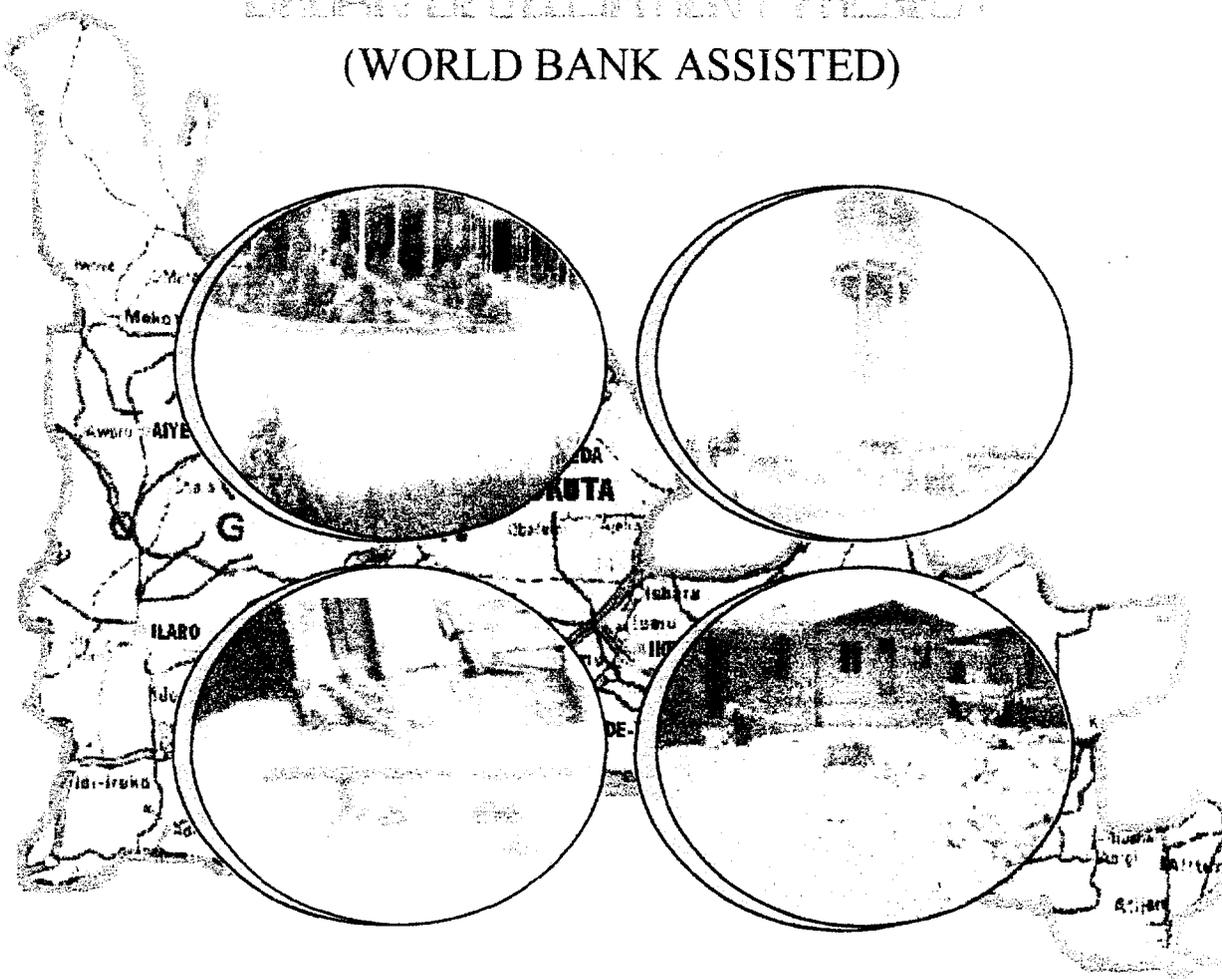


E522
Volume 7

OGUN STATE GOVERNMENT



OGUN STATE COMMUNITY BASED
URBAN DEVELOPMENT PROJECT
(WORLD BANK ASSISTED)



ENVIRONMENTAL IMPACT ASSESSMENT REPORT

FILE COPY *aim* **AIM CONSULTANTS LTD**
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PLANNERS & QUANTITY SURVEYORS

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NG 2014

DECEMBER, 2001 .

OGUN STATE WORLD BANK COMMUNITY-BASED URBAN DEVELOPMENT PROJECT

FINAL ENVIRONMENTAL IMPACT ASSESSMENT

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CHAPTER ONE

EXECUTIVE SUMMARY

1. INTRODUCTION

Ogun State is one of the seven states in the country approved by the World Bank to benefit in a Community - Based Urban Development Project. Other states are Edo, Akwa Ibom, Bauchi, Jigawa, Ebonyi and Nassarawa.

Two communities have been selected for the Urban development project in Abeokuta, the Ogun State Capital.

They are:-

- Ijeun /Erunbe/Ago - Oka Community and
- Owu/ Gbagura Community.

Before the commencement of the project, it is imperative to carry out an Environmental Impact Assessment Study which this report presents.

2. PURPOSE OF THE EIA

Aim Consultants Limited on behalf of Ogun State Government has undertaken the E.I.A study in accordance with the existing regulatory provisions by the Federal Environmental Protection Agency (FEPA), Urban and Regional Planning Laws and Ogun State Environmental Protection Agency (OG EPA) Edict. The purpose of the report is to predict the impact of upgrading project in the two communities at all stages (pre - construction, construction and operation and maintenance). It will also recommend mitigation measures where applicable.

3. CONSULTATIONS

A very wide range consultation was adopted by holding meetings with stakeholders (Oba's, Chief, Youth and Community leaders).

4. NEED FOR THE REPORT

The need for the project is warranted by the apparent breakdown/ lack of infrastructure in the two communities which are part of the extense core portion of Abeokuta, the state capital. The area are lacking in adequate water supply, electricity, social facilities, and educational institutions. The roads are winding, narrow and uncoordinated, the extent of decay demands that an urgent upgrading is required.

5. PROJECT DESCRIPTION

The project is basically to upgrade a decaying urban centre at a level that will encourage economic development, increase literacy level and reduce health hazard, while at the same time reducing insecurity within the communities. Basic facilities should be provided such as toilets, waste disposal and management and provision street lightening and water supply. Some existing schools shall be upgraded by improving on the existing structures and increasing the number of classrooms. Some roads will also be improved by tarring and ensuring that the roads are well coordinated to guarantee circulation and safety.

6. GEOGRAPHICAL LOCATION

The two selected Communities fall within Abeokuta South and Abeokuta North. Local Government Areas of Ogun State and both within the declared Abeokuta urban area. Each of the two communities can best be defined by the roads bounding each of them vis: Ijeun /Erunbe/Ago - Oko Community is bounded by Sokenu Road in the South, Ago Oko Road and Ijemo Agbado Road to the west, Moore street to the North and Age Street, to the East, Gbagura /Owu Community on the other hand is bounded in the South by Fajuyi Road, in the West by Ago - Ika Road, in the North by Agura Road while by Jimoh Road in the East.

7. DATA COLLECTION

The EIA study covers both the existing situation and the proposed upgrading. Interviews were carried out amongst the inhabitants of the communities. Data was also collected on climate, socio - economic, and landuse. Relevant literature were also researched to supplement other information collected in the field.

8. CLIMATE

The climatic condition of the project area reflects a rainy season almost throughout the year. The highest temperature is around 33°C while the lowest temperature is about 21°C. Relative humidity is high both during the day and night. The hour of daylight and darkness does not vary more than one hour.

9. LANDUSE

The dominant landuse type within the two communities is residential. However there are few commercial land uses which seems insignificant. It is important to note that all construction work under this project will take place within existing road the right of way or land freely donated by the communities for the pupose.

10. **IMPACT ASSESSMENT**

Impact arising from project operation include air pollution, from particles, noise, from road construction equipment during construction. There are no wild - life colonies hence no possible destruction of flora and fauna is envisaged. The soil characteristic will not change significantly, since the project will not involve displacement of the inhabitants: there is no negative cultural changes.

11. **MITIGATION MEASURES**

Two main impacts (negative) are expected at the execution stage. These are suspended particles and noise/ vibration. These are momentary and temporal and will cease on completion of the project.

12. **ENVIRONMENTAL MANAGEMENT PLAN**

An Environmental Management Plan for all phases of the project has been developed. This will ensure that the health, safety and security of members of the public who are direct beneficiary of the project are preserved.

13. **CONCLUSION**

The E.I.A has been prepared in accordance with the required laws, regulations and guidelines both at the Federal, State and Local Government levels. No significant negative impact is anticipated but has abundant positive impacts that will improve, healthy, safety; and more importantly the economy of the project area.

CHAPTER TWO

POLICY, LEGAL AND ADMINISTRATIVE FRAME WORK

2.1 BACKGROUND INFORMATION

All countries whether developed or developing, require environmental management to avoid the dangers of air, water and land pollution, just in the same way that they require economic growth to improve the standard of living of their people.

Realising that environmental problems have assumed serious proportions in the country as a result of rapid industrialisation, urban population explosion, increase in commercial activities, and exploration and exploitation of mineral and forest resources, etc., the Federal Government launched an environmental planning and protection initiative in the early seventies to prevent the negative impact of these developments on the human and material resources of the nation.

The policies and institutional arrangements for the management of the environment and natural resources for social and economic development represent an aspect of the external influences that can affect the balance of both the environmental cycle and industrial development of innovations. Therefore, any action in one of these two areas could have an impact on the other. For example, environmental policies can be a positive force to encourage new technologies that are not only more environmentally efficient, but also more economical, just in the same way that similar policies and regulations, if not properly considered, could result in stifling industrial innovation by increasing production costs.

The development of an environmental policy and the institutional arrangements to realise the goals and objectives of such a policy in any country are a complex exercise. In dimension, it involves virtually all the elements of the eco - system, as well as the different aspects of physical and economic planning and resources management.

In Nigeria today the need for comprehensive surveillance and management of the environment has necessitated the promulgation of decree that establishes institutions for monitoring the environment and issuance of guidelines and regulations for development projects.

2.2 LEGAL AND ADMINISTRATIVE POLICY FRAMEWORK

In EIA studies such as this, all actions that will result in physical, chemical, biological, cultural and social modifications of the environment as a result of the new project/development, are assessed. Also, the EIA report should serve as a means of assessing the environmental impacts of a proposed action plan, rather than as a justification for decisions already made or actions already taken. Usually the EIA study is carried out using a systematic, multi-disciplinary approach and should [in corporate] all relevant analytical discipline to provide meaningful and factual data, information and analyses. Also, EIA studies are carried out within the framework of both local and international environmental guidelines and regulations.

Various guidelines and regulations on conducting EIA Studies have been stipulated by various local organizations and Federal Environmental Protection Agency (FEPA) in Nigeria, and international organization such as the World Bank (IBRD). These guidelines, which are the major ones, form the environmental regulation framework within which this study is being carried out.

2.2.1. FEPA GUIDELINES ON EIA

Of recent FEPA developed a National EIA procedure in response to the promulgation of the EIA decree No. 86 of 1992. The procedure indicates the steps to be followed from project conception of commissioning in order to ensure that the project is implemented with maximum consideration for the environment.

The procedure for EIA involves the project proposal state where the project proponent notifies FEPA of the proposed project in writing. The project proposal is to contain all relevant information on the project and a land - use map.

This stage is followed by screening phase, when the Agency will carry out an Initial Environmental Examination (IEE) and assign the project into categories based on the following criteria: magnitude; extent or scope; duration and frequency; risk; significance; mitigation measures available for associated and potential environmental impacts. The location of the project in Environmentally Sensitive Areas (ESAs) is also an important criterion in the project categorisation. The areas categorised as Environmentally Sensitive Areas (ESAs)

include: coral reefs, mangrove swamps, small islands, tropical rain forests , areas with erosion - prone soils, natural conservation areas, etc.

There are three categories (I ,II and III) in FEPA's guidelines. Category I projects are subjected to full - scale EIA, and it consists among others: petroleum projects such as Oil and Gas fields development; Construction of off shore pipelines in excess of 50 kilometres in length; Construction of Oil and Gas separation processing, handling and storage facilities; and large scale construction of depots for storage of petroleum products. Projects listed in Category II may not require a full -scale EIA except when the project is located in an Environmentally Sensitive Area (ESA) and in this case the project will be assigned to category I. The requirement for category II projects is a partial EIA. Also, mitigative measures or changes in project design (depending on the nature and magnitude of the environmental impacts) as well as further actions, may be required from the proponent. Category II projects include reforestation projects , land and soil management, small scale irrigation and drainage, mini - power development, small scale development of petroleum or related activities, etc.

Category III projects are expected to have essentially beneficial impacts on the environment. For projects in this category, the Agency will issue an Environmental Impact Statement (EIS). Projects in this category include; family planning programme, institutional development, environmental awareness, project, etc.

Another stage of FEPA's EIA procedure is the scooping stage, the main feature of which is that the proponent will be required to submit a Terms of Reference (TOR) for the proposed EIA study. In some cases, the Agency may demand a Preliminary Assessment Report, and any additional information from the proponent to assist in vetting the scope and the TOR of the proposed EIA study. This stage is followed by : actual implementation of the EIA study; Preparation of Draft Final and Final EIA reports; Review Process and Approval /Certification.

2.2.2. The Urban and Regional Planning Decree 88 of 1992

The urban and regional planning decree similarly made it mandatory for major project developers (Individuals, Corporate organisations, and Public Institutions)

to prepare and submit EIA to the appropriate planning agency for approval before commencement of such project. Section 33 of the Nigeria Urban and Regional Planning Law, Decree No 88 of 1992 directs as follows:

"A developer shall at the time of submitting his application for development submit to an appropriate control Department a detailed environmental impact statement for :

- (a) A residential land in excess of 2 hectares or
- (b) Permission to build or expand a factory or for the construction of an office building in excess of four floors or 5,000 square metres of a lettable space or
- (c) permission for a major recreational development.

2.2.3. **WORLD BANK GUIDELINES ON ENVIRONMENTAL ASSESSMENT (EA).**

The bank requires an EA on a proposed activity/facility (i.e. project) from a borrower as a prerequisite before granting any financial assistance in the form of loans. The EA report usually forms part of the overall feasibility study or project preparation.

The bank has categorisation for projects based on their EA requirements and it is very similar to that of FEPA discussed in the preceding section.

2.2.4. **OTHER GUIDELINES**

- 1. Ogun State Environmental Protection Agency Edict 1994 with derivative powers from the FEPA decree.
- 2. International Environment Conventions to which Nigeria is party

2.3 **CONCEPT OF THE ENVIRONMENT AND ENVIRONMENTAL IMPACT ASSESSMENT**

2.3.1 **THE ENVIRONMENT**

The term 'Environment' is "broad vague, not reducible to single member and difficult "(Lecomber 1975 because of this broad as vague definition environment has been defined by various writers from each person perspective.

Holister and Portens (1976) sees the environment as " all surrounding of an organisms including other living things, climate and soil and so on. In other words, the condition for development or growth".

On the other hand Federal Environment Protection Agency (FEPA 1991) sees the environment as "the sum of all external conditions affecting life, development and survival of a organism".

In 1980 Rau and Wootens defines environment as "the whole complex of physical, and aesthetic which affect individual and communities and ultimately determine their form, character, relationship and survival ".

Rau and Wooten went further to categorise the environment as follows:

- (a) The physical environmental (natural and constructed) which include: land and climate, wildlife, the surrounding land uses and the physical character of the area, infrastructure, public services, air, noise and water pollution.
- (b) The social environment which includes community facilities and services and the character of communities or the aesthetic environment. This include scenic areas, vistas, view including architectural character of buildings and
- (c) The economic environment which includes employment and ownership pattern and land values.

Kadiri (1990) gave a broad concept of the term to include:

- (i) Concept that sees the environment as being mainly physical in nature.
- (ii) That which embraces social economic and cultural factors, and
- (iii) That which argues that the environment embraces the other concepts because one can not be divorced for the other.

2.3.2 **ENVIRONMENT IMPACT ANALYSIS**

Environmental Impact Analysis is the environmental cost benefit and minimising any adverse environmental cost (Jain R. K et al 1977). He thus define Environmental Impact Assessment as a "Systematic process of identification, production, evaluation and presentation of the probable or possible consequences

of a purpose, action at a stage in the decision making process where serious environmental damage can be minimised or avoided".

According to Cyilpin (1974) an environmental Impact Assessment Report must include amongst others:

- i. A detailed description of the proposed action including information and technical data adequate to permit a careful assessment of the environmental Impact.
- ii. Discussion of any adverse environmental effect that can not be avoided.
- iii. Alternatives to the proposed action that might avoid some of all of the adverse environmental effects including analysis of costs and environmental impacts of these alternatives.
- iv. An assessment of the cumulative long - term effect of the proposed action including its relationship to short term use of the environment versus the environments long term productivity.

2.3.3 **OBJECTIVES OF THE EIA**

The main objectives of the EIA are:

- i) Identify sensitive components of the existing environment within the project and its environs.
- ii. Assist project design and planning by identifying those aspects of location, construction, operations, and decommissioning which may cause adverse environmental, social, health and economic effects to the immediate environment.
- iii. Recommend measures during construction, commissioning and operations to avoid and ameliorate these effects and increase beneficial impacts.
- iv. Identify the best practicable environmental options which require that the chosen option should result in the least environmental damage.
- v. Identify any environmental issues and concerns which may in the future, affect the development.

2.4 CONSULTATION

The objectives of consultation for EIA exercise are to identify all stakeholders and to discuss appropriate mitigation measures for identified adverse effects with the stakeholders. This is consistent with the policy of the government to maintain effective, factual and friendly communication with its shareholders so as to keep them constantly abreast of all development activities in the communities.

Several meetings were held during the socio - economic survey of the area and after data collection with identified stakeholders especially inhabitants of the communities in the local government areas. The opinion and aspiration of the communities as expressed by their leaders form part of the bases of our appraisal.

The list of people, organisations and communities consulted before and during the preparation of this project report include the following:

1. The Alake of Egba land (Oba Oyebade Lipede)
2. The Osile of Oke - Ona (Obá Dapo Tejuosho)
3. The Agura of Gbagura (Oba Amidu Laloko)
4. The Olowu of Owu (Obá Adisa Adeleye)
5. Chief M.A. Adebari (Community Leader)
6. Chief Mrs. J.O. Akintona (Community Leader)
7. Ijeun Community Development Association
8. Gbagura Development Council
9. Gbagura Unity Forum
10. Oorun Community Development Association
11. Gbagura Youth Association
12. Owu Club
13. Totoro Youth Association
14. Ago - Owu Elders Forum
15. Oke - Ona Club
16. Ago - Oko Youth Club.

The responses of the people /organisation/communities listed above served as inputs into the preparation of this project report.

CHAPTER 3

THE PROJECT DESCRIPTION

3.1 GENERAL OVERVIEW

The Federal Government of Nigeria intends to implement development projects that could reduce poverty by providing, through the state Governments, access to basic services in poor settlements and by providing or upgrading existing basic infrastructures. The projects are meant to be implemented in some selected Local Governments areas of which Abeokuta, Ogun State, is one of them. The project is called the **Community Based Urban Development Project** and is expected to be supported financially by the International Development Association.

3.2. DESCRIPTION OF THE PROPOSED COMMUNITY - BASED URBAN UP GRADING PROGRAMME FOR ABEOKUTA.

3.2.1 UPGRADING OPTIONS.

This project is not a full fledge urban renewal programme but one that will involve upgrading of existing infrastructures such as roads, schools, water supply, health facilities, drainage, refuse disposal, electricity and street lighting. The project is also aimed at providing these facilities within the two communities chosen for this project where they are non existent. This will go a long way to making the environment more liveable, convenient and comfortable for the inhabitants of the communities.

3.2.2 STUDY APPROACH

A formidable team made up of professionals, sub - professionals and technical staff with varied experiences was set up to draw up a renewal plan for the communities involved.

The methodology adopted broadly took into consideration the conventional planning process of :

- (i) Surveys and Analysis of existing situation:
- (ii) Demand studies and evolution of standards;

- (iii) Formulation of conceptual plans
- (iv) Preparation of final plans:
- (v) Implementation strategies.

Within this framework, the study team subjected its work to series of internal work - shops, discussions and meetings amongst other members of staff of the Town Planning Department, Community leaders and beneficiaries with valuable responses on ideas and issues. Hence, the final report on the proposed upgrading plans is a summary of the outcome of such useful brain storming exercises.

3.3 PROPOSED UPGRADING PLANS

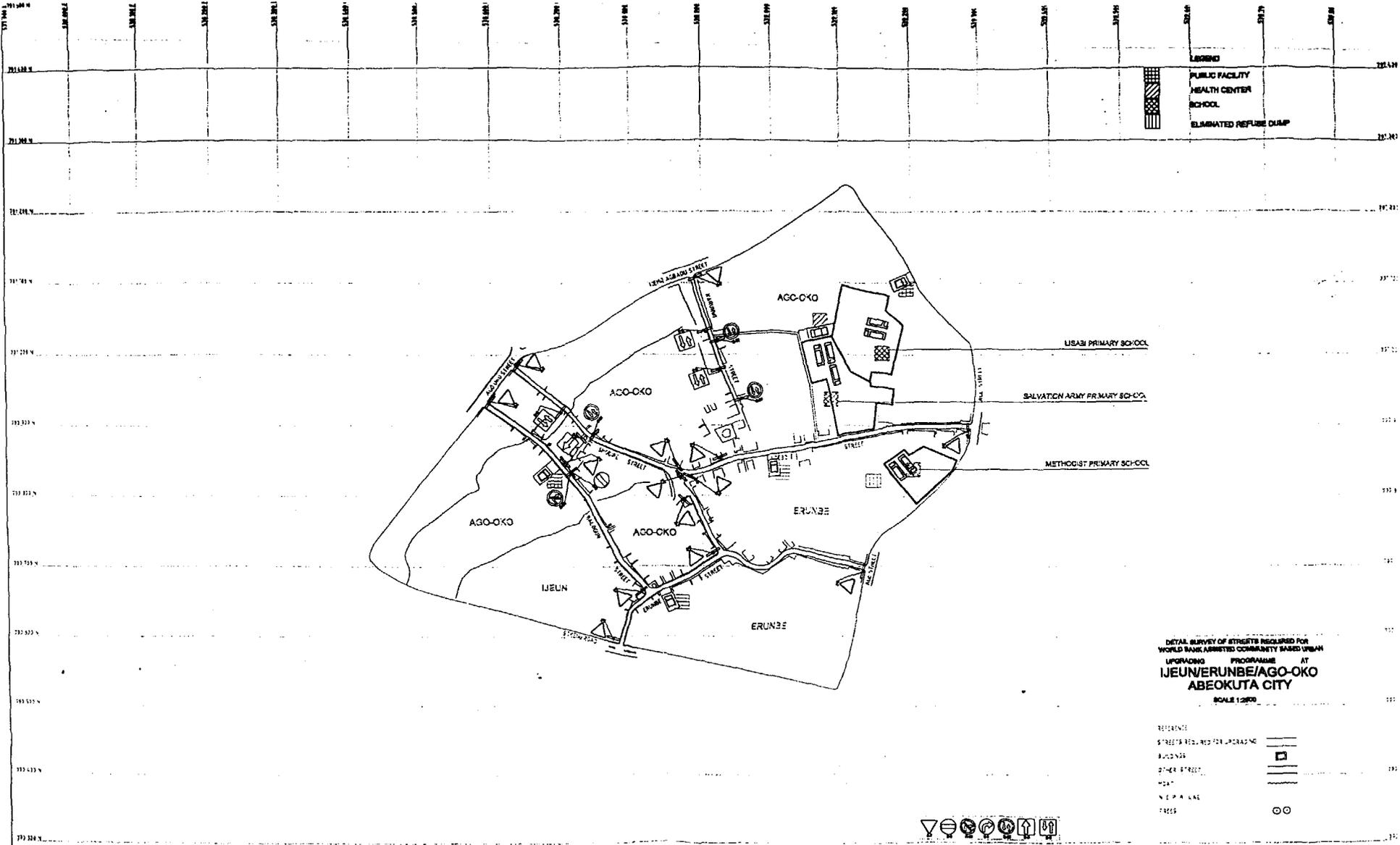
Based on the analysis of the existing situations in the two communities, it is necessary that some corrective measures be introduced to ameliorate the situation. However, because, the fund available is limited and cannot totally take care of the notified problems since the project is not a full fledged renewal programme, the under listed areas of interest are being suggested for immediate attention:-

- i. Provision / Improvement of roads
- ii. Provision / Improvement of street lighting
- iii. Provision / Improvement of the water supply.
- iv. Improvement of existing school
- v. Provision / Improvement of waste disposal system

Having regard to (i) - (iv) and considering the need, the underlisted are recommended for funding under the World Bank Assisted Community Based Urban Upgrading programme:-

1. IJEUN/ERUNBE/AGO-OKO COMMUNITY

- i. Erunbe - Illogbo - Street lightning
- ii. Oke - Ijeun - Road Works and Street Lightning
- iii. Ago - Oko Roads - Road Works and street lightning
- iv. Rehabilitation/Reconstruction of primary schools.
- v. Provision of drainage along the roads
- vi. Provision of Health Centre
- vii. Provision of Public Toilets

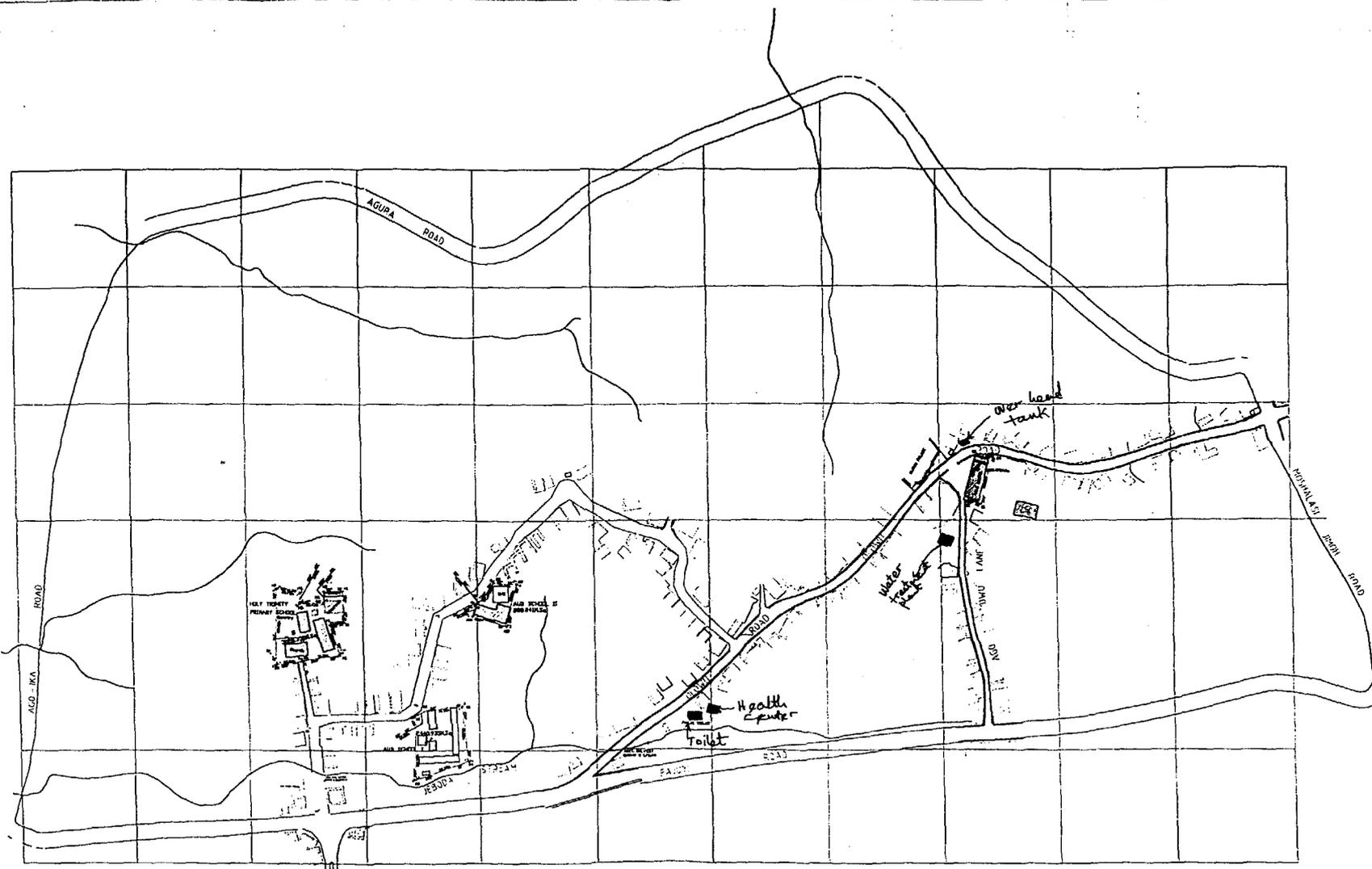


DETAIL SURVEY OF STREETS REQUIRED FOR
 WORLD BANK ASSISTED COMMUNITY BASED URBAN
 PROGRAMME
 AT
IJEUN/ERUNBE/AGO-OKO
ABEOKUTA CITY
 SCALE 1:2500

REFERENCE
 STREETS REQUIRED FOR UPGRADE 
 BYPASSES 
 OTHER STREETS 
 H2A 
 N.P.A. LANE 
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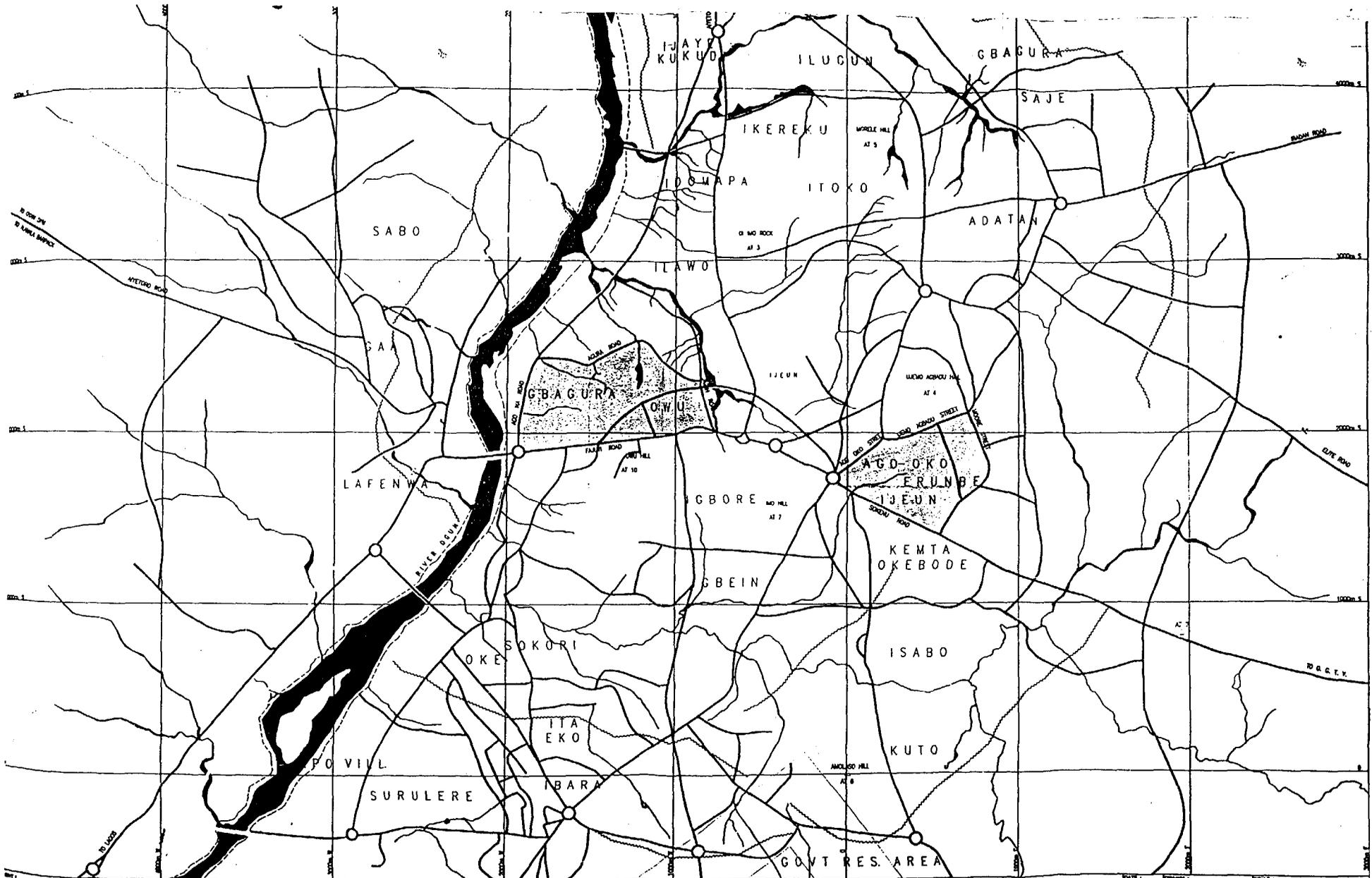
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PROJECT: OGUN STATE COMMUNITY BASED URBAN DEVELOPMENT PROJECT
[WORLD BANK ASSISTED]

DRAWING TITLE: OWU/GBAGURA COMMUNITY PLAN

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OGUN STATE GOVERNMENT
MINISTRY OF WORKS AND HOUSING

OGUN STATE COMMUNITY BASED URBAN DEVELOPMENT PROJECT
[WORLD BANK ASSISTED]

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PROJECT TITLE:
ABEOKUTA CITY PLAN

3. **OWU - GBAGURA COMMUNITY**

- i. Amukankan Road - Road works
- ii. Ija - Ofa / Ago Owu - Water Supply
- iii. Rehabilitation of Intra Community roads
- iv. Provision of drainage along the roads
- v. Rehabilitation/ Reconstruction of Primary Schools
- vi. Provision of Health Centres
- vii. Provision of Public Toilets.

The cost estimate for all the project is put at five hundred and sixty three million, seven hundred and eighty five thousand, two hundred and sixty - six Naira , eighty kobo (**N563,785,266.80**).

LIST OF COMMUNITIES CONSIDERED BEFORE SELECTION

The following are the list of communities considered before selecting Ijeun - Erunbe/ Ago Oko and Owu/Gbagura Communities.

- i. Ika/Lafenwa Community
- ii. Ikeye Community
- iii. Ikereku/ Idan Community
- iv. Ibara/Okelewo Community
- v. Apo/Oriyanrin Community
- vi. Imala/Elega Community

The reasons for dropping the alternative communities considered for this project before chosen Ijeun /Erunbe/Ago - Oko and Owu /Gbagura Communities are as follow:

(a) **LOW POPULATION**

The population figure of other communities considered are low compared to that of the chosen communities

(b) **LOWER POPULATION DENSITY**

Apart from lower population figure in other communities considered, the population density, that the number of people per unit area (man /land ratio) is also low in relation to that of the chosen communities.

(c) **LOWER LEVEL OF DETERIORATION**

The level of deterioration in urban infrastructures in other communities considered is low compared to the chosen communities. The urban infrastructures referred to above includes: roads, drainage, electricity, water, waste collection and disposal, health centres and schools.

3.4 **RESIDENTIAL AREA**

As contained in the proposal plan, the housing area has remained intact both in shape and in form. However, since this project is not intended to carry out any acquisition or encroach on individual properties, the upgrading programme will not go into upgrading of individual residential buildings but people will be encouraged to carry out some repairs on their houses on their own especially the dilapidated ones. This project is aimed at improving the socio - economic activities of the people living in the area. Over time, people will be viable economically to carry out necessary repairs and possibly reconstruction of their individual houses.

3.5. **OPEN SPACES**

The location of open spaces have been influenced mainly by availability of space for active recreation and the need for environmental protection along river beds and buffering to be used for passive recreation. Therefore the designated organised open spaces covers about 6% exclusive of the incidental open spaces.

Besides, the open spaces are linked with a network of foot paths and few roads, to such major land uses as the schools, neighbourhood centre and the residential areas.

3.6: **ROAD NETWORK**

The recommended upgrading of existing road network as in the main report, is a system of roads with single lane dual carriageway of 5 metre width with drainage on either side where space is available. This will not involve any demolition of buildings whatsoever. This network of roads links major arterial roads surrounding the area. As much as practicable, the carriageway width has been evolved to discourage thorough fares and diverted traffic. In the same way, the

design capacity is expected to accommodate only the peak traffic generated by the residents travelling within the core and to the adjoining major land uses intervals. Therefore only taxis, private cars as well as utility vehicles should be encouraged to use the roads at controlled speed limits. In addition to this, speed breakers, road signs and zebra crossing will be constructed around the schools to enable easy and safe crossing of roads by school children.

TABLE 3.1: EXISTING LAND USE

S/NO	USES	AREA (HECTARE)	% OF TOTAL
1.	Residential	13.12	65.93
2.	Neighbourhood Community Centres	3.21	16.13
3.	Public/Semi public uses	0.51	2.56
4.	Open Spaces	1.25	6.28
5.	Roads	1.81	9.10
	TOTAL	19.90	100.00

3.8 PUBLIC UTILITIES, SERVICES AND FACILITIES

3.8.1 WATER SUPPLY

It is proposed that water supply based on a standard of about 120 litres per head per day for domestic consumption be adopted in providing adequate storage tank for the area.

The receiver tank from the mains should be located at Ija Ofa area of Owu/Gbagura Community and Ago Oko area of Ijeun/Erunbe/Ago Oko Community. These points are on a relatively high terrain which will allow water to flow by gravity to different parts of the communities. Suffice to note here that each community has donated space for this purpose.

It is also recommended that public stand - pipes be installed at regular intervals to serve the needs of those who cannot afford direct pipe connection to their houses. These stand pipes will be locate on public land with adequate drainage for run off.

3.8.2 SEWAGE SYSTEM

The sewage type should be domestic; hence, the system of collection should involve the enforcement of the use of covered pit latrine, water closet systems at approved locations. Similarly public toilet of the ventilated improved (VIP) type is equally recommended. The disposal of storm water will be by a network of open concrete drains with adequate slope and well channelled, into the secondary channel serving the respective basins. In addition, the existing streams should be properly channelled along their course so that they can carry the required volume of flow from the secondary drains.

3.8.3 REFUSE DISPOSAL

Taken into consideration the fact that there are different methods of refuse disposal (such as open dumping, composting, incineration and sanitary land filling each of which has its advantages and disadvantages), the most important determining factor in the method to be applied is the cost of financing as well as method adopted for collection and transportation to the treatment site.

In Ijeun/Erunbe/Ago Oko Community, solid waste disposal is mainly by open dumping. Unfortunately, the site is overfilled with wastes and presently, it is an issue of litigation because it is privately owned site.

In Owu - Gbagura, there are no official or any non - official wastes disposal sites. The residents dispose of their wastes in flowing streams drains and sometimes travel some distances to dispose of their wastes at designated refuse disposal sites.

The Abeokuta North Local Government within whose jurisdiction Owu - Gbagura Community falls has no planned sanitary land fill site but solid waste dumpsites at Bode Olude, Sabo and Badagry - Sokoto Expressway while Abeokuta South Local Government that controls Ijeun/Erunbe /Ago - Oko Community has a dump site at Lukosi village off Abiola Road behind the Federal Secretariat.

Refuse collection and disposal to designated dump site are purely Local government duties coupled with the lack of space to act as collection centre it is therefore recommended that each building be provided with Selophane Bags

(specially designed for the purpose) for daily refuse collection which will be disposed of into container placed at strategic locations within each community. The containers will be emptied periodically (possibly on weekly basis) by refuse collection trucks for onward disposal to designated dump sites earlier mentioned. In addition, the state Government should put in place sanitary land fill sites for refuse disposal.

8.4 **ELECTRICITY**

It was recommended that the roads be installed with street - lights to illuminate them at nights. In addition the supply as well as distribution system should be improved upon while the installation of transformer to step up the current should be looked into. All these facilities will be constructed within the existing road right of way.

8.5. **EDUCATION**

Owu - Gbagura Community

1. **Holy Trinity Primary School**

The school compound housed four blocks of classrooms. Three blocks are to be renovated while additional blocks of three classroom is to be provided

BLOCK A

The block has three classrooms.

Identified Problems

- The screed has cracked and are chipping off.
- The existing wooden windows are old and weak. Some have fallen off the hinges.
- The existing doors are falling off the hinges due to old age.
- The asbestos ceiling sheets have broken due to damaged ceiling joist.
- The roof members and the roof are old and leaking profusely.
- The paint has washed off
- The steps to the corridor have broken.

Block B

The block accommodates the Headmaster's office and an attached store.

Identified Problems

- The windows are old weak and the wood are rotten
- The door are off their hinges and some do not exist. There are no locks.
- The whole ceiling has broken due to rotten ceiling joists.
- The roof members are rotten and the roof has caved in as a result.

BLOCK C

The block has two classrooms

Identified Problems

- The floor screed has chipped off in several places
- The window frames and leaves are old and rotten some leaves are falling off.
- All doors are worn -out and weak without locks
- The ceilings are sag in many places due to damaged ceiling joists.
- The roof have caved in and it is leaking seriously.

Block D

The block has three classrooms

Identified Problems

- The structures is old and it has started fallen apart. It constitute danger to the pupils.

2. **Ansar- Ud - Deen Primary School, 1 Onagbooro, Abeokuta**

Block A

Classroom blocks

Identified Problems

- The whole structure has failed
- The foundation has cracked and settled
- The walls have collapsed and titled
- The ground is sloppy and the foundation is not made of any retaining wall.

BLOCK B

Identified Problems

- The roof is completely damaged due to lack of maintenance.
- No plaster on the walls.
- The ceiling has been destroyed by leakage from the roof
- The floor screed in half part of the building has cracked
- The other part has wooden floor
- The basement is constantly wet due to water seepage from underground.
- All doors /frames are in terrible condition.
- All windows /frames wood have been destroyed by the lack of proper maintenance.

BLOCK C

Classroom blocks

Identified Problems

- The roof is completely old and dilapidated
- The external walls are not plastered
- Some parts of the internal walls are poorly plastered
- The door and frames are rotten
- The windows and frames are completely damaged due to lack of maintenance
- Existing steps to the entrances have cracks all over
- The floor screed is weak, cracked and pulled off
- The existing asbestos ceiling sheets are broken
- The chalkboards are in bad condition.

BLOCK D

Classroom blocks

Identified Problems

- Windows and frames have been affected by weather, and they are no longer good, while some of them have started falling off
- All doors and doorframes are weak due to weather effect.
- The floor screed was badly constructed; therefore it has cracked all over the room.
- Parts of the asbestos ceiling sheets have broken
- Complete absence of ceiling at the eaves of the building
- The building is in dire need of painting
- Cracked steps to a lower level on site.

BLOCK E

Classroom blocks

Identified Problems

- The doors and frames are rotten
- The windows and frames are completely damaged due to lack of maintenance
- The building is in dire need of painting.

BLOCK F

Classroom blocks

Identified Problems

- Doors and windows are no longer good and they are falling apart
- Leakage at the gable ends due to the parapet walls
- Damaged ceiling due to leakage from the roof
- The building requires painting
- Abandoned foundation attached to block F.

Fence Wall

Identified Problems

- Lack of fence to secure school premises

Ansar - Ud - Deen Primary School II, Onagboro, Abeokuta

BLOCK A:

The only existing block on site.

Identified Problems

- The door and frames are rotten
- The windows and frames need replacement
- The building is in need of paint

BLOCK B & C: New Blocks

Identified Problems

- Due to inadequate classrooms

1. Abeokuta North Local Government Primary School

BLOCKS A1

Identified Problems

- This building has 4 classrooms. The building is old.
- The walls have cracked in several points
- The doors are worn out
- The floors have broken with pot holes all around
- The windows are rotten
- The roof is old and leaking seriously
- The floor slab is of hard wood and need to be replaced
- There is no ceiling

Block 2

Identified Problems

- The first floor slab is sagging
- There are major cracks along the beam axis
- The cracks have separated the slab from the beams.

IJEUN/AGO - OKO /ERUNBE COMMUNITY

1. Methodist Primary School

BLOCK 1

The block has two classrooms

Identified Problems.

- The corrugated iron sheet are old and leaking
- The walls are not plastered
- 11 Nos wooden windows are bad
- 6 Nos doors with their frames have been destroyed due to lack of maintenance
- The step leading to classroom corridor has collapsed
- The ceiling has collapsed totally
- The floor screed has broken into pieces

BLOCK 2

The block has five classrooms

Identified Problems

- The roofing sheets are old and bad
- Some parts on the wall have hair cracks in the plaster
- 60 pairs of wooden window leaves are completely destroyed
- 10 Nos. Door and frames are completely bad
- The wooden poles carrying the roof over veranda are no longer strong enough.

BLOCK 3:

The block has only one classroom

Identified Problems

- All windows are bad and they are falling off the frames
- All doors are weak and have no locks
- The roof has caved in and it is leaking all over
- A ceiling sheets are broken due to the collapse of the ceiling joists
- The concrete steps leading to the four entrances of the classrooms have collapsed.

2.
 - The walls (both internal & external) have rough plaster surface and the paint has faded off completely.
 - There are scattered broken parts of the floor screed at the corridors.

BLOCK 4

The block has two classrooms

Identified Problems

- The roof has caved in and the roof members have been destroyed by termites.
- All ceiling sheets are bad and sagging due to the effect of leakage and termite on the ceiling joists
- Doors and doorframes are old and rotten the windows are already falling off
- Windows and window frames are weak and attacked by termites
- Some portions of plasters on the walls are falling off (2m x 6M).
- Some parts of the walls are no longer smooth
- The floor screed has come cracked portions scattered all over the room (8.5m²)

BLOCK 6

The block has ten classrooms

Identified Problems

- Some windows are falling off the Hinges
- Most windows have no stopper & locks
- Some of the doors have fallen off and the existing ones are partly damaged
- The Polish on the existing windows & door has washed off due to weather effect.
- There are some floor screed portions that are chipped off
- The building requires painting
- The chalkboard provided is not adequate

Lisabi Primary School 1 & 2

BLOCK 1A

The block has two classrooms

Identified Problems

- 10 Nos. windows are in a state of disrepair
- The door frames are old and destroyed by weather
- The steps to the entrances have collapsed.
- The internal floor screed has broken
- 18 Nos. asbestos ceiling have broken

Block 1B

The block has two classrooms

Identified Problems

- The roof is completely damaged
- The walls are old and weak
- The foundation is no longer strong to receive loads.
- All windows and frames are destroyed
- The doors and frames are not in good condition
- The doors and frames are not in good condition.
- Internal floors are weak and ageing.

BLOCK 1C

The block has two classrooms

Identified Problems

- The roof is old and is leaking almost everywhere
- Falling of some plaster in the classroom.
- The ceiling is completely absent
- The floor screed of the corridor has cracked seriously
- The windows /frames are completely destroyed due to abandonment of the structure.
- The building was not painted.

BLOCK 3

The block has two classrooms

Identified Problems

- The entire roof is old and in a state of dis -repair
- 12 Nos. of wooden windows are critically bad with their frames
- 4 Nos of doors are not in good state with frames
- The internal floor screed has cracked all over the places
- 9 Nos of 1.2m x 1.2 m asbestors ceilings have broken.

BLOCK 4

Identified Problems

- The roof of the building has been destroyed by termites
- The walls are made of woods
- The windows and frames are completely bad
- The doors and their frames are completely destroyed
- The steps to the entrances have collapsed
- The floor screeding has broken in several places
- The entire ceiling has been destroyed by termites

BLOCK 5

The block has two classrooms

Identified Problems

- The roof has caved in, and leaking seriously
- The rood members have been destroyed by rainwater
- The ceilings are old and collapsed
- The window leaves have fallen off
- The doors and frames are not existing
- The floors screed has collapsed seriously
- The two steps have collapsed

BLOCK 6

SCHOOL HALL

Identified Problems

- The roof has collapsed completely
- All windows and leaves are completely absent
- There are no doors
- There is not ceiling
- The floor screed has cracked in several places

BLOCK 7

The blocks has seven classrooms and the head teacher office

Identified Problems

- The superstructure is weak and all the walls are cracked
- The roof has completely caved in several places
- The floor screeds in all classrooms are totally in bad status.
- All doors have gone bad due to old age and they are now replaced with improvised doors
- All windows are dilapidated.

BLOCK 9

The block is a 2 - storey building with eight classrooms

Identified Problems

- Some of the windows are broken while weather has affect the wood of the windows and frames
- All doors on the 2nd floor have been destroyed and removed.
- Some doors on the 1st and ground floors have been destroyed.
- The floor screed of the corridors is broken and they are pulling out.
- The whole building has not been painted.

Block 10

The block has two classrooms

Identified Problems

- The roof is old and in a bad state
- The building is not plastered
- 12 Nos Windows are Bad and fallen off
- 6 Nos. Doors have been removed
- Step to the entrances have collapsed
- The floor screed has broken
- All ceilings have collapsed.

3. **Salvation Army Primary School**

BLOCK 1

The block has four classrooms

Identified Problems

- The roofing sheets are old have some leakage points
- The walls are not plastered
- 4 Nos Windows had fallen off with frames
- 2 Nos door had fallen off and improvised doors are used
- The floor screed has started to pull out from the
- Floor slab
- The ceiling has collapsed
- The chalkboards are bad

BLOCK 2

Identified Problems

- The foundation has settled due to flooding
- The walls are unstable and the block used are not strong
- Concrete lintel was not provided
- Doors, windows and frames are in state of disrepair
- The blackboards are not good.

BLOCK 3

The block has two classrooms

Identified Problems

- The corridor ceiling sheets are broken
- The building requires complete re - painting

BLOCK 4

The block has four classrooms

Identified Problems

- The screed of the corridor was badly constructed. It has pulled off in most part of the corridor.
- Some parts of the asbestos ceiling at the roof of the corridor are broken
- The building is in dire need of painting.

BLOCK 5

The block has two classrooms

Identified Problems

- The roof is leaking profusely due to old age of the corrugated iron sheets.
- The roof members are destroyed by the effect of leakages from the roof.
- The ceiling joists are destroyed as a result of constant wetting during rain season.
- The walls have cracked though it is not plastered.

BLOCK 5B

Identified Problems

- The roofs and roof members have caved in and it is leaking
- The ceiling has collapsed
- The walls have deep cracks as evidence of failure
- The doors and windows are completely damaged

BLOCK 6

Identified Problems

- The Roof is Old and Bad
- The walls are made of Mud and they are cracked
- No concrete lintel provided
- The foundation has collapsed
- All windows and doors are old and rotten
- The internal floor is cracked
- The ceiling has collapsed

NEW STRUCTURES

- a. Toilets Facilities
- b. Fence

Identified Problems

- There are no toilet facilities in the whole school
- There is no security for the infrastructures available in the school due to non availability of fence walls.
- Evidence of burglary is seen on the doors and windows by the hoodlums. They seek refuge in the school after official hour.

3.8.6 HEALTH FACILITY

It is recommended that a lower order health delivery service such as health centres and clinic with a maximum of 3 - 4 bed spaces will be located within each community for short rest by patients and also to cater for emergency treatment and to serve as a supplement to the existing higher order hospitals such as the Federal

Medical Centre and the State Hospital which are located within a distance of between 2 and 5 kilometres to Ijeun/Erunbe/Ago Oko and Owu/Gbagura Communities respectively.

The land that are donated by each community on which health centres are to be located are still vacant. It is important to mention here that this project activity will not do any land acquisition and therefore will not tamper or encroach or destroy any private property.

The sites were chosen based on availability of space because the project area falls within a completely built environment. Health clinic will observe international standards and acceptable waste management practice.

CHAPTER FOUR

DESCRIPTION OF THE EXISTING ENVIRONMENT AND THE BASE LINE DATA

4.1 PROJECT SETTING

4.1.1 LOCATION AND FISCAL SETTING

The core or slum area of the ancient city of Abeokuta combines the dual roles of being the Ogun - State Capital as well as the Headquarters of two Local Governments namely Abeokuta South and Abeokuta North Local Governments out of the total twenty Local Governments areas in the state, Abeokuta has an estimated 1988 population of about 750,000. Abeokuta as a whole is bounded to the north by Oyo State, to the South by Ifo/Ewekoro Ota Local Government and to the East by Odeda Local Government, and to the West by Yewa North Local Government.

The core area of Abeokuta and indeed the study area covers the following communities:

- a) Egba Alake with estimated population of - 140,000
- (b) Oke - Ona Community with estimated population of - 120,000
- (c) Owu/Gbagura with estimated population of - 120,000

4.1.2 HISTORICAL PERSPECTIVE

The present settlements known as Abeokuta evolved as a result of inter - tribal wars which forced the Egbas out of their various homesteads to settle where they are over 160 years ago, the people then organised themselves into harmonious and democratic community. Till today, Abeokuta has five broad settlements each with its own sectional Oba. These are; Osiele of Oke - Ona, Agura of Gbagura, Olowu of Owu, Olubara of Ibara and Alake of Egbaland who is the only paramount ruler of Egbaland.

Since the creation of state in 1976, the provincial character of Abeokuta town has changed with increasing Government functions and immigration of a large number of people for social and economic reasons. These reasons have undoubtedly created considerable pressure on existing housing stock and infrastructural

services such as is the situation in the core areas of Abeokuta. Therefore, the result of this study if implemented is expected to reverse the trend in the study area for the better.

4.2 **CLIMATIC BASE LINE DATA FOR THE PROJECT AREA**

The climate of the project area is that of the humid tropical environment which is associated with deep chemical weathered regolith. The ecology shows a sharp contrast between rain forests and derived savanna. The original evergreen has been depleted within the project area. The rain forest is presently outside the city which is being encroached upon by farming and construction activities. This project will not impact in any way on the rain forest.

(a) **TEMPERATURE**

Daily temperature is generally high throughout the year with the pre - rainy season's months ("Feb., - March) having the highest. The highest and lowest daily temperatures of (33° C and 21° C) were recorded at the peak of the dry and the rainy seasons respectively in February and August. The location of the site close to the equator, its flat topography, the fact that the location is less than 50 km from the Atlantic coastline and the effects of land and sea breezes have kept the diurnal range below 10° C all year round.

(b) **RAINFALL**

Total annual rainfall is about 2160 mm with a minimum of about 25 mm during the "dry" months of January and December and with annual rain days of between 100 and 130. A lot of variance however, usually occur in the amount and temporal distribution of rainfall. The regime is characterised by a double maxima in the months of July and September respectively with a Short "August break" The dry season lasts between mid - December to late March. Rain storms during change in season are characterised by thunder and lightning. The average annual number of days with thunderstorms is between 45 and 70 days. The highest number of about 5 - 9 days usually occur between April and May and towards the end of the rainy season around October when rainfall is

accomplished by greater frequency of thunderstorms, line squalls and disturbance lines.

(c) **RELATIVE HUMIDITY**

Relative humidity is high both day and night. While it is greater than 80% in the night, it is between 60% and 75 % during the day. Generally the drier months between December and February have low R.H. of between 60 - 70 % whereas it ranges from 80 - over 90% in the wet season.

(d) **WIND DIRECTION**

Wind direction are quite variable over the region. However, wind are mostly south westerlies or westerlies particularly during the rainy season when about 60% of the winds blow. The direction are usually more variable in the mornings than in the afternoons when the southerlies, south easterlies and south westerlies winds prevail for more than 70 % of the time. During the dry season, the winds are mostly northerlies, north easterlies or north westerlies particularly in the mornings. In the afternoon, the winds are more southerlies, south easterlies or westerlies, indicating the fairly strong influences of the adjoining maritime oceanic environment in creating land - sea contrasts and in the differential heating characteristics of the two surface causing changes in directions of winds, particularly during the day.

(e) **WIND SPEED**

Wind speed are generally low, usually less than 2m/s under calm conditions for most of the year. Relatively higher wind speeds occur mainly in the afternoons inducing convective activities and creating diffusion characteristics. Atmospheric disturbances such as line squalls and disturbance lines induce the variability that results in speeds higher than 5m/s. Such increases characterises the beginning of rainy season (April - May) and end of heavy rains (September - October). During these periods, most of the atmospheric pollution that may be ejected into the atmosphere from industries are likely to be carried far away from the immediate environment.

f. **SUNSHINE HOURS**

Hours of daylight and darkness do not vary for more than one hour during any period of the year because of the latitudinal location of the region. The total sunshine hours for the year is greater than 466 with mean monthly values varying between 51 and 165.7 in July and December respectively, a factor of prevailing season depending on atmospheric attenuation by cloud and rainfall. A summary of the pertinent climatic characteristic of the project area is presented in Table 4.1 and figure 4.2

4.3. **SOCIO ECONOMIC BASELINE DATA FOR THE PROJECT AREA**

The significance of field surveys as an instrument for obtaining basic data in any planning study cannot be over emphasised. Therefore, an environmental impact assessment of this nature requires a substantial quantity and high quality of varied surveys so as to provide basic knowledge on socio - economic structure, the condition of housing, the adequacy of community facilities and public services all of which determine the quality of life. Also, they help in influencing future proposal for the study area. All these include land use, age structures and conditions, sanitation and socio - economic surveys.

Therefore, out of a total number of 700 houses identified, 10% sample of the houses were covered to determine their socio - economic characteristic as an input into the analysis herein.

However, as stated earlier some, of the factors militating against bigger sampling include those of finance, limited time and shortage of staff.

4.3.1: **GENERAL POPULATION CHARACTERISTICS**

The officially accepted population figure for Abeokuta has remained the 1991 census figure which was 429,260. However, by virtue of the new role of Abeokuta as a state capital coupled with the rapid growth of commercial and industrial activities, it is reasonable to assume the current population of Abeokuta as 738,178 with an assumed growth rate of about 7.0%.

However, since only a part of the whole of Abeokuta is being studied, the current population of the study area was estimated from the field survey. This gave a figure of about 120,000 assuming an estimated of 12 households per house and an average of 12 person per household with a total of 840 houses from the foregoing analysis therefore, the study area can be assumed to account for about 3% of the total current population of the whole town.

The Age/Sex structure of the population of the study area follows closely the predominant pattern for the whole Abeokuta with slight modification. For example, the age group under 18 years account for about 45 % of the total population with predominantly more males and females in the group. The group between 18 - 39 years account for 43% with more females than males. The age group 60 years and above accounts for only about 1.0% with almost an equal spread of sex ratio.

The result of the survey showed that out of the age group under 18 years; about 65% are in primary schools, 27 % are either in the secondary school or learning one form of trade or the other while the remaining 8% are in higher institutions. Obviously, this has spatial implications with regards to open space requirements for educational institution for the area.

As noted earlier, the general trend observed in the core area of Abeokuta was that out of the 70 respondents, there was an average of 7 children per household and a predominantly polygamous marital status of average of 2 wives per head of house hold. This also has implications for the space requirements for residential accommodation.

Besides, in the analysis of the religious affiliation of the people, a slight shift from the general trend was noticed with about 54% of the respondents found to be Christians while, 45 % were Muslims and the remaining 1% practice other traditional religions.

4.3.2 **EDUCATIONAL STATUS**

With regard to education, the results of the surveys reflects a substantial proportion of illiterates accounting for about 38% those with Primary Six /Standard Six certificate accounting for about 39%, While those with Higher

educational /School. Certificate amounted to about 20% and the remaining 3% are holder of religious certificates

4.3.3 **TENANCY**

The survey revealed that on length of tenancy, about 30% of the residents have lived for upwards of 50 years in the area, while about 50% have lives for over 10 years and only about 20% have stayed less than 10 years in the area.

The revelation given here is the degree of traditional attachment of a major group of the residents for social, economic and cultural reasons, such as; the need to be close to the extended family and to reduce cost of living by sharing communal facilities.

4.3.4. **INCOME PATTERN**

The survey revealed that a major group of the respondents belong to the low income group who engage mainly in petty trading and small scale industries. Thus, about 25% earn below N1,5000; 52% earn between N1,500 - N6,000; while 10% earn above N12,000 per annum.

The planning implication of the income levels of the residents are in the area of affordability and the level of subsidy or otherwise that may be required for the types of upgrading that will be recommended in the proposal. Besides, it also indicated the types and amount of commercial, recreational and infrastructural facilities to be provided. On the whole, It an index of the approximate potential of the people for self - financing the management improvement of the core areas.

4.3.5. **EMPLOYMENT PATTERN**

Abeokuta has, until recently, remained predominantly a large service town with the occupational group being sales workers and petty traders. This traditional outlooks has influenced the life of the residents of the core areas of Abeokuta. For example the survey revealed that 68 % of the respondents are traders , 3% are farmers, 15% are civil servants, 11 % are engaged in informal small scale bricklaying, painting etc., while about 3% are unemployed or retired. It was noted that most of the retailing activities follow the traditional pattern of locating along access roads within residential premises and within small lock - up shops. For

example it was observed that about 48% of the residents travel less than one kilometre to work while, 35% travel between 5 - 10 kms to work.

Therefore, the prevalence of informal factors and small scale business activities in the core areas shows that the renewal proposal should make suitable provision for the physical space within the residential neighbourhood to accommodate such activities and at the same time, minimising their social and environmental problem.

4.4 **BASELINE LANDUSE SURVEY**

4.4.1. **THE GENERAL MORPHOLOGY OF CORE AREAS:**

The core areas of towns and cities in Nigeria as well as in most developing countries are usually the oldest parts. They are usually characterised with houses joggled together, which are really broken by open spaces. Hence, the streets, are narrow, winding and sometimes unpaved and lack drainage. They form repositories of refuse thrown from the houses.

Besides the overcrowding and congested nature of these core area, the condition of the houses in these slum area is another distinguishing feature. Houses are usually clustered together and arranged in a disorderly manner, thereby contributing to poor access and consequently, increasing fire hazard. Moreover, many of the houses are made of mud and are dilapidated usually as a result of their physical conditions and owing to either the poor qualities of construction materials utilised for the houses or due to lack of adequate care and maintenance of the houses in the slums are generally characterised by either the conspicuous absence or the inadequate provision of basic social welfare facilities. There is usually inadequate road network and in some areas are totally lacking.

Again, provision for the disposal of wastes are frequently inadequate and some times lacking while public conveniences are very difficult to come by. Other facilities like electricity, especially street lights, pipeborne water, planned markets, recreation, parking spaces etc.; are not usually found in slums.

The need for improvement in core areas stems from the fact that the consequences of living in a slum environment are many and could be serious. For instance, sky, constitute health hazard to the inhabitants of the slum areas. Besides, the non - provision of basic amenities like pure drinking water may lead to the incidence of water borne disease. This point was particularly highlighted by Okediyi F.O. when he stated that between 1963 and 1967 alone, about 60% of the diseases reported in the hospitals in the Western states were directly connected with insanitary environments.

However, such health hazards can be eliminated if a better environment with less crowded housing patterns, less congested units, and with more provision of basic social amenities like public conveniences as well as pipe - borne water can be substituted for the slum in our towns and cities.

Again, poor drainage in many slum, areas give rise to flood. The incidence of flood is also aggravated by the total build up of floodable area. Hence, these result in occasional loss of lives and properties. Moreover, the non availability of good motorable roads has subjected the slum dwellers to utilise the few, narrow and sometimes winding roads.

In addition, the low level of education and literacy amongst slum dwellers negatively and significantly affect the opportunities open to residents in slums and consequently, has a vicious cycle effect on the level of poverty of most of the slum residents. For these reasons, a deliberate effort has to be made to educate the masses, most especially, on the simple rules of hygiene. Much of the health hazard of slum life may be reduced considerably if slum residents can be re-educated on how to live in a clean and hygienic environments.

4.4.2 EXISTING LAND USE PATTERN

The existing land uses were examined alongside the implications on the core areas, Hence, the existing land uses as reflected in table 4.2 below shows that residential use accounts for the lion share of 74.68% of the total developed area, commercial uses including shops, retail spaces and offices account for 6.32% industrial uses which is predominantly the informal nature, account for meagre 5.06% while, public and semi - public uses are virtually none existent as it

accounts for mere 3.03% organised recreation spaces are almost completely lacking except for some open spaces which are improvised for such uses and this accounts for 6.28 % of the total area.

Besides, recreational facilities are almost completely absent. Some of the noticeable organised open spaces are the cultural ground for religious festivals like Egungun and so on. Therefore, residents of the core engage more in passive recreation and other indoor games e.g. Ayo Draught etc.

TABLE 4.2 ANALYSIS OF EXISTING LAND USE

USE	AREA (HECTARES)	% OF TOTAL
Residential	14.86	74.88
Commercial	1.20	6.31
Industrial	1.01	5.06
Public/ Semi Public	0.66	3.30
Recreational/Open Space	1.25	6.28
Roads	0.88	4.37
TOTAL	19.86	100%

SOURCE:- FIELD SURVEY.

The planning implication of the above is that the inadequacy of some of the uses in the appropriate standard justify the proposed renewal plan, as available land has to be judiciously utilized in a manner that meets the required planning standard without necessarily disrupting the social structures of the residents.

4.4.3. DENSITY OF DEVELOPMENT AND OCCUPANCY RATE

From the analysis, it can be seen that given the estimated population of about 19,600 for the core area and a total developed residential area of about 15 hectares, the net residential population density amount to 1,300 person per hectare. This is rather high. Hence, it has spatial implications in terms of the renewal plan as this situation may have to be corrected.

As indicated, a situation where an average of 12 persons per household crowd together in a two room apartment in a multiple family Brazilian housing type is not conducive to good accommodation density, bearing in mind that occupancy rate is an indication of the well - being of the people.

4.4.4 TYPES OF BUILDING

As noted earlier, a total of 700 houses were identified on the field. These houses are grouped predominantly into: (bungalow type and face-to-face rooming (Brazilian) apartment usually for tenancy. It account for about 55% of the total stock. Next, is the storey buildings usually of similar design as the bungalows, it accounting for 35%. The least in the group is the traditional compound design with courtyard pattern usually occupied by the extended family structure. It accounts for only about 10%. However, it was observed that his later group is continuously getting fragmented into smaller units due to gradual disintegration of the extended family system.

4.4.5. AGE AND CONDITION OF BUILDINGS.

The need for the study of characteristic conditions and the age of buildings within the core area is to guide in assessing the degree of deterioration so as to make appropriate recommendations on houses that will require upgrading or those that will be affected by road alignments.

Thus, the rating of the conditions of the existing building are in broad terms as ; good, fair and poor. These broad categorisation was also used for the age, types of materials use for construction, level of maintenance and many more. Thus, the details of pattern observed is tabled as follows:-

TABLE 2: AGE OF BUILDING

AGE	% OF TOTAL	CONDITIONS	% OF TOTAL
1914- 1912	18.20	Good	2.60
1939- 1945	44.30	Fair	57.15
1960 - 1975	39.50	Poor	40.25
Total	100.00	Total	100.00

Source Field Work

Source field work

From the above, the houses built before the first world war over 70 years ago as count for over 18%, while, those built during the world wars about 44% and those built in recent years were few amounting to only 8% this result show some degree

of positive correlation between the age of buildings and their general conditions except in some cases where aged houses have been rehabilitated.

Therefore, it is on this ground that, the idea of the Government rendering some needed assistance to the residents to help make their houses more functional and aesthetically appealing, is being looked into.

TABLE 4 - MATERIALS OF CONSTRUCTION

Walling Materials	% of Total
Mud	54.50
Burnt Bricks	18.40
Planks	1.00
Cement block	26.10
Total	100.00

Source: Field Survey.

4.5 **BASELINE INFRASTRUCTURE SURVEY**

With regards to the existing infrastructural facilities in the core areas, particular attention is paid to their capacity to provide the needed requirements for the residents within the context of the whole town. In this wide, it will be easier to establish likely problems and potential as a basis for evolving a proposal for the core areas.

4.5.1 **WATER SUPPLY:**

The expansion programme for water supply in Abeokuta has gone a long way to boost water supply for the town. It was observed that the distribution pattern is fraught with operational problems resulting in erratic and inadequate water supply to meet acceptable standard for most parts of the core area of Abeokuta. For some of the areas, the main source of water supply is open, while others continue to suffer deprivation because of their relative location in the hilly areas of the town. Hence, this major constraints make it worthwhile to consider the installation of a separate booster station and water reservoir of adequate capacities for the use of the residents as a possible solution.

4.5.2 **SEWAGE**

Abeokuta as a whole has no sewage system therefore, the core areas could not enjoy such infrastructures. However, the field survey analysis shows that about 88% of the houses are without sanitary facilities with regard to water closet. Instead, most of the houses make use of pit latrines most of which are improperly sited. For instance, some are located close to (side by side) the well which serve as main source of drinking water. However, the not - too -long edict on environmental sanitation compelled the respondents to provide the toilets, in their houses. Despite all these, few houses were still without toilets and as a result, they use nearby pit latrine. On the other hand, it is surprising that the sewage studies commissioned for Abeokuta some years ago is yet to be implemented. Possibly pending its implementation, the idea of introducing neighbourhood comfort station within this core areas has been considered as an option.

4.5.3. **DRAINAGE**

There is not coordinated drainage system in Abeokuta; hence, their inadequacy has affected the core area under study adversely resulting in frequent incidence of flooding during rainy season. Most of the streams which transverses the core areas have had their courses seriously constricted by illegal developers thereby causing them to overflow their banks. Moreso, water discharges into open access roads , side gutters, open spaces and the nearby streams.

Similarly, natural drainage trough have been badly encroached upon by development leading to reduced flow capacities of these channels resulting into scouring and gully erosion development within the core areas. Construction of secondary drainage channel is a better option aimed at prolonging the life-span, of the road network proposed.

4.5.4 **REFUSE DISPOSAL:**

Although, noticeable efforts have been made with regards to refuse collection in Abeokuta yet much has not been felt in the core areas because the required impact of such efforts has not been met. Although official refuse depots are constructed in some areas; they are too far away from the people and are always

overfilled. Some good examples are; refuse depots sited opposite Cooperative Bank Sapon; the one at Nepa road close to old University of Agriculture Campus and the one directly opposite Itoku Market. Apart from what is obtained at these collection centres, refuse of all kinds are still being littered in open spaces, drainage channels and moving streams within the core areas thereby posing potential health hazards to the residents.

Refuse disposal system capable of accommodating the huge volume of refuse generated daily in these core areas should be urgently considered.

Community participation through Pay as you go principle is therefore advocated for the management of wastes in these communities to improve the environmental hygiene and hence public health.

4.5.5 ELECTRICITY SUPPLY:

The core areas of Abeokuta enjoys electricity supply through the National grid system. However, the consumption is within the installed capacity, while the irregular nature of the supply to these core areas as well as the entire town is worthy of note. Moreover, the absence of street lights in these core areas is a conspicuous omission that calls for urgent attention.

4.5.6 POST AND TELECOMMUNICATION:

The location of the General Post Office at Sapon as well as the siting of some lower order postal service in the form of Postal Agencies within the core areas for easy reach of the residents is a welcome idea. However, few areas are yet to benefit from it.

Besides, private telephone lines in the core areas are very few partly because of the increasing cost of installing such essential services as well as the limited financial capabilities of the resident of these areas. It was suggested that this essential service should be extended to most parts as well as subsidising the cost of installation as well as making public telephones booths available to more areas within the core area.

4.5.7. **TRANSPORTATION:**

The interior parts of the core are linked poorly with other sectors of the towns through some uncoordinated network of roads and footpaths. Some good examples of this types of roads are found at Erunbe street, Balogun Street, Olusesi street, Shodipe street, and many more. Also, these roads have not got the appropriate capacity to carry the required volume of traffic.

Therefore, the summary of all transportation problems can be numbered as :

- (i) Inadequate road network and poor design of inter sections
- (ii) insufficient number of roads, while, the few ones are winding and narrow
- (iii) of parking spaces and other terminal facilities such as bust stops. All these and many others needs immediate solutions.

The proposed widening and construction of the road network would afford the residents of the selected core areas better vehicular accessibility that would enhance their socio economic well - being.

4.5.8 **HEALTH FACILITIES**

With the exception of the State Hospital along Sokenu road, and some private medical centres in the commercial areas of the town , the core areas are not well served with health facilities to meet the required standard. In view of the size, of the population in these areas, it was suggested that such inadequacy be addressed by examining the feasibility of lower order health facilities such as dispensaries, health centres etc. to care for immediate services of the residents.

4.5.9. **EDUCATIONAL AND OTHER FACILITIES:**

The number of educational institutions sited in the vicinity of these core areas are inadequate as it was observed that most of the secondary school age pupils travel a considerable distance of over 4 kilometres from the neighbourhood to school. Besides, the location of other facilities like the fire service stations, banking, institutions and many more are considered as an advantage.

CHAPTER FIVE

ENVIRONMENTAL IMPACT

5.1 BACKGROUND

Assessment of potential and associated impacts of a proposed project can be aptly described as the heart of an EIA report. All the preceding four chapters (dealing with introduction, project justification, Project Description and Description of Existing Environment) combine to form the essential forerunners of the current chapter. The direct and indirect impacts that the proposed project may have on the physical and human environment have to be identified, aggregated from/ the contents of the preceding chapters and discussed. Once the impacts have been assessed, quantified as much as practicable, the issues of their mitigation and monitoring will follow quite smoothly.

Naturally, the impact of the development project on the environment is assessed against the back drop of the baseline data already presented in the preceding chapter. References are made to the relevant baseline data as deemed appropriate.

5.2 IMPACT ASSESSMENT METHODOLOGY

In assessing the direct and indirect impacts of the project on the environment, the project is broken down to its component parts. Each component is considered in terms of its impact on the human and physical environment. The cause and effect interrelationships are presented in matrix forms for easy overviews.

(See Table 5.1 - 5.7)

Conclusion are drawn as to the impacts caused mitigation of the impacts is of course left out as it is the subject matter of the other chapter.

5.3 PROJECT ACTIVITIES BEARING ON THE ENVIRONMENT

Activities that can impact directly or indirectly on the environment by the proposed project are:

Road Construction / Improvement

Improvement of Street Lighting

Provision of basic health facilities

Improvement of Public Utilities and services such as water supply, sewage, electricity etc.

Improvement of basin drainage

Sanitation /Waste Management

The impacts that each of these activities can bring to bear in the environment are presented in Table 5.1 to 5.7 and discussed as follows:

5.3.1. ROAD IMPROVEMENT/CONSTRUCTION

The project sites being core areas of the city are the oldest settlement. They are characterised by clustered houses with inadequate, narrow and winding roadways that are usually unkept and unpaved.

To improve access to these areas, the existing network of roadways need to be reconstructed by widening the carriage way within existing Right of Way providing roads drains to improve drainage and tarring them to extend their life - span.

In carrying out the reconstruction/rehabilitation works, the following activities are involved: clearing of existing rubbish, removal of unsuitable soils, deposition of base course material (laterite) transported by tipper lorries from approved borrow pits from outside the affected areas, presence of heavy construction equipment such as roller, graders, fair - broilers and pavers etc.

Potential impact of these activities are present in the general form as follows:

- a. During clearing of rubbish which will not affect or disrupt any existing vegetations and removal of unsuitable soil materials, the social and business life of the residents would be disturbed as the narrow road ways will be temporarily closed down while the construction equipment are working. Deposition and spreading of laterite as base course material will also raise dust.

Dust raising will increase the concentrations of suspended particulate matter in the air. The health of the residents may be impaired if they inhale the dust laden air. However since clearing of rubbish and unsuitable soils is minimal and not on continuous basis, the adverse impact is negligible and therefore will not have a remarkable negative effect on the socio - economic life and health of the people. In addition to this, the contractor will wet the ground occasionally to reduce dust raising. The equipment to be used in site will also be within the acceptable noise level to minimise the incidence of noise pollution.

- (b) Haulage of the base course materials may result in spillage on highways. This spillage is a form of littering and is not environmentally acceptable but will be easy to mitigate by covering of the laterite loaded tipper lorries with tarpulin.
- (c) Roller vibration during compaction may cause cracks or outright collapse of mud houses built on weak foundations. No houses within the communities affected by this project was identified to suffer such a plight as all are few to be structurally sound.

On the other hand, the project will have the following positive impacts:

- (a) During the execution stage, it will create job opportunity for the inhabitants and therefore enhance the financial status of the beneficiaries.
- (b) It will also on completion improve vehicular accessibility to the selected core areas. And therefore impact on the socio - economic well - being of the people.
- (c) It will also improve the property value in those areas.

5.3.2 **STREET LIGHTING**

As part of the upgrading processes, the supply and distribution of electricity to the affected communities will be improved upon by providing transformers to step up the current. Provision of street light will also be effected to improve street illumination and therefore provide added security at night.

The activities involved include replacement and rehabilitation of electricity poles, tension cables, transformers and illumination lamps. All these activities have little or no negative impact on the environment: It will rather encourage development and improve trading activities and therefore indirectly enhance a better standard of living.

5.3.3 PROVISION OF BASIC HEALTH FACILITIES

The two selected communities are densely populated. The provision of a primary health centre in each of the communities will bring health facilities close to the people. Construction in each community will be on publicly owned vacant land donated by the communities for that purpose. However, excavation for the foundation and the haulage of construction material (sand, granite etc.) may generate dust while the use of construction equipment may generate noise during construction. These shortcomings can be offset in terms of the occasional wetting of the surrounding of the construction site coupled with the usage of equipment that are within acceptable noise level. The socio-economic gains derived by these communities in terms of gainful employment and ready access to treatment by the sick nullifies the negative impact earlier mentioned.

5.3.4 IMPROVEMENT OF PRIMARY SCHOOL INFRASTRUCTURE

Activities involved in the improvement of the facilities in the existing primary schools include, construction of additional classrooms, renovations of the existing ones, construction of sanitary conveniences which with existing landscaping of the school premises and painting. All these activities will come up within the existing school land under the control of the Local Government Primary School Education Authority. No leaded paints will be used for painting of the schools whatsoever.

All these activities involved the importation of construction materials, equipment and machineries. The anticipated negative effect include raising of dust and noise pollution. These effects are within acceptable limit and will not cause any remarkable damage to both the inhabitants and the total environment in general. Construction will have minimal effect on class because of phased construction. On the other hand, the positive effects include provision

of employment during construction works and a conducive learning environment for pupils after completion of the renovation/reconstruction works.

5.3.5 **IMPROVEMENT IN WATER SUPPLY**

The improvement of water supply to these communities will involve the construction of booster stations, establishment of overhead tanks (Braithwaite tanks) and laying the network of water distribution pipelines. All construction will take place on publicly owned and vacant land donated by the community for this purpose. The laying of water pipes are within the existing right of way.

The impact of these activities on the communities include disruption of the socio-economic activities during construction as a result of excavation for pipe laying. Availability of adequate water supply to the people on completion will improve the sanitation and cleanliness and therefore enhance good and healthy living condition. This will in turn improve the socio-economic well being of the people. It will also improve the life expectancy of the member of the communities. The improved solid waste disposal noted will reduce pollution finding its way to Ogun River

5.3.6 **DRAINAGE**

Provision of Secondary and tertiary drainages will improve the drawing of rainfall run-off and liquid wastes from private premises into the primary recipient - the Ogun river. The impact of these activities are similar to those of road construction activities. And this construction will take place within the existing road right of way.

5.3.7 **WASTE MANAGEMENT**

This will be discussed under two main sub heads :

(a) **SOLID WASTE**

The management of solid waste will involve the participation of the community through polluter - pays - principle.

This will eradicate the use of obnoxious refuse depots and indiscriminate dumping of refuse. It will promote clean environment and therefore prevent fowl air rodent and fly infestation.

Other positive effect include provision of gainful employment to members of the affected communities, promotion of the spirit of self - help, encouragement of waste to wealth programmes. It will however have negative impact ensure consistency and the evacuation and disposal of wastes and hence ensure cleanliness and hence reduce incidence of diseases. It will also improve the socio - economic well - being of the people and increase longevity.

b. **SANITATION**

As stated earlier liquid wastes are disposed indiscriminately into the surrounding grounds while people engage in open defecation because of lack of toilet facilities.

The Upgrading programme is aimed at providing tertiary drainage to prevent direct discharge of liquid waste to surrounding grounds while public toilets with water closet and shower baths will be provided to improve the sanitation of the communities. Public toilets will be constructed on publicly owned lands donated by the community

Rather than leaving adverse impact the facilities will improve the sanitation of the surroundings. It will reduce the incidence of fly and mosquito breeding. It will reduce if not eradicate transmission of disease. There will be improved public health and hence better socio - economic well being and longevity.

5.3.8 **SOCIO ECONOMY**

The overall impact of this project on the socio - economy of the communities will be positive. This will be in terms of improved accessibility, trading activity, reduction in the incidence of sickness, and improved environmental hygiene.

Table: 5.1. Environmental And Social Impact Checklist for Water Supply

PROJECT ACTIVITIES PHASES																			
ENVIRONMENTAL COMPONENT	Pre - Construction				Construction					Operation and Maintenance							Decommissioning		
	Contract tender/award	Surveying	Heavy equipment Install at Mobilisation	Land Preparation	Drilling rig, generators Installation	Drilling boreholes	Head works Construction	Digging/earthwork	Pipe laying	Repairs and maintenance	Material Supply	Revenue Collection/Accounting	Electricity supply	Water pumping	Stand - pipes provision	Training /Skill Acquisition	Surface structures removal		
Air Quality and Odour				-1			-1						-1						
Noise Level			-1		-2	-2	-1						-1						
Climate & Meteorology																			
Soil				-1			-1	-1											
Ground Water								-1											
Drainage/Flooding								-1	-1										
Vegetation				-1			-1	-1							-3				
Housing										+3	+3								
Aesthetic/Scenic			-1	-1				-1										-3	
Employment/Income	-3	-2	+2	+1	+2		+4	+1	+2	+3	+3	+5	+5						
Population pattern							-1								-3				
Land use																			
Transportation			-1					-2	-2										
Commerce /Business			+2	+1	+1		+3			+1	+2								+3
Education												+3							-5
Health Risks														-3					
Crime & Security																			
Solid Waste /Sewage				-1		-1	-1	-2											-1
Water Supply										+5	+5	+5	+5	+5	-5				
Communal Conflicts															-3				

Scoring:

0. Blank Squares no impact

1. Minor, in magnitude and duration

2. Moderate Short term

3. Moderate Long term

4. Major Short term

5. Major Long term

+ beneficial
- adverse.

TABLE 5.2 ENVIRONMENTAL AND SOCIAL IMPACT CHECKLIST FOR ROADS AND DRAINAGES

PROJECT ACTIVITIES PHASES																			
ENVIRONMENTAL COMPONENT	Pre Construction					Construction						Operation and Maintenance						Decommissioning	
	Contract tender/award	Surveying	Heavy Equipment Install at Mobilisation	Land Preparation	Resettlement of market women traders	Location of the Operation Camp	Bulldozing	Burrowing for Laterite /subsoil	Grading, compacting of subgrade	Pavement/Surfacing Bitumen /asphalt	Digging earth for side train	Concrete blockwork for side trains	Material Supply	Repairs	Sweeping/keeping roads clean	Keeping drains free of debris/garbage	Accounting /Revenue collection	Road Usage	Training & Skill Acquisition
Air Quality and Odour				-2		-2	-1		-1	-								-3	
Noise Level			-1			-2			-1	-1								-3	
Climate & Meteorology											+3								
Soil				-1		-2	-3	+3		-2					+3				
Ground Water								-2	-3						-3				
Drainage/Flooding						-2	-2	-1	-3		+5	+3	+3		+5				
Vegetation						-1													
Housing									+5			+3	+3	+3	+3		+3		
Aesthetic/Scenic			-1	-1		-1	-5							+3	+3				
Employment/Income	+3	+2	+2	+1		+2	+2	+2	+2	+2	+3	+3	+2	+3	+3		+3		
Population pattern															+3	+3	+5		
Land use						-1	-3												
Transportation			-1			+3		+3	+5				+3	+5			+3	-3	
Commerce /Business			+2	+1		+2			+2				+3	+5			+3		
Education				+1		+2												+5	
Health Risks														+3	+5			-3	
Crime & Security														-5				-5	
Solid Waste /Sewage				-1		-1	-2	-3		+2				-3	+5				
Community Overall Trans..									+5		+3	+3	+3	+3	+5		+5	+5	
Communal Conflicts																			

Scoring:

0, Blank Squares no impact

1, Minor, in magnitude and duration

2. Moderate impact in magnitude short term duration.

3. Moderate impact Long term

4. Major & Significant impact short term duration

5. Major Significant Impact Longer term duration.

+ beneficial
-, adverse.

TABLE 5.3: Environmental And Social Impact Checklist for Water Supply

PROJECT ACTIVITIES PHASES																		
ENVIRONMENTAL COMPONENT	Pre Construction				Construction						Operation and Maintenance						Decommissioning	
	Contract tender/award	Surveying	Mobilisation	Land Preparation	Digging of ground /earthwork	Transformer Installation	Cables Laying	Feeder pillars Installation	Transmission Line Connecting	Fitting Street lamps	Material Supply	Repairs and maintenance	Revenue Collection/Accounting	Regular Electricity Supply	Street Lighting	Functioning Transformer	Training /Skill Acquisition	Removal of some Surface structures
Air Quality and Odour																		
Noise Level																-3		
Climate & Meteorology																		
Soil					-2													
Ground Water																		
Drainage/Flooding																		
Vegetation					-1													
Housing											+3	+3		+3	+3	+3		
Aesthetic/Scenic					-1			-2	-2	-2								-1
Employment/Income	+3	-2	+1	+1	+2	+2	+2	+2	+2	+2	+3	+3	+3					+1
Population pattern														+3	+3	+3		
Land use						-2		-2	-2	-2								
Transportation					-2		-2											
Commerce /Business													+3	+5	+3			
Education																+3		
Health Risks					-2										+3			
Crime & Security															+3			
Solid Waste /Sewage					-2													-1
Community 'sOverall Trans.														+5	+5			
Communal Conflicts																		

Scoring:

0. Blank Squares no impact

1. Minor, in magnitude and duration

2. Moderate impact in magnitude short term duration.

3. Moderate impact Long term

4. Major & Significant impact short term duration

5. Major Significant Impact Longer term duration.

+ beneficial

-, adverse.

Table 5.4. Environmental And Social Impact Checklist for Health Care Centre

PROJECT ACTIVITIES PHASES																				
ENVIRONMENTAL COMPONENT	Pre Construction				Construction								Operation and Maintenance						Decommissioning	
	Contract tender/award	Architectural Design surveying	Mobilisation	Land Preparation	Digging of ground /earthwork	Civil Building Works							Adequate No. Medical Personnel	Material Supply	Repairs and maintenance	Electricity and water Supply	Revenue Collection/ Accounting	Training of Medical Personnel		
Air Quality and Odour				-1																
Noise Level						-1														
Climate & Meteorology																				
Soil				-1	-1	-1														
Ground Water																				
Drainage/Flooding																				
Vegetation																				
Housing																				
Aesthetic/Scenic			-1	-1																
Employment/Income	-3	+2	+2	+1	+1	+2											+3			
Population pattern												+3								
Land use																				
Transportation			-1																	
Commerce /Business			+2	+1																
Education																		+3		
Health Risks						-2						+3	+3	+3	+3		+5			
Crime & Security																				
Solid Waste /Sewage						-1														
Community 'sOverall Trans..																				
Communal Conflicts																				

Scoring:

0. Blank Squares no impact
1. Minor, in magnitude and duration
2. Moderate impact in magnitude short term duration
3. Moderate impact Long term
4. Major & Significant impact short term duration
5. Major Significant Impact Long term duration.

+ beneficial
- adverse.

Table 5.5 Environmental And Social Impact Checklist for Refuse Collection

PROJECT ACTIVITIES PHASES																				
ENVIRONMENTAL COMPONENT	Pre Construction				Construction								Operation and Maintenance						Decommissioning	
	Contract tender/award	Surveying	Mobilisation	Land Preparation									Repairs and maintenance	Revenue Collection/Accounting	Training of Health Officer	Provision of Refuse Truck				
Air Quality and Odour																				
Noise Level																				
Climate & Meteorology																				
Soil																				
Ground Water																				
Drainage/Flooding																				
Vegetation																				
Housing																				
Aesthetic/Scenic																				
Employment/Income	-1																			
Population pattern													+3							
Land use																				
Transportation																				
Commerce /Business																				
Education															+3					
Health Risks															+3	+3				
Crime & Security																				
Solid Waste /Sewage													+3		+3	+5				
Communal Conflicts																				
Community's Overall Trans.													+3		+3					

Scoring:

- 0, Blank Squares no impact
- 1, Minor, in magnitude and duration
- 2, Moderate impact in magnitude short term duration.
- 3, Moderate impact Long term
- 4, Major & Significant impact short term duration.
- 5, Major Significant Impact Long term duration.

+ beneficial
-, adverse.

Table 5.6 Environmental And Social Impact Checklist for Public Toilets

PROJECT ACTIVITIES PHASES																				
ENVIRONMENTAL COMPONENT	Pre -Construction				Construction								Operation and Maintenance						Decommissioning	
	Contract tender/award	Architectural design Surveying	Mobilisation	Land Preparation	Digging/earthwork	Civil Building Works							Water Supply	Revenue Collection/Accounting	Antiseptics use	Attendants	Toilet Use			Abandonment
Air Quality and Odour																	-3			
Noise Level						-1														
Climate & Meteorology																				
Soil				-1		-1	-1													
Ground Water																				-3
Drainage/Flooding																				
Vegetation																				
Housing																				
Aesthetic/Scenic																				
Employment/Income	+2	+2	+2	+1		+1	+2						+3							
Population pattern																		+3		
Land use																				
Transportation																				
Commerce /Business				+2	+1															
Education																				
Health Risks													+3		+3					-3
Crime & Security																				
Solid Waste /Sewage							-1													
Communal Conflicts																				
Community 'sOverall Trans..																				

Scoring:

- 0. Blank Squares no impact
- 1. Minor, in magnitude and duration
- 2. Moderate impact in magnitude short term duration
- 3. Moderate impact Long term
- 4. Major & Significant impact short term duration
- 5. Major Significant Impact Long term duration.
- + beneficial
- adverse.

PROJECT ACTIVITIES PHASES

ENVIRONMENTAL COMPONENT	Pre -Construction				Construction							Operation and Maintenance							Decom-sioning
	Contract tender/award	Architectural design Surveying	Mobilisation	Land Preparation	Civil Building Works						More Classrooms	Sports Facility Use	Repairs and Maintenance						
Air Quality and Odour																			
Noise Level																			
Climate & Meteorology																			
Soil																			
Ground Water																			
Drainage/Flooding																			
Vegetation				-2															
Housing																			
Schools Aesthetic/Scenic												+3	+3						
Employment/Income													+3						
Population pattern															+3				
Land use																			
Transportation																			
Commerce /Business											+2	+5							
Learning Education											+5		+5						
Health Risks																			
Crime & Security																			
Solid Waste /Sewage				-1	-1														
Admissions											+5	+3							
Staffing											+5								
Socio - Cultural					-2														

- Scoring:
- 0, Blank Squares no impact
 - 1, Minor, in magnitude and duration
 - 2, Moderate impact in magnitude short term duration.
 - 3, Moderate impact Long term
 - 4, Major & Significant impact short term duration
 - 5, Major Significant Impact Long term duration.
- + beneficial
- adverse.

CHAPTER SIX

ANALYSIS OF PROJECT ALTERNATIVES

6.1 INTRODUCTION

For any given project, there are usually a series of alternatives that can be considered. In selecting any alternative, due consideration is usually given to; the cost - effectiveness; environmental - friendliness; and the suitability for the particular project area. The alternatives that are usually considered before selection include:

- * "the no - action" alternative
- * alternative design

6.2 NO PROJECT ALTERNATIVE

This option involves completely terminating the project implementation. This is an inferior alternative when compared to the case of going ahead with the project. Not implementing the project will lead to:

1. Continuing deterioration of the urban core of our settlement
2. Increasing level of poverty in our settlement
3. Loss of opportunity to have access to basic infrastructure facilities and services
4. Loss of investment fund that would have been put in to develop a major city in Ogun - State by the Federal Government through the International Development Association.

The net benefit of having this project as conceptualised far outweighs the above loss. Note that we are referring here to benefits after any unmitigated negative impacts must have been subtracted. An evaluation of the impact matrix discussed earlier and the mitigation plans highlighted in the next section, indicate that there is hardly any negative impact that will not be properly mitigate, if the project is safely implemented. Therefore the "No Project" option is very inferior.

6.3. ALTERNATIVE DESIGN

The alternative development programme that could be used to improve the physical structure of the core areas is the city consultative process. This is yet another approach to development of city and urban settlement without the usual conventional physical development plan. The city consultative process is issues-oriented and identifies opportunities for development change resulting in the preparation of an agreed plan and the implementation of the element in that plan. It is a process of partnership among city actors or stakeholders (government, non-governmental organisations, economic and productive organisations, private sector professionals, national, states, and local authorities, community leaders, and the like) brought together to identify pertinent issues or problems facing an aspect of the development of the city and preparation of an agreed plan of action to resolve the identified issue and problems. This alternative approach is in an experimental adoptive stage in some countries in Africa. The question of funding and facilitating the various interest groups mentioned above has been a central problem that has not been fully resolved.

Nevertheless, in spite of the few impacts that have been identified it is certain that this selected project alternative is the best. Therefore it is recommended that the project proceed as planned but with all the recommended mitigation measures put in place.

CHAPTER SEVEN

CONCLUSION

7.1 IMPACT MITIGATION MEASURES

Under the preceding chapter, the direct and indirect impacts of the proposed project on the physical and human environment have been identified discussed and ranked as to relative severity. The key activities and their impacts were presented in a matrix see table 5.1 - 5.7. The two main impacts which the project could have during execution are suspended particulate and noise /vibration.

These impacts are momentary and temporal and will cease as soon as the project is completed.

The overall impact of the project on the communities is positive and therefore a welcome development .

However as a mitigating measure for the adverse impacts could have on the workers the construction workers shall as usual wear ear muffers to protect their ears as well as nose muffers to prevent dust being inhaled.

7.2 ENVIRONMENTAL MANAGEMENT PLAN.

The driving force for Environmental Management plan is the combination of legal statutory, moral, an ethical and commercial consideration as it concern the protection of people, the environment and the asset.

Therefore the goal of this EMP is to preserve the health, safety and security of members of the public who are the direct beneficiaries of the project.

7.2.1 SCOPE OF THE ENVIRONMENTAL MANAGEMENT PLAN

The Environmental Management Plan (EMP) covers all the phases of the project. All activities are to be monitored to ensure that all those that have significant direct and indirect impacts are mitigated as planned.

The activities that may require monitoring for the protection of biophysical environment are:

- a. Road construction , clearing , removal of topsoil, haulage and deposition of laterite, grading and compaction and laying of asphalts.
- b. Water Supply - Excavation and laying of pipelines waste management a collection, transportation Demolition and treatment of solid wastes .
Demolition of the existing refuse deport etc.

In addition there are other activities that constitute indirect impact and should be monitored: These include health indices of the beneficiary communities, and socio - economic circumstances of the beneficiary communities.

7.2.2 **PARAMETERS TO BE MONITORED**

Since those parameter that show negative impact occurs only during construction stages, the parameters to be measured continually are health and socio - economy.

(i). **HEALTH:**

After the establishment of the Primary Health Centre the health of the beneficiary communities will continue to be monitored with a view to assessing the improvement in health care delivery.

On the socio - economic circumstance of the beneficiary communities, their feelings would be ganged through regular meetings with the representatives of the communities.

(ii) **BENERS CLEANLINESS:**

The level of cleanliness of the individual compound shall continue to be monitored though the waste management programme emplaced.

7.3: CONCLUSION

The Environmental Impact Assessment of the proposed Urban Renewal for two communities in Abeokuta has been conducted in accordance with the required laws, regulations and guidelines as stipulated by the Federal, State and Local authorities.

During the preparation of this EIA, the beneficiary communities were involved in a consultative and participating approach to ensure that the impacts the project may likely have on their environment are fully discussed, appreciated and adequately taken care of.

The E.I.A. has demonstrated that the project will have no adverse impact on the environment. Therefore it is concluded that there is no significant environmental issue that will impede the programme for the chosen communities in Abeokuta. Rather, the communities will benefit substantially from the project as a result of improved vehicular accessibility, better waste management, adequate water supply, improved trading opportunities and increased revenue to the third tier of Government.