MANAGEMENT INFORMATION SYSTEM ON LAND

A CASE STUDY OF DEPARTMENT OF LANDS,
MINISTRY OF WORKS, TRANSPORT AND HOUSING,
MINNA NIGER STATE

BY

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APPROVAL PAGE

In conformity with the standard requirement for the award of postgraduate diploma in computer science, I certify that it is true work of the author. Same or similar has never been submitted elsewhere

....
MAL. AUDU ISAH   Date
(PROJECT SUPERVISOR)

....
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(HEAD OF DEPARTMENT

....
EXTERNAL EXAMINER   Date

D E C L A R A T I O N

I, solemly declare that this project work is entirely the fruit of the author's research effort, except where references are made to published literature which are duly acknowledged no part or a whole has ever been submitted elsewhere for award of any certificate.

DEDICATIONS

To my parents, brothers and sisteers to those that aspire but could not achieve to my wife and children born and yet unborn who in many ways than I needed to spell out, gave me the motivation and patience to see to the completion of the study.

It is for tthis and other reasons, the project is dedicated to them.

"Emi gun to yeda jin be dozhi gayi kagbo yiyo gani be yegboro loe."

ACKNOWLEDGEMENT

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ABSTRACT

The need for efficient, effective and fast means of processing data in all areas of human endeavour made the use of computers desirable especially in day to day running of affairs for individual and corporate organisations.

This study is an expert system produced to serve as an alternative to manually operated procedures as obtained in the department of land with regards to land allocation, collection and payment of ground rents and other related activities surrounding acquisition of landed properties in the state.

The Project highlights the importance of land use decree promulgated in 1978 to give land only to those in need.

The approach adopted is a management information system (MIS) which involves carrying out analysis (investigation) on the current system with the sole objective of providing an improvement. ADBMS package dbase iv version was chosen for the task because it provides facilities for retrieving, generating and updating. It also allow many end users with a variety of application packages.

C H A P T E R   O N E

1.0   OVERVIEW ON LAND.

Land is the basic natural resources without which
life on this planet (earth) would be greatly impossible.
Control of the land is the key to power (attendant
social and political influence) and wealth and income
distribution. It is a natural resources endowed for
mutual benefit of mankind irrespective of race or creed.
Collins Cobuild dictionary has this to say, "it is an
area of ground, especially one that is used for a
particular purpose such as farming or building".

From time, land has been one resources that sends
communities into conflicts with one another, just because
of its unlimited importance to the growth and
development of mankind. (Human race).

Bearing this in mind, individual, corporate
organisations and Government alike has a regulatory organ
that is charged specifically, to administer this natural
resources. Accordingly, on the 29th March, 1978, a land
use and allocation decree was promulgated for Nigeria.
The decree, vested all land comprised in the territory
of each state in the federation in the hand of Governor
of such state which is held in trust and administered
for the use and common benefit of all Nigerians.

To put check on the part of the Governor, on
matters pertaining to land management and control, the
decree also compelled each state in the federation to

constitute an advisory committee charged with the
responsibilities of:-

a) Advising the Governor on any matter
connected with the management of
land;

b) Advising the Governor on any matter connected with
the resetlement of persons affected by the
revocation of Right of Occupancy on the ground of
overriding public interest;

c) Determining disputes as to the amount of
compensation payable for improvement of land.

The organ charged to accomplies these
responsibilities is the department of lands in the state
ministry of works and transport. The department oversees
onbehalf of government all transactions on land to
individual applicant or corporate bodies which are used
for residential, commercial, agricultural or mining
activities or for the benefits of all Nigerians such as
public schools, hospitals and markets.

In conjunction with two sister related departments,
i.e. survey and town planning, the lands department
effectively carry out these responsibilities. Each of the
three departments is headed by an equivalent of a
director. Due to the limited scope of the project, a
brief remark of these related departments shall be out
lined: a) The survey department has
surveyor General as its head. Working together with him
are the surveyors and the cartographers. The surveyors

provides bearing and distances tied to the ground
control points, while the cartographers translates the
resultant field work onto the sheet of paper or cloth
generally referred to as maps.

b) The town planning department has a director as its
head with him are other subordinates down the hierarcy.
The department concerned its self with planning and
designing of layouts, twon and country planning and
beautification of our environments.

Figure 1.1 shows the organisational chart of land.
department with related departments.

```
                        Governor
                           |
                           |
                 Commissioner of works
                           |
                           |
                Director General of Works
       _____|_____ n |
      |                     |                      |
Surveyor General            |
      |            _____|_____ Director Lands _____ Director T/planning
  ____|____       |                     |
 |         |      |                     |
Carto    Survey   |                     |
              ____|___ Chief Land officer _____
             |                  |                         |
    Secretary Luac              |              Area Estate Offices
                                |
   _____
  |          |          |       |          |               |
Deed      Acqui/Comp.  Val. Unit  Deed Registry  Revenue   Land Registry
Registrar                                        Bills
```
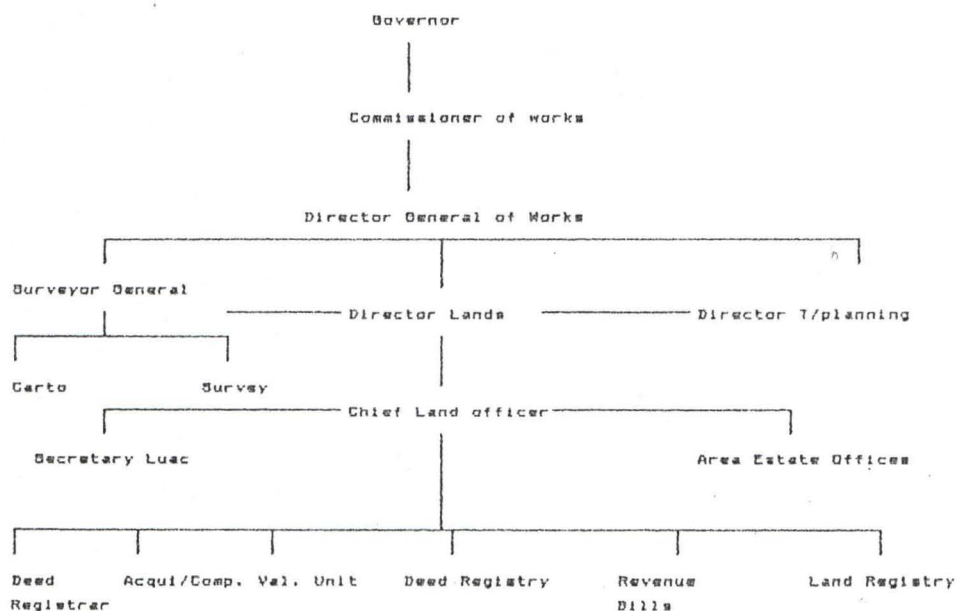
As for organisational chart, here are brief on the
section that moke up the department of land:

Land/Open Registry: All files relating to applicant
seeking any information of land are kept. These are in
file cabinet system.

Bill/Revenue: The bills section prepares all bills such
as application forms fee, ground rent, grant, c of o,

etc. and keep record of same. While the revenue collect all revenue onbehalf of the government by the department.

Deed Registrar: Takes charge of Certificate of Occupancy, prepares the initial bills and sent same for governor assent through appropriate routing channels.

Land & Allocation Committee: The committee performs an advisory rule on behalf of the governor. It allocates, monitors and sometimes revokes land where necessary if not used for the good of hunmanity.

Compensation and Requisition:

All lands belongs to government according to land use decree of 1978 but certain custodian who dwell on such lands need to be compensated for keeping it in their custody. These type of compensation is done where there is need for agricultural farm, layout, mineral resources beneath the ground, for school, hospital or markets etc.

Valuation Unit: This section evaluate all government buildings and those to be rented for its personnel.

1.1 OBJECTIVES OF THE PROJECT.

For everything human being endevour to perform, it must have a compelling reason or purpose, if not, he should not in the first place dream of it.

Computer became a fool that is contributing to advances in virtually all fields. Its advent and subsequent application of computer in solving tasking problems calls for a critical study on the manual process of allocating, using and investigating issues related to land in Nigeria with particular reference to Niger State.

To achieve these overall objectives a computerized land record system shall be developed and tailored toward:-

i.   Eliminating or reducing to minimum the corrupt
     practices surrounding allocation of land;

ii. Provides a more accurate and efficient management
     or   assessment of land resources for interested
     users;

iii. Proper means of storing and retrieving records on
     lands so as to reduce cases of missing or misplaced
     files multiple allocation;

iv. Reduces cost on overhead and stationery; and

v.   Provides security in vital information in respect
     of land.

1.2 RESEARCH METHODOLOGY

There is no hard and fast rule regarding the method
adopted to any project or research. This is not an
exception several investigative technique have been
employed. Among such techniques are lecture notes,
published materials, interview, document review,
observations and so on.

This project is undertaken in stages as outlined
below:

a feasibility study:

This is otherwise referred to as preliminary
investigation embarked upon to determine whether or not
the proposed project is desirable.

b) System Analysis.

The current system under investigation must
thoroughly be examined so as to profer solution. It is
not a problem solving stage but an attempt is made to
analyse the current system with a view to recommend for
either a new system or enhanced the current system.

c) Software development.

This is the final stage of the research. Coding and
designing using a programming language is developed. The
ability of the software to solve initial problems
identified

will be examined by the use of test data.

1.3 SCOPE/LIMITATION OF THE PROJECT

The scope of a computerised land allocation system are very wide. This does not particularly goes beyond department of lands, and Niger state. But states with similar setting may wish to incorporate with a litle or no modification. However the project is limited to layouts customary land/convension mortgages, deed Registrar LUAC valuation and open registry. The project is limited as result of time, cost and those official with vital information.

1.4 IMPORTANCE OF COMPUTER

William Fuori in his book introduction to the computer, has this to say. "There isn't a home or a business that hasn't felt the impact of the electronic computer. Computer are used to calculate gas, water and electric bills, control electric equipment during surgical operations, control the take off and landing of rockets and space vehicles, control intricate chemical processes, predict enemy troop movement during wartime, and most important to the business world, computers are used to control the financial and management activities of business."

Although, is often argued that computer saps the motivation and intelligence of people who should be making decision, and instead turn them into information processors. This is because of the volume of data generated, and processed with short period of time, which made computer inevitable. Since this could not be accomplished manually

with any degree of efficiency. However, computer can be said to be on electronic derive that is capable of accepting data, processing it and produce the find result (output) accurately and efficiently without human intervention if given adequate instruction referred as computer program.

From the aforementioned, it will be deduced that comoputer performs some tasks:

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i.   Though computer saps human motivation and intelligence, it performs repetitive tasks without monotony;

ii.   In the field of education and entertaining, computer serves as an aid;

iii.   Computer are used in many field of endevour such as   medicine,   science,   technology, space and land resourses;

iv.   To reduce complex calculation into smaller unit(s), computer was thought and developed.

v.   Reliable logical comparison between things are made possible with easy, and efficient using computer.

vi.   Complex and hazandous task to human being such as space vehicle, Geology, mining, under sea are undertaking with computer;

vii.   Efficiency in filing, storing, retrieving of processed data and information is achieved using computer.

1.4.1 CLASSIFICATION OF COMPUTERS

Computers for now can best be classified based on the   following criteria of logic or mode of input, purpose and size.

a)   Logic or mode of input.

The logic or mode of input of nay computer is centred on whether its an analog, digital or hybrid.

Analog computers are used in measuring and compares physical components/changes and variable in form of mathematical equation. It process variation in speed, chemical composition, temperature, amount of   current flowing   through a   conductor etc.   and is widely industrially and   scientifically. It has no memory hence only measures or   compares data or value. eg. car speedometers, slide rule, non digital etc.

Digital computers are present day computers which performs arithmetic operation and access logical decision according to instruction or program. Data are represented in digits.

Hybrid computers are a combination of desirable feature of an analog and digital computers. They are powerful device used in solving sophisticated problems.

b) Purpose.

With regard to purpose, we have general purpose computer which are used in most school/business organisations while special purpose or dedicated computers are designed for special task. Eg. Computers used in monitoring space shuttle or weather forecasting.

c) Size.

In term of size, all computer differs in prices, speed storage and processing capabilities.

i. Super of maxi computer.

This categories of computer is faster and more expensive which is capable of processing at least 10m arithmetic operations per second. Due to advances in technology of the mid 1980's super computers were designed for use in selsmic data processing in oil explorations, nuclear explosion and so on.

ii. Main frame computer.

Is a large computer commonly advocated for in business and industry as it support network of multiple users and functions. Also expensive, large memory capacity and powerful in solving highly sophisticated problems.

iii. Mini Computer. A mini computer has same feature as main frames but lower in price, memory capacity and slower in processing data. It is easy to instal as it support network of user terminal or workstations,

iv. Micro Computer.

Is a general purpose computer found mostly in schools, Homes and small business organisations often referred to as pc, or desktop computer. It is less expensive with smaller memory capacity and processing speed. A micro computer is the most popularly

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computer around today. In some advance country it has become a toy.

1.5   MANAGEMENT INFORMATION SYSTEM AND DATA BASE

Information is needed in virtually every field of human thought and action. Managers at all levels must perform such basic management functions or tasks such as planning, organising, staffing and controlling. The success of any business is determined by how well its executives perform those activities. And how well there functions are carried out is dependent, inpart, upon how well the information needs of manager are being met so says Donald H. Sanders in his book.

Accordingly, T.Lucy says "there is no universally accepted definition of a management information system (Mis) and those that exist reflect the emphasis and prejudices of the particular writer. Mis is synonymous with computer based processing." Therefore, Mis is a combination of human and computer based resources that results in the collection, storage, retrieval, communication and use of data for the purpose of efficient management of operation and business planning. This information must be as relevant, timely, accurate, complete and coneise as is economically feasible.

A computer system, integrating equipment, procedured and personnel that develop and provide information needs used by the management for decision making is known as Mis.

To properly reflect our mode, a mis combined together with data base to develop database management system (DBMS). A DBMS is a complex software system which construct, expands and maintain the database. It provide link between the user and the data in a way that it enable the user to record, organise, select, summarise, extract, report and manage data containing in a database.

C H A P T E R   T W O
(SYSTEM INVESTIGATION AND ANALYSIS)

2.0   INTRODUCTION

System study is a micro system analysis and design which calls for proper investigation in terms of alternative options and analysis of the cost benefit of each alternative. Investigattion is carried out to avoid wastage in time, money and other available resources. The terminal end of feasibility study marks the beginning of detailed system analysis.

2.1   PROBRLEM INDENTIFICATION.

It is pertinent to observe that problems associated with the ownership of land are still more rampant in our society due to the importance attached. The author personally viewed that the fôllowing problems are inherent in the procedures for allocation. Some of the procedures include:

i.   Alot of time is wasted in retrieving files/records on previous transactions.

ii.   Files are often misplaced or lost;

iii. Easy to manipulate.

Land speculators may collude with state officials to defraud government of his land or unsuspecting customer/land owner.

iv.   Record on mortgaged properties are not kept properly as many landowners use one Certificate of Occupancy for more than one mortgage deals.

In the light of the above, computerisation of the department was proposed.

2.2   FEASIBILITY STUDY (INVESTIGATION)

Feasibility study is a means of completely and effectively overhauling of an entire organisation, though management need to be adequately informed as its costly and time consuming.

Lucas, H.C (1985) in his book; says whatever the specific reasons for a new system in every instance, there is some dissatisfaction with the present

procedures or there would be no need for a new system.

Either current or expected demand for information processing cannot be met, so that some new system is needed. In any system development feasibility study is being accorded high proprity so as to blend idea about operation of the existing system with regards to personnel, equipment available, procedures and problems associated with the success or otherwise of the organisation.

The outcome of such determines whether to go for detail analysis or abandon the project which has impact on the organisation to either belt-up the operations or be assured of maximising profits.

For project feasibility study objectives to be accomplished, it is noteworthy the project request is understood by the management and staff. At the prevailing circumstances, almost all the procedures are manually performed. It is hoped that the proposed comuter system will provide the following:

i.   Provide an improved services to customers and users.

ii.   Overall operation efficiency by making possible speedy action on management decision.

iii.   Reduce to minimum those areas of conflicting or overlapping responsibility: and

iv.   Increase the speed and accuracy in processing data and report generation.

2.3 FACT FINDING METHOD

There are several means of collecting information with respect to any system. These may include sampling, questionaire, interviewing, special purpose records, record search and observation. In the course of preparing this write up, the following were used.

a). Interview.

As a matter of fact, interviewing serves as the most common and reliable means of collecting/obtaining data. The author has the previledge to discuss with the

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Director of lands and members of staff in the department. The outcome was indeed revealing.

Record Search.

Relevant forms used in processing for allocation of plot were issued to me for the purpose of the research. Such are land form 1, TUD (TP)1 Annexture iv copy of GRANT, copy of C of O.

Observation.

Going through the organisational chart, it reveals that many officers are employed perfoming virtually the same work. Alot of man hour required is thus wasted as files moves from office to office which may cause delay in taking decision.

2.4 TESTING PROJECT FEASIBILITY

In other to fully examine the merit or demerit of feasibility study, certain test are conducted to testify whether or not the system is useful to the organisation.

a). Operational.

When the whole idea of automation was muted, the management tremendously supported it, while the lower cadre of staff rejected the idea, due to the believe that computerisation creates unemployment. An agreement was reachd that no worker shall be releived of his post because of the proposed computeriasation scheme.

b). Technical.

The department has nothing with regard to existing automated equipment. A multimedia personal computer may however be adequate for now. Expansion may be thought of, in the near future.

As for the personnel, the department is blessed with high calibre of staff which might require short period to train them before automation commences.

c). Economic.

From the above, it is understood the department has to purchase virtually everything needed. Hardware, software and human ware. The cost of effectively carrying out this project at the initial stage will be

enormous but not out of the reach of the department. The system when installed, is expected to pay off the huge investment over a short period of time from the proceeds of its transactions.

However, a gradual phased reduction of personnel will be attained as lesser amount will now be spent on training and retraining of large pool staff that is currently being maintained and of stationaries.

2.5 OPERATIONAL PROCEDURE OF THE CURRENT SYSTEM (ANALYSIS)

Any applicant who may wish to own plot(s) in any part of the state has no problem in as much as it is enline with the enabling law ie. land use decree of 1978. Each state has its peculiar way of processing, Niger State is not exception.

In a government approved layout as well as any form of land, the procedures are the same but additional informations may be required where necessary.

Layout:

Purchase of form and answer all the questions. LAND FORM 1 Return the form to land Registry for processing with 2 file jackets with tags.

2 Recent passport photographs.

2 photo copies of three (3) years tax clearance.

2 photo copies of receipt op payment for purchase of form and processing.

For customary title hold, the following additional requirements are added:

Evidence of purchase letter of agreement duly signed by the family/community/village/town/district head with withnesses. Evidence from the Local government chairman of the area concerned or Local Government Right of Occupancy.

Any other relevant document that may facilitate easy processing

Those that fall under commercial, industrial educational

mining or agricultural purpose further include these evidence:

Certificate of company incorporation,

Minutes of the board of Director or share holders,

Relevant appropriate ministry approval eg. education, mining commence industry or agriculture.

The cost of application form and processing fee differs from an individual that apply for residential or commercial purpose.

By the time these conditions are fulfilled, the file leaves land registry to the table of Director of Lands or chief Land officer. He then minute to surveyor general to furnish the department with survey report as to whether the area is vacant or not; to give correct description and provide appropriate land area. (For goverment approved layout, no further survey since it has been carried out earlier). At the completion of the assignment, the file is returned to Director of lands.

From there, the file is passed to Town Planning Department for comment. They will advice on whether the purpose is suitable or not advance reason for none suitability. If the area applied for is not on government approved layout, from LUD(TP)1 ANNEXTURE(IV) is attached for Town Planning report by a registered Town Planner. In the and, the file goes back to the Director of Lands.

At this junction, file moves to the Director General for comment and then to the honourable commissioner to sign the Grant/Regrant of a Right of Occupancy.

```
                    Revenue
                       |
                Land Registry
                       |


Surveyor General------CLO/Director of Lands--------Director (TP)
                       |
                Director General
                       |
              Commissioner of works
```
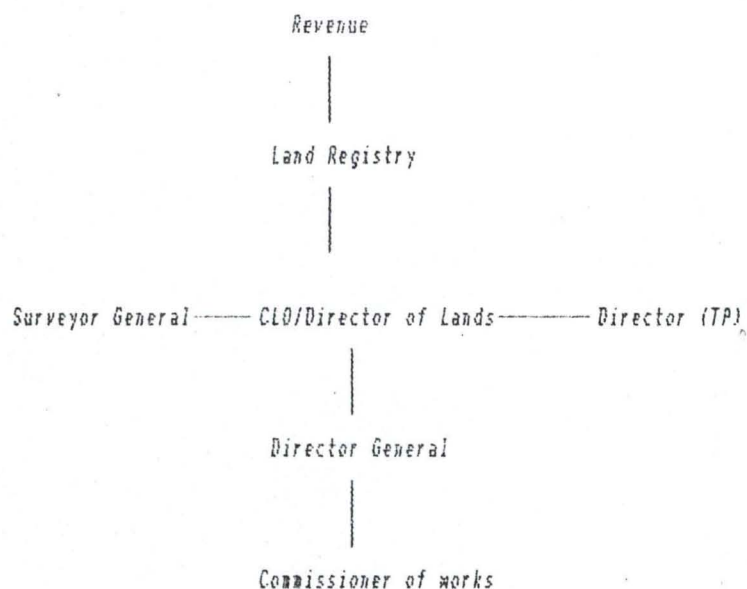
Fig 2. File movement for grant (R of O)

From the point of accepting the terms and
conditions of the grant, you may commence processing for
certificate of occupancy using Land form 12'B'. The Deed
Registrar as earlier stated is concerned with the
certificate of occupancy. He prepares the initial bills
for payment with receipt in the Revenue section. The
file leaves land registry from Director of lands table
to the surveyor General to prepare title deed plan and
prepare the sheet of map covering the area of the land.
With this documents included, the file is passed to the
Director General and Honourable Commissioner for their
comments respectively.

The files are finally forward to the Governor for
his signature and seal.

The title deed plan contains the following
informations:

NGS No. for the plot

Name of the applicant and the LGA where the plot is
situated surveyor General's signature and date
bearing anddistances.

Name and signatures of the officials that prepare

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and approve the plan, sheet number, scale and the
North Arrow.

                        Land Registry
                              |
                       Deed Registrar
                              |
                         Revenue
                              |
            CLO/DL ------------ Surveyor General
                              |
                            DG
                              |
                   Commissioner of works
                              |
                         Governor
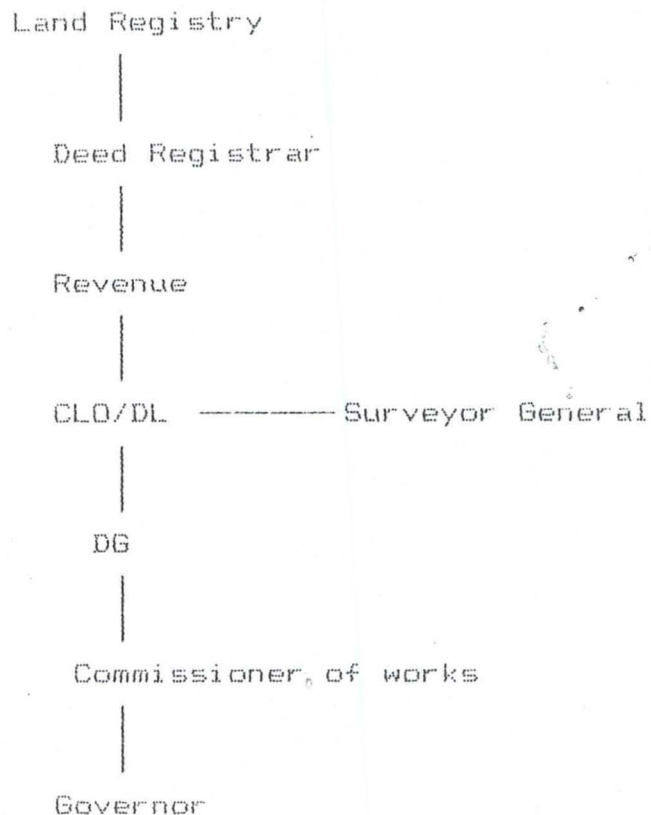
Fig.3 File movement for C of O

An applicant can consent to
mortgage/Assign/Transfer/Sub. the plot given to him
with the permission of land department. There is an
appropriate form for such exercise.

Finally, to reduce the problems associated with
land, area estate offices are situated in Bida, Suleja,
New Bussa and Kontagora and each application is
classified asper the area office it originate.

2.6 FINAL STUDIES AND RECOMMENDATION.

According to land use decree of 1978, it is not
lawful for an individual or group below the stipulated
age of twenty one (21) years to be granted a statutory
right of occupancy or consent to the assignment or
subletting of a statutory right of occupancy by the
military Governor.

The feasibility study reveals the need for computer based system to match the current and future growth requirement of the organisation. The management was made to understand, the state nearness to the nation's federal capital. This has already introduce competetion inreal estate development in the state especially around Minna and Suleja.

The management accept the report to convert the existing procedures (system) to a computer based system following these criteria;

    a. There shall be a gradual process of reducing the staff

    b. That a parallel changer over method of the current and proposed system be undertaken,

    c. Due to constraint of fund generally, only few staff at a time shall sent for training and as soon as possible a budgetry allocation for purchase of a personal computer will be made.

2.7 FEATURES OF PROPOSED SYSTEM.

The proposed computer based system will be design to take into consideration all the weak point of the current system presently in use.

As such, it is believed that the proposed system will ensure:-

    a). Minimize the level of manipulation by the rich end powerful,

    b).Due to volume of data generated, efficiency in the level of processing data is enhanced using computer,

    c). Report generation comes very fast either on the screen or hand copy (print) or both,

    d). If expected growth is achieved, enquiries will be made easily available over a short time,

    e). There shall be checks and balances on the part of landowners, mortgage institution so as to prevent fradulentuse of Certificate of Occupancy for double deals.

2.8 COST BENEFIT ANALYSIS

Gordon B.D and Mongrette H.O. opined that project do not all have the same cost benefits ratio. Some have a high economic value with other possess low pay off if successful. Bearing this in mind, land department is not an exception.

The cost of procuring software, as well as installation of hardware, other components and stationeries are all within the reach of the department.

With computerised system in place, there are high benefits to be drived which should be not over emphasised. Almost all th routines will be automatic e.g thereby saved time reduces the degree of mistakes or misplacement of files and improves efficient management decision making process.

C H A P T E R   T H R E E
(SYSTEM DESIGN)

3.0   INTRODUCTION

As a result of careful system investigation and analysis being carried out, system design commenced. The analysis of the current problem is used at the beginning to develop objectives for the proposed system. This may lead to a number of possible alternative design as different conbinations of manual and computerised elements may be considered.

3.1   MENU DESIGN.

The proposed system will be menu driven which is a selection process to perform relatively simple task such as centering a line or inserting a word. On the screen, there will be display of options for any task one may wish to undertake. The options may include add program, Edit text retrieve a file, print a report and exit.

3.2   OUTPUT SPECIFICATION.

It is important to develop a firm understanding of the information the system will provide to its users and the management. The design of the proposed system begins with the definitions of the outputs that will be generated which comes in two ways. The hand copy (print) or the screen. Due to sensitive nature sorrounding land, both form of output will be essetially required.

The expected output are:-

Grant/Regrant of Right of Occupancy,

Certificate of Occupancy,

List of ground rent defaulters,

List of plot revoked/not developed according to plan.

3.3   IMPUT SPECIFICATION

The design of input and file formats begins with the definition of the information to appear on the system's output (visual or hard copy).The record sizes for each file of the system will be determined.

Each field is designed to accept certain category of character (string, numeric, alphanumeric logical or dates). As mentioned earlier, some of the forms used in the existing system may be required to enhance the new system. They need not to be discarded completely except where necessary.

To reduce processing error, some of the field has to be coded.

APPLICANT FULL NAME — NAME
APPLICANT NUMBER — APP-NO. AGE.
AGE — — AGE
NATIONALITY — — NAT.
STATE OF ORIGIN — STATE
LOCAL GOVERNMENT AREA — L.GOVT.
OCCUPATION — — OCCUP.
POST — HELD — — POST
CONTACT ADDRESS — ADDRESS
UNDEVELOPED LAND OWN — UNLAND
PURPOSE OF LAND — PULAND
TYPE OF LAND — T AREA
APPLICATION FEE PAID — APPFEE
APPLICATION FEE RECEIPT NUMBER — APP-RE-NO.
LAYOUT FEE PAID — LAYFEE
LAYOUT FEE RECEIPT NUMBER — LAY-RE-NO.
DOCUMENTS ATTACHED — DOCUMENTS
APPLICATION APPROVED/REJECTED — REMARK
DATE APPROVED/REJECTED — APPRDATE
ACCEPTANCE LETTER — ACCLETTER
ACCEPTANCE DATE — ACCDATE
NUMBER OF YEAR FOR IMPROVEMENT — DYEAR

```
NUMBER OF YEAR APPROVED            —            A YEAR
DATE  OF  REVOCATION IF  NOT  DEVELOPED—
REV. DATE
PLOT NO.                           —            P—NO.
DIMENSION                          —            DIM
SURVEY                             —            SURVEY
IS APPLICATION FOR NEW PLOT        —               N.PLOT
IS THE LAND CUSTOMARY              —            CUST
IF 'YES' TOWN PLANNING  REPORT     —            TPREPORT
FORM NUMBER OF CONVERSION          —               C FORM
NO.  NAME OF CONVERSION OFFICIAL   —            C NAME
LOCAL GOVERNMENT RIGHT OF OCCUPANCY —           LR OF O
RENT.
```

3.4   DATABASEFILES

In creating a database file, there are certain specification to be observed for the overall structure of the database. There are file name, record name and sizes, field name and size, type of data used, special code formulae, computer control statement and special remarks to the programmer.

FIELD NUMBER	FIELD NAME	TYPE	WID TH DECIMAL
1.	NAME	C	20
2.	APP—NO.	C	8
3.	AGE	N	2
4.	NAT	C	10
5.	STATE	C	10
6.	L.GOVT.	C	10
7.	OCCUP.	C	10
8.	POST	C	10
9.	ADDRESS	C	25
10.	UNLAND	C	20
11.	PULAND	C	14
12.	T.AREA	C	15
13.	LOCATION	C	12
14.	APPFEE	N	6

15.	LAYFEE	N	6	
16.	DOCUMENT	C	30	
17.	CUST	C	3	
18.	TP.REPORT	C	10	
19.	C FORM NO.	C	10	
20.	C NAME	C	15	
21.	P-NO.	C	8	
22.	DIM	C	10	
23.	REMARK	C	10	
24.	RE-DATE	D	8	
25.	ACCLETTER	C	3	
26.	A YEAR	N	2	
27.	REV.DATE	D	8	
28.	RENT	N	8	2

3.4.1   DEFINITION OF TERMS

CHARACTER   Identified individual characters used to compose any data item. The are numeric 0-9, alphabetic A-Z and special character are commas. question marks hyphens etc.

FIELD; Characters are assebled into grouping called field or data elements, field is the principal unit used when data is organised for computer files. It set aside position to hold specific data item up to the maximum of 25 positions.

RECORDS; Field containing individual data item are grouped together to form record or records concerning person, event or transaction may be combined into s single unit.

FILES: Is a collection of records into an organised series.   It could be sequential, serial, random, transaction, index sequential or master files.

C OF O: Certificate of Occupancy is a Legal paper given out after due processess have been completed over apiece or percel of land. It is usually signed by the Governor.

R OF O: Right of Occupancy is a legal paper issue out
after   due process has been completed over a piece or
percel of land   usually signed by the   Honourable
Commissioner of Works.

3.4.2   FLOWCHART

Programflow chart is a pictorial representation of
a system prepared on the basis of symbols and relational
flow   lines. The term is used to indicate any type of
diagram showing the sequence of events or action in the
system.   It is   also known   as computer procedure
flowchart, and are often   prepared as a preliminary to
program coding to assist correct sequence of statements
required. Program flowchart also show   input operations
setting of counter testing of counter, and   loop or
branching.

C H A P T E R   F O U R
(SOFTWARE DEVELOPMENT & IMPLEMENTATION).

4.1   INTRODUCTION

The climax of any system development stops with a good program being written out. The language for the proposed system is discussed together with implementation method. This serve as guide for would be users whenever there is little technical problems of operating the system.

4.2. CHOICE OF LANGUAGE.

In project of this nature, the operational language for use must be selected with utmost care and in arriving at the final decision, a database file .system was choosen.

To reiteract the definition once more, a database is a mechanical, formally defined, centrally controlled collection of data in an organisation. The data records are physically organised and stored so as to promote shareability, availability evolvability and intergrity.

The databse approach is made operational by a database management system (DBMS), a software system which perform the functions of defining, creating, revising, and controling the database.

It provides facilities for retrieving data, generating reports revising data definitions, updating data and building applications. Many different end users and a variety of application programs can access the data base, and it is desirable to have an organisational functions to exercise control over database. At this junction, database iv application. package suit the provisions required for this project work.

4.3   MODULAR PROGRAM STRUCTURE

All program in this project work is structured in modules to ascertain the sequence in which the system works and to show relationship between processes.

With a personal computer, an operating system is used to boot the system before going into the environment. This can be achieved by either installing the program on the harddisk or through the use of floopy diskette. (3.5 or 5.25 sizes).

```
                    ┌─────────┐
                    │  TITLE  │
                    └────┬────┘
               ┌─────────┴─────────┐
               │ MAIN PROG MENU    │
               └─────────┬─────────┘
          ┌──────────────┴──────────────┐
    ┌──────────┐                   ┌──────────┐
    │ NEW LAND │                   │   RENT   │
    └────┬─────┘                   └────┬─────┘
  ┌──┬──┬──┬──┐              ┌────┬─────┬──────┐
┌──────┐┌──────┐┌────┐┌──────┐┌────┐ ┌──────┐┌────┐ ┌──────┐ ┌────┐
│APPEND││MODIFY││VIEW││REPORT││EXIT│ │APPEND││VIEW│ │REPORT│ │EXIT│
└──────┘└──────┘└────┘└──────┘└────┘ └──────┘└────┘ └──────┘ └────┘
```
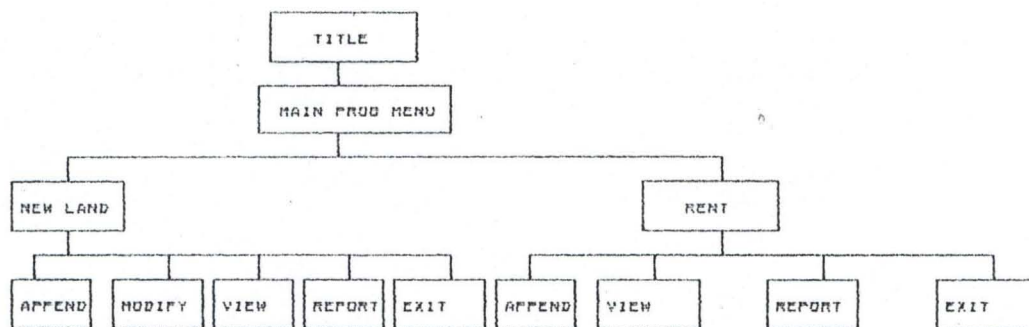
4.4   WORK STATION REQUIREMENT

This particular organisation in question is adopting computerisation for the first time as earlier mentioned in the feasibility study. Effort should be directed towards a work station or personal computer. This may however be improved upon with time and availability of resources.

The computer selected here is a Acer multimedia personal computer which is a combination of video, audiographic and text. In comparison, a normal PC can only generate graphics and text. A multimedia PC however, not only runs conventional application software, but also CD-ROM (compact disc, read only memory) software to produce a variety of interesting graphics and sounds.

HARDWARE REQUIREMENT.

PERSONAL COMPUTER   —   ACER VIEW 54el MULTIMEDIA

with   the following

features.

IBM COMPACTIBLE.

MEMORY   —   640KB

DISK DRIVE   —   Detached 3.5inc. diskdrive
                                    of 1.44mb capacity, CD ROM

```
CD ROM,
KEY BOARD              —    Detached typewritter style.
DISPLAY                —    Monochrome/Colour graphics.
PRINTER                —    Cannon BJC-210SP Bubble jet
                            printer with adaptor
STABLIZER              —    250 V.A
SPEAKER                —    Two speakers with combined
                            output of 24w.
```

<center>SOFTWARE REQUIREMENT</center>

```
pC-DOS, MS-dos and WINDOW 95
PACKAGE                —    DBMS Package dbase iv
version
Text Editor            —    Microsoft word.
```

4.5 IMPLEMENTATION

At this level of computerisation, it is ideal to implement the new system so developed. Hence, all aspect of the proposed system must be seen to meet operational standard prior to its being tested and subsequent usage. Newly designed forms are tested to check their efficiency, effectiveness and where necessary redesigned.

4.5.1 TRAINING

The operational staff for the proposed system are accorded the opportunity to be trained during installation and test run. This aspect of implementation is very important as these staff would in the end manned the system. They are however urged to repeatedly process the test data often until they mastered all facets of the system.

A little technical knowledge of the system shall be

taught the operators, should in case the system abrutly malfunctions. This will save some cost of constantly seeking the analysis to always come for assistance; who may not be necessarily residing around the working environment of the organisation. As a matter of fact, the training shall be on the job to ensure perfections.

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4.5.2   CONVERSION

As approved by the management, a parallel changeover or run will be preferred. Using a test data, the existing and the proposed systems run concurrently by processing exactly the same data. The result of the systems should be identical if the proposed system has been properly implemented. The conversion method adopted should be allowed to perform for one processing cycle.

To maintain dual system, seem to be expensive but its merit far outweigh the demerits as there is no data lost incase the system fails. Conversion however, encompanses site preparation and equipment installation.

4.5.3   POST IMPLEMENTATION REVIEW

Every aspect of the proposed system is checked and verified to ensure the operational accuracy as projected during analysis and design stage. A corrective measure are taken where necessary. An additional task of adquately maintaining the hardware and software must be put in place. Routine checking or servicing must be undertaken as at when due. Only qualified specialist are called upon to carry out repairs.

Always maintain an array ofbackup for any work done.

C H A P T E R   F I V E
(DOCUMENTATION SUMMARY & RECOMMENDATION)

5.1   DOCUMENTATION:

System documentation is necessary to keep management abreast of the current developments and to explain the working of the system to users.

The final reports covering the entire newly designed system must be documented indicating every aspect of its ations. An operating system PC-DOS,MS-DOS or window 95 is essential to start-up the personal computer. The application program is then installed on the hard disk or loaded from floppy diskettes 3.5inch. or 5.25inch. each time when required.

For security of the software to be maintained from unauthorised users gaining access, the package has a built in security system called PASSWARD. Only the operators has the knowledge and until such is entered, the system cannot be used.

Since the software is a menu driven, options are inputed in a form of one way entry and exit into the system. Once the range of selection has been exhausted, one can exit to DOS is perform other task or switch off the computer.

5.2   SUMMARY:

To sum up, attempt have been made to introduce a computerised system so as to keep abreast with the current trend of development universally. Land has been source of

worry or conflict to many people both rich and poor.

Having put in place a computerised system, the need to process application forms not only for efficiency but also to safeguard the precious natures gift that this nation is endowed with abundantly.

The system is expected to pay off huge investment expended. These are sources from application and processing fee, ground rent and payment for bills in

respect of Certificate of Occupancy. The issue of ground rent defaulter can be put rest as list of them can easily be made available.

5.3 RECOMMENDATION:

In concluding this project, I wish to make the following recommendation.

(a). There should be a general re-organisation of the whole ministry and of particular interest the department of land. There are too many hands performingg same or similar work. This is not always the case in private establishment.

(b). A qualified surveyor and Town Planning personnel be recruited by the department so as to eliminate the degree of dependence and reduce administrative bottle necks.

(c). A phrase staff reduction should be undertaken with utmost care.

(d). Effort must be geared toward ensuring that all mortgage deals which reflect the use of land as collateral be communicate to the department to check double deal.

(e). All fee due to the government shall be payable at a designated bank to reduce degree of fraud.

(f). A program of encouraging citizen to own personal houses should be introduced either by loan or owner occupier basis. Primary mortgage Institutions could be of great assistant in this direction.

(g). As time goes, the effect of computer system be spread to area offices to enhance their performances.

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```
Set talk off
Set status off
Set scoreboard off
DO WHILE .T.
 Set color to w/r+
@ 1,10 to 23,60 double
Set color to w/n+
@ 2,25 say "PROJECT TITLE"
@ 3,25 to 3,37 double
@ 5,20 say "MANAGEMENT INFORMATION SYSTEM"
@ 6,31 say "ON LAND"
@ 7,23 say "A CASE STUDY OF MINISTRY"
@ 8,24 say "OF WORKS AND TRANPORT"
@ 9,29 say "NIGER STATE"
@ 12,34 say "BY"
@ 14,26 say "YAHAYA SHEHU AHMED"
@ 15,28 say "PGD/MSC/071/96"
@ 17,31 say "SUPERVISED"
@ 19,34 say "BY"
@ 21,28 say "MAL. AUDU ISAH"
WAIT
CLEA
    ch = space(1)
@ 15,5 say "PRESS Y  TO DISPLAY MEN AND N TO
              EXIT"
@ 15,60 get ch pict "@!"
read
      DO CASE
          case ch = "Y"
                do menu
          case ch = "N"
                exit
      ENDCASE
ENDDO
CLEA
RETURN


Set talk off
```

```
Set status off
Set scoreboard off
clea
DO WHILE .T.
     set color to w/r
@ 0,22 say "MANAGEMENT   INFORMATION SYSTEM ON
             LAND"
@ 1,22 tg 1,58 double
Set color to W/N
     @ 3,19 say "MAIN MENU:"
     @ 3,31 say "NEW LAND"
     @ 3,42 say "RENT"
     @ 3,53 SAY "EXIT"
     ch = space(1)
@ 20,10 say  "ENTER THE FIRST  LETTER OF
        CHOICE"
@ 20,50 get ch pict "@!"
read
     DO CASE
         Case ch = "N"
              do NEW
         Case ch = "R"
              do PAY
         Case ch = "E"
              exit
     ENDCASE
ENDDO
     3,19 Clea to 20,79
RETURN
```

```
        Set talk off
        Set status off
        Set scoreboard off
        Store space(20) to name,unland,comp
    S t o r e      s p a c e ( 1 0 )        t o
nat,state,lgovt,occup,app_no,p_no,scapital,post,dim,
remark
    S t o r e      s p a c e ( 3 0 )        t o
address,document,dname1,dname2,dname3,dname4
        Store ctod ("//") to re_date,revdate
        Store space(14) to puland,tarea,location,cname
        Store space(3) to nplot,cust,accletter
        Store 0 to asge, appfee,layfee,dyear,rent
        Store space(5) to file
        Set color to w/r
        @ 0,22 say "MANAGEMENT INFORMATION SYSTEM ON
                    LAND"
        Set color to w/n
        @ 2,5 say "ENTER FILE NAME" get file
        read
        If file = "RLAND"
        use RLAND
        Endif
        If file = "ILAND"
        use ILAND
        Endif
        @ 2,5 clea to 2,79
        DO WHILE .T.
          If file = "RLAND"
            Append blank
        @ 2,5 say "Applicant full name"get name
        @ 4,5 say "Application No." get app_no
        @ 6,5 say "Applicant Age" get age
        @ 8,5 say "Nationality" get nat
        @ 10,5 say "State of Origin" get state
        @ 12,5 say "Local Government" get lgovt
        @ 14,5 say "Occupation" get occup
        @ 16,5 say "Post Held" get post
        @ 18,5 say "Contact address" get address
    @ 20,5 say "Do  you, your wife hold undeveloped land?
                (Yes/No)"
        @ 22,5 say "If yes, Location and  size" get
                    undland
        read
        @ 2,5 clea to 22,79
        @ 2,5 say "Purpose of land" get puland
    @ 4,5 say "Type  of Area (Low, Med.,High Density)" get
                tarea
        @ 6,5 say "Location (Town)" get location
        @ 8,5 say "Application fee Paid" get appfee
        @ 10,5 say "Layout fee Paid" get layfee
        @ 12,5 say "Document(s) attached" get document
        @ 14,5 say "Is the Application for  new plot?" get
                    plot
        @ 16,5 say "Is the land Custoamary?" get cust
```

```
@ 18,5 say  "If yes, Enter town planning report" get
              treport
  @ 20,5 say "Form No. of Conveersion" get cform_no
  @ 22,5 say "Name of Conversion Officer" get cname
  read
  @ 2,5 clea to 22,79
  @ 2,5 say "Dimension" get dim
  @ 4,5 say "Application Approve/Reject" get remark
  @ 6,5 say "Approve/Reject date" get re_date
  @ 8,5 say "Acceotance letter"get Accletter
@  10,5 say "No. of Years given for development" get
              dyear
@ 12,5 say "Date  of Revoke date if not developed" get
              revdate
  @ 14,5 say "No. of year Approved" get ayear
  @ 16,5 say "Plot number" get P_no
  @ 18,5 say "Rent" get rent
  read
  Endif
  If file = "ILAND"
  Append blank
  @ 2,5 say "Company or Organsation name" get comp
  @ 4,5 say "Application No." get App_no
  @ 6,5 say "Company address" get address
  @ 8,5 say "Full names and Addresses of Directors"
  @ 10,5 get dname1
  @ 11,5 get dname2
  @ 12,5 get dname3
  @ 13,5 get dname4
  @ 15,5 say "Source of Capital" get scapital"
  @ 17,5 say "Purpose of land" get pulan
  @ 19,5 say "Location" get location
  @ 21,5 say "Application fee paid" get appfee
  @ 23,5 say "Layout fee paid" get layfee
  read
  @ 2,5 clea to 23,79
  @ 2,5 say "Document(s) attached" get document
  @ 4,5 say "Plot No." get p_no
  @ 6,5 say "Dimenson" get dim
  @ 8,5 say "Application Approve/Reject" get remark
  @ 10,5 say "Approve/Reject date" get re_date
  @ 12,5 say "Acceptance letter" get Accletter
@ 14,5 say "No. of  years Approved for development" get
              dyear
@ 16,5 say "Date of Revoke if  not developed" get
              revdate
  read
  Endif
  wait
  @ 2,5 clea to 23,79
  Ch = space(1)
  @ 17,5 say "Enter another  data (Y/N)" get ch pict
              "@!"
  read
      Do case
          case ch = "Y"
```

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```
                loop
          case ch = "N"
                exit
       Endcase
       ENDDO
       close database
       CLEA
       RETURN


       Set talk off
       Set status off
       Set scoreboard off
       Set color to w/r
       @ 0,22 say "MANAGEMENT INFORMATION SYSTEM   ON
                   LAND"
       Set color to w/n
       Store space(5) to file
       @ 2,5 say "ENTER FILE TO BE USED" get file
       read
       @ 2,5 clea to 2,79
       If file = "RLAND"
       use RLAND
       Else file = "ILAND"
       use ILAND
       Endif
          Store space(8) to mapp_no
       DO WHILE .T.
          If file = "RLAND"
       @ 2,5 say "Enter application no." get mapp_no
       read
          @ 2,5 clea to 22,79
       Locate for app_no = mapp_no
          If found()
       @ 2,5 say "Applicant Name" get name
       @ 4,5 say "Application No." get app_no
       @ 6,5 say "Applicant Age" get age
       @ 8,5 say "Nationality" get nat
       @ 10,5 say "State of Origin" get State
       @ 12,5 say "Local Government" get lgovt
       @ 14,5 say "Occupation" get occup
       @ 16,5 say "Post Held" get post
       @ 18,5 say "Contasct Address" get address
       @ 20,5 say "Purpose of land" get puland
       read
       wait
       @ 2,5 clea to 22,79
@ 2,5 say "Type of Area(Low, Med.,High  density)" get
          tarea
       @ 4,5 say "Location(town)" get location
       @ 6,5 say "Application fee paid" get appfee
       @ 8,5 say "Layout fee paid" get layfee
       @ 10,5 say "Document(s) attached" get
                   document
       @ 12,5 say "Dimension" get dim
       @  14,5 say "Application Approve/Reject" get
```

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```
                        remark
            @ 16,5 say "Approval/Reject date" get re_date
            @ 18,5 say "Acception letter" get accletter
        @ 20,5 say "No of year given for development"
            get       dyear
            read
            wait
            @ 2,5 clea to 22,75
            @ 2,5 say "No of year Approved" get ayear
      @ 4,5 say "Date of Revoke if not developed" get
                revdate
            @ 6,5 say "Plot number" get p_no
            @ 8,5 say "Rent" get rent
            @ 10,5 say "No of year approved" get ayear
      @ 12,5 say  "Date of revoke if not developed" get
                    revdate
            @ 14,5 say "Plot number" get P_no
            read
            Else
            @ 15,20 say "Record not found"
            Endif
                            Endif
            If file = "ILAND"
      @ 2,5 say "Enter Application No." get mapp_no
            read
            @ 2,5 clea to 2,79
            Locate for app_no = mapp_no
            If found()
      @ 2,5 say "Company or Organisation name" get comp
      @ 4,5 say "Application  No." get app_no
      @ 6,5 say"Company address" get address
      @ 8,5 say "Full Name & Address"
      @ 9,5 get dname1
      @ 11,5 get dname2
      @ 13,5 get dname3
      @ 15,5 get dnaem4
      @ 17,5 say "Source of Capital" get scapital
      @ 18,5 say "Purpose of Land" get puland
      @ 20,5 say "Loaction" get location
      read
      @ 2,5 clea to 22,79
      @ 4,5 say "Application fee paid" get appfee
      @ 6,5 say "Layout fee paid" get layout
      @ 8,5 say "Document(S) attached" get document
      @ 10,5 say "Plot No(s)" get p_no
      @ 12,5 say "Dimension" get dim
      @ 14,5 say "Application Approve/Reject" get remark
      @ 16,5 say "Approval/Reject data" get redate
      @ 18,5 say "Acceptance letter" get acceletter
    @ 20,5 say "No  of year approved to develope plot" get
                dyear
  @ 22,5  say "Date of revoke of land if not developed"
        get    revdate
      read
      wait
      Else
```

```
    @ 15,20 say "Record not found"
    Endif
Endif
  Ch = space(1)
  @ 18,20 say "Any other record to be
                    modified?(Y/N)"
  @ 18,60 get ch pict "@!"
  read
    Do case
          Case ch = "Y"
              loop
          Case ch = "N"
              Exit
      Endcase
    ENDDO
    CLOSE DATABASE
    CLEA
RETURN
```

```
Set talk off
 Set status off
 Set scoreboard off
 clea
 DO WHILE .T.
      set color to w/r
 @  0,22 say "MANAGEMENT INFORMATION SYSTEM ON
                  LAND"
 @ 1,22 to 1,58 double
 Set color to W/N
      @ 3,19 say "MENU FOR LAND ACQUISITIOM"
      @ 5,19 say "TASK:"
      @ 5,27 say "APPEND"
      @ 5,36 say "MODIFY"
      @ 5,44 say "VIEW"
      @ 5,53 say "REPORT"
      @ 5,61 say "EXIT"
ch = space(1)
 @ 20,10 say "ENTER THE FIRST  LETTER OF TASK"
 @ 20,50 get ch pict "@!"
 read
      DO CASE
           Case ch = "A"
                do app
           Case ch = "M"
                do mod
           Case ch = "V"
                do vie
           Case ch = "R"
                do rep
           Case ch = "E"
                quit
      ENDCASE
ENDDO
    @ 2,3 Clea to 23,79
      CLOSE DATABASE
RETURN



 Set talk off
 Set status off
 Set scoreboard off
 clea
 DO WHILE .T.
      set color to w/r
 @ 0,22 say "MANAGEMENT INFORMATION SYSTEM ON
                  LAND"
 @ 1,22 to 1,58 double
 Set color to W/N
      @ 3,19 say "MENU FOR RENT PAUMENT:"
      @ 5,19 say "TASK"
      @ 5,27 say "APPEND"
      @ 5,36 say "VIEW"
      @ 5,44 say "REPORT"
      @ 5,53 say "EXIT"
```

```
ch = space(1)
@ 20,10 say "ENTER THE FIRST  LETTER OF TASK"
@ 20,50 get ch pict "@!"
read
        DO CASE
            Case ch = "A"
                do app2
            Case ch = "V"
                do vie2
            Case ch = "R"
                do rep2
            Case ch = "E"
                EXIT
        ENDCASE
ENDDO
    @ 3,19 Clea to 22,79
RETURN
```

```
Set talk off
Set status off
Set scoreboard off
Store space(20) to name
Store space(8) to app_no,year,prno
Store space(25) to address
Store space(15) to tarea, location, pulan
Store 0 to rent, no_year
Store ctod("//") to date
use RENT
Set color to w/r
@ 0,22 say "MANAGEMENT INFORMATION SYSTEM ON
            LAND"
@ 1,22 TO 1,58 DOUBLE
    DO WHILE .T.
        append blank
@ 3,5 say "NAME OF APPLICANT/COMPANY  NAME:"
            get name
@ 5,5 say "APPLICATION NUMBER:" get app_no
@ 7,5 say "APPLICANT'S ADDRESS:" get address
@ 9,5 say "TYPE OF AREA:"get tarea
@ 11,5 say "LOCATION:" get location
@ 13,5 say "PURPOSE OF LAND:" get puland
@ 15,5 say "RENT:" get rent
@ 17,5 say "YEAR:" get year
@ 19,5 say "NO. OF  YEARS PAID FOR:" get
            no_year
@ 21,5 say "PAYMENT RECEIPT NO.:" get prno
@ 23,5 say "DATE:" get date
read
@ 2,5 clea to 23,79
ch = space(1)
@ 15,5 say  "Enter another set of data, (Y/N)"
            get ch pict "@!"
    read
            DO CASE
                case ch = "Y"
                    loop
                case ch = "N"
                    exit
            ENDCASE
    ENDDO
        CLOSE DATABASE
        @ 2,5 CLEA TO 23,79
RETURN
```

```
Set talk off
Set status off
Set scoreboard off
Store space(8) to mapp_no,file
Set color to w/r+
@ 0,22 say "MANAGEMENT  INFORMATION SYSTEM ON
                    LAND"
Set color to w/n+
@ 2,5 say "ENTER FILE NAME:" get file
@ 4,5 say "ENTER APPLICATION NO.:" get
            mapp_no
read
If file = "RLAND"
    USE RLAND
Endif
If file = "ILAND"
    USE ILAND
Endif
@ 2,5 clea to 6,79
*Set device to printer
@ 2,26 say "MINISTRY OF WEORKS TRANSPORT"
@ 3,34 say "AND HOUSING"
@ 4,33 say "LAND DIVISION"
@ 5,37 say "MINNA"
@ 7,21 say "GRANT/REGRANT OF A RIGHT OF
                OCCUPANCY"
DO WHILE .NOT. EOF()
Locate for app_no = mapp_no
if found()
@ 9,5 say "Name/Company name of applicant"
@ 9,38 say name
@ 11,5 say "Application No."
@ 11,23 say app_no
@ 13,5 say "Purpose for Land:"
@ 13,24 say puland
@ 15,5 say "Location:"
@ 15,16 say location
@ 17,5 say "Plot No.:"
@ 17,16 say p_no
@ 19,5 say "Rent:"
@ 19,12 say rent
@ 21,5 say "Improvement within"
@ 21,25 say dyear
*read
@ 21,28 say "year"
                @ 23,5  say  "Hon.
Commissioner:....................."
Else
@ 15,5 say "RECORD NOT FOUND"
Endif
Set device to screen
wait
exit
ENDDO
    close database
@ 2,0 clea to 23,79
```

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```
RETURN
Set talk off
Set status off
Set scoreboard off
Set color to w/r
@ 0,22 say "MANAGEMANT   INFORMATION SYSTEM ON
                LAND"
Set color to w/n
*Set device to Printer
@ 3,34 say "NIGER STATE"
@ 4,26 say "MINISTRY OF WORKS, TRANSPORT"
@ 5,34 say "AND HOUSING"
@ 6,33 say "LAND DIVISION"
@ 7,37 say "MINNA"
@ 9,23 say "ANNUAL LIST  OF PAYEES OF LAND
                RENT"
@ 10,32 say "DURING THE 1998"
@ 12,3 say "NAME/COMPANY"
@ 12,18 say "ADDRESS"
@ 12,38 say "LOCATION"
@ 12,50 say "PURPOSE"
@ 12,64 say "RENT"
@ 12,72 say "YEAR"
use rent
R = 12
DO WHILE .NOT. EOF()
    R = R + 1
    @ r,1 say name
    @ r,18 say address
    @ r,38 say location
    @ r,48 say puland
    @ r,62 say rent
    @ r,72 say year
    SKIP
ENDDO
Close database
RETURN
```

```
Set talk off
Set status off
Set scoreboard off
Set color to w/r
@ 0,22 say "MANAGEMENT INFORMATION SYSTEM ON
                  LAND"
Set color to w/n
Store space(5) to file
@ 2,5 say "ENTER FILE TO BE USED" get file
read
@ 2,5 clea to 2,79
If file = "RLAND"
use RLAND
Else file = "ILAND"
use ILAND
Endif
    Store space(8) to mapp_no
DO WHILE .T.
    If file = "RLAND"
@ 2,5 say "Enter application no." get mapp_no
read
    @ 2,5 clea to 22,79
Locate for app_no = mapp_no
    If found()
@ 2,5 say "Applicant Name" get name
@ 4,5 say "Application No." get app_no
@ 6,5 say "Applicant Age" get age
@ 8,5 say "Nationality" get nat
@ 10,5 say "State of Origin" get State
@ 12,5 say "Local Government" get lgovt
@ 14,5 say "Occupation" get occup
@ 16,5 say "Post Held" get post
@ 18,5 say "Contasct Address" get address
@ 20,5 say "Purpose of land" get puland
read
wait
@ 2,5 clea to 22,79
@ 2,5 say "Type  of Area(Low, Med.,High density)" get
          tarea
@ 4,5 say "Location(town)" get location
@ 6,5 say "Application fee paid" get appfee
@ 8,5 say "Layout fee paid" get layfee
@ 10,5 say "Document(s) attached" get
                  document
@ 12,5 say "Dimension" get dim
@ 14,5 say  "Application Approve/Reject" get
                  remark
@ 16,5 say "Approval/Reject date" get re_date
@ 18,5 say "Acception letter" get accletter
@ 20,5 say "No of  year given for development" get
          dyear
read
wait
@ 2,5 clea to 22,75
@ 2,5 say "No of year Approved" get ayear
@ 4,5 say "Date of Revoke if not developed" get
```

```
                revdate
        @ 6,5 say "Plot number" get p_no
        @ 8,5 say "Rent" get rent
        read
        Else
        @ 15,20 say "Record not found"
        Endif
        ENDIF
        If file = "ILAND"
@ 2,5 say "Enter Application No." get mapp_no
        read
        @ 2,5 clea to 2,79
        Locate for app_no = mapp_no
        If found()
        @ 2,5 say "Company or Organisation  name" get
                      name
        @ 4,5 say "Application  No." get app_no
        @ 6,5 say"Company address" get address
        @ 8,5 say "Full Name & Address"
        @ 9,5 get dname1
        @ 11,5 get dname2
        @ 13,5 get dname3
        @ 15,5 get dnaem4
        @ 17,5 say "Source of Capital" get scapital
        @ 18,5 say "Purpose of Land" get puland
        @ 20,5 say "Loaction" get location
        read
        wait
        @ 2,5 clea to 22,79
        @ 4,5 say "Application fee paid" get appfee
        @ 6,5 say "Layout fee paid" get layout
        @ 8,5 say "Document(S) attached" get document
        @ 10,5 say "Plot No(s)" get p_no
        @ 12,5 say "Dimension" get dim
        @  14,5 say "Application Approve/Reject" get
                      remark
        @ 16,5 say "Approval/Reject data" get redate
        @ 18,5 say "Acceptance letter" get acceletter
        @ 20,5 say "No  of year approved to develope
                      plot" get dyear
    @ 22,5 say "Date of revoke of land  if not
              developed"
        get revdate
        read
        wait
        else
    @ 15,20 say "Record not found"
    Endif
    ENDIF
    Ch = space(1)
    @ 18,20 say "Any other record to be viewed?(Y/N)"
    @ 18,60 get ch pict "@!"
    read
        Do case
            Case ch = "y"
                loop
```

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```
            Case ch = "N"
                 Exit
        Endcase
    ENDDO
        CLOSE DATABASE
        CLEA
RETURN
```

```
Set talk off
Set status off
Set scoreboard off
Store space(8) to MPRNO,MAPP_NO
 use RENT
Set color to w/r
@  0,22 say "MANAGEMENT INFORMATION SYSTEM ON
              LAND"
@ 1,22 TO 1,58 DOUBLE
    DO WHILE .T.
@ 3,5 say "ENTER APPLICATION  NO.:" get
             MAPP_NO
read
@ 3,5 clea to 3,79
Locate for APP_NO = MAPP_NO
*Locate for PRNO = MPRNO
If found()
@ 3,5 say "NAME OF APPLICANT/COMPANY  NAME:"
             get
name
@ 5,5 say "APPLICATION NUMBER:" get app_no
@ 7,5 say "APPLICANT'S ADDRESS:" get address
@ 9,5 say "TYPE OF AREA:"get tarea
@ 11,5 say "LOCATION:" get location
@ 13,5 say "PURPOSE OF LAND:" get puland
@ 15,5 say "RENT:" get rent
@ 17,5 say "YEAR:" get year
@ 19,5 say "NO. OF YEARS PAID FOR:" get
             no_year
@ 21,5 say "PAYMENT RECEIPT NO.:" get prno
@ 23,5 say "DATE:" get date
read
Else
@ 15,5 say "RECORD NOT FOUND"
Endif
wait
@ 2,0 clea to 23,79
ch = space(1)
@  15,5 say "Any other record to be
             viewed?(Y/N)"
@ 15,50 get ch pict "@!"
  read
          DO CASE
              case ch = "Y"
                  loop
              case ch = "N"
                  exit
          ENDCASE
    ENDDO
      CLOSE DATABASE
      @ 2,5 CLEA TO 23,79
RETURN
```

```
Set talk off
 Set status off
 Set scoreboard off
 Set color to w/r
 @ 0,22 say "MANAGEMENT INFORMATION SYSTEM ON
                 LAND"
 Set color to w/n
 Store space(5) to file
 @ 2,5 say "ENTER FILE TO BE USED" get file
 read
 @ 2,5 clea to 2,79
 If file = "RLAND"
 use RLAND
 Else file = "ILAND"
 use ILAND
 Endif
     Store space(8) to mapp_no
 DO WHILE .T.
     If file = "RLAND"
 @ 2,5 say "Enter application no." get mapp_no
 read
     @ 2,5 clea to 22,79
 Locate for app_no = mapp_no
     If found()
 @ 2,5 say "Applicant Name" get name
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 @ 6,5 say "Applicant Age" get age
 @ 8,5 say "Nationality" get nat
 @ 10,5 say "State of Origin" get State
 @ 12,5 say "Local Government" get lgovt
 @ 14,5 say "Occupation" get occup
 @ 16,5 say "Post Held" get post
 @ 18,5 say "Contasct Address" get address
 @ 20,5 say "Purpose of land" get puland
 read
 wait
 @ 2,5 clea to 22,79
@ 2,5 say "Type  of Area(Low, Med.,High density)" get
         tarea
 @ 4,5 say "Location(town)" get location
 @ 6,5 say "Application fee paid" get appfee
 @ 8,5 say "Layout fee paid" get layfee
 @ 10,5 say "Document(s) attached" get
                 document
 @ 12,5 say "Dimension" get dim
 @ 14,5 say  "Application Approve/Reject" get
                 remark
 @ 16,5 say "Approval/Reject date" get re_date
 @ 18,5 say "Acception letter" get accletter
@ 20,5 say "No of  year given for development" get
         dyear
 read
 wait
 @ 2,5 clea to 22,75
 @ 2,5 say "No of year Approved" get ayear
 @ 4,5 say "Date of Revoke if not developed" get
```

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```
                    revdate
          @ 6,5 say "Plot number" get p_no
          @ 8,5 say "Rent" get rent
          @ 10,5 say "No of year approved" get ayear
     @ 12,5 say "Date of  revoke if not developed" get
                    revdate
          @ 14,5 say "Plot number" get P_no
          read
          Else
          @ 15,20 say "Record not found"
          Endif
                         Endif
          If file = "ILAND"
     @ 2,5 say "Enter Application No." get mapp_no
          read
          @ 2,5 clea to 2,79
          Locate for app_no = mapp_no
          If found()
     @ 2,5 say "Company or Organisation name" get comp
     @ 4,5 say "Application  No." get app_no
     @ 6,5 say"Company address" get address
     @ 8,5 say "Full Name & Address"
     @ 9,5 get dname1
     @ 11,5 get dname2
     @ 13,5 get dname3
     @ 15,5 get dnaem4
     @ 17,5 say "Source of Capital" get scapital
     @ 18,5 say "Purpose of Land" get puland
     @ 20,5 say "Loaction" get location
                    read
     @ 2,5 clea to 22,79
     @ 4,5 say "Application fee paid" get appfee
     @ 6,5 say "Layout fee paid" get layout
     @ 8,5 say "Document(S) attached" get document
     @ 10,5 say "Plot No(s)" get p_no
     @ 12,5 say "Dimension" get dim
     @ 14,5 say "Application Approve/Reject" get remark
     @ 16,5 say "Approval/Reject data" get redate
     @ 18,5 say "Acceptance letter" get acceletter
     @ 20,5 say "No  of year approved to develope plot" get
                    dyear
     @ 22,5 say "Date  of revoke of land if not developed"
                    get revdate
          read
          wait
          Else
          @ 15,20 say "Record not found"
          Endif
          Endif
          Ch = space(1)
          @ 18,20 say "Any other record to be
                         modified?(Y/N)"
          @ 18,60 get ch pict "@!"
          read
               Do case
                    Case ch = "Y"

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```

```
            loop
        Case ch = "N"
            Exit
    Endcase
  ENDDO
  CLOSE DATABASE
  CLEA
RETURN
```