate & high ! schools.	! ! 25.5 !	23.9	! 28.4 ! ! 28.4 !	. 26.4 ! !
! !-University. !	! ! 3.6 !	! ! 6.5 !	! ! 25.9 !	14.3
! !- OCCUPATION	!	<u>!</u> !	<u>!</u>	! !
!!- !- Working.	20.0	6.5	33.3	22.5
! !- House-wives.	90.0	93.9	63.0	75.8
! !- Pensioners.	!	! !	: ! 3.7	1.7
! !	!	! 	!	

Table Apx. 3.6- SIZE OF HOUSEHOLDS.

PROJECTS	! !SAYDIA 7 !	SAYDIA 6	! ! ZAYOONA !	! ! TOTAL
SIZE OF HOUSEHOLDS	! !No. or %!	No. or %!	No. or %	No.or %
!-Average size. !	! ! 6.7 !	5.7	5.0	5.7
! ! - up to 4 persons.	! ! 14.6%	! ! 26.1%	! ! 39.0%	! ! 28.4%
! ! - 5 & 6 persons.	! ! 41.8%	41.3%	! 42.7%	! 42.1%
! ! - 7 persons and over. !	! ! 43.6% !	! ! 32.6% !	! ! 18.3% !	: ! 29.5% !
	!	!	!	!

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