**CHAPTER THREE**

**3.0 INTRODUCTION**

In this chapter different methods are used which gives a clear picture and also the tools used to build the system.

**3.1 WATERFALL METHODOLOGY**

Waterfall methodologywas usually used in this system to gather data from current operations and creates a specification for the new system replaces the old.

System Design will describe how the proposed information or report will be deliver, which involves bringing together several part of system, which will serve as information unit determining what a system will do and how it will be done.

This model is simple and a\easy to understand and use.

* Waterfall model works well for smaller projects where requirement are very well understood.
* In this model phases are processed and completed one at a time. Phases do overlap.
* It is easy to manage due to the rigidity of the model-each phase as a review process.

**DATA COLLECTION METHOD**

**Questionnaires**

Questionnaires were used to get response about the problems encountered from the existing system and how to address the issues.

**Requirement analysis**

This entails some of reasons of using questionnaires and the proposed challenge’s

**Advantages**

There are relatively easy to analyze.

The format is most familiar to most of the respondent.

**Proposed challenges**

Some respondent ignores some questions.

Respondent may misunderstand questions due to poor design or the wrong format.

There is the danger of questionnaire fatigue if surveys are carried out too frequently.

They may require follow up research to investigate issues in greater depth and identify ways to solve problems highlighted.

**Functional Requirements**

* The web application provides an interface for easy navigation.
* This system should handle multiple queries at once.
* System should allow administrator to view and delete the database content.
* There will be log in logout buttons available.

**Non Functional Requirements**

* The system should be reliable and robust.
* The system should be User friendly.
* The system should be completely Consistent and Secure

**External Interface Requirements**

Interface shouldn’t have hidden buttons.

**The organization and its environment**

Within KNBS there exist hierarchical order of offices, which separates responsibilities but towards actualizing a successful census population.

Each commissioner is responsible for a zone as well as a department in the commissioner headquarters.

The organization consists of the following stakeholders.

* Commissioner
* State directors
* Population management
* Cartography
* Administration
* Vital registration

**Commissioners department**

This is the analysis department that will relate population with national occurrence and event like prevalent economic issues, epidemic outbreaks, population growth and decline through the data collected from the statistics department.

**State directors**

Their core mandate is collection, compilation, analysis, publication and dissemination of **statistical** information for public use, with an additional **role** of coordinating, monitoring and supervising the **National Statistical** System.

**Population management**

* Act as custodian of official statistics.
* Conduct the Population and Housing Census every ten years, and such other censuses and surveys as the Board may determine;
* Maintain a comprehensive and reliable national socio-economic database
* Establish standards and promote the use of best practices and methods in the production and dissemination of statistical information across the NSS; and
* Plan, authorize, coordinate and supervise all official statistical programs undertaken within the national statistical system.

**Cartography**

It will be responsible for geospatial data collection activities for the 2019 Kenya Population and Housing Census.

**Administrations**

This department will be responsible for training development and service welfare; in charge of supplies; responsible for personal budgeting and also staff record keeping.

**Vital registration**

This is one of the core department in the whole organization mandated to undertake the continuous and compulsory registration of births, deaths etc.

**CONTEXT DIAGRAM**

**ORGANIZATIONAL STRUCTURE OF KENYA NATIONAL BERAEU OF STATISTICS**

STATE DIRECTOR

POPULATION MANAGEMENT

CARTOGRAPHY

ADMINISTRATION

VITAL REGISTRATION

ADVOCACY

ACCOUNTING

COMMISSIONER

***DATA FLOW DIAGRAM***

MENU

REGISTER STAFF

CANCEL

SAVE

QUICK SEARCH

EDIT

EXIT

ADD APPLICANT DATA

EDIT APPLICANT DATA

SAVE APPLICANT DATA

QUICK SEARCH OF APPLICANT DATA

CANCEL APPLICANT DATA

Start

Accept user entries

Show login form

Enter user name/password

S

Is login details correct?

Main Menu

Accept User Response

Is Response census correct?

YES

A

Is Response Register Staff correct?

NO

B

Is Response Exit correct ?

Stop

**LOGIN FLOW CHART**

USERNAME AND PASSWOR

CHECK USERNAME PASSWORD

**NO**

PASSWORD INCORRECT

**NO**

PASSWORD CORRECT

**YES**

**YES**

LOG INTO THE SYSTEM

Screenshot of the login system

