# HALLS OF RESIDENCE
# UNIVERSITY OF JOS

A REPORT ON THE DESIGN THESIS PRESENTED TO

THE DEPARTMENT OF ARCHITECTURE

FACULTY OF ENVIRONMENTAL DESIGN

of

AHMADU BELLO UNIVERSITY, ZARIA,

IN PARTIAL FULFILLMENT OF THE REQUIREMENTS

for

THE DEGREE OF MASTER OF SCIENCE (M.Sc.)

In

ARCHITECTURE

BY

ADEDAYO S. ODEYEMI
Session: 1975/77

Dedicated to the Almighty

- for innumerable blessings

And to my parents

- So loving; so considerate; so long-suffering.

For University students

- in Nigeria particularly

- everywhere generally.

# A C K N O W L E D G E M E N T

I am immensely grateful to the following for help rendered me in various manners and capacities in the course of my struggle to produce this thesis:

(a) A.B.U. Academic Staff

+ Mr. Steve Erhlich - my mentor - without whose invaluable contributions the thesis would have been something else, most probably something less.
+ Prof. E. A. Adeyemi - Head of Department and Dean of Faculty
+ Dr. Schwertfegger } - Year Co-ordinator/Supervisor
+ Mr. Stan Kawka }
+ Mr. P. Magyar
+ Mr. J. Gniadzik
+ Mrs. Urbanowicz
+ Mr. Chanana

(b) Professionals in practice

+ Arc. Femi Majekodunmi - Architect, Lagos
+ Arc. A. Luba - Architect, Egbor and Associates, Lagos
+ Arc. H.O. Akinbulumo - Architect, Allied Architects, Kaduna

+ Mr. F.O. Euba - Clerk of Works, Jos University, Jos

+ Mr. Fola Togunu-Bickersteth-Technical Officer, University of Ife, Ile Ife

(c) Students' Affairs Officers/Hall Administrators of UniJos, Unife, Unilag, UniCalabar, Unibadan, UniBen.

(d) Friends

+ Mr. Maurice Yenvel (Jos)

+ Mr. Ayodele Ajibade (Calabar)

+ Mr. Ayo Olanigoke (Enugu)

+ Mr. Ademola Aiyegoro (Nsukka)

+ Mr. Charles Ojo (Ife)

+ Mr. Kolade Adetifa (Ibadan)

+ Mr. Kunle Raji (Benin)

+ Mr. Adegoke (Zaria)

(e) Colleagues

+ Messrs. W.A. Ajulo; J.L. Alkali; B.L. Adekoya; A. Oyelowo

+ Mrs. A. Enwemadu

+ Miss B. Hassan

(f) + Miss Taiwo Fadeyibi (Mascot)

(g) Relations

+ Mr. & Mrs. R.O. Odeyemi (Lagos)

+ Mr. Oladapo Babatunde (Lagos)

+ Mr. Olalekan Oluwole (Lagos)

+ Dr. & Mrs. Salako (Zaria)

+ Mrs & Mrs. Olamigoke (Zaria)

+ Miss Victoria Odeyemi (Kaduna)

(h) Parents

+ Mr. & Mrs. A. O. Odeyemi

and last but by no means least

(i) The good, good Lord.

Thank you all ever so much.

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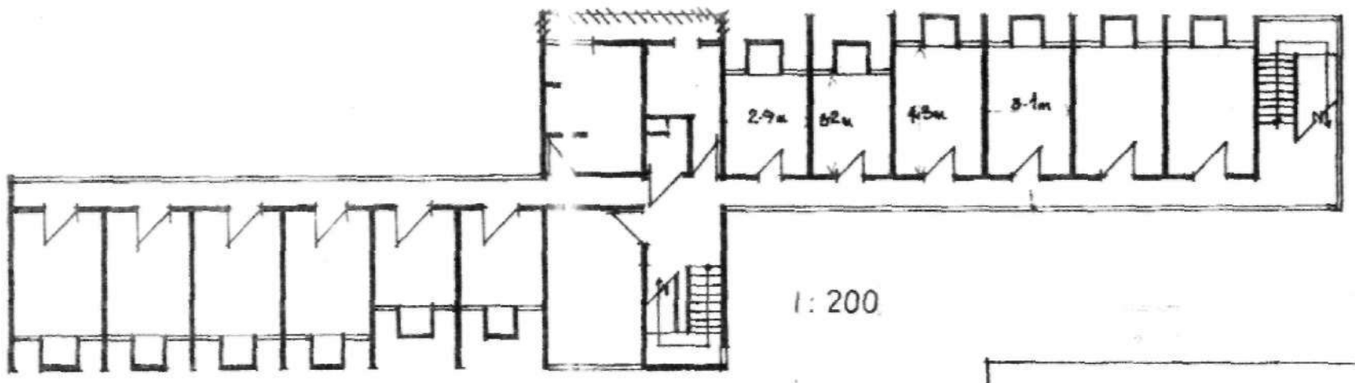
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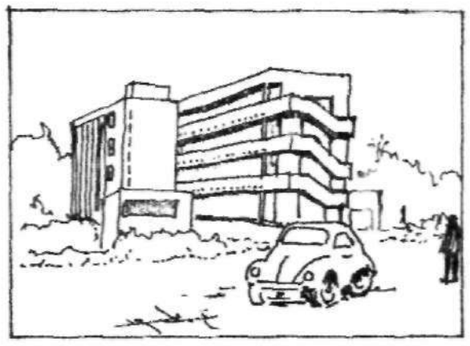
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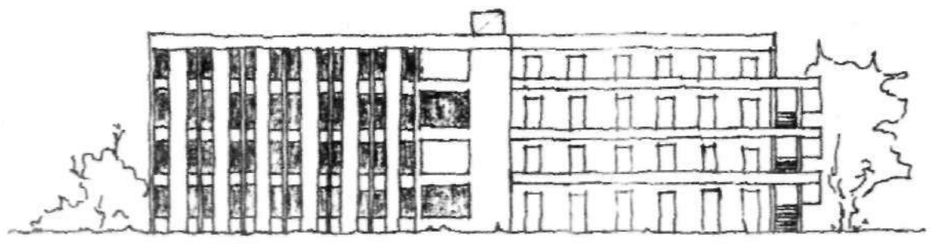
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1 : 200





FREE—STANDING MULTI—STOREY BLOCKS

7.4
Administration

Offices for hall officer and deputy = 9-15$m^2$ each

General office with printing and photocopying facilities = 20-30$m^2$

Meeting room = 40-30$m^2$

Hall Library[5] = 0.4 - 1.8$m^2$ per student for 60% Hall students

Porters' lodge with Mail/postal services = 9-15$m^2$

Telephone booths = 1.5-2.5$m^2$

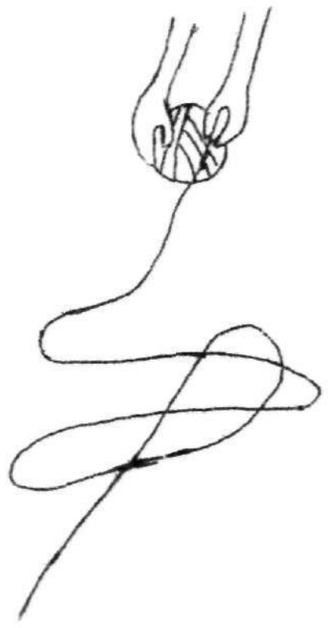
Stores = 3 at 30-60$m^2$

Caretaker's Office = 9$m^2$

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   - Nigerian situation
2. Neufert, Ernest, Edited by Hevz, Rudolf London, Crosby lockwood staples, 1975, p.185
3. Neufert E, ibid., p. 186
4. Ibid, p. 187
5. Ibid., P. 185.

FIRST WORD



"For whatever profession, your inner devotion to the task you have set yourself must be so deep that you can never be deflected from your aim. However often the thread may be torn out of your hands, you must develop enough patience to wind it up again and again .....

Act as if you were going to live forever and cast your plans way ahead. By this I mean that you must feel responsible without time limitations, and the consdieration whether you may or may not be around to see the results should never enter your thoughts .....

If your contribution has been vital, there will always be somebody to pick up where you left off, and that will be your claim to immortality."

- Walter Gropius

Letter to a group of students

14 January 1964

**PRE**FACE - CONSPECTUS

Student's housing design is a field of architecture where much has been done and one which gives a sort of "every thing possible's been done" impression. The immediate reaction to a thesis topic like this is that hardly any thing can be contributed to a field where already so much has been done. However the fact that students are generally still far from being satisfied with their residences (as an investigation readily reveals) displays the fact that much can yet be done to improve contemporary standards of students' living environments.

As the future of any Country depends largely on its students population (particularly that of University students) and their quality (which is very much affected by the type of environment they train in); and as the number of persons so priviledged as to obtain University education is ever on the increase, I am of the opinion that the housing of students is a problem which calls for more serious attention, and quickly too.

True, like all cases of mass housing, this is a field where the designer's hands are to some extent tied by economy but I still believe that within the limits of money presently expended on students' accommodation (or perhaps with a justifiable little extra) better design solutions can be found than what prevails. Most of the existing hostels in Nigeria are so rigid and so oppressive on the students who are

generally expected to fit into the spaces like pieces of furniture. It is time to stop sacrificing students' basic comfort and satisfaction on the alter of economy as is generally the trend.

My incentive for this thesis came from the endless issues and cries about the inadequacies of students' accommodations both qualitatively and quantitatively. The quantitative problem can be easily understood to be here to stay, at least meanwhile; so long as the students intake into our Universities continues to be at such an irregular rate with explosive increases. The intake will, as once observed by Professor J. F. Ade Ajayi - V.C. University of Lagos - (Admission problem in Universities, Nigerian Herald 24th Dec. 1976, Pg. 7) continue to outrun the rate at which accommodation can be provided for some time. One wonders if it is impossible to have such flexible hostels that can change according to demand both on the Microscale of the students' individual rooms (to accommodate more when necessary) and the larger scale of the hostel structure as a whole.

The hostels being built at the new Jos University campus (Naraguta-Bauchi Road) was for me another incentive. When one looks at the way the buildings are being erected, one just gets a feeling that some thing is wrong somewhere.

Here is a beautiful site - a strip of low land bounded by a curved range of hills (the Naraguta hills) in such a way as to give the impression of a segment of

a broken dish. I imagine that rather than have the usual massive regularly arranged blocks of hostels arranged as though the hills never existed, it would be much more attractive and successful to link up high - and low-land with the students' residences or at least have such buildings that will show more concern for their surroundings.

With "once-in-a-life time" type of opportunity to design hostels for a brand new University campus in an inspiring environment as this case offers, at least a little attempt should be made to create a new dimension - no matter how slight. With such visually exciting students' communial centre as is being built on the same site (I don't know about the adequacy of its functionalism) I would expect some free flowing forms for the halls of residence. Surely, the huge alligned hostel blocks with rooms in a row on one side of a corridor terminated by utilities or broken in the middle by same, as found on many campuses is not the only possible design solution. For some thing new, exciting and satisfactory, the extra Naira spent may well be worth it.

## 2. GROUNDWORK - INVESTIGATION AND FINDINGS

2.1 Conclusions from interviews

2.2 Conclusions from observations

2.3 Average number of students per hall of residence

2.4 Some useful design ratios

2.5 Case study (1) Umar Suleiman Hall, A.B.U. Zaria.

### 2.1 Conclusions from interviews

No of students interviewed - 60

| A.B.U.Z | | UNIBADAN | | U. N. N. | | UNILAG | | UNIFE | | UNIBEN | |
|---|---|---|---|---|---|---|---|---|---|---|---|
| M | F | M | F | M | F | M | F | M | F | M | F |
| 7 | 7 | 7 | 5 | 4 | 3 | 4 | 2 | 7 | 5 | 4 | 5 |

(Investigation was carried out during the long vacation when most students were away from the campus on holidays).

* Percentage of students who consider an outdoor extension to their rooms (private balconies) necessary - 100%
* Percentage desiring to stay alone - 52% (mostly male)
* Percentage desiring to stay double - 33% (mostly female)
* Percentage desiring to stay triple - 15% (if room is very large)
+ Emphasis on single rooms (generally) and double (for female hostels).
* Percentage of students desiring to stay on the ground floor - 20%
* Percentage desiring to stay on the 1st floor - 56%
* Percentage desiring to stay on the 2nd floor - 18%
* Percentage desiring to stay on the 3rd floor - 6%
+ Emphasis is on 1st floor.
* Percentage of students who do not mind high rise hostels - 11%

---- provided there are adequate and efficient lift facilities and assurance of water supply at the upper floors.

* Percentage of students who would like co-habitation (i.e. male and female in some hostel block) - 50% (mostly male)
* Percentage of female students who do not mind men in their rooms - 60%
+ There is emphasis on the visits being at convinient times i.e. not very late at night or very early in the morning.

What students feel are lacking (as expressed by students on the various Campuses)

a. around the rooms:-

Washbasin; fans (ceiling; standing or table); armchairs, flourescent lamps, personal toilets (baths/showers & WCs); Reading & bedside lamps; private balconies; pin-up boards; central (coffee) tables soft (padded) chairs, dressing mirrors; dressing tables; burglar proofing.

b. around the halls of residence:-

Kitchenettes (or other cooking facilities); more televisions and radios; covered walkways and paved, hostel libraries and reading rooms; street lighting and deliberate dark corners; drying spaces (particularly on upper floor).

These facilities are those that are lacking on one campus or other. No single hostel lacks them all.

Activities considered the most important carried out in rooms

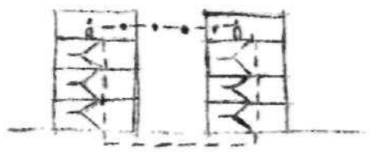
Reading; cooking; eating; resting; entertaining friends; praying; listening to music and dancing.

2.2 Conclusions from observations

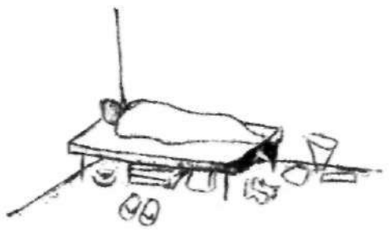
Toilets at end of block - too withdrawn from some rooms.

Links between hostel blocks only at ground level - inconvenient for students

- on upper floors, having to descend first only to climb up again in







order to see someone on the same floor in a different block.

- Long corridors adjacent to rooms - disturbance for those within by those walking - and talking along.
- On campuses where both types are in use, students tend to prefare wooden beds to - metal spring ones.
- Larger storage spaces are required in rooms - articles like shoes, boxes, bags etc - are often found lying around the floors.
- Air-conditioned room(s) for reading around hostels are required (c.f. cold rooms - at U.I.)
- Dining halls need to be brought closer to hostels in many cases. Central Cafetarias although cheaper for the authority are generally congested and rowdy (c.f. Unife, U.I.)

2.3 AVERAGE NUMBER OF STUDENTS PER HALL OF RESIDENCE

| A. B. U. Z | | UNIBADAN | |
|---|---|---|---|
| Hall | No. of Students | Hall | No. of Students |
| 1. Alexander | 504 | 1. MeIlamby | 456 |
| 2. Amina | 740 | 2. Sultan Bello | 450 |
| 3. Umar - -4 Suleiman | 1,460 | 3. Tedder | 388 |
| 5. Ramat | 472 | 4-5 Independence | 923 |
| 6. ICSA | 569 | 6. Kuti | 612 |
| 7. Danfodio I ) ) | 1,040 | 7. Balewa (P.G.) | 207 |
| 8. Danfodio II) | | 8-9 Nnamdi Azikwe | 1,026 |
| 9. Akenzua | 451 | 10. Queen Elizabeth | 858 |
| 10. Ribadu | 606 | | |
| AVERAGE | 546 | AVERAGE | 524 |

Average number of students per hall for the two campuses

= 535 ≡ 500

2.4

Some Useful design ratios

| % P.G. | A.B.U. | UNIBADAN | AVERAGE |
|---|---|---|---|
| Total Students | 1.8% | 4.5% | 3% |

| % FEMALE | | | |
|---|---|---|---|
| Male Students | 15% | 23% | 19% |

* Single rooms (for P.G.) should be prepared for 3-4.5% of the students' population.

* Accomodation for female students should be 19-23% that for male students.

| % MALE | A.B.U. | UNIBADAN | AVERAGE |
|---|---|---|---|
| Total Students | 87.3% | 81.8% | 84.5% |

* Accomodation for male students - 84.5% of total students

* Hence accomodation for female - 15.5% of total students per hall of residence

No. of male = 422.5 = 423

No. of female = 77.5 = 78

Design proportion (on basis of 1000 students)

| | No. | Proportion |
|---|---|---|
| P.G. Female | 10 | 1 |
| P.G. Male | 30 | 3 |
| U.G. Female | 145 | 15 |
| U.G. Male | 815 | 82 |

4.5
Case Study
(1) Umar Suleiman Hall
A.B.U.Z. (Most recent
full of residents)

a. Accomodation cost per student head - hostel block alone

- Cost of last batch of 4 (four) hostel blocks with preliminary, external works and contingencies = ₦1,242,809.00
- No of students accomodated = 320 at 80/block
- Cost of block per student = ₦3,883.80

b. Cost per student per hall

based on students in 12 hostel blocks (comprising two hall) sharing 2 kitchen/dining units and 2 Amenity (common room) blocks.

- Total No. of students accomodated = 960
- i) Cost of hostel Blocks (with preliminary, extension works and contingencies) = ₦3,728,427
  ii) Cost of 2 kitchen/dining blocks (plus pr., ext. wks &c.) = ₦512,785.
  iii) Cost of Amenity blocks (without furniture) = ₦332,126
  Sum Total (i) + (ii) + (iii) = ₦4,573,338
- Cost per student head = ₦4,764.00

c. Areas per Student

i) Area of each block = 1,550 sq.m.
No. of students per block = 80

Area/Student *= 19.4 $m^2$

Standard (recommended) area/student/hall = 10$m^2$

* Area of kitchen/dining block = 960$m^2$

Area/Student = 2$m^2$

Recommended area/Student = 0.9-1$m^2$ (NUFERT)

for dining hall only.

= 0.36-0.4$m^2$ for kitchen

= 1.26-1.4$m^2$ for kitchen/dining.

Notes

Abbreviations

| | | |
|---|---|---|
| A.B.U.Z. | - | Ahmadu Bello University, Zaria |
| Unife | - | University of Ife, Ile-Ife |
| Unibadan | - | University of Ibadan, Ibadan |
| Unilag | - | University of Lagos, Lagos |
| Uniben | - | University of Benin, Benin-city |
| UniCalabar | - | University of Calabar, Calabar |
| U.N.N. | - | University of Nigeria, Nsukka |
| P.G. | - | Post Graduate |
| U.G. | - | Undergraduate |

° Figures collected for no. of students/hall of residence were as at November 1976 (for 1976/77 session) and were still subject to changes.

° Monetary figures given for buildings (Umar Suleiman hall, A.B.U.Z.) were as at May '76 and subject to changes at rate of 1½-2% per month under normal circumstances.

° Recommended standards expressed are from:

Neufert, Architects' data, London Crosby Lockwood staples, 1970

3. DESIGN OBJECTIVE

3.1 Main Objective

3.2 Points to Ponder

3.3 Design Form Possibilities

3.1
Main Objective

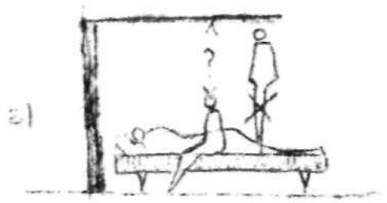
I wish to find solutions to certain design problems (see points to ponder below) concerning students' halls of residence. Solutions which, together with the students' desires and deslikes as gathered during the investigation, will culminate in a proposal that will improve the lots of students as it shapes them according to Sir Winston Churchill's observation:

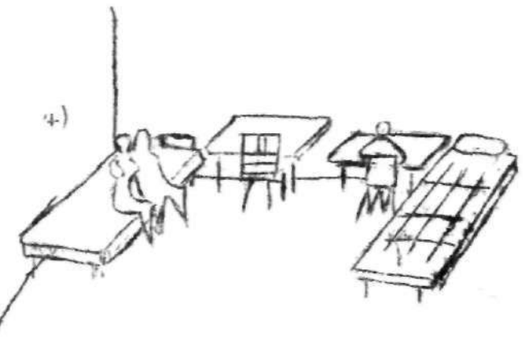
"We shape our buildings and our buildings shape us."

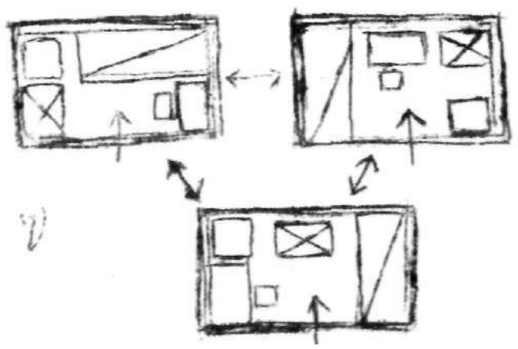
I intend to make a design which caters for the accomodation of 1000 (One thousand) students of the University of Jos such as will eliminate as many as possible of those elements undesired by students and include as many as possible of such things that will make campus students' accomodation more suitable and more exciting without too much deviation from existing financial limits of such projects.

3.2
Points
to ponder

1) If pieces of furniture can be proposed that can each serve more than one purpose less number of furniture will need be supplied each student-room.







2) Since one hardly ever stands on the bed, the critical headroom required above a bed is sitting height. Why waste all the space usually left above beds (bed top to ceiling)?

3) The way the floors of many students' rooms are littered with articles calls for more storage spaces. Is it not possible to provide these without consuming useful space for the purpose ?

4) Is it not possible to have double rooms such that each immate can have privacy if he/she desires without the room-mate having to exit him/herself ?

5) Why can't each student in a double room do what he/she likes with his/her "personal territory"[1] without affecting the others character ? A visit to a room being shared by a "religious fanatic" and a "regular guy" will explain what I am dragging at. While one wants to stick up religious posters the other wants to have outrageous lewd posters. There is an obvious incompactibility here which can create misery for the room mates. Double rooms should be such that it is possible to demarcate individual territory under such a circumstance.

6) Granting the big emphasis on economy, a better compromise needs be found between this and general satisfaction.

7) Can the student's room not be such that he can easily change the look in numerous ways to create a variety of spaces without affecting the basic structure ?

8) Must hostel blocks be so rigid and fixed that whatever the site condition or economic position of the institution changes cannot be effected to suit ? A design proposal should be sought which while being basically repeated everywhere, offers possibility for variety.

9) Is it necessary that male hostels, female hostels and in some cases Post Graduate hostels be separate entities ? Could they all not be compromisingly integrated ?

3.3
Desig Form Possibilities

a. The internal form - the room - the "microform"

b. The total hall form - the "Megaform".

a) "Microform"

The room form will be a direct result of the space requirement and use. The rooms will comprise two major spaces

i) the private room space and

ii) an outdoor extension which will either be in form of private outdoor spaces for an individual or semi private spaces for a small group.

Flexibility within the room spaces must be a very strong consideration.

b) The"Megaform"

There are various megaforms in existence in the Nigerian University campuses as found during the investigation namely:

i) the free standing bungalow hostel units as in hostels A,B,C,D&E of University of Calabar.

ii) the courtyard sprawl of one storey units as - Bedde roads hostels of Institute of Administration, A.B.U., Zaria.

Both of the above are rather expensive landuse-wise although the second form is quite exciting.

iii) Free standing giant blocks of hostel units (3-4 storey no lift)

This is the type of hostel units existent on most campuses. It is too common and too formal.

iv) 3-4 storey courtyard sprawl

-- hostels 1 and 2 University of Calabar; female hostel University of Jos. This is quite an adequate proposal but the courtyards, if small and closed tend to be noisy.

A megaform of students' Hall of residence which though is popular in some places e.g. University of Ghana, is non existent in Nigeria is

v) the skyscrapper hostel - five storey and above with lifts.

Obvious problems with this hostel form in the Nigerian situation are the inconsistency of electricity supply which will render the lifts out of use most of the time, lack of specialised man-power in enough quantity as to always

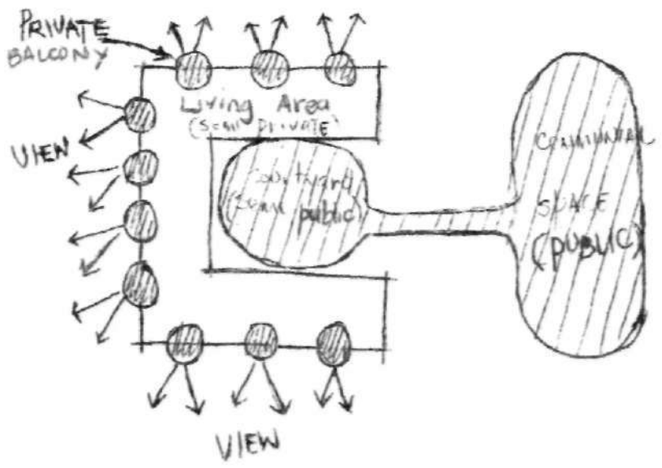
be available should the lift be faulty and difficulty of constant water supply to the upper floors.

Another possible megaform for the University of Jos is

vi) Hill side terrace arrangement. This if finally proposed will be exclusive for Jos.

The above are all possible megaforms for Halls of residence for UniJos.

Whichever one is utilized for the design proposal should be such that can be arranged to give the rooms good lighting, good ventilation (when required), good views of the beautiful surroundings and a definite hierarchy of spaces developing from a very private quiet zone to the noisy communial zone.



Chapter 3

Notes 1. Robert Gutmanied, People and Buildings, New York, Basic Books Inc., 1972, p.371

# 4. THE SITE

4.1 The Location

4.2 Justification of Location Choice

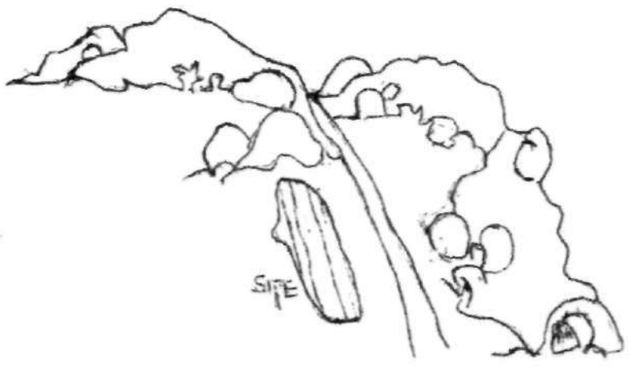
## 4.1 Location

The Jos campus, for which my Halls of Residence are proposed is located at Naraguta which is about four kilometres north of Jos township in the Pateau State of Nigeria. The location is on latitude $9^{o}$ 52'

longitude $8^{0}$ 54'

Altitude 1,266m

The Campus is an area of about six kilometres by two kilometres with its long axis north and south. It falls northwest from the foothills of the Naraguta Hills in the east to the valley of the Delimi River which is within the site running more or less paraellel to the Western boundary.[1]




About 10% (120 hectres) of the campus site has been allocated for students' housing. Although the site generally hilly, the area allocated for students' housing is the flatest stretch of land on the site. This area is the closest to the Naraguta hill although it is separated from it by the proposed Jos-Bauchi highway (Doxiades' Master Plan for Jos). The closeness of the highway to the students' hostels site calls for serious acoustic consideration in the design process.

4.2
Justification
of location choice

As expressed in the preface this thesis is an attempt to make some thing new of students' residences and what campus could be more appropriate for such a new dimension (as I hope to propose) than a brand new campus ? Being a new campus on a virtually virgin site, the Jos University campus offers an opportunity for design freedom. There are no striking existing buildings very close to the site allocated for students' housing to which the design proposals have to conform. Conversely, the development of the Naraguta village can only be influenced in its growth mode by the structures that emerge on the campus.

The attractive cool upland weather of the area as well as the beautiful scenery of interplay of hills, valleys and plains are also strong points for the choice of the Jos University campus as site for my Halls of Residence.

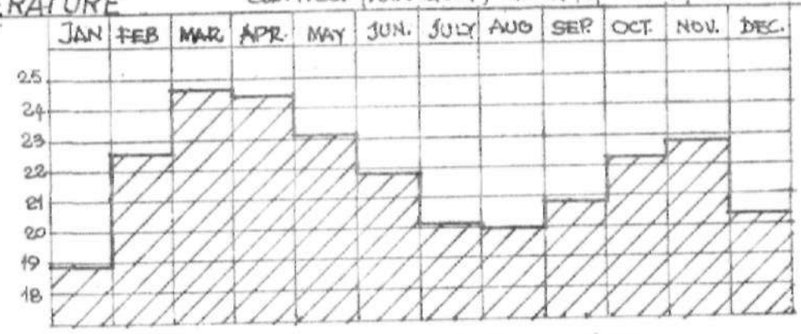


Chapter 4

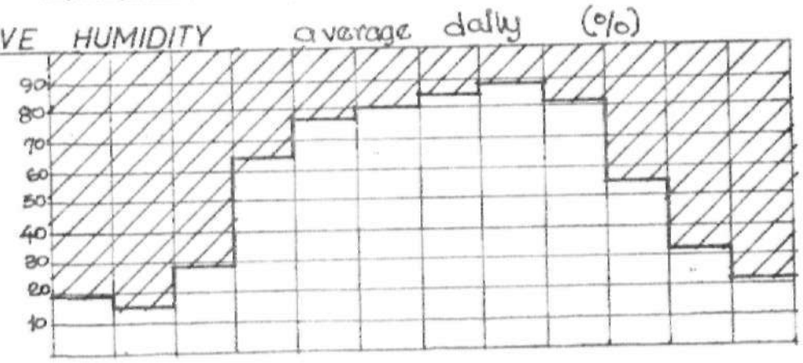
Notes 1. Egbor and Associates, University of Ibadan, Jos Campus Interim Report No.1, Unpublished, Nov. 1975.

# TYPICAL CLIMATIC CONDITION OF JOS 1975 DATA

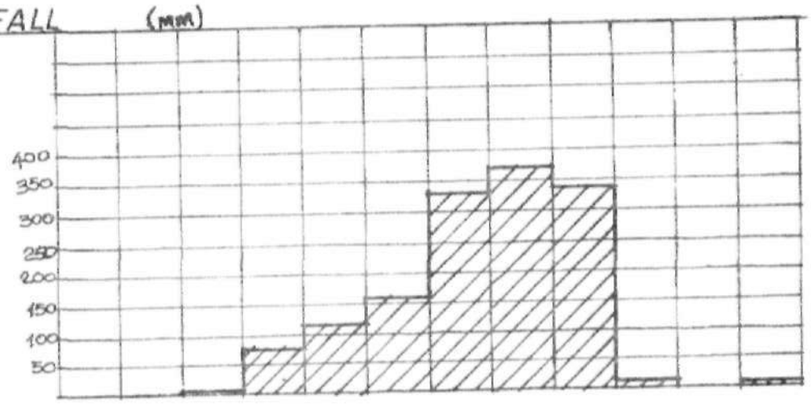
## TEMPERATURE derived from daily mean of max/min temps (°C)



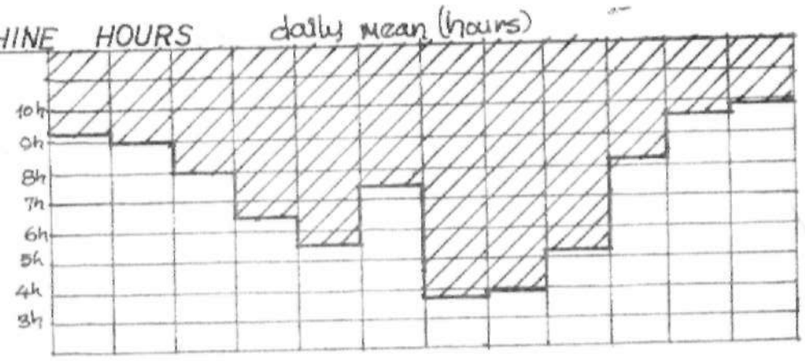

## RELATIVE HUMIDITY average daily (%)



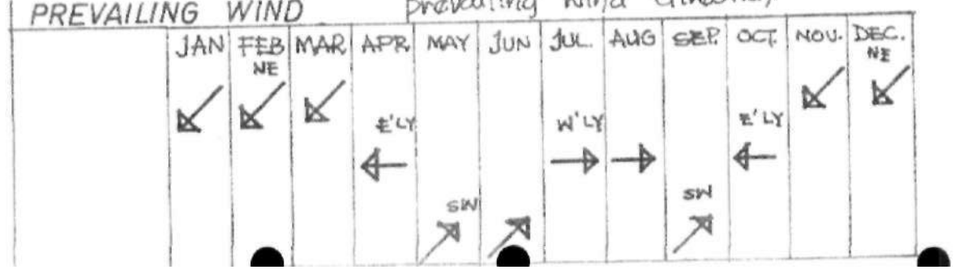

## RAINFALL (mm)




## SUNSHINE HOURS daily mean (hours)




## PREVAILING WIND prevailing wind direction



5. CLIMATIC CONDITIONS AND CONSIDERATIONS

5.1 Climatic Data for Jos 1975

5.2 Climatic Requirements

5.1

Climatological Data for Jos 1975 - Most recent data showing typical climatic conditions.

| Month | Rainfall mm | RH% | Temp. &E | Temp Y°c | Sunshine Hrs | WIND Direction | Speed kt. |
|---|---|---|---|---|---|---|---|
| Jan. | 0.0 | 19 | 18.4 | 18.9 | 9.2 | NE'LY | "13kt |
| Feb. | 0.0 | 16 | 22.6 | 22.7 | 9.0 | NE | "13kt |
| Mar. | TR | 29 | 24.5 | 24.7 | 8.0 | NE | "11 |
| April | 78.3 | 64 | 23.6 | 24.5 | 6.1 | E'LY | "15 |
| May | 115.8 | 77 | 22.2 | 23.1 | 5.6 | SW'Ly | "13 |
| June | 155.1 | 80 | 21.0 | 21.9 | 7.4 | SW'Ly | "13 |
| July | 331.5 | 85 | 19.3 | 20.1 | 3.8 | W'ly | "15 |
| Aug. | 367.2 | 88 | 19.2 | 20.0 | 3.9 | W'ly | "12 |
| Sept. | 340.6 | 81 | 19.9 | 20.8 | 5.2 | SW'ly | "12 |
| Oct. | 14.9 | 55 | 21.9 | 22.2 | 8.2 | E'ly | "11 |
| Nov. | 0.0 | 32 | 22.4 | 22.7 | 9.6 | NE'ly | "17 |
| Dec. | 4.3 | 22 | 20.1 | 20.3 | 9.9 | NE'ly | "15 |

Explanation:

1) TR = Trace - Measurement less than 0.1 mm

2)a. Temp. x°C - based upon 3 hourly synoptic observations for 24 hours daily begining from 00 hours GMT, clockwise.

2)b. Temp. Y°C - der ived from daily mean, of max /min. temperatures taken at 06 hours and 18 hours GMT. daily for the whole month. In either case the trend is similar. Both are shade temperatures

3) The Wind -is an approximation based upon available monthly wind summary data.

4) Sunshine hours -were derived from tabulated hours of sunshine obtained from compbell stoke sunshine recorder.

5.2 Climatic Requiements

•Generally, even in the warmest part of the year, air temperature in Jos is rarely very high-hardly reaching 30°C but the diurnal variation can be as much as 20°C Humidities are never excessive.

•Major problem is of solar radiation which could cause overheating when incident on the body or the building fabric

- reflective colouring and insulation should be used.
- excessive glazed areas should be avoided
- adequate shading to be provided for windows and external activity areas.

Satisfactory shading angles for Jos as contained in the design guide of the IDA Education Project - Nigeria - are as follows.

| Orientation of Opening | V | H |
|---|---|---|
| S | 60 | - |
| SSW | 50 | - |
| SSE | 60 | - |
| N | 75 | - |
| NNW | 65 | - |
| NNE | 60 | - |
| E | 55 | - |
| W | 55 | - |

V = maximum vertical shading angle

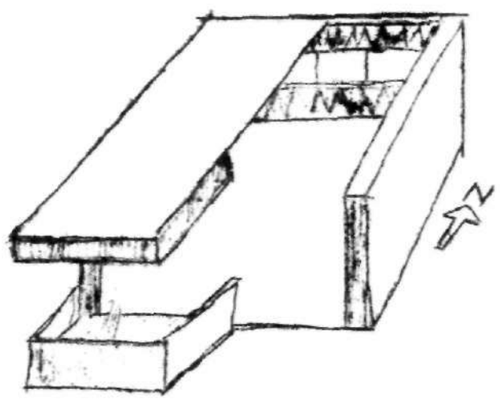
H = maximum horizontal shading angle

The angles as shown on the table call for the provision of horizontal sunshading devices only.

*Cold discomfort can occur at night even in the warm season.

- provision of closed or closeable internal environment
- use of building fabric capable of storing heat gained in the day to emit it at night particularly during the cold period.

* Building plan should be reasonably compact to reduce heat gain during the day



and heat loss during the night.

- North and Sou th walls recieve the least radiation and are hence preferable for the larger openings.
- East and especially west walls should be massive while north and south walls may be of lightweight construction.
- Well shaded external spaces are required for essential outdoor activities common in tropical climates.
- High thermal capacity materials if used should be of dark, absorbent surface finish to admit solar heat into the fabric and store it for the night. Lightweight construction should be of light and reflective surface finish.
- Air rarely reaches upper comfort limit, therefore physiological cooling by air movement and cross ventilation is not much required if solar radiation is adequately controlled. Where solar over heating might occur, it may be necessary to provide possibility for cross-ventilation for relief; most time, however, it is not needed and would only contribute to a feeling of cold discomfort,
- Wind direction needs not be considered in deciding orientation of openings as there's little need to capture winds and cooling breezes and no strong winds to be avoided. Solar heat gain is the governing factor.
- Heavy rainfall occurs during the middle third of the year (max. around august).

Notes: Chapter 5

1. Climatological data is from Federal Ministry of Civil Aviation, Meteorological Division, Jos.
2. Climatic conditions and requirements are mostly from:

(i) Manual of Tropical Housing and Building, Part 1 by Koenigsberger, Ingersoll, Mayhew, Szokolay. London, Longman, 1974, pp.229-233.

(ii) Tropical Architecture by Maxwell Fry & Jane Drew London, B.T. Batsford Ltd, 1964. pp.35

(iii) Research Institute for African Architecture, by Y.A. Noah, Thesis No publication, 1976, p.102-104

5.

6.1

Functional and Psychological Requirements.

DESIGN CONSIDERATIONS

6.1 Functional and Psychological Requirements

6.1.1 Expandability

6.1.2 Flexibility

6.1.3 Compactness

6.1.4 Lighting

6.1.5 Ventilation

6.1.6 Views

6.1.7 Hierarchy of spaces

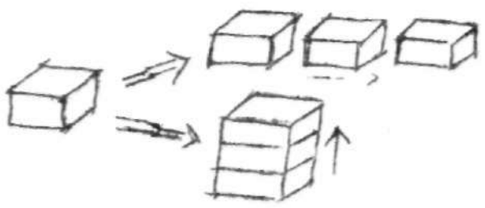
6.1.8 Privacy and personal territory

6.1.9 Elevational Character

6.1.10 Traffic, circulation and parking

6.1.1

Expandability

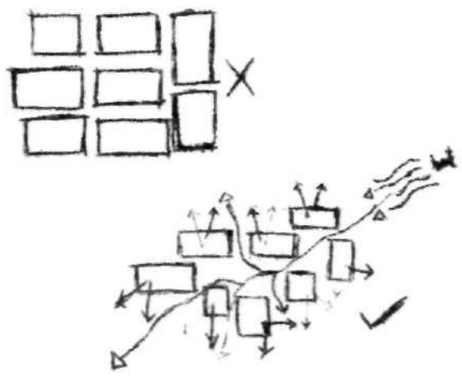


The proposed structure should be such that expansion can take place horizontally and vertically so that where land is a problem and expansion is required, it can take place upwards and where it is not, general heights can be kept low while expansion takes place horizontally.

6.1.2
Flexibility

The buildings should be capable of changing both on the micro-level of the room spaces and the mega-level of the Hall structure as a whole. The occupant should be able to change his room to suit his desires. A compromise will have to be struck between built-in and moveable furniture so that various furniture arrangements can be achieved within a room space. Within the same building frame of the hall structure it should be possible to increase or reduce the student density by altering the proportion of double/ single rooms.

6.1.3
Compactness



The basic plans as well as the general layout should be compact, Rigidity should be avoided in the plan forms and the general layout in conformation with the topographical flow of the surrounding, even if the building sites are flat. The plans and layouts should however not be so compact as to override basic physiological requirements like good day lighting, good ventilation (when required) and exposure to a view of the beautiful scenery.

6.1.4
Lighting

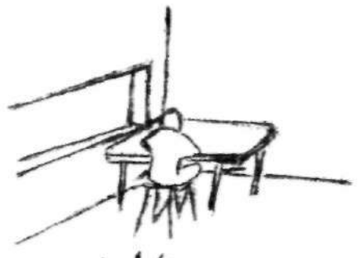
Adequate day lighting should reach each room through ample provision of window openings which should be well shaded. Artificial lighting for the nights should also be reasonably provided. At writing desks, the light source should be prefarably from the left.

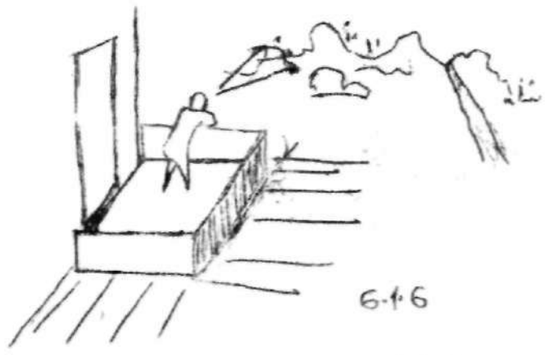
6.1.5
Ventilation

Though, gencrally, this is not a very critical consideration for Jos most of the year; there should be possibility of adequately ventilating the room during the short heat breaks and at least to change the rooms' air at other times. Good cross ventilation becomes a matter of more serious consideration if prototype halls of residence are proposed.

6.1.6
Views

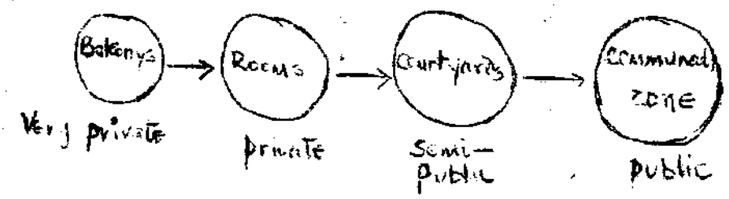
With the beautiful secenery of hills, plains and valleys surrounding the site allocated for students' housing on the University Campus it should be regarded as a compulsory guesture to furnish practically all the rooms with views to the surrounding.



6.1.7
Hierarchy of Spaces

Within each group of units and the hall structure as a whole there should be a definite hierarchy of spaces developing from a very private quiet zone to the noisy communial zone.




6.1.8
Privacy and Personal territory

The private zones should really ensure privacy. Even in the double rooms, there should exist the possibility of each inmate secluding himself if he so wishes. The following is part of a long conclusion reached by two architects Sim Van der Ryn and Murray Silverstein[1] in a research they carried out on students' housing.

'The literature of student housing is rich with phrases such as "experience in group living", social adjustment," etc. Such rhetoric may be a justification for the fact that typical dormitory plans do not resolve the prime student need for individual living. Sociologist Marvin Trow stressed that one of the three functions he saw as essential for dorms was "the opportunity to be alone, to think, to read, to work, or just be alone"[2]'

'.....the student wants to establish a unique home territory that is fixed in space and that is the locus of those activities most important to him. The room is the focal point of private and semi-private activities, For the students it is "home" territory .....when personal space characteristics are not available, problems result.....clashes between incompactible room mates appear commonplace, and probably affect a student's approach to his work.....'

Against the possible feeling that creating individual zones for students may tend to make them anti-social, Henry Wriston, an American College President for many years, sums up this way:

"If I had been able to find enough money, every dormitory I had any thing to do with would have been made up of single rooms - no doubles, much less suites for three or four. Single rooms constitute no danger that under-graduates will not learn how to live with other people. Their lives are much too gregarious; even if they have one room where privacy is possible, they will still have enough group experience to avoid becoming anti-social."[3]

what is important is that students make a place their home by asserting their own preferences and changing it.

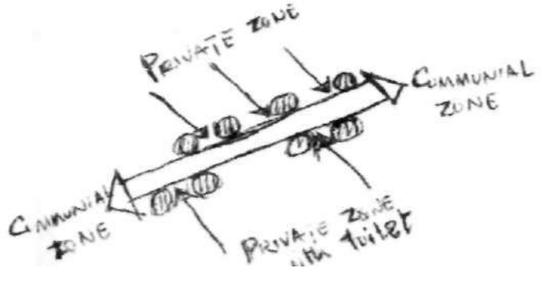
However, many administrators have substantial reasons for prefering built-in furnishings. For one thing they are much easier to build and they more readily give the feeling of the room as a wholly complete unit package. Also, free standing furniture pieces are commonly of heavier construction and use more material than built-in systems (which can use walls for structurel support), and thus are often more expensive. Moreover built-in equipment gives the room a neater appearance than free-standing furniture, and damage due to moving furniture around is minimized.

While these views are reasonable, they ignore the realities of students living as they have been seen to live. Many precedents for the higher institutions' housing, administration and planning are derived from hotel management. Yet the student room is not a hotel room for a transient, it is the student's home for at least 200 days. Thus a fixed furniture arrangement which may be fine for the casual guest becomes an irritant to a resident over a period of time. The wish of a hotel keeper to show off a neatly arranged room to the public is reasonable, but the Hall of residence is not a hotel.

Finally, with respect to furniture, resistance to wear in relation to first cost has usually been the prime criterion. Tolerance and recovery from wear are equally important criteria. It may be appropriate in some instances to deliberately choose inexpensive furniture with a short use life. Pieces can be replaced periodically, over the life of the building, at no higher annual cost than expensive highly resistant furnishings.

With the arguments put up above for and against built-in and moveable furnishing it may be necessary to strike a compromise somehow. Could it be possible to have moveable furniture which could be fixed in prepared spaces should the room's owner so desire ? It may also be that if the room and its surfaces lent themselves to other forms of personalization, the need to have moveable furniture might not be as great.

6.3
Communial Facilities and their Locations.




Communial facilities e.g. common rooms, games rooms, stair cases etc. should be located at cross roads of circulations towards the public zones where the user participation can take place without interference with the private zones. Communial toilet facilities, if provided, should however be located away from the public area.

It is preferable that communial facilities be provided for small groups in a more homely manner which ensures greater user participation than that they be provided centrally in which case they tend to be rowdy and too withdrawn from some rooms.

Chapter 6

Notes

1. Sim Van der Ryn and Murray Silverstein, Dorms at Berkeley: An Environmental Analysis, Centre for Planning and Development Research (Berkeley, University of Carlifornia Press, 1967) as contained in Robert Gutman, Ed., People and Buildings, New York: Basic Books, Inc. 1972, p.371-373
2. Trow, Marvin, "Reflections on the Residence Hall Program," Unpublished speech given at Residence Hall Workshop, Berkeley, October 1961, quoted in Gutman, op. cit. p.371
3. Winston, Henry, Academic Procession, New York, Columbia University Press, 1955, p. 192 quoted in Trow, op.cit.
4. Akinrimisi, K.A., Architecture and child medicare: the Nigerian case, Zaria, A.B.U. B.Arch thesis, 1973.
5. Gutman, R., Ed., Op. cit., P.377-378

7. SPACE AND DIMENSIONAL REQUIREMENTS

7.1 ...As Derived from Students' Activities

7.2 Accomodation Standards

7.3 Kitchen/Dining (/Buttery) Block Requirements

7.4 Administration

7.1 ....as derived from Students' activities 1

**1) Sleeping** - Study/bed room - single room = $7m^2$ (min)

double room = $12m^2$ (min)

- Comfortable bed (200x80cm); concrete or wood in preference to metal spring beds which become noisy after some time and are generally inadequately durable.



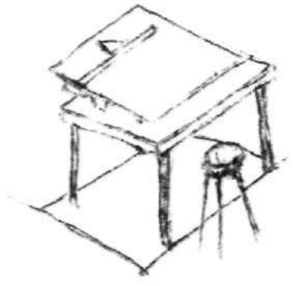
- Comfortable mattress; spring mattress in preference to foam.
- Mosquito net in preference to door and window gauzing
- Bedside table/lamp and switch.

2) Reading



- Possibility of reading privately or in a small group (around the hostel) should be provided
- ample worktop; minimum dimensions 100cm long x 60-75 wide x76-80cm high with footrest.
- ample book storage

- Comfortable seat, not straight back. 43-45cm high.
- storage for writing and drawing equipment in form of drawers.
- good daylighting/good artificial lighting source preferably from the left.



3) Drawing
- Students of architecture, engineering, fine arts, geography etc.
- drawing rooms around the hostel ?
- storage for drawings and drawing equipment required in study/ bed rooms.

4) Eating
- Campus supplied meals: kitchen-dining block (dimensional requirements below) Individual hall cafetaria preferable to central cafetaria as the later may be far from some halls and tend to be noisy and rowdy.
- Self-prepared meals: provision of kitchenette for individual or group use.



5) Washing
- Official washing; central laundry with adequate provision of drying space
- personal washing: laundrettes for small groups or personal sink. Provision for drying of clothes on upper floors required to prevent unsightly use of balustrades as clothes lines.



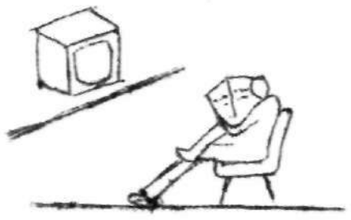
6) Toilet Facilities - group toilets which are relatively cheap but not the most convenient for students or personal toilets which are more expensive ? Showers in preference to baths as - the former are cheaper and easier to maintain.



7) Dressing - Storage for clothes/shoes/hats and cosmetics - wardrobe minimum dimensions 6 cm wide x 56 m deep x 170-190cm/dressing table/ dressing mirror.

8) Relaxation - Passive/active; private/communial.

- Passive-Communial: common room TV, Radio, Newspapers, musical equipment. Relevant sitting facilities: chairs, armchairs and sofas.





- active-communial (indoor) games room with facilities for playing light games (cards, chess, ayo etc) and more vigorous indoor games (table tennis, badminton) active-communial (outdoor): lawn tennis, volleyball, etc table tennis, badminton in open air.

Beautiful gardens with outdoor seats should be generously provided for outdoor passive relaxation (communial) and outdoor extensions to rooms should be provided for outdoor relaxation (private).



9) Recieving and entertaining friends
- possibility of ensuring privacy (particularly in double rooms) for private reception.
- extra sitting facilities for guests, coffee tables; refrigerators and hot water facilities should not be far from the rooms.

10) Playing Music
- Provision for keeping musical equipment.
- acoustic consideration of neighbours: top, bottom, left and right



11) Holding parties
- carrying, out this activity in the students rooms is not encourageable as it disturbs the neighbours a lot.
- Sound proof (?) rooms could be provided around the hall for such activities.

12) General Storage
- storage should be provided for boxes, bags, buckets, old books and files, etc.

7.2

Accomodation Standards
Dimensional requirements: $^2$

Single rooms with desk (with or without balcony ) 9-15m$^2$

Areas per student:

| | |
|---|---|
| Small common room | 0.8 - 1.2m$^2$ |
| Washroom | 0.5 - 0.7m$^2$ |
| Utility room (cleaning etc) | 0.2 - 0.3m$^2$ |
| Reading room | 0.4 - 1.8m$^2$ |
| Indoor games room | 0.2 - 0.4m$^2$ |

7.3

Kitchen - dining block (-buttery) Dimensional requirements.[3]

Communial rooms must be sited where lines of circulation intersect.

1 wc + urinal per 6-10 male students

1 wc per 6-8 female students.

Orientation Aspect: Kitchen and subsidiary rooms should face north;

dining hall south; other rooms east or west.

Number of diners: 20% to 80% total student membership (take 60%)

Possible service methods:

a) Ordinary self-service from counter

b) Self-service from dishes placed on each table and removed again by waiters.

c) Individual waiter service.

Long tables and bench seats are appropriate. they are cheap, durable, space-saving, quiet, and easy to clean and clear.

Floor area per student (including seating space, extra space for passages, front of servery and entrance, = 0.9 - 1.0$m^2$

Service Spaces:[4]

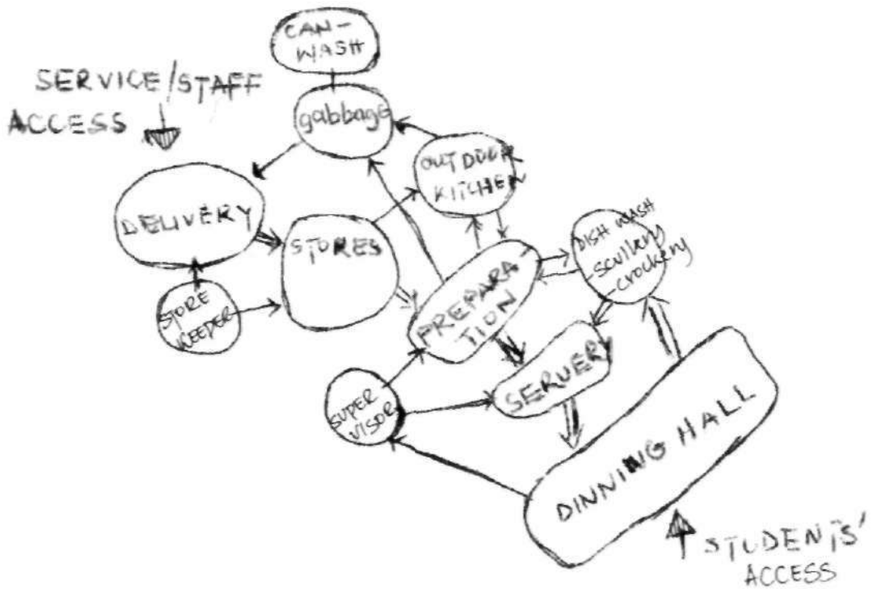
Kitchen and subsidiaries = about 40% of dining space.

Preparation Space = about 20% of kitchen area

Storage rooms = about 70% of kitchen area

Kitchen should be sufficiently spacious for work in an uninterrupted sequence without opposing traffic flows from storage to servery.

Space requirement and Traffic Flow:




Space requirement for buttery:

Sitting space, Storage and bar.

8. CASE STUDIES

8.1 HOSTEL TYPES

8.1.1 TYPE ONE

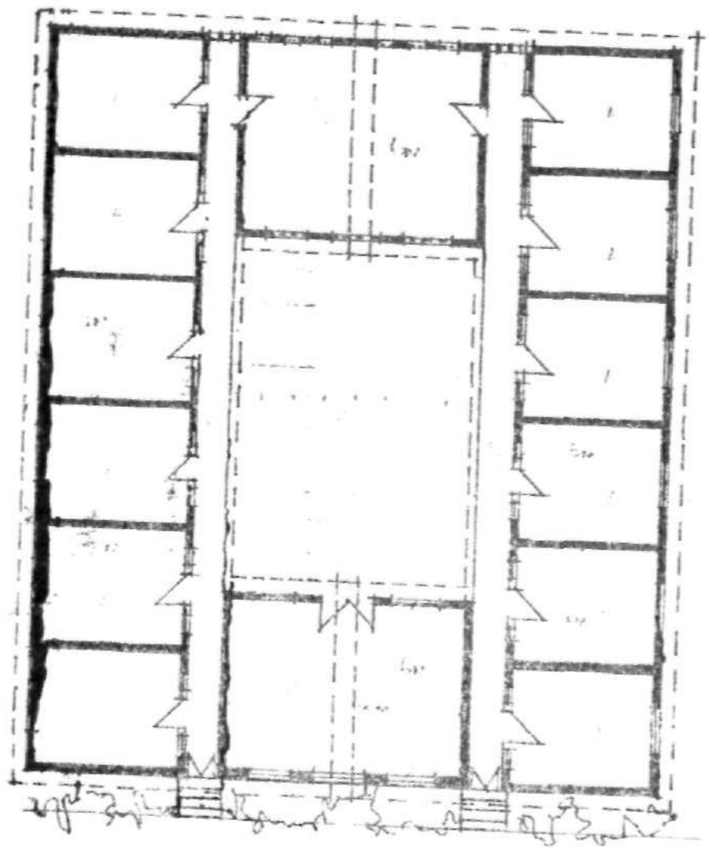
The commonest University hostel types in Nigeria are the straight blocks with rooms arranged one after the other linearly adjacent to a corridor. Stair cases and toilets are usually located at the end of the blocks or somewhere around the middle as with the case shown - Suleiman Hall, main campus, Ahmadu Bello University, Zaria.

With this type of hostel, the long corridors, which have to be used many times by an individual going to the toilet or staircase, constitute a source of disturbance to those in the rooms. Also the usual arrangement whereby the blocks are one behind the other limits views from the rooms.

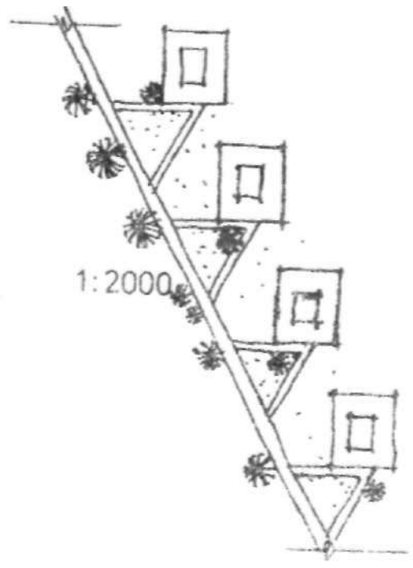
8.1.2 TYPE TWO

In the University of Nigeria, Nsukka exists a special version of the type one hostels. Here, to maximise economy, rooms are arranged linearly on both sides of the corridor. Toilets are at the ends of the block while the single staircase is in the middle.

Needless to say, here, people walking and talking along the corridor cause a lot of disturbance to those in the rooms. Also those whose rooms are around the middle of the row of rooms can only have effective cross-ventilation when the owner of the opposite room decides to open his/her window and the glass louvre above the door. This type of hostel design is more for temperate Countries than for the tropics.



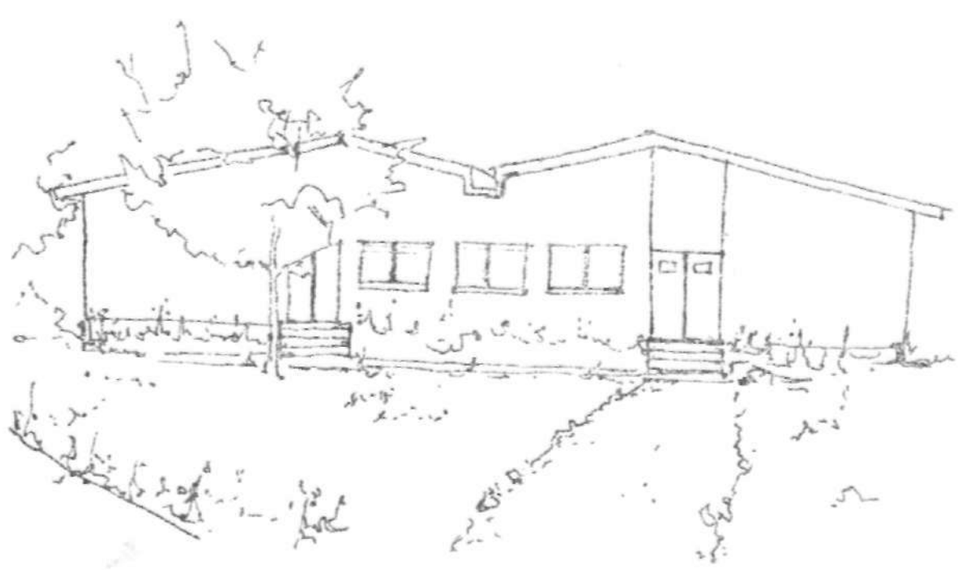
1. 200



1:2000

# TYPE THREE

FREE STANDING
COURTYARD
SYSTEMS



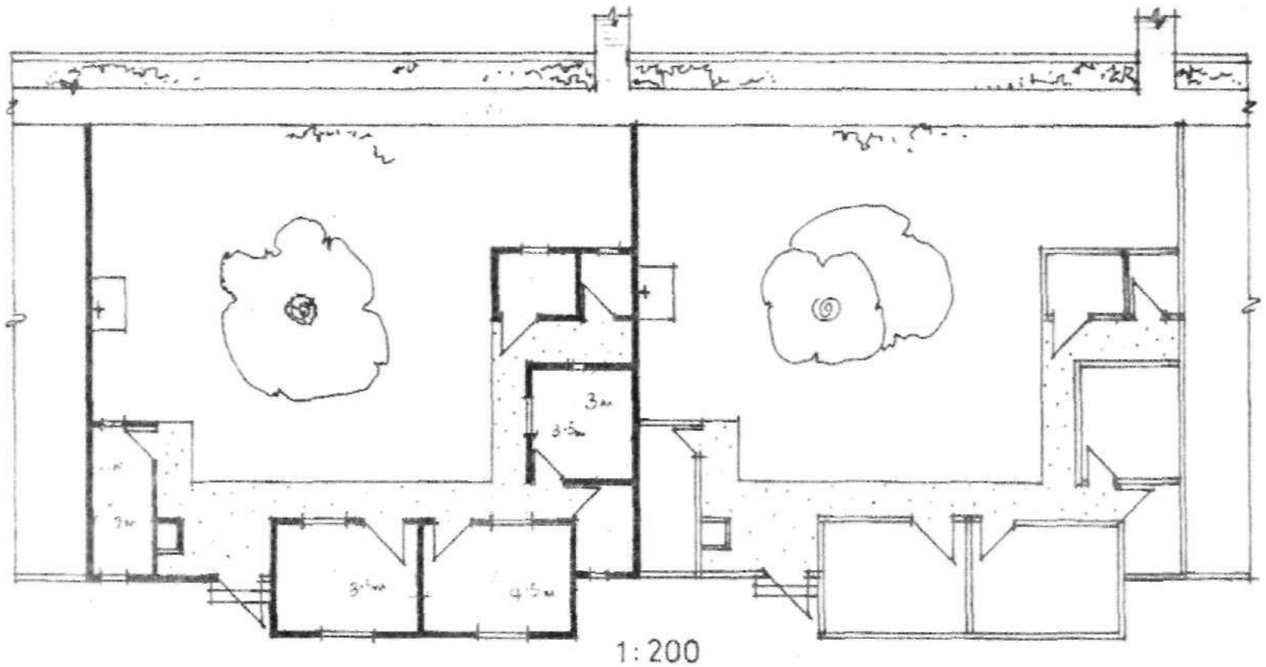
3.1.3 TYPE THREE

On some campuses, there are hostel units made up of two linear rows of students rooms arranged on either side of communial areas in such a way as to enclose courtyards.

In the case of hostels A,B,C,D,E,F,G of University of Calabar shown in sketch, the courtyards are closed on two sides by students' rooms and on the other two sides by the toilets (behind) and lounges (in front). The courtyards are paved with concrete slabs.

In other cases like ICSA/Ramat and Danfodio halls of Ahmadu Bello University, Zaria, the courtyards are open on one side being defined on two sides by students rooms and on the third by toilets. Lounges here have become central common rooms.

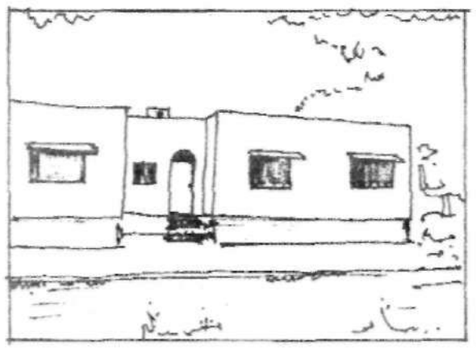
In the Calabar [illegible], in particular, where the rooms are not so many (six on either side as compared with ICSA/Ramat, Danfodio where there are ten on either side) and where the courtyard is closed there is a family feeling amongst the members of the unit with the few students, like members of a large family utilizing their toilets, courtyard and lounge.

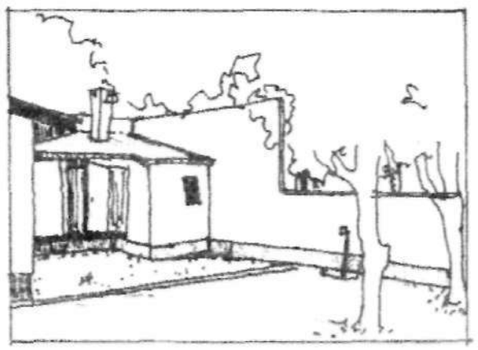


1:200

TYPE FOUR

CONTINOUS
COURTYARD
SYSTEM





8.0 CASE STUDIES - HOSTEL TYPES

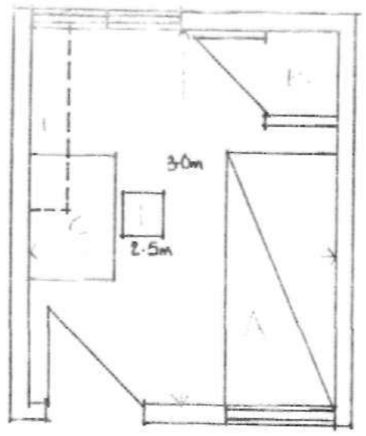
8.1.4 TYPE FOUR

Though the Female hostel, Institute of Administration, Ahmadu Bello University, Zaria, shown might have been intended as private houses, they make quite interesting accomodations for students.

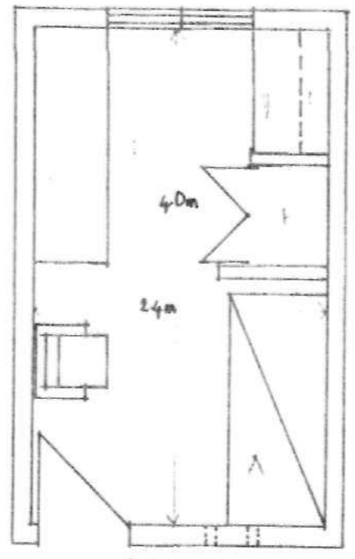
If the courtyards were smaller (for the six students occupying each unit, the courtyards are rather extravagant) and the general arrangement was more compact, this formof ho··ing could be encouraged for students. They can however only be managed by campuses with a lot of land to spare. If they are made multi-storey, they are likely to lose their specialty.

SINGLE ROOM I

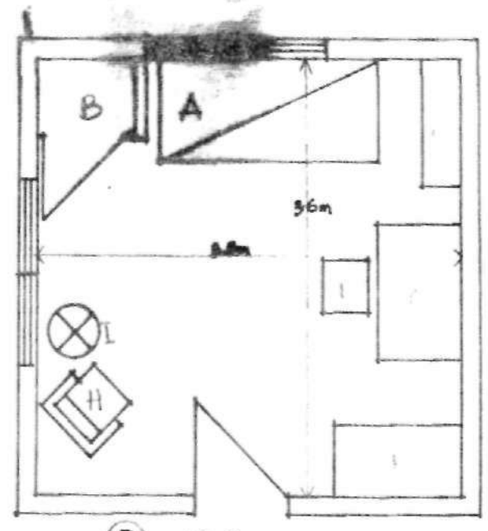
1 : 50



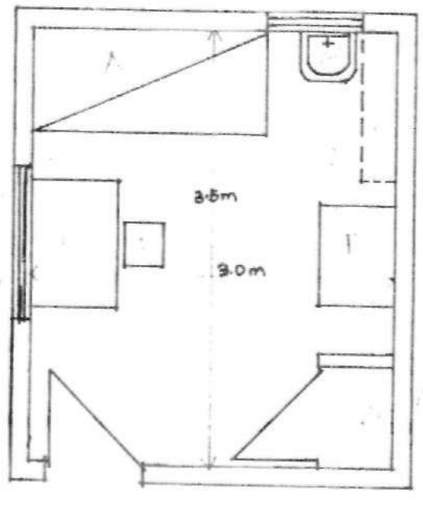

A 7·5 sq.m.




(C) 9.6 sq.m.




(D) 12.6 sq.m.




B 10,5 sq.m.

8.2. CASE STUDIES - ROOM TYPES AND SIZES

8.2.1 SINGLE ROOMS

A - Undergraduate room; Hostel I, Institute of Administration, Ahmadu Bello University, Zaria

B - Sardauna Road Hostel (female), Institute of Administration, Ahmadu Bello University, Zaria.

C - Ribadu Hall, Ahmadu Bello University, Main Campus, Zaria.

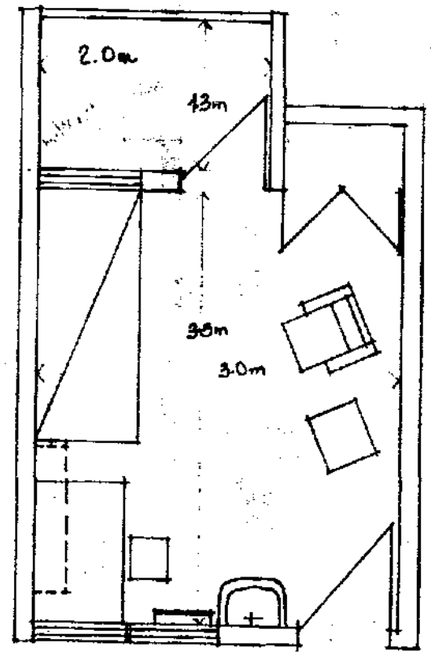
D - Akintola/Okpabio Hall, University of Nigeria, Nsukka.

Where they are for undergraduate students, single rooms are very small (A). Most often, they are for post graduate students and then they are generally larger.

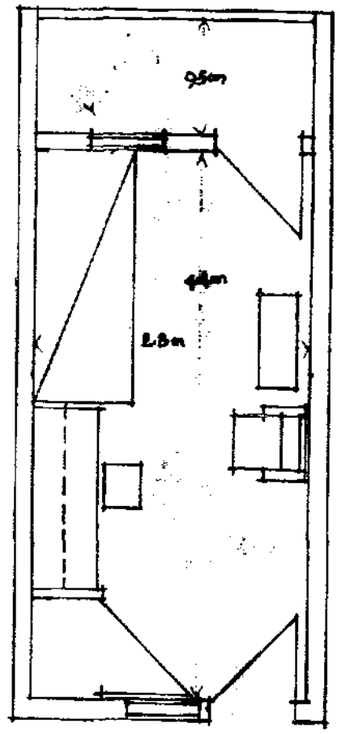
Most single rooms are as in these sketches (A-D) - plan rectangles with the furniture arranged around. The wardrobes are often built in.

# SINGLE ROOMS II

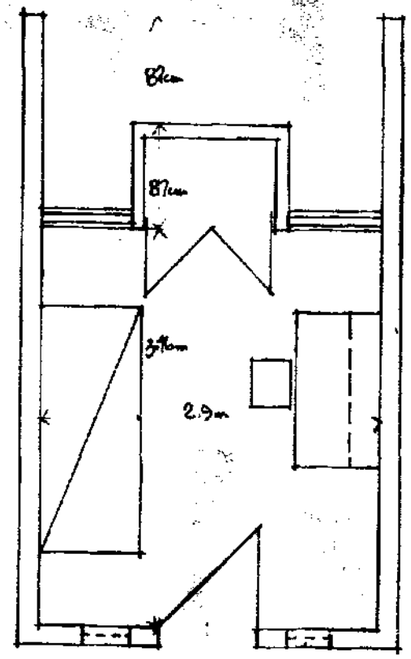
1:50




(E) 10.5sq.m.




(F) 10.12sq.m.




(G) 9.28 sq.m

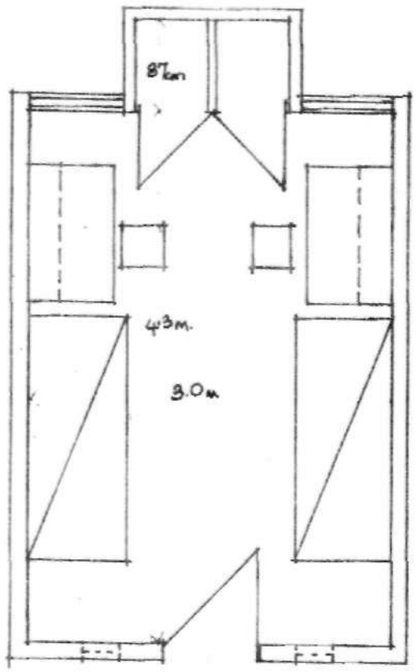
E - Balewa (P.G.) Hall, University of Ibadan

F - P.G. Hall, University of Ife.

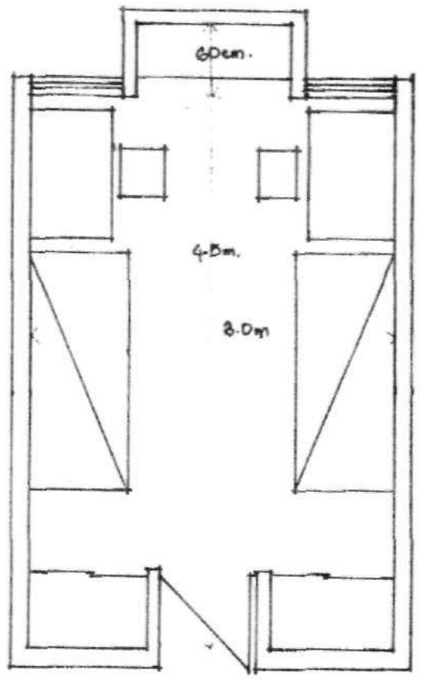
G.- P.G Room, Suleiman Hall, Ahmadu Bello University Zaria.

At Unife and Unibadan the P.G. Halls' single rooms have private balconies. In case G, Ahmadu Bello University, Zaria the recesses behind the single rooms could have been made balsonies but they are just voids.

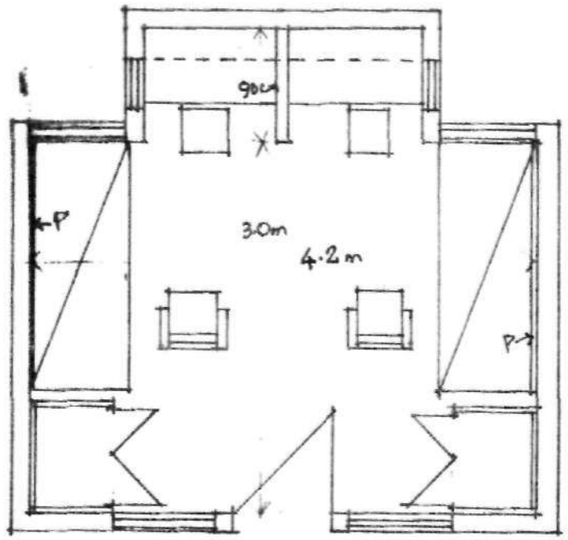
Some single rooms are provided with wash-hand basins (B, E). These despite their convenience tend to make the floor and wall messy around the areas of their locations.




A 12.9 sq.m




B 13.5 sq.m




C 12.6 sq.m

# DOUBLE ROOMS I

1 : 50

8.2.2 DOUBLE ROOMS

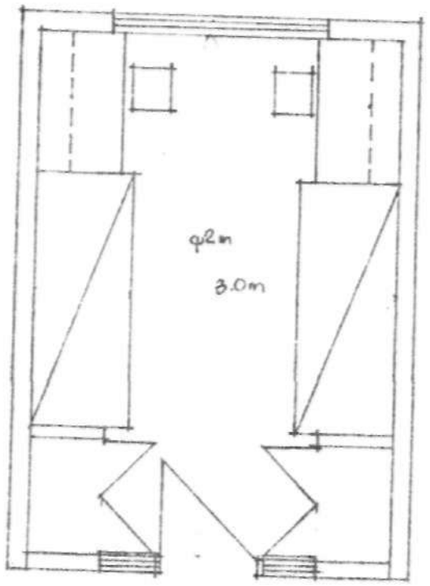
A - Suleiman Hall, Ahmadu Bello University, Zaria

B - New Hostel, Enugu Campus, University of Nigeria

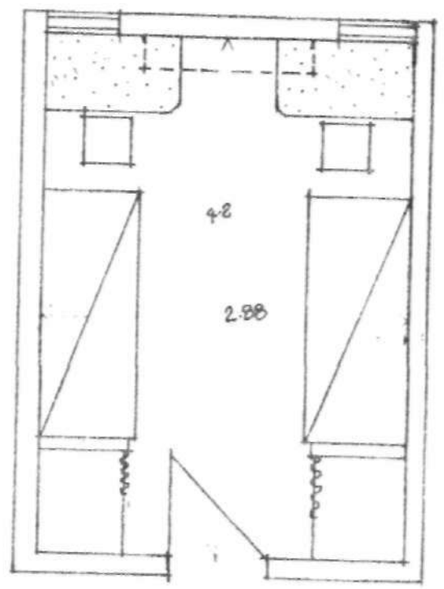
C - Alexander Brown Hall, U.C.H., Ibadan.

Many double rooms have the far ends of the rooms projecting outwards. The projected, spaces within could be wardrobes (A), set of shelves and cupboards (B) or reading spaces (C)

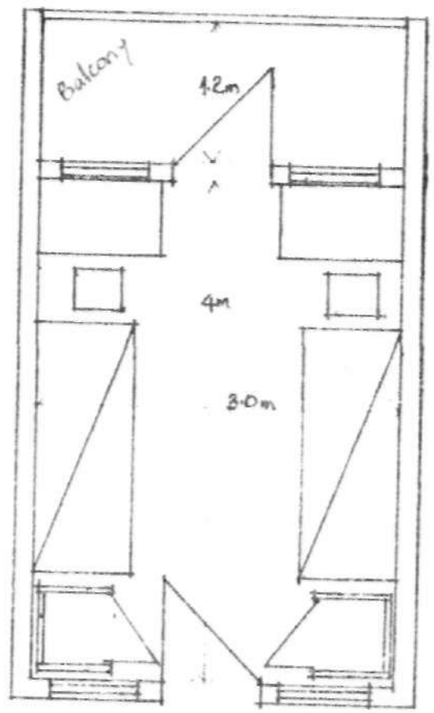
In cases A and B the wardrobes are built-in while in C the reading tables are built-in.




D 12.6 sq.m




E 12.1 sq.m




F 12.0 sq.m

# DOUBLE ROOMS II

1:50

D - Hostels A,B,C,D,E,F,G, University of Calabar

E - ICSA/RAMAT Hall, Ahmadu Bello University, Zaria

F - Mellanby Hall, University of Ibadan

These arrangements as well as (A,B,C,) are the commonest arrangements of furniture in double rooms. The arrangements are such that each inmate's furniture is symmetrically arranged on either side of an axis along the middle of the room.

In U.I.'s Mellanby Hall, the rooms have $3.6m^2$ outdoor extensions behind.

G - Awolowo and Azikwe halls, University of Ife.

H - Ekenwa Campus hostels, University of Benin.

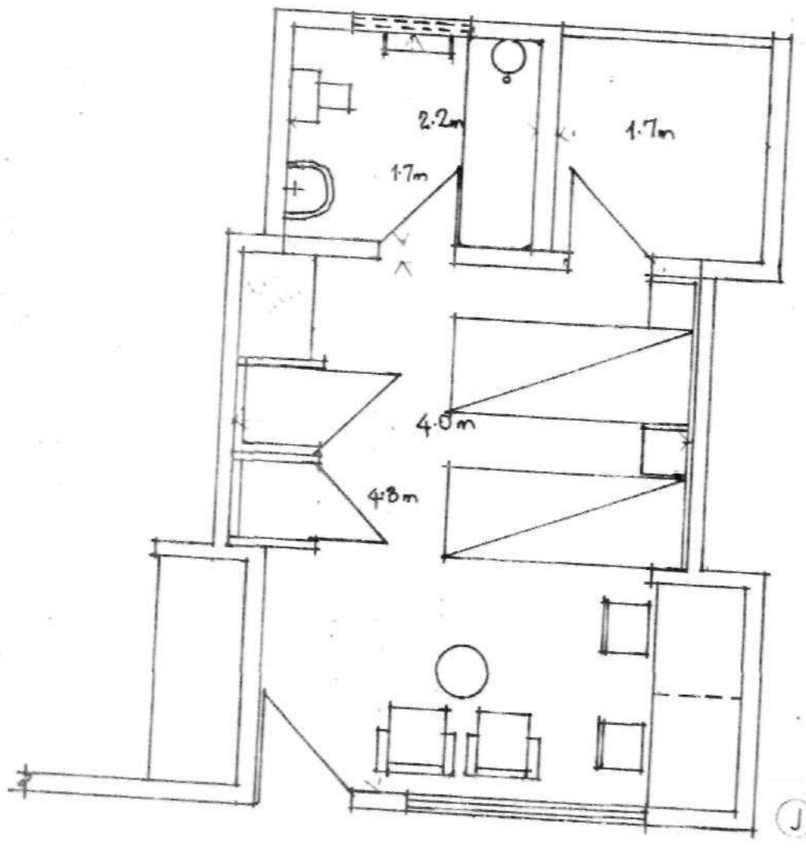
In these examples the double room axis has been destroyed.

In case G the rooms have semi-private extensions behind. Semi-private, because the space is a general long balcony serving six rooms, twelve students.

In case H, the rooms are very large and spacious.

# DOUBLE ROOMS IV

1:50



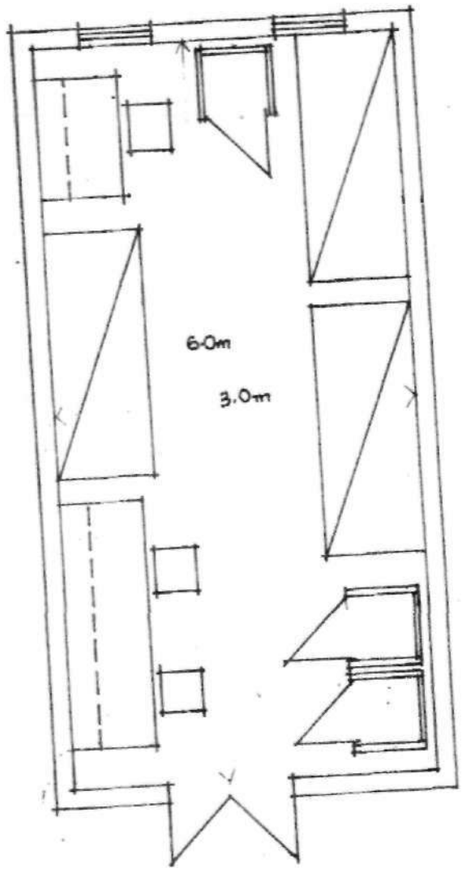

(J) 17.2 sq.m

J - Balewa (P.G.) Hall, University of Ibadan.

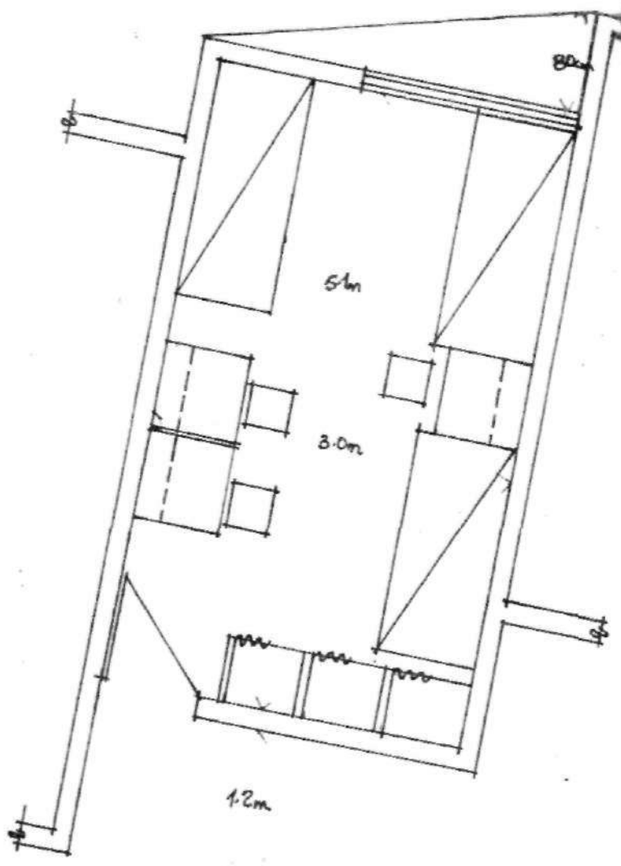
Here an attempt has been made to create a luxurious double room. Toilets which usually are located down corridors at the end of the block have been brought so close that each double room has its own. Each room has a balcony $3m^2$ approximately. This is rather little for such a luxurious room. Also, it would have been preferable if each inmate could have his own definable territory within which he could express himself without affecting the roomate and have privacy when he desires.

# ROOMS SHARED BY THREE

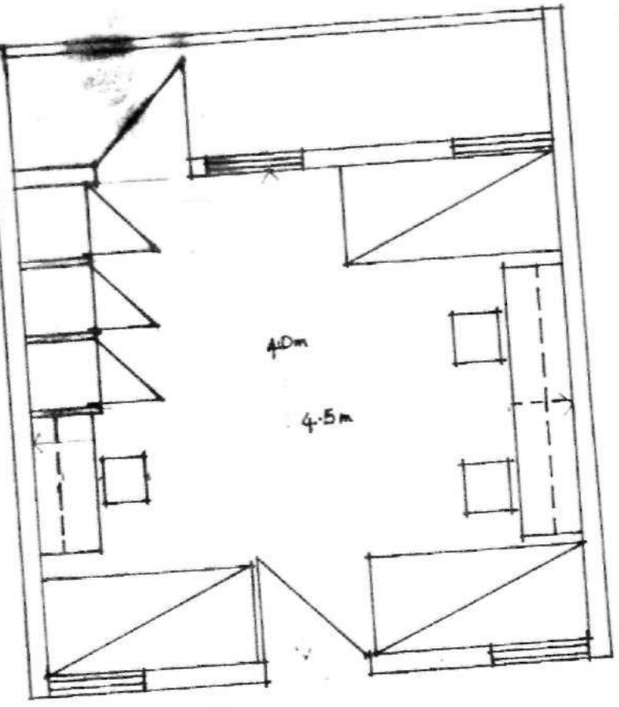
1:50




(A) 18.0 sq.m




(B) 15.3 sq.m




(C) 18.0 sq.m

### 8.2.3 ROOMS SHARED BY THREE STUDENTS

A - Annex to Hostel Two, Institute of Administration, A.B.U., Zaria

B - Ribadu Hall, Ahmadu Bello University, Main Campus Zaria.

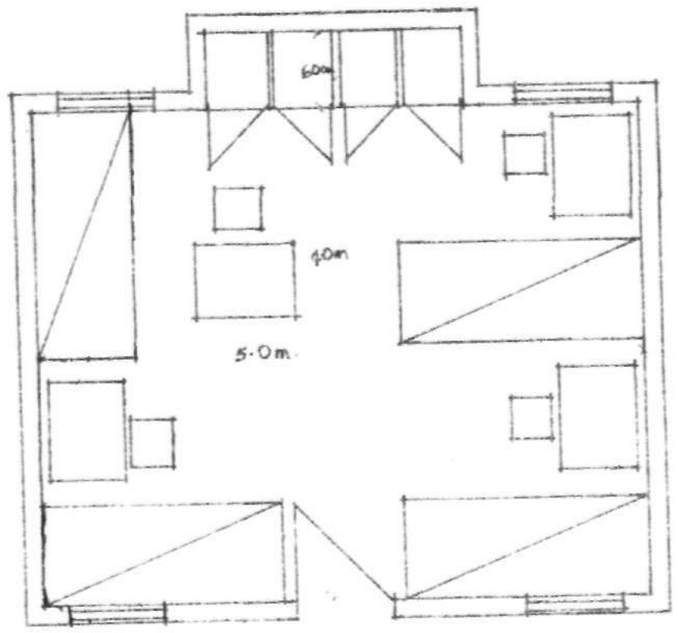
C - Moremi Hall (female), University of Ife.

Rooms for three as they exist in the Universities offer no possibility whatsoever for privacy. Though they might be economical, they are not by any means the best.

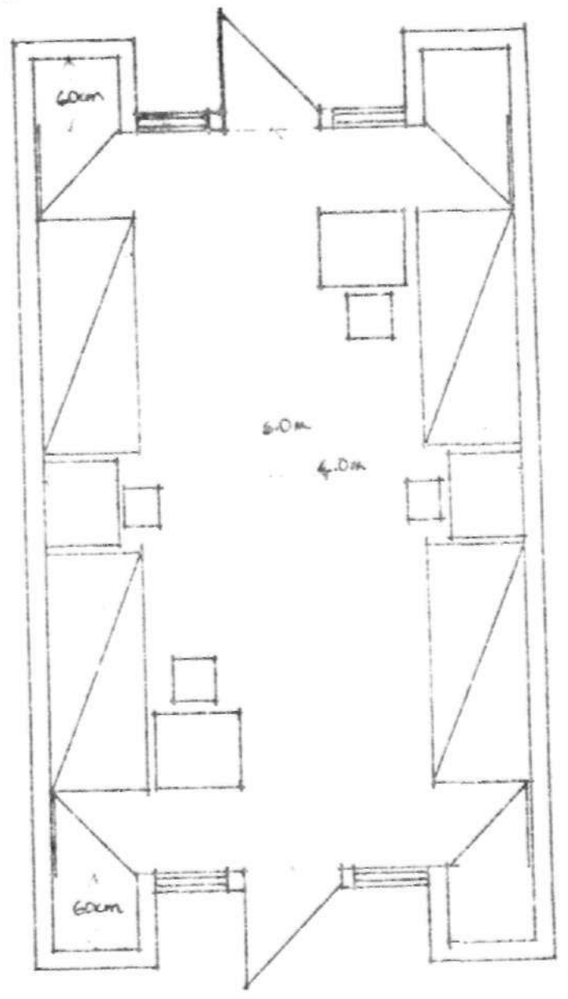
In some cases (A) the furniture are all free-standing so that the inmates can rearrange the rooms within the limited possibilities. In most cases, however, the wardrobes are fixed.

# ROOMS FOR FOUR I

1:50




A 20.0 sq.m




B 24 sq.m

8.2.4 ROOMS FOR FOUR

A - Men's Hostel, University of Calabar

B - Awolowo Hall Annex, University of Ife.

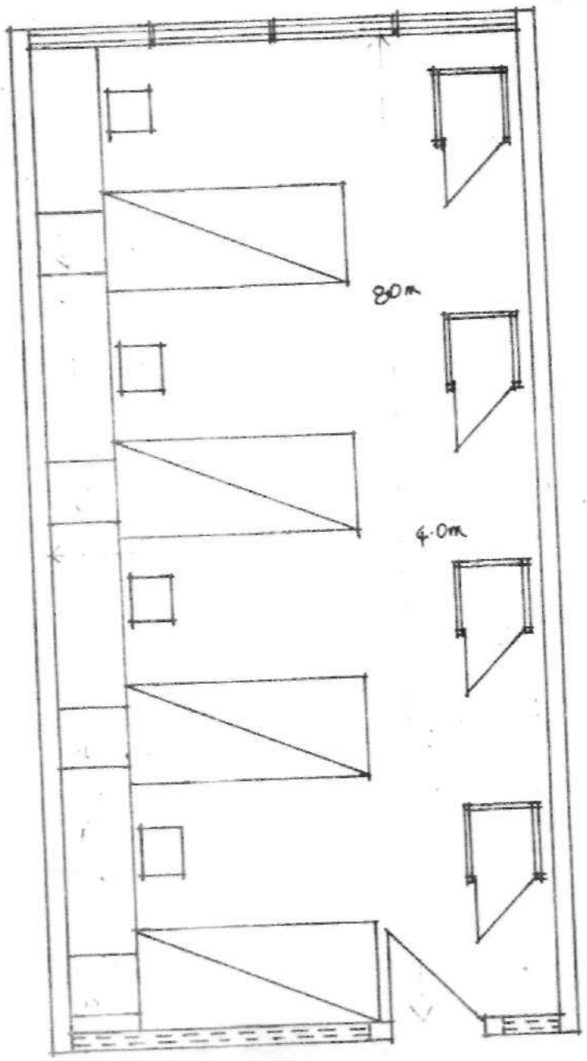
(Corridor on both sides)

are kept together

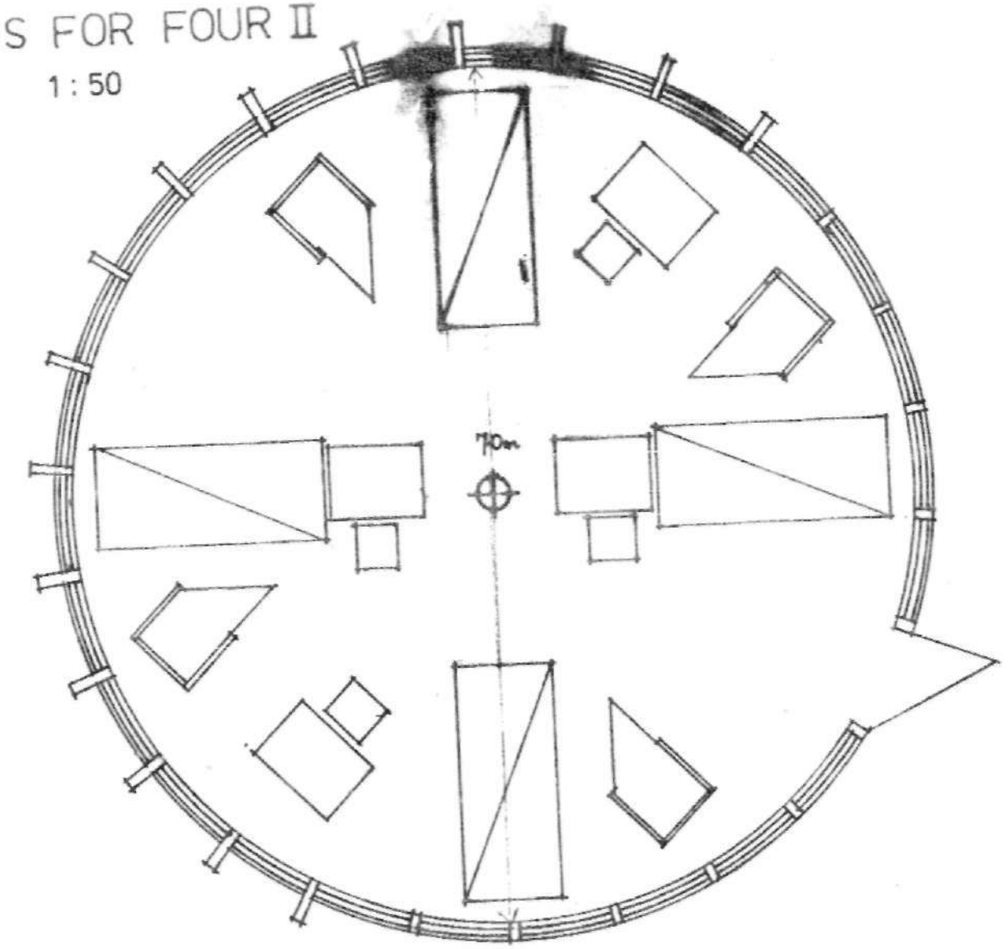
Where four students or in some cases more /.. like the extreme case of the attics of Moremi hall, University of Ife with nine girls in extra-large rooms - the inmates express positive dislike of the situation. This type of mass housing (more of mass-rooming) has hardly any aspect to recommend it except economy which, here, is rather excessive.

# ROOMS FOR FOUR II

1 : 50




(C) 32.0 sq.m



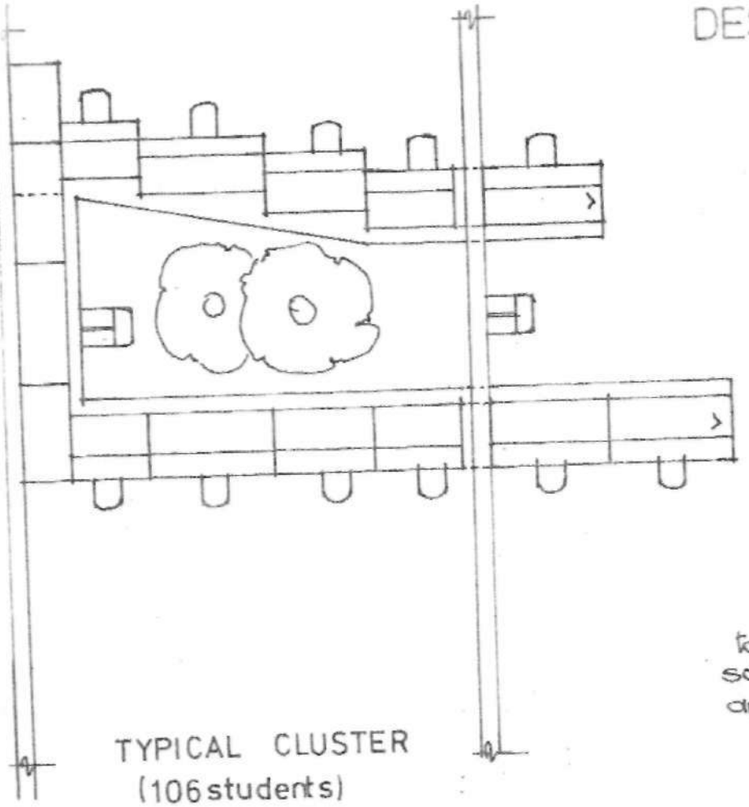

(D) 38.5 sq.m

C - Jaja Hall, University of Lagos.

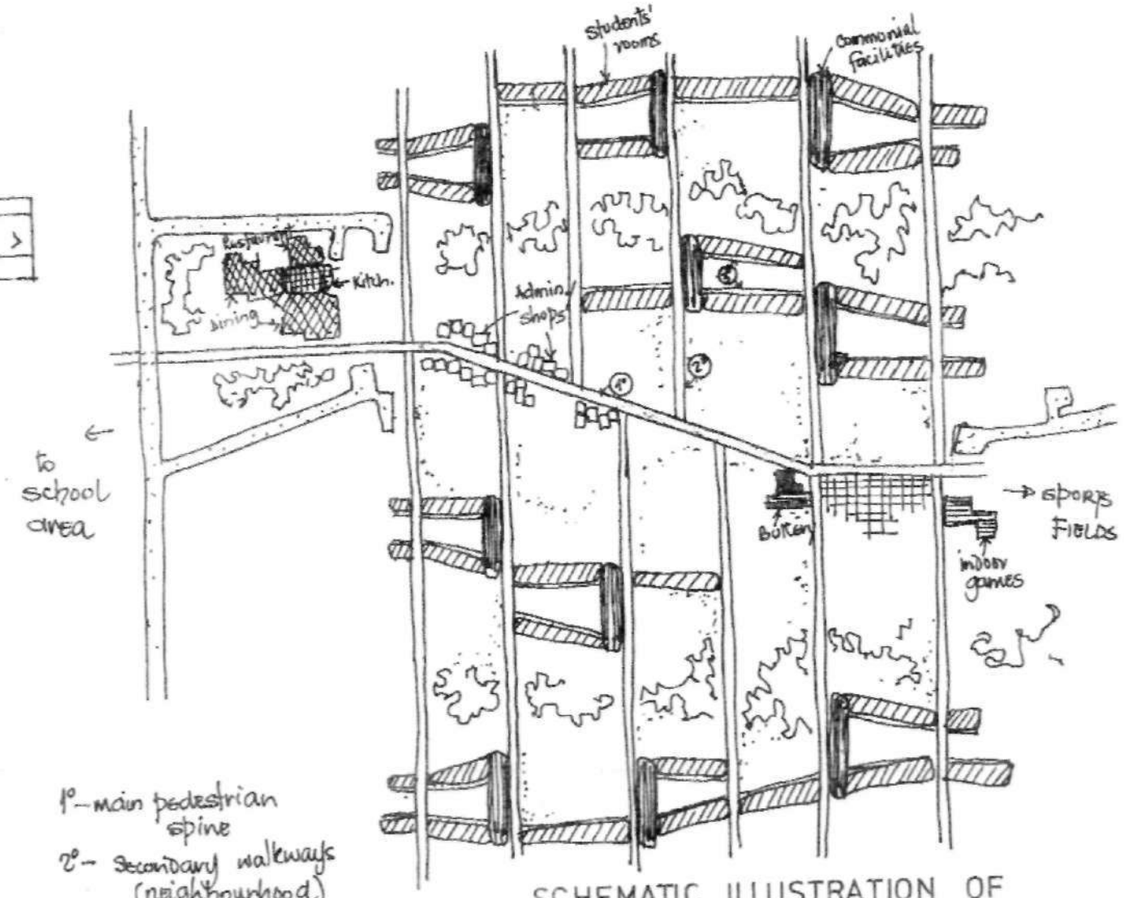
D - Moremi Hall - University of Lagos.

These ones remind one of hospital wards. The Moremi Hall's rooms for four (D) are the only circular students' rooms in the Country, by the way.

# DESIGN PROPOSAL



TYPICAL CLUSTER
(106 students)
1:500




1° – main pedestrian spine
2° – secondary walkways (neighbourhood)
3° – tertiary walkways (access)

SCHEMATIC ILLUSTRATION OF THE LAYOUT

9. DESIGN REPORT

9.1.1 GENERAL

The design comprises two Halls of Residence each accomodating five hundred and eighty two students.

Each hall comprises five 3-floor clusters of varying sizes and three 4-floor wings. Each cluster has its courtyard and eommunial facilities namely lounges, reading rooms and laundries which are conveniently shared by the wings. The courtyards which are to be partly paved and landscaped are for outdoor group sittings.

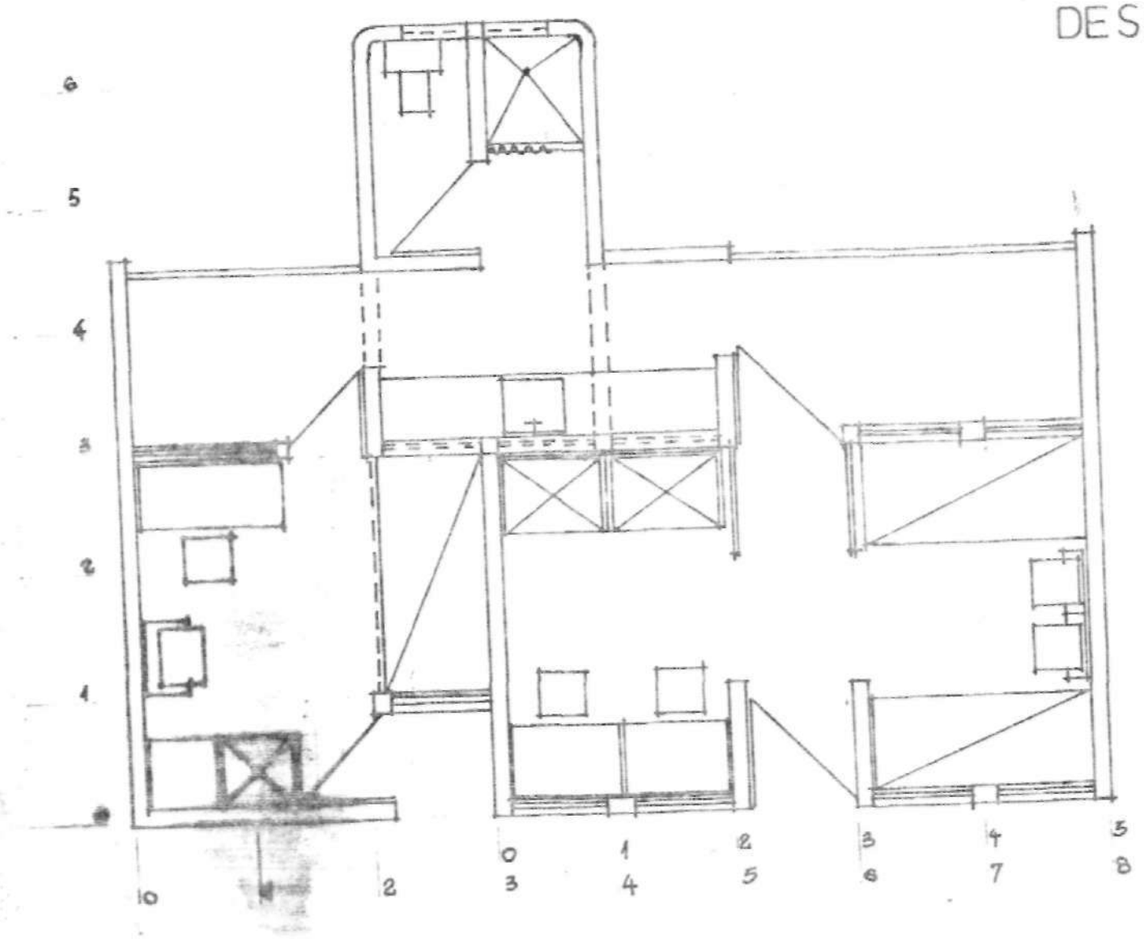
The clusters are in two distinct groups separated by a green zone which opens to the hills. They are however linked by covered walkways. The halls are such that one can go anywhere within them under cover.

The clusters house from fifty four students in the smallest one to one hundred and six in the largest. On the whole, each hall contains 118 single rooms for post graduate and final year students, 217 double rooms and 10 rooms for three strudents. Though each hall with the immediate open spaces occupies an area of 15,400$m^2$, the two halls and the communial facilities occupy 55,250$m^2$.

**9.1.2 COMMUNIAL FACILITIES** The communial facilities occupy a long zone between the two halls and comprise chiefly the administrative buildings, shops and relaxation places - both open and indoor. These are located on either sides of a 3m wide pedestrian spine which is the major walkway of the halls. From this spine branch six secondary covered walkways which lead to the corridors supplying the various rooms. The corridors constitute the tertiary walkways. The kitchen/dining block plus a restaurant which uses the same kitchen are situated at the begining of the spine which later terminates in the halls sports fields. The kitchen/dining/restaurant block is situated outside the halls in the direction of the academic areas so that they can be easily used from both places.

9.1.3 THE ROOMS As the site is surrounded on its west, north and east sides by beautiful sceneries of the Naraguta hill range, all rooms have been provided with private balconies which open to the beautiful surrounding. Whether single, double or triple, all rooms are such that each student can have total visual privacy within his own definable territory. The rooms are so arranged that there

# DESIGN PROPOSAL




SINGLE / DOUBLE ROOMS

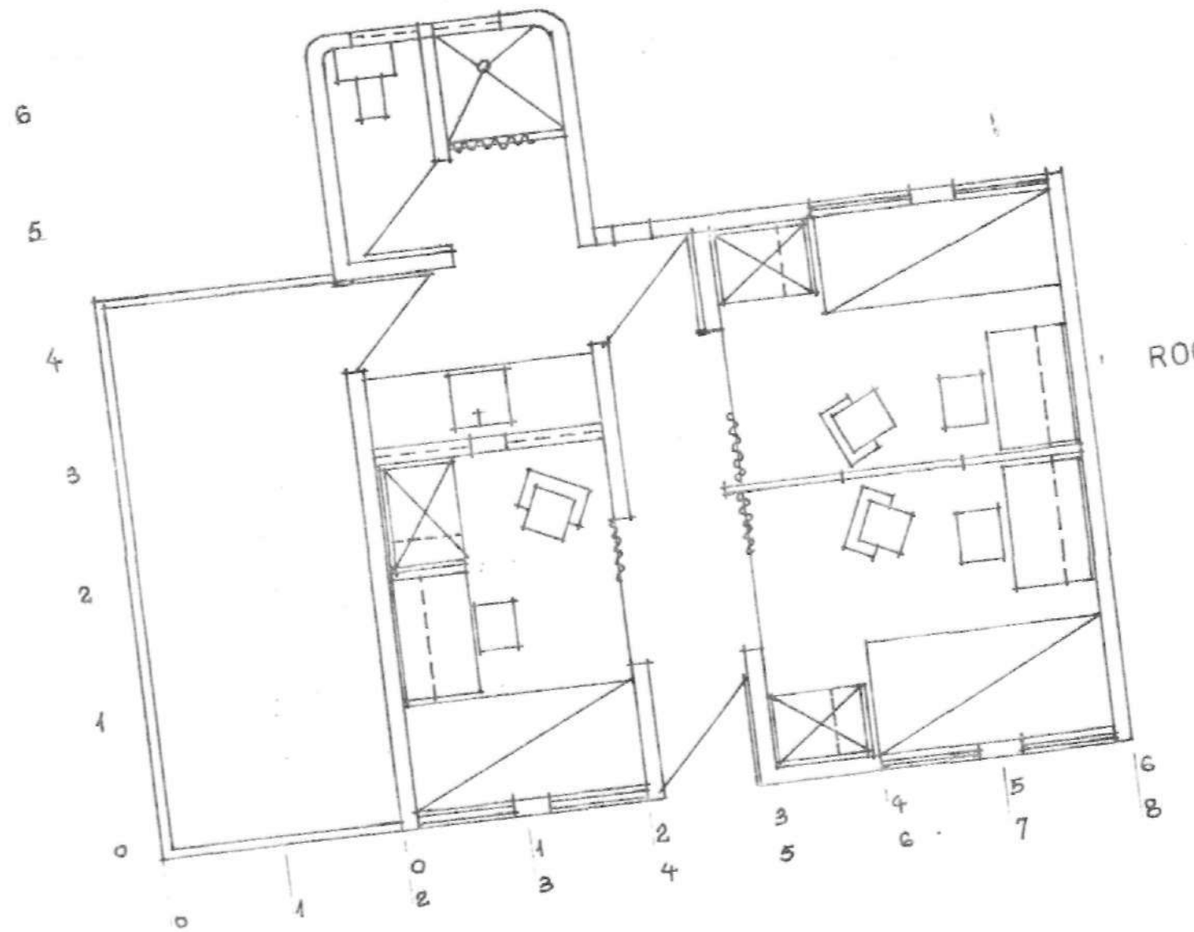
8.0 sq.m / 15.0 sq.m

1 : 50

is a basic utility area behind each pair. This contains the toilet with w.c. and shower, a kitchenette with storage lockers and sink. These facilities are utilized by 2,3 or 4 students depending on whether the rooms sharing them are two singles, a single and a double, two doubles or just a room for three. It is proposed that the toilet unit, which projects conspicously, be prefabircated in plastic.

The single rooms are $8m^2$ with $3.0m^2$ private balconies. Like all the other rooms, they have all basic facilities provided - wardrobes, shelves for books and other articles, 30cm high wooden beds with spring mattresses, armchairs, reading tables and soft-seated study chairs. Besides these are $50cm^3$ open wooden boxes with one cushioned surface which fit into a shelf compartment and can be used as bedside tables, coffee tables, stools and extra seats. All furniture are moveable but are so modulised that they could fit into wall compartments as though they were built in. A student can thus arrange his room in numerous ways to suit his desires. It is also possible in all rooms for a student to place his bed off the floor at a height that leaves the necessary 1m. headroom above the bed and enough height 1.5m beneath to make the space below useful. There are adequate high level window openings to keep this bed level well lit and ventilated.

DESIGN PROPOSAL



ROOM FOR THREE

24.0 sq.m

1:50

The double and triple rooms are such that the room-mates can live together in a single large room space if they are compactible or separate into private enclosures if they desire. The double rooms are $15m^2$ with balconies $4.5m^2$ while the triple rooms $24m^2$ with $9m^2$ balconies.

9.1.4 PARKING

Parking spaces are provided chiefly on the western side of the halls as this is where the main campus vehicular access is.

9.2 SPATIAL ANALYSIS

(a) Design Spaces

| The Spaces | Areas Allocated |
|---|---|
| Single rooms | $8.0m^2$ |
| Single rooms balcony | $3.0m^2$ |
| Double rooms | $15m^2$ |
| Double rooms balcony | $4.5m^2$ |
| Rooms for three | $24m^2$ |
| Rooms for three balcony | $9.0m^2$ |
| Lounge | $24m^2$ |
| Laundry (per unit) | $40m^2$ |
| Reading Room (per cluster) | $40m^2$ |
| Toilets (per two rooms) | $40m^2$ |
| Corridors' width | 1.2m |

| The Spaces | Areas Allocated |
|---|---|
| Secondary Walkways | 1.8m |
| Pedestrian Spine | 3.0m |

(b) Proposed Spaces

| The Spaces | | Areas Allocated |
|---|---|---|
| Offices:- | hallmaster | $16m^2$ per hall |
| | deputy master | " " " |
| | general office | " " " |
| | Porters/caretakers | " " " |
| | General Store | $32m^2$ per hall |
| | Mail office/phone booths | $16m^2$ |
| Shops:- | berbers, Hairdressers, | |
| | tailors, photographers | $16m^2$ each |
| | Magazines and cards, | |
| | electirc/electronic repairs etc | |
| | buttery | $256m^2$ $(16x16m^2)$ |
| | Supermarket | $64m^2$ |

| The Spaces | Areas Allocated |
|---|---|
| Indoor games | $224m^2$ ($14x16m^2$) |
| Kitchen | $176m^2$ ($11x16m^2$) |
| Dining hall | $464m^2$ ($29x16m^2$) |
| Restaurant | $112m^2$ ( $7x16m^2$) |

10. COMPARATIVE STUDIES

10.1 ROOM SIZES

(a) Single rooms:-

Existing range: $7.5m^2$ - $12.6m^2$

Mode (most prevailent): $10.5m^2$

Area of Designed single room: $8.0m^2$

(b) Double rooms:-

Existing range: $12.0m^2$ - $19.8m^2$

Mode $12.6m^2$

Area of Designed double room: $15.0m^2$

(c) Rooms for three students:-

Existing range: $15.3m^2$ - $18.0m^2$

Mode: $18.0m^2$

Area of Designed room for three $24m^2$

C.f. Existing range of rooms for four : $20-38.5m^2$

REMARKS:

The designed single room is seen to be much more economical, space-wise than most existing ones.

The double room designed fits about midway of the existing range though it is rather less economical than most. This is due to the extra advantage provided whereby each inmate could, if he so desired, separate into his own private zone where he could be assured total visual privacy. No existing double room offers such a possibility.

The triple room appears rather extravagant for three students. This is because as for the double room, it offers possibility for total visual privacy if required by any of the inmates and it could quite comfortably house four students if necessary. It fits very low in the area range of rooms for four students.

10.2

OUTDOOR EXTENTIONS TO ROOMS (BALCONIES):

(a) Single rooms

Existing examples: $2.2m^2$ (Unife) $2.6m^2$ (U.I.)

Designed Area : $3m^2$

(b) Double rooms

Existing examples: $2.9m^2$ (U.I.); $3.6m^2$ (U.I.); $5.1m^2$ (Unife)

Designed Area : $4.5m^2$

REMARK:

In most existing hostels, there do not exist outdoor extensions to students' rooms. Where they exist they are, in many cases so inconveniently small that hardly any activity takes place there at all.

In the thesis design, the private balconies not only serve as extensions to the rooms, they serve as extensions to the private cooking and washing areas too. They have also been made large enough for all the inmates, of the rooms to be able to sleep outside together during the hot season should they so desire.

10.3 AREAS OCCUPIED PER STUDENT

(a) One side of a typical cluster housing 37 students occupies an area $224m^2$

Area/Student = $6.1m^2$

c.f. a typical hostel block (4-storey) - Umar Suleiman Hall A.B.U., Zaria occupies an area $244m^2$ and houses 80 students

Area/student = $3.1m^2$

(b) A typical hostel environment of the thesis design i.e. the cluster, housing 82 students occupies an area $1,008m^2$ (with courtyard about $448m^2$).

Area/Student = $12.3m^2$

A typical Umar Suleiman environment, 3 blocks and the interstitial spaces occupies $1550m^2$ and houses 240 students. Area/student = $6.5m^2$

(c) General Hall of Residence area/student each hall designed with its interstitial open spaces occupies an area 15,400m$^2$ and houses 582 students

Area/student = 26.5m$^2$

.04.

THE POSSIBLE CAUSES OF EXTRA EXPENSES IN THE PROPOSED HALLS OF RESIDENCE

- The units are chiefly 3 floors only (most existing multi-storey hostels in Nigeria are 4 floors). More land is required to house a certain number of students.
- The spread ensuing from 3 floors only necessitates more lengths of covered wlakways.
- Decentralisation of communial facilities
- Free moving furniture in the rooms rather than built-in
- Provision of private extension to the rooms and toilet/private cooking facilites for less persons than what obtains generally.

APPENDIX I

STUDENTS ACCOMODATION PROBLEMS IN NIGERIAN UNIVERSITIES

(Article submitted for publication in the Department's annual publication ARCHIFORUM and the National Association of Architectural Students' Magazine.

Students accomodation, like all cases of housing where a lot of persons have to be housed cheaply, has many inmate problems. The usually exagerated concern about keeping the overall cost low in many cases results in buildings that are both unattractive and inadequately functional. With good planning, foresight and honest management, "low cost" housing, in whatever form, can be attractive and functional yet relatively cheap.

For the sake of "economy" students' halls of residence are usually seen to comprise unimpressive blocks of hostels lined up in various fashions occassionally with some form of covered links often without. Each block is often 2-4 storeys of rows of rooms adjacent to a long corridor. With this arrangement, noise generated by passers by on the corridors constitutes a great disturbance to those within and the distance of some rooms from the conveniences- stairs and toilet facilities which are usually situated at one end of the block - is uncomfortably long. The rooms are generally ill equiped and rigid, offering little or no possibility for changes.

As rightly observed by Eric Onyekwena, a Senior student of Architecture at the University of Nigeria, Enugu campus, "An unattractive building is not necessarily cheaper than an attractive one ..... and from elementary psychology, in the tropics, a student who lives in an ill-ventilated room without a balcony for relaxation, who wakes up to traverse about 130ft. to get to a toilet and has to climb down 6-8 flights of stairs to leave his or her hostel..... is already badly poised for the day."

It is a matter of concern that up to date new hostel buildings are coming up all over the campuses with hardly any attempt made to correct even the most glaring of old errors. Generally, students' dislikes for whatever aspects of their accomodation are borne in silence because, unlike food, accomodation is very difficult to complain about. It is not as easy to decide between adequate and inadequate accomodation as between good and bad food. Only a deliberate investigation can successfully extract complaints about their accomodations from students - except for obvious cases of total lack or congestion. It is probably this "suffering in silence" that makes more and more of offending accomodation types continue to come up all over the campuses with a sort of "take it or leave it" attitude on the authority's part.

It is so difficult to "leave it" as with the ever-increasing number of Nigerians priviledged to have University education, the student is made to see it as a greater priviledge still to be accomodated at all.

Whatever the efforts made, it looks as though students' intake will always outsize available hostel accomodations. While a solution to this problem could be provision for suitable off-campus living at a stage of every student's undergraduate life, it is essential that such residences as are provided on the campus are suiting for mental and physical comfort if the rate of students who end up as psychiatric cases is not to continue on the increase.

An investigation carried out amongst studetns of some of the Country's Universities readily reveals things which the students desire and those they dislike, available things which they appreciate and things they lack. Approaches like this could be good bases from which improved students accomodations will emerge.

As expressed above, the basic forms of some hostel blocks are disliked by many students. Some ill effects of rooms running adjacent to a long corridor have been stated. Many shared rooms lack possibilities for individual privacy and private balconies (outdoor extension to rooms) which all students feel are essential are lacking in very many halls of residence. Storage facilties in the rooms are generally

inadequate and articles, ranging from boxes and cartons to shoes and toilet things, are found lying about the floors as a result. Often laundry facilities are lacking and even where they are provided, facilities for drying clothes, particularly on the upper floors, are usually inadequate or absent resulting in balustrades being converted to clothes lines by students who find it too invonvenient (naturally) to have to go down every time they have to hang out clothes to dry. Kitchenettes are lacking even in female hostels and cooking ends up being done in the rooms or corridors. It has become obvious that whether officially acceptable or not and whatever the standard of the school-supplied meals, female students, in particular, will continue to cook in the halls.

On many campuses individual hostel blocks stand unconnnected to any other except by open paths. This is extremely inconvenient in the rainy season particularly at such locations where then, rain could fall for a day or more at a stretch. Students have to resolve to carrying raincoats or umbrellas to see friends in neighbouring blocks within the same hostel or else choose between getting soaked or remaining within their blocks while it rains. Not only should covered walkways link all hostel blocks within a hall of residence, they should link the blocks with the dining hall and other communial facilities.

While there are general complaints affecting numerous campuses, it must, in fairness be stated that the conditions are not all gloomy. Appreciably successful versions of the basic hostel block form exist on some campuses. Also some campuses have certain facilities which are unique and recommendable and others provide generously essential facilities that are lacking elsewhere.

University of Ife has hostels with ramifying covered walkways, though some students there wish these could be on more levels than only the ground. Jaja Hall, University of Lagos has walkways on the ground and first floors (the latter are open). While hostel blocks on some campuses are arranged to enclose courtyards which are neither paved nor deliberately landscaped, Unilag and Unibadan hostels have beautifully paved and landscaped compact courtyards. Mariere hall, University of Lagos, has a small courtyard which is fully covered with concrete slabs. Flowers in coloured clay pots and concrete boxes are abundant. The ground has different levels connected by steps. Seats of asbestos (white) are neatly arranged around the courtyard.



Balewa (Post Graduate) hall, University of Ibadan has toilet facilites brought so close to the students that the double rooms have their personal toilets and all rooms have personal balconies. The rooms of Lagos University's hostels as well as those at the Ekenwa (old) site of University of Benin have very large openings on two sides that make the rooms well lit in the day and well ventilated throughout. Toilets of Unife, Unibadan, Unilag and University of Calabar hostels have their walls and floors very attractively tiled. Students' rooms on the same campuses have floors nicely finished with ceramic tiles unlike those of Ahmadu Bello University, Zaria and University of Benin where floors are of sand-cement screed or cheap grano finish.

"New Hostel", University of Nigeria, Nsukka, has spaces provided on both its two floors for drying of clothes. These are called "Dripping Rooms" and prevent the usual unsightliness of clothes and towels hanging all around a hostel's balustrades. The same hostel has male students living on one and female on the other of its two wings.

University of Ibadan has some halls of residence with air-conditioned rooms called "Cold Rooms" where students can withdraw to read within their own hostel blocks.

Further investigation reveals that amongst students randomly selected in Ahmadu Bello University, Zaria, Unibadan, Unife, UniBen, Unilag and UniCalabar;

52% (mostly male) desire single rooms

33% (mostly female) prefer double rooms and

15% ( do not mind a maximum of three students per room.

20% desire the ground floor (there were complaints of ground floors' tendency to be rowdy and noisy and people on upper floors throwing things down)

56% desire the first floor

18% prefer the second floor and

6% like the third floor

It seems that the dislike for floors above the second is due to general water shortages on upper floors, and unreliability of electricity supply even if lifts were provided.

One big porblem with students' accomodation is the idea of "temporary hostels." In many cases, these are hurriedly designed and hurriedly constructed, inadequately equiped and often overcrowded hostel blocks set up with the supposed intention of utilising them for a few years and then making them give way to more adequate permanent structures. However, these so called temporary hostels remain

for generation after generation of students and one comes to wonder how temporary the "temporary hostels" really are. It is rather difficult to imagine a vast field of unreusable concrete like ICSA/Ramat hall or Danfodio Hall, both of A.B.U., Zaria, being destroyed in a near future when only very recently they underwent great "temporary" expansions.

One solution to the problem of students intake ever outrunning the increase in hostel accomodation is, as mentioned above, making suitable arrangements to have each student live off-campus at a stage of his/her undergraduate life with the authority aiding by providing bus services to collect the students at various strategic points in the town at specified regular times. The bus services can be paid for as with other public transport services or at subsidized rates. This system on the long run, might have the additional effect of being a necessary experience to the undergraduate who is sometimes accused of dwelling in an ivory-tower isolated from the community in which he is studying. It can also be a useful prelude to the National Youths' Service.

It is, in reality, almost impossible (if not totally so) to provide perfectly satisfactory hostel accomodations for students for all time. Students' demands and desires will keep rising as their lots improve. After all rooms have been supplied with

electric fans, students will probably complain of gusts and request for air-conditioners. All the same, the present conditions can be well improved upon.

Temporary hostels, where they must be erected, should really be temporary and should preferably be constructed with such materials as can make them erectable and demountable quickly with the possibility of utilizing the materials again. With the permanent dimensions, attempts should be made to evolve flexible rooms which can temporarily absorb one or more students, if required, without creating too much discomfort. For more satisfaction functionally and aesthetically, extra naira spent on students housing and other similar projects may well be worth it.

APPENDIX II

# Q U E S T I O N A I R E

- Circulated amongst students of

A Ahmadu Bello University, Zaria -- Main Campus, Samaru and Institute of Administration, Kongo.

B University of Benin, Benin City -- Ekenwa and Ugbowo Campuses.

C University of Calabar, Calabar.

D University of Ibadan, and UCH

E University of Ife, Ile-Ife

F University of Lagos, Akoka and LUTH, Idiaraba.

"A Look Into Students' Halls of Residence

1. Male/Female ? .....

2. Course ? (State whether Post graduate) .....

3. Name of Hall of Residence ? .....

4. Name of University Campus ? .....

5. Number Sharing Room ? .....

6. (a) Would you rather stay alone ?.....

(b) If not how many of you would you like to share a room ?.....

7. Is there anything you particularly like

   (a) about your room as it is ? .....

   (b) existing around the hostel ? .....

8. In view of your course is there anything (furniture type or anything else) which you think you specially require in your room or around the hostel ? .....

9. If you had your choice, in a hall of Residence on what floor level(s) would you rather stay ? .....

10. What floor height would you give as limit ? .....

11. What do you feel about accomodating student in sky scrappers ? .....

    .....

12. Would you like co-habitation i.e. male and female students living together

    (a) In the same hostel butin different blocks ? .....

    (b) In same hostel, same blocks but on different floor levels ?.....

    (c) Same hostel, same blocks, same floors ? .....

13. What activities do you consider the most important you carry out in your room and around the hostel ? .....

14. Would you consider outdoor extensions to students' rooms, in form of private balconies and teraces necessary ? .....

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