

**WORLD BANK INFRASTRUCTURE DEVELOPMENT FUND (IDF)
PROGRAMME: AN ANALYSIS OF THE SUSTAINABILITY OF
YOLA-JIMETA PROJECT**

BY

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DECEMBER, 2004

DECLARATION

I hereby affirm that I have composed this thesis and it is the outcome of my research work. It has not been accepted in any previous application for a higher degree. All information is appropriately acknowledged by means of bibliography and references.

Signature:

Date:

CERTIFICATION

This thesis entitled: WORLD BANK INFRASTRUCTURE DEVELOPMENT FUND (IDF) PROGRAMME: AN ANALYSIS OF THE SUSTAINABILITY OF YOLA-JIMETA PROJECT, meets the regulations governing the award of the degree of M.Sc. (Urban and Regional Planning), Ahmadu Bello University, Zaria and is approved for its contribution to knowledge and literary presentation.

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DEDICATION

This work is dedicated to my parents: Mr. and Mrs. Dominic Tom for their love, understanding and commitment to my development.

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ABSTRACT

It has been observed that, most Institutional and Academic evaluation studies of projects carried out do lay more emphasis on establishing the extent to which set goals are met and their impacts on surrounding influence zone(s). The sustainability of project benefits is rarely given due consideration. This study has however delved into this neglected area by analyzing the sustainability of benefits of the Yola – Jimeta Infrastructure Development Fund (IDF) Project. Based on a random choice of infrastructure, analysis was made of the level of performance and determinants of sustainability of benefits of interventions in the solid waste management and water supply sector.

The outcome of the research suggests that, the benefits that came with the project could not be sustained to the present. Major shortcomings were traced to the non-implementation of critical areas of the project, long gestation period, lack of community involvement, collapse of cost recovery efforts through property taxation, lack of effective capacity development amongst others which crippled the sustainability of the benefits. The study

pointed out lessons for future intervention and consideration in urban Infrastructure development projects in Nigeria.

Finally, the study decried the use of loans with high interest rates to fund the provision of social services like Urban infrastructure while calling for a diversification and search for other methods of Infrastructure finance to enable the nation cope with the tide of globalization and technical advancement. It also calls for the need for government to set policies that will address issues of urban poverty to enhance the provision of urban infrastructure on cost recovery basis that will guarantee sustainability.

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CHAPTER ONE

DESIGN OF THE STUDY

1.0 INTRODUCTION

Data from the United Nations and the World Bank reveal the astonishing reality of the exploding population, high rate of urbanization and the rapid growth of cities in Nigeria in particular, and in the developing nations in general (Ren Management Consortium, 1993). The problems and challenges posed by this rapid urban growth in Nigeria are enormous. More easily observable and perhaps, the most pressing problems in Nigerian cities is the state of infrastructure (Onibokun and Faniran, 1995). In many Nigerian cities, the dramatic pace of demographic, economic and social change severely overburden the capacity of Local Authorities to provide the needed infrastructure services.

Consequently, essential social amenities such as power supply, health facilities, sewers, roads, water supply, and telecommunications in Nigeria are grossly inadequate, erratic and unreliable. Periodic and routine maintenance, by far the most cost effective infrastructure spending is almost zero. While the needs and problems are evolving rapidly, the required funding is just not available. The recognition of this growing need for an appropriate financing mechanism for urban infrastructure and services by the Federal Government led to the acceptance of the Infrastructure Development Fund (IDF) concept as proposed by the World Bank in 1985. The concept

involves the procurement of loans by the Federal Government of Nigeria from the International Bank For Reconstruction and Development (IBRD) for the establishment of a financial mechanism for funding priority urban infrastructure development projects in selected states of the Federation. Years after the completion of the project in the selected states, the need has arisen to evaluate the sustainability of the benefits of the IDF concept with particular reference to the Yola- Jimeta project.

1.1 THE RESEARCH PROBLEM

Projects, after implementation, need to be evaluated as a basis for policy and action. That is, assessment of the performance of projects like the IDF project is a basis for determining future intervention in the provision and maintenance of urban infrastructure in Nigeria. A commonly employed approach to the evaluation of such projects is the institutional. The Monitoring and Evaluation Units (MEU) of the project and consultants carry out the evaluation. This method of evaluation lays emphasis on establishing the extent to which project objectives are met. Based on this institutional approach, the IDF project was evaluated with a conclusion that, it is the “most successful nationally implemented urban development project in Nigeria” (Garnvwa 2001:8).

However, in-house evaluation is considered as having the potential of being biased. This is because, management of the projects and funding agencies desire to be justified by the results on political expediency. The focus of institutional evaluation does not include the important consideration of project sustainability; that is, whether the project design and implementation generate benefits and strengthens community capacity for continuity after the stoppage of flow of external resources.

Available academic evaluation studies of similar programs have also placed emphasis on establishing their impacts on their surrounding influence zone(s) with little or no attention been accorded the sustainability of the benefits. These studies include those carried out by Aboku (1992) on the South Chad Irrigation Project (SCIP) within the Chad Basin and Rural Development Program (CBRDP), Zargina (1993) on the Balanga Irrigation Project (BIP) in Waja District of Bauchi State (now Gombe State).

In addition to these evaluation reports and studies, preliminary observation in the study area has shown that, the benefits derived from the project have not been sustained. This is evident in the heaps of un-cleared refuse that dot the city and the dry taps. It is the realization of this that prompts the study

that focuses on the largely neglected issue of sustainability of project benefits as part of an evaluation. The World Bank sponsored IDF project in Yola – Jimeta, Adamawa state is selected for the study.

1.2 THE RESEARCH QUESTIONS

The research attempts to answer the following questions.

1. At what level of the Yola – Jimeta IDF project have the benefits been sustained since its completion in 1992?
2. What are the factors that account for the level of sustainability of the project?
3. What are the lessons to be learnt on the IDF project to improve the sustainability of urban infrastructure projects?

1.3 AIM AND OBJECTIVES

1.3.1 Aim

The aim is to assess the sustainability of the benefits of Yola- Jimeta IDF project as a basis for making recommendations for improvement in the sustainability of urban infrastructure development projects.

1.3.2 Objectives

The objectives of the study are:

1. To review the concept and determinants of project sustainability. *This will provide background information on the subject matter and will form the theoretical frame work for the research*
2. To examine the various strategies and policies for the provision of Urban Infrastructure in Nigeria with particular reference to the Infrastructure Development Fund (IDF) Program. *This will provide an insight into efforts made over the years in the provision of urban infrastructure in Nigeria. It will also include a highlight of the objectives, components and implementation strategy of the IDF program.*
3. To assess the level of provision and sustainability of services of the Yola-Jimeta IDF project. *This will be done against selected indicators of project sustainability*
4. To establish the determinants of the level of sustainability of the Yola- Jimeta IDF project. *This will provide the basis for making recommendations.*
5. To make appropriate recommendations for improving the level of sustainability of urban infrastructure projects based on lessons from the Yola – Jimeta IDF project.

1.4 THE STUDY AREA

Adamawa State was carved out of the defunct Gongola State on August 27, 1991.

Gongola State was itself carved out of the former North-Eastern State in February 1976.

Before then, Adamawa was a province of the Northern Region of Nigeria. Yola, its capital, founded by Modibo Adama in 1841 had served as the headquarters of the pre-

colonial Emirate of Fombina, as the seat of the Adamawa province from the colonial era to 1976. With the creation of Gongola State and Local Government reforms in 1976, Yola became the capital of both the state and Local Governments.

1.4.1 Location

Yola – Jimeta lies between Latitude 7°N and 11°N of the equator and between longitude 11°E and 14°E of the Greenwich Meridian. It shares boundary with Taraba State in the South, Bauchi in the North West and Borno to the North (Fig. 1.1).

Adamawa state also has an international boundary with the Cameroon Republic along its eastern border. Yola and Jimeta are located in Yola South and North Local Government Areas of Adamawa State respectively (Fig. 1.2)

1.4.2 Population

Yola – Jimeta has grown in population from 53,663 recorded in the 1963 census to an estimated figure of 350, 302 in 2002 based on a projection using 2.83% growth rate over the 1991 census figure of 257,706.

1.5 DATA COLLECTION, ANALYSIS AND PRESENTATION METHODS

1.5.1 Data Collection Techniques

To achieve the objectives of the study, data was collected from various sources using the following methods:

a. Reconnaissance Survey

A reconnaissance survey of the selected project areas was carried out in Yola and Jimeta town. This was with a view to identifying areas of intervention and the extent of implementation.

b. Informal Interview

Interview was conducted with officials that were directly or indirectly involved in the project. This included the IDF management consultants (3D consult Yola), the officials of Adamawa State Urban Planning and Development Authority (ASUPDA), the waste management and pollution control unit of the Adamawa State ministry of Environment, the Ministry of Works, Housing, Lands and Survey, the Adamawa State Water Board. Interviews were held with staff that worked on the project and are presently redeployed to any of these ministries or agencies.

The interview was conducted with a view to obtaining information on the scope and level of implementation of the project for the selected sub-sectors, problems encountered as well as ascertaining the sustainability measures that were put in place towards enhancing the continuity of the benefits of the project.

c. Library Search

The theoretical framework of the work was obtained by the review of relevant literature. It was useful in understanding the concept and the determinants of project sustainability. Information on the state of infrastructure in Jimeta – Yola prior to the implementation of the IDF project was sourced from the final report, summarizing the recommendations of the project preparation unit for an Urban Management and Development Program (UMDP) for the Government of former Gongola state (See Dar Al Handasah consultants Shair & Partners in 1986). The IDF project Staff Appraisal Report (SAR) prepared by the World Bank in 1987 and project implementation and completion reports were also reviewed. These were useful in understanding the objectives, components and implementation of the project.

d. **Questionnaire Survey**

Questionnaires were administered in Demsawo and Nasarawo wards in Jimeta and Bako ward in Yola, to survey the water situation (Fig. 1.4). Questionnaires were administered using a systematic random sampling method. Every 40th housing unit was selected for the administration of the questionnaire. One household head was selected from chosen residential units. In multiple household units, the one selected was based on availability at the time of interview.

The solid waste management sector however witnessed a town-wide intervention in Yola and Jimeta. Therefore, a two stage-sampling frame was adopted in the administration of the questionnaires. The first stage involved selecting 5 wards out of the existing 33 (representing 15%) by balloting (Fig. 1.5). only 5 wards were selected because it was assumed that, there was less variation in the characteristics of the wards. The second stage involved selecting every 40th housing unit. The method of administration of the questionnaire was as explained in the water sector. The questionnaire provides data on level of service delivery before, during and after the implementation of the project. It also provided information on the level of community participation.

TABLE 1.1 Distribution Of Questionnaires In The Sampled Wards.

| Project Sub-Sector | Wards | Range Of PHC No.s | Total No. Of Questionnaires | Total Respondents |
|-------------------------------|------------------|--------------------------|------------------------------------|--------------------------|
| Water | Demsawo | 001 – 2000 | 50 | 50 |
| | Nassarawo | 001 – 2000 | 50 | 48 |
| | Bako | 001 – 2000 | 50 | 50 |
| | SUB TOTAL | | 150 | 148 |
| Solid Waste Management | Doubeli | 001 – 2000 | 50 | 50 |
| | Nassarawo | 001 – 2000 | 50 | 48 |
| | Limawa | 001 – 2000 | 50 | 50 |
| | Bako | 001 – 2000 | 50 | 50 |
| | Mbamoi | 001 – 2000 | 50 | 45 |
| | SUB TOTAL | | 250 | 243 |

Source: Field Survey, 2002.

1.5.2 Data Analysis Methods

The data collected was analyzed using manual statistical methods. It generated descriptive statistics on the level of service delivery before, during and after the project.

1.5.3 Data Presentation Methods

The data analyzed is presented in graphical forms using Bar Charts, pie charts and histograms.

1.6 ORGANIZATION OF THE THESIS REPORT

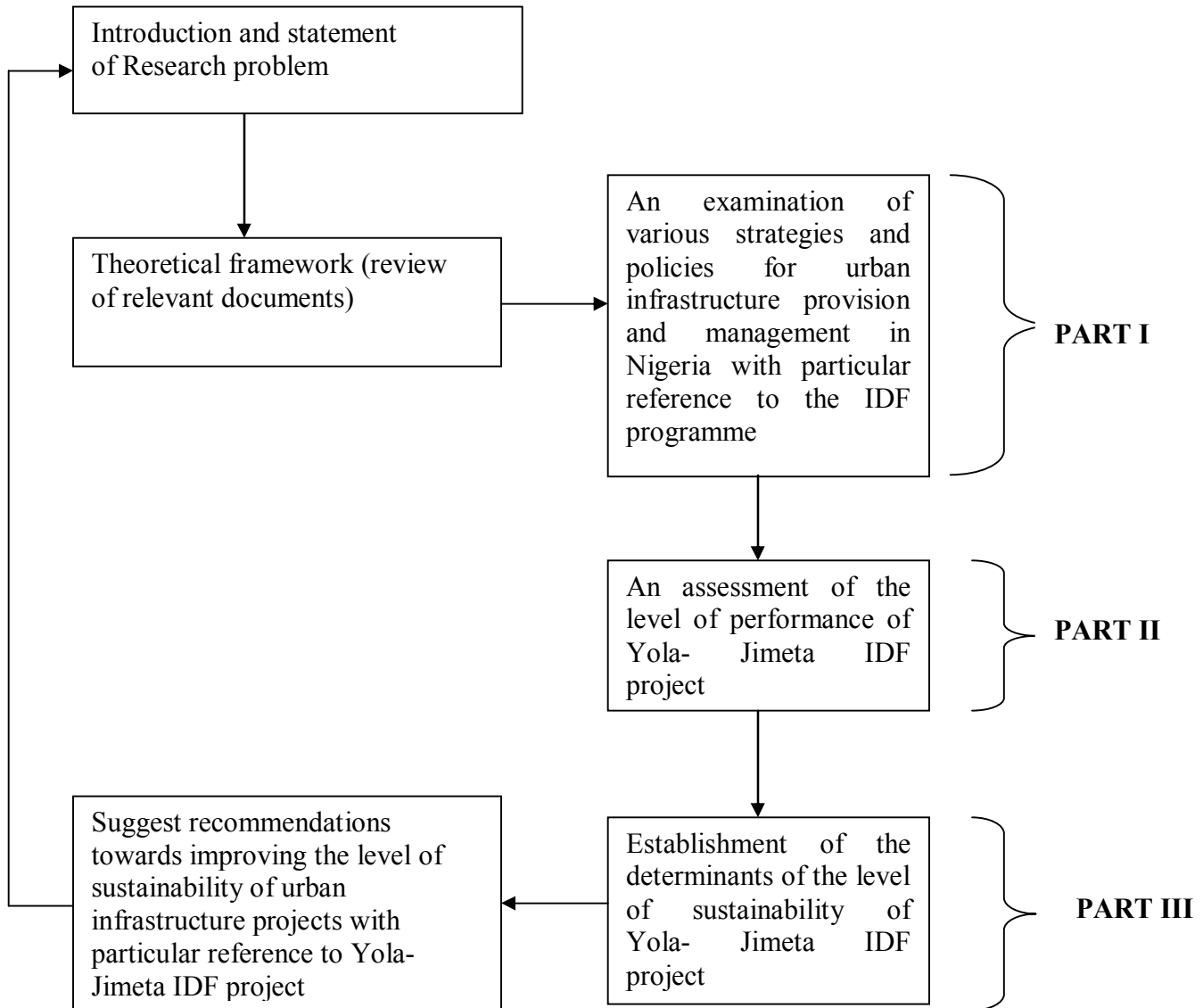
The thesis report is organized into three parts. The first part covers the theoretical framework of the study. It presents the problem definition, the concept and determinants of project sustainability. An examination is also done of the various strategies and policies for the provision of urban infrastructure in Nigeria with particular reference to the objectives, components and implementation of the IDF program. This covers chapters one, two and three and fulfils objectives one and two of the study.

The second part of the report is the empirical component of the study. Attempts are made to provide a synthesis of the level of provision and sustainability of the Yola-Jimeta IDF project against selected indicators of project sustainability. Inferences

were drawn from the analysis. These issues are discussed in chapter four and fulfill objective three.

The third and final part of the report discusses the factors identified as explaining the level of sustainability of the project benefits. It then recommends appropriate measures for improving the level of sustainability of urban infrastructure projects based on lessons from the Yola- Jimeta IDF project. This fulfills objectives four and five.

FIG. 1.6 The Organization Of The Thesis Report



1.7 SCOPE AND LIMITATION

The implementation of the IDF project in Yola Jimeta covered infrastructure components such as solid waste management, water supply, roads and drainages. The study however, limits itself to intervention in the water supply and solid waste management sector. This is based on the outcome of a random choice of

infrastructure. The detailed engineering aspect of the selected sectors is also not covered in the analysis.

CHAPTER TWO

SUSTAINABLE DEVELOPMENT AND URBAN INFRASTRUCTURE

2.0 INTRODUCTION

This chapter discusses the concept and determinants of project sustainability based on a review of the literature on the subject matter.

2.1 THE CONCEPT OF SUSTAINABILITY

Sustainability is very much a concept of the 1990's (Adams, 1999). It first emerged at the United Nations conference on Human Environment, held at Stockholm in 1972. The argument at the conference was that, an option existed that would allow appropriate i.e rapid economic growth and industrialization without environmental damage. Since Stockholm, different interests have emphasized different aspects of sustainability, and sought to claim the concept as theirs. In 1980 for example, the World Conservation Strategy, took a strong conservation oriented position. It defined conservation as “sustained resource use” (Adams, 1999:128)

Six years later, the report of the World Commission on Environment and Development, “Our Common Future” (called the Brundtland Report) had a very different emphasis. It deliberately broadened the debate, locating environmental issues within the economic and political context of international development debate. It defined sustainable development as “development that meets the needs of the present without compromising the ability of future generations to meet their own needs” (Adams, 1999:125). The Brundtland Report published in 1986 led to its debate at the United Nations (UN) General Assembly and subsequent resolution to hold what became the Rio conference. The Adoption of Agenda 21 at the conference has become an icon of sustainable development (Adams, 1999). From then on, governments and international agencies began to re- interpret the new and internationally agreed terminology.

The Scottish Natural Heritage (1993) as reported by (Adams, 1999:125), defined sustainability as “the ability of an activity or development to continue in the long term without undermining that part of the environment, which sustain it”. In a similar view, (Campbell, 1996) sees sustainability as the ability of a system to reproduce on a long-term. Benneh (1993) as cited by (Okigbo 1996) presented an African concept of sustainability by emphasizing that sustainable development is not simply a question of managing resources in a manner that meets current needs while not making it more

difficult for future generations to meet theirs. Rather, it is a strategy of resource management that regards the capital stock as a baton in a relay race handed down to us by our ancestors, and it is our duty to ensure that, it is successfully transferred to future generations more or less intact without much decline in value. Okigbo (1996:132) thus defined sustainable development as

“Consisting of policies, strategies used in executing projects and programs aimed at satisfying real human needs in perpetuity while maintaining environmental quality, biodiversity, the resilience of ecosystems, and welfare of all organisms by integrating conservation management and individual, institutional, community, national, regional and global levels”.

Since the 1992 United Nations Conference on Environment and Development in Rio, the discourse on sustainable Development and its application to various facets and fields of human endeavor has heightened. Consequently, the introduction and application of principles of sustainability at project level has become increasingly important.

Generally, projects can be viewed as activities taken out of an organization’s normal scope of activities or functions, usually with a single set of objectives, the achievement of which represents the completion of such projects. A project therefore has a finite and fairly well defined time span i.e. it must start and finish within defined period. The start and finishing points

must be defined at the onset of the project in order to avoid consequences including frustration and abandonment (Martins, 1976).

In trying to link the principles of sustainability to projects, Martens (1989:151) defined project sustainability as the “possibility to continue the operation of a project infrastructure without external involvement”. He maintained that, sustainability, however, depends above all on local factors directly related to the project. Martens (1989) also noted that, sustainability of projects could be considered from three different points of view; economic, technical and organizational or institutional. Technical sustainability refers to the local availability of materials and skills for project operation and maintenance. The concept of local – resources intensity is known to play an important role in determining the technical sustainability of a project. Economic sustainability refers to financial and economic viability of the project, often unduly condensed in the internal rate of return in the literature (Martens, 1989). In addition, economic sustainability refers to the ability and willingness of the beneficiaries to raise the funds necessary for operating and maintaining the project. Institutional sustainability could be seen as the project – level counterpart of national institutional building.

The participation of the beneficiaries in the decision making process is of overriding importance here.

Based on the foregoing description, project sustainability can be referred to as the capacity of a project to continue functioning supported by its own resources (human, material and financial) even when external resources of funding have ended. It means that, the services provided should be continuous, reliable and replicable. The gains derived from a project should not only be reliable but either be improved upon or maintained. Reliability and continuity of service are however interwoven in nature. What determines reliability of service can as well be used to determine the continuity of such a service. Replicability of projects refers to the broader national policy environment, rather than to the individual projects. Once projects have proven their sustainability and have made positive impacts, the approach can be recommended for replication in a country (Martens, 1989). The final target should be that ideas and strategies of the projects should become accepted as an integral part of the national development strategy.

2.2 FACTORS OF PROJECT SUSTAINABILITY

For a project to be sustainable, the following factors or inputs have being identified as leading to sustainability. The factors are community participation, appropriate technology, institutional arrangement and manpower development and cost recovery measures. However, the applicability of these factors depends on the project at hand.

2.2.1 Community Participation In The Project Planning Process

The issue of participation of the beneficiaries in the decision making process is crucial to the long-term sustainability of a project (Martens, 1989). It involves the active participation of the local Community in identification, decision-making, resources mobilization and maintenance in the project development process. Local Communities are to be mobilized and organized in such a way that they can further their advancement independent of external resources, once the initial push has been given.

2.2.2 Use Of Appropriate Technology And Mode Of Intervention

The use of appropriate technology in an intervention determines the sustainability of a project. The construction technology used will have effects on the cost of the project. The use of local resources, for example will mean less project cost and this enhances technical sustainability and replicability of the project.

The sustainability of a project will also be enhanced if appropriate mode of intervention is applied. The intervention will require the injection of funds into aspects of a project where impact will be felt more. When appropriate mode of intervention is ensured it will reduce project scope, project cost and increase the chance of being sustainable.

2.2.3 Institutional and Manpower Development

One critical aspect that enhances sustainable development of projects is the machinery for the strengthening of national, state and Local Government agencies that are concerned with the implementation. It involves improving the quality of manpower through the provision of requisite training, procurement of appropriate equipment and technical support. This is aimed at developing institutional capacity for project selection, appraisal and execution. Long term Institutional development also involves renewing past performance of such institutions to determine their capability to respond to technical strengthening. According to (Martens 1989:152), “Economic and technical independence are necessary, but not sufficient conditions for sustainability”. He maintained that, the independence and sustainability of projects requires financial resources, labour, materials and skills for maintenance and operation of the system. This again underscores the need for institutional strengthening to achieve sustainability of a project.

2.2.4 Effective Cost Recovery Measures

UNCHS (1984) recommended that full cost should be recovered from projects to enhance their replicability on a large scale. The concept of cost recovery in principle focuses on the need to deliver services at a cost while still ensuring that the costs of the project are recovered so that the project can be replicated to enhance sustainability. The general notion is that, a project should be implemented with minimum subsidy so that it could replicate itself. Efficient recovery mechanism is therefore considered an important input towards ensuring the sustainability of a project. However, (Cotton and Franceys 1994) argued that, the extent to which this is a practical preposition for the low-income is questionable. Many of the urban poor are neither able nor willing to pay for total cost recovery, particularly when they have had no say in the services been provided.

Therefore, to enhance effective cost recovery in projects (Onibokun et al 1989) opined that an affordability test of potential project beneficiaries well ahead of time is required. This is to make it relatively easier to invent measures that are convenient to beneficiaries. This underscores the need for the involvement of the people in the provision of infrastructure at the design and implementation stage.

2.2.5 Time Schedule for the Implementation of Projects

Closely related to the issue of cost recovery is the time schedule for the implementation of projects. This is considered imperative especially in developing economies with unstable economic indices. The gestation period between project preparation and implementation need to be kept to a minimal level to ensure sustainability. This is to allow funds available for projects to be utilized within the given inflationary period and avoid future reviews of cost and the scope of work that tend to reduce project impact.

2.3 METHODS OF EVALUATING THE SUSTAINABILITY OF PROJECTS

The objective of this section is to attempt an analysis of three labour intensive irrigation projects in Nepal and the United Republic of Tanzania (Fig.2.1 and 2.2) to illustrate various techniques of sustainability assessment. The three projects are part of the special public works programme (SPWP) of the International Labour Organization (ILO) designed to develop infrastructures, Land and Water resources especially in developing countries. This is with a view to boosting agricultural production in affected communities, protect the environment, open up communication and provide them with basic facilities. The three projects under review had the following as specific objectives.

- To create employment opportunities and income specifically for the poorest inhabitants of the project area.

- To expand agriculture production and marketing capacity through the construction of productive infrastructures. Emphasis was to be placed on the use of Local resources (Labour, Land, Waters) and limited use of external resources (foreign exchange, materials or skills).
- To ensure the sustainability of the infrastructures provided through effective involvement of Local Institutions, economic viability and technical appropriateness.
- To strengthen technical and managerial capacity to replicate the projects on a larger scale.

Although, the projects are agriculture based, lessons are going to be learnt from their review that will be useful in analyzing the sustainability of the Yola-Jimeta project more so that the issue of ensuring sustainability and replicability is considered as one of the major objectives of the project. The engineering aspect of the project will not be reviewed.

2.3.1 Description of the Projects

(a). The Bhorletar Project Area.

Bhorletar Panchayat project is located in the western development region in Lamjung district of Nepal. The project was a hill irrigation scheme tailored towards increasing long-term agricultural production in the region. The irrigation infrastructure was also meant to create productive employment that will retain people in the hills, reduce migrant labour and subsequent improvement in their level of income. Before the construction of the new irrigation scheme, agriculture in Bhorletar depended entirely on rainfall (Martens, 1989). With the installation of the new irrigation scheme, almost all of the “tar”

became irrigable. The actual work on the project started after the 1980 monsoon and was completed by June 1984. A main canal 5km long was constructed with branch canals to irrigate the area with a gross project command area of 196 hectares.

(b). The Mto Wa Mbu Project

Mto Wa Mbu is located in the Arusha region in Northern United Republic of Tanzania. The high rate of in-migration in addition to high natural growth culminated in very high rate of population growth in the 1960s. The infrastructure funded by the Government of the Netherlands through the ILO was meant to rehabilitate and upgrade existing irrigation schemes in the area. The irrigation network was meant to open up the saline parts of Mto Wa Mbu valley for cultivation, protect the valley against floods and a considerable extension of the irrigable area east of Mto Wa Mbu river. The net irrigable area was estimated at 2,080 hectares on completion of the flood control and irrigation.

(c). The Mnenia Project

The village of Mnenia is situated in Kondoa district, Dodoma region and located at the edge of the central Tanzanian Plateau. Two rivers that originate from the western hill range cross the project area. Traditionally irrigation in Mnenia was noted to have been in practice for several years. A project was however conceived in 1976 by the Tanzania ministry of agriculture to use surplus water from an existing fishpond for irrigation purpose. In 1980, the ILO Netherlands multi-bilateral assistance provided funds to be used to complete the Mnenia irrigation project. The project was completed in August 1992 and has a total area of 72 hectares.

2.4 EVALUATION OF THE SUSTAINABILITY OF BHORLETAR, MTO WA MBU AND MNENIA IRRIGATION PROJECTS

Martens (1989) carried out a thorough analysis of the whole cycle of the three SPWP irrigation projects from design to long-term impact on the basis of popular participation in the projects, the agro-economic effect, their effects on employment and distribution of income and cost benefit analysis. However, this section evaluates the sustainability of the three projects from three different points of view: economic, technical and organizational.

2.4.1 Economic

Considering the fact that, the three (3) projects in question are agriculture based; economic sustainability was evaluated on the basis of the effect of the projects on employment and distribution of income. The result of the evaluation reveals that, for the three projects, there has been positive effect on employment, in agriculture and income distribution. In Bhorletar for example, it was estimated that, total annual employment had increased by 92 percent as compared to pre-project employment (Martens, 1989).

2.4.2 Technical

The technical sustainability of the projects was ensured on the basis of increasing the maximization of the use of local resources. While complete technical independence is difficult to be assured, it was noted in the evaluation of the three projects that, a number of local craftsmen to carry out

simple repair work were trained. Efforts were also made to ensure that, material inputs were at least available in the countries in question to reduce the cost of importation and the procedures involved. This development ensured the sustainability of the projects.

2.4.3 Organizational

The organizational aspect of the projects had to do with the mobilization of financial resources, labour, materials and skills for maintenance and operation. Participation as a tool for ensuring the effective organization of these aspects became a crucial aspect of the long-term sustainability of the projects.

In Bhorletar, a project committee consisting of representatives of the beneficiaries was set up during the construction and for the operation of the infrastructure through which the farmers were able to voice their opinion and organize their resources. Consequently, sustainability was more or less assured because the farmers were aware of their economic interest in keeping the infrastructure operational.

In Mto Wa Mbu and Mnenia, no project committees were set up. The projects teams dealt directly with the village councils. For Mto Wa Mbu, it was noted that, the village council and the Regional Authorities were responsible for the maintenance of the irrigation project at the end of the project. Popular interest in the project was lacking. Thus, the project continued its dependence on government funds. The villagers were not prepared to contribute to maintenance costs unless forced by the law the farmers were not interested in providing maintenance labour because they did not feel the project was theirs. Martens (1989:148) noted that, “the absence of popular participation aggravated by the large scale of the project endangers the long-term sustainability of Mto Wa Mbu project”.

2.5 LESSONS FROM THE CASE STUDIES

The case studies have underscored the need for popular participation in decision – making to accommodate divergent interest within a beneficiary group and local resources mobilization as one of the cornerstones towards ensuring the sustainability of projects. In addition, it has revealed that for a project to be sustainable, economic viability as may be applicable to the project in question has to be ensured. The use of appropriate technology and mode of intervention is also necessary to achieving sustainable development.

The lesson learnt in the evaluation of the sustainability of the three irrigation projects particularly with regards to employment, use of local resources and public participation serves as a reference point for the analysis of the sustainability of the Yola – Jimeta IDF Project.

CHAPTER THREE

POLICIES FOR THE PROVISION AND MANAGEMENT OF URBAN INFRASTRUCTURE IN NIGERIA

3.0 INTRODUCTION

Nigeria enunciates policies and programs for the provision of Social services. There are policies on free and compulsory primary education, primary health care and preventive services, housing and environment, etc. (Yunusa 2001). This chapter reviews the concept, need for and classification of urban infrastructure in addition to an analysis of various policies and strategies for the provision and management of urban infrastructure in Nigeria. The associated problems are also discussed as a basis for the IDF Project.

3.1 THE CONCEPT OF INFRASTRUCTURE

The concept of infrastructure has been viewed in different perspectives by varying scholars and organizations. Kadiri (1998) conceived infrastructure as those elements that support and enhance the performance of a system. Schubeler (1996) referred to urban infrastructure services as the services traditionally provided by public works, transport sectors, and utilities (roads, footpath, mass transportation, water supply, drainage and flood protections,

sewerage, solid waste collection and disposal, electric power distribution, street lighting, and telecommunication). Infrastructure therefore, can be looked upon as the physical facilities, which move people, goods, commodities, water, waste, energy and information.

3.2 CLASSIFICATION OF INFRASTRUCTURE

Idachaba (1985) classified infrastructure into three categories. These three are the physical, social and institutional infrastructure

3.2.1 Physical Infrastructure

It is seen as the bedrock for the development of any community. It is composed of roads, drainage, water resources and supply, railway, sewerage and sanitation, solid waste disposal system and electricity.

3.2.2 Social Infrastructure

Idachaba (1985) sees this category of infrastructure as a catalyst in the process of development. This is composed of housing, health, recreation, shopping, community and post and telecommunications facilities.

3.2.3 Institutional Infrastructure

It is a tool for continuous development and maintenance of physical and social infrastructure and is composed of co – operative societies, financial and economic institutions, fire services, police and security services, Urban and Regional Planning Boards and Municipal Authorities and other civil society organizations that are involved in urban management.

Choguill (1996) categorized infrastructure into two components that is social and physical infrastructure. Accordingly, the first category include facilities such as educational and health care. The second category includes water supply, sanitation facilities, drainage, urban roads, solid waste disposal facilities and land management. This second category i.e physical infrastructure include what the (World Bank, 1994) as cited by (Choguill, 1996:391) refers to as “the long lived engineered structures, equipment and facilities, and the services they provide which are used in economic production and by households”.

It is pertinent to point out that the above definitions and classifications identify infrastructure more with physical objects. However, prodded by deteriorating road ways and bridges, shrinking public finances, a rash of natural disasters in developed and developing nations, there is a re-think of

the concept of infrastructure from a static physical entity to recognizing that, infrastructure is an on – going process of delivering service (Urban Age, 1993). The new focus, calls for a shift from laying too much emphasis on construction and expansion of physical assets to thinking through infrastructure’s long term up keep and the genuine demand for the services which will ensure sustainability over a long-term. This new emphasis on value gained by beneficiaries on a long term basis as a reliable indicator of a project’s long term success has therefore formed the focus of this study.

3.3 THE NEED FOR INFRASTRUCTURE

The development of adequate infrastructure in urban areas is a pre-requisite to the achievement of urban sustainability (Choguill, 1996). This statement is in line with the assertion by (Mabogunje 1993:2) that, “In all developing countries particularly those in Africa, the acid test of efficiency in the Management of Cities is the state of infrastructural provision”.

Investment in physical infrastructure contributes to economic production and therefore enhances the level of development of a nation. Israel (1994) noted that well performing infrastructure services are crucial for enabling countries to participate in and benefit from such developments as globalization of

trade, increasing pace of urbanization and the opening up to the economies. Adequate infrastructure also enhances economic growth by reducing the cost of production, which affects profitability, level of output, and employment particularly in small-scale businesses (Urban Age 1993).

The close links between infrastructure services and the environment has also been well recognized. Infrastructure development either reduces or leads to improvement in the welfare of urban residents. The Urban Age (1993) reported that, the 1991 cholera epidemic in Peru in which over 269, 000 cases with 2, 500 deaths were recorded in eight months was attributed largely to improper sanitation. The 1929 popular bubonic plague that ravaged through Lagos due to poor sanitation facilities is also fresh in our minds. The use of back-up power generating plants to make up for shortfalls in electricity supply from public authorities for manufacturing also increases environmental pollution.

In addition, infrastructure is important to effective implementation of poverty reduction programs. The unavailability of such services as water and sanitation impinges on welfare. People are poor because they do not have access to basic necessary services. In most developing countries,

improvement in infrastructure has become a central poverty issue. For example, during the last two decades, several institutions (NDE, FEAP, FSP, DFRRI, NAPEP e.t.c.) were set up in Nigeria with the sole aim of alleviating poverty. The Directorate of Food, Road and Rural Infrastructure (DFRRI) was saddled with the responsibility of amongst others, providing rural infrastructure as a means of alleviating poverty.

It can be seen from the analysis above that for the achievement of sustainability of human settlements and meeting the basic human needs, the provision and efficiency of infrastructure services seem to be indispensable. Consequently, successive governments in Nigeria have taken a number of actions and introduced legislations and policy measures in response to urban problems under which urban infrastructure is provided and managed. These policies are discussed on the basis of historical periods.

3.3.1 The Colonial Period (1900 – 1960)

The cantonment proclamation of 1904 led to the segregation of European Reservations (Now Government Reservation Areas) from Native Areas. The proclamation not only had racial and public health undertones, it led to the lopsided provision of infrastructure like roads, electricity, water and drains

in the European Reservation Areas vis-à-vis the native areas. The foundation for the provision of infrastructure in colonial towns was therefore laid.

The Road and Township Ordinance number 29 of 1917 provided for different grades of urban settlement e.g. mining towns, commercial towns, establishment of broad physical layout of towns and classification of towns into first, second and third class categories, with Lagos as the only first class town. Urban problems including infrastructure provision and management were addressed in respect of Lagos, Aba, Port – Harcourt, Enugu, Jos, Minna, and Kaduna.

In addition, the Lagos Town Planning Act of 1928, which created the Lagos Executive Development Board (LEDB), was enacted in response to an outbreak of a bubonic plague. The development of residential and industrial estates through the preparation of layouts, construction of roads, drains and electricity were embarked upon as a result of the Act.

3.3.2 The Post Colonial Period (1960 To Date)

The first National Development Plan Period (1962 – 1968) witnessed the establishment of state Housing Corporation, provision of urban infrastructure and the establishment of Industrial Estates in Lagos, Port Harcourt and Kaduna. Transport and communication were also singled out as priorities under the plan period.

The second National Development Plan (1970 – 1974) was a post war plan and its major policy thrust was the reconstruction and rehabilitation of damaged infrastructure. The Federal Government was also to provide infrastructure such as roads, drainage, electricity and telecommunication in the newly created states. About 7% of the total budget was allocated to Town and Country Planning, Housing, Water and Sewerage (National Urban Development Policy July, 1992).

The third National Development Plan (1975 – 1980) accorded great emphasis to Urban and Regional Development. During this period, the Federal Ministry of Housing, Urban Development and the Environment (FMHUDE) was created. The role of the FMHUDE was to formulate

National Policies for Urban and Regional Growth, Housing, Environment and Land reforms. Even though the Ministry was short lived, it was instrumental to formulating the Land use Decree of 1978 and the planning of 20 urban centres i.e state capitals and Abuja. Infrastructure, such as roads, electricity, drains, streetlights, telecommunication, and sewerage were constructed in Abuja by the Federal Government and in the state capitals through the state governments. The Federal Government of Nigeria and the World Bank in 1977 also embarked upon the Nigeria states Urban Development Programme (NSUP) with particular attention to urban infrastructure.

The fourth National Development Plan (1981 – 1985) was intended to further the process of establishing a solid base for long term economic and social development with emphasis on key sectors such as agriculture, manufacturing, education and the provision of infrastructural facilities.

In 1986, the Rolling Plan Concept was introduced and infrastructure matters in terms of provision and management continued to receive attention at all the three tiers of government. For example, the 1992 – 94 rolling plan had as one of its major objectives, “the strengthening of infrastructure through

effective rehabilitation and maintenance”. The National Urban Development Policy for Nigeria was articulated in July 1992 and has as one of its main policy goals...“to ensure that all urban residents of Nigeria have access to adequate, efficient and affordable infrastructure facilities by the turn of the century”. Strategies affecting roads, drainage, water supply, energy, waste management, communications and urban transportation were spelt out in the policy document. At the state and local government levels, varying policies, peculiar to their infrastructure needs are also initiated by successive regimes.

3.4 FINANCING THE PROVISION AND MANAGEMENT OF URBAN INFRASTRUCTURE IN NIGERIA.

Financing urban infrastructure in Nigeria is mainly through self-help, private sector and public sector funds.

3.4.1 Self Help Strategy

Under this strategy, members of the community (ies) organize and define their common needs and problems. Therefore, they make contributions to meet those needs. Individuals build houses through personal savings and provide them with necessary infrastructure such as access roads, electricity, drainage and sewerage system. In addition, Development Associations and Community based organizations do mobilize funds to provide their localities

with roads, electricity, drainage and water distribution. For example, in a study of partnerships in the provision of urban services in Kaduna South Local Government Area of Kaduna State by the Department of Urban and Regional Planning, Kaduna Polytechnic in 1999, it was discovered that of about 65 CBOs in the Local Government Area, 57% render services like road maintenance and construction of culverts, while 11% are engaged in the provision of security and sanitation.

3.4.2 The Organized Private Sector

Due to inadequate provision of infrastructure by the public sector in Nigeria, the private sector spends a lot of resources to provide infrastructure needed for their operations. Construction firms, manufacturing industries, commercial conglomerates, and financial institutions provide housing estates with infrastructure such as roads, electricity, and drainage and communication systems.

3.4.3 Public Sector Financing

This involves direct intervention in the provision and maintenance of urban infrastructure by the government. It is the traditional source of funding infrastructure development programs in Nigeria with the general conception

that provision and maintenance of urban infrastructure is the exclusive prerogative of the government. The government provides both the technical, administrative, legal and financial tools and actually get the projects implemented.

The finance comes from either government budgetary capital funds or through loan facility negotiated by government from either commercial or development banks. For example, the Urban Development Bank of Nigeria (UDBN) established by Decree 51 of 1992 has the duty to provide financial and banking services as well as technical assistance to all levels of government and the private sector in the construction, rehabilitation and maintenance of priority urban infrastructure. The decree setting up the bank confers it with wide powers to source funds from bilateral and multilateral organizations with an approved capital base of N7.8 billion.

Similarly, the World Bank and other multilateral and bilateral agencies have also been assisting in funding urban infrastructure development in Nigeria. For example, the total value of loan and credit commitments to urban infrastructure (including water supply) in Nigeria made by the World Bank and African Development Bank (ADB) between 1987 and 1995 was US\$

878m and US\$884m respectively (Yunusa, 2000). The Infrastructure Development Fund (IDF) projects co –sponsored by the World Bank and the Federal Government has also financed infrastructure development and maintenance projects in Adamawa, Benue, Ondo, Plateau, Nassarawa, Taraba, Borno, Yobe, Anambra and Kogi states respectively.

3.5 PROBLEMS OF INFRASTRUCTURE PROVISION AND MANAGEMENT IN NIGERIA

The physical conditions of Nigeria’s urban infrastructure - water supply, sewerage, sanitation, urban roads, electricity, drainage, waste disposal is generally poor (World Bank, 1995). Nwaka, (1998) as cited by Yunusa (2001) observed that, the problems are grave given the failure to lay firm foundation at the crucial formative stages of urban growth in Nigeria. Yunusa, (2001) also observed that, Nigerian colonial and pre – colonial towns are faced with problems of poor infrastructure services as indicated by electrical overload and failure, unsanitary dwellings, over crowdedness, epileptic water supply, congested roads among many others. These problems are caused by lack of maintenance culture, problems of cost recovery, institutional instability and funding.

3.5.1 Lack Of Rehabilitation And Maintenance

All types of infrastructure suffer from massive backlog of neglected rehabilitation and maintenance not to talk of new investments needed to serve future growth. Periodic and routine maintenance, by far the most cost – effective type of infrastructure expenditures, are almost nil (World Bank, 1995). For example, water supply equipment in most cities is obsolete, outdated and prone to malfunctions while the distribution systems do remain un-serviced for long. Drainages in most urban centres remain blocked with refuse and debris often causing overflow during rainy seasons. The Ogunpa flood in Ibadan readily comes to mind here. Electricity and telecommunication distribution system further present a sorry state with obsolete and non- functional equipment characterized by persistent failure. Worsening the already precarious situation is the lack of adequate manpower (both in quality and quantity) to plan, implement, manage and maintain infrastructure facilities.

3.5.2 Unreliability Of Infrastructure Services

Closely related to the issue of inadequate maintenance is the unreliability of infrastructure services. Israel (1994) noted that, in Nigeria, water is periodically rationed; water treatment works are not reliable, threatening

water quality. The research report also revealed that, the average daily output and the average per capita output are ridiculously low. He further maintained that, in Ibadan for example, the main water scheme has a design capacity of 120 million litres per day. However, it was pumping out only 36 million litres per day with many parts of Ibadan experiencing water flow for only one to two hours a week. The situation in Ibadan is similar to what is obtainable in most cities of Nigeria. In Jimeta-Yola of Adamawa state, for example, the unreliability of the piped public distribution system has led to the proliferation of the cart water supply system by the water vendors.

3.5.3 Inadequate Cost Recovery Mechanism

Most infrastructure agencies have poor mechanism and method of revenue assessment, collection and management. In many cities in Nigeria, refuse collection and disposal is free, water consumption rates are flat while electricity bills collection system is poor and often characterized by illegal tapping syndrome. Yunusa (2001) noted that, the Zaria Water Board estimated to collect Four Million, Six Hundred and Ten Thousand, Eight Hundred and Seventeen Naira (N4,610,817.00) as revenue between February to August, 2002. It however, managed to collect only 12.04% i.e Five Hundred and Fifty Four Thousand, Nine Hundred and Twenty Nine Naira,

Sixty Five Kobo (N554,929.65). This low revenue base undermines the ability of the board to carry out its mandatory responsibilities of purchasing plants, materials, chemicals and equipment that are needed for the production and distribution of water to citizens in Zaria.

3.5.4 Institutional Instability

In recent years leadership and policies have been subjected to sudden and unpredictable changes. The uncertainty and the ensuing lack of confidence are the most serious and immediate constraints on the improvement of urban services (World Bank, 1995). Undue interference in the day to day running of public utilities also constitutes a major constraint on their performance. The Bank further noted that, it therefore makes it difficult to plan ahead (partly due to lack of reliable data) and to maintain implementation schedules, thus defeating efforts to build sustainable institutional capacity. For example, a National Urban Development Policy was prepared in 1992 under the guidance of the Federal Ministry of Works and Housing. It was developed through widespread consultation with governmental and non – governmental organizations. Though this policy document provides a good foundation for future actions, its implementation remains farfetched.

3.5.5 Inadequate Funding

Severe under-investment is plainly visible in Nigeria's roads, water systems, drains and other infrastructure development in Nigeria. Because of fragmented accounting, it is difficult to know how much is being spent by the Federal Government, states, and Local Governments on urban infrastructure. A limited amount of funding for urban infrastructure is however provided by multilateral agencies such as the World Bank and African Development Bank (ADB). The total value of World Bank loan and credit commitments for urban infrastructure projects between 1987 and 1995 was US\$ 878 Million with commitment by the ADB over the same period totaling US\$ 884 Million (World Bank, 1995). In 1990, the World Bank, UNDP and UNCHS (Habitat) sponsored urban management programs in Nigeria – a ten-year technical assistance program to boost the efficiency of cities in national economies. Shelter Afrique approved the sum of US \$ 1.4m to co-finance phase IIA of a housing project at Karimu with the Associated Properties and Trust Co. (Yunusa 2000). Multilateral finance flows have been and will probably remain small relative to the nations needs. The resultant effect of these problems in the urban sector has been a huge backlog of unmet needs in infrastructure and services sector coupled with the deterioration of the existing stock.

3.6 THE NATIONAL IDF PROJECT

3.6.1 Project History

In order to redress the problems, the Federal Government sought the assistance of the World Bank in 1977 and established the Nigerian State Urban Development Programme (NSUDP). It was designed to address the serious infrastructure deficiencies in the then seven (7) newly created states of Bauchi, Benue, Gongola, Imo, Niger, Ogun and Ondo. Lagos state was later included in the programme because of peculiar urban problems, particularly that of infrastructure.

The first of these projects started in Bauchi in 1980 as a pilot project focusing essentially on methods of providing low – cost shelter on cost recovery mechanism. The second project started in Imo State in 1985. The Lagos project emphasized citywide infrastructure development and maintenance. Based on the lessons learnt on the NSUDP project, the Federal Government and the World Bank agreed to shift emphasis to the provision and maintenance of basic urban infrastructure and services in subsequent collaboration. Consequently, the Federal Government established the IDF project in 1985 to address the issues of long term financing of urban

infrastructure in Nigeria. From May 1985 to November 1987, the Federal Ministry of Works and Housing (FMW&H) in collaboration with the World Bank prepared an inception Report from which the staff Appraisal Report (SAR) for the IDF was produced. By 1988, the loan was negotiated between the World Bank and the Federal Government in Washington with Benue, Gongola and Ondo states participating. The loan became effective in August 1989.

3.6.2 Project Objectives

The major objective of the project was to support the establishment of a sustainable mechanism to fund priority urban investments with high economic and social returns. Emphasis was on the rehabilitation and maintenance of existing assets. According to the SAR prepared by the World Bank in 1987, the IDF project was designed primarily to achieve the following objectives.

- To establish a finance mechanism that would assist states to manage, maintain and consolidate existing urban infrastructure and services and improve their financial management and resource mobilization.
- To monitor and improve the credit worthiness and revenue base of state governments to make urban services self-financing.
- To monitor and improve the financial management of state governments and resource mobilization.

- To help states prepare infrastructure projects and develop their capacity for project execution.

In the long term, the Banks lending strategy for Nigeria included the establishment of a sustainable wholesale mechanism to fund priority urban investments and promotion of fiscal self-sufficiency at the state level. The project was also to ensure a more efficient, equitable and sustainable delivery of urban services and support to states in making the necessary fiscal adjustment primarily through a more rational allocation of investment funds and through mobilization of local financial resources. Through the project, a market for state and municipal bonds for financing of infrastructure programs of state and local authorities were also to be developed. By bringing the private sector to operate together with the public sector, the private sector approach to business was to be introduced into the public system with the aim of increasing efficiency of the sector while promoting interaction with the participating financial institutions to enhance financial discipline.

3.5.3 Project Conditions

The implementation of each sub – project was to be carried out under the general World Bank conditions for procurement, accounting and reporting. However, states agreed to some special conditions and local variations. Participating states were to establish a Project Implementing Unit (PIU) with a valuation unit within the ministry of works and appoint a project manager and the key staff with appropriate qualifications and experiences acceptable to the bank. Each state was to open a project account in any of the participating financial institutions (PFIS) and put in place, a monthly standing payment order (SPO) for deduction of counterpart contributions. Also, consultants were to be appointed for feasibility and detailed engineering design including Bid Documents and the introduction of property rating and valuation system as well as the adoption of a sharing system of the property tax proceeds between the state and the local government acceptable to the bank. To give legal backing to property rating, each participating state was to enact a legislation guiding the operation of the system.

3.6.4 Project Components

Each state project was packaged into three main components of infrastructure Development, operations and maintenance, institutional strengthening.

The following types of infrastructure were to be financed under the IDF.

- a.** Water supply, including the repairs and rehabilitation of existing plant, equipment, distribution networks and network extensions.
- b.** Roads and drainage, in particular, the rehabilitation of existing road and drainage networks and the construction of new linkages to aid traffic flow and relieve congestion.
- c.** Solid waste management including the provision or rehabilitation of vehicles, equipment and containers for collection and disposal.
- d.** Sanitation, including the provision or improvement of low cost public sanitary conveniences.
- e.** Street lighting
- f.** Markets, in particular, the rehabilitation of existing facilities and the improvement of services and.
- g.** Other high priority infrastructure investments related to industrial, commercial and residential, projects that are in accordance with IDF objectives.

Individual state and local governments were given the responsibility of identifying projects that could be funded under IDF together with a Merchant Bank that agrees to co – finance a particular project. However, projects were to be selected in accordance with economic and financial benefits, technical feasibility, effective demand for services and willingness of consumers to pay, directly or indirectly for the service provided. Other means included the feasibility of the cost recovery mechanism(s), institutional capacity of the borrowing state or local government to prepare and execute the project as well as the availability of technical assistance from domestic or international sources to supplement the borrowers implementation capabilities, where necessary. The Credit worthiness and the ability of the borrower to carry out the additional debt imposed by the project to be financed was also one of the criteria.

Preferences were given to projects, which adopt an “integrated” approach to the improvement of infrastructure and urban services i.e project which co-ordinate statewide and town wide improvements in sectors and sub sectors in a logical sequence. However, considerations were given to significant projects, which encompass single sub sectors in individual towns if the plans are well formulated and the benefits to be derived are sustainable. In order to

ensure that as many states as possible participate in the IDF, the aggregate cost of IDF project in any one state was not to exceed N40 million. All projects costing more than N10 million were to be reviewed by the World Bank in consultation with the Federal Ministry of Works and Housing prior to approval by a merchant bank.

3.6.5 Project Finance

The estimated total cost of the project was US\$90.4 Million equivalent. The foreign exchange component was US\$ 67.6 million equivalent, approximately 75% of total project costs. The IDF Project was to be jointly financed by the World Bank, participating financing institutions and the state governments. The federal government was to serve as the borrower of the funds for on-lending to merchant banks who in turn were to on-lend to participating states.

Table 3.1: Percentage contribution by participating bodies

| Body | % Of Contribution |
|-------------|---|
| World Bank | 75% (of the sub project cost and 100% of foreign exchange components) |

| | |
|-----------------------|---------------------------------|
| State Government | 15% (of total sub-project cost) |
| Financial Institution | 10% (of the sub-project cost) |

Source: Staff Appraisal Report, The World Bank April 1987.

In August 1989 when the loan became effective, only Gongola and Benue state projects came on stream for implementation. By December 1993, a total sum of US\$ 36.4 million was expended on the provision, extension and upgrading of urban infrastructure in Jalingo, Jimeta, Yola, Numan, Mubi, Wukari (in the former Gongola State) and Idah, Gboko, Otukpo and Makurdi (in Old Benue State). This was under phase 1. The participating financial institutions could not contribute the 10% expected of them. Funds were contributed as follows: -

Table 3.2 Contribution of Funds under IDF I For Benue and Gongola State

| Body | State | |
|--------------|--------------|----------------|
| | Benue | Gongola |
| World Bank | 11.9 | 13.3 |
| State | 5.7 | 5.5 |
| Total | 17.6 | 18.8 |

Source: Garnvwa, 2001

In 1994, the US\$ 13.3 million Ondo state project earlier appraised began to find its bearing under IDF Phase II. By December 1996, the seven additional states, which came on board were allocated a total sum of US\$30.4m. The combined total counterpart contribution of the states was about N320 million. The FMW&H was allocated US\$5.3m for studies and institutional strengthening. This was later reviewed to US\$2.6m (Garnvwa, 2001).

3.6.6 Institutional Framework

The institutional design objectives of the IDF was to maximize the operational role of the private sector and to limit the role of the Federal

Government Agencies to the essential and appropriate one of policy formulation and guidance. Accordingly, the institutional framework of the project relied on the demonstrated managerial strength and track records of merchant banks in Nigeria. The Federal Ministries of Finance, Works and Housing representing the Federal Government had the primary responsibility for overall coordination of the project.

States interested in participating in the IDF program were to communicate their intention to participate to the Federal Ministry of Works and Housing. Such states were to select Participating Financial Institutions (PFIs) among those appraised by the World Bank and open a project account into which fixed counterpart contributions were deposited on a regular basis. Contributions were to be made through direct payments or by putting in place Standing Payment Orders (SPOs) with the central Bank for direct deductions from source. Participating states were also to establish a Project Implementation Unit (PIU) in a form satisfactory to the Bank.

The PIU was to be headed by a Project Director with qualifications and experience also satisfactory to the bank. The Project Director was recommended to be directly under the office of the Chief Executives of the

state and was to operate an independent accounting system for effective project implementation. Generally, the states were to perform all the obligations under the project agreement in fulfillment of the conditions and assume direct responsibility for project preparation and implementation.

The PFIs were expected to: -

- i.** Assist states in project preparation and review of same to ensure compliance with the agreed implementation frame work.
- ii.** Appraisal of state projects through the carrying out of economic and financial analysis to establish the viability of selected sub projects.
- iii.** Analyze the states sectoral policies and establish the benefits of the sub projects including the feasibility of cost recovery mechanisms.
- iv.** Assess the credit worthiness of the state in respect of the additional debt by the projects in addition to establishing the overall financing structure for the project.
- v.** Provide effective project management to the state in respect of the project Account's and the selection of consultants/contractors including procurements.
- vi.** Co – finance projects and guarantee 10% of the credit risks of the loan.

In addition to the above, the PFIs attended workshops, seminars and meetings organized under the IDF by the Federal Ministry of Works and

Housing. A total of fifteen (15) PFIs were appraised and approved by the World Bank. The list of such banks and their corresponding states are:

Table 3.3 List Of Participating Financial Institutions And Their Corresponding States

| S/NO | PARTICIPATING FINANCIAL INSTITUTION | STATE |
|-------------|--|------------------------|
| 1. | NAL Merchant Bank | Edo, Ondo and Kwara |
| 2. | Icon Ltd | Borno, Adamawa |
| 3. | Chartered Bank | Taraba |
| 4. | Continental Merchant Bank | Yobe |
| 5. | International Merchant Bank | Plateau, Oyo & Anambra |
| 6. | Nigeria Merchant Bank. | Adamawa Taraba & Benue |
| 7. | Merchant Bank of Africa | - |
| 8. | Nigeria Intercontinental Bank | - |
| 9. | Grindlays Merchant Bank | - |
| 10. | Oceanic Bank International | Yobe |
| 11. | Citizen International Bank Ltd | - |
| 12. | FSB International Bank | Niger |
| 13. | Nationwide Merchant Bank | - |
| 14. | Diamond Bank | Anambra |
| 15. | ABC Merchant Bank | - |

Source: 3D Consult Yola, October 1993.

3.6.7 Project Implementation

The IDF project was implemented over a period of about seven years. The loan was signed between the parties on August 4, 1989 and it became effective in April 1990. It was implemented in two phases.

Phase I The implementation period, (1989 – 1993) composed of Gongola (1989 – 1992) and Benue project (1990 – 1993).

Phase II The implementation period (1993 – 1996) composed of Ondo, Edo, Enugu, Kogi, Plateau, Taraba, Anambra, Yobe and Borno States.

The loan finally closed on June 30, 1997 after a three-year extension period. To facilitate the implementation of state projects, the management support services were put in place. Consequently, the Federal Ministry of Works and Housing (FMW&H) employed the services of an independent consultant, Messrs 3D consult, Yola. The objective of the services was to facilitate the implementation of state projects based on standard guidelines and to assist states to understand Bank procedures with special reference to Bank lending for projects under ‘free limit’ among others. The consultant was also to assist states to liaise with the Federal Ministry of Finance, the PFIs and the FMW&H in the preparation and execution of the various legal agreements and render general advise on project funding and placement of standing payment orders (SPO).

The consultant undertook visits to the participating states during which, discussions were held with key state Government officers. The consultant also offered assistance and guidance in project identification and stages of project preparation while state financing plans were also examined amongst others. At the close of the loan period in June 1997, major physical works including rehabilitation of roads, drainages, construction of culverts and extension of water distribution network were carried out by the project in the respective states (Table 3.4).

Table 3.4 Physical Works Carried Out By The National IDF Programme.

| S/No | State | Total length of roads Rehabilitated (metres) | Total length of Drainage Rehabilitated (metres) | No of culverts provided | Length of water Distribution Network (metres) | % Of completion as at June |
|------|-----------------------|--|---|-------------------------|---|----------------------------|
| 1. | Adamawa | 7,927m | 9,143 m | 43 | 42,798.10m | 100% |
| 2. | Benue | 15200m | 2,189m | 400m Box Culvert | 28,800m ³ | 100% |
| 3. | Ondo /Ekiti | 10700m | 1600m | N/A | 29,000m | 90% |
| 4. | Edo | N/A | N/A | N/A | 28,100m | 100% |
| 5. | Enugu | 3300m | 6600m | 13 | 2275m | 90% |
| 6. | Plateau/ Nassarawa | 9430m | Open earth drain 15,847m | 31 | 9500m | 100% |
| 7. | Taraba | 9,079m | 16,420m | 756 | - | 100% |
| 8. | Borno | 5,835m | 8,692.5m | 45 | - | 90% |
| 9. | Yobe | 16,043m | 26,267m | 170 | - | 90% |

| | | | | | | |
|-----|---------|-----------|---------|-----|---|-----|
| 10. | Anambra | 13,253.3m | 24,857m | 58 | - | 90% |
| 11. | Kogi | 8,115m | 17,170m | 984 | - | 90% |

Source: Project completion Report, FMW&H, Urban and Regional Development Division, October 1997.

As can be seen from the analysis in this chapter, the need for effective provision of infrastructure services in urban centers cannot be overemphasized. It is in the realization of this that, successive regimes in the country have over the years put in place certain legislations and policy measures aimed at enhancing the provision and management of urban infrastructure. The national IDF project was one of the several efforts by the federal government towards addressing the long-term issue of infrastructure financing. The next chapter therefore examines the provision and level of sustainability of services of the Yola-Jimeta IDF project in the areas of solid waste management and water supply.

CHAPTER FOUR

PROVISION AND LEVEL OF SUSTAINABILITY OF SERVICES OF THE YOLA – JIMETA IDF PROJECT

4.0 INTRODUCTION

The Infrastructure Development Fund (IDF) was packaged essentially to support the establishment of a sustainable mechanism to fund priority urban services. In Yola – Jimeta, the intervention took place in selected project sub-sectors. For the purpose of this study, analysis is limited to interventions in the solid waste management and water supply. The issue is this; *Since the completion of the Yola-Jimeta project in 1992, to what level has the benefits derived from the project been sustained to date?* This chapter answers this question by examining the Yola-Jimeta IDF project design, assessing the state of solid waste management and water supply before, during and after the project.

4.1 THE GONGOLA STATE IDF PROJECT DESIGN

The task in this section is to discuss the provisions of the Gongola state IDF project design as originally contained in the SAR prepared by the World Bank in 1987. The Gongola state project was packaged into three main

components. The components are: Infrastructure Development and Improvement, Operations and Maintenance and Institutional strengthening.

4.1.1 Infrastructure Improvement

The objective of the infrastructure and service improvements component was to remedy critical deficiencies in the urban services of the six project towns of Yola, Jimeta, Jalingo, Mubi, Numan and Wukari through rehabilitation and extension of basic infrastructure, additional equipment for an improved management of solid waste collection and disposal, road and drain maintenance. High density areas and commercially active zones in the town's core areas were to be given priority. The criteria employed for the selection of the infrastructure were:

- Interventions which promote the more efficient functioning of the urban services network and
- Interventions that maximize financial, economic and social returns on urban investments.

According to the SAR prepared by the World Bank in April 1987, the focus of the various physical interventions for Yola and Jimeta were to complement the efforts of the state government by improving and rehabilitating infrastructure networks and services such as water supply, road and drainage particularly in high density areas. Jimeta was also to benefit from the upgrading of a 10 hectare low-income residential area

which houses approximately 2,000 compounds. The reliability of the water supply system was also to be enhanced through the supply of pumps, spare parts, standby generators, chemicals to treatment works and pumping stations through extensions of the distribution network. The project included a major drainage scheme to control incidence of flooding in Jimeta, and improvements in solid waste collection and disposal through the provision of equipment, spare parts, and garbage collection points. Improvements were also to be made to market places and motor parks through the provision of footpaths, drainage, water supply, sanitation and solid waste collection facilities.

4.1.2 Operations And Maintenance

The major task was to improve solid waste management, road and drainage maintenance as well as operation and maintenance of water supply plant, equipment and distribution networks. The following components of the project were thus given greater attention.

(a) Solid Waste Management

Twenty refuse collection vehicles, six bulldozers and repair facilities were to be purchased in each of the project towns. A solid waste management specialist was to be engaged to conduct an on-the-job training program for collection and disposal personnel in each of the project towns, review

existing solid waste management systems and programs, and develop more effective methods of collection and disposal of solid waste. The project was to also finance technical assistance to improve the maintenance of vehicles and equipment.

(b) Road And Drainage Maintenance:

In conjunction with the solid waste management expert, it was indicated in the SAR that, the project would develop a road and drainage maintenance capability in each of the project towns. Appropriate maintenance equipment and tools were to be provided for maintenance brigades under the supervision of works foremen who, in turn, were to be trained on the job by a road and drainage maintenance specialist. The specialist was to be responsible for developing and instituting an effective road and drainage maintenance program.

4.1.3 Institutional And Financial Strengthening

In addition to financing physical infrastructure improvement, the project was to provide funds for strengthening key state and Local Government institutions and for improving resource mobilization and financial management. Specifically, the focus was on:

a. Project Management

A 250 staff – months of technical assistance was to be provided by the project to a project implementation unit (PIU) to be established within Gongola State Urban Planning and Development Authority (GSUPDA). The unit was to be headed by an experienced project manager, assisted by project engineers and accountants. Six staff – months of short term technical assistance was also to be provided to the project unit for specialized project accounting assistance and training. In addition to the above, GSUPDA was to be strengthened by the provision of 42 staff months of technical assistance to improve financial planning and management, managerial and operational systems, solid waste management, road and drainage maintenance and vehicle and equipment maintenance. Computer facilities, office equipment and vehicles were also to be financed.

b. Resource Mobilization

The Ministry of local Government, Works and the Ministry of Finance were to be improved by the project. The project was to also finance the establishment of a property rating unit within the ministry of local government, and support 60 staff – months of technical assistance exercise

in property rating and valuation, local government finance, accounting, computer systems and operations. In addition, the valuation of properties was to be undertaken by private sector valuers. The land administration division of the Ministry of Works was to be strengthened through administrative support to the ground rent collections department, the provision of essential office equipment and vehicles, and the implementation of a program of aerial photography and mapping. The Ministry of Finance was also to be strengthened through the provision of technical assistance and staff training to the Budget and Revenue offices, the Board of Internal Revenue and the Accountant General's office and the provision of micro – computer facilities, office equipment and vehicles.

c. Water supply

The objective here was to assist the Gongola State Utilities Board to improve its finances and operations through the engagement of commercial and accounting experts, operations, and maintenance and distribution experts. In addition, the subproject was to finance staff training, micro – computing facilities, leak detection and repair equipment and materials, chemicals for water treatment and vehicles. Provision was also to be made

for undertaking feasibility studies, which would serve as a basis for future water supply project preparation.

4.2 LEVEL OF INFRASTRUCTURE SERVICES BEFORE IDF INTERVENTION

The condition of the selected infrastructure i.e. solid waste and water prior to IDF intervention in Yola – Jimeta is examined as a basis for improvements in the sectors in the preceding periods.

4.2.1 Water

In Dem sawo ward, the existing network of pipes was limited as can be seen in (fig. 4.1), it did not cover the entire ward. For Nassarawo and Bako wards, the situation was however different as no network of water mains had existed before IDF intervention (fig. 4.2). In the absence of public water supply system, residents in these wards were depending solely on other sources of water supply such as wells, private and Government boreholes and from water vendors.

4.2.2 Solid Waste Management

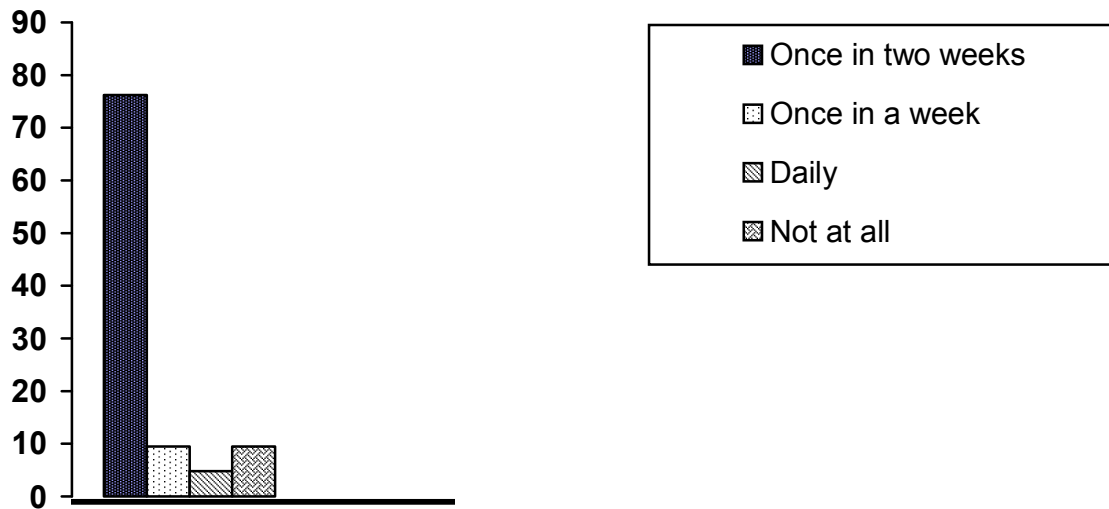
Interview conducted with members of the public and officials of the waste management and pollution control unit of the Adamawa State ministry of Environment reveals that, the management of solid waste was a major problem in Yola – Jimeta before IDF project.

This was obvious from the quantities of solid waste that was dumped in almost any available open space in the denser areas of Yola – Jimeta. The survey revealed that, this was caused primarily by inadequate and unstable provision of collection services.

There were 30 collection points in Jimeta and 20 in Yola town. 76.2% of respondents indicated that, refuse was evacuated once in two weeks. 9.5% indicated that the dumps were emptied once in a week for final disposal at designated disposal sites. 4.8% indicated that there was no evacuation at all.

Borrow pits, excavated in connection with road construction were used for the disposal of solid waste. The disposal sites serving Jimeta were located along the Numan and Mubi roads. The Yola disposal site was located along the towns' southern by pass. Jimeta had six vehicles while Yola had two.

Fig 4.3 Frequency of Refuse Collection before IDF



Source: Field survey, 2002

4.3 LEVEL OF INFRASTRUCTURE DURING THE IMPLEMENTATION OF IDF PROJECT

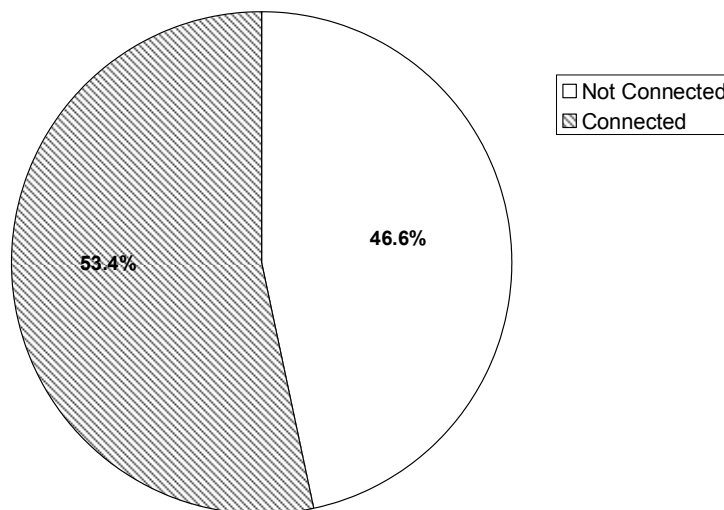
4.3.1 Water Sector

Activities in this sector involved the extension of pipes in the high-density areas of Demsawo and Nassarawa wards in Jimeta and Bako ward in Yola (Fig 4.4a&b). The selection of the above wards was based on a decision by the project and Adamawa State Water Board to extend pipes in wards that

either had hitherto no network of water mains or with little coverage especially in high-density areas. The project may have assumed that, the supply of water at the time of intervention was adequate and therefore, emphasis was laid on the extension and provision of water distribution network in the selected wards. A total of 2,792metre lengths of water pipes were extended in Jimeta and Yola (Garnvwa, 1997). Equipment were also supplied to the State Water Board.

The survey revealed that at the completion of the project, there were improvements of water condition in the affected wards. This is particularly true when viewed within the context that, areas that benefited from the intervention hitherto had less or no network of water mains. The laying of the pipes therefore availed them the opportunity of at least, hooking on to the public water supply system. The survey in the three wards revealed that 53.4% of the respondents had access to pipe borne water after the completion of the project. 46.6% indicated that despite the laying of pipes they were not connected.

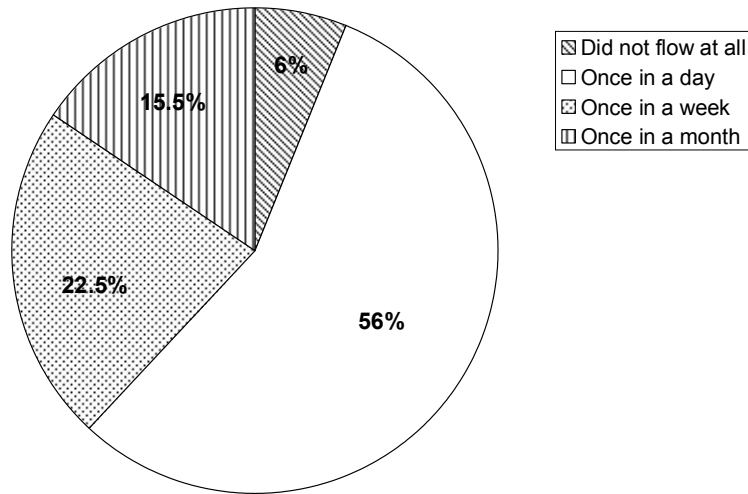
Fig. 4.5 Percentage of Respondents with Access to pipe borne water After the Project



Source: Field Survey, 2002.

Although water was not flowing regularly for 24 hours a day in the affected Wards, 56% of those that were connected to pipe borne water indicated that, water used to flow once in a day. 22.5% indicated that, water used to flow once in a week while 15.5% indicated that, it used to flow once in a month and 6% indicated that, since they were connected, water did not flow at all.

Fig. 4.6 Frequency of Water Flow During IDF

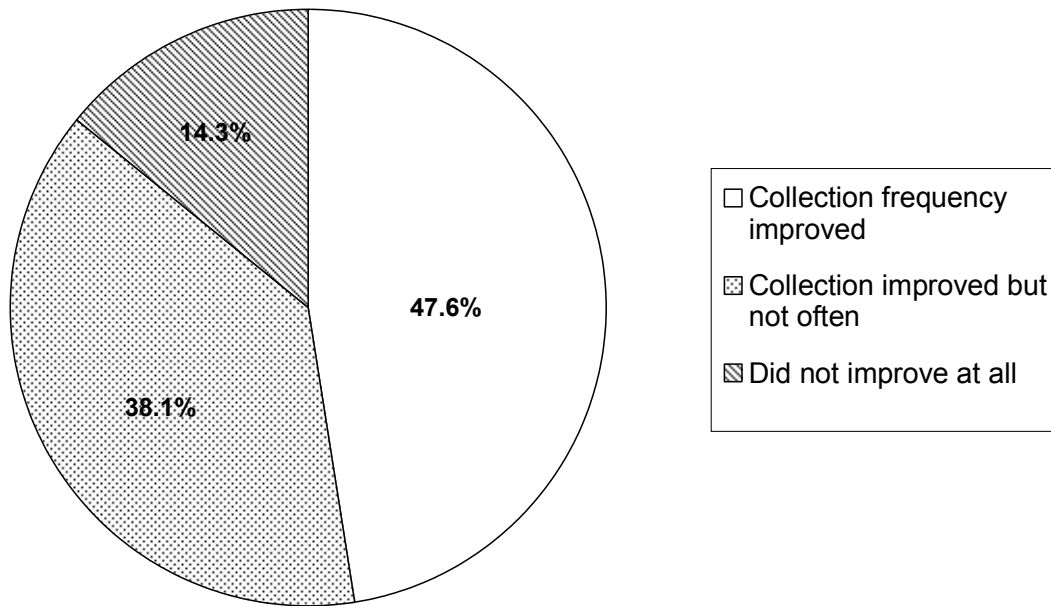


Source: Field Survey, 2002

4.3.2 Solid Waste Management

The level of activity in this sector was in the area of procurement of equipment and location of collection depots in Yola and Jimeta. Officially designated collection points increased from 30 in Jimeta and 20 in Yola town to 45 in Jimeta and 29 in Yola town. (Field Survey, 2002). Vehicles and other equipment necessary for effective solid waste management were also supplied (plate i & ii). A solid waste management expert trained drivers and mechanics for the operation and maintenance of the vehicles. Timetable for collection of refuse was designed and implemented. Consequently, the rate of evacuation of refuse from collection centers improved from the once a week situation to an average of 5 times per truck in a day. This led to remarkable improvements in the environmental quality of Yola-Jimeta (Fig. 4.7).

Fig. 4.7 Level of Improvement in Solid Waste Collection and Disposal with IDF



Source: Field Survey, 2002.



Plate I: Some Equipment Supplied by IDF for Solid Waste Management

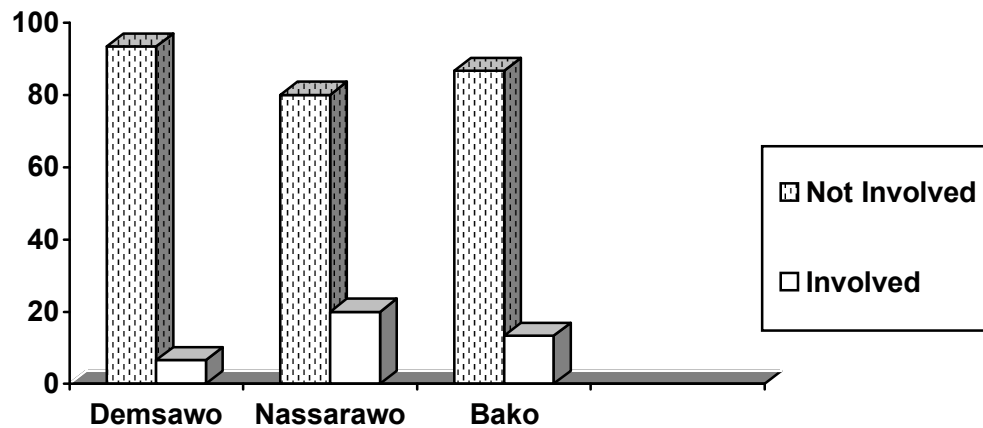


Plate II: Some Vehicles Supplied by IDF for Solid Waste Management

4.4 LEVEL OF COMMUNITY INVOLVEMENT

The field survey showed low level of community participation in the project design and implementation. In the water supply sector only 6.7%, 20% and 13.3% of the respondents claimed to have been involved in the project in Demsawo, Nassarawo, and Bako ward respectively (Fig 4.8). Their involvement was in the area of providing labour during excavation and laying of the pipes.

Fig. 4.8 Level of Community Involvement in the Water Project



Source: Field Survey, 2002.

In the solid waste management sector, hence intervention mainly involved the location of collection points and supply of equipment; members of the public were not involved. Interviews conducted with respondents indicated

that even in situations where refuse collection centers were to be on sites close to their residences, they were not consulted. This explains the reason for their resentment at the present location of some of the refuse collection centers. The interviews also revealed that the lack of consultation led to the siting of collection centres on vacant plots meant for individuals. Some of these locations have become matters of litigation in the law courts.

4.5 PRESENT LEVEL OF INFRASTRUCTURE SERVICES

The sustainability of the three irrigation projects under review was evaluated using economic, technical and organizational indicators. It is however pertinent to note that the methods of assessing the sustainability of projects depends on the project in question. Therefore, in assessing the sustainability of the Yola Jimeta IDF project, the elements of continuity, reliability and replicability of the service provided will be used as indicators of sustainability. This is based on the analysis of what constitute project sustainability in chapter two.

4.5.1 Continuity And Reliability Of Service

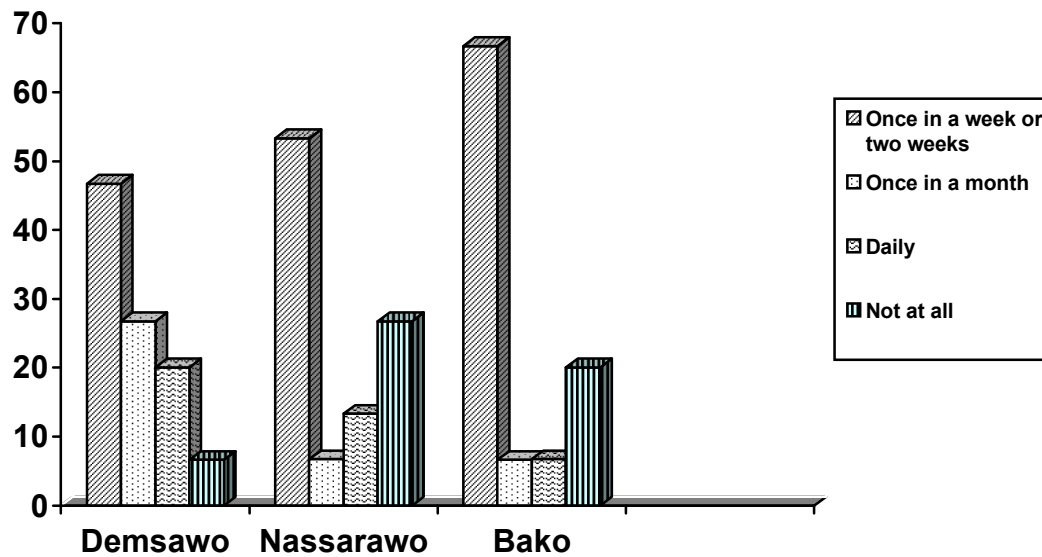
The analysis of continuity and reliability of service is done based on an assessment of the present level of service in the water and solid waste

management sector vis-a-vis the level of service during the implementation of the project.

(a) Water Sector

In the water sector, the analysis showed that, pipes were extended in areas that hitherto had none. This development availed some residents the opportunity to be hooked unto the public water supply system. 53.4% of the respondents had access to pipe borne water after completion of the project. 56% of the respondents that had access to water indicated that, water used to flow at least once a day. This improvement could not be enjoyed for a long span of time. The pipes provided have remained dry without water. Presently, 46.7%, 53.3% and 66.7% of the respondents in Demsawo, Nassarawo and Bako ward respectively indicated that, water flows once in a week or in two weeks. (see fig. 4.9).

Fig 4.9: Present frequency of water flow

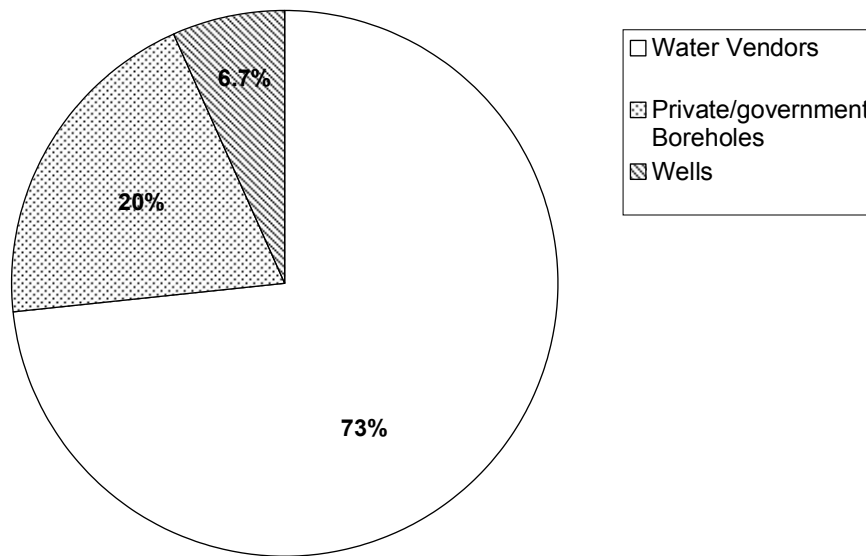


Source: Field Survey, 2002.

The present non-availability or the erratic supply of water can be attributed to the fact that, intervention was more in the area of distribution with limited improvements at the source. Consequently, the present level of water flow could not match increase in the number of users.

Despite the fact that most of the residents in the affected wards had no access to pipe borne water before IDF, the implementation of the project should have effectively addressed the water problem on a long term basis at least to people that were hooked. The failure to achieve this has made residents reverse to *status quo ante* for their daily water needs (see fig. 4.10).

Fig. 4.10: Alternative Sources of Water in the Affected Wards

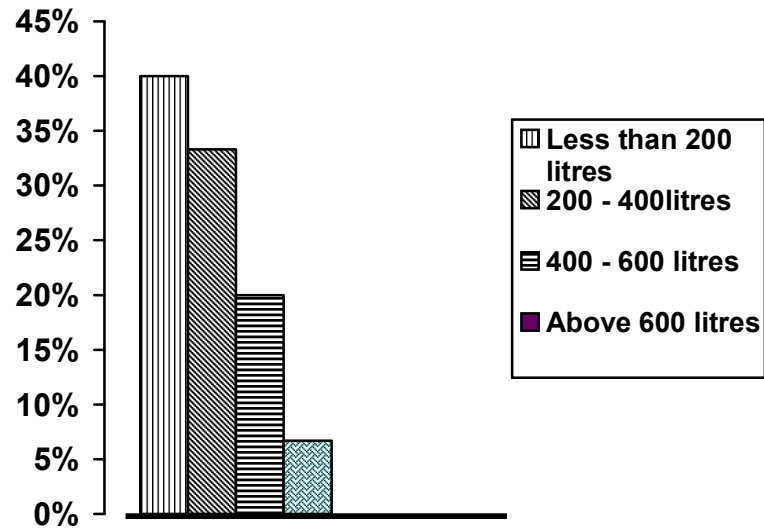


Source: Field Survey, 2002.

The public water supply system is used only when water flows -a flow that is irregular and cannot be predicted. While one can acknowledge water vendors, private and government boreholes and wells as viable alternative sources of water supply, it is pertinent to point out that, the quality of water supplied via these sources particularly from water vendors, who travel long distances cannot be guaranteed (plate iii). Another dimension to this scenario is the quantity of water being purchased by respondents in a day from the water vendors. Aggregate analysis of data from the selected wards indicate that, 40% of the respondent purchase between 200 – 400 litres of water in a day, 33.3% purchase on the average of 400 – 600 litres per day, 20% with less than 200 litres while 6.7%, above 600 litres. (fig. 4.11). A 20litre

container of water is sold for ₦ 5. It then means that, the sum of ₦100 is spent for 200litres. The amount however varies with household size and demand.

FIG. 4.11 Quantity Of Water Purchased From Water Vendors in a Day In The Affected Wards by respondents.



Source: Field Survey, 2002



Plate III: A Typical Collection Point for Water Vendors



Plate IV: A refuse disposal facility (See refuse littered on the ground)

(b). Solid waste management.

The situation in the solid waste management sector is also similar to that in the water sector. Improvements came with the putting in place of a SWMS by the project. The rate of evacuation of refuse from collection centres improved from the once a week situation before the project to an average of 5 times by each truck in a day. This led to remarkable improvements in the environmental quality of Yola – Jimeta.

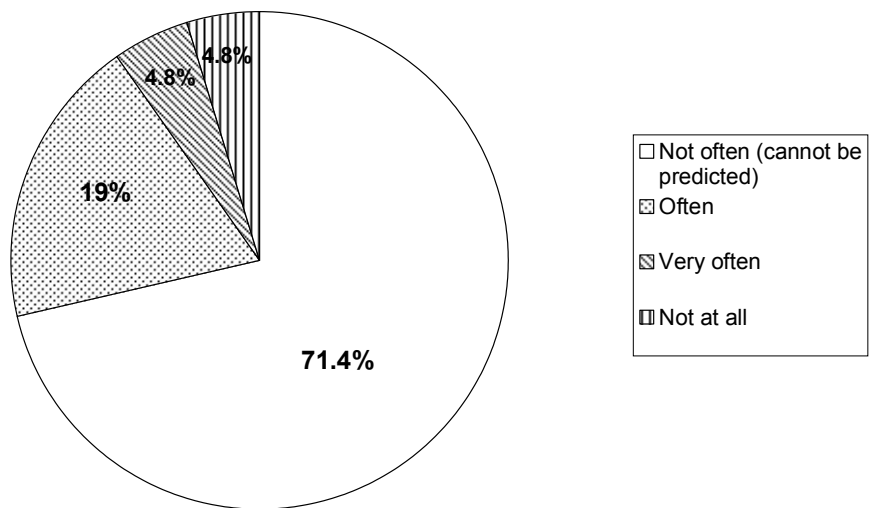
However, this level of improvement is not maintained to the present. Hills of un-cleared solid waste have resurfaced on streets and at designated collection centres. This problem is seen more in high-density areas of Yola – Jimeta. At most of the sites visited during the survey, it was discovered that, the amount of refuse that littered on the ground around skip bins far outweigh the contents found therein (plate iv). The scenario is that of a serious environmental problem in the town. Respondents living in close proximity to these dumps expressed their apprehension as to the disaster that awaits them in the event of the outbreak of an epidemic.

While it is out of scope for this study to investigate the rate and quantity of solid waste generated presently, a study carried out by Parkman (Nig. Ltd.) for the construction of an Integrated Waste Management Facility (IWMF)

for Yola – Jimeta in January to February 2002 also confirmed the magnitude of the solid waste crisis in the town. The survey revealed the rate of waste generation of 0.18kg/person/day for Yola and 0.33kg/person/day for Jimeta with an overall average of 0.28kg dry weight per capita per day (Parkman, 2002). The study also came out with the findings that, there exist no clear policies on the disposal of solid waste in Yola-Jimeta, that uncompleted buildings, undeveloped plots of land, upon spaces and burrow pits at the outskirts of the town are used by the public and sanitation officers to dump their waste.

Despite this development, the collection of refuse in the project town is highly irregular and unpredictable. (Fig.4.12). Considering the size and population of the town, the rate of refuse generated and with the fact that only three vehicles exists presently for refuse collection, not all refuse generated is evacuated to disposal sites as and when due, with the average of only 2 trips per vehicle per day.

Fig. 4.12 Present Level of Refuse Collection and Disposal in Yola – Jimeta



Source: Field Survey 2002

4.5.2 Replicability Of Service

The replicability of a project has to do with its ability to become an integral part of a Nations National Development Strategy. *The question one may ask is, to what extent has the IDF concept become acceptable as an integral part of Nigeria’s National Infrastructure Development Strategy?*

In Adamawa state, the Government is certainly aware of the need to provide and maintain infrastructure in its urban areas. Several Government agencies are actively involved in this aspect. However, there is lack of integration of IDF ideas or a modified version of it into the infrastructure development strategy of the state. At the national level, the ideas of IDF have also not been integrated in the nations infrastructure development program. By and large, the institution building potential of Adamawa state and at the national

level to execute similar projects on their own account, without external assistance has really not become part of the national infrastructure development efforts.

As indicated in the preceding sections, the success and sustainability of the IDF project was predicated upon the strengthening of key institutions at both state and local government levels to improve their resource base and finance management in the area of land administration, information system, solid waste management, training and project preparation. The achievement in this aspect during the implementation of the project as revealed in the study could not guarantee replicability.

The general thrust of the IDF project was also hinged on the development of the private financial sector in the Nigerian economy to fund urban infrastructure projects on a long-term basis. This called for the selection of some financial institutions to participate in the program. The assumption was that, with the financial institutions on board, the stimulation for financing infrastructure development projects would be higher. The survey was however, unable to unravel any area of infrastructure finance by private financial institutions in Yola – Jimeta. Interview held with some staff that

worked on the project revealed that the PFIs could not even remit the 10% of their share of the funding during the implementation of the project. The replicability of the project has therefore not been ensured.

4.6 SUMMARY OF FINDINGS

It can be seen from the analysis above that, benefits were derived from intervention by IDF in the selected sub-sectors. In the water sector, pipes were extended in wards that hitherto had limited or no network of water mains. The extension therefore availed a significant proportion of the respondents the opportunity of hooking unto the public water supply system. This improvement did not however lead to constant flow of water. Presently, the problem of water in the affected wards remains ineffable. Residents still depends on other sources of water supply such as water vendors, boreholes and wells for their daily consumption.

The scenario in the solid waste management sector is akin to the conditions in the water sector. Improvements came with the putting in place of a SWMS for Yola – Jimeta by IDF. Frequency of collection of refuse increased from a once in a week situation to an average of 5 times by each truck in a day leading to remarkable improvements in the environmental

quality of Yola – Jimeta. This improved level of service could not be sustained to the present. The non-sustainability of the gains of the SWMS in the town is witnessed in the heaps of un-cleared refuse that dot the landscape of Yola – Jimeta.

In addition to the non- continuity and reliability of the services provided by the project, the study has also revealed its non-replicability in Adamawa state and at the national level. The next chapter therefore examines the contributing factors to this development.

CHAPTER FIVE

DETERMINANTS OF SUSTAINABILITY OF THE YOLA – JIMETA IDF PROJECT

5.0 INTRODUCTION

The concern in this chapter is to discuss the factors that account for the sustainability level achieved in the project as presented in chapter four. The argument is organized in the context of factors of project sustainability as examined in chapter two and the major objectives of the project as reviewed in section 3.6.2.

5.1 USE OF APPROPRIATE MODE OF INTERVENTION

The non-sustainability of the benefits of the project in Yola-Jimeta could be attributed to non-implementation of the critical areas of the project. An example can be seen in the water sector in which the SAR prepared in 1987 had identified the fact that... “the reliability of the water supply system would be enhanced through improvement to treatment works and pumping stations and through limited improvements and extension of the distribution network”.

The implementation stage of the project put emphasis on the extension of pipes with limited improvements at the source (i.e. water works). A survey revealed that, improvement to treatment works only involved the supply of three water tankers, 1 crane mounted lorry, 1 electric pump, 1 four wheel

drive vehicle and a set of laboratory equipment and mechanical tools. The resultant effect of this development has been that pipes provided have remained dry. While one can appreciate the fact that population has increased since the completion of the project, intervention in this sector ought to have been an integrated and comprehensive package in which supply is boosted more to make the distribution network functional as was indicated in the SAR.

In the solid waste management sector, it is expected that, the World Bank recognized the problems and inefficiency of centrally controlled system of solid waste management in Nigerian urban centers. Consequently, alternative ways of effective solid waste management ought to have been explored. The involvement of the private sector and the communities to manage solid waste could have been given a thought by the project. This was not done but instead, the public system of solid waste management was reinforced through the supply of equipment. While this effort is commendable the present level of SWMS in Yola – Jimeta has further confirmed the need to finding alternative ways of managing solid waste effectively.

5.2 COMMUNITY INVOLVEMENT

Community participation in project design and implementation is considered crucial for the long-term sustainability of a project. Community participation is imperative to raising the consciousness of the people in order to sustain the benefits after the completion of a project. However, the IDF project showed lack of beneficiary or stakeholder participation in project design and implementation. The project design as specified in the SAR made no mention whatsoever of the need to involve the local community in identification, decision making, resource mobilization and maintenance in the project development process. The community structure was not recognized. Even the financial mechanisms which the project had laid much emphasis on failed to recognize the resource potentials of the communities involved in the project.

In the water sector, community involvement would have been able to identify priority areas for intervention. During the survey, over 50% of the respondents in the affected wards preferred the sinking of functional boreholes to the laying of pipes that have remained without water. While this may not seem to be a lasting option for urban water supply, it would have remained a viable one when viewed within the context of the present water situation in the affected areas. Community involvement in solid waste management on the other hand would have led to more public awareness and

commitment. This would have further enhanced the process of collection, improvement in sanitary habits and the sustainability of the SWMS.

In most cases however, the project implementation unit assumed full control over project selection, design and implementation. Beneficiaries did not have the sense of ownership and this affected the sustainability of the project. For example, it was discovered during the survey that the influence of the traditional institutions came to bear on the effective enforcement of property taxation in Yola-Jimeta. The lack of commitment by the traditional institutions led to ineffective implementation of this aspect of the project that was meant to provide funds for the recurring development and maintenance of the infrastructure on a sustainable basis.

5.3 INSTITUTIONAL AND MANPOWER DEVELOPMENT

This was one of the key objectives of the project. It was aimed at setting the institutions involved in line with the implementation of the project. The survey however revealed that, in sectors where intervention took place such as solid waste management, manpower development was limited to the training of drivers and mechanics that were to operate and maintain the vehicles and other equipment supplied. However, manpower development

for a sustainable solid waste management should go beyond this. The training of professional staff that will be responsible for the day-to-day operation of the system should have been given due attention too.

Discussions with some staff who had worked on the project affirmed that, the Rating and Valuation unit benefited from the staff-training program of the project. However, the training was focused mainly on the PIU which was a temporary outfit that was put together for the execution of the project. The various interventions as indicated in the SAR aimed at institutional and financial strengthening of key institutions in the area of staff training, supply of computing equipment, vehicles etc. could not take place. The interview also revealed that, this was as a result of the review of scope of work that made funds unavailable for the required institutional strengthening. The former Gongola State Utilities Board suffered the same problem. The non-implementation of these objectives aimed at strengthening the institutions has therefore affected the sustainability of the project.

A crucial review of the project design shows that, no effort was made to renew the past performance of these institutions and ascertaining their capability to respond to technical strengthening. Probably, the project

assumed that, public institutions in Nigeria would automatically respond positively to required technical and financial intervention. For example, in the SWMS, it was assumed that, the manpower is there. What is required is the engagement of a qualified expatriate who will find and train the required locally qualified and motivate staff at both state and local government level.

Another dimension to this is that, institutional strengthening is a long-term activity that requires considerable longer time frame than the life span of a project. The Yola- Jimeta project was implemented from 1989 to 1992. *The question one may ask is, how could it have been effective in transforming the orientation and procedure of institutions in three years during which, the implementation of the project was also on-going?* The transformation of orientation and procedure of institutions has to be a routine exercise done by concerned authorities and not limited to the life span of a project.

5.4 COST RECOVERY MEASURES

One of the measures that were put in place by the IDF project to enhance sustainability was cost recovery. The cost recovery mechanism for the project was anchored on the utilization of property taxation for the maintenance of the infrastructure provided and possible development of new

ones. It was noted by the project that, this important revenue had remained untapped. The project identified lack of available expertise, finance and political will by the local government as largely responsible for this.

Consequently, twelve (12) private sector valuers carried out the listing and valuation of properties in each of the project towns. Gongola State Edict numbers 3 and 5 of 1977 were reviewed and this subsequently led to the promulgation of Gongola State Tenement Rate Edict number 2 of 1989. The edict provided for a uniform rating in the state. The amount to be realized from the exercise was to be shared between the state and the affected Local Governments and used for the provision and maintenance of infrastructure including services that were provided by the project.

However, discussions with staff that worked under the Rating and Valuation Unit during the implementation of the project revealed that, the exercise failed to yield desirable results. This is also collaborated by available statistics on the yearly collection of rates from 1991 to 1994 (table 5.1).

TABLE 5.1 Adamawa IDF Project: Yearly Collection of Property Rates (1991-94)

| Year | Zone | Expected Collection (₦) | Actual Collection (₦) | % |
|-------------|-------------|------------------------------------|----------------------------------|----------|
| 1991 | Jimeta | 1,111,665.70 | 89,199.93 | 8.02 |
| | Yola | 288,331.75 | 39,184.09 | 13.58 |
| | Numan | 213,611.52 | 20,371.12 | 9.44 |
| | Song | 269,066.00 | 6,253.00 | 2.44 |
| 1992 | Jimeta | 2,223,331.50 | 352,617.07 | 15.90 |
| | Yola | 577,063.50 | 11,011.00 | 1.91 |
| | Numan | 431,223.04 | 189,288.75 | 43.90 |
| | Song | 114,777.70 | 1,383.85 | 1.21 |
| 1993 | Jimeta | 2,223,331.50 | 404,741.0 | 18.20 |
| | Yola | 557,063.50 | 24,452.25 | 4.24 |
| | Numan | 431,223.04 | 108,518.65 | 25.17 |
| | Song | 114,777.20 | 22,133.00 | 19.28 |
| 1994 | Jimeta | 2,223,331.50 | 388,066.66 | 17.23 |

| | | | |
|-------|------------|-----------|-------|
| Yola | 577,063.50 | 28,701.25 | 4.98 |
| Numan | 431,223.04 | 98,992.72 | 21.57 |
| Song | 114,777.20 | 3,541.00 | 31.10 |

Source: Garnvwa, 1995

A lot of problems arose in the course of collection of the targeted revenue. There was strong resentment from members of the public towards payment of the rates. In the course of the field survey, over 90% of the respondents saw no reason in paying property tax when they lack security, pipe borne water, adequate power supply, inefficient solid waste collection and disposal system amongst other issues. Even in parts of Yola – Jimeta that directly benefited from IDF intervention in the area of extension of water pipes and drainage construction, the residents still expressed their unwillingness to pay. To some, the doubt as to the utility of the exercise for the improvement of their welfare was their main reason for non-compliance. Some of the Rating and Valuation officers interviewed affirmed that, many ratepayers in the town use to ask them the question,

“We have been paying one form of tax or the other and we do not see the direct benefit of it, why do you want us to part with the little we have to feed the already fat government officials?”

While the above assertion from members of the public as their main reason for non-compliance is unconstitutional, the fact still remains that more practicable measures of cost recovery needed to have been evolved by the project. Other factors such as the

lack of support from traditional institutions and political leaders as well as problems in the sharing of the proceeds between the state and local governments led to the collapse of the rate collection exercise.

The lack of commitment by members of the public to pay and the lack of support from traditional institutions further underscores the need for the project to have included as a major objective, effective community participation. The lack of it, meant that, the people did not feel the project was theirs. In addition, the IDF project ought to have determine the efficacy of utilizing property taxation in times of weak economic situations in the country as a major cost recovery measure. The project had assumed that, people were going to pay property taxes.

Another factor that can be used to explain the non sustainability of the project benefits is the inability of the project to recognize community based resource potentials as a major source of revenue for the maintenance of the infrastructure provided and possible development of new ones. For example, in a study of partnerships in the provision of urban services in Kaduna South Local Government Area of Kaduna State by the Department of Urban and Regional Planning, Kaduna Polytechnic in 1999, it was discovered that of about 65 CBOs in the Local Government Area, 57% render services like road maintenance and construction of culverts, while 11% are engaged in the provision of security and sanitation. The IDF project needed to have explored the possibility of utilizing existing CBOs in the project area as support mechanism to the project. The collapse of property rating exercise which was the major source of funds for the maintenance of the

infrastructure provided and possible development of new ones would have meant the alternative utilization of CBOs for the sustainability of the project.

Presently, the provision and maintenance of urban infrastructure has remained dependent on the annual budgetary allocation of the state, which in most cases is not adequate for the enormous infrastructure needs. Over reliance on this source of revenue for the maintenance of infrastructure therefore, crippled the sustainability of the project.

5.5 LONG GESTATION PERIOD

The non-sustainability of the benefits of the Yola – Jimeta Project can also be attributed to the long gestation period of the project; that is, the time limit from when the project was appraised to when it was implemented. Interview conducted during the survey revealed that, the IDF project was appraised in 1986. By the end of 1990 when tenders for most of the civic works, solid waste management and water supply improvement works were evaluated, the available funds were found to be inadequate. This was because, due to inflation in the Nigerian economy leading to the depreciation of the Naira, project cost escalated beyond estimates that were already made and approved. This development led to a review of the scope of work to be executed. Some staff of the project interviewed indicated that, at the time of appraisal of the project in 1986, the exchange rate was 1 US\$ to four Naira. Midstream into the project, 1 US\$ was exchanging for between seventy five to eighty Naira.

Closely related to the issue of long gestation period is the fact that, sustainability can be guaranteed from the onset from the timely availability of funds. Analysis of the objectives has shown that, there didn't seem to be emphasis on thorough evaluation of the capacities of the participating states in the project to provide the finances on time. For example, all the major objectives of the project were particular about establishing a financing mechanism for management and monitoring. The objectives were unable to determine the availability of funds and at what time.

Indeed, the project had identified the lack of capacity to plan, implement, finance and manage urban investment by the states as one of the major project risk. The project also highlighted the need to mitigate this risk by the demonstrated ability of the states to mobilize local resources and reduce recurrent expenditures.

Consequent upon the above, there was a need for the project to have ascertained the extent to which funds were to be made available on time. To ensure this, deduction for states were made at source. However, the extent to which funds were to be made available on time. To ensure this, deductions for states were made at source.

However, the failure of Merchant Banks to prove as effective institutions for the financing of urban infrastructure by failing to remit their 10% counterpart fund affected the timely execution of the project and reduction in the scope of work.

The reduction in the scope of work can be seen for example, in the water supply sector where it was identified in the SAR that, major improvement works were to be undertaken at the water works with limited extension of the distribution network. At the commencement of the project, the funds available were no longer adequate to carry out major improvement works at the sources of water supply to Yola-Jimeta. The project was only able to extend a network of pipes in Demsawo, Nassarawo and Bako wards with limited intervention at the water works. As already noted in the text, this development has resulted to dry pipes and taps.

A crucial study of the Yola – Jimeta Project Design also shows that, improvements were to be made to markets and motor parks through the provision of footpaths, drainage, water supply, sanitation and solid waste collection facilities. These were measures aimed at improving the revenue generation machinery of the urban local governments in Yola – Jimeta towards maintaining and providing new infrastructure. This did not take place. Discussions held with some staff that worked on the project attributed this to lack of funds. The lack of adequate funds also affected the provision of training, supply of equipment etc to key institutions as a way of strengthening them to enhance sustainability as was indicated in the SAR.

It is evident from the above analysis that, the IDF project in Yola – Jimeta suffered a lot of fundamental problems in the Design and mode of implementation that explains the present level of service. Reflecting on the

general inputs that lead to sustainability or otherwise of a project as examined in chapter two, the non-sustainability of the benefits is really apparent. The objectives of the project were deficient to engender sustainable development of infrastructure. Key aspect of failure is that, community based resources were not recognized as viable to the implementation of the project.

The task in the next chapter therefore, is to make appropriate recommendations that will serve as lessons for future intervention in urban infrastructure development projects in Nigeria.

CHAPTER SIX

LESSONS FOR FUTURE INTERVENTION IN URBAN INFRASTRUCTURE DEVELOPMENT PROJECTS

6.0 INTRODUCTION

Considering the magnitude and complexity of urban infrastructure development and management issues in Nigeria, it is important to emphasize that the IDF project in Yola – Jimeta was a considerable effort. Years after the completion of the project, it is apparent that, the benefits derived from the project could not be sustained to the present due to a combination of factors. This chapter makes recommendations for future interventions in urban infrastructure projects as well as short-term requirement to improve sustainability of the Yola – Jimeta project

6.1 LONG-TERM MEASURES

6.1.1 Refocusing of Intervention Strategy

Analysis of the IDF project in Yola – Jimeta has shown that to enhance the sustainability of project benefits, future intervention in urban infrastructure development and management should be made to address limited infrastructure problems rather than spreading funds over the whole country or in too many states and urban centers at a time. In Yola – Jimeta funds were being spread over a variety of infrastructure ranging from construction of drainages, roads, solid waste management, to water supply. This led to lesser project impact and non-sustainability. In future infrastructure projects funds should be committed into

addressing a specific infrastructure issue at a given point in time. For greater project impact, the idea of the national package as originally envisioned in the IDF needs to be given another careful consideration and analysis. More so, critical areas of selected infrastructure components should be targeted to make it more purposeful.

The project has also shown the need to reduce significantly, the gestation period between project preparation and project implementation. That is, a reduction in time limit from when a project is appraised to when it is implemented. This is considered imperative especially when viewed within the context of unstable economic climate in the country. External factors such as delay in the release of funds from appropriate authorities and organizations may affect the realization of this objective. However, if checked, it will ensure that projects are implemented within the period in which they are appraised and thus avoiding reviews that may tend to reduce project scope and sustainability.

6.1.2 Need For Community Involvement

The IDF project in Yola-Jimeta has also shown the negative effect of lack of beneficiary participation in project design and implementation. For future intervention, beneficiaries should be involved from conception, project design to implementation. In the course of preparation of the SAR by the World Bank it would have been significant to consider holding city consultations with members of the public either through their leaders or as organized groups. This is with a view to identifying their priorities and to build a sense of stakeholder ownership in the

project. It will also improve public confidence through involvement of community organizations that are closer to the people. Community involvement would have also identified existing community resources that would have been useful for the sustainability of the project benefits. For example, the lack of effective community involvement led to the collapse of the property rating exercise introduced in Yola-Jimeta.

Despite this, a view held by some professionals is that, urban infrastructure is too complicated to permit the involvement of the beneficiaries at planning, implementation, operation and maintenance (Cotton and Franceys, 1994). However (Tym, 1984) as cited by (Cotton and Franceys 1994) indicated that, the poor are good at evaluating and ordering their own needs. To formulate design and financing proposals without consulting the people is seen as courting failure. The impressive achievement of the sanitation programme embarked upon by an NGO known as Orangi Pilot Project (OPP) in Karachi, Pakistan is one of the few practical experiences of community involvement with infrastructure in the urban sector. The OPP was established in 1980 and embarked on a number of different programs in the informally developing areas of Orangi; one of these was the Low-cost sanitation program, which involved the provision of sewerage through self-help and community action.

Similarly, a research project aimed at building capacity for Community Assets Management (CAM) funded by the UK Department For International Development

(DFID) in India in 2001 shows that, CAM is a sustainable approach to the provision of infrastructure and maintenance. The argument is that, the users of individual facilities are best placed to manage and maintain community assets in an efficient and cost effective way. The research showed that the present external aid, national and grant sponsors whereby the government takes full responsibility, has in too many cases failed.

The research also showed that, it is much more likely that a community asset will serve it's purpose for its full designed life when users take responsibility for the management, life- time planning, construction and physical maintenance of a community building on their own or in partnership where appropriate with local government, local businesses, NGOs, state and national government. Such findings can also be useful for consideration in future interventions in infrastructure provision and management in Nigeria. The application of this concept in the area of solid waste management with government serving as the facilitator through the provision of vehicles and equipment can also be a useful option.

6.1.3 Improved Implementation Strategy

The implementation of IDF project in Yola-Jimeta was co-ordinated by the PIU. At the close of the loan period, the PIU was dissolved and the staff were sent back to their respective ministries. Currently, the last director of IDF is in the Adamawa state ministry of lands and the secretary is with the Adamawa State Urban Planning and Development Authority (ASUPDA). Other staff have also been redeployed to other

ministries and others redeployed to Taraba state at the splitting of the state in 1986. While it may not be feasible to keep together all personnel that worked under the project, the PIU of the project ought to have been integrated as a department in ASUPDA. This is to ensure continuity at the end of the project period. Subsequent intervention should therefore, treat this as an important issue towards consolidating the sustainability of the project.

6.1.4 Institutional And Capacity Development

The IDF project implementation in Yola – Jimeta clearly indicated the deficiency in institutional and capacity development such that a major lesson is to emphasize capacity building in future projects. The usual approach of capacity building for Government agencies as was the case during the implementation of the project is to provide consultants, training and equipment. This may improve institutional performance for a short time. Consultants, training courses and equipment do not address the fundamental causes of poor performance of government agencies, low remuneration, poor working conditions, bad management and political interference in technical matters in the public sector. Such conditions discourage civil servants who are skilled and competent.

It was discovered during the survey that under the vehicle maintenance and workshop technical assistance contract, an expatriate Mechanical Engineer was attached to the old Gongola State Urban Planning and Development Authority (GSUPDA) workshop for a period of twenty-four months. During this period, the Technical Consultant

prepared an elaborate workshop management program. It also included a program for the routine maintenance of the vehicles. On his departure in December 1993, all the programs he had designed were set aside. The local staff that was trained under the Consultant has left the service of ASUPDA to set up his own workshop.

These issues need to be addressed on a long-term basis for any effort aimed at effective capacity development to flourish. It does not mean that, technical assistance should be discarded. The recipient organizations should participate in designing the technical assistance. In this case ASUPDA should have participated effectively in designing the level of technical assistance. More so, the fundamental transformation of orientation and programs of institutions ought to be carried out generally and not limited to the life of a loan facility for a project. Moreover, the supposed technical assistance was limited to the PIU which was a temporary outfit put together for the implementation of the project.

6.1.5 Cost Recovery Measures

Efficient cost recovery is required in a project to enhance its replicability. However, as seen in the analysis, the cost recovery efforts through property rating in Yola-Jimeta failed to yield desirable result. Without prejudice to the fact that property taxes are by far, the largest untapped potential sources of revenue for urban infrastructure and services, collection of property taxes will remain a difficult task in Nigeria. More

so, property rating in times of weak economic situations in the country with a greater percentage of the urban poor needs careful consideration.

There is therefore the need to look beyond property rating in cost recovery mechanism for urban investment in Nigeria. Other forms of cost recovery can be tried. In some countries, “special assessments” have had some successes. These are one – time levies on local residents who benefit from a specific improvement such as a road or a new drain. To succeed, this mechanism is best managed through local leaders or organizations that enjoy public trust. Political support from all interested parties, including traditional leaders is therefore considered imperative in achieving desirable results..

6.2 SHORT TERM RECOMMENDATIONS

To improve the sustainability of the Yola – Jimeta project, it is pertinent to make short-term recommendations towards enhancing improvement in the project benefits.

6.2.1 Water sector

In the short-term, the Adamawa State Water Board should improve the supply of water to the affected wards. The present scenario in which water flows once in a week or not at all does not call for the effective functioning of the city. A consideration of possible improvement of the water works to meet with present demand is also

imperative. In addition, consideration can be given to the sinking of boreholes to supplement the water condition in the wards.

One of the major sources of water supply in the area of study has been through water vendors. Boreholes are sunk and operated by the private sector that sells water to vendors to be further sold to members of the public. Appropriate regulatory framework needs to be put in place by government to guide the operation of this group. This can be done by integrating their activities into the institutional framework of public water supply in Yola-Jimeta. This is to ensure that, a minimum standard is achieved in the quality of water, pricing and appropriate location of the boreholes

6.2.2 Solid Waste Management

It was discovered during the survey that, the 3 remaining collection and disposal vehicles in the fleet of the waste management and pollution control unit of the Adamawa State Ministry of Environment are sometimes diverted by government officials to other uses such as conveyance of construction materials to individual sites. This development has affected the effective utilization of these vehicles for the purpose for which they are meant.

It is therefore recommended that, the remaining vehicles should be effectively utilized for the collection and disposal of solid waste. Legislations aimed at sanctioning erring officials and staff should be put in place by the government. Hence the number of

functional vehicles has decreased, what it means is that; the number of trips to be covered by each vehicle has to increase. The number of trips to be made by each vehicle in a day will however be based on the quantity of refuse generated. The operational zone of the vehicles should be rotated to cover the entire Yola- Jimeta. The two urban local governments can also be made to assist in clearing the town of refuse as an interim measure while ensuring adequate funding by the stakeholders i.e. the state and local governments to acquire new equipment, maintenance and training of staff.

It was also discovered during the survey that, fire is often times set unto the skip bins by residents in an attempt to reduce the effect of these dumps. The waste management and pollution control unit should educate members of the public against this. This is to increase the life span of the equipment and also, make lifting unto collection vehicles much easier.

6.3 CONCLUSION

The IDF model has been an innovation worth experimentation. It provided a learning ground in the foundation of future project articulation in the Nigerian urban sector. In specific terms, the Yola – Jimeta IDF made considerable efforts in the sectors where intervention took place. However the benefits that came with the project could not be sustained to the present due to a combination of factors.

A major factor is the failure of the financial mechanism and the non-inclusion of the issue of sustainability as a major objective of the project. The findings in this study revealed the failure of the financial mechanisms, which the project put in place in order to maintain and expand project benefits. The financial mechanisms could not have succeeded considering the fact that the collection of property rates and institutional capacity building that were tailored towards building a virile financial and institutional system performed below expectations.

In addition, the project failed to treat the issue of sustainability as a major success factor of the project. Another key aspect of failure is that, community based resources were not recognized as viable to the implementation of the project. This is to say that the IDF project was not such a clear success and therefore has low sustainability.

Future urban development assistance programs should therefore be packaged in such a way as to help in both physical development of needed infrastructure and the improvement of skills and technical know how that will guarantee the sustainability of the benefits. The potentials inherent in the utilization of community based resources for the implementation of project should also be explored and utilized.

It is also critical to submit that, we cannot afford to remain for too long in “the borrowers List” of international Institutions with the compounding difficulties of debt repayment. Generally, the idea of funding social projects with foreign loans of high

interest rates should be re-visited. There is therefore a dire need for a more imaginative way of financing Urban Infrastructure Development Projects. Total privatization is unfeasible in many cases, but there is now a gradual involvement of the private sector in the financing and management of Urban Infrastructure projects. A wide range of public – private partnership options in urban infrastructure services exists, which can be adopted on merit. Options ranging from franchising or concession, Build, Own and Operate (BOO), Build, Operate and Transfer (BOT) etc. are known to have been utilized in many countries including India, Hong Kong, Kenya, Cote d’ Ivore, the Philippines, Britain among others.

Finally, the federal government in conjunction with states and the local governments need to set policies to address issues of poverty. A large number of people in Nigeria’s urban areas do not have enough income to meet their basic needs. The World Bank (1995) reported that, about 21% of the urban population – 8.5 million people were estimated to be below the poverty line with 1.1 million classified as “severely poor”. An improvement in the income of the urban residents will go a long way in enhancing the provision of infrastructure on a cost – recovery basis that will guarantee sustainability.

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APPENDIX A

**DEPARTMENT OF URBAN AND REGIONAL PLANNING,
FACULTY OF ENVIRONMENTAL DESIGN,
AHMADU BELLO UNIVERSITY,
ZARIA.**

**IDF SOLID WASTE MANAGEMENT PROJECT IN YOLA –
JIMETA**

Questionnaire for the Waste Management and Pollution Control Unit, Adamawa state
Ministry of Environment, Yola.

I am a postgraduate student of the Department of Urban and Regional Planning, Ahmadu Bello University, Zaria. I am carrying out a research on the sustainability of Infrastructure Development Fund (IDF) Projects in Yola – Jimeta, Adamawa State. Your honest opinion on the issues raised will be highly appreciated. Be assured that, any information given will be confidentially treated.

Thank you.

1.0 Condition of Solid Waste and Collection Centres

1.1 What was the condition of solid waste collection before the IDF project?

.....
.....

1.2 How many collection points did you have in Yola/Jimeta at that time? (State Number)

.....
.....

1.3 With the IDF Project, how many collection points did you have (State Number)

.....
.....

1.4 Did the condition of solid waste collection improve with IDF

- (a) Yes
- (b) No
- 1.5 Has the improvement been sustained?
 - (a) Yes
 - (b) No
- 1.6 If No, why (State reasons)
 - (a)
 - (b)
 - (c)
 - (d)
 - (e)
- 1.7 What was the criteria used in the designation of collection points
 - (a) Nearness to major roads/streets
 - (b) In areas where refuse generation is high
 - (c) Areas of population concentration
 - (d) Any available open space
 - (e) Others (specify).....
- 1.8 Were people dumping refuse at the collection points during the implementation of IDF project?
 - (a) Yes
 - (b) No
- 1.9 Do people dump refuse at the designated collection points now?
 - (a) Yes
 - (b) No
- 1.9.1 If No, what steps have you taken to see that the public makes use of the collection centers?
 - (a)
 - (b)
 - (c)
 - (c)
 - ...

2.0 **Refuse Collection**

- 2.1 How many vehicles did you have before IDF project (State Number)
- 2.2 How many vehicles were supplied through the implementation of IDF project? (State Number)

.....

-
- 2.3 What type of vans or refuse collection vehicles was supplied?
 (a) Trucks
 (b) Tippers
 (c) Tractors
 (d) Others (specify).....
- 2.4 How many vehicles were involved in the collection of refuse in a day before IDF

- 2.5 How many trips did each vehicle make in a day before IDF?
 (a) 1 trip
 (b) 2-4 trips
 (c) 5 trips and above
 (d) Others (specify).....
- 2.6 What was the carrying capacity of each vehicle (in tons or kg)?

- 2.7 How many vehicles were involved in the collection of refuse in a day during the implementation of IDF project?

- 2.8 What was the carrying capacity of each vehicle (in tons or kg)?

- 2.9 How many trips was each vehicle making in a day during the implementation of IDF?
 (a) 1 trip
 (b) 2-4 trips
 (c) 5 trips and above
 (d) Others (specify).....
- 2.9.1 How many vehicles are involved in the collection of refuse in Yola/Jimeta presently?

- 2.9.2 How many trips does each vehicle make in a day presently?
 (a) 1 trip
 (b) 2-4 trips
 (c) 5 trips and above
 (d) Others (specify).....

3.0 **Refuse Disposal**

3.1 How was refuse disposed before IDF project?
.....
.....

3.2 During IDF Project, how many refuse disposal sites were established?
.....
.....

3.3 How many refuse disposal sites do you have now?
.....
.....

3.4 Are all the disposal sites presently in use?

(a) Yes

(b) No

3.5 If No, specify number and give reasons why they are not in use?

1

2

3

4

4.0 **Personnel**

4.1 What was the staff situation before IDF Project? (No. of staff).
.....
.....

4.2 How many trained staff did you have before IDF Project?
.....
.....
.....

4.3 How many staff were trained during the IDF Project?
.....
.....

4.4 What was the scope of training?
.....
.....

4.5 What is the present staff situation?
.....
.....

5.0 **Other Matters**

5.1 What major problem(s) is the body facing in the collection and disposal of refuse?
.....
.....

5.2 In your frank opinion, what do you think the IDF Solid Waste Management System (SWMS) would have addressed to ensure the sustainability of the SWMS in Yola – Jimeta?

.....
.....

5.3 What other measures do you recommend to improve the SWMS presently.

.....
.....
.....
.....

APPENDIX B

DEPARTMENT OF URBAN AND REGIONAL PLANNING, FACULTY OF ENVIRONMENTAL DESIGN, AHMADU BELLO UNIVERSITY, ZARIA.

QUESTIONNAIRE FOR THE PUBLIC AREA OF STUDY.....
STREET AND HOUSE NO.....

INFRASTRUCTURE DEVELOPMENT FUND (IDF) WATER PROJECT IN YOLA – JIMETA

1. Were you involved in the laying of the water pipes in your area?
(i). Yes / / (ii) No / /
2. If yes what was the nature of participation?
(i). Assisted in laying the pipes / / (ii). Provided labour in excavating
land / /
(iii). Consulted at Design stage (iv). Any other
(Specify).....
3. How often was water supply in your area before the pipes were laid?
(i). Not often / / (ii). Often / /
(iii). Very often / / (iv). Not at all
4. Were you connected to pipe borne water after the pipes were laid?
(i). Yes (ii). No
5. How often did you have water after the completion of the project?
(i). Once in a day (ii). Once in a week
(iii). Once in a month (iv). Did not flow at all
6. How often do you have water in your area presently?
(i). Once in a week or two weeks (ii). Daily
(iii). Not at all (iv). Once in a month
7. If your answer in 6 is i, iii, and iv, what is your alternative source of water
supply
(i). River (ii). Stream (iii). Water vendors
(iv). Well (v). Private borehole (vi). Others
(specify).....
8. If your answer in 7 is through water vendors, how much do you spend on
water daily?
(i). Below – ₦50.00 (ii) ₦ 60 - ₦ 100 (iii) ₦ 110 – ₦ 150.00
(iv) ₦ 150 – 200 (v) Above ₦ 200
9. In what ways do you think the water supply situation in your area can be
improved?
(i).....

- (ii).....
- (iii).....

APPENDIX C

**DEPARTMENT OF URBAN AND REGIONAL PLANNING,
FACULTY OF ENVIRONMENTAL DESIGN,
AHMADU BELLO UNIVERSITY, ZARIA.**

Questionnaire for the Public

Area of Study.....

Street and House No.....

IDF SOLID WASTE MANAGEMENT PROJECT IN YOLA – JIMETA

1. How many persons live in the house?
 - (a) 1-5 / /
 - (b) 6-10 / /
 - (c) 11 and above / /
2. What type of refuse do you normally generate?
 - (a) Food materials / /
 - (b) Ash and dust / /
 - (c) Metals and cans / /
 - (d) Plastics, paper and polythene / /
 - (e) Others (specify).....
3. Where do you normally dump your generated refuse?
 - (a) At a designated collection centre with skip bin / /
 - (b) In a pit outside the house / /
 - (c) Any available open space / /
 - (d) In a gutter / /
 - (e) Any other (specify).....
4. If your answer in 3 is (a) who dropped the refuse collection bin(s)
 - (a) Local Government / /
 - (b) World Bank (IDF) / /
 - (c) State Government / /
 - (d) Any other (specify).....
5. Were you consulted before the collection centre was located?
 - (a) Yes / /
 - (b) No / /
6. Where were you dumping your refuse before the collection point was located?

.....

.....
7. How often were they collecting refuse in your area before IDF
 - (a) Once in two weeks / /
 - (b) Once in a week / /
 - (c) Daily / /
 - (d) Not at all / /

8. What was the level of refuse collection during the implementation of IDF project?
 - (a) Collection frequency improved / /
 - (b) Collection frequency improved but not often
 - (c) Collection frequency did not improve
9. How often are they collecting refuse in your area now?
 - (a) Not Often (cannot be predicted) / /
 - (b) Often / /
 - (c) Very often / /
 - (d) Not at all / /
10. Do you pay for the refuse collected?
 - (a) Yes / /
 - (b) No / /
11. If yes, how much do you normally pay?
 - (a) Below ₦50.00 / /
 - (b) ₦50 – ₦100 / /
 - (c) ₦110 – ₦150/ /
 - (d) Above 150 / /
12. Did the IDF train you in the handling of refuse?

13. If yes, state how

14. In your opinion, do you believe that the intervention of the IDF project has improved refuse management in your neighborhood?

15. In your opinion, how can the refuse collection in your area be improved upon

