KENYATTA NATIONAL HOSPITAL

a survey of the staff quarters for staff nurses / medical registrars
This survey was undertaken in response to a request received from the Chief Architect, Buildings Department, Ministry of Works (ref B.4/E/8/11619) and was approved of by the Joint Advisory Board of the Housing Research and Development Unit at its 6th meeting on March 1st 1973.

The Ministry of Works has recently built at Kenyatta National Hospital the following flats:

- 80 single bedroom nurses' flats cost per unit shs 25,000.-
- 16 two bedroom nurses' flats cost per unit shs 49,000.-
- 30 two bedroom doctors' flats cost per unit shs 54,600.-
- 42 three bedroom doctors' flats cost per unit shs 65,600.-

They form the largest group of flats in any one single institution in Kenya. The architects were T.S.Nandhra and Associates, Nairobi.

The Buildings Department of the Ministry being interested in the reactions of the users to the accommodation provided both from a sociological and environmental point of view, the Chief Architect requested the HRDU to undertake this survey.

The following staff were involved in this survey:

- C. Hooper research assistant
- L.J.Kamau research fellow
- M.Mulili social interviewer
- O.Obwa research assistant
- G.Ochola arch. draughtsman
- A.Justin secretary

writing and editing
questionnaires
field interviewees
analysis and tabulations
plans

Nairobi, September 1973

Jon Skakke
DIRECTOR
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1. ONE BEDROOM NURSES' FLATS

1.1. PLAN

- Access balcony
- Kitchen
- Bath/WC
- Sitting room
- Bedroom
- Balcony

Metres: 0 1 2 3
1.2 THE USERS

Out of the 16 single bedroom nurses' flats surveyed 15 were occupied by staff nurses and 1 by a radiographer. One staff nurse was married to a laboratory technician. All worked at Kenyatta National Hospital except for one nurse who worked at Embakasi airport. Three quarters of the nurses were earning 1,200/- per month and all but three were between 20 and 24 years of age. Eight were single without children, five were single with children, two were married with children and one was married without children. There were ten children in all, six were under 3 years and four were between 3 and 10 years. Six nurses had maids and three relatives staying with them. The rent was 51/- per month.

The nurses had been living in the flats from between 1 and 9 months at the time of the survey (June 1973). Eight found their present flats better and six worse than their previous homes. Generally speaking those who had been living in hostels or single room lodgings before preferred their new flats, while those who had been staying in houses before preferred their previous homes.
1.3 THE ACCOMMODATION

1.3.1 Bedroom

There was widespread dissatisfaction with the bedroom, 12 out of 16 complaining that it was too small and 13 complaining, often vociferously, because the access to the WC was through the bedroom. While the bedroom size might suffice for single girls, it was found to be too small for married couples and for girls with children. One respondent lamented that even a baby's cot could not be fitted in. One nurse found cleaning difficult because she had to remove her "bed and other things" from the room before she could start. On the positive side one nurse liked her bedroom window, one her mirror and wardrobe, but another found the latter too small.

1.3.2 Dining Space

Three-quarters of the respondents found the dining space small. One, however, found it beautiful, another liked the hatch to the kitchen, while another mentioned its convenient location next to the kitchen.

1.3.3 Living Space

All but one nurse found the living space too small. One nurse thought the design to be good, two liked the shelves, but another thought the shelves to be "too many for nothing".

1.3.4 Kitchen

Respondents considered the kitchen to be well equipped, modern and with adequate storage space. Nine respondents, however, found it too small. This was principally because it could not accommodate a cooker, other than the gas plate one provided, or a refrigerator. The kitchen of one nurse
who had added a fridge was very congested. One person found the drawers "horrible" but this was very much a minority opinion. The same person complained of a leaking sink. One person would have liked a gas cooker with a grill, and another an electric cooker, instead of gas plate provided. Since the electric water heaters were not working one nurse heated the water she required on a 'primus' stove (she considered it too expensive to use gas for this purpose). The use of the primus had resulted in the blackening of the ceiling.

1.3.5 Bathroom and WC

Only 5 out of 16 respondents found their bathroom satisfactory. Six complained that the hot water system was not working while thirteen objected to the WC being combined with the bathroom. This latter objection principally arose because two members of the family could not use the bathroom and WC simultaneously. Three also considered the arrangement unhygienic, one enlarging by saying that "if the toilet smells when you are in the bath then you really get it." Two nurses said that they would have preferred a fixed shower the movable fitment provided.

1.3.6 Storage Facilities

Thirteen respondents considered the storage facilities to be sufficient. Of the three who did not, one wanted more storage space in her bedroom and another felt the need for a broom cupboard. The shelves in the living area were well used for pictures, photographs, books, flowers, radios, record players etc.

1.3.7 Balcony

The balcony was liked by twelve of the respondents for such activities as relaxing, sunbathing and looking out.
1.3.8 Room Arrangement

The access to the WC/bathroom through the bedroom was the most unpopular feature of the flat. Nurses complained of the loss of privacy and the disturbance, both to themselves and to their children, caused by people passing through the bedroom to reach the bathroom. Several nurses mentioned the embarrassment and the shame that this inconvenient arrangement brought them when they had visitors. One Gussi nurse was particularly embarrassed when she was visited by her parents-in-law. Since Gussi custom forbids that parents-in-law enter their daughter-in-law's bedroom, this nurse was forced to ask for use of her neighbour's bathroom, when her visitors wanted to wash. Another nurse mentioned that she was particularly disturbed by her maid passing through to the bathroom while she was sleeping during the day after being on night duty. One nurse mentioned that she would have preferred the food store to be in the kitchen rather than in the entrance lobby of the flat.

1.3.9 Wall and Floor Finishes

There was general satisfaction with the wall finishes though one respondent found the white painted walls difficult to clean once they got dirty and three mentioned that there were cracks in the plaster while three others complained that the white glazed tiles in either the kitchen or the bedroom were coming off.

Three people also complained that floors were difficult to keep clean particularly the floor in the living area because of its inappropriate off white colour. Otherwise there was satisfaction with floor finishes.

1.3.10 Window Type

When asked to state a preference between side-hung casement and louvre windows (both were used in the flats) seven
opted for casements, six for louvres leaving three who had no preference.

The reasons given for preferring casements were:-
   (i) stronger and less liable to break (twice),
   (ii) possible to jump out of them in case of fire (once),
   (iii) children cannot cut themselves on the glass as they can with louvres (once),
   (iv) easier to wash (once).

Likewise the reasons for preferring louvres were given as:
   (i) safer for children since they cannot fall out (thrice),
   (ii) more easily adjusted to provide limited ventilation (once),
   (iii) easier to open (once),
   (iv) give better overall ventilation (once),
   (v) easier to clean (once),
   (vi) provide better security when open i.e. no-one can enter (once).

1.3.11 Furniture

Fourteen respondents liked the provided furniture. The two who did not complained that the furniture, especially the tables, was too big for the size of the flat.

1.3.12 Other Likes and Dislikes

The main reasons for disliking the flats were their small size and the access to the bathroom through the bedroom. One nurse, however, also disliked the incandescent filament bulbs and wished that flourescent tubes, as fitted in the kitchen, had been provided throughout the flat.

The low rent was the main reason that one nurse liked her flat.
1.4 INTERNAL ENVIRONMENT

1.4.1 Noise

Five respondents said that they were disturbed by noise. The sources of the noise were given as:

(i) passing vehicles especially buses at night (thrice)
(ii) water refilling WC cistern (once)
(iii) neighbours when flushing WC (once)
(iv) neighbours' radios (once)
(v) door bells (once)
(vi) playing children—nurse sleeping during day after night duty (once).

1.4.2 Daylight

All users considered that the windows provided sufficient daylight except one who found the lighting poor in her bedroom. One user would have liked the window cills to have been lower.

1.4.3 Privacy

Half the nurses questioned said that they suffered from lack of privacy, all as a result of the access to the bathroom/WC being through the bedroom.

1.4.4 Security

Five respondents were concerned about security. One living on the ground floor complained that the windows had no security wires, while one who lived close to the communal stairs (Flat 58) feared that burglars could get in through her kitchen. One nurse said that one key could open all the doors, while another complained that there was no askari at the gate. A nurse living on the ground floor was
concerned that intruders might get in through her back door.

1.4.5 Sunshine and Thermal Comfort

Eleven respondents said that they liked the sun to shine into their flats. Two, who lived in flats with west facing bedrooms and living rooms, however, found the sun shining into their flats troublesome after 3 O'clock.

Four nurses who had west facing bedrooms said that they were sometimes too hot at night, and one said that her sitting room (also west facing) sometimes overheated during the afternoon. Five people experienced cold in either their sitting room or bedroom during cold weather. One of these felt that heaters should be provided.

1.4.6 Ventilation

Three respondents said that their windows gave insufficient ventilation on hot days in the sitting room, particularly when the sun was setting. Another said that her bedroom window gave insufficient ventilation on hot days.

Half the nurses felt that there were insufficient permanent vents particularly in the living room and bedroom.
1.5 LIVING IN FLATS

1.5.1 Access

Eleven respondents found the access to their flats satisfactory. Of the five who did not one said that there were an insufficient number of stairs and four complained of the dirtiness of the stairs and access balconies. One of these also objected to people passing along the access balcony in front of her kitchen window while another suggested that a cleaner should be employed to clean the public stairs and balconies.

1.5.2 Children's Play

The mother who allowed her children to play inside the flat or on the balcony considered this satisfactory but the mother who sent her children to play outside was not happy with this as she thought that there were too many other children playing there. One nurse complained of children fighting outside.

1.5.3 Safety

One nurse considered the balcony to be unsafe for children, while three thought that their casement windows were unsafe, since children could easily climb via a piece of furniture onto the cill of an open window. The use of louvres or the addition of security bars would have eliminated this risk.

1.5.4 Washing and Drying Clothes

All flat users washed their clothes in the bathroom, half finding this convenient and half inconvenient. Four dried their clothes on the balconies and the remainder outside on the ground. There was widespread dissatisfaction with the facilities for drying and ironing clothes, eleven respondents finding the provision unsatisfactory. The balcony was found
by some to be too small, while the place outside for drying clothes frequently became overcrowded. Private balconies and access balconies were used about equally for drying clothes. Makeshift clothes lines have been made on the ground outside, for example by fixing rope between the flats and a fence post.

1.5.5 Flat or House

When asked to state their preference between living in (a) a house, (b) a ground floor flat and (c) an upper floor flat, eleven chose a house, four a ground floor flat and one an upper floor flat.
1.6 EXTERNAL ENVIRONMENT

1.6.1 Area around Flats

Six respondents said that they used the grassed area below the flats for drying clothes and one for basking in the sun. There were some inhibitions about using the area, two nurses mentioning that they had been told that they were forbidden to walk on the grass. Several complained that the compound was never cleaned. The dustbin areas were dirty and unsightly.

1.6.2 Car Parking

The only nurse who owned a car was unhappy with the parking arrangements as she was concerned about the safety of her car.

1.6.3 Block Layout

Fifteen respondents liked the layout of the blocks of flats. The one who did not feel that the whole place was too public, "like a parking place".

1.6.4 Scheme as a Whole

The reasons given for liking the scheme as a whole were its closeness to place of work (mentioned thrice), its quietness and peacefulness (mentioned twice) and the closeness of work colleagues and friends (mentioned once).

One respondent gave the general dirtiness and lack of dustbins as her main reason for disliking the scheme.

1.6.5 Improvements to the Scheme

Suggested improvements to the scheme included:-

(i) the addition of public telephone (twice),
(ii) the addition and improvement of street lights (twice),

(iii) planting of flowers on grassed areas (once),

(iv) employment of cleaner/gardener to look after compound (once),

(v) addition of enquiry kiosk (once). The nurse who suggested this lived on the ground floor and was frequently disturbed by visitors looking for their friends and relatives,

(vi) a children's playground (once),

(vii) improved facilities for drying and ironing clothes (thrice).
2. TWO BEDROOM NURSES' FLATS

2.1. PLAN

[Diagram showing a plan of a two-bedroom flat with labels for drying area, kitchen, dining, bathroom, sitting room, bedroom 1, bedroom 2, passage, and verandah.]

metres 0 1 2 3 4 5
2.2 THE USERS

All the 8 flats surveyed were occupied by nurses working at Kenyatta National Hospital. All but one had children living with them (there were 13 children altogether), but only one husband was permanently staying in the flats. Five had maids and three had relatives living with them. The nurses were all aged between 26 and 32 years, while almost all the children were under 4. Two sisters, who were both nurses, shared one flat. The income of the nurses was on average shs. 1,500/- per month. Flat rents ranged from shs. 58/- to 68/- per month.

At the time of the survey (June 1973) the nurses had been living in the flats between 6 and 9 months. Three nurses, who had been living in Woodley, Tara Flats and doctors' flats respectively, all preferred their previous homes since they were larger and more spacious. Of the two nurses who preferred their present home to their previous one, one did so because it was closer to work (she had moved from Bahati), while the other did so because she had stayed in a hostel before.
2.3 THE ACCOMODATION

2.3.1 The Bedrooms

Six respondents commented on the smallness of their bedrooms. Criticism was centred on the fact that the rooms were too small to conveniently accommodate both a bed and a cot. One nurse commented favourably on the built-in wardrobe, but another found hers difficult to open due to warping of the timber. The wardrobe door has since been repaired.

2.3.2 The Dining Space

Respondents generally found their dining area satisfactory and convenient, including the service hatch to the kitchen, but three found it too small. Two complained that the dining area window was too low and was dangerous for children. It was felt that children could easily break the window and fall out. This is a reference to the glazed unit below the opening light (cill height 900 mm) which extends to within 12.5 mm of the floor.

2.3.3 Living Area

The living area was found to be "alright", but half the respondents commented on its small size. Two complained of the deterioration to the interior paintwork.

2.3.4 Kitchen

The majority of respondents commented on storage facilities provided. The cupboards and drawers were found to be convenient, well designed and large enough. Although the kitchen was very adequate in size for the size of the flat, two respondents felt it was too small.
The kitchens were all provided with a small gas plate cooker. Five respondents were not satisfied with these cookers mostly because of their small size, though one mentioned the expense of gas. Two wanted electric cookers and one a gas cooker. One nurse did not like the flourescent light in the kitchen, because she felt it could not be easily replaced when broken.

2.3.5 Bathroom

Five out of the eight respondents found their bathrooms unsatisfactory. One would have preferred a shower to a bath, two found the bathroom too small and three complained of the lack of hot water. Hot water cylinders were provided but were not working. The occupants did not know why this was.

2.3.6 Balconies

The balconies were popular with seven of the respondents for relaxing and sunbathing, but one felt they were dangerous for her children.

2.3.7 Room Arrangement

All respondents liked the arrangement of their rooms.

2.3.8 Wall and Floor Finishes

Only two people liked their wall finishes. Six complained of cracks in the walls or the peeling of paint. One found the white emulsion paintwork difficult to clean. The cracks referred to were around the frames of the kitchen and living room doors and had been caused by banging doors; the droughts through the upper flats being considerable.

Four people liked their floor finishes. Three complained that some of the terrazzo tiles in the bathroom and in particular the kitchen had come loose. With a few loose tiles the floors become difficult to clean.
2.3.9 Window Type

The flats have a mixture of louvre and side-hung casement windows. Five respondents preferred louvres, two casements and one had no preference. Louvres were liked because they:

(i) were safer and less vulnerable to burglars,
(ii) were easier to clean,
(iii) were easily opened halfway without danger of being broken by the wind,
(iv) can control the amount of incoming air,
(v) provided greater privacy when open.

Louvre windows were disliked because:

(i) the louvres were easily broken,
(ii) they were less effective at excluding mosquitoes.

One respondent preferred casements since she found them easier to open. No reasons for windows preference were given more than once.

2.3.10 Furniture

All respondents liked their furniture bar one, who considered hers weak and easily breakable by a playing child.

2.3.11 Miscellaneous

Three people complained about the door bell saying that it was too loud and that it terrified children when rung. Two nurses wished that it were possible to see visitors waiting at the front door, before opening it. One was frightened that one day she might open the door to an enemy.

2.3.12 Improvements to Flat

When asked to suggest improvements to the flat, three proposed that hot water should be provided and two that wires be fitted to the windows.
2.4 INTERNAL ENVIRONMENT

2.4.1 Noise

Three respondents were disturbed by noise, one from the nearby servants' quarters during the evenings, and other from the upstairs when chairs were moved and from motor scooters returning late at night. A third person mentioned that passers-by on the stairs made a lot of noise.

2.4.2 Daylight

All respondents found the daylighting of their flats satisfactory.

2.4.3 Privacy

Six people found the visual privacy adequate. Of the two who did not, one objected to passers-by on the stairs being able to see directly into the living room when the front door was open while the other complained of the lack of vents, the loss of privacy presumably resulting from the necessity of keeping windows and curtains open to provide sufficient ventilation.

2.4.4 Security

Six out of the eight respondents had no security problems. However, one was fearful of opening the front door to a person whom she could not see, while another was suspicious of the people who wandered around the flats.

2.4.5 Sunshine and Thermal Comfort

All respondents answered positively when asked whether they liked the sun to shine into their flat or not. However five of these complained that their rooms sometimes got too hot. One even stated later that the flats should be fitted with
shading devices so as to prevent the sun from shining directly into the rooms.

The overheating was experienced either during the afternoon or at night in the living room or bedrooms, all of which face due West. Half the respondents stated that their rooms became too cold during cold weather.

2.4.6 Ventilation

All respondents found that their windows, when fully open, gave adequate ventilation on hot days. Two people however, felt that there was insufficient permanent ventilation in their flats.

On windy days, the opening of the door leading from the kitchen onto the drying balcony results in a blast of air being blown through the flat and the banging of any open doors. This is a source of annoyance to the residents as well as being the cause of damage to the interior finishes (see 2.3.8).
2.5 LIVING IN FLATS

2.5.1 Access

Three respondents complained about the dirtiness of the communal stairs. One of these complained that her neighbours did not clean the stairs near their door; another suggested that someone should be employed to clean them. One person found the stairs very steep and also complained of the noise made by those going up and down.

2.5.2 Children's Play

Those mothers who allowed their children to play on the ground below the flats considered this to be satisfactory as did the mother who allowed her children to play on the balcony. The mother who kept her children inside the flat, however, found this arrangement unsatisfactory.

2.5.3 Safety

Five respondents considered a feature of their flat to be unsafe. Three mentioned that the window by the dining area was too low, such that people, especially children, could easily fall out, while two mentioned that the kitchen balcony, or drying area, was dangerous and one the main balcony since children could easily fall from them.

The kitchen balcony is dangerous to very small children for they are able to climb up the 225 mm high base of the balustrade and through 240 mm long and 215 mm high gaps. The main balcony is dangerous to slightly older children (say between three and five years old) who are able to put their feet on a thin 100 mm high upstand, place their hands on the timber rail and pull themselves up so that they can get their feet on top of the 600 mm high balcony wall. Once up on this wall children like to lean over the timber rail and talk to their friends below.
One mother who feared that her children might crash through the low level window of the dining area placed a trunk in front of it. This, however, had the effect of increasing the risk that a child might climb out of the large casement window when open.

2.5.4 Washing and Drying Clothes

Only three respondents used the laundry basin provided on the kitchen balcony for washing clothes. The remaining five used the bathroom. One of those who used the bathroom found it inconvenient because it was too small.

Although each flat was provided with a balcony off the kitchen for drying clothes only half the respondents used it for this purpose. The remaining half took their clothes outside to dry. One respondent who used the balcony found it too small. One of those who dried her clothes outside complained of the lack of strings for hanging up clothes. Another said she took her clothes outside because there was no alternative. It is clear that several of the flat users did not realize that the kitchen balcony had been specifically provided for the washing and drying of clothes. The fact that these balconies received little sunshine was also a factor that led to their limited use for drying clothes.

2.5.5 Flat or House

When asked to state a preference between living in a flat or a house, all but one opted for the latter.
2.6 EXTERNAL ENVIRONMENT

2.6.1 Car Parking

Of the four nurses who owned cars (half the respondents) two found the parking provision unsatisfactory, one because of the danger of thefts of car parts and the other because the parking area sometimes gets filled up. One non-car owner complained of the dirtiness of the parking area.

2.6.2 Flat Layout

Two people did not like the layout of the blocks of flats; one because the afternoon sun shone into her block, the other because the flats were too open to the road and had insufficient privacy.

2.6.3 The Scheme as a Whole

The following reasons were given (each by one person) for liking the scheme as a whole:-

(i) it is close to work,
(ii) the flats look smart and are painted a good colour,
(iii) the fence around the scheme provides security,
(iv) the communal area is good for children's play.

One person disliked the scheme because of the lack of a shopping centre nearby, while another considered the habit of nurses living in the single bedroom flats of hanging their clothes out to dry on their access balconies to be "disgusting".

2.6.4 Improvements to Scheme

Two people wanted a public telephone service supplied to the scheme. One of these suggested that each block of flats should have a telephone booth for emergency calls.
One person proposed that an "askari" be employed to "guard our things".

One respondent felt that a children's playground should be provided. She also urged that the "huge rubbish heap" at the entrance of the scheme be removed.

This possibly refers to the often untidy dustbin areas prominently located near the main entrance gate, but more probably to the large City Council refuse bin that is opposite the main gate.
3. TWO BEDROOM DOCTORS' FLATS

3.1. PLAN

[Diagram of a floor plan showing the layout of a two-bedroom flat, including bedrooms, kitchen, bathroom, sitting room, and verandas.]

metres 0 1 2 3 4 5
3.2 THE USERS

All the household heads of the 8 flats surveyed worked at Kenyatta National Hospital, 6 as doctors, one as a dentist and one as a laboratory technician. Their ages ranged from 27 to 40 years, half being in their early thirties. Six were married but only three had children (all under 4 years of age). Two had maids and three relatives staying with them. There was an average of 3 persons per household. The incomes of household heads averaged shs. 2,500/- per month, while rents ranged from shs. 109/- to shs. 209/- per month.

At the time of the survey (June 1973) five of the occupants had been living in the flats for a year or more, while three had been in them for less than 8 months. Half the occupants considered their home better than their last one, but three found it worse. The occupants had come to Kenyatta from places ranging from Kitale to Kajiado and as far afield as India and Japan.
3.3 ACCOMODATION

3.3.1 The Bedrooms

All respondents found their bedrooms satisfactory with comments ranging from "very good" to "alright". One person, however, complained that the cupboard locks were poor, while another wanted more bedrooms.

3.3.2 Dining Room

All respondents found their dining room satisfactory.

3.3.3 Living Room

The living room was liked generally; no faults were mentioned.

3.3.4 Kitchen

The kitchen was found to "fine" or at least "alright", though one mentioned that it was "a bit small", and another that there was no proper cupboard to keep food. All kitchens were provided with an electric cooker.

3.3.5 Bathroom / WC

Five out of the eight respondents objected to the bathroom being combined with the WC, since they could not be used simultaneously by two people. One respondent complained that his bathroom door was out of order.

3.3.6 Storage Facilities

All but two respondents found the storage facilities provided adequate. Of the two who did not, one wanted a larder for storing food and the other wanted more drawers in the kitchen and more cupboards in the bedroom.
3.3.7 Balconies

The balconies were popular with the users, the kitchen balcony being used for washing and drying clothes and the main balcony for sitting out and resting. Two people, however, complained of the lack of privacy on the balconies, due to the fact that they were overlooked by other blocks of flats.

3.3.8 Room Arrangement

All respondents liked the arrangement of their rooms.

3.3.9 Wall and Floor Finishes

Wall and floor finishes were mostly found to be satisfactory. Two users, however, complained of cracks in the wall plaster, while one person complained that the floors showed up the dirt and were difficult to clean and another that the floor material was poor and would not last long.

3.3.10 Window Types

All eight respondents favoured side-hung casement windows to louvre windows. This was because casements were thought to be stronger and easier to clean, while louvres were considered to have "too many bits of glass" and to be vulnerable to breakage.

3.3.11 Furniture

Occupants were generally satisfied with their furniture, though one found his chairs hard and another did not like his beds "because the springs are of a poor quality".
3.3.12 Miscellaneous

One respondent considered his doors to be sub-standard since the "plywood peels off". Another mentioned the poor system of numbering and suggested that the numbering of the flats be related to each block. One flat user wanted more electric sockets to be provided in the kitchen and living room.
3.4 INTERNAL ENVIRONMENT

3.4.1 Noise

Half the occupants were disturbed by noise, the sources mentioned being the flats above (twice), nearby police dogs (twice), and passing traffic (once).

3.4.2 Daylight

All respondents considered that their windows provided sufficient daylight.

3.4.3 Privacy

Two respondents were concerned about being overlooked by neighbouring flats. One complained that his neighbours could watch his family eating.

3.4.4 Security

Two respondents were worried about internal security. One complained that the window locks were weak while the other feared that intruders could climb up easily into his flat from the rear side. There was also considerable concern about thefts to cars (see 3.6.2).

3.4.5 Sunshine and Thermal Comfort

All respondents liked the sun to shine directly into their flats and none complained that the building ever got too hot. One respondent, however, found the whole flat uncomfortably cold after rains and another found his bedrooms cold at night during cold weather.
3.4.6 Ventilation

All respondents considered that their windows, when fully open, gave adequate ventilation on hot days, but five complained of the lack of permanent vents. The only permanent vents provided were the 25 mm horizontal mesh strips contained within the top-hung opening lights of the casement windows.
3.5 LIVING IN FLATS

3.5.1 Access

All respondents were happy with the access to their flats.

3.5.2 Children's Play

In the two households where there were children, they played indoors and this was considered satisfactory by their parents.

3.5.3 Washing and Drying Clothes

While six out of the eight households only used their bathrooms for washing clothes, all households used their kitchen balconies for drying clothes. One respondent felt his bathroom was too small for washing clothes. Two found the kitchen balcony inadequate for drying clothes, one because it was small and had no facilities for hanging clothes and the other because it did not catch the sun so that clothes only dried slowly. One respondent complained that the water splashed on his windows when occupants of flats above washed their kitchen balcony.

3.5.4 Flat or House

When asked to state a preference between living in a flat or a house the response was even. The half who opted for a flat preferred an upper floor flat to a ground floor flat, principally for reasons of security. However, all those who opted for a house gave a ground floor flat as their second choice and an upper floor flat as their third choice.
3.6.1 **Area around Flats**

One family liked to sit out on the grassed area surrounding the flats and chat with friends while another liked to sit and rest there especially on sunny evenings.

3.6.2 **Car Parking**

Seven respondents had cars. Five of these complained of the parking facilities, which consisted of open parking bays under the flats, because they did not provide security for their cars. One occupant had recently had his car stolen and another his headlamps. The lack of adequate parking facilities was probably the principle complaint of the flat users.

3.6.3 **Block Layout**

The only complaint made about the layout of the blocks of flats was made by an occupant who objected to being overlooked from neighbouring blocks.

3.6.4 **Improvements to Scheme**

The three suggestions for improving the scheme, made by separate respondents, were:

(i) provision of lockable car parking spaces,
(ii) planting of more trees around flats,
(iii) addition of children's playground.
4. THREE BEDROOM DOCTORS' FLATS

4.1. PLAN

[Diagram of a three-bedroom flat with labeled rooms: bedroom 1, bedroom 2, bedroom 3, sitting room, drying/washing verandah, bathroom, kitchen, and dining area.]

metres 0 1 2 3 4 5
4.2 THE USERS

All the 8 household heads interviewed were married with children, worked at Kenyatta National Hospital (7 as doctors and 1 as a laboratory technician), and were between 25 and 35 years old. 10 of the 14 children living in the 8 flats surveyed were under 5 years of age. One or two maids were employed in all but one of the flats, while relatives were staying permanently in two of the flats. Households, on average, contained 5 persons.

All but one of the families had moved from other parts of Nairobi to Kenyatta. Five of the families had previously lived in flats. Only one respondent preferred his previous home and that was because it was a house as opposed to a flat.

Comparing their present and previous homes, respondents generally found their present homes larger, more beautiful, quieter and better furnished. Also mentioned were the hot water system, the surroundings and the advantage of having all rooms of the home on one level. Five respondents had lived for 2 years in the flats, but three for less than a year.
4.3 THE ACCOMODATION

4.3.1 The Bedrooms

Respondents found their bedrooms satisfactory and of an adequate size. Two people mentioned that they liked their beds because they were of a good quality but three others complained that their mattresses were of a poor quality. One person complained that the bedroom by the balcony has no privacy as people on the balcony can see in. (The balcony is a private one)

4.3.2 The Dining Room

The dining room was well liked by the users, though one respondent disliked having the kitchen door so close to the dining room table.

4.3.3 Sitting Room

The sitting room was popular with the flat occupants.

4.3.4 Kitchen

Respondents were more or less satisfied with their kitchens particularly with the storage facilities though six of them would have preferred larger ones. All kitchens were provided with an electric cooker and refrigerator. One user wished that the kitchen cupboards had locks.

4.3.5 Bathroom and Shower

Both bathroom and shower room contained WC's. Five respondents did not like to have a combined WC and bathroom. A combined shower and bathroom with a separate room for the WC would have been a more popular arrangement.
4.3.6 Storage Space

The storage space provided was generally considered satisfactory, except for the ground floor stores which were inconveniently far away and were little used. One respondent would have liked a larger wardrobe with drawers in the master bedroom.

4.3.7 Balconies

The balconies were liked by the users and were used for ironing and drying clothes, sunbathing, relaxing and resting, and for children's play. One parent who allowed his children to play on the balconies, however, expressed concern for their safety.

4.3.8 Room Arrangement

All respondents liked the arrangement of rooms in the flat except one who complained that noise travelled between adjacent bedrooms.

4.3.9 Wall and Floor Finishes

While the majority of respondents liked their wall and floor finishes, several complaints were made. One respondent complained that some bathroom tiles were falling, one that there were cracks in the plaster around doors, while another did not like white walls as they got dirty quickly. One user did not like the yellow colour of his kitchen floor and another complained that the kitchen floor "wears away easily" when washed.

4.3.10 Window Type

When asked to state a preference between louvre and side-hung casement windows, five respondents opted for casements and three for louvres. Those who preferred casements did so
because they considered them stronger, less subject to breakage, easy to escape through in case fire or other emergency and easy to clean. Those who preferred louvres did so because they can be adjusted and fixed to any desired position, are easy to operate and because they are not dangerous to children when fully open (unlike casements).

4.3.11 Furniture

All respondents liked their furniture bar one who found it bad and difficult to maintain. See 4.2.1 for comments on beds. One respondent would have liked some bookshelves.

4.3.12 Miscellaneous

Two respondents felt there was too much glass in the flats giving as examples the lower pane of the sitting room window and the glass door leading onto the balcony. One person mentioned the lack of lampshades and felt that these should have been provided.

Three respondents complained that water from the flats above fell on and in some cases penetrated their windows, particularly when the occupants of the flats above washed their floors and balconies. The offending water flowed out of two small drainage outlets at the sides of the balconies and was then blown against the walls and windows of the flats below. The water flowing from the meagre drainage spouts has also caused some unattractive stains on the concrete immediately below them.
4.4 INTERNAL ENVIRONMENT

4.4.1 Noise

Five out of eight respondents were disturbed by noise. The sources of disturbance mentioned were barking police dogs (twice), cars passing along nearby road (once), the people upstairs (thrice) and the people downstairs (once).

4.4.2 Daylight

All respondents found that their windows provided sufficient daylight. Two in fact felt that the glazed area was excessive.

4.4.3 Privacy

One respondent complained that people living in the flats opposite were able to see inside his flat.

4.4.4 Security

There was general concern about the lack of security against car thieves that the open car ports afforded. One respondent had just had a new Peugot stolen. One person wanted a lockable garage while another suggested having an askari at the main gate. One flat had also been recently burgled.

4.4.5 Sunshine and Thermal Comfort

All respondents welcomed sunshine in the flat. While no one found the flats ever too hot, half found that they sometimes became too cold.

4.4.6 Ventilation

All respondents said that their windows when fully open gave adequate ventilation on hot days but three said that
there were insufficient permanent vents. The only permanent vents provided were the thin horizontal mesh strips contained within the top-hung opening lights of the casement windows. The small top-hung windows in the WC and bathroom were not sufficient to remove smells from these rooms at all times.
4.5 LIVING IN FLATS

4.5.1 Access

All respondents found the access to their flats satisfactory though one wished that the stairs were kept clean.

4.5.2 Children's Play

All the five families, who had children of playing age, allowed them to play on the ground around the flat. Three considered this to be satisfactory, but two feared that their children might get knocked by a moving vehicle.

4.5.3 Safety

Three respondents complained that the balconies were unsafe for children, while a further respondent felt that a child could easily break the low sitting room window and fall from it. He wanted wires added.

4.5.4 Washing and Drying Clothes

In five households the bathroom was used for washing clothes and in three the kitchen balcony. Four of those who used the bathroom and two of those who used the balcony found the space available inadequate.

The balconies were used for drying clothes in seven flats but in one clothes were taken down to the ground to dry. In this case the respondent feared that the clothes might be stolen. Five respondents used the balcony for drying clothes but considered it unsatisfactory, three because it was too small, one because the hook for hanging the clothes line had come out and one because the balcony never received the sun.
4.5.5 Miscellaneous

Two respondents complained that when the floors of the flats over them were washed the dirty water brushed off from the balconies flowed down onto their balconies and in one case entered a bedroom.

One respondent mentioned that the servants quarters were far away and felt that this was "a bad form of segregation". Another complained of the method of numbering the flats and suggested the use of block numbers.

4.5.6 Flat or House

When asked to state a preference between living in a flat or a house, all respondents opted for the latter.
4.6 EXTERNAL ENVIRONMENT

4.6.1 Area around Flats

The grassed areas around the flats were used for sitting, sunbathing, drying clothes and especially for children's play.

4.6.2 Car Parking

Five respondents owned cars. Besides the security problem (see 4.4.4), two respondents complained that the parking spaces were too narrow and one that there was no provision for visitors' cars.

4.6.3 Block Layout

One respondent commented on the generous spacing of the flat blocks, but another complained that they were too close.

4.6.4 Scheme as Whole

One respondent liked the location of the estate close to the hospital, but two complained that it was too close as it was easy for patients to come and disturb them.

Two respondents complained that the area around the flats was not kept clean and that the outlook from the flats was not pleasant.

4.6.5 Improvements to Scheme

Suggestions for improving the scheme included the provision of a children's playground, the placing of bumps along the access roads to slow down cars, and the provision of outside seats on the grass.