

**SKILL EMPOWERMENT WOMEN CENTRE,
ADO-EKITI, A STUDY OF ERGONOMIC DESIGN
OF WORK SPACE**

AN

M.TECH (ARCHITECTURE) THESIS

BY

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CERTIFICATION

This project write up (M. Tech Degree) entitled "SKILL EMPOWERMENT WOMEN CENTRE, ADO EKITI" by Okunbanjo Helen Olubunmi, is an original work and meets the regulations governing the award of the degree of masters of Technology in Architecture and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This design project work is dedicated to God, the glory of the most high God who made them both male and female, to dominate and procreate and subdue the earth.

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ABSTRACT

Due to the important role played by women in the family, society, country and the world at large, educating a woman is an indirect way of educating the world. With the enormous task before women world over, nothing will be too much to make women function not well but efficiently. The impartation and enhancement of skills of women will in no small measure help to curb the social menace faced all over the world. With the multifarious challenges facing women, the design of a Skill Empowerment Women Centre is a necessity if not a must. This design will take into consideration the need for an adequate and qualitative meeting point for women of all classes, offer vocational training with an added advantage of recreating and repacking our social values to the outside world.

The above was achieved by the use of a unique feature of ergonomic, that is ergonomic design of work spaces in building. This ensure that the physical surrounding fits the characteristic of the human body, so that work can be done without excessive effort within the range of healthy pastures, either standing, sitting or exacting forces. It incorporate seat design, bench, or console design and positioning of displays, controls and materials.

The design of a well deserved Skill Empowerment Centre for Women will go a long way to evolving an emotionally balanced woman able and ready to fit into her role in society, it will serve as a focal point for Nigerian Women, it will create a more peaceful society and showcase the potentials of the host state capital, Ado-Ekiti. It will also create job opportunity in the locality and by extension boast the economy of the area. Like a chinese proverb says "Give a man a fish and you have fed him for a day but teach a man to fish and you have fed him for a life time". A woman empowered will be a generation independent and free from the hassles and shackles of the societal stress and problem. This will also be a feather in the cap of the Federal Government of Nigeria in line with her poverty alleviation programmed and other poverty eradication programmed.

Finally, a Skill Empowerment Centre for women will bring about confidence in our women and the where withal to fend for themselves and their immediately family. A women trained is a nation trained, free and independent.

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CHAPTER ONE

1.0 INTRODUCTION

Educating women in Nigeria today is a onerous task that needs great care and planning especially educating the complex mind of the woman with appropriate values and norms that will help her adjust into the society she is placed without being in conflict either with herself or the menfolk. Nigeria is no exception to the rule which says 'educate a woman and you educate the society. (Anon)

The average Nigeria woman today falls into two categories. For both categories basic formal education is assumed to have been instilled into them. The first category is one in which the woman after the basic education is being exposed to a lot of foreign influences about fellow counter parts in other places. She hears and reads about their struggles against the men, their cries equality of the sexes, freedom from oppression, women's liberation etc. without getting to the root of these cries of other opinions on the issues for that matter, she, out of a sense of womanhood kinship and female togetherness goes on a solidarity mission for her gender. She imbibes western ideas along with the entirely foreign culture and expects that it will fit perfectly into the Nigerian situation, hence she is trying to tackle a foreign problem on Nigerian grounds with imagined adversaries. The more she gets in contact with these influences, the further she moves away from the indigenous culture and beliefs and even simple things as dressing are affected by these influences.

The second category in which also, basic formal education is assumed and the education gained is not put to any use at all and the woman is still entrenched in the sterotypical female role of the

Nigeria society which is one that considers women as inferior to the menfolk and so makes females sub-servient to the male folk to the extent that in some cultures women are disinherited, widows are cast out or are taken over as chattels by the relatives of the late husband. In this situation the woman is faced against another sect of the society which is trying to subjugate her to sub-human standards, where her whole life she is told and trained to play servant to the menfolk of the society including the children. As a result she loses any self dignity and respect and believes that her sole purpose on earth is to cater to the whims and caprices of the menfolk, both old and young.

1.1 AIMS AND OBJECTIVES

AIMS

1. The centre shall be a meeting point for both the rural and urban women and shall help evolve a total and complete Nigerian woman confident in her role of complementing her male-counterparts towards society building.
2. Set the standard, as individual women, of living for the sake of the family, community, nation and the world as a whole.
3. Offer vocational training to women without professions to help reduce the burden of family maintenance on the male folk.
4. To create new homes and societies by realizing values which are indispensable to all human beings and by establishing the primacy of love and togetherness of mankind.
5. Enlighten the male folk on the importance and necessity of women in the society as companions in nation building and family development.
6. The centre aims at bringing about the recognition and appreciation of the true values of women in home, societal and national building.

OBJECTIVES

The centre hopes to achieve the following objectives on completion and implementation of its programmes.

1. Evolving an emotionally balanced woman able and ready to fit into her role in Society and by so doing balance the Nigerian Society.
2. To serve as a focal point for Nigeria woman and manifestation of their determination to be in the mainstream of national development.
3. Creating a more peaceful society where men and women understand each other and work hand in hand for national development.
4. To advertise the potential of Ado-Ekiti, where the centre shall be sited and as a result further develop the area in tourism and economy.
5. Provide job opportunities to the locality and by extension boost the economy of the area.

1.2 RESEARCH METHODOLOGY

Research into the topic was carried out to enable one to produce an adequate and acceptable design that would suit both the purpose for which it shall be used and also fit into the area it is to be situated.

A visit was done to the proposed site to ascertain physical site conditions e.g. nature of soil, presence of infrastructure i.e. pipe borne water, electricity, telephone lines etc in the area. Accessibility to the site and also the general accessibility of the location were all checked to ascertain the conditions will shall be taken into consideration at the design stage.

The areas which the centre will cater for and the facilities and services to be offered by the centre, related literature and project both academic and real life were studied and analysed to help one know what facilities and services should be offered by the centre to suit the peculiar needs of the area it is situated. Related projects pertaining to women development were also visited their merits and demerits noted, the merits were incorporated into the design while an attempt was made to correct the demerits in the design of the centre.

Personal interviews were conducted both of people associated with related projects and the populace of Ado-Ekiti to investigate and ascertain the need for such a centre in the area and also the expected level of acceptance and willingness to participate in the programmes offered by the centre by both the people in the locality and other affected and interested people from other areas of the country.

1.3 SCOPE AND LIMITATION OF WORK

The skill empowerment women centre, in order to meet its aim and objective and achieve its goals, will comprise of the following facilities which shall be divided into units to function as individual units and collectively as a whole to achieve the goals of the centres. These units are:

A. ADMINISTRATIVE UNIT

The unit is the heart of the centre and it is charged with the smooth and efficient running of the centre's facilities. It shall comprise of

1. Director's Office
2. Assistant Director's Office
3. P.R.O's Office
4. Director of Social's Office
5. Account's Office

6. Secretary's Office
7. Record Office or Store
8. Staff General Office
9. Coffee Room
10. Board Room
11. Conveniences
12. Computer room
13. Library
14. Reception
15. Hall of Fame
16. Parking Space

B. SCHOOL OF THE NIGERIAN WOMEN

This school aim at teaching the Nigeria woman the appropriate values and attitudes to help her adjust in the society, as well as some vocational skills for the unemployed woman. It shall have a school and a vocational centre which shall consist of

1. School supervisor's Office
2. Vocational Supervisor's Office
3. Staff Offices
4. Lecture rooms
5. Workshops
6. Stores
7. Secretary's office
8. Convinces
9. Common Lecture room

10. Stationary Stores
11. Data rooms
12. Parking Space

C. ACCOMODATION

This unit shall cater for the accommodation needs of the centre's programmes participants who came from areas outside the locality for quick and easy accessibility. This shall comprise of

1. House keepers room
2. Feeding facilities (C Kitchen, Store, etc)
3. Waiting area
4. Common room
5. Conveniences
6. Participants accommodation
7. House keeper's offices
8. Stores
9. Mini Supermarket
10. Parking Space

D. SOCIAL/COMMERCIAL UNIT

This shall cater for the general entertainment of the centres participants, their families, staff, visitors and so on. It shall consist of

1. Restaurant
2. Snack Shops
3. Craft shop
4. Picnic garden

5. Hair dressing Saloon
6. Multipurpose hall
7. Parking space
8. Suya's spot
9. Relaxation garden

E. MAINTENANCE UNIT

This unit serves as the unit responsible for the smooth running and maintenance of the centres facilities; to effect repairs on broken down facilities, make installations, fabrication and so on. It shall comprise of

1. Maintenance Workshop
2. Conveniences
3. Generator House
4. Water storage facilities (water tank, pumping machine)
5. Waste disposal unit

1.4 IMPORTANCE OF STUDY

The best way to tackle any problem is to tackle it from the root, and since every person's first teacher and major influence is the mother (woman), it follows that to adequately tackle and educate the society, the woman should first of all be schooled with proper norms and values so that whatever alternative is chosen by the woman, she can either educate her children if she chooses a family life or be better able to relate with other members of the society if she chooses to have a public life. Whether it is a rural or urban woman in Nigeria today; there is evident misunderstanding of the role of women in the society, their multifaceted role of mother, wife sister, daughter, friend and most importantly companion. This misunderstanding is exhibited by

both male and female; whereby the female is in competition with the male counterparts, while the male on the other hand is continuously trying to dominate the woman. The whole problem is compounded by extreme western influence filtering into our society today.

Looking at the nature of men and women morphologically, they are made differently, which helps to buttress the belief that they are not equal. Man and woman are made differently to fulfil different functions of complementing one another to help natural balance. Any deviation from this natural balance will disrupt the natural sequence of events because simply put a man cannot bear children, while a woman cannot do the physically tasking chores a man does.

The rural woman today is stuck in her primitive positive without any form of progress or consideration for the dynamism of the society. since society itself is dynamic, room must also be made for human improvement which will basically match the pace of the advancing society in a positive trend.

This centre will aim at improving the lot of the rural woman by making her aware of the changes taking place around her and her capabilities and options to match up to these changes, both physically and psychologically for the general upliftment of self and society as a whole.

The urban woman on the other hand has had such a large of western influences pumped into her that she aspires for supposed ideals of self, such as equally with the men folk, female liberation and so on. One only need freedom where one is imprisoned or chained. Her aspiration is the woman of the so-called advanced countries without necessarily looking at the attendant problems of their societies that are brought about as a result of this advancement. The centre will attempt to make the urban woman aware of all the good values that she is leaving behind in her

bid for advancement, and also teach her to appreciate indigenous values and customs beneficial to her and society at large.

The centre offers more than the other women's centres because it basically offers programmed aimed at the minds of both the rural ad urban woman in a bid to better the society with indigenous designed programmes and real life situation; also helping one set of women (rural) to recognise and respect the other (urban) and vice versa, as well as bring them together, one to learn from the other without any animosity from any group. The centre also aims at making one set of women realize that the other set is equally as important and necessary as the other to society and thus help them to work hand in hand for the betterment of womanhood in Nigeria and the society at large.

1.5 DEFINITION OF TERMS

A. SKILL

Special ability to do something well, especially as gained by learning and practice.

B. EMPOWERMENT

To give (Someone) the power or legal right to do something.

C. DEVELOPMENT

The act of development or the process of being developed.

D. GENDER

Teach or euph the division into male or female; sex: gender differentiation within a species.

E. DISSEMINATE

To spread (news, Ideas etc) widely.

F. INTEGRATE

To join or cause (a member of a social group) to join in society as a whole; (cause to) spread time with members of other groups and develop habits like theirs.

G. ASSET

- I. The property of a person, company, etc especially that have value and that may be sold to pay a debt.
- II. A valuable quality, skill, or person

H. PROGRESS

Continual improvement or development towards an intended or desired result.

I. ERGONOMICS

The study of the conditions in which people work most effectively.

CHAPTER TWO

LITERATURE REVIEW

2.0 WOMEN AND DEVELOPMENT

Gender according to Jeminiwa, 1994 is not new. However, he stated that 1975 became a major milestone in international attention on woman issues. In addition to being declared the International Women's Year, the World conference held in Mexico that year started the debate on the status of women. This was followed by the declaration of the year 1976-1985 as the 'United Nations decade for Women'. These development led to a sharper intonation focus on gender issues and among others acted as catalysts in the process of integrating women into the main stream of development.

Boserup (1970) in her classic work "Women's role in Economic Development" observed that the development process and adverse effect on women by denying them their traditional role in agricultural production confining them to subsistence production without access to land, technology and other critical resources required by them to build up surplus like men.

The poverty of women, therefore, originated from their inability to build up capital to start or sustain independent income generating activities.

The representation of the household as a unit of production, consumption and biological reproduction was also problematic. It concealed women's contribution to the household and projected their labour as part of family labour which did not need to be rewarded. The under-development of women, therefore arises from the fact that rural women are unable to derive

enough income from activities such as post-harvest processing, food preservation, storage, fetching water, collection of fuel wood for cooking and child care.

The diverse effects of poor economic status of rural women has been with us for a long time. The evidences of female poverty are, according to Jiggis (1989), Poverty of cash, resources, labour supply and reward. These are also attended by low literacy, food storages, -low nutritional status, poor health status which manifests in high maternal and child morbidity and mortality; fertility rates, some times in excess of 6-5 children per woman,-female adolescent marriage and attendant complications such as those of VVF;- inadequate material and child health facilities,-women who walk along distances to the market, the health clinic, to stream of rivers and the farm-women with annual income below five thousand naira and with no independent income generating activities, and no access to loans farming inputs, tractors and other farm implements-and women who spend hours on productive and reproductive roles.

These problems call for special development programmes for women both in rural or urban setting in order to improve their quality of life.

2.0.1 WHAT THEN IS DEVELOPMENT?

Development means different things to different people. Mabogunje (1980) identifies this to be economics growth, modernisation, distributive, justice, socio-economic transformation and spatial reorganisation.

Omar (1976) defined development as induced, planned and deliberate change, which aims at improving the living condition for the masses so as to achieve a set of defined goals. However, there is agreement that development is multifaceted and involves improved living conditions

that are sustainable. However development brings sustained improvement in the well being of the people (women inclusive).

Women predominate among the poor in the world today and they are most in the rural areas. The annual incomes of millions of them throughout the world have declined so sharply in recent years that they have fallen below poverty line. And in the last two decades or so their number has risen by 50% (Moredo 1992). Rural women are getting poorer and further marginalised both in the utilization of available resources and access to development resources. Although male chauvinists may be right in saying that both men and women are affected by poverty, it is clear to most simplistic analyst that women are more disadvantaged and more vulnerable. Majority of African women still work for between 14-18 hours per day and produce between 50-80% of sub-sahara Africa's food, fetching water, gathering fuel wood, and caring for their families (UNDP 1990).

Development in its totality mean progress towards all aspects of human rights which include:

- the right to enough food and good nutrition
- good health, education and shelter
- employment which is productive and rewarding
- right to regulate family size and to space children so that each child born is a wanted child.
- right to own land and have access to bank loan

if we want our women folk to have development, these must be the goals to be achieved as overview to priorities of the 21st century.

The sectors in which women activities are mentioned below:

2.0.2 WOMEN IN THE AGRICULTURAL SECTOR:

In terms of sectoral allocation-agriculture appears to be the occupation of most African women. It is estimated to be the occupation of 70% of Nigerian rural women and 98 of Rwandan rural wome (UNDP 1990). Yet it is known that agriculture has the largest chunk of the poor. For women, the poverty is compounded by the fact that only 50% of women hold title to the land they work on (UNFDA 1992). In many states of the Federation, women are responsible for tending the family live-stock. In areas with high rate of private land ownership, women form up to 40% of the hired labour force, usually working for lower rate of pay than men. (Ajayi 1994). Another estimate by the UNDP claims that about one third (1/3) of all African households are headed by women. When this happens, in most cultures, these households, headed by women are poorer than those headed by men. For example, female headed households have no land or they have less than one lectare of land. They also have one third (1/3) of the value of equipments of male headed house holds and the and the value of their crops produced is usually less than half that produced on land owned by men. Although, their productivity is as high as that of male farmers, in many cases, women are handicapped by restricted access to credit, land and other productivity enhancing resources.

Frequently, they must hire labour, the cost of which reduces their returns. The role of women in agriculture had remained largely invisible due to their involvement primarily in subsistence farming and in growing food for family consumption-while men tend to be involved in more visible cash crop production.

The provision of agricultural inputs is very important, as this may alleviate women's workload and increase their productivity thereby enhancing their income and self-reliance as an overview

of priorities of the 21st century, women must have access to land, capital resources as well as to technology in form of farming inputs. Inability to have access to the above will prevent them from being able to support themselves and their families, thereby hindering their development.

2.0.3 WOMEN IN THE EDUCATION SECTOR

In the education sector, women also fare worse than men. For example 46.30% of females world-wide were illiterate in 1990 while that of males was 28.5%. In sub-Saharan African (UNFPA 1993), 70% of females were considered illiterates. Education both formal and non-formal is widely regarded as an important aspect of development. Yet in the developing countries of the world, the majority of women are unable to take full advantage of educational opportunities at present. Education, as can be seen brings benefits to the educated in the forms of access to information and market and more economic and political influence. Educated women can gain more autonomy in the home and greater control of resources as a prelude to having more say in family decision. Education is required for skills acquisition and consequently to increase the competitiveness of women. Low education or lack of it, therefore, generally limits the upward mobility of and marketability of women. Generally, too high turn over due to marriage, husbands transfer, frequent maternity leave and so on, prevent women from establishing themselves or from obtaining long-term benefits from employment. From the education sector, one can see that if development process is to affect all and sundry, of the priorities of the 21st century overview is that education is given to all including women. That is, education both formal and informal, functional and qualitative-as the case may be, all should be regarded as important aspect of development which should be made available, accessible and compulsory for women as well as men, thereby making education an important tool for national development and self-reliance. And it will also prove right the saying "if you train a women, you train a nation".

2.0.4 WOMEN IN HEALTH, NUTRITION AND POPULATION SECTOR

As bearers of children and traditional provider of health care and nutrition Ajayi (1994) stated that women play a key role in peace and development effort to improve health and reduce population growth.

The importance of family planning in improving life especially health of mother and child has continuously been re-affirmed. The IPPF African Region recognised the numerous hindrance to health, nutrition and population sectorial activities and has been strategically contributing to their removal. Such hindrances includes diversity of issues such as culture, customs and lack of inadequate basic information about population and other socio-economic development, lack of education and information at the individual level due to high illiteracy, poverty and inadequate communication channels, lack of basic demographic data and understanding, therefore inability to interpret politics ethical question regarding fertility regulation to enable foreign countries to perpetuate their exploitation, plus other environmental factors such as religion and legal issues and finally low status women.

Other health and nutrition issues affecting having access to health facilities and information on nutritious foods good for the family and individual within the family, thereby reducing health bills: Any national development plan that does no reflect health, nutrition and population components lacks strategy to seek and improve the quality of life for both the individual and the community. This is another area of development that must be accorded as a priority in the 21st century says the slogan, Health for all by the year 2000, since high population growth rates can perpetuate health problems-the two acting on other to create a vicious cycle of poverty, poorhealth and peace problems. Research has confirmed that there are sometimes an inverse

relationship between birthrate and education, and that imported employment prospects and high income levels can be related to decrease in fertility (Scott, 1983). All these interact to affect women and development and they must be given high priority in the 21st century.

2.0.5 INFORMAL AND UNORGANISED SECTORS OF THE ECONOMY INCLUDING ENERGY AND FISH PRODUCTION AS WELL AS WATER AND SANITATION:

In the formal and unorganised sectors of the economy, women workers are usually mostly concentrated. Trade union activities in organised workers therein are insignificant. Another major reason of disadvantages and exploitation are based on sex e.g abduction, harassment, physical violence, rape and so on, of the most vulnerable groups are women refugee. Global refugee population is estimated to be 75% female and between 60-80% of refugee households are headed by women (Overhagen 1993) while a crucial part of any development strategy is energy development, it can be a complex and difficult task. A traditional focus is usually designed for capital intensive, large scale energy projects. Rural electrification could solve some of the problems of women, in this sector, but it is often extremely expensive, particularly of the rural area concerned is responsible for total cost. And where there is no adequate energy nowadays, more the one youth and men migrate in search of green pastures to the cities while women are left in the rural areas.

Further more, labour saving technologies developed that are based upon the available of electricity, can displace women from their traditional income earning activities. The subject of women's roles in fisheries has received little study to date. Considering the fact that women

comprise 30 - 50% of the total fisheries work force in West African, South East Asia and most of the Island of the pacificance caribbean, it is evident that there is a serious need for empirical research on this subject for family protein and nutrition. In ligh of the deduced evidences in this sector, they must be seen as priorities of the 21st century towards women's development. Women are the primary haulless and users of water in developing countries. Given this fact, Ajayi (1994) states that women should play a significant role in promoting community water and sanitation programmes. As mothers, they also have been the traditional guardian of family health and the teachers of sanitation, hygiène and disease prevention to members of their families. Therefore, women have a vested interest in the establishment of safe and reliable water and sanitation siplems and as equally strong incentive to ensure that the systems are adequately and continuously maintained. Hence, another priority area for the 21st century women/development.

2.1 WOMEN EDUCATION AND NATIONAL DEVELOPMENT

Available statistics show that women make up about forty – eight percent of the population of Nigeria. As a rule, education increases ones potential for more effective contribution to the development of the society. Formal education arms its recipient with skills, competence and dispositions necessary for the performance of vital roles in the society. It is mainly for the vital function, that the nation policy on education is an instrument per excellence for effecting national development.

As all know, intelligence is normally distributed in any population, and as such there are justifiable grounds to conclude that there are just as many intelligent women in any society as there are intelligent men. In Nigeria, the sad thing is that what is currently being tapped is from the reserviour of men only and that the fifty per cent national potential for development through

the formal education of women is currently being allowed to waste. We are currently not developing to our optimum point partly because, we have neglected women education. Thus the national development potential is being halved each time, we neglect to educate women.

With women education, we may be able to double our output of teachers, doctors, pharmacist, lawyers, engineers, architects, that is those skilled man power that provides impetus for national development

A vastly increased labour force with a consequent increase in its potential at the political, economic and social levels is therefore one major way which women education to national development. Using a term from Economic, the multiplier effect of women education in national development would be enormous.

In the aspect of social development-optimum population. Th greater the access to formal education provided to women, the easier it is to control the growth of population. It is no accident that countries with a high percentage of educated women. Fertility rate and reduced infant mortality rate. This is for the simple reason that the more educated women folk are, the more likely they are to engage in responsible responsive, psychological fulfillment, but not necessarily procreative sexual encounters with their spouse.

Indeed theories demographic transition-Link movement to optimum population, point to the improvement in the participation of more women in education. 'Formal education increases a woman's ability to see to the health of her family to provide more meaningfully and imaginatively to its needs inshort to contribute to an enhancement in the quality of life of her family'.

Since an improve quality of life leads to improve national development, it should be cleared to us, that women education is a sine qua non for national development. If women education must be fully implemented, it is imperative that the debris and cobwebs of the hidden curriculum and teacher's negative attitude towards female participation in certain key subject, notably in the sciences must be swept away.

2.2 WOMEN EDUCATION AND NATIONAL INTEGRATION

Women education in national integration can be explained as the role education will play for women in helping them come together to contribute to the development of the country, and improve their Social Strata, away from the conventional beliefs of women's place and role.

With the numerous fibre, culture, belief, values, standards, norms and religions sects in Nigeria, a factor for national integration and unity will have to sought for. Adequate education is believed has been a total of knowledge, love, peace and harmony, therefore a weapon for national integration. Without education, we cannot know of other people and places, we cannot have a real and clear idea of what lies beyond our environment. Ignorance creates bias of things and person and bias causes prejudice, fear and lack of trust and co-operation for national integration and unity among women. It is through education that we understand other people's language, appreciate others lifestyle, mode of dressing and food and so on. Lack of education can limit sense of reasoning and understanding. With adequate education, we tend to appreciate other people and regard them as human, understanding the fact that we may only differ in race, religion or location. Education creates curiosity and the desire to know more of what lie beyond, as such it give the desire to mix with others, find about others, think of others and to improve self or the society. With the present mass mobilization of women folk into to Nigeria

Scene from all works of life, women education will serve as an integral part of national development. Emphases geared towards women education in the development of national integration will be a great social force that will be much needed for our national unity.

Women are mothers and wife; women do the cooking; mending and sewing; washing; they take care of men and are subordinate to male authority; they are largely excluded from high status occupation and from position of power. The generalizations apply to some degree to practically every known human society. The most basic division of labour appears to be founded on sex or gender.

In terms of the rewards of prestige, wealth and power attached to the gender roles, women almost invariably come off worst. In recent years particularly with the rise of women's liberation movement, the reasons for a sexually based division of labour and for the inequality between male and female role have been hotly debated. If sex difference between male and female is no longer a barrier in walks of life, education will be a tool of embracing national integration and better productivity among women folk in Nigerian, where we have diverse ethnic groupings. Without adequate education, it is difficult if not impossible to bring people together for national development or individual progress.

2.3 WOMEN EDUCATION – AN ASSET OF PROGRESS AND INTEGRATION

Adequate education will help people to understand one another and to achieve a common aim of interest;

It will help in knowing how to go about obtaining things lacked and desired;

Education teaches manners and methods of procedures of approach to thing desire;

Education can reduce fear and give confidence to one;

Education can raise ignorance;

Education give knowledge of other lands, other persons and their styles of life, norms, beliefs, values and taboos;

Education teaches manner of behaviour to other persons;

Education allows adjustment and adaptation in lifestyle, other than individuals;

Education helps in knowing ones right for the national integration among women folk;

Education will erase bias of ethicity and enhance national integration among women;

Education can enhance better understanding government rule among women;

Education can teach skills for interaction;

Education can enhance happier living;

Education can make women better parents and better house wives;

Education can bring peace by making women better evaluators of men;

A lot of women are ignorant of the government programmes and how these affect their lives.

Since women form about forty-eight per cent of the total federal population, their education is the key to overall development socially, economically, and politically. Until recently, women education was totally neglected. Men education was the preference. It has been the vogue for female children to be withdrawn from school for marriage especially in most parts of the northern states.

Women as builders of men, providers of future leaders must seek education for national integration among women. Women must get into action and shake the men out of their indifference as far as their problems are concerned. Women education and collective effort will

go a long way in changing the economic development of the country. It will also remove biases from ethnicity through their adequate education and integration.

2.4 PROCEDURES FOR EDUCATING WOMEN

- Through the use of women movement groups and their spokes women for example, the Nation Council for Women;
- Through the use of adult education classes and their teachers;
- Open lectures sponsored by various organisation;
- The use of mass media-Television, radio and news paper;
- Adequate lectures at school avoiding sex discriminative roles of stereotype ideas based on sex.
- The use of co-operative group where hand or practical skills can be thought and learnt;
- Through workshops and seminars for public enlightenment;
- By giving education opportunities;
- The use of posters, picture and diagrams with women in various skills – Picture language.

2.5 ECONOMIC EMPOWERMENT OF WOMEN

The better life programmed for rural women has set on the path to a long-term situation of full economic empowerment of rural women. This has been achieved through the women's multipurpose centre which became variable channels for the components and benefit of empowerment of the rural woman. She is therefore empowered by an awareness of what is happening around her through communal interaction and cooperation.

Consequently she has also acquired political consciousness by attending adult education classes, she has been empowered to acquire basic knowledge and skill through which she can become a better manager of her resources, her children, her home and her work. As she begins to understand basic healthcare and nutrition, she is gradually being empowered to live a healthier and longer life; and as she acquires new technology and credit facilities, she is empowered to create new wealth and thus a better life not only for herself but for her family, her community and the nation at large. All these gives her a voice in society, better recognition and a sense of self-worth and belonging.

2.6 THE MARYAM BABANGIDA CENTRE FOR WOMEN DEVELOPMENT, ABUJA

In recognition of the role of women in the development of the nations, the united Nations General Assembly declared 1975-1985 as the united Nations Decades for women and further called on all member states to implement the world plan for action by establishing national machineries which would be conducive to the integration of women into the mainstream of development. This culminated in the Arusha meeting of 1984 in Tanzania which adopted an all encompassing strategy for African women entitled the "ARUSHA STRATEGIES FOR THE ADVANCEMENT OF AFRICAN WOMEN BEYOND THE UNITED NATIONS DECADE FOR WOMEN". The Arusha Strategies took special consideration for Africa's urgent Socio-economic needs with the aim of ensuring a greater participation of women in the development process, as well as improving women's living conditions.

BACKGROUND

Nigeria has since witnessed tremendous activities in the realms of women in development especially since the inception of the Babangida Administration. The pace-setting concern of the

first lady of the Federation, Dr. (Mrs) Maryam. I. Babangida, for the rural poor and energetic determination to redress the situation led to her initiating the Better Life Programmed. The move was predicated on the recognition that "national economic development" cannot be totally effective without full and meaningful participation of rural women.

Implicit in this also was the realisation that the most effective strategies of development must emphasise the mutually re-inforcing relationship between the welfare of the women and the growth of a nation. Thus it became inevitable that a resource centre for training research and mobilization of women towards the attainment of individual self-fulfillment and for preparation for leadership role would have to be established. The Maryam Babangida Centre for Women Development was built to fulfil that need. This centre is a revolutionary milestone on the path of women's development in this country and a testimony to the unprecedented readiness and support for the women's emancipation by the Babangida administration. It consistent and thorough determination gave the integration process a revolutionary boost, and reduced a pale shadows the half-hearted attempts of the past.

2.6.1 OBJECTIVE AND FUNCTIONS OF THE CENTRE

The Maryam Babangida Centre for Women Development serves as a focal point for the Nigerian women and a concrete manifestation of their determination to be fully a part of the main stream of development. It serves as a model environment for academic excellence in women development. Yet, it received visitors from all fields of human endeavour who may either be on fact finding missions or participants at the intended elaborate programmes of the centre.

Some of the functions among others are:-

- Collate and package information relevant to the activities and achievements of women for use by researchers and policy makers. The data to be derived therefore is expected to

be given recognition in national economic policies and to facilitate the formulation of other policies on women and housing, employment, health, education and so on;

- Mobilize women towards the attainment of self-fulfillment as individuals and prepare them for leadership roles;
- Serve as a data bank for essential information which will be used for educating and creating awareness through the use of various means of communication, for example print, audio visual;
- Host conferences, workshops, lectures and debates from which policy matters can evolve for the enhancement of the dignity of womanhood and the provision of improved opportunities;
- Provide a forum for guidance and counselling in addition to mobilization and training in all spheres of life for effective utilization of opportunities offered by the system;
- Serve as a centre for the development of skills in general and specific vocations. This focus, therefore, would be the improvement of knowledge and attitudes;
- Train prospective managers in modern techniques of pre-school management, develop an appropriate curriculum and a comprehensive package for child care education;
- Generate income and promote women's products through exposition to a more structured market as well as provide a forum for the development of advanced skills for a finer quality finishing and presentation of arts and craft;
- Promote women and development through the establishment of concrete physical support structures with the relevant facilities. As a model, it liaise with National, Regional and International agencies concerned with women in Development.

CHAPTER THREE

ERGONOMIC DESIGN OF WORK SPACES IN BUILDING

3.0 ERGONOMIC DESIGN

Any realistic design requires that the designer make trade off decisions. People who buy goods expect them to be reliable, efficient, safe easy to use and value for money. The manufacturer would probably add that they should be eye-catching, easy and cheap to manufacture, and appeal to a large section of the population. The difference between a good design and a poor one is the nature of the trade off decision, and these in turn depend on the criteria the designer sets before starting work. For example, a designer may decide that low-cost manufacture is the most important thing, and may sacrifice some aspect of safety and reliability or other factors to achieve this aim.

The principle that underlines ergonomic design is concerned with the interaction between humans and the environment in which they live and work. It is concerned with the home, office, factories, hospitals and schools, and the vehicles that transport people between them. Its goals are to insure that these interaction occur with ease, in safety, and without error, to the benefit of the individual and society. If they can be made pleasurable, so much the better.

The interactions ergonomics considers are those directly between a user and an object, bearing in mind the range of shapes, sizes, knowledge and intentions of the user population and also whether the interaction is intentional or accidental. It also consider the effect of these interaction on the society in which it is embedded. Ergonomic design is the process by which the designed environment is matched to the characteristics of people and draws upon a wide of knowledge and methods to achieve this.

Ergonomics insures that automobile seats, for example, can be adjusted as they are comfortable for people of all sizes and shapes, and an ergonomically designed can-opener will not injure the user's fingers. Ergonomic design goes even further; it includes not only everyday consumer goods, but also complex systems such as the cockpit and life support systems of the space shuttle, and the design of control rooms for nuclear plants. The philosophy behind ergonomic design is that things should be safe, easy and comfortable to use; a person should not have to battle with the tools to do a task. Its importance lie in the fact that all technological developments are intended to benefit people.

Ergonomics is not a new practice. When the early cave dwellers took to chipping flints to make hand tools, they were practicing ergonomics. Ergonomics embraces knowledge from a number of sources.

The word itself was coined in 1948. Derived from the Greek, it means combining work with natural laws. It is known as human factors, and, occasionally, Engineering psychology, and it draws upon physics, physiology, and anatomy, psychology, design, statistics, computer science and engineering as its main sources.

Throughout the ages, the common sense approach practised by cave dwellers has continued. Most hand tools, especially those used by crafts people, have evolved by trail and error to be most effective, albeit requiring a little skill in their application. During this century, however, technology has moved to the point where native wit, commonsense, and trial and error are no longer enough, and must be supplemented by more formal, scientific knowledge and approaches. Today, manufacturers design objects that will be used by millions of people, among whom there is a great diversity of physical and mental abilities without careful thought and

appropriate methods, an object might be of limited use in some hands or might injure the user if it is not used in the way intended by the maker.

3.1 ERGONOMICS AS A TECHNOLOGY

In ergonomics, as in other applied disciplines, real problems cannot be solved by remaining within the boundaries of a particular science. Invariably an inter-disciplinary approach is required and in addition there are new approaches and kinds of knowledge that are not provided by traditional academic disciplines. To encompass these, ergonomics can be reviewed in terms of various aspects of the design of work: The design of systems, workspaces, environments, interfaces and work situations.

SYSTEM DESIGNS

This incorporates the principles of man as an integral part of a total man-machine system. The primary design problem is one of allocation of function between man and machine or more generally between men, machine and procedures. The basic reasons for the success of man-machine partnership is that each has characteristics that complement those of the other: machines are powerful, fast and tireless, men are intelligent, versatile and adaptive. The combination is very effective if care is taken to ensure that the main components are allocated functions matching their various advantages and limitations. This has always been done intuitively by good designers, but system ergonomics aims to ensure that it is done systematically. This involves a set of knowledge and techniques that are new and are not derived from the older human sciences.

3.2 WORK SPACE DESIGN

This aims to ensure that the physical surrounding fit the characteristic of the human body so that work can be done without excessive effort within the range of healthy postures either standing, sitting or exerting forces. It incorporates seat design, bench or console design and positioning of displays, controls and materials. Thus it depends largely on the application of anthropometry and biomechanics. It is not sufficient to have these data available in medical formats; there is a great deal of expertise in coding data into a form that will be relatively unambiguous in application. This can involve the use of mannikins (life size or scaled models of the human body, either three-dimensional or two dimensional), specialised tables, and diagrams of data which incorporate the relevant dimension and indicate importance and tolerance, and computer-based models either of general human operators or of particular problems such as the car-driver workspace design.

To design the interior of an automobile, for example there are several ergonomic considerations, besides the other importance factors, such as esthetic appeal and cost. The people who use the automobiles are of prime importance – the designer must know about their size, both when sitting and when getting in or out. Equally important is the amount of space they need to feel comfortable and, for drivers, easy access to the pedals on the floor and the controls on the dashboard and steering column. The driver must be in the correct position, whatever his or her size, to have good vision in all directions. Then the seat must be comfortable for a long journey; it should not transmit much vibration and should hold the driver in place around corners.

These is also the problem of displaying information about the automobile to their driver, who should be able to see or hear important information about errors, and without having to look down inside the car for too long. This requires that the displays, such as the odometer and other

instruments, are easy to understand and are clearly visible. In short, the designer must understand the functions of vision and hearing, especially when the driver might be tired. Together with the many other considerations, these factors indicate that arriving at a design suitable for most people to use is not simple.

Other forms of ergonomic design are as follows:

A. ENVIRONMENTAL DESIGN

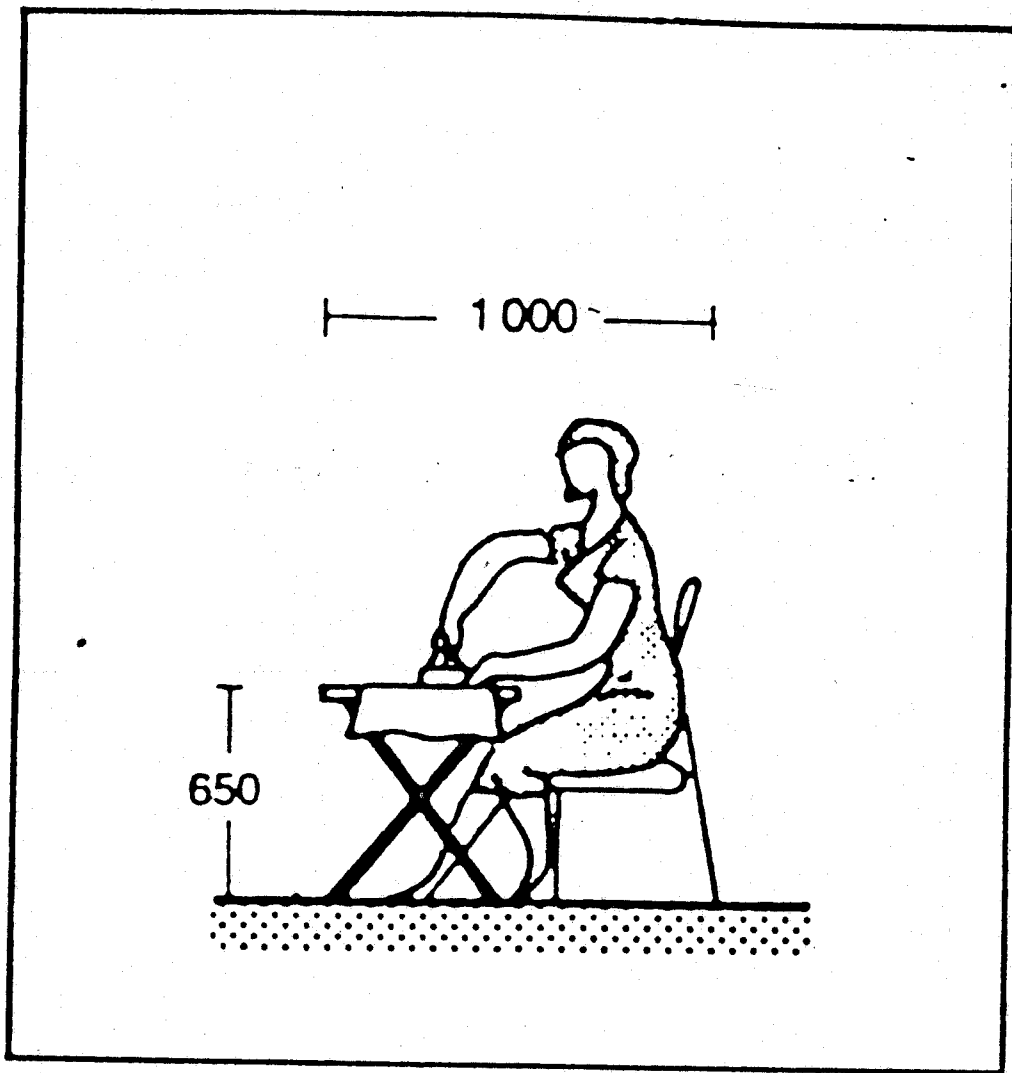
This is concerned with ensuring that the lighting, heating, ventilation, noise, vibration and so on are appropriate to the requirements of the human operator. This is a highly specialized topic. It is possible for a professional practitioner to devote an entire career to any one of these parameters. Lighting design, for example, requires a knowledge of the characteristics of the eye and the current technology of lighting systems as well as the central ergonomics problems of visual protection and visual performance in the context of particular task.

B. INTERFACE DESIGN

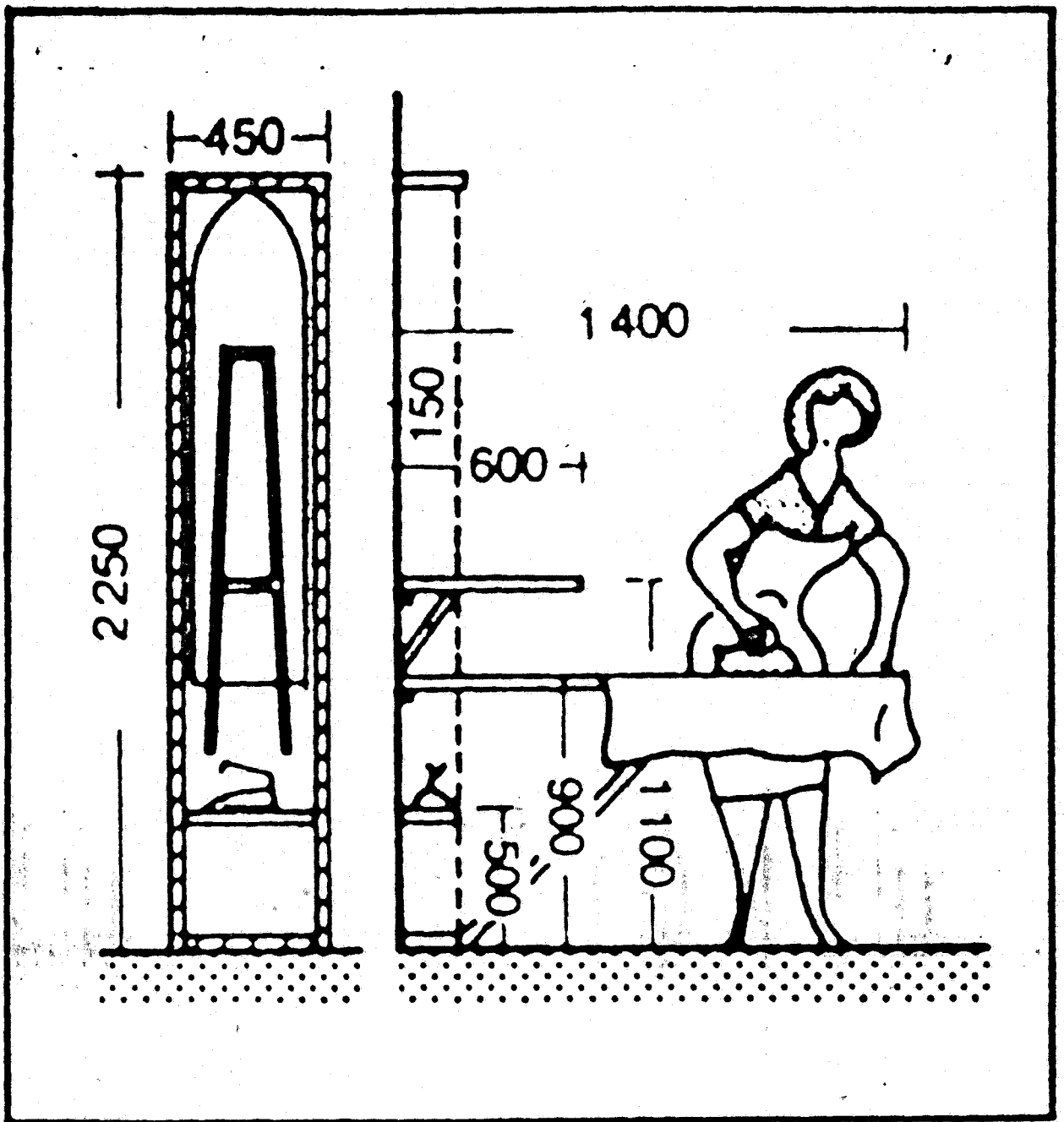
This focuses on the exchange of information between the man and the machine or environment. This take place in both directions: displays present information to man, control accept information form the man.

C. DISPLAY DESIGN

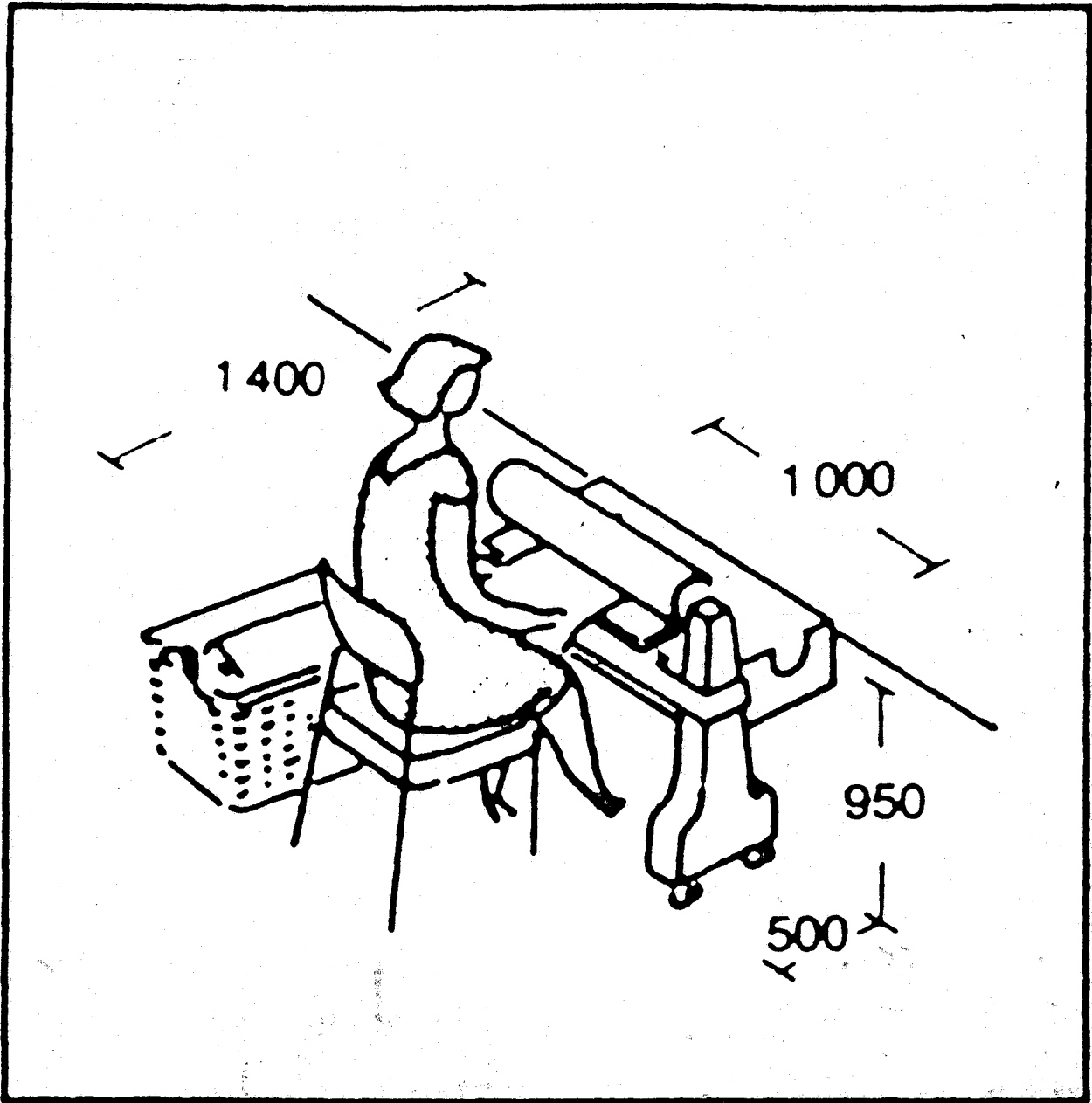
This incorporates such issues as the optional design of scales, pointers, letters and numbers and the size, positioning and grouping of instruments. The presentation of information is an elaborate topic concerned not just with the design of symbols but also with the rules for their combinations and meanings in relation to different tasks. One aspect of wide current interest is the design of information presentations on video displays.



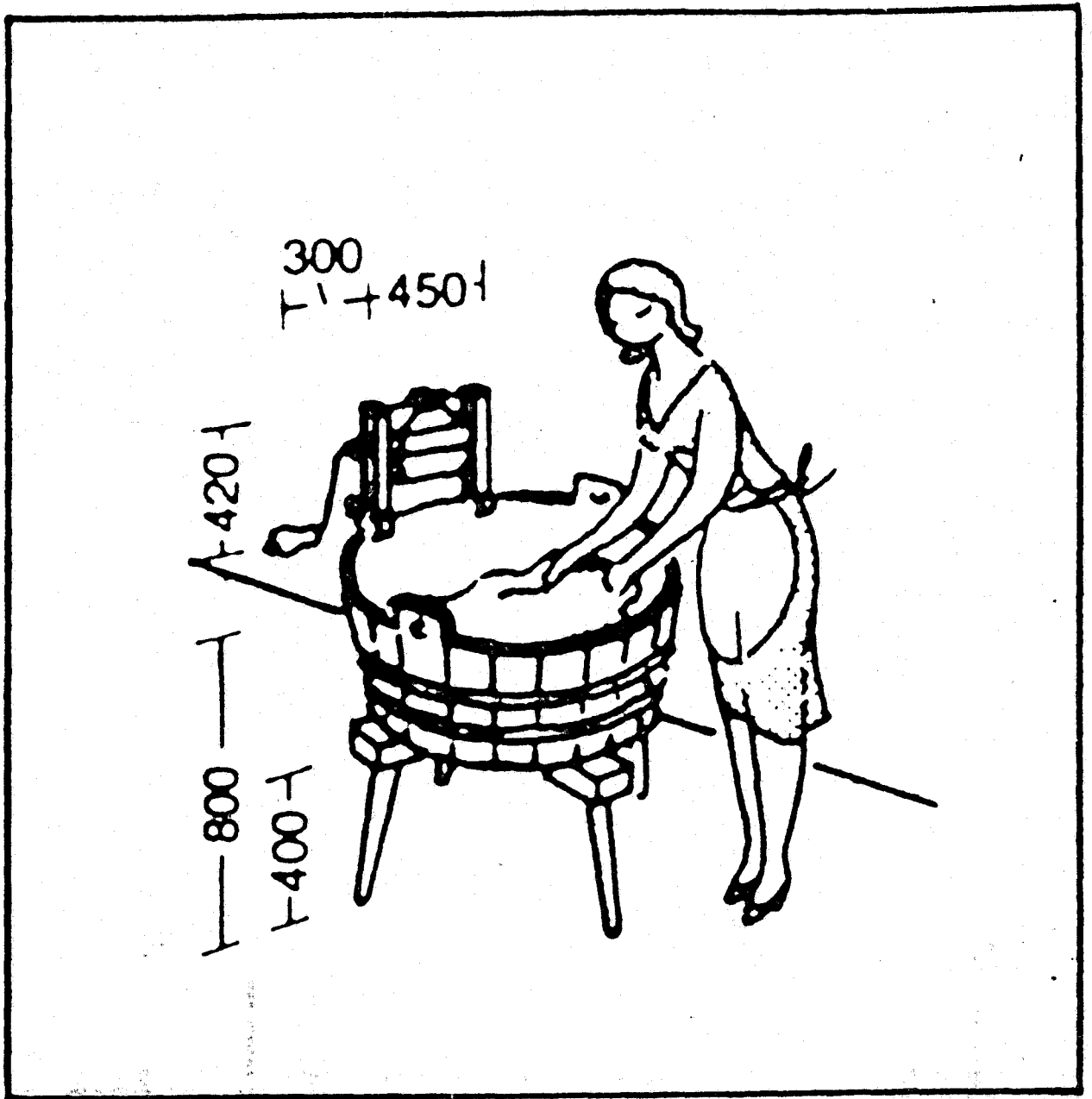
2 Space needed for ironing seated



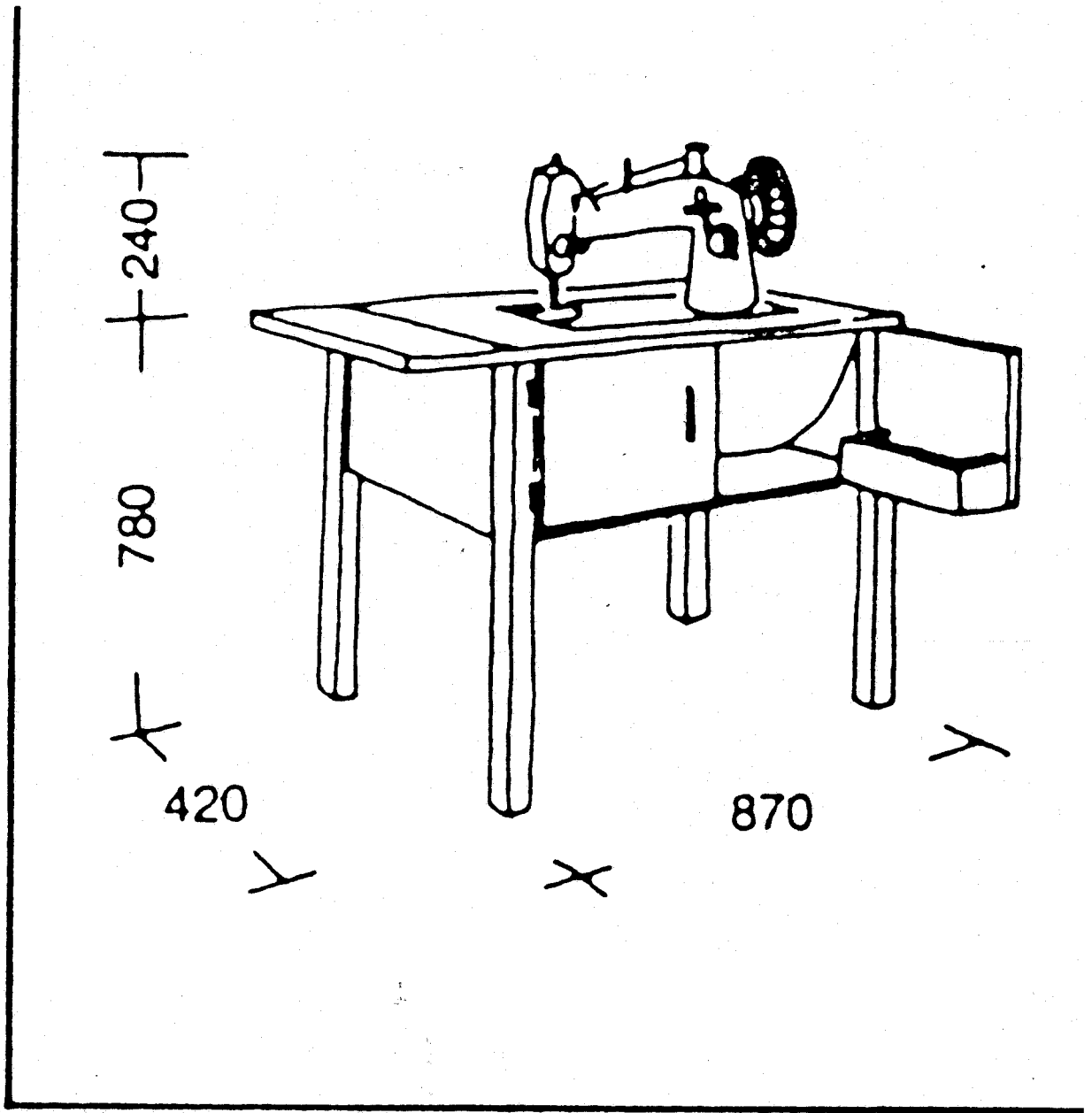
1 Hinged ironing board



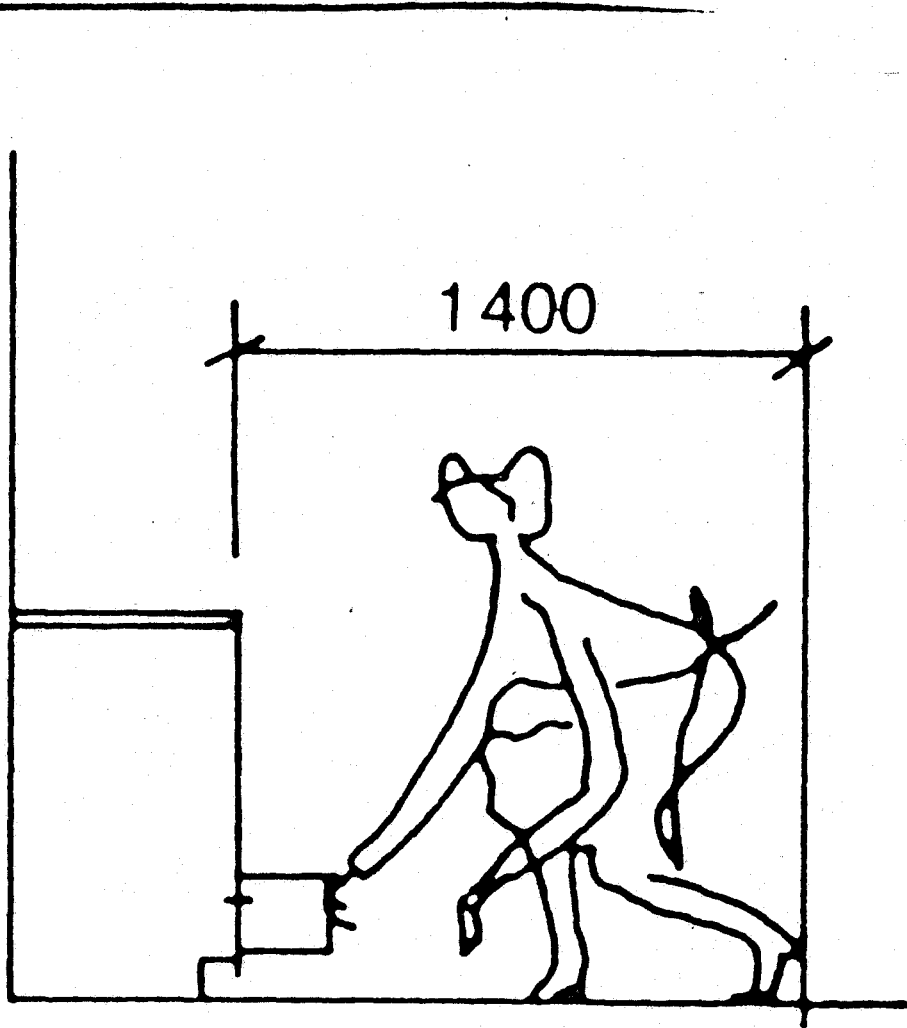
3 Fl ironing machine



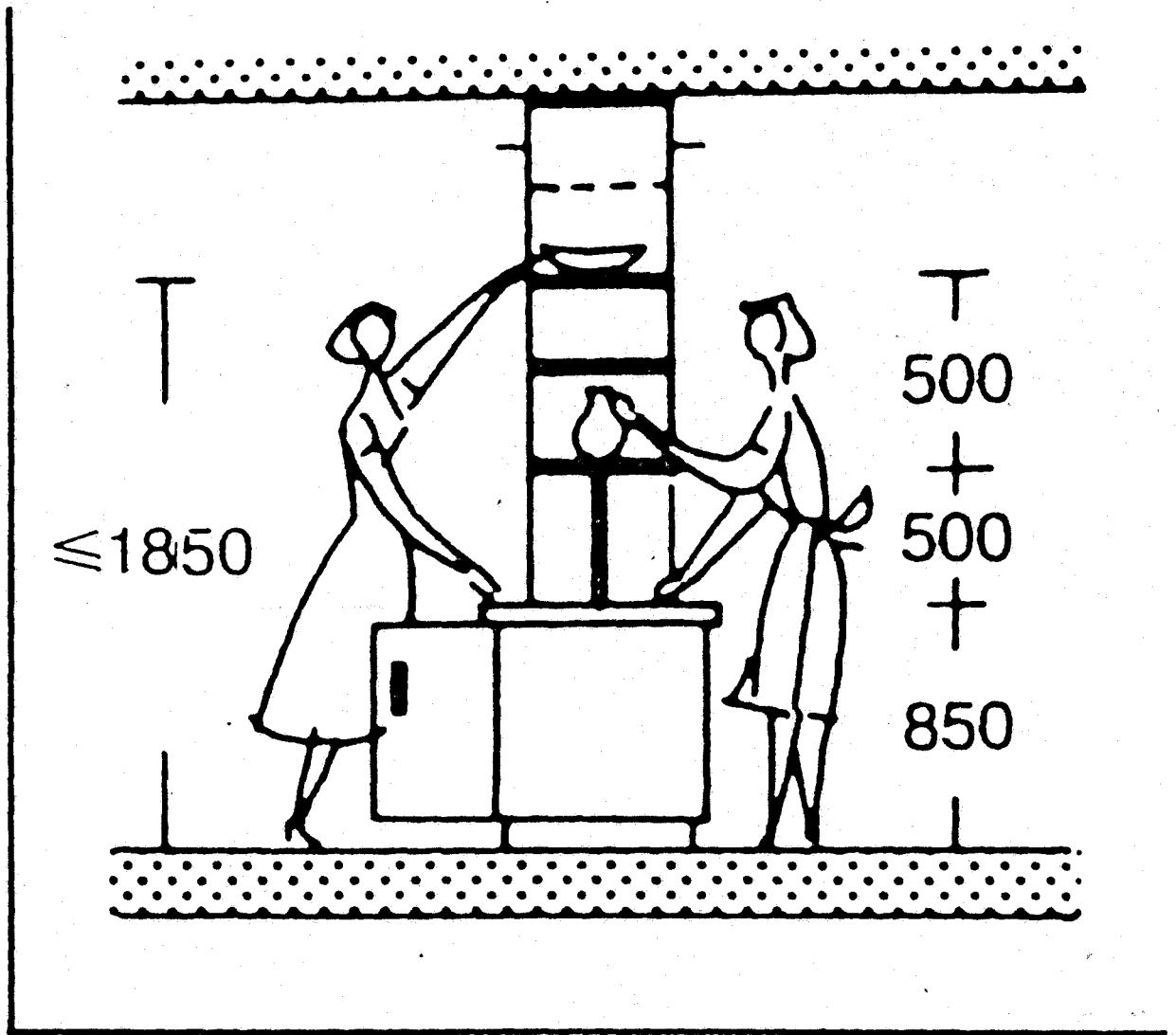
4 How things used to be



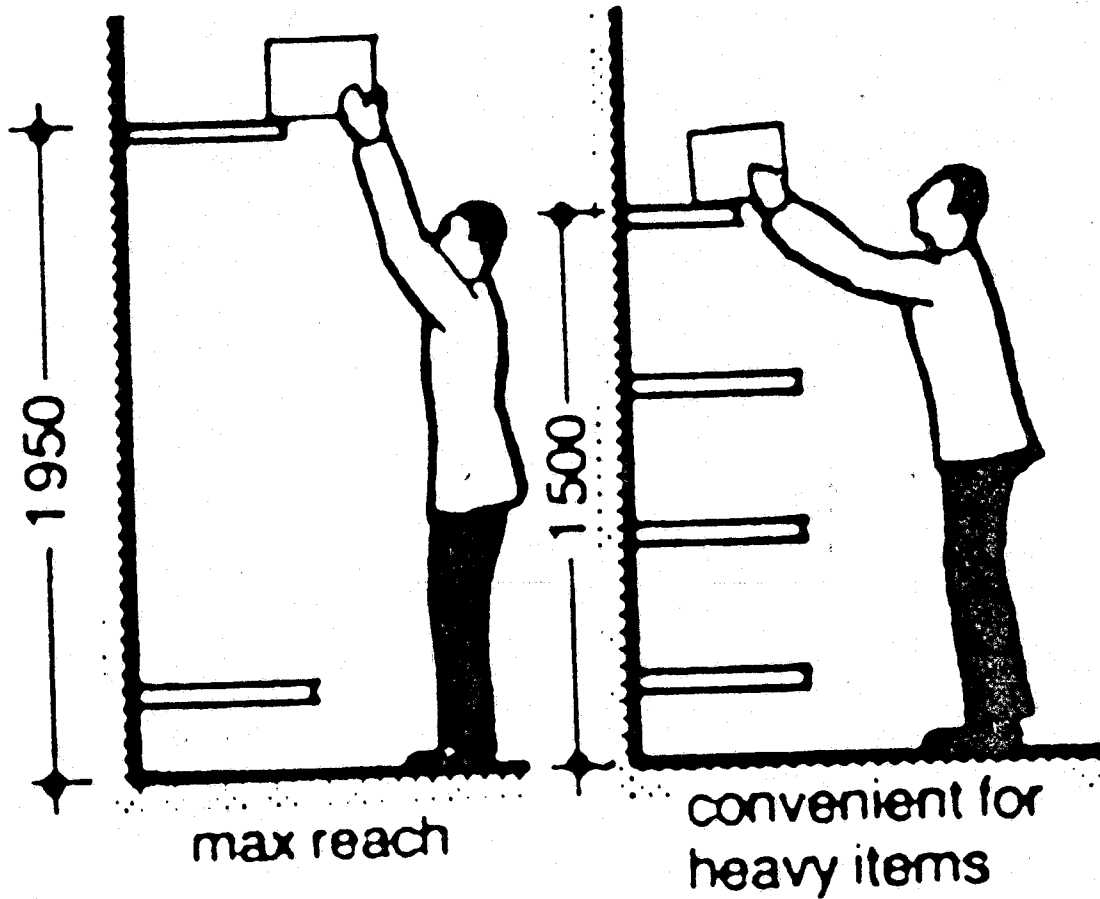
16 Sewing machine

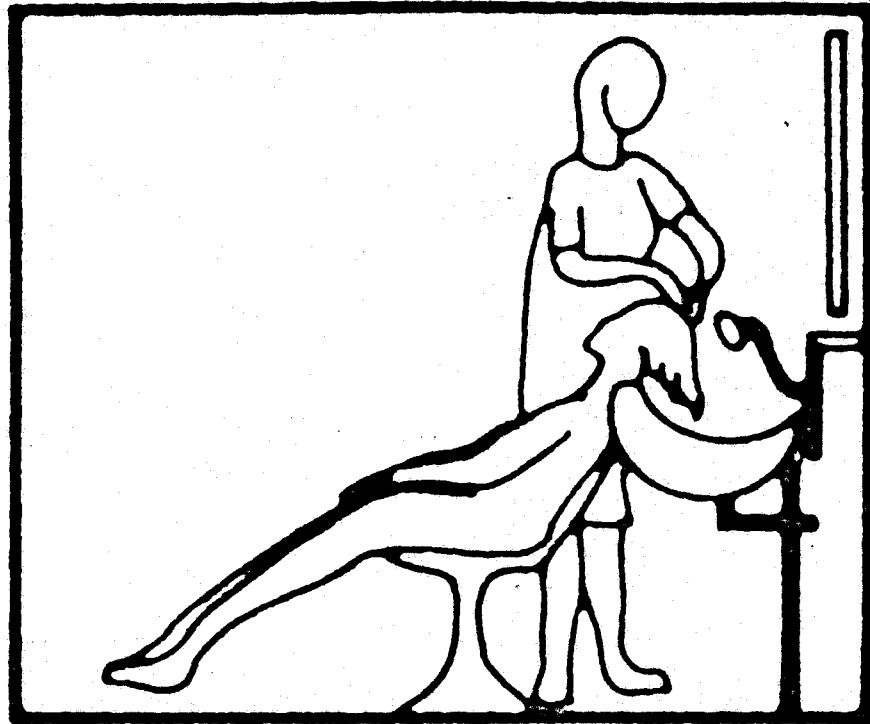


Space needed for bottom shelf

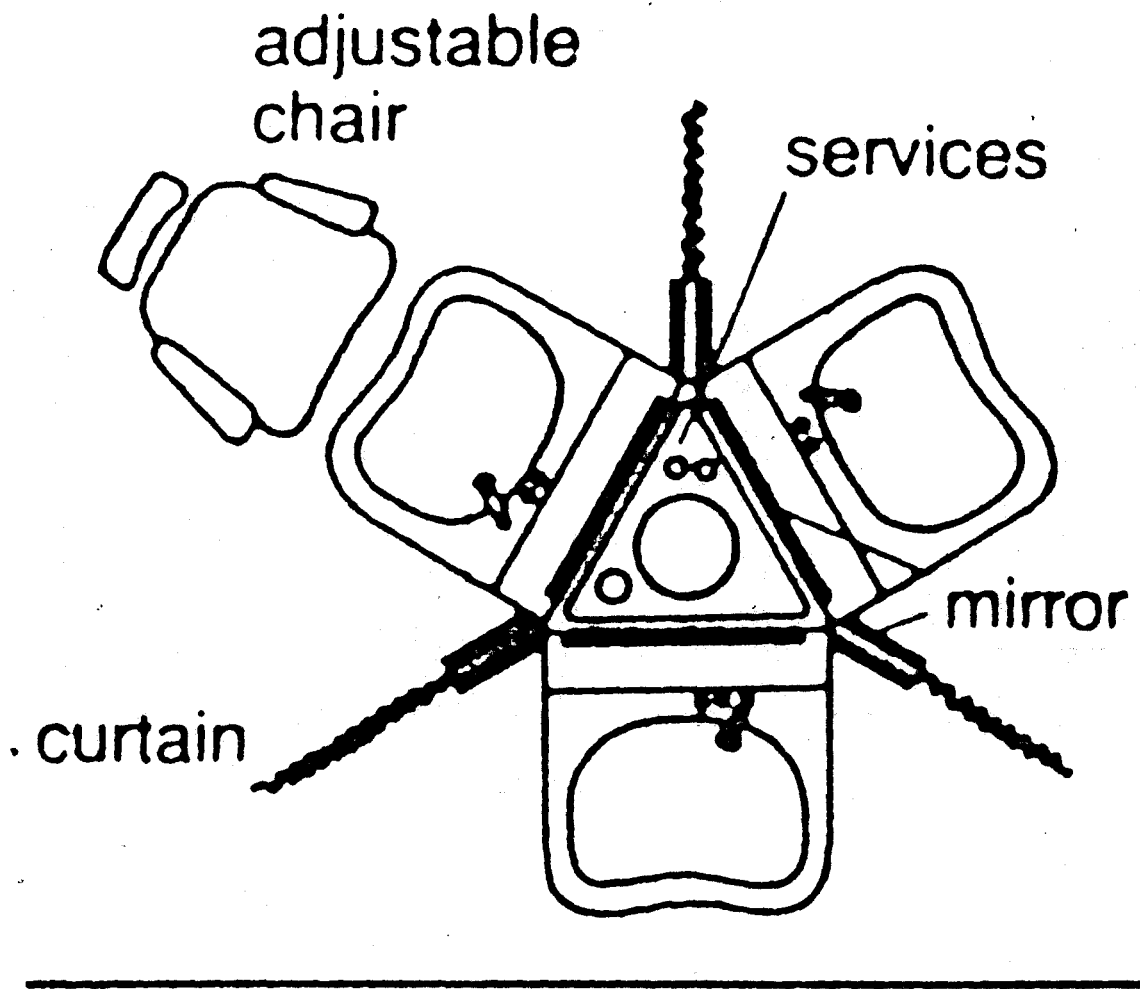


3 Hatch between k or ptr & dining ar or rm with 2-way sto cpd above

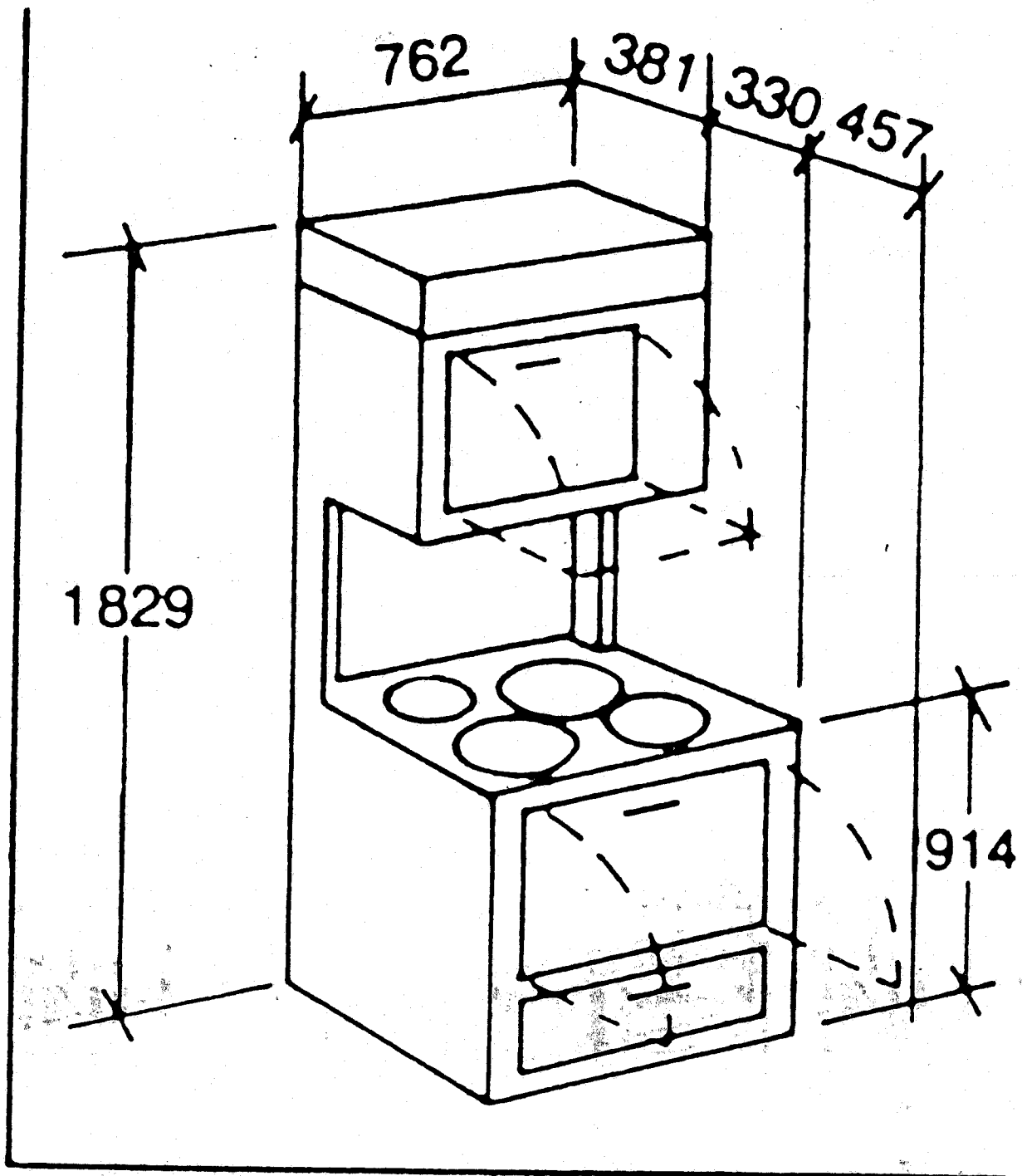




**3 Standard shampoo unit with
back wash for beauty parlours &
hairdressers**



Space-saving arrangement
round service core in hairdresser



8 Cooker with high & low level ovens

D. CONTROL DESIGN

This has both anatomical aspects concerned with sizes, shapes, positions and forces and psychological aspects concerned with discrimination and identification. As always, the design focuses on the attributes of the operator, some of which are innate and some acquired, such as expected directions of movement –so-called population stereotypes.

E. WORK SITUATION DESIGN

This with wider issues such as hours of work, rest pauses, and with special problems such as shift work and interpersonal and organisational aspect of work.

All these areas overlap and although a particular ergonomist may not be an expert on every one of them he is expected to be able to take an overall view and identify the key design aspects in relation to particular kinds of people engaged in particular tasks.

3.3 THE AIMS OF ERGONOMICS

The ergonomist as a technologist is concerned to facilitate whatever a person wishes to do and to ensure that he does it efficiently. Efficiency is interpreted widely to mean not only that whatever is done should be effective in the short term but also that in the long term there shall be no detrimental effects on health and that the risk of accident is minimal. Risk refer not just to the operator but also to others who might be affected by what he does, as for example in the case of any controller of a transport vehicle. Thus the criterion of success might be as simple as a measure of productivity but more usually in present society, the objective is to minimise the possibility of human error. Machines can be relied upon to generate adequate productivity in the primary industries, in manufacturing or in the information based industries.

The role of the man is to ensure that this is done with a minimal use of energy and materials and without waste resulting from mistakes. Mistakes can lead to damage to products, distortion of information and important of all, effects on the safety and health of people. The criterion of success in ergonomics is that these are minimized by minimising human errors.

The ergonomist as a scientist is concerned with the development of knowledge and techniques that will further the technology. This might be highly specialized and abstract as, for example, in the measurement of gait and it is often interdisciplinary as for example, in the measurement of stress and strain. The combined use of physics, anatomical, physiological and psychological expertise in advancing knowledge is characteristic of ergonomics and so also is the use of the systems approach, which facilitates the consideration of many variables simultaneously in the context of a particular objective.

However the proposal skill Empowerment Women Centre will incorporate practical sections like the kitchen, Laboratory swimming pool and other types of workshops. The Ergonomic design of workspaces would be large enough to accommodate the nature of the practical classes that would be carried out in these workshops. It is very necessary that the work spaces be made larger than normal since women are mostly involved. This is because more married women are likely to be predisposed to undertake such programmes, which are vocationally oriented. Married women tend to be fatter (by virtue of reproduction) and obviously need larger work spaces for effective practical work.

CHAPTER FOUR

4.0 CASE STUDY

In recent times, there has been a renewed emphasis on the involvement of women in economic, socio-political activities and of accelerating national development.

There has been tremendous activities in the real of women in Nigeria, especially since the inception of the Babangida Administration. The pace-setting concern of the then first lady of the Federation for the rural, poor and energetic determination to redress the situation led to her initiating the Better life programme and women multipurpose centre in most states of the Federation, for traning, research and mobilization of women towards the attaining of individual self-fulfilment and for preparation for leadership role.

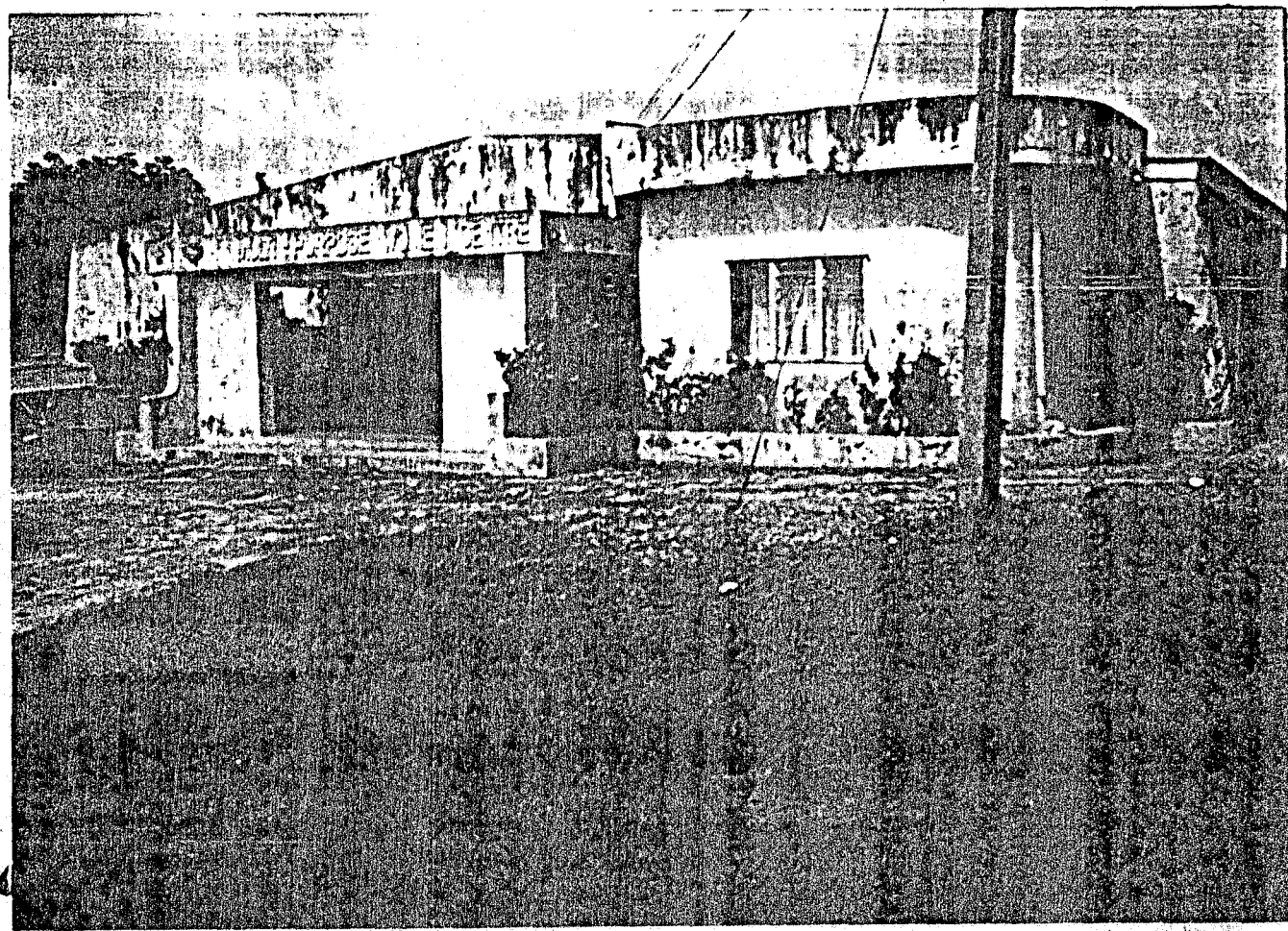
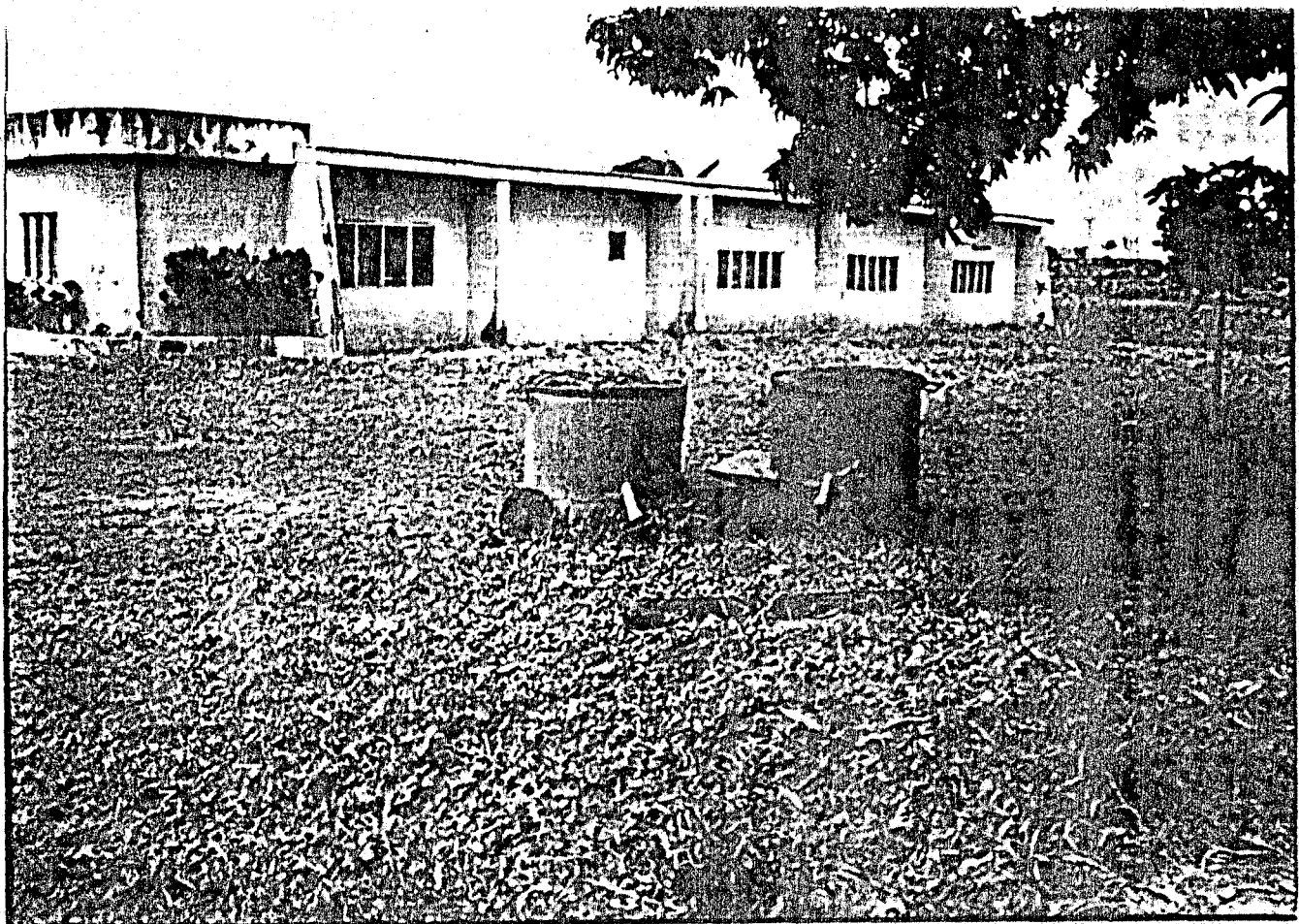
Case studies have been carried out, as part of the project activities by illustrating a selection of some women Development centres at home and make comparison with those in other counties of the world.

4.1 CASE STUDY ONE

FAMILY SUPPORT MULTI-PURPOSE WOMEN CENTRE, MINNA – NIGER STATE.

The Family Support Multi-purpose Women Centre is located along Kpägungu road in Minna. It can be reached easily by road, rail transportation. The centre was commissioned by Dr. (Mrs) Maryam Babangida on Monday 11th of March, 1991.

The centre consist of six units. Ceramics units, Sewing Unit, Kuitting unit, food and Nutrition, Soap making unit and tie and die unit. Each of the units has a unit head. The centre operates



between the hours of 9 am and 12 pm daily. The centre also offers literacy classes in communication skill.

MERITS

1. It is situated in a strategic area
2. there is sufficient land area to accommodate future growth and development.
3. it is surrounded by function of mutual benefits (e.g. the state secretariat).
4. good land scape.

DEMERITS

1. Lack of well defined entrance
2. Lack of adequate natural lighting and ventilation in the building.
3. Poor access to site.

4.2 CASE STUDY TWO

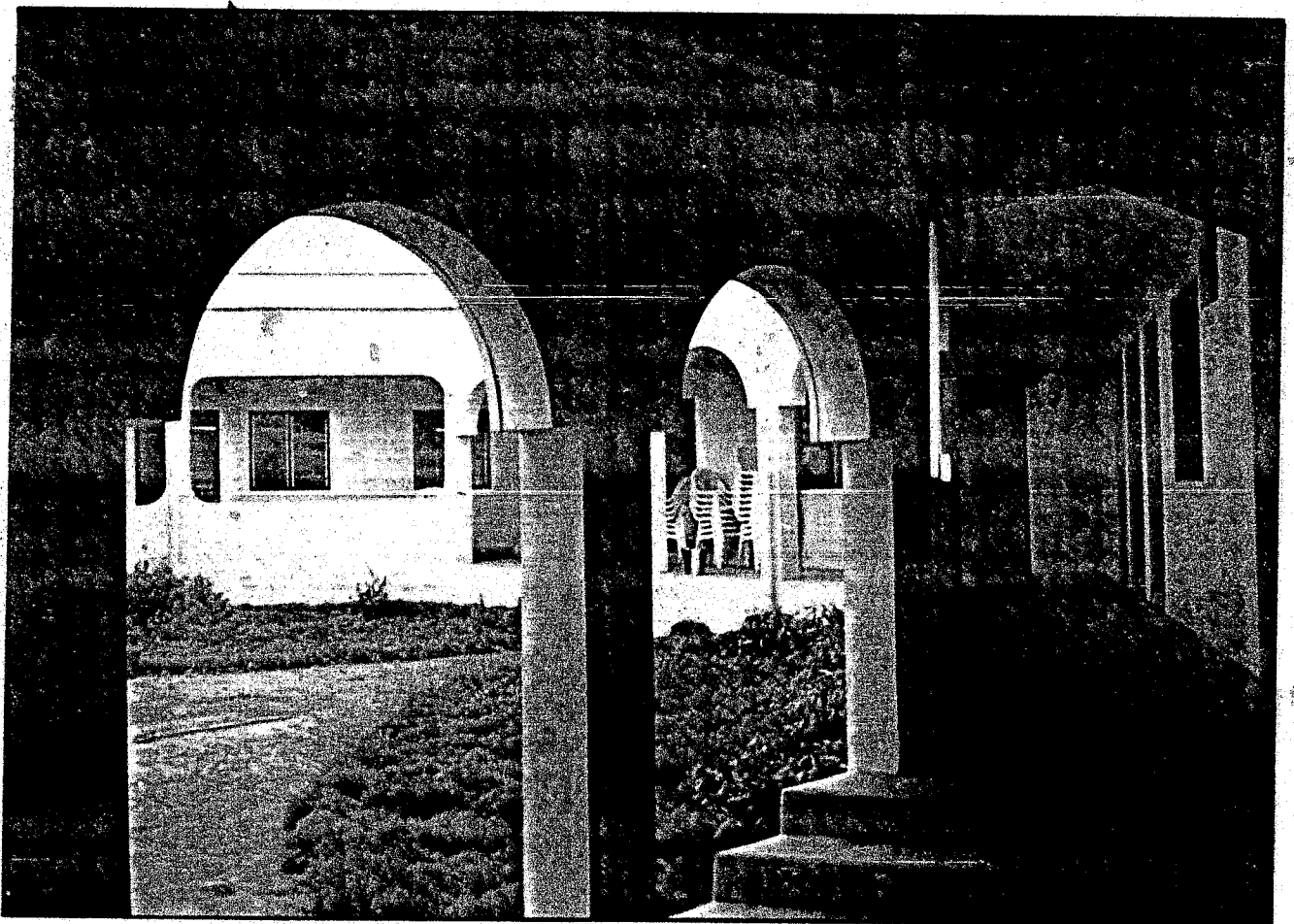
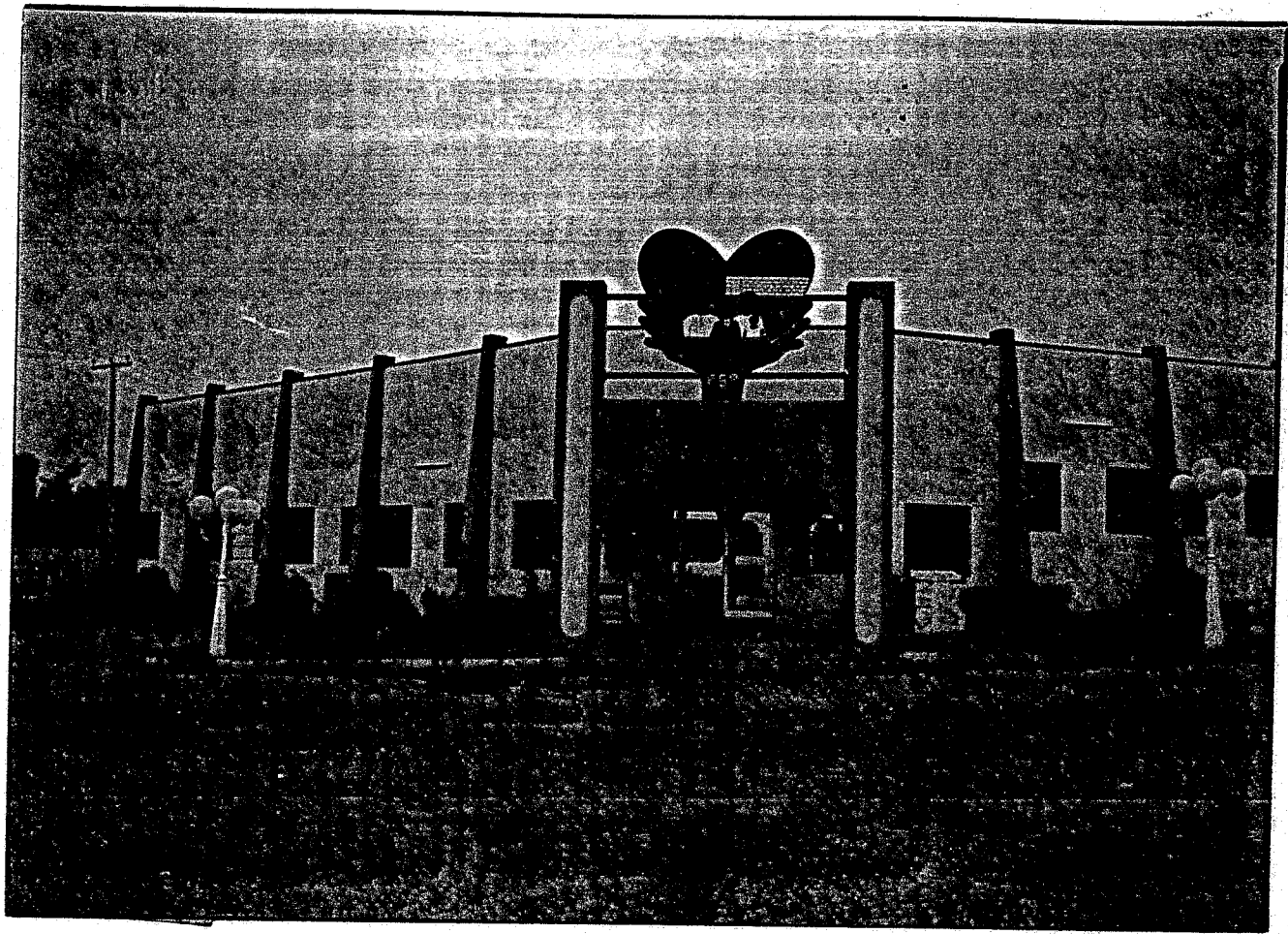
MULTI-PURPOSE WOMEN CENTRE, ILORIN, KWARA STATE.

The Family Support Multi-Purpose Women Centre is located at Fate in Ilorin the Capital of Kwara State. It was commissioned by Dr. (Mrs) Maryam Babangida in 1997.

The centre consist of six units. They include Tailoring Unit, Candle and Chalk making unit, Soap and cream making unit, Home economics unit, Weaving unit, Photography unit.

MERITS

1. The centre is located in a strategic area of the the town.
2. The landscape is adequate.



3. Provision of sufficient parking space for both staff and students.
4. Simple architectural design.
5. The centre is easily accessible from the main road.

DEMERITS

1. Insufficient conveniences for students
2. Insufficient staff offices and lecture rooms for students

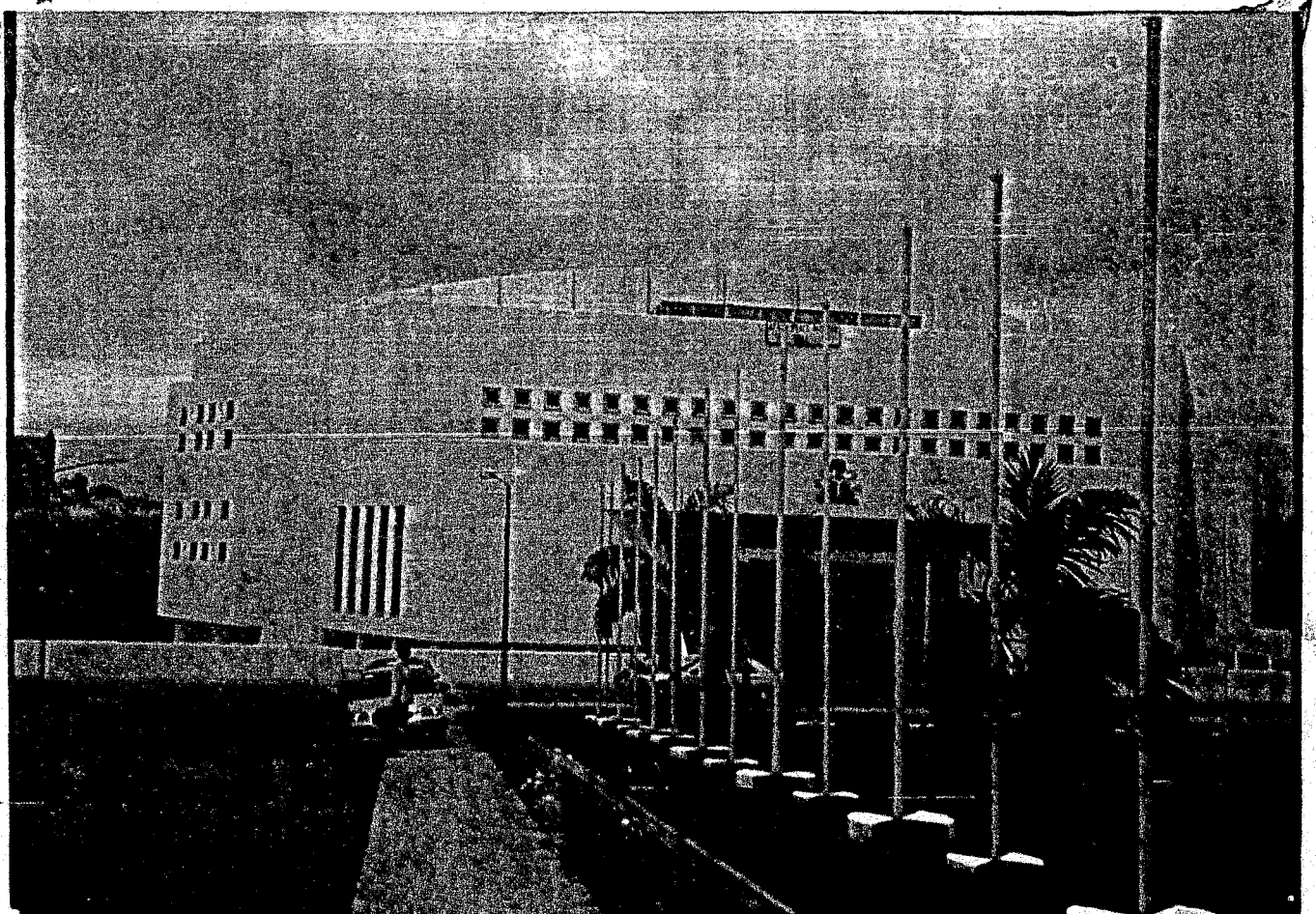
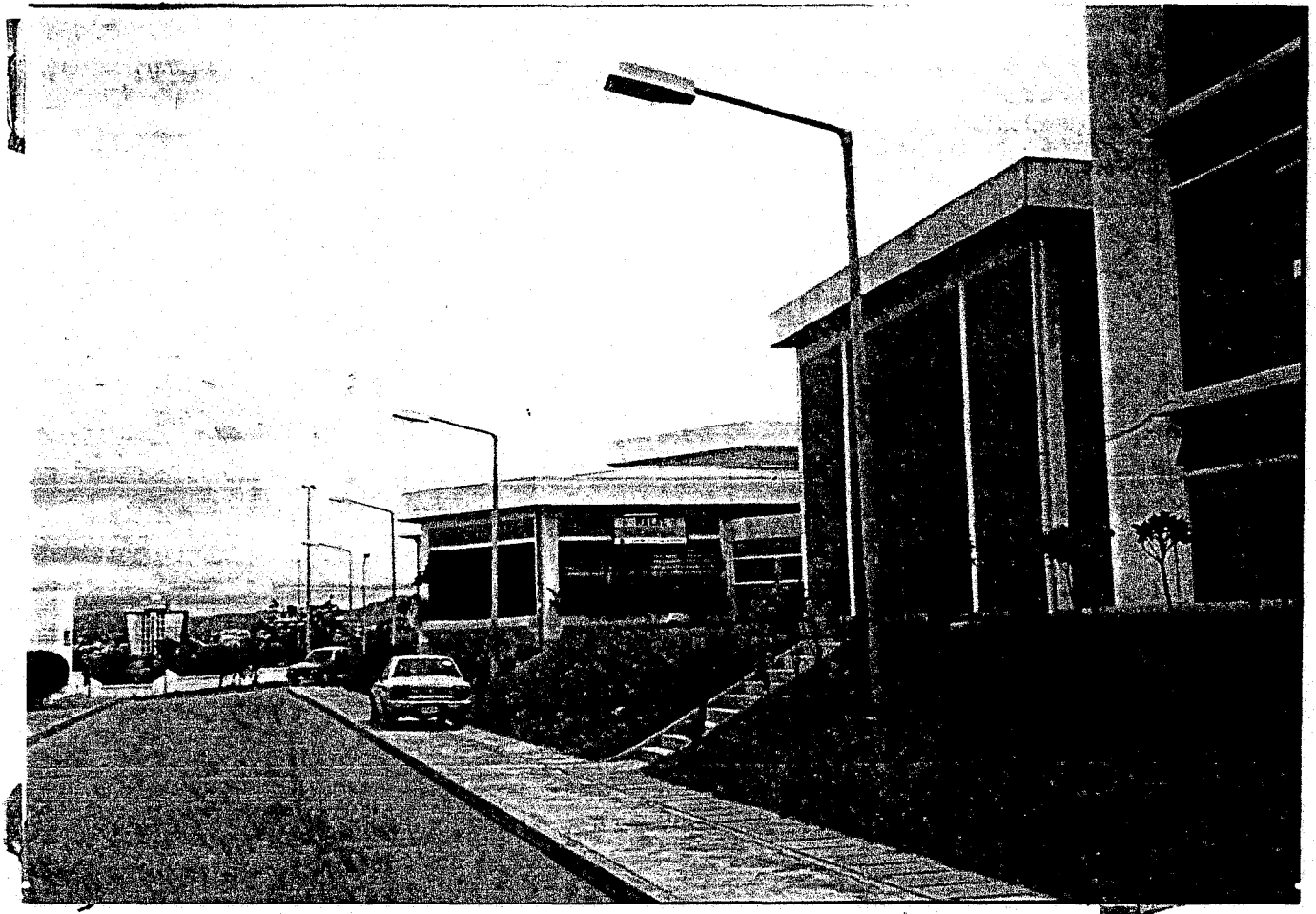
4.3 CASE STUDY THREE

NATIONAL CENTRE FOR WOMEN DEVELOPMENT GARKI – ABUJA.

The National Centre for women Development is located in Abuja, the Federal capital territory of the Republic of Nigeria. It could be reached by road and air. The centre serves as a focal point concrete for Nigerian women manifestation of their determination to be fully a part of the maistream of development.

It is a non-political and non profit organization. Devoted to the specific development of women and general upliftment of the society. It consist of the following units:

- A 1200- seat Auditorium and multipurpose hall
- A hall of fame, to honour famous Nigerian women
- Research and statistic Division.
- Training and teaching block
- Art and craft workshop
- Area space ideal for large industrial exhibitions.
- A shopping complex of fourty-six shops
- Restaurants and Bukateria



- Library
- A day care centre
- Hotel accommodation
- A-59-Bed Guest house
- Administrative block

MERITS

1. Interesting architectural forms
2. The units of the centre are functional
3. The auditorium is well placed (Focal point)
4. It has a defined entrance.
5. It is surrounded by functions of mutual benefit such as business centre, residential building and so on.

DEMERITS

1. The parking space is insufficient
2. There is poor road net work
3. Lack of adequate zoning between public and private areas.

4.4 CASE STUDY FOUR

TRAINING COLLEGE SWEDEN

The college lies on the wooden slopes of lidingo, one of the many Islands in the Baltic, near to the entrance of Stockholm. The college consist of units such as Lecture rooms, Library, Restaurant, Hostel block of seventy rooms.

MERITS

1. Provision of interesting land scape
2. The different parts of the complex is adequately connected using walk ways and gardens
3. Provision of sufficient parking facilities

DEMERITS

1. The parking area is quite far from the training College.

CHAPTER FIVE

DATA COLLECTION

5.0 PHYSICAL AND SOCIO-CULTURAL BACKGROUND OF THE EKITI PEOPLE

Ekiti State of Nigeria was created in 1996 along with five other states, increasing the numbers of States in the federation; from thirty to thirty-six plus Abuja the Federal Capital Territory

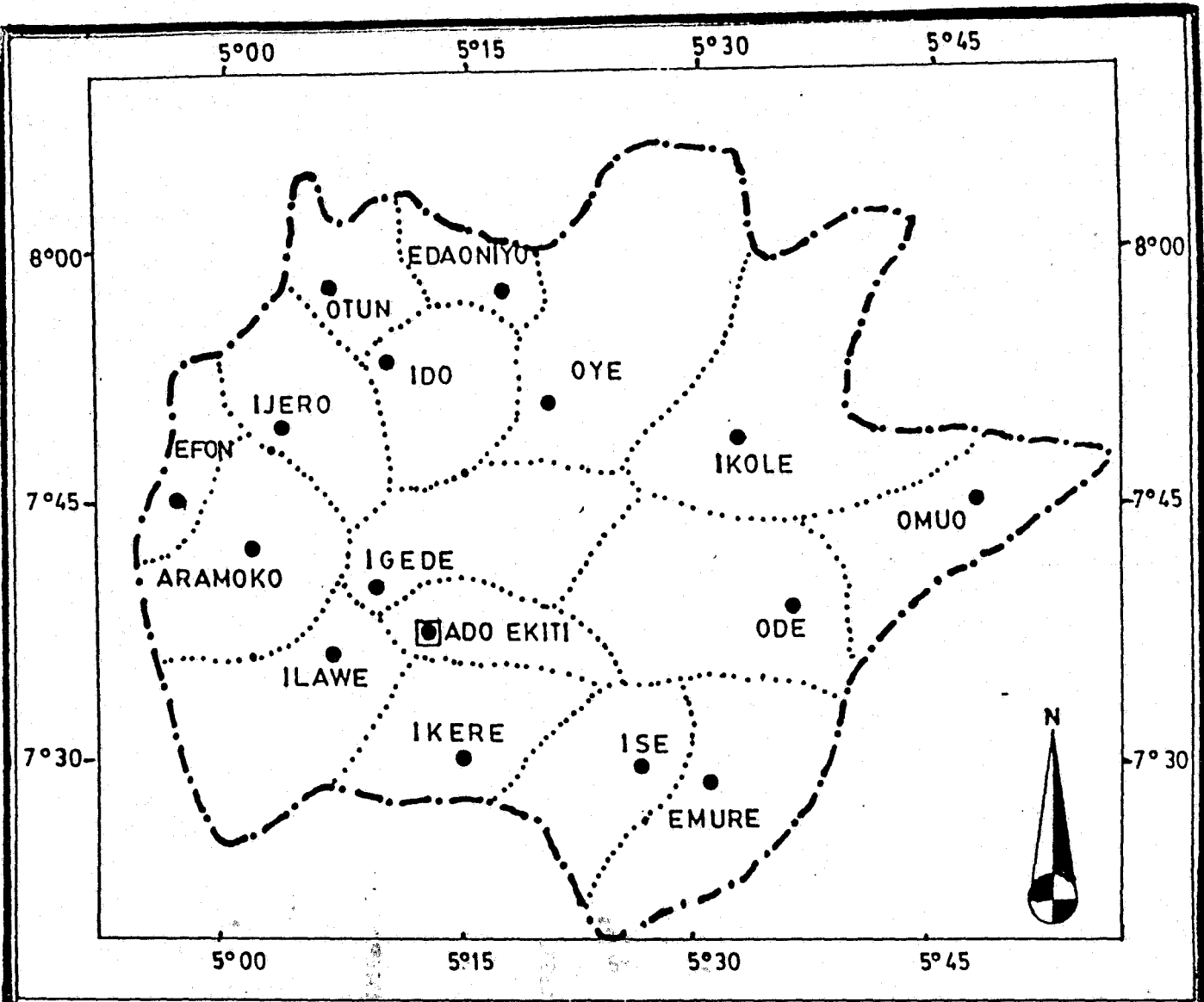
Ekiti State was created out of the former Ondo State of Nigeria with little modification as a result of boundary adjustments, the State covers exactly the original Ekiti province, from which the name of the State was derived.

The state is highly homogenous, with all the present sixteen local government areas having the same language been spoken. As of the time in question, Ekiti province now Ekiti State had four administrative divisions from which the present sixteen local governments were created.

The said four administrative division head quarters are the most urbanized centre as of now. The state took off formally in May, 1996. The sixteen local government area constitute the state and their respective head quarters.

5.1 LOCATION

Ekiti State is located between longitude 4⁰55' and 5⁰50' East of Greenwich meridian and latitude 7⁰15' and 8⁰15' North of the equator. Ekiti State falls within the tropic. It has 6,986.3 square kilometre area of land to her credit. In the national context, the state is bounded in the



SCALE: 1:900,000

LEGEND

- STATE BOUNDARIES..... — — — — —
- LOCAL GOVT. BOUNDARIES..... ······
- STATE CAPITAL..... □ ADO EKITI
- MAJOR TOWNS..... ● IKERE .

North by Kwara state, in the East by Edo State and Kogi state, in the West by Osun State, and in the South by Ondo state.

5.2 RAINFALL

The climate of the study area is mild and of the tropical type. The state enjoys the double maximal type of rainfall. The rain varies from 2,000mm in Southern parts of the state to 1,450mm annually in the Northern parts.

The rainfall decreases from the South when approaching the Northern part. The raining season last from March to October every year.

5.3 WIND

The South-West wind blows mostly throughout the year, during the months of November to February, the Cooler continent winds from the interior of the continent of Africa prevail.

5.4 TEMPERATURE

The temperature is between 29^o and 30^o maximum and 20^oc minimum and the humidity is very high during the raining season and very low during the dry season.

5.5 VEGETATION

A high forest zone of rainforest type is found in the South, while the North fringe is mostly associated with derived savanna forest which is a manifestation types of rain, which the various sub-regions in the state enjoys.

5.6 TOPOGRAPHY

Generally, the land rises from the Southern part of Ikere or Ise Ekiti, Ilawe-Ado Ekiti with their associated rugged hills in the portion of the state. Worth mentioning among the hills and high lands are the famous Oro-Ile Iselberg at Ikere, Efon-Alaaye Hills, and Ado-Ekiti hills just to mention a few.

The most important rivers are river Ogbese, Oshun and river Ero. The drainage of these rivers are towards the Atlantic Ocean. Moreover, these physical phenomena are the background on which the name of the state is coined and christained.

5.7 POPULATION AND SETTLEMENT PATTERN

The population of Ekiti State is not evenly distributed due to some physical phenomena which hindered the settlement of people in some part of the state. These physical phenomena include highlands, forest reserves and water bodies.

On general note, Ekiti State is thickly populated with average density per square kilometre of around two hundred persons. This implies that there are many compact settlements in the state.

The population distribution in this reflects the settlement pattern of the state.

5.8 ECONOMIC BASE

For meaningful physical development of any region to be undertaken, reference has to be made about the economic activities of the said region and level of economic development and general well being of the people must be assessed. Moreover, the general level of economic activities is

an area to have a direct link to employment opportunity, and thus determine the average income of the people and their lot is measured by the level of economic activities.

5.9 AGRICULTURE

Agriculture in Ekiti State provide the major source of income for the majority of the people in the state and presents as of now the pivots of economic growth.

This has also contributed to over seventy percent of the state gross domestic product (GDP). The main cash crops that has gotten international reputation includes cocoa, palm produce (palm oil and palm kernels) and timber. Cocoa as of now remain the major cash crop of the state and the largest non-oil foreign exchange earner in the entire federation.

Among the subsistence crops produced by peasant farmers are yams, cocoyams, cassava, rice, beans, maize, pepper, tomatoes and a great variety of vegetables and fruits. Rice production in some parts of Ekiti central, Ekiti West and Ekiti North in the grassland region of the state. if given special attention by the government the output will be enough to feed the population and sell to other states. During the survey, it was observed that the farmers are potential rice growers.

In area of animal husbandry, the state has an established cattle ranches at Ado Ekiti and Oke-Ako Ekiti.

5.91 INDUSTRY

The trend of industrial establishment in the state could be traced back to early 50s in the Ekiti province now Ekiti state was incorporated into the old Western region. Then industrial

between different parts of the country and within every major settlements and generally operated in daily or periodic market place in the state.

5.9.3 TRANSPORTATION

ROADS: A weak link in the development spectrum of the state network which pose serious bottleneck to modernization and development, some years back, is presently being checked by both the state and federal government. Therefore, discussion on transportation in the study area (Ekiti State) will concern mostly with intra and inter-regional transportation.

Intra-regional transportation network refers to the roads that link the region into other regions within the state and beyond. These roads can be classified into three major categories according to their functions and the agencies responsible for their construction and maintenance. These categories are trunk 'A' and trunk 'B' and the minor or rural roads, are sometimes referred to as trunk 'C'.

Presently these road are undergoing rehabilitation and therefore the existing transport facilities are now providing satisfactory accessibility to large areas of the state. For instance, the federal government trunk 'A' roads that passes through or traverse the state are now being rehabilitated in phases for example the road that traverse Ado-Ekiti – Irun – Ogbagi – Ikare – Ugbe and via Epinmin to Edo State;; Otun – Ido – Ado-Ekiti - Ikere – Aramoko – Osun State; Ado-Ekiti – Ifaki – Ikole – Omuo – Kogi State and so on are presently undergoing rehabilitation and comprehensive re-construction.

The trunk 'B' and 'C' roads in the state are undergoing rehabilitation as well. Though some years back, there has been apparent and incessant motor vehicle accidents on these roads due to

problems of sharp corners, narrow bridges, potholes, inadequate road sign and uncared attitude of drivers, vehicles are seen meandering here and there in attempt to avoid potholes on the roads.

5.94 HEALTH FACILITIES

Health they say is wealth. Health facilities have been made easily accessible by the present state government. Though some years back it was less accessible in that they tend to be concentrated in the urban centres. The present state government is providing health centres and hospitals in at least every local government area in the state.

CHAPTER SIX

SITE ANALYSIS

6.0 CRITERIA FOR SITE SELECTION

The selected site for this proposal is the site that forms the boundary between Ado-Ekiti and Ikare. It is about four kilometers from Ado town. The site is located along Ado-Ikare road. It is not far from the CBD and has functions of mutual benefit in close proximity.

Though only about one-tenth portion of the site would be used for the proposed skill Empowerment women centre.

6.1 LOCATION OF SITE

The project site is located along Ado-Ekiti -- Ikare road. The site has a total area of about fifteen kilometer square. The extension of infrastructure and facilities, aim at the advance development of the area. on the master plan of the area, not far from the selected site is sited a Private Nursery and Primary School – “Fountain Nursery and Primary School”. Opposite the site are farm land.

The choosen site has quiet atmosphere, by reason of the activities around it and at the same time, easy accessibility and good road net work is available.

6.2 SITE CHARACTERISTICS

A. TOPOGRAPHY

The topography of the chosen project site is a gently sloping, fairly flat surface. The site is covered with reasonable extent of grass cover, lowering temperature and preventing wash of top soil.

B. VEGETATION

The derived Savanna type of Vegetation is on the site. It consist of thinner and more deciduous in character as a result of low humidity and precipitation. When these vegetation is cleared, it is replaced by a type of park land (guinea savanna), which represents an encroachment of the guinea savanna into the forest zone. It is made up of tall grasses and smaller trees, which are dimiutive survival of the original plant species.

C. SOIL TYPE

The soil type on site is related to the hydrological character of geological formation of the weathered materials derived from them. Generally derived savanna soil type dominates the state.

6.3 ACCESS AND CIRCULATION

The proposal site is easily accessible. As mentioned earlier, it is located along the Ado-Ekiti – Ikkare road which is a major road. Drawing a conclusion from the site analysis, reveals the suitability of the site for the proposed development. The project “Skill Empowerment women centre” offers hope of a reasonable degree of privacy, visibility and quietness, also confidence, security and excellent accessibility to a cheerful and wonderful environment.

CHAPTER SEVEN

7.0 DESIGN CONCEPT AND CONSTRUCTION

The architectural concept of the proposed design of the skill Empowerment Women Centre is related strictly to the type of individual that would be trained at the centre. The design of the centre shall capitalize on the beautiful terrain and serenity of the area. The design is basically simple shapes and utilization of courtyard for natural lighting and adequate ventilation which are appropriate to the requirement of the users of the centre, which is part of Ergonomics design of the centre.

The design restriction of the centre is that the elevations which are the basic conveyors of first impressions about the centre shall be designed in such a way that they do not contrast or conflict with the buildings in the town and the surroundings, since the aim of the centre is to draw the urban woman and rural woman. There shall be some restraint in using elements to give both set of women the right kind of frame of mind in preparation for a comfortable stay at the centre.

7.1 FUNCTIONAL ANALYSIS

For a successful design and planning and for functionality to be achieved at the centre, the following are the requirements of the skill Empowerment women centre for Ado-Ekiti.

A. ADMINISTRATIVE UNIT

This building is the heart of the centre and it is charged with the smooth and efficient running of the centre's facilities. It shall comprise of

1. Director's office
2. Assistant Director's Office

11. Common lecture room

C. ACCOMMODATION UNIT

This unit shall cater for the accommodation needs of the centre's programmes' participants who come from areas outside the locality for quick and easy accessibility. It shall comprise of:

1. House keepers rooms.
2. Feeding facilities (kitchen, store, dinning area and so on)
3. Common room
4. House keepers offices
5. Participant accommodation
6. Conviniences.

D. SOCIAL/COMMERCIAL UNIT

This unit shall cater for the general entertainment of the centres participants, their families, staff and visitors etc. and shall comprise of

1. Restaurant
2. Snacks shops
3. Souvenir/art and craft shop.
4. Picnic area
5. Hair dressing salon
6. Multipurpose hall
7. Parking space.

E. MAINTENANCE UNIT

This unit serves as the unit responsible for the smooth running and maintenance of the centres facilities; to effect repairs on broken down facilities, make installations, and so on. It shall comprise of:

1. Maintenance workshop
2. Conveniences
3. Generator house
4. Water storage tank waste disposal unit

7.2 SITE PLANNING

The three components of Administration, training School and commercial units were compositely arranged with one main entrance in each of the components. These structures are closely linked to the parking space by walk ways to give visitors direct access to the facilities. The private zone which comprises of Accommodation was linked through walkways to the composite complex with it unit of most frequent contact, (the training centre). The semi-public unit maintenance was linked with the centre through the road net work, because of the noise generation expected from that unit it was placed at a distance from the rest of the buildings and in such a way that the effect of the noise would not be carried to the rest of the complex by winds, hedges were also planted to act as buffers between this unit and the rest of the units. Internal court yards were used to allow for adequate ventilation and lighting into the buildings.

7.3 SPACE REQUIREMENT

The basic floor areas for the facilities in the centre, using standard space requirement are:

A. ADMINISTRATIVE UNIT

As in other services, demand for administration space grows alarmingly. This can be thought of, as having two components, one which process information and one which uses it. The facilities to be provided include:

	Square metre
1. Director's office	16.75
2. Assistant Director's office	12
3. P.R.O. 's office	12
4. Director of social's office	10.4
5. Account's office	15
6. Secretary's office	12
7. Store	5
8. General office	29.75
9. Coffee room	80
10. Board room	27
11. Conveniences	12.5
12. Library	80
13. Reception	64
14. Hall of fame	22

A. SCHOOL OF THE NIGERIAN WOMAN

This shall have a school and a vocational centre. The facilities to be provided include:

	Square metre
1. School supervisor's office	30
2. Vocational supervisor's office	30

Glass is chemically inert, transparent, hard brittle material. It could be used as foamed or cellular glass for rigid, vapour proof thermal insulation. Glass fibres are used as material for reinforcement. Also glass wool are used as acoustic and thermal insulation. Glass block is used to control light transmission, glare and solar radiation. Glass is primarily used to glaze building window, sash and sky light openings.

The variance of glass type include:

- Heat absorbing glass, tinted sheat that absorb radiation
- Tempered glass, heat strengthened for increased resistant to impact.
- Safety laminated glass, used in susceptible to impact.
- Wired glass, used to glaze opening susceptible to fire hazards
- Insulating glass provides thermal insulation and restrict condensation.

I. PAINT

The purpose of a finish is to protect, preserve, or visually enhance the surface of which it is applied. Finishes includes paints, stains, sealers and laminated surfaces coverings. Paints refers to an opaque or clear film forming material that act as a shield or barrier between the building materials and those elements or conditions that may adversely affect or deteriote it.

The psychological effect of colours and surface texture are of prime consideration in its application. Certain colours are stimulating while others are relaxing. Paint generally consist of: pigment and vehicle. The selection and use of paint are influenced by: surface preparation, type of paint film thickness, coverage, method of application and dying.

3.	Staff office	15
4.	Lecture rooms	50
5.	Practical class	75
6.	Store	15
7.	Secretary office	20
8.	Conveniences	20
9.	Library store	30

B. ACCOMMODATION UNIT

This unit shall cater for the accommodate needs of the students. The facilities to be provided include:

	Square metre
1. House keeper room	16.5
2. Feeding facilities (kitchen)	7.2 (x6)
3. Waiting area	105
4. Common room	36
5. Conveniences	40
6. Participants accommodation	25 (x30)
7. House keepers' office	9.6
8. Store	5
9. Mini Supermarket	12.5 (x2)

C. SOCIAL/COMMERCIAL UNIT

The facilities to be provided include:

Square metre

1.	Restaurant	80
2.	Snacks shop	64
3.	Picnic garden	250
4.	Hair dressing salon	30
5.	Suya spot	30
6.	Multipurpose hall	1008

D. MAINTENANCE UNIT

This facilities to be provided shall consist of

		Square metre
1.	Maintenance work shop	60
2.	Conveniences	2(x2)
3.	Generator house	16
4.	Waste disposal unit	16
5.	General store	42

7.4 MATERIALS AND CONSTRUCTION

7.41 MATERIALS

Building materials are characterized by distinct properties of strength, stiffness and elasticity, density or hardness, resistance to wear caused by physical or chemical action, fire resistance, and thermal conductivity. Building materials from the manufacturers comes in standard sizes. However these could vary slightly between manufacturers. This should be verified during the design and planning phase of the building to avoid unnecessary waste of material during construction. The designer and his team should take in to consideration the modular

characteristic of building some of the building materials are masonry unit, phywood, steel, glass, and so on.

The selection of materials for a particular designer and construction entails a lot of considerations which are based on a wide range of factors such as function, structure, organisation, durability, replacement, maintenance cost, flexibility, integration of building, circulation, security and safety, fire control and so on.

However, the most important and primary factors to consider are aimed at providing the right facility for various activities, and the right environment (building envelope) for the equipment to be used and activities to be carried out, bearing in mind the need for comfort in use and cost effectiveness among other factors.

A. WOOD

Wood offer in addition to its strength, durability, light weight, and easy workability, natural beauty and warmth to sight and touch. Grain direction is the major determining factor of wood as structure material. Compressive and tensile stress or force in wood are of best advantage in a direction parallel to its grain. In general, a wood with standing about one – third more force in compression than in tension parallel to its grains. However, tensile forces perpendicular to the grain cause wood to split.

When the moisture content of a wood is below twenty percent, it is decay resistance, if thus installed and maintained within the this range, wood would not usually rot. Preservative treatments are often used to protect wood from decay or insect attack of these, pressure treatment is the most effective.

B. PLYWOOD, LAMINATED TIMBER

Plywood, a laminated panel of wood veneers, laid with their grain direction angle to one another, bounded together at a high pressure, either with water resistant or water proof adhesive.

Engineered grade of plywood are used for wall and roof sheathing, sub-flooring and under layment. It is also preferable to use solid timber for large structural members. Due to its better finished dressed appearance, weather resistance, controlled moisture content, and size availability. More so, being factory – made, they are consistent in size, appearance and strength.

C. MASONRY

This is a man-made unit, formed and hardened into modular building unit. Due to its relatively weak nature and of mortar that bond them together, they are laid up in such way as to enable the entire masonry mass to act as entity.

Masonry is structurally effective in compression. This is graded according to the compressive strength. The mortar that bond them together is also graded according to compressive strength and use.

D. STONE

Stone is an aggregate or combination of minerals, each of which is composed of inorganic chemical substances. Almost all stones are adversely affected by sudden changes in temperature and should therefore, not be used where fire resistance is required stone is not necessarily uniform in size, but as a load bearing wall material, it is similar to modular unit masonry. It is similar in principle to brick and concrete block, as it is laid up with mortar and used in compression. The type of stone work commonly used includes rubblework, ashlar and trim.

E. CONCRETE

Concrete is inherently strong in compression, to handle tensile forces, it can be bond with steel reinforcement. It can be formed into almost any shape with a variety of surface finishes, texture and patterns. It provides fire proof construction.

Concrete is a mixture of cement, water and aggregate. Its potential strength is determined by its water to cement ratio. The strength increases as the amount of water used per unit cement decreases. The ratio also affects its workability during placing, its durability, weather resistance after use. Concrete may be finished in a number of ways. Trowellings produces a smooth

surfaces. Surface texture, by brooming, raking and sand blasting to expose the aggregate. Concrete may also be painted or have a finish applied to it such as stucco.

F. STEEL

Steel is used for heavy and light structural framing as well as a wide range of building products such as windows, doors, hard-wares and fastenings.

As a structural material, steel combines high strength stiffness and elasticity. It may be heat treated or altered with additive in its manufacture to develop special properties of strength, hardness or ductibility, expansion, corrosion resistance or workability. These include stainless steel, nickelsteel, chromium steel and so on. Normally, ordinary steel is subject to corrosion and should thus be painted, galvained or chemically treated for protection against corrosion.

G. NON-FERREOUS METAL

Aluminum: Naturally in colour, may be dyed into a number of warm and bright colour anoidizing process: It is often used as secondary building element such as windows, doors, roofing, flashing, reflective insulation, trim and hardware. Care is usually taken to insulate aluminum from contact with other metals to prevent galvanic action. It is also protected from alkaline materials such as net concrete, mortar and plaster.

Copper: It is used in construction where corrosion resistance, durability, or high electrical and the thermal conductivity is required. Often in sheat form for roofing and flashing.

Lead: It is a soft, malleable, plastic, corrosion resistance used for fastening and piping.

H. GLASS

7.42 CONSTRUCTION

SITE:

Before any construction work begins on site, the site has to be cleared. Site clearance involves a number of operations which include a reconnaissance, noting existing features on site, removing existing trees that will affect construction, clearing the ground, setting out the site, locating the building line and so on.

Proper planning of the site is very important. The design already puts into consideration physical and climatic factors that determine the orientation and actual placement of the building on site. However, there is much more to plan on site as the location of the building on site must correlate with the location of relating services to ensure an integral functional flow of activities on site. For instance, setting out for consideration as water supply and distribution, electric power supply and distribution, communication link, fire hydrant points, delivery of raw materials, access to site and road network, drainage and waste disposal, and the handling of offensive odour and provision for future expansion. The placement of all these services and facilities on site must be considered both in the context of functions they perform and in how they relate to other services and facilities on site.

FOUNDATION:

The foundation system of a building which is its substructure is a critical link in the transmission of building loads to the ground. Bearing directly on the soil, the foundation system must both distribute vertical load (so that settlement of the building is either negligible or uniform under all parts of the building); and anchor the superstructure of the building against uplift and racking forces. The choice of a foundation system is affected by the type and bearing capacity of the soil as well as the potential form of the superstructure. The foundation as well as other

components of the building will be in compliance with the basic building function requirements. Expansion joints will be required due to the sizes and form of the building structure. A well-laid damp proof course is also important to avoid moisture penetration from the ground.

STRUCTURAL SYSTEM:

Understanding the type and magnitude of the forces acting on a building and how the building might deform when acted upon by these forces give significant clues as to how best to resolve the forces with the building's structural system.

In this facility, the structures for both the lecture rooms and the main auditorium should provide as large column – free space as is economically possible, considering the important of unobscured view, as well as dimensions and tolerances which are dictated by such factors as circulation, future flexibility and bearing capacity of the ground. Space grid or frames are most suited for wide, flat spans and allow for irregular perimeter, column spacing and flexible positioning of building services. They also permit artificial lighting, roof lighting and ventilation plants to be clipped to the structure.

CHAPTER EIGHT

8.0 DESIGN SERVICES

Modern construction methods are going to be employed in plumbing, electrical, mechanical, acoustics, fire and security which affect human health, safety and comfort, as well as building form and construction.

8.1 PLUMBING

The layout plumbing system should be straight forward and direct as possible with properly sloped horizontal runs and angular connections. Clean out should be located so that pipes may be readily cleaned in case they become blocked.

Vents: Permits offensive gases to escape, fresh air admits into the system. They help to retard the decay of organic matter and reduce corrosion within the pipes.

Traps: Utilizes a portion of the waste water to act as a seal and prevent sewer gases from entering the interior of a building. Fixtures should have sufficient flow to periodically clean out their traps and prevent sediment from collecting. Fixtures should be of dense, smooth, non-absorbent material and free of concealed fouling structures. They should be located in ventilated spaces.

8.2 ELECTRICITY AND LIGHTING

The National Electric Power Authority (NEPA) should be notified of the estimated total electrical load requirement of a building during the planning phase, to confirm services availability and co-ordinate the location of service connection, service switch, a transformer may

be used to switch from the supply voltage to the service voltage. To reduce cost, maintenance cost noise and heat problem, transformers are usually placed out doors.

The services connection may be:

Overhead: Less expensive, easily accessible, carry high voltage over long runs may be unsightly

Underground: More expensive, protection during extreme weather conditions, used in high – land density.

Electrical energy provides power for light, heat and the operation of appliances, services and equipment within a building. The electrical system that controls and distribute this power to the point of utilization of its power supply.

The basic components of a building electrical system includes:

- Service connection
- Service switch
- Main switch board
- Panel Board
- Service outlet
- Wiring and conduit.

8.3 HEATING, COOLING AND VENTILATION

Heating, ventilation and air conditioning system are the mechanical services in a building. These services are provided in the interior space of a building for environmental comfort of the occupants.

Good environmental comfort system form the relationship between:

- Air temperature and mean radiant temperature
- Air temperature and relative humidity
- Air temperature and air motion.

The following factors are considered in the selections design and installation of an air conditioning system

- Performance, efficiency
- Fuel and power source required
- Type, size and location of heating or cooling equipment.
- Noise and vibration control.
- Outlets.

The location of heating and cooling outlets depends on the size and proportion of the space, its area of heat loss or gain, its wall, ceiling and floor construction and finish and activities pattern of its occupants.

8.4 ACOUSTICS

Acoustical ceilings provide integral acoustical treatment along with a finish ceiling surface. They are usually in the form of files that may be supplied directly to or suspended from the underside roof or floor construction.

8.5 FIRE SAFETY

The principal aim of fire protection are simply to safeguard life and property and this is achieved by

- Reducing fire incidence
- Controlling fire propagation and spread
- Providing adequate means of escape, for occupants of the building.

Fire in a building is mainly man made, resulting from error or negligence. For the purpose of this project, fire security would be discussed under fire detection, extinguishing of fire and fire escape means.

8.5.1 FIRE DETECTION

A role of a fire detector is to detect and to discriminate between absence and presence of fire. It should not be too sensitive as to give false alarm, but there should be heat detector smoke and flame detector placed along strategic parts of the building.

The mode of operation of all detector is simply by an activating process based on volume and rate of either smoke or heater flame.

This activates atoms that trigger off an alarm.

8.5.2 EXTINGUISHING FIRE

There exist many methods of extinguishing fire, while the addition of dilatants to the combustion or flame zone. Coolant using water and carbon-dioxide using isolation. Concept (foam process) and the chemical or physical inhibition process that works by breaking down chain reaction essential to combustion process.

The simple fire fighting equipment to be used are:

1. Bucket of sand and water.

2. Soda-acid extinguisher a normal standard of provision for ten litres of extinguishing capacity for twenty – five metre floor area.

8.5.3 FIRE ESCAPE MEANS:

This should be seriously considered by providing stair cases that will inhibit fire spread and the material should have a reasonable safety level in controlling fire spread and the occupant's sufficient time to escape. Fire codes and requirement like structural protection, escape route, fire-fighting aids, are very important in a building.

Passage to exit are direct and unobstructed, well lit and accessible – Exit door are well lit and safety minimum of the fire rating requirement and other safety measures are considered, for example, choice of materials for floor finishes to avoid slipping, and well finished balustrade and drainage channels, covered to avoid accidents.

8.6 WASTE DISPOSAL

Dust bins are cheap methods of refuse disposal. One a small scale, each is about 460 mm diameter, 610 mm high.

On a large scale, an incinerator is provided for a site to deal with refuse generation. It should be positioned away from where wind could propagate the smell around and should be made of solid clay wall domes.

8.7 DRAINAGE

Foul drain is directed into the sewer where oxidation of organic matter occurs for its disintegration. Septic tanks are provided for, so that sludge settles at the bottoms and scum float

to the top where bacteria break it up, clear liquid will flow into another where the septic tank must be large enough in accordance with CP 302: 100.

8.8 MAINTENANCE

The life spans of the building component should be known, to be able to make effective long term maintenance plan for them. Maintenance interval vary depending on effects of weather over time and natural decay, normal wear and tear, and extent of vandalism or misuse. The NBA recommends that all roofs should be inspected at one or two years interval with a checklist of potential defect. Flat roofs should be inspected annually. In areas of high pollution, inspection may need to be more frequent. In electrical service installation, any wiring that is more than thirty – five years old is out of date and should be replaced (NBA, 1985). The expected life of wiring is twenty to thirty years. Light should be inspected at least every six months.

The expected life of lift before refurbishment or replacement is twenty to forty years (NBA, 1985). Suspension ropes however, have a life of only six years. Lift should be checked every six months under a planned maintenance programmed.

In plumbing services, over flow pipes, traps and balls valves should be checked periodically depending on frequency of use. Binding and channels in the pipe work should be inspected and cleaned yearly. Drains should be water tested every two or three years. Soak – away pit should be emptied periodically.

Air conditioners should be checked every six months and serviced annually.

CHAPTER NINE

9.0 AESTHETICS AND GENERAL APPRAISAL

9.1 AESTHETICS

Simple aesthetic elements were used in all parts of the building. The appearance of the building are of a single vertical element. Vertical fins and planters were used to punctuate the verticality of the building. Window openings in some parts of the building were of sun-screening devices which also serve as aesthetic elements. Window and door openings (external) also apart from serving as links and lighting and ventilation element also serve as elements that break the mass monotony of the wall.

The roofing system was also used as a single horizontal element to ensure the continuity of the building (that is, help the viewer see them as one single unit and not as several parts of a whole) and also help to provide contrast.

The centre reflects the architecture of the area in which it is sited in a more improved progressive pattern. It introduces to the people of the area an improved standard of buildings that can be inhabited by them in the near future. It serves as a progression point in the onward march for modernization of architecture on the world today. It also helps to bring to the fore the meaning of the phrase "SKILL EMPOWERMENT" as it relates to architecture.

9.2 GENERAL APPRAISAL

The complex is approached on entrance into the gates. It has a clearly defined entrance of concrete (precast or cast – in – situ). A net work of corridors linking the composite units of the centre are linked by an efficient net work of open sided corridors, adequately lighted and

ventilated from the sides, with columns carrying a decked roof above. These network of corridors helps to ensure adequate internal communication between the various units and also serves as a transition zone.

Through the windows in the buildings, one is able to appreciate the beautiful landscaping of the centre from the shade trees, to the hedges demarcating zones to the well laid out gardens and outdoor picnic area.

CONCLUSION

The actualization of the dreamed edifice called the Skill Empowerment Women Centre will not be a forum where women meet and talk shop but a place where they will be empowered to further perform efficiently their role as a wife, mother and partner in nation building.

In as much as women will not be empowered to such a scale as to abandon their traditional role in the society, they will be taught to think and act not as lesser mortals but partners in progress. This will go a long way to make our women independent, sensible and above all self sufficient, which will inturn clear our society of all its social vices and decadenes. The theory behind the science of ergonomics will take into consideration not only the act of information or skill impartation, but the harmonization of the environment and materials with the human body for the enhancement of lessons taught or received. This creates an enabling environment conducive enough for skill empowerment.

Men should not take this as a treat to their macho role as the head of the family, but as a help and support from their women to sustain the family. A woman empowered will go a long way to argument the need of the family and the society in general.

It further goes to say that the design of a Skill Empowerment Centre for Women will make women a lesser burden on their male counterpart and if not taken as an equal, they are at least recognised as a formidable force to be recknoed in society.

The sight of such a wonderful gift to human kind, Ado Ekiti, will stand not only as a centre of attention but as a centre for peace and serenity. Economically, it will worth the while of the Ekiti State Government we should not forget also that an idle hand is the devil workshop. Apart

from the fact that women are gainfully engaged in a profitable venture, they are also kept busy doing something worthwhile.

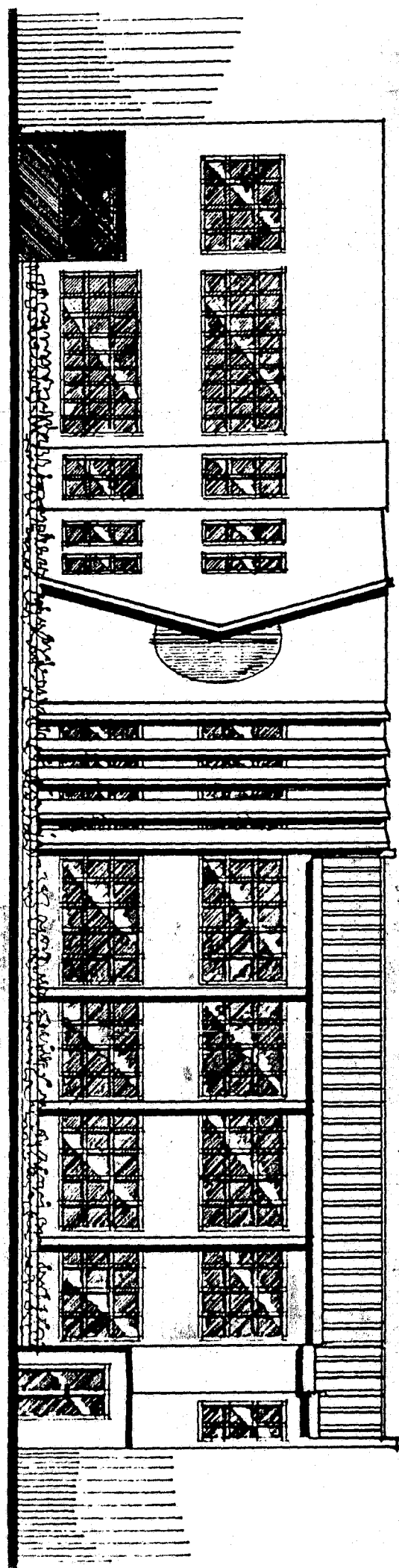
Finally, with the challenges ahead in the new millennium, the emancipation of women is the answer to societal peace and a nation's wealth. For every woman potentials discovered, the grater the nation's wealth and the lesser the poverty rate.

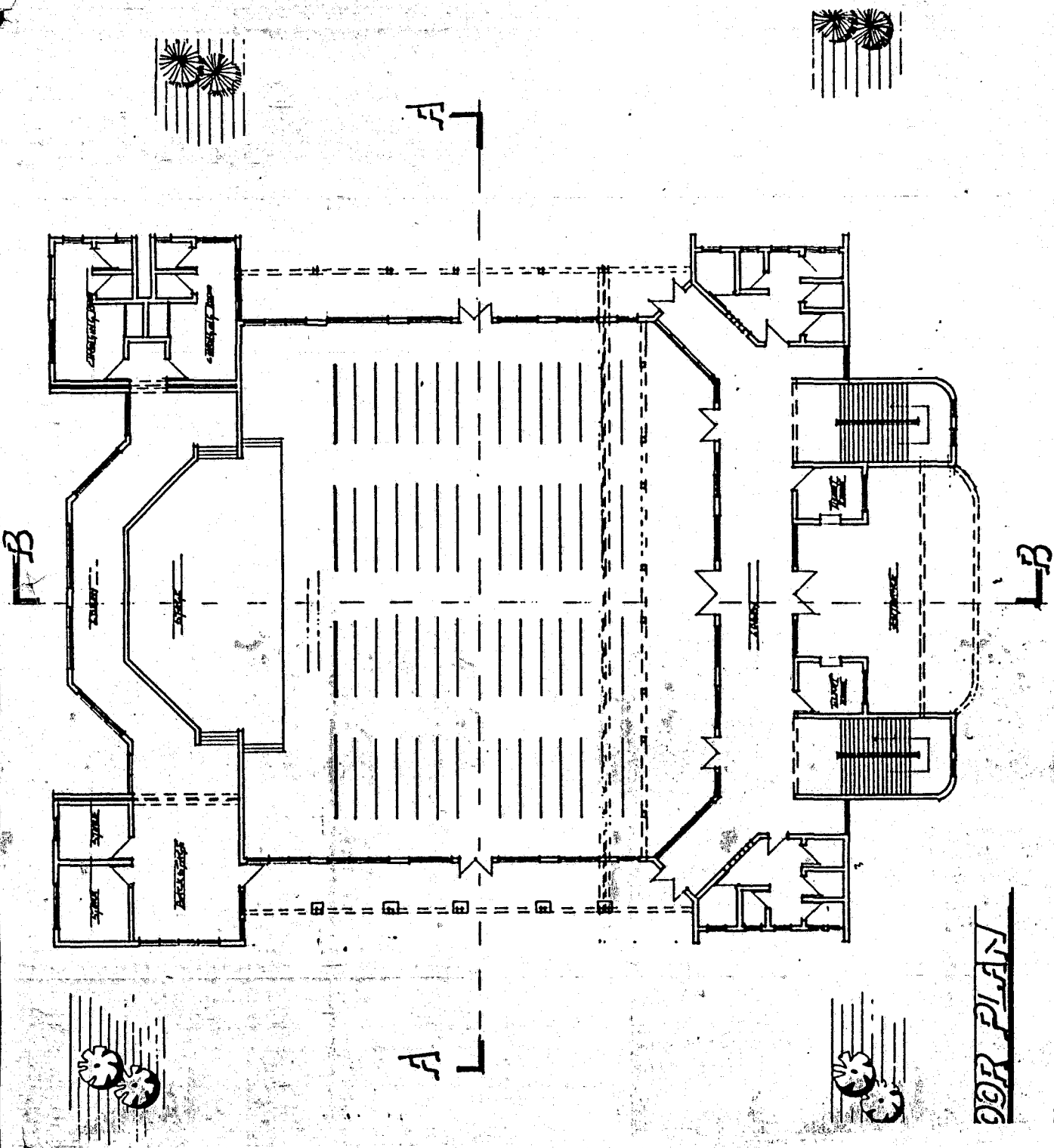
REFERENCES

1. Callendar, John (1980)
Time savers standard for building design data Mc Graw – Hill Book Company, New York.
2. Francis, D. K. Cling (1975),
Building Construction illustrated, Litton educational publishing incorporated.
3. Geneva International Organisation (1981),
Ergonomic principle of the work systems, International standard 1505 6385, Geneva.
4. International Labour Organisation Geneva (1983),
Encyclopedia of Occupational health and safety - 3rd edition, Volume 1 International standard 1505 6385, Geneva.
5. Lovis, G. Redstone, (1980),
Institutional Buildings, Mc Graw – Hill Book Company, New York
6. Mc – Cormick, E. J (1976),
Human factors in Engineering and design, Mc. Graw – Hill Book Company, New York.
7. Neufert, Ernest (1970),
Architect's Data, Crosby Lockwood staples, London
8. Oguntoyinbe S. Areola. O. and Filani M. (1978),
Ageography of Nigeria development, Heinemann Educational Book Nigeria Limited, Nigeria.

Designs Incorporated for
SHAW-WALKER
1000 MARKET STREET
SAN FRANCISCO, CALIF.

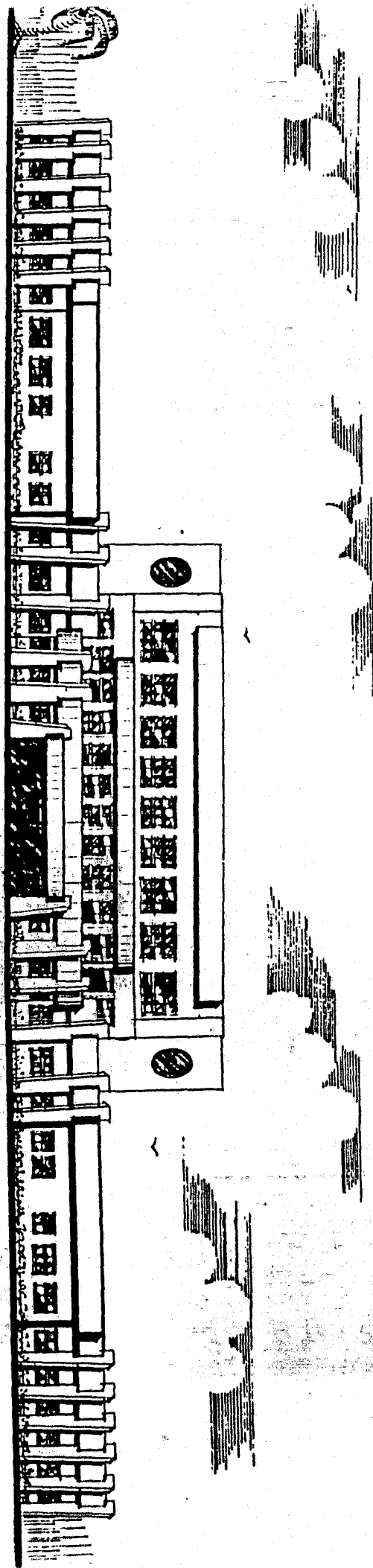
LEET STONE ELEVATION





DOOR PLAN

PLAN OF THE BUILDING

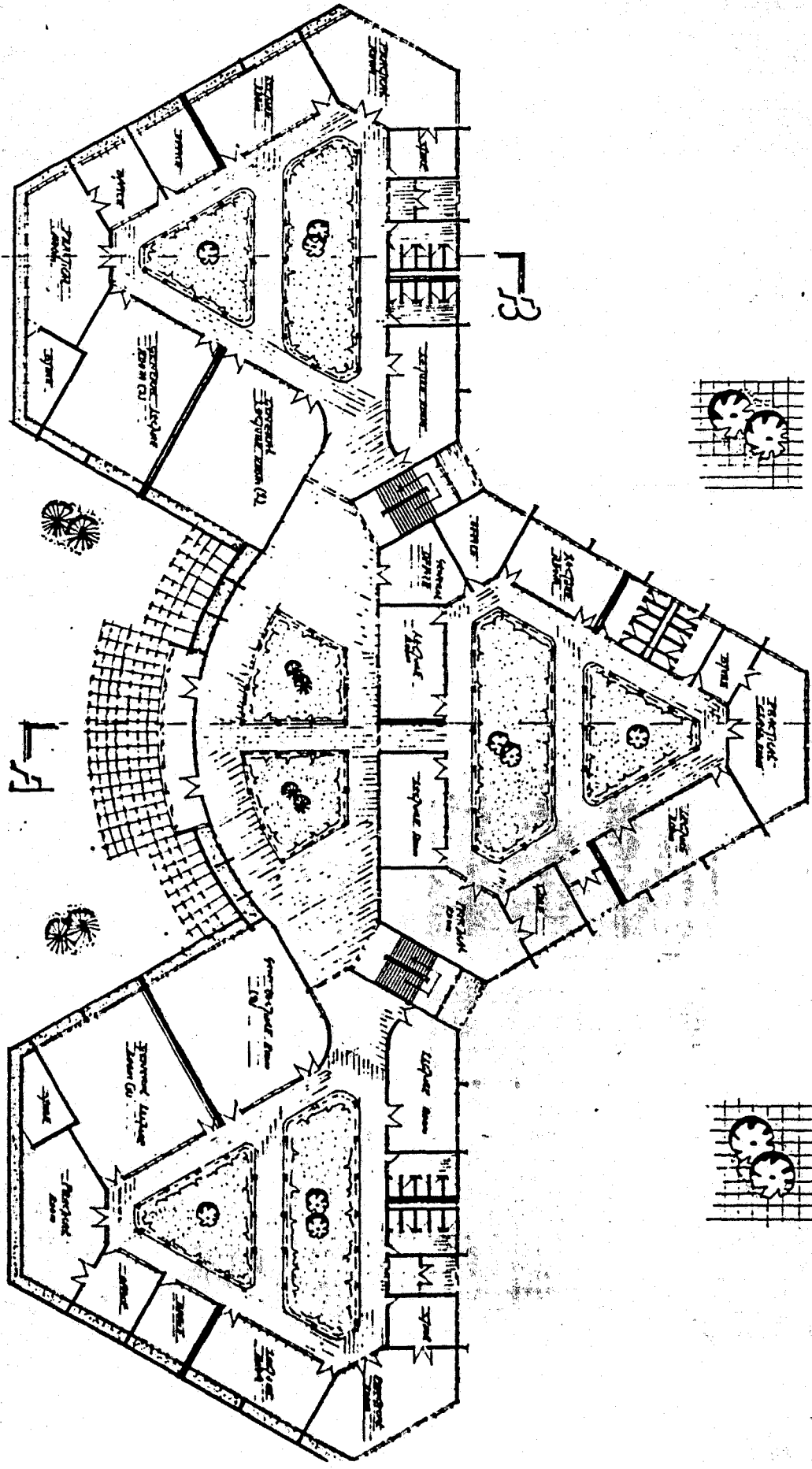


APPROACH ELEVATION



MILWAUKEE N. W. I. UNIVERSITY

GROUND FLOOR PLAN

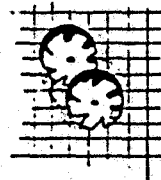
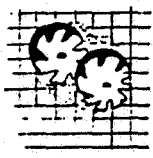


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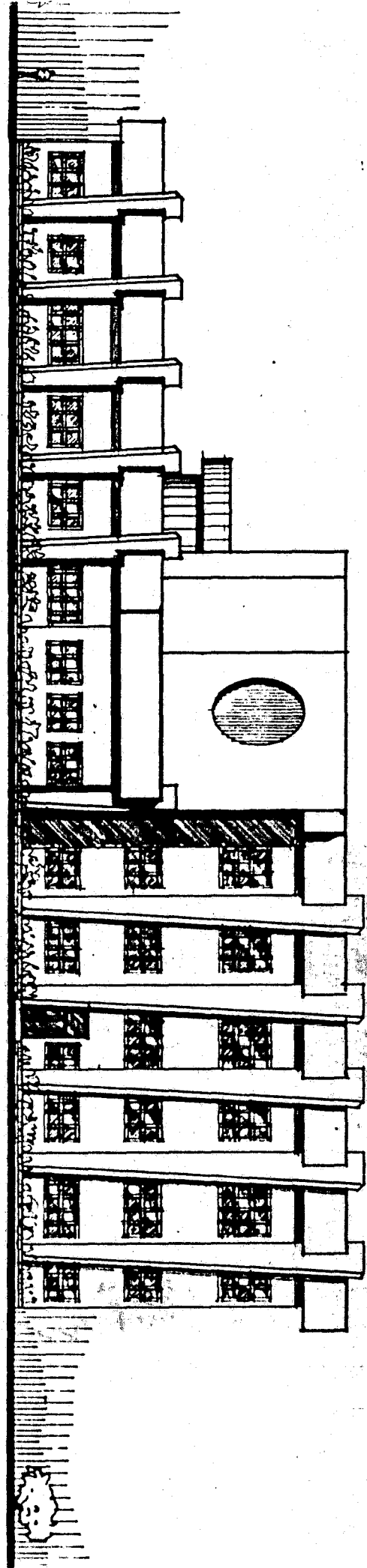
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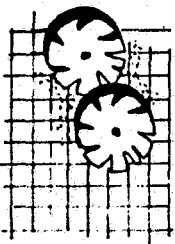
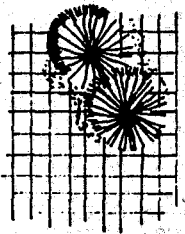
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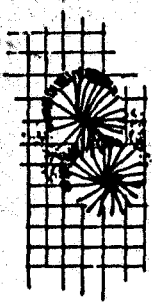
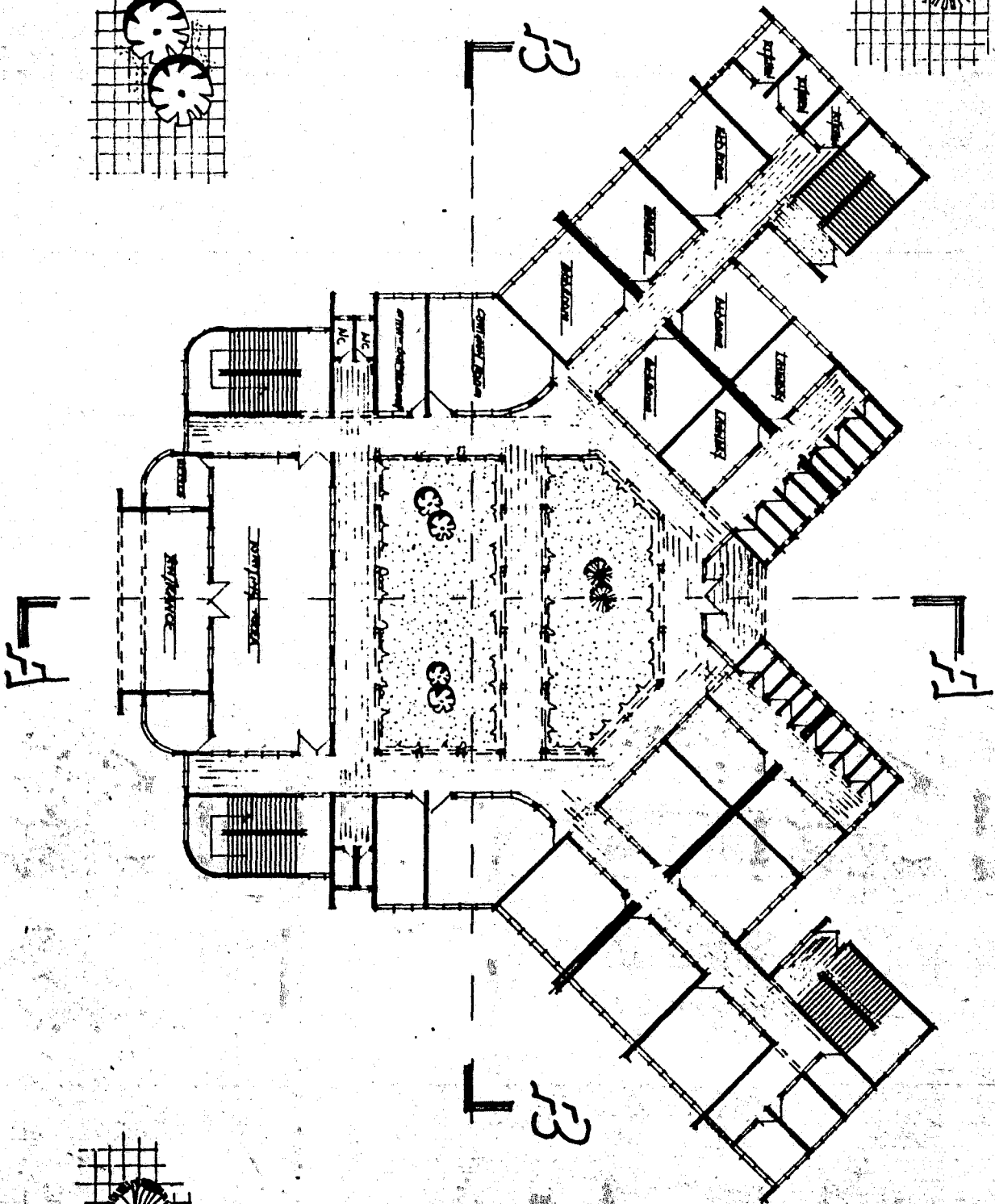
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RIGHT - SIDE ELEVATION

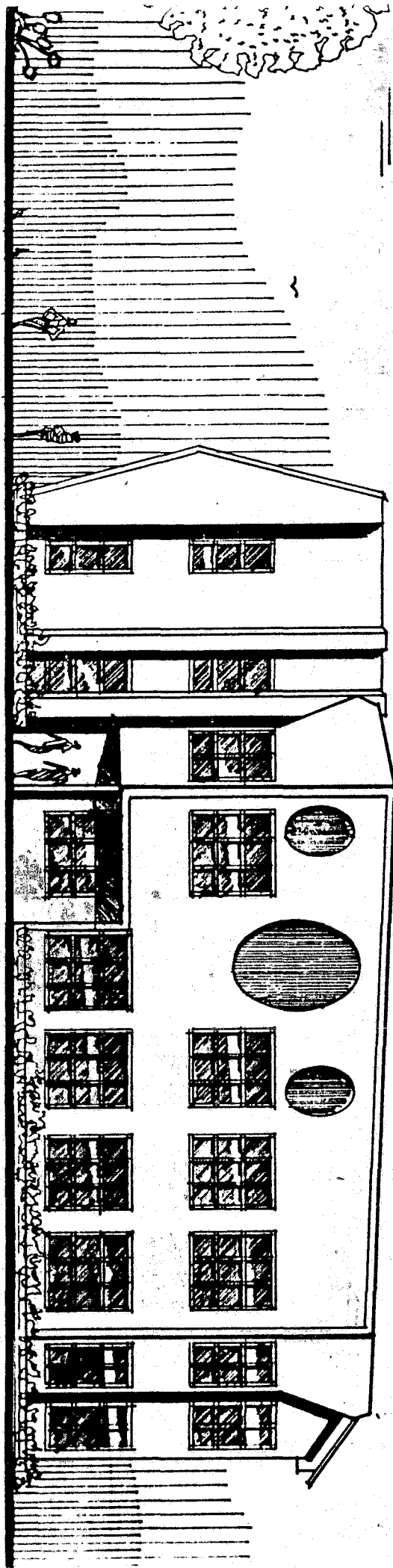


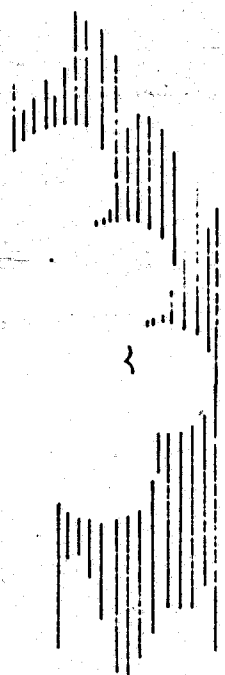
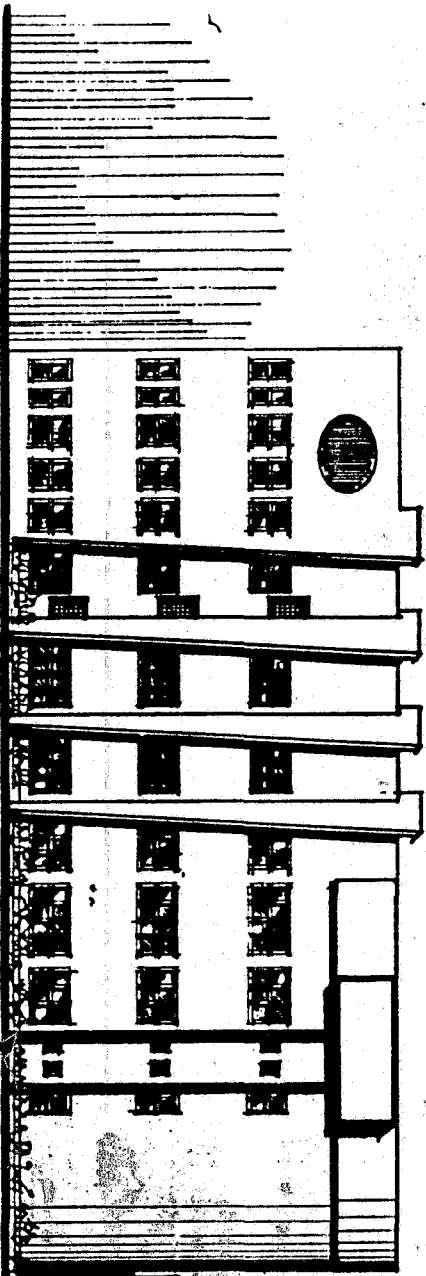


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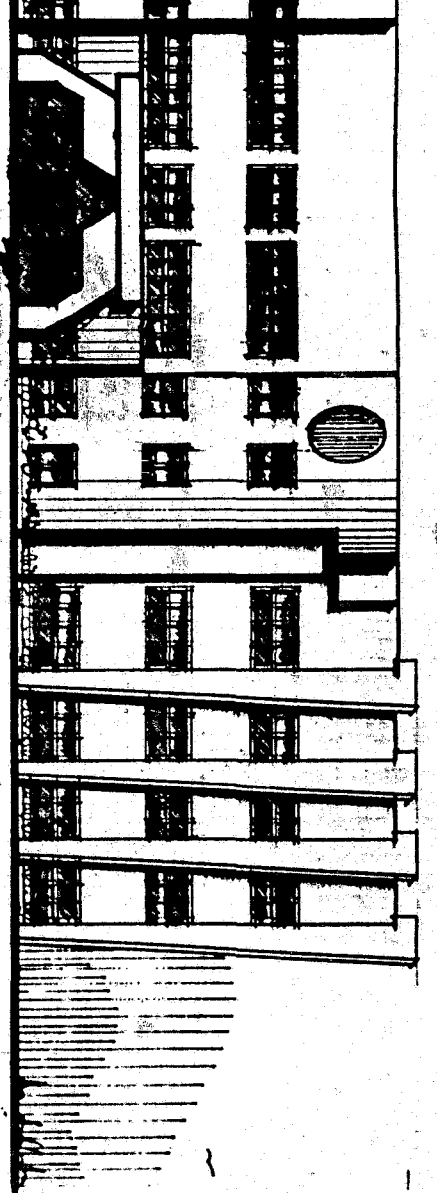
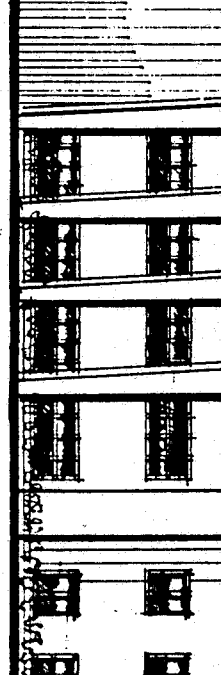
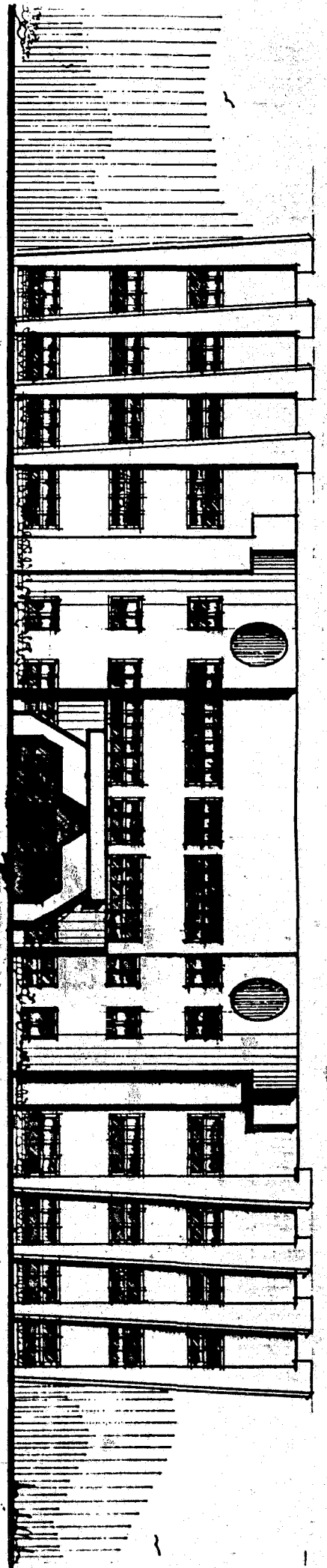


APPROACH ELEVATION

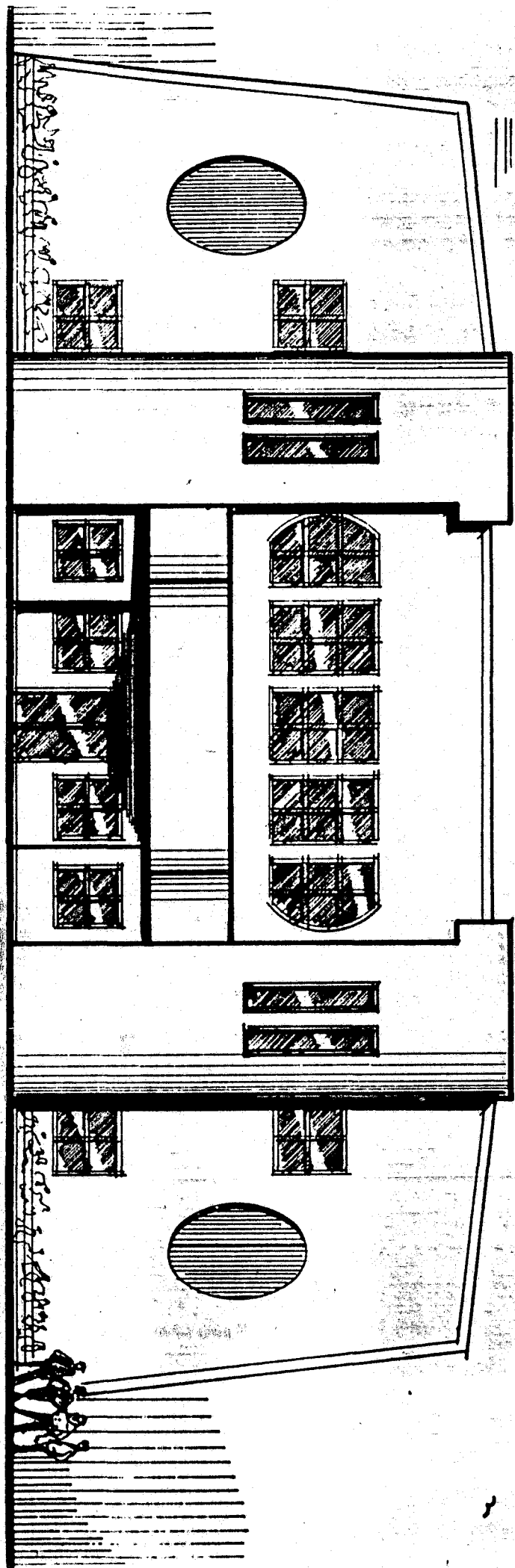




APPARITION MANSION

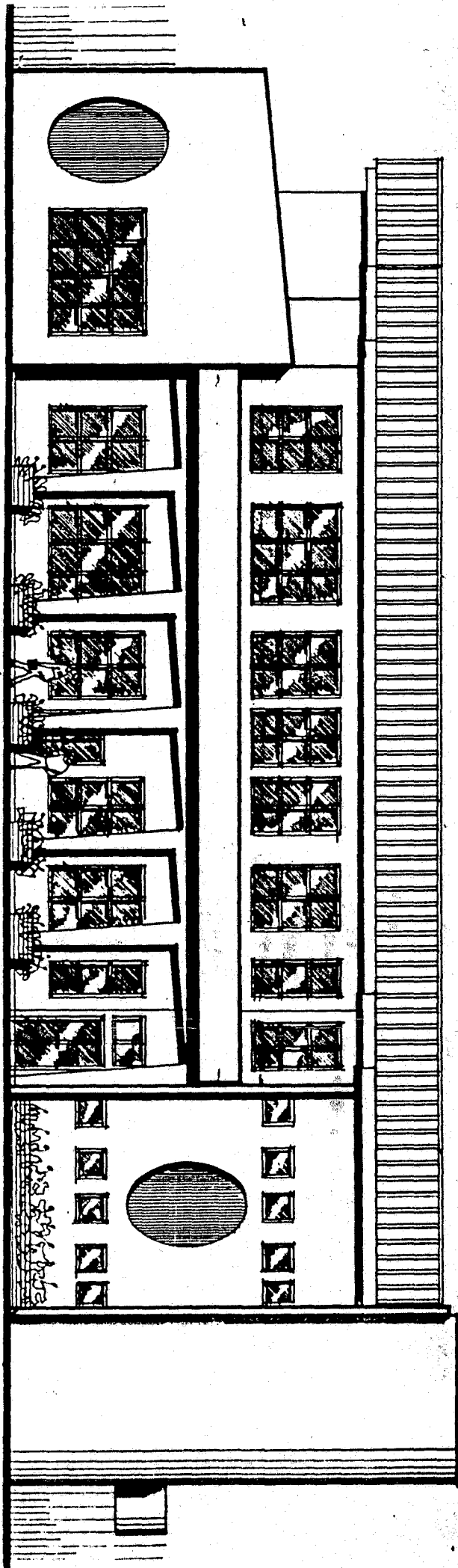


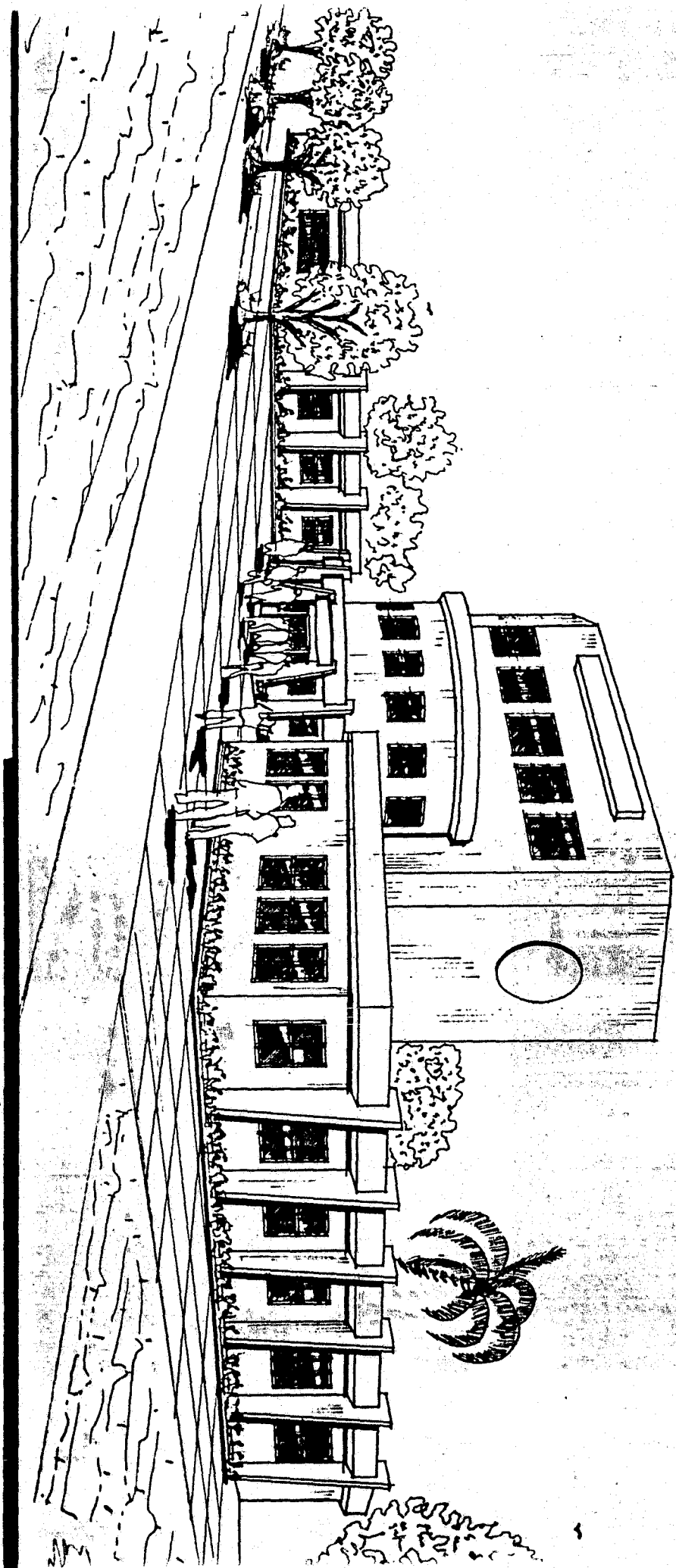
APPROXIMATE ELEVATION



DESIGN DEVELOPMENT
**SKILL DEVELOPMENT THROUGH
AND - EASY, EASY STATE.**

RIGHT - SIDE ELEVATION





1. PANDITJI

