

Annex 3 – Tanzania Case Study

FACTORS SHAPING SUCCESSFUL
PUBLIC PRIVATE PARTNERSHIP IN
THE *ICT* SECTOR IN DEVELOPING
COUNTRIES
THE CASE OF TANZANIA

By

Dr. Hashim M. Twaakyondo
Dr. Eustela P. Bhalalusesa
Dr. Joyce L. Ndalichako

MARCH, 2002

Table of Contents

Table of Contents	2
LIST OF ABBREVIATIONS	3
ICT DEVELOPMENT IN TANZANIA	4
PUBLIC PRIVATE PARTNERSHIP IN TANZANIA.....	7
METHODOLOGY	10
CASE STUDY: SIMUNET COMPANY LIMITED.....	13
INTRODUCTION.....	13
INCENTIVES/OBJECTIVES OF THE PPP.....	14
MODE OF PARTNERSHIP IN TTCL (GOVERNANCE AND MANAGEMENT STRUCTURE).....	14
IMPACT OF THE SIMUNET PROJECT.....	15
THE SENGEREMA CASE STUDY	20
INTRODUCTION.....	20
GOVERNANCE STRUCTURE AND OWNERSHIP OF THE SENGEREMA MCT.....	23
IMPACTS OF THE PROJECT	24
KIGOMA/KASULU CASE STUDY	27
INTRODUCTION	27
INCENTIVES	28
GOVERNANCE AND MANAGEMENT STRUCTURE	29
IMPACT OF THE PROJECT	30

LIST OF ABBREVIATIONS

CATS	-	Computer and Telecommunication Systems Ltd
CIT	-	Confederation of Tanzania Industries
GDP	-	Gross Development Product
GOT	-	Government of Tanzania
HIPC	-	Heavily Indebted Poor Countries
ICT	-	Information and Communication Technology
ISPs	-	Internet Service Providers
NTBC	-	Tanzania National Business Council
NTP	-	National Telecommunication Policy
POP	-	Point of Presence
PSRC	-	Presidential Parastatal Sector Reform Commission
PSTN	-	Public Switched Telecommunication Network
TBC	-	Tanzania Broadcasting Commission
TCCIA	-	Tanzania Chamber of Commerce Industry and Agriculture
TIC	-	Tanzania Investment Centre
TNW	-	Tanzania National Website
TPC	-	Tanzania Posts Corporation
TPSF	-	Tanzania Private Sector Foundation
TPTC	-	Tanzania Posts and Telecommunications Corporation
TTC	-	Tanzania Communication Commission
TTCL	-	Tanzania Telecommunication Company Limited
UNDP	-	United Nations Development Programme
URT	-	United Republic of Tanzania

ICT DEVELOPMENT IN TANZANIA

Background

Tanzania is one of the poorest countries in the world. The country is located in East Africa and covers an area of 945,000 square kilometers. Administratively, the country has 25 regions (20 in the mainland and 5 Zanzibar). The estimated population by 2001 was 32 million people of which 51% are women and 46% are under age 15. About 50% of the population are living below the poverty line and the estimated per capita GNP is US\$ 241 and per capita GDP estimated at US\$251 (Tanzania National Website).

Agriculture is the dominant sector, employing over half of the Tanzanian population and represent about 40% of GDP. Congruent with the country's low development level, subsistence farming is prevalent, in many cases performed using just a hoe. The potential of commercial agriculture is seriously under-exploited. Coffee has been the main export commodity. However, in 1999, earnings from cashew nuts exceeded those from coffee for the first time. Other significant market crops include tea, cotton, cloves and tobacco. Tanzania is also a major livestock raising country although the drought has a severe impact on production of both crops and livestock.

Industrial activities face serious constraints from poor infrastructure such as bad roads to inadequate power supply. As a result, manufacturing activities in Tanzania, are relatively small and at an infancy stage. Its contribution to GDP has averaged 8% over the last decade, with most activities concentrated on manufacture of simple consumer goods - food, beverages, tobacco, textiles and furniture and wood allied products. Most of the present industries were established in the light of import substitution strategy, whereas production focused in substituting previously imported goods in view of saving the country's meagre foreign exchange.

Tanzania is one of the so-called Heavily Indebted Poor Countries (HIPC) and is starting to receive interim debt relief. In order to qualify for further debt relief, the country has to undertake certain activities including preparation of the National Poverty Eradication Strategy, which articulates strategic activities to be undertaken for poverty alleviation. The government has also produced Poverty Reduction Strategy Paper (PRSP). The PRSP focuses on efforts to reduce poverty through improving human capabilities, survival and social well.

In 1999, the Planning Commission published the Tanzania Development vision 2025. The document stipulates the kind of society that the country aspires to be by the year 2025. This document, together with the PRSP provides guidelines on activities that the government aspire to do. Promotion of science and technology and specifically promotion of Information Communication Technology are highlighted as key strategies in realising the vision 2025. The following parts of this report focus on ICT developments in Tanzania. The historical context of ICT is provided followed by an overview of various activities that are being implemented in an attempt to improve the ICT in Tanzania.

HISTORICAL CONTEXT OF ICT

Information technology came to Tanzania as early as 1956 when the Public Works Department under the British Administration introduced the Hand-Punch input device for computer cards (Sawe, 1999). It was used to capture data for processing elsewhere. In 1965, the country's first full scale computer processing facility was installed at the Ministry of Finance. This was an ICT Hollerith 1500 (later renamed ICL-1500). Although originally intended to serve the whole public sector, its demand was already overwhelming within two years. Baker (1993) conducted a survey of Information Technology in Tanzania. The survey revealed the following computer population growth:

1965	One single mainframe
1978	Five mainframes, seven minicomputers
1984	13 mainframes 15 minis, 79 microcomputers
1986	16 mainframes, 37 minis, 470 micros
1993	570 micros imported during the 2 nd quarter alone.

It is evident that by 1993 the population of computers in the country was still very low. This can be attributed to restrictive economic policies that existed. By then import of goods was very restricted.

POLICY CONTEXT GOVERNING THE PROVISION OF ICT

Tanzania Communication Act

Following the Tanzania Communication Act of 1993, the then Tanzania Posts and Telecommunications Corporation (TPTC), which played three roles: operator of Telecom services and Postal services and regulator of the services was dissolved and three institutions were created to separate those functionalities. The Tanzania Communication Commission (TCC) took the regulatory function, Tanzania Telecommunication Company Limited (TTCL) took the operator function and Tanzania Posts Corporation (TPC) took over the Postal services function. Among other functions, TCC is responsible for licensing telecommunications and postal operators, equipment vendors and contractors and monitoring their performance

The Broadcasting Services Act

In the same year (1993) the Broadcasting Service Act was released. Subsequently, the Tanzania Broadcasting Commission (TBC) was formed. The TBC is responsible for issuing broadcasting license and for prohibiting unlicensed broadcasting. Broadcasting services include both radio and television programmes.

National Telecommunication Policy

The Government released the National Telecommunication Policy in 1997. The telecommunication policy objectives include:

Provision of adequate, sustainable, and efficient telecommunication services in all sectors of the economy;
Development of reliable telecommunication infrastructure and facilitation of service connectivity nationally and internationally.

The NTP acknowledges the role of private sector in telecommunication services, “private network operators will be encouraged to lease excess capacity to public switched telecommunication network (PSTN)” (URT, 1997, p. 8).

Towards Development of the Overall ICT Policy

A forum, supported by the United Nations Development Programme (UNDP), known as eThink Tank has been working to help Tanzania harness the development of information and communications technologies (ICT). The people behind this non-governmental and independent institution, all coming from businesses, and organizations involved one way or another in information technology, have come together to present the public and Government with ideas and suggestions to help the transition of the country into the information age.

The eThink Tank's mission is to offer ICT leadership by catalysing policy changes and by supporting related developments aimed at enabling Tanzanians to participate effectively in the modern Internet-based global economy, benefiting the Nation and its partners.

The key objective of eThink Tank is to educate the Tanzanian public in the use of information and communication technology and to make them aware of the benefits available by accessing, sharing, and processing knowledge via modern technologies. Another priority objective is helping the process of harmonizing Tanzania's ICT policy and regulatory environment with that of neighbouring states and partner countries. Recently, the government has appointed a team to work on ICT policy in Tanzania.

Liberalisation of Telecommunication Services

Liberalisation in the Telecommunications sector in Tanzania began in 1993 with main objectives of improving efficiency, attracting financing for development and modernisation of its infrastructure, at the same time to generating revenue for the GOT. In February 2001, the GOT successfully divested 35% of its shares in TTCL to a strategic investor, the MSI (of Netherlands) and Detecon consortium (of German) in a privatisation deal worth US\$120 million with a commitment to increase the number of connected telephone lines. As of July 2000, TTCL had 165,000 connected lines with an exchange capacity of 234,000. There have been no changes in teledensity because the roll out plan for the privatisation obligation has just started. However, it is expected that the teledensity will rise to about 3% by the year 2004/2005 (this includes both fixed and mobile lines). On the other hand, the ICT penetration has increased in terms of region coverage. Through TTCL, connectivity has increased from 8 regions (40%) in 2000 to 15 regions (70%) in 2002 and this is expected to go up to 100% by June, 2002 (TTCL, 1999) The backbone network consists of fibre optic in Dar es Salaam and microwave links between major towns. A condition of the privatisation of TTCL is that at least 800,000 lines be connected at the end of four years (i.e. by 2005). This goal is expected to be achieved given that the strategic investor was selected based on the ability to raise capital for network expansion and to manage telecom networks. One of the key factors that could support this achievement is that the cost of connectivity is decreasing due to technological advancement which makes telecom equipment to be cheaper than before.

With the assistance of international donors namely, World Bank, SIDA, JICA, DANIDA, Kuwait Fund, CIDA, EU and ADB (See TTCL, 1999), and with a view to preparing TTCL for a competitive environment, over the period 1995 to 1999 TTCL embarked on Telecommunication Restructuring Programme (TRP). TRP has resulted in a network that is over 95% digitalised although network quality issues still exist in rural areas. The core objective is to expand the network and to increase its data carrying capacity (Yonah, 2001). Other project initiated with the intention of improving productivity and enhancing financial controls is the implementation of new service order and billing system (Esselaar and Associates, 2001).

Review of Existing Telecommunication and Data communication structures

Mobile networks

There are five licensed operators of mobile cellular networks. These include Mobitel, Tritel, Vodacom, Zantel, and now Celtel which are either privately owned or operate in partnership mode. The mobile operators lease backbone transmission capacity (leased line) and interconnect through TTCL. There are two licensed providers of basic telecom services: with Tanzania Telecommunications Company Limited (TTCL) as a monopoly in the Mainland and a duopoly with Zantel in the Zanzibar Islands.

TTCL privatisation process was concluded in February 2001, with exclusivity on voice services until the year 2003. All these operators are capitalising on the existence of the PSTN with its digital transmission backbone for profitable operations (Luhanga & Yonah, 2001).

Mobile operators are on the Value-Added-Services (VAS) while fixed-line operators provide basic services according to existing regulatory framework for telecom sector in Tanzania. Basic services include voice, fax, payphone, over fixed line access network, leased line, over PSTN (backbone). On the other hand Value-Added-Services include voice over cellular mobile access networks, internet, data, video etc. Therefore, TTCL has a monopoly on the PSTN and hence on the basic services while the mobile operators focus on liberalized VAS.

Data communication service providers

TCC has provided license to six companies that allow them to provide Public Data Communication Services. These include: Wilken Afsat, Datel Tanzania, Equant Tanzania, Simbanet Tanzania, Soft Tech Tanzania, and Fastcom Africa. These companies are allowed to install infrastructure for data communication purposes but not for voice.

Internet Service Providers and Internet Cafes

There are presently 13 licensed Internet Services Providers (ISPs). Industry insiders give estimates of between 10,000 to 15,000 dial up accounts in the country with many more users via Corporate LANS and Internet Cafes (Esselaar & Associates, 2001). However, the mushrooming of Internet cafes particularly in Dar es Salaam is an indication that the existing connectivity structures do not meet the country's demand.

Yonah (2001) indicated that TTCL/SIMUNET is implementing Points of Presence (POP) at zonal (10), regional (27) and district levels (over 70). The intention is to allow Internet -access calls (dial-up access) in Tanzania become local calls. This service is being marketed throughout the country.

The Sengerema Telecentre

The Sengerema telecentre is a pilot project under the Ministry of Science, Technology and Higher Education with the objective of improving communications in rural areas. The telecentre started operating in January 2001. However, due to lightning the communications were broken from April 2001. At that time, 246 e-mail accounts had been provided but no Internet activity had taken place. The telecentre is being used as an avenue for providing basic training in computer skills, like word processing (Esselaar and Associates, 2001).

PUBLIC PRIVATE PARTNERSHIP IN TANZANIA

Introduction

Tanzania became a centrally planned economy in 1967. The government controlled everything. Between the country's independence in 1961 and 1996, the government had created 425 parastatal enterprises. However, overtime the economy deteriorated; the revenue was low and the production was almost nil. This situation was particularly notable in 1980s and the vulnerability of parastatal sector became evident. The government had to subsidise heavily the parastatals to keep them operating.

In the fiscal year 1986/87, the government priority was on financial reform. There was very little capital formation. The government needed to create favourable environment and encourage foreign investors to come in.

Currently, the GOT has redefined the role of the state to that of policy maker, maintenance of law and order, provider of basic social and economic infrastructure and facilitator of economic growth. The GOT recognises that it has the role to facilitate the private sector and other economic agents to actively and effectively invest in productive and commercial activities in order to accelerate economic growth and development (Tanzania National Website). The GOT can do this mainly through putting favourable policies in place, provision of a conducive environment for local and foreign investment, promotion of institutional changes conducive to the development of the private sector.

In recognition of this important role towards creating an enabling environment for private sector development, the GOT has been implementing wide ranging institutional and policy reforms. It has liberalised its economy although the actual measurement of the extent of liberalization is not available. Furthermore, the GOT has amended and enacted a number of investment-related laws and policies, undertaken financial reforms, liberalised its trading regime; put in place an attractive investment package which includes tax exemption over ICT, school, agriculture and hospital equipment, and profit repatriation (See [www. Tanzania.go.tz](http://www.tanzania.go.tz)); and undertook a number of initiatives to promote and develop the private sector. Tanzania now has become one of the most liberal investment regimes in Africa (Parastatal Sector Reform Commission, 2000).

Privatisation Process in Tanzania

Privatisation is the term often used for the selling of government-owned enterprises to private sector or to joint private-government ownership with the private sector having the majority of shares and management decision-making. Most of the government-owned enterprises had not been operating at a profit, thus causing a severe drain on scarce government resources, hence the need to privatise became evident. The incentives for privatisation is that private firms will operate more efficiently, will no longer require government subsidies and scarce foreign exchange for inputs and investment but will remit corporate tax

revenue to the government. Private firms are expected to allocate human and capital resources more efficiently, be more vigorous in finding markets, and will add to the now more competitive economy (Due, 1993; Due & Temu, 1998).

Privatisation is the most prominent form of partnership existing in Tanzania. Privatisation is defined as a form of partnership in the sense that the government (public) has (own) shares as well as the private sector. The management and board controls are also shared while the activities are jointly carried out. The government has created policies to attract investors in all economic sectors including banking and insurance. Special efforts have been directed at the tourism, mining, construction and energy sectors. Concurrently, efforts are directed to transform the agriculture from the subsistence farming to a modern commercial industry. Several initiatives have been taken to create favourable environment for privatisation. Some of these initiatives are hereby presented.

National Investment Promotion Act

The National Investment Promotion Act was enacted in 1990 (and revised 1997) to create Tanzania Investment Centre (TIC). The role of this Centre is to explore investment opportunities and encourage investors to come to Tanzania. The Act provides investment incentives, identifies priority areas for investment and provides safeguards to protect private investors against expropriation.

Parastatal Sector Reform Commission

In 1993, the Presidential Parastatal Sector Reform Commission (PSRC) was established and charged with the divestiture of the nearly 400 public enterprises and various state assets. The major role of PSRC is to coordinate the implementation of government's economic reform efforts in the form of privatisation. By December 1999, over 295 (about 74%) public enterprises were divested. Most of these companies were mainly small and medium-sized enterprises (PSRC, 2000).

Strengthening Consultation with the private sector

GOT has developed modalities for institutionalising the then ad-hoc consultative process with the private sector in evolving appropriate and effective macro and sectoral policies. (e.g. through participation in the Government Tax Task force and the Public Expenditure Review working groups). Similarly, the private sector itself has evolved institutional mechanisms of interactions and consultations with the Government through umbrella organisation such as the Tanzania Chamber of Commerce Industry and Agriculture (TCCIA), Confederation of Tanzania Industries (CTI), the Tanzania Private Sector Foundation (TPSF) and the National Business Council (TNBC) which was launched in April 2001. TNBC provides the main forum for public - private sector consultations on strategic issues of economic growth and economic development.

Public monopoly in the financial sector has been broken as there are now more than 20 private banks and financial intermediaries accounting for nearly 80% of total assets in the banking system. The insurance market has been opened to private and foreign participation and a Dar es Salaam Stock Exchange has been opened.

Motivation for Privatisation

The privatisation policy aim at ensuring and promoting the widest possible participation of the private sector, and people as a whole in the ownership and management of restructured economic activities. The factors that motivated the government to reach this decision include:

- Improving efficiency;
- Increasing capacity utilisation;
- Offering new employment opportunities;
- Enhancing production;
- Bringing new skills and technology;
- Opening up foreign markets for our products;
- Increasing government revenues through taxes and dividends; and
- Cutting public loses incurred through the parastatal sector. (PSRC, 2000).

Progress in Privatisation

As already pointed out, the government has so far divested over 295 public enterprises either by outright sales to local and foreign investors or leases and liquidation. The process for privatising large enterprises is underway. These include the Dar es Salaam Water and Sewerage Authority (DAWASA), Tanzania Railways Corporation, Tanzania Harbours Authority (THA), Tanzania Electric Supply Company Limited (TANESCO), National Insurance Corporation (NIC), Air Tanzania Corporation (ATC) and the National Microfinance Bank (NMB). Description of the process involved in privatisation of some of these enterprises and the envisaged mode of partnership is hereby provided.

Tanzania Railways Authority (TRC)

TRC is one of the country's largest infrastructure enterprises providing transportation of goods (domestic goods, imports and exports cargo) and passengers within the country and of transit traffic to the land-locked countries of Western Congo, Burundi, Rwanda and Uganda.

Tanzania's second railway is the Tanzania Zambia Railway Authority, which is jointly owned by the government of Tanzania, and Zambia. However it does not interconnect with TRC due to the difference in grid width. It is also being considered for privatisation by concession, but it is not part of PSRC's portfolio of parastatals to privatise.

Nature of partnership. The government policy in principle is to retain ownership of assets at least the rail track and to involve the private sector in the investment and operations of rail assets through some form of a long-term contract lease or concession. However, the nature of concession has not yet been determined.

Tanzania Harbours Authority

THA is a public corporation incorporated by the THA Act of 1977 and governed by the Public Corporation Act of 1969, revised 1992, 1993 and 1999. Commercialisation of THA commenced in 1994 when the government entered into a performance contract with THA. The private sector is already participating in the grain terminal.

The objectives of in privatising THA are to improve efficiency of port operations and enhance quality of services offered to customers, to improve the port's competitiveness over other regional ports and to improve portability of port operations.

Nature of partnership. The original reform strategy for THA approved in 1997, was for the government to retain ownership of the major port assets through THA acting as a landlord and to involve the private sector in the operations through long term agreements such as lease or concession contracts.

The National Micro-finance Bank

The National Micro-finance Bank Ltd. The NMB Ltd was formed in 1997 following the split of the former National Bank of Commerce Ltd. The NMB was formed to provide banking service in Tanzania. Its main function is on serving the needs of lower balance savers in both urban and rural locations and overtime it aims at offering to micro-entrepreneurs. The government intends to sell controlling stake of up to 70% of the shareholding in NMB. The partner will have Board and Management Control.

The few cases presented here highlight on the government trend towards privatisation and nature of partnership advocated.

METHODOLOGY

This section provides the research methodology of the study. It begins with the overall objectives of the study, the research questions that guided the investigation, the approach used and the rationale for the choice of that approach. The section ends with a detail of the research methods employed in collecting data as well as the limitation of the study as related to the overall conceived framework of the study.

The purpose of the study

The study aimed at identifying and informing public and private sector policy makers of the factors shaping successful pro-poor information partnership between business, government, the public sector and civil society. The study was conceived with the view of being conducted in two research phases. The first phase involved the development of a framework for understanding PPPs in the ICT sector, factors influencing private involvement, and the initial development of indicators for assessing the effectiveness of PPPs for addressing poverty. The first phase also was anticipated to point towards policy issues that may cause confirmation or changes in strategy by governments (donor and development), telcons and business, and NGOs and pro-poor development. The second phase is conditional on the outcome of first phase and will develop a deeper conceptual understanding of the forms and functions of PPPs in the ICT sector, provide a survey of existing PPPs and test the indicators developed in the inception/first phase. The present report is based on the first (inception phase).

Primary research questions:

The study was guided by the following research questions:

What type of partnerships currently exists in this sector, and what are their characteristics?

What are the incentives for entry into partnership by the private and public sector?

What factors contribute to the success/failure of partnerships in this section?

What impact on PPPs in the ICT sector have on poverty reduction in developing countries?

Within these four broad questions a number of sub-research questions were developed and these formed the basis of the interview guides used to collect information.

Research design and methods

Selecting specific research strategies, epistemologies and methods from many, each of which can reveal something different about the phenomenon under study, is a challenging issue. Clearly, methodological decisions depend upon what the researcher wants to know, how the problem is defined, the goals and circumstances of the research, and above all the nature of the phenomenon under study. In developing every research strategy something will inevitably be gained and something sacrificed. One can only weigh up each strategy's benefits against their limitations and select accordingly.

The main goal of this study involved getting some documentation (conducting literature review) as well as some valuable and unique insight on PPPs in the ICT sector in Tanzania. In particular, a need to understand the various forms of governance employed in these partnerships so as to provide a framework for understanding the incentives for entry by public and private partners. For this reasons a largely qualitative case study strategy was adopted. The value of case study approach for this enquiry lied in the possibilities it provides for focusing on personal understandings. Given the aims of the research, a methodology that emphasises detailed, multifaceted focusing on a small number of individuals rather than a statistical sample deemed essential. The researchers also decided to adopt qualitative case study methodology because it involves the researcher spending time in the setting under study (field work). This provided an opportunity, to interact with the partners and users/beneficiaries, hence gain first hand information and full understanding of the attitudes towards engaging in PPPs in this sector. On top of that it also provided an opportunity to gain an understanding on the incentives and constraints that emerge from public, private and civil society organisations' participation in PPPs in the ICT sector in a developing country like Tanzania.

Selection of the case studies and the samples

Sampling in qualitative research is purposeful rather than random and is done with the aim of gaining deeper understanding of the problem under investigation. Taking this into consideration, we set boundaries

of case(s) that could be studied within limits of time and means and also selected potentially information rich cases, which are those from which one can learn a great deal about issues of central importance to the purpose of the research. Since we did not have the profile of PPPs in the ICT sector in Tanzania, we had to seek for this information from TCC as a regulatory organ responsible for licensing telecommunications. Given the purpose of the study we purposively selected SIMUNET as an example of MACRO case study because it covers the whole country. On the other hand, SENGEREMA Multipurpose Community Telecentre was earmarked as MICRO case study as it is concentrated in a small area i.e Sengerema Town. We also approached Ericsson and got to know about the KIGOMA/KASULU Project. Although, the project was at infancy stage, we felt it was an interesting and invaluable case worth studying. The project was addressing a special target group (refugees) in one of the remotest place in Tanzania where plans for public ICT sector provision is but a distant dream, due to lack of digital transmission systems and poor or no electricity supply. We had also intended to have Radio/TV as the fourth case study but failed to get adequate information that would have led us to identify, if any, the existence of partnership in Radio and TV Programmes.

The sample of contact persons was categorised into two main groups: Main partners as key players and end-users or beneficiaries. We did not have a specific number of persons to contact for the interviews but in most cases one contact led to another until when we gathered the information required to write the report. However, as indicated in the limitations of the study, not every partner was interviewed. Initial contact persons in most cases were the General Managers of the respective companies and these guided us on other key persons to interview. For the SIMUNET case study for example the Project Director was the key informant and through him we got the names of other contact persons. The same applied to the Kigoma/Kasulu project where the Ericsson project manager was the key informant. Through him we were able to know other partners involved in the partnership (MOBITEL, UNHCR and RED-CROSS) in Dar es Salaam. Given their tight schedule and responsibilities it was not very easy arranging time for interviews. However, once agreed for the time they proved to be highly co-operative. The sample of end-users was obtained randomly based on personal willingness to be interviewed. In Dar es Salaam a selected number of Internet cafes were visited and interviews were conducted with the owners as well as customers. The focus was on those cafes connected to SIMUNET.

Data collection methods

As indicated before, the study adopted a qualitative research methodology, and utilised semi-structured interviews, and documentary review as the main methods of data collection.

Interviews

There are three basic approaches to collecting data through interviews. One is the structured interview, which involves structured questions, along the lines of formal survey. It is often used, when a large sample is to be surveyed, when hypotheses are to be tested, or when quantification of results and comparison of data across the larger sample is important.

The other two approaches are used when the sample is not too large and in-depth knowledge is required. These are: the unstructured, open ended and semi-structured interview. The unstructured open-ended interview can be compared to an informal conversation initiated and guided by the researcher but with a focus of inquiry clearly in mind. No pre-determined set of questions is possible under such circumstances. Rather, the researcher asks questions pertinent to the study as the opportunity arises. While this type of interview allows the interviewer to be highly responsive to individual differences and situational changes, it also requires a great deal of time to get systematic information.

The semi-structured interview is often used when similar information is desired from all informants. Unlike the totally unstructured or structured, the semi structured interview requires a framework of questions or issues to be explored in the course of interview but with considerable flexibility in how and when they are to be asked. The major advantage of this approach is that it helps the researcher to make best use of the limited time available while at the same time making interviewing different people more systematic. Additionally, it enables the researcher to probe and ask follow up questions thereby gaining a deeper understanding of interviewee's experiences, feelings, and perspectives.

For these reasons, the semi-structured interview was adopted as the main method for data collection. Written guidelines were based on issues identified from the broad research questions. These guidelines helped to increase the comprehensiveness of the data and made data collection more systematic for each informant. Most of the questions were open ended, and there was more emphasis on the interviewees elaborating points of interest. The interview guides are attached in Annex 1.

Documentary Review

In this study, documentary analysis was chosen as another major source of data. The usefulness of documents is based on their stability, in that they were reviewed repeatedly and validate information obtained from other sources. In this study, key documents related to PPP in ICT in general were analysed and scrutinised. Consideration of some documents before the interviews helped the team to come up with refined interview questions.

Limitations

This study had several limitations.

ICT sector in Tanzania is not yet well developed and expanded to all parts of the Tanzanian society. It is largely urban-oriented. Accordingly, it necessitates basic literacy and certain level of English skills which majority Tanzanians do not have. A generalised assessment of the impact of the ICT sector on of poverty alleviation in such context becomes a bit complex.

The process of developing the interview guides and analysing the findings was supposed to take into consideration of the framework developed from the literature. This was observed throughout the process of executing the study.

This study intended to get a picture of the story on how the partnership was initiated, implemented, the roles played by each partner and also the incentives for entry by each of the partner. Besides, the study also intended to assess the impact of ICT on poverty alleviation. This entailed seeking information from end-users. The Kigoma/Kasulu project for example has just started and is not yet expanded to cover the target areas and groups. The Sengerema Multipurpose Telecentre also is still in the pilot phase. Therefore, assessing impact on poverty alleviation was somehow difficult. The information we obtained was rather indicative of what would be the impact.

Accordingly arranging appointments for interviews within a short time was also a problem. In Sengerema for example, it was not possible to meet each and every one in the local steering committee or in the national Project management committee due to various reasons. For the LSC some were not in the district at the time of the interview. Some were busy with their own activities, since there were no long pre-appointment for the interview.

At national level the situation is the same, some members were completely outside the country. No one in the International organization has been interviewed. However, the Chairman of the Project management committee, who is also the representative of international organizations, represented their views.

Finally, this study adopted a case study approach. While it was possible to get detailed information, this cannot be claimed to be a representative of the whole country worth generalising. Nonetheless, it has shed light for a broader study.

CASE STUDY: SIMUNET COMPANY LIMITED

INTRODUCTION

SIMUNET Company limited is one of the directorates (departments) in the Tanzania Telecommunication Company Limited (TTCL). As already indicated, TTCL emerged following the Tanzania Communication Act of 1993, the then Tanzania Posts and Telecommunications Corporation (TPTC), which played three roles: operator of Telecom services and Postal services and regulator of the services was dissolved and three institutions were created to separate those functionalities. The Tanzania Communication Commission (TCC) took the regulatory function, Tanzania Telecommunication Company Limited (TTCL) took the operator function and Tanzania Posts Corporation (TPC) took over the Postal services function.

SIMUNET was licensed in 1998 under Tanzania Communication Act of 1993 to establish, install, operate, maintain, and exploit Internet access facility/systems and IP-based inter-branch connectivity. Briefly, it is a subsidiary of Tanzania Telecommunications Company Limited (TTCL) dedicated to the provision of Internet-access and IP-based data solutions in Tanzania. While SIMUNET has its own Board of Directors, it is obliged to report to TTCL Board of Directors. In General, the management and policy structures of SIMUNET are similar to those of the parent company, that is TTCL. Thus, although this case study is focusing on SIMUNET, TTCL will also be referred from time to time because it is sort of a parent company of SIMUNET. As a result, the SIMUNET structure and operation procedures are similar to those of TTCL. Furthermore, the nature of partnership existing in TTCL will also apply to SIMUNET, its subsidiary.

According to information obtained from SIMUNET, the company's main objective is to reach a large mass of Tanzania population and to increase Internet usage among all Tanzanians in order to improve their socio-economic well being. This is SIMUNET's mandate given by the government because at the time SIMUNET was started, TTCL was wholly owned by the government.

How the Project and Partnership evolved

The PPP for the SIMUNET project has its roots in the move by the Government to sell its shares to private companies. Following this move, the Government also decided to liberalise the Telecommunications sector hence the establishment of SIMUNET as a business company within TTCL. SIMUNET is a registered company in Tanzania operating in a partnership mode. SIMUNET is a fully subsidiary of TTCL. Hence the partners are the same as those of TTCL. Government is the public partner and MSI and Detecon are the private partners; and these are the implementers of SIMUNET objectives because they have been given management control.

TTCL realized a need to do business on the global communication or Internet. The Internet project started in June 1998 as a pilot project to provide Internet services to TTCL. The project started with Internet link from University of Dar es Salaam computing centre. In September 1998 the project was included in an initiative to promote new services. The new services team was formed to promote introduction of Internet, mobile phones, paging and global mobile personal communications systems (GMPCS).

From the four services, Internet progressed as an Internet project. In August 1999, the project established an international link with a capacity of 2/2 Mbps, and the first customer was connected in October 1999, on trial basis. For a period of two years (October 1999 -September 2001), the project saw a tremendous growth in terms of infrastructure and customer base.

Within the same context of improving efficiency, attracting financing for development and modernisation of its infrastructure, as well as generating revenue, the Government of Tanzania, in February 2001, divested 35% of its shares in TTCL to the MSI (of Netherlands) and Detecon consortium (of German) with a

commitment to increase the number of connected telephone lines. In turn the two companies were given the control of the Board and management of TTCL. As of July 2000, TTCL had 165,000 connected lines with an exchange capacity of 234,000. A condition of the privatisation of TTCL is that at least 800,000 lines be connected at the end of four years (i.e. by 2005). The backbone network consists of fibre optic in Dar es Salaam and microwave links between major towns (Yonah, 2001).

An interesting question would be why Detecon and MSI and not any other partner? According to the information obtained from the Project Manager, TTCL advertised the need for partners through Internet and about 200 companies worldwide indicated their interest. However, the two companies of Detecon and MSI won the bid. These two companies joined hands because of their areas of expertise; Detecon are experts on telecommunication operations and networking, where as the MSI are experts in Mobile technology hence the creation of Celtel: another subsidiary company of TTCL. Thus managing together these two areas makes a good partnership. As already mentioned, SIMUNET being the subsidiary of TTCL automatically entered into this partnership.

INCENTIVES/OBJECTIVES OF THE PPP

As indicated before, TTCL/SIMUNET decided to enter into partnership in order to improve efficiency, attract financing for development and modernisation of its infrastructure, as well as to generate revenue for the government.

Behind this was SIMUNET 's vision and mission to reach a large mass of Tanzania population and increase Internet usage among all Tanzanians in order to increase their socio-economic well-being. This is on the side of the government. The Investors Detecon and MSI on the other side could be said to have their own motives or incentives of entering into partnership. First, the major incentive is to do business and make profit. Second is to have new areas of investment and if possible to have business domination in other areas of the world. Closely related to this is to have control of market forces as well. The main incentive on the part of the government is to try as much as possible to withdraw from doing business. Instead it wants the private sector to do so while it provides an enabling environment for this to be accomplished (see www.Tanzania.go.tz).

MODE OF PARTNERSHIP IN TTCL (GOVERNANCE AND MANAGEMENT STRUCTURE)

SIMUNET has its own Board of Directors, as the supreme organ, which oversees the activities of the Company. The board provides the policy and general guidelines and has the duty to appoint the General Manager (GM). SIMUNET Board is answerable to TTCL's Board. The day to day operations of SIMUNET is carried out under the GM who reports directly to the SIMUNET Board of Directors. The TTCL Board is composed of four directors from the public and five directors from the private partners while the SIMUNET Board has five members of which two from the public and three from the private sector.

As an independent company, SIMUNET has its own budget, the implementation of which is the responsibility of SIMUNET Management.

SIMUNET potential customers for its services are categorized into:-

Corporate circuits. These customers fall into three subgroups:

Corporate customers who are wholesalers of bandwidth, such as ISPs and Data Operators.

Corporate customers who will buy bulky bandwidth for own use especially for Data communications and Internet Access, e.g. Banks, Educational and Government Departments.

TTCL as a special corporate customer

Non-corporate customers with shared circuits: These customers include small businesses and Internet Cafés.

Dial up customers.

IMPACT OF THE SIMUNET PROJECT

The objective of establishing SIMUNET was to exploit the Internet market in Tanzania by helping the ISPs by laying the basic infrastructure for them to operate affordably in the whole of Tanzania. Before establishment of SIMUNET the only option was to use wireless links and satellite-based links through VSAs to connect customers in Tanzania. This method proved to be expensive to many subscribers as the costs involved for implementation and monthly charges were prohibitively high. Dial-up customers in the regions had to subscribe to ISP who primarily is based in Dar es Salaam. This made Internet access services through dial up very expensive since it involved STD calls for dial-up users in the regions. By establishing regional PoPs, SIMUNET expects to reduce the costs since dial-in servers could be moved into the regions and enable all dial-up subscribers to dial to the Internet on local calls. This move will help SIMUNET to reach the disadvantaged group, since the services will be very close to the common man.

As a way of assessing the impact of ICT we visited a number of Internet cafes and interviewed the users on the benefits they were getting and the type of information they searched for from the Internet. We decided to use the SIMUNET Internet Cafes because many people of different categories in terms of age, education and may have varying needs for using the ICT. Due to time and financial limitations, we were unable to include other categories of SIMUNET customers. Furthermore, our case study was limited to SIMUNET Cafes and hence we did not visit other Internet cafes.

A total of four Internet Cafes namely, Call for Less, Shadow, IT Telecom and Iszungo were visited. It was noted that the profile of users included children, youths and adults with youths being the dominant group. The age groups of users interviewed are summarised in Table 1.

Table 1: Age Profile of Internet Café users

Age group	Male	Female	Total	Percentage
10-20	5	4	9	45
21-30	6	2	8	40
31-40	0	2	2	10
41-50	1	0	1	5
Total	12	8	20	100

It is evident from Table 1 that the majority (85%) of users are of age ranging from 10-30. None of the users interviewed was below 10 years of age and none was above 50 years.

In terms of the nature of the users of the cafes, various groups emerged from the interviews. These include students from primary and secondary schools, higher learning institutions students of whom some are taking advanced diploma, first degree, masters and PhD. We also encountered business persons and one pharmacist. Thus it can be seen that the users of Internet cafes have different levels of education. From the users we interviewed none of them has experience with the use of typewriter and 35 % own mobile telephone. All the users under age of 20, who were interviewed do not own mobile telephones although 76% of them indicated that their parents owned mobile telephones.

As far as computer literacy is concerned, the levels of the users varies from those who just know how to send e-mails, surfing internet, and playing games (15%) to those who can also use other basic programme like word processing (75%). The remaining users (15%) indicated that they could use basic programme as

well as advanced programmes like Database programmes and Data analysis packages apart from using the basic programmes. When asked what they are using their advanced computer knowledge for, they indicated it is basically for their education purpose, however, one user who claimed to be conversant with designing websites and databases indicated that he is marketing his skills so that he may be used by individuals and companies as a consultant, (he is completing Masters degree in Engineering).

What is important to note is that use of internet cafes requires one to have some sort of computer knowledge and also one has to pay for the computer depending on the amount of time spent. As a result, most of the low income people and unemployed people can not afford to be part of this service, by low income here we mean the minimum wage which is below US\$ 50.00

Major uses of Internet Cafes. From the Internet Cafes visited, it was revealed that youths use Internet mainly for recreational purposes, while many adults visit the café to check for and send e-mails. Students from one secondary school in the city have made a special arrangement with the owner of the Call for Less café to use the Internet for educational purposes every Sunday (8.00-12.00) free of charge.

Overall, users showed appreciation and were very positive on the benefits they were getting from the Internet. The following were some of the mentioned benefits: (The percentages do not add to 100 because many users provided multiple benefits)

Being informed about different issues which occur globally such as business, technical, economic, social and political. This raises awareness of what is taking place and helps them in finding ways of fitting themselves in the context of what is happening. (20%)

Acquiring information in quicker way than when using libraries. "most of the libraries (in Tanzania) are stocked with outdated materials". In the internet "you can find almost all information you want". (25%)

Sending e-mails, Chatting with friend and relative was also mentioned as the benefit of using the cafes. Some of the users indicated that they have relatives abroad and they find internet as a fast and cheap means of communicated when compared to the promptness of the service as opposed to the use of postal services with the internet; "you can even get the reply just on the spot". On the other hand they indicated that telephone is expensive. This group comprises about 85% of the users.

Looking for employment and scholarship opportunities as some of the websites put advertisement for such kind of information. (30%)

Whereas these were pointed out as positive benefits of the Internet, other users especially adults had different views. Internet on the other hand was seen as a new culture with its own negative effects. Once one is used to it he/she becomes addictive/a slave of the net. They strongly felt that this was dangerous for children and youths since they have to look for any means possible to get money and visit the cafes. Sometimes they just go there to searching for pornography, which they feel, may erode our moral values and culture. They feel that the time used for this could have otherwise been used for other productive activities.

Owners Perception of Internet Cafes. As for the owners of the cafes this was a good move and a lucrative business. A single customer pays Tshs 800-1000/= per hour. Depending on the number of computers one owns, but in average one can get up to 150 customers a day with approximately Tshs 120,000/=(about US \$ 150) per day. However, the number of customers per day depends very much on the location of the cafes.

The cost of subscribing to SIMUNET is US\$600 per months regardless of the number of computers that one owns while the cost of one computer is about USD 800. Other operational costs like electricity, business license and salaries do not exceed USD 600 per month. One owner indicated that the investment cost was about US\$15,000. The Owners feel that the running costs of internet cafes are high and they do not make much profit but they get a reliable income. They further indicated that through operating the internet cafes they have been able to get in touch with various people from inside and outside the country. Through interaction with such people, they have been able to learn what others are doing and hence expand their knowledge and skills in running business. Additionally, the users of internet cafes do provide invaluable information to owners about the way their cafes are operated.

The owners also indicated that the internet cafes enhance their social security as they can be trusted to ask for loans from individuals or banks. Quoting one owner “this internet café is a profit promising project and it acts as a security”

When asked why they decided to subscribe to SIMUNET, they indicated that SIMUNET delivers good services in terms of speed and reliability. As a result, it attracts more users because they do not have to spend much time just to open a certain website. During interviews with one owner of the internet cafe, it was revealed that their business looks promising after subscribing to SIMUNET, “initially we were subscribing with Cyber Twiga but the service was just too slow and unreliable to the extent that we literally lost customers and had to close the café for a while. But now with our subscription with SIMUNET the business is picking up as customers are confident of reliable and fast services”.

Concerning the possibility of offering reduced rates for the people in need of the Internet cafes services but they have no sufficient funds, they indicated that they can not afford to do so because they find that the running costs are very high and they themselves (owners) cannot get reduced monthly subscription rates.

The Mission of SIMUNET

The mission of SIMUNET project is to contribute towards universal access to ICT. While SIMUNET has a good will, it certainly demands heavy investment hence a long way to go. ICT has its own pre-requisites. It needs equipment (computers), financial capacity to pay for the connectivity, and availability of constant power supply (electricity). This is to a larger extent feasible in the urban areas, although electrification is at the moment taking place even in the rural areas hence a good back up for ICT to grow. The government has also shown a good will to lead into introducing ICT culture in Tanzania. For the end users, one can access and directly benefit from the ICT if he/she has some basic computer literacy skills. This means that large segment of the population is excluded unless the measures to address the mentioned constraints are taken on board. The use of ICT demands knowledge in English language and other computer related knowledge. Unfortunately, the training costs in computer courses are too high for an ordinary person (the minimum wage is less than US\$50 per month). Moreover, the majority of Tanzania are living in rural areas where the electrification is still in the process as already mentioned.

Although, the urban social structure stands more chances of benefiting from ICT, one may also argue that the other social structure gets the benefits through multiplier effects. For example, there are various opportunities that ICT offer in the education sector especially in the area of Internet:

A network of electronically connected schools (School Net) sharing resources and ensuring the exchange of information between teachers and pupils and even between teachers and parents.

Distance teaching or virtual schools using multimedia technologies and making possible the interaction between a teacher in one place and thousands of pupils in different parts of the country, eliminating physical distance, and to make available, via the Internet, and support materials for teachers and pupils, either directly to the school or through telecentres and other community access points.

In the same way as using ICT in formal education, the government will promote their use for informal education, for example for expounding and explaining the merits and demerits of beliefs, myths, and traditional rites.

Along with education, there also various and immense opportunities that ICT is offering to health including:

The improvement and modernization of the administration of the health services through informatics systems.

More re-groups of medical examinations and diagnoses through collaboration with more experienced specialists via telemedicine.

An improvement in access by health professionals to up-to-date information on the illness and their treatment, and the exchange of information between professionals through an electronic health network.

The public dissemination, by the Internet, of healthy information, especially methods of preventing infectious and contagious diseases such as sexually transmitted diseases, AIDS, tuberculosis etc, as well as basic health care and environmental cleanliness.

Achievements and future plans

The telecom sector has been undergoing revolutionary changes. For the past two decades TTCL has been following up those changes to see the best way to participate with the benefit to the company. Hence the emergency of Internet services provided such an opportunity. Internet provided for scalable investment suitable for cautious investor and immediate returns.

SIMUNET has some remarkable achievements, which includes;

Establishment of Internet backbone, Internet exchange establishment of 14 regional PoPs extending Internet to areas previously without Internet access. These includes; Dar es Salaam, cost region (Kibaha), Morogoro, Dodoma, Mbeya, Iringa, Singida, Tabora, Arusha, Moshi, Tanga, Mwanza, Moshi and Zanzibar.

SIMUNET provides connectivity for the largest ISPs in the country. Offering reliable, and high quality Internet access. These include: Raha.com, Cyber.Twiga, Africa on line, University of Dar es Salaam Computing Centre Ltd.

SIMUNET planned to execute its functions in 3 phases mainly focused at achieving total customer satisfaction. Phase one of the proposed roll out scheme was completed in 2000; with major regional centers being connected i.e. DSM, Mwanza, Dodoma, Mbeya, Arusha and Zanzibar. Using existing digital radio and fiber optic links the connections to the regions on the backbone network was effected. Then customers would be connected from respective regional centers with the same price structures as those customers in Dar es Salaam and hence the eliminating the need for long distance leased lines, which are relatively expensive.

Phase two, was expected to be completed by the end of the year 2001 and had intended to establish 22 PoPs to achieve 100% regional presence in Tanzania. However, only a total of 15 regions are on-line, giving SIMUNET about 70% regional presence. More regions will be connected this year 2002. However, due to the fact that some regions are still connected to TTCL backbone network by using the analogue Technology the exercise of connecting these regions (Kagera, Kigoma, Lindi, Mtwara, Rukwa and Ruvuma) to the IP-backbone has been relatively slow. After privatization of TTCL in 2001, the strategic investor is replacing all analogue links with digital ones and it is expected that by July 2002 all regions will be wired with high capacity internet PoPs.

Phase 3 is about taking connectivity to over 120 districts in Tanzania planned to commence after completion of phase two. According to the roll out plan phase three would involve creation of mini PoPs in the district and other community centers and offering of dial-up services to subscriber at affordable rates. This will bring all remotely located research centers, educational institutions, Hotels and other organizations on the information superhighway in Tanzania. This will enable information sharing through creation of IP-based virtual private networks connecting corporate companies with branches and strategic partners throughout the country. Since the IP-backbone connects to the world's Internet, it will be possible for corporate companies and organizations to be linked worldwide. Geographical coverage was the initial phase of working towards universal access. Where in the long run, even the rural communities will have access to the technology. The next phase within the geographical coverage will be market- driven where access is governed by viable socio-economic activities. That is,

PROBLEMS EXPERIENCED AND LESSONS LEARNED

One of the major challenges is how to make ICT universally accessible. Out of the approximately 35 millions who live in Tanzania, over 75% live in the rural areas, some of them remote and difficult to reach. The distribution is rather irregular, with the majority living along the extensive 3,000 coast. The State recognizes and protects the right of citizens to have access to information and to knowledge spread by ICT.

It wishes to guarantee them this right through ICT Policy and other means. However, this calls on the various sector to participate in achieving this objective; something that is not easy.

Other big challenges and obstacles to the promotion of universal access are the limited telecommunications infrastructure, especially the telephone network, the high costs for the majority of the population, rather low profits in the sector, and the poor coverage of the electricity supply network.

According to the SIMUNET Director, SIMUNET is a registered company but internally it is a directorate of data networks. This affects operations of SIMUNET. Another problem is funding. SIMUNET would like to accelerate the roll out implementation plan but is constraint by funding problem. Another problem is regulatory or licensing. Some services are still limited. They are still illegal. Since the aim of partnership is to make more profit, the partners will invest more to make sure that the goals of SIMUNET are accomplished. Also, the mode of operation will be streamlined within the management to make SIMUNET work smoothly.

THE SENGEREMA CASE STUDY

INTRODUCTION

It is an obvious thing that, wherever you go in this world today, rural societies are undergoing radical changes. Many economies of many countries are still depending on agriculture, forestry, mining and fishing, where you find that these activities can support a limited number of people. From this fact, there is a need to have access to external markets if rural economy is to survive. If we want to preserve rural society as an indigenous society, there is a need to diversify the economy, to attract new business and have better access to external market. Time has come where the rural society must also have easy access to information, especially to decision makers and access to training, education and other social services.

Provision of adequate teleservices is one of the ways of helping a rural society have access to external markets along with providing excellent conditions for economic diversification. Telecommunications are also a means of providing training, education, information and public and private services to rural communities. While these services have great potential, many rural regions do not benefit fully from the potential wide range of teleservices. This situation can be seen widely in many developing countries like Tanzania, where low income urban settlements and rural communities have virtually no access to communication services.

BACKGROUND OF MULTIPURPOSE COMMUNITY TELECENTRE (MCTs)

The notion of establishing MCTs in various countries in the world started way back 1985, where the first one was established in Harjedalen (Sweden) and Lemving (Denmark). Since then, the number has grown explosively in Austria, Australia, Brazil, Canada, Finland, Germany, Ireland, Norway and the United Kingdom. By 1993 there were approximately 200 recognised MCT in 11 countries. South Africa started its telecentre in 1995 as a pilot project in a township near Pretoria, and now has a national programme to which now has 68 established or in progress. MCTs are now being considered or implemented by large number of countries, spread throughout every region of the world.

In 1994 World Telecommunication Development Conference of the International Telecommunication Union (ITU) adopted within its Buenos Aires Action plan (BAAP) a programme on telecommunication for integrated rural development in which MCTs were considered as a major sector. This was a follow up of the Maitland Commission set by Plenipotentiary Conference of the ITU met in Nairobi in 1982. Member states were encouraged to propose pilot projects for ITU funding. In 1996, the International Development Research Centre (IDRC), the ITU and UNESCO with DANIDA support initiated an international programme to assist five African countries (Benin, Mali, Mozambique, United Republic of Tanzania and Uganda) within the framework of Africa's Information Society Initiative (AISII) and the United Nations System-wide Special Initiative on Africa, to establish pilot MCTs in rural or isolated areas as a test-bed for wider, sustainable programmes at the national level. Some preparatory work had to be done before commencement of the project. Finally, in Tanzania the telecentre was established in Sengerema in 2001.

THE PROJECT: HOW IT WAS INITIATED

Following the commitments support of the international organizations, in 1996, Tanzania as a country created a task force to carry out the preliminary survey to establish the MCT project. The Initial task force or implementing committee members were selected from the following national stakeholders including; Tanzania Telephone and Communication limited (TTCL), Tanzania Communication Commission (TCC), Commission for Science and Technology (COSTECH), Tanzania UNESCO Commission and Planning Commission.

This task force looked into various areas to implement the project. Among the areas, which were initially surveyed, were;

Marangu in Kilimanjaro region; this area was disqualified because by the time of survey, the area was having a good telecommunication infrastructure. There were good telephone infrastructure good road network and the area was having a good tourist attraction because of the Mt. Kilimanjaro. However the area was lacking a spectrum of activities. Hence a disqualification of the area.

Kinampanda in Singida Region; this area was also disqualified because of a limited spectrum of activities. The major activity is agriculture, and there is no mining, fishing and other related activities.

Sengerema in Mwanza; the area is characterized by a wide range of activities such as agriculture, mining, fishing and small-scale industry. But the telecommunication infrastructure was totally in the minimum. In addition, the area has a good number of institutional setup, of which, the task force found that, it would be easy to sensitise the Sengerema community as far as MCT is concerned.

From the three cases, Sengerema was selected to be the pilot project area because it fulfilled the following characteristics:

It had several viable socio-economic activities that would benefit from the establishment of MCT.

There were no telecommunication services

The area was really rural (according to ITU definition of rural areas (see www.itu.int))

By definition, MTC also known, as Community Teleservice Centre (CTSC) is a staffed multipurpose center aimed at providing computers and telecom facilities for local community in remote, rural regions and in low-income urban settlements, so that these facilities can be used by all people in the community. MCT support both individuals by providing access to telephone, distance education, computer training, village hall facilities, and local small enterprises by providing business information, office facilities, professional training etc. In fact, some of the telecenters work as small enterprises.

The national statistics locate this district among the important ones as well as indicating it as one of the great resource treasures in the nation. The Sengerema district is endowed with wealth in terms of soil fertility, favorable climate, products from Lake Victoria, forests, livestock, human labor etc.

KEY PARTNERS IN THE PROJECT AND THEIR ROLES

The Sengerema Telecentre is run in partnership mode. The partnership is in two categories: implementing partners and ownership partners. Implementing partners are the international and national stakeholders while the ownership partners are termed as local stakeholders. The partnership here is at the implementation of Sengerema objectives. ITU is identified as a world organisation dealing with telecommunication matters. By the time of inception of the project TTCL was and is still a national administrator. TTCL was required to support ITU initiatives in Tanzania. TTCL was public when the project started, but it is now private. TTCL is one of the implementing partners.

International stakeholders:

These include; International development research Centre (IDRC), International Telecommunication Union (ITU), United Nations Educational, Scientific and cultural Organisation (UNESCO) under DANIDA Funds (in Trust). The roles of these organisations is in ensuring and mobilizing donor investment and in supplying know how and technical support in the setting and developing of the Sengerema MCT for the agreed pilot project period of three years 2001-2003. The three organizations have and are assisting the MCT to realize its objectives by advising and supporting:

Development of the business plan and system design engineering. The plan is partly in use at this stage of the first year of operational; the centre so far is running ICT basic courses as a business to start with.

Acquisition of telecommunication and telecentre equipment and training of telecentre staff; from these organisations, the centre now has 14 computers, communication equipments and internet e-mail connectivity.

Design and implementation of applications of ICT for development.

Project evaluation

Networking with other pilot projects to be identified later in order to share ideas and experiences;

Co-ordination with other UN agencies, financing institutions, development agencies and resource centers with potential interest in aiding and promoting the project.

COSTECH as project executing agency has signed a memorandum of understanding (MOU) on behalf of the government with the above mentioned international organisations. The MOU between COSTECH and the three International partners was signed on 26th Oct. 2000. Through these agreements, the telecentre is receiving financial support to enable the execution of the project.

National stakeholders;

National stakeholders include; Tanzania telecommunications Company Ltd. (TTCL), Tanzania National Commission for UNESCO, Tanzania Commission for science and Technology (COSTECH), Tanzania Chamber of commerce, Industry, and Agriculture (TCCIA), Prime Ministers Office (PMO). The roles of each national stakeholder are described under the following sections.

Tanzania Telecommunication Company Ltd (TTCL)

This is a national telecommunication operator in Tanzania and owns the Public Switched Telecommunications Network (PSTN) throughout the country. As a major national partner in the pilot project, TTCL has contributed in the provision of manpower for planning, installation and maintenance of telecommunication equipment; provision of access to national and international telecommunication networks; and financing of this pilot project. It is worth mentioning that at the beginning of the Sengerema MCT project TTCL was a public company which became private (following privatization) since February 2001.

Tanzania Commission for Science and Technology (COSTECH)

It has the mandate of developing science and technology in the country, monitor technology transfer and connecting numerous Research and Development institutions and stations to the national electronic Network, as well as linking these internationally. As it was stated by the COSTECH co-ordinator during interview, COSTECH is participating in management and promotion of the project nationally. It has facilitated the training of a system administrator and is the overall co-coordinator of the project.

Tanzania National Commission for UNESCO (NATCOM)

The NATCOM is the national counterpart for UNESCO. Its main role is to mobilize users of the Sengerema MCT from the central national level, especially distance education institutions including the Open University of Tanzania and the National Library Services. During interview, it was revealed that some textbooks mainly on the ICT field have been shipped to the MCT.

Tanzania Chamber of Commerce, Industry and Agriculture (TCCIA)

Its task is to mobilize the business community at the district and regional levels to take interest in using MCT services. It is also encouraging them to become partners in the present telecentre. It will also assist in creating a business culture in the Sengerema telecentre (how this goal will be achieved?). As a result of this Sengerema community is becoming aware and users of the MCT.

Prime Ministers Office (PMO)

As responsibility for the development of rural areas in Tanzania lies with the Prime Minister and since all District and rural administration activities are co-ordinated in the PMOs, the involvement of this office in MCT is very crucial. Through PMO all government departments covering key sectors of the economy, namely health, agriculture, fisheries, education, forestry, judiciary, local government, and co-operatives have been mobilized to contribute to and use the Telecentre. This was reflected during the interview when interviewing District Commissioner, District Executive Director and District Medical Officer in Sengerema District.

Local stakeholders;

The composition of local stakeholders and partners takes into consideration the involvement of the private sector so as to create a business culture in the project. The owners of this are Naguji Holdings, Sengerema Development Association (SEDEA), and Religious Organisations plus individuals representing the private sector. The local government and Members of Parliament of the two constituency in Sengerema District represent the public sector.

Involvement of NGOs, the public sector and religious organisations has also been taken into consideration in conceptualization, implementation and day to day running and management of the project.

Naguji Holdings Ltd

This is a private company, which has agreed and gave a piece of land where the MCT building is currently constructed. Nanguji holdings are a local partner in this project. At a later stage, it is envisaged that, all documents concerning ownership of the land, including the title deed, will be surrendered to the Sengerema MCT. During the interviews with the company officials, it was revealed that they contributed the land on the understanding that they will do business on the ICT sector.

Sengerema Development Association (SEDEA)

It is an Association committed to the development of Sengerema District through mobilization of the population and laying out a development strategy for the district. SEDEA works hand in hand with Sengerema residents to evaluate their development problems plan a strategy and carefully mediate tactics for revenue collections and implementation of plans. Since the Association is based on membership within and outside Sengerema District, it unites people of the area and provides common direction to development goals. SEDEA is the Chair of LSC of the Sengerema MCT who also monitors the day to day activities of the project, in collaboration with the telecentre manager.

Religious Organisations

The Roman Catholic Church has many institutions and activities in Sengerema. The church is involved in the implementation of the project, mainly in the construction works of the building, and in local management of the project. The Church is assisting in mobilizing its institutions to use the services of the telecentre. Some staff from the church have been trained at the Sengerema MCT.

Local Government and Administration

Among those included in the advisory and management functions of the pilot project are the Member of Parliament, The District Commissioner, The District Executive Director, a representative of the Women Economic Group, co-operative societies, Co-operative Union and the District Trade Officer. They do also mobilise their institutions to use the services of the telecentre. From the interview, they have stated that some staff in their offices has attended basic ICT training at the centre. The only problem they are facing, are the computers to use at the work places after the training.

GOVERNANCE STRUCTURE AND OWNERSHIP OF THE SENGEREMA MCT

The Sengerema MCT preliminary set up started since 1996 by mobilising funds, sensitizing stakeholders and setting up various machinery, which initiated the take off in January 2001. After three years of its establishment 2001-2003, the Sengerema MCT will be a community center, organized in such away that the different public service actors in the community (both government and non-government) will be empowered to define strategies for affordable community access and to provide and utilize development-

oriented applications and services. The final organizational structure, taking account of opportunities for co-operation with the private sector, will be decided between 2001 and 2003. In the meantime the building (which is under construction) and other assets associated with international and national investment in the project will come under the custodianship of the Sengerema Development Association (SEDEA). Additionally, as stated above, the Sengerema Development Association is serving as the Chair of the local Steering Committee and also serves on the National Project Management Committee. The role of SEDEA is as explained on the section on roles of local stakeholders above.

Project Management

The Management of the project falls into two categories:

(a) The Project Management Committee that is chaired by COSTECH. The committee was selected by a meeting of national and local representative of stakeholders. The international organisations are represented by COSTECH. The Project Management committee includes representatives from: COSTECH, UNESCO, TTCL, TCC, ITU, The Open University of Tanzania, Sengerema MCT Steering Committee, Institute of Adult Education, Tanzania Library Services Board, Prime Minister's Office, International Telecommunications Union (ex official), and UNESCO (ex official).

(b) A local steering Committee (LSC) for the MCT in Sengerema, chaired by a representative of SEDEA was selected by a meeting of local stakeholders, it includes representation from: SEDEA (Chair), Folk Development College (FDC), Headmaster of Sengerema Secondary School, Co-coordinator, Teachers Resource center (TRC), Nursing college, District commissioner (DC), Roman Catholic Diocese (RCD), Islamic Centre (IC), Tanzania Telecommunication company Ltd. (Mwanza zone Manager), Women's Craft co-operative (Busisi), Farmer's Co-operative, Business Representative, Tanzania Commission for Science and Technology (ex official), and Telecentre Manager (ex official).

Functions of Committees

The LSC meets at least monthly to receive, discuss and advise a written monthly report from the Telecentre manager on the progress and performance of the telecentre premises and operations.

The Project Management Committee meets to receive, discuss and advise the report of the telecentre from LSC, and also to discuss the progress on the building construction and other activities of the telecentre. In the first year of the project (2001) it meets at least quarterly and the plan is to meet twice in year 2 and 3 (2002-2003) of the pilot project. Once the Sengerema MCT has completed its pilot phase after 3 years, a procedure will be followed to integrate private sector ownership into the telecentre business. A subcommittee of the management Committee will be set up at the beginning of year 3 of the pilot phase to receive, develop and recommend mechanisms for the transfer or modification of ownership after year 3 of the project.

It is proposed that, ownership of the Sengerema MCT will be based on the number of shares that each stakeholder owns. It is anticipated that this initiative will attract more local and national partnerships. The mechanism for joint ownership will be effective after the pilot phase of the project. It will clearly be reflected in the memorandum of understanding for handing over the ownership of MCT to the local community which composed of public and private sectors as already indicated to be established during the pilot phase of the project with all stakeholders.

IMPACTS OF THE PROJECT

The Sengerema MCT project is one year old, this means, the impact realised cannot be seen in terms of wealthy, but in terms of knowledge to some extent it can be seen. In totality, still the development of the project depends on the donor funds. The impact of the services are based on the use of facilities, access to telecommunication tools, the provision of information as well as training, monitoring and coaching in the

diffusion and adoption of ICT tools. While the Sengerema telecentre is focusing on specific services of relevance to its core users, some general services are (will) also (be) provided to the public at large. These include;

Telecommunication

Since its take off the telecentre is hosted in a temporary quarters which belong to FDC. It has installed four leased lines for data and voice. Two lines are dedicated to Internet and e-mail, and one to fax services, where the voice line is currently dedicated to the use by the telecentre staff. During the interview, it has been revealed that, some core users did subscribe in the e-mail and access of internet and are charged out near-market rates. However during the period of study, connectivity to the ISP was too poor to make connection possible, the services are up and down. It was revealed that, TTCL has completed the installation of a new digital switching, and are upgrading the main parts of the access network. This will enable the MCT to offer dial-up services immediately after the completion of the MCT building.

E-mail Service

The telecentre offered e-mail services to users immediately after network installation. Users were charged around Tsh 100 for an e-mail sent and received. But because of poor communication the service operation are not very reliable at the moment. Large-scale usage is expected to be offered after the telecentre building is completed and TTCL restructure its network services.

Desk-Top Publishing (DTP)

DTP, photocopying and related services are provided on at a cost basis for core users members and at near-market rates for the general public. The income realised does not reflect the reality, the distance might cause this from the general public activities to where the telecentre is located. It is anticipated that this service will increase after the building is finished and it is operating, since it is located very close to town centre.

Facilities Use

Currently users on demand are allocated computer time to use. These are mainly those who did computer training at the telecentre. Plans are underway to offer to the general public with a free credit of 2 hours for each person leasing an e-mail box

Secretarial and Administration

Services such as typing, accounts administration, database development and filling are offered at a very minimal. The major problem now being experts to offer such services. Thus there is a remarkable income realised on this service. Table 1 below shows the income generated at the telecentre since its establishment

Training monitoring and support

Currently this is the activity, which the telecentre has been offering to the Core Users at very reduced rates, in return for their willingness to serve on the steering committee and to undertake diffusion and awareness campaigns within their own organizations. The awareness campaigns have made it possible for the telecentre to generate an income, which is indicated on Table 2.

Project Beneficiaries

Mainly the Core user groups. These are the core groups who are the local partners in the project. Each group has sent its personnel for training both in the core skills of information and network technology use and applications as well as introduction to development of specific tools, applications and information resources. The groups were sponsored by their organisation at an affordable rate.

Table 2: INCOMES AND EXPENDITURES of the Sengerema MCT for 2001

Month	Income			Expenditure	Balance
	Training	Email, Secretarial & Consultancy	Total (Tshs)		
January	105,000/-	-	105,000/-	-	105,000/-
February	405,000/-	22,000/-	427,000/-	14,500/-	412,500/-
March	557,000/-	14,500/-	571,500/-	-	571,500/-
April	263,200/-	11,700/-	274,900/-	152,620/-	122,280/-
May	297,500/-	34,750/-	332,250/-	79,340/-	252,910/-
June	360,500/-	125,250/-	485,750/-	14,600/-	471,150/-
July	518,000/-	32,450/-	550,450/-	-	550,450/-
August	1,293,750/-	-	1,293,750/-	75,970/-	1,217,780/-
September	599,000/-	105,600/-	704,600/-	-	704,600/-
October	598,000/-	6,350/-	604,350/-	-	604,350/-
Total	4,996,950/-	352,600/-	5,349,550/-	337,030/-	5,012,520/-

These figures show that the MCT is viable and it generates revenue. This is an indication that the project is capable of generating some money. Accordingly, these figures show that the facility in the community are being utilised although the income for training and secretarial services are fluctuating. No clear tend can be detected so far.

KIGOMA/KASULU CASE STUDY

INTRODUCTION

Kigoma region is situated in the Western part of Tanzania. It borders the Republic of Burundi and Democratic Republic of Congo (formally Zaire) SHARING Lake Tanganyika with those countries. To the NorthWest is located the Republic of Rwanda. Kigoma region is composed of three districts: Kigoma (Urban and Rural), Kasulu and Kibondo. The population of the region is 1,070,406 people according to the last census (1988). Life expectancy is 50 years on average. This is just slightly below the Tanzanian average.

Kigoma is one of the poorest regions in Tanzania with more than 50% of its population living below the poverty line. Exacerbating this problem is a very difficult transportation situation. Though Kigoma is the end point of the Tanzania Railway Central line, there are no through roads to other areas and the small roads joining the districts of Kasulu and Kibondo are impassable during the rainy season. Railway is the only reliable means of transport to Kigoma.

As well as the internal problems, there are also external problems. The political unrest, which has been taking place for more than four years in the most great lake countries, has caused turmoil and fighting within those countries. There have been mass movements of people in all directions from those countries to escape the fighting, with many becoming refugees. At present Kigoma hosts refugees mainly from Congo and Burundi. According to UNHCR Briefing Note on the Refugee situation in Tanzania by end of 31 January 2002 UNHCR was assisting 505,745 refugees among whom 365,282 were in Kigoma. The actual figure could be more than that reported officially.

National	Kigoma	Ngara	Mkuyu	Total
Burundian	240,049	112,837	0	352,916
Congolese	123,407	11	0	123,418
Rwandese	0	24,191	0	24,191
Mixed	1,795			1,795
Somali/others	1	0	3,424	3,425
TOTAL	365,282	137,039	3,424	505,745

Subject to availability of funding, the office of the United Nations High Commission for Refugees (UNHCR) assists areas affected by the presence of refugees by strengthening local institutions, transport networks and infrastructure. Areas hosting refugees benefit from the construction or rehabilitation of water facilities, roads, health centres and schools, as well as environmental rehabilitation in and around the refugee camps. UNHCR also supports the central, regional and district authorities involved in the day-to-day management of refugee affairs. UNHCR acts as a co-ordinating unit for other UN agencies, international and national NGOs, which provide services to refugees. For example the following were reported to be working in four different camps in Kigoma and Kasulu:

- Christian Outreach Relief to Development (CORD)
- Gesellschaft fur Technische Zusammenarbeit (GTZ)
- Tanzania Red Cross Society
- World Vision Tanzania (WVT)
- Southern Extension Unit (SAEU)
- Africare Tanzania
- Tanzania Water and Environment Sanitation (TWESA)
- Samaritan Enterprise Keepers Organisation (SEKO)
- Care International Kigoma (CARE)
- Assist Road Foundation (AROF).

The presence of the refugees in the region has opened the door for these international and national agencies. Consequently, through them we see the project on public private partnership in ICT emerging.

THE PROJECT: HOW IT WAS INITIATED

The Kigoma/Kasulu project is a partnership among Ericsson, UNHCR, MOBITEL and the International Federation of Red Cross /Red Crescent (IFRC) through Tanzania Red Cross Society (TRCS). The UNHCR and IFRC are treated as public partners while Ericsson and MOBITEL are treated as private partners. The Public Private Partnership in this project focuses on the development of communications with the view to providing mobile and Internet services to staff and agencies working in the refugee camps in Kigoma and Kasulu. It was initiated based on a request from IFRC through Tanzania Red Cross Society (TRCS) where they kindly (informally) asked Ericsson to help them in providing Communications for Kigoma, Kasulu and Garaganza (where RED CROSS-offices are situated in Kasulu). Ericsson has an international agreement with IFRC to provide assistance during natural disaster. Based on this previous working relationship with IFRC in relieving the plight of the vulnerable and alleviating all forms of suffering without discrimination. Ericsson positively accepted the idea and approached MOBITEL for a joint project. Accordingly, MOBITEL positively welcomed the idea given its previous good working relationship with Ericsson and its continued programme of dedicated network service expansion across all regions in Tanzania. With the launch of the network in Kigoma, MOBITEL now provides the telecommunication services to more than 140,000 active subscribers in 16 (among 20) regions of the country. Apart from MOBITEL, Ericsson also approached UNHCR for financial support and mainly for electricity supply within the camps. UNHCR is very much aware of the serious communication problems within the region. Therefore, this was an initiative worth supporting.

Although the idea came on board some two years ago actual partnership with all players mentioned has been in place since September, 2001. Meanwhile, Ericsson had to send an engineer to conduct a survey in Kigoma to see whether or not the project was viable. The TRCS regional office in Kigoma also negotiated with the government for two plots in Kasulu and Kigoma where the plants had to be installed. In terms of partnership, this is another contribution from TRCS. Although land in Tanzania is government property, TRCS applied for the piece of land and has ownership of that. All went well, and for the first time, Kigoma town (with a coverage area of about 32 Kms) started using cellular links services on 18th January, 2002. This has been done on trial basis but the main target area is to expand these services to the refugee camps.

INCENTIVES

As indicated before, IFRC through TRCS is among the different NGOs working for the refugees in Kigoma and Kasulu districts in Kigoma region. In particular it deals with camp management, which involves distribution of food, and non-food items, site planning, vector control, waste disposal, and sanitation. Other activities include provision of medical facilities and water supply. According to the information from the TRCS headquarters in Dar es Salaam and Kigoma Regional office, TRCS has about 420 staff working as field officers in four camps of Mtabila I and II in Kasulu and Myovosi and Lugufu in Kigoma with a total number of about 400,000 refugees. The major means of communication between the field officers and TRCS offices in Kasulu and Kigoma as well as between TRCS and UNHCR and other agencies working in the camps has been through satellite (radio). However, this has proved to be very expensive. Apart from that, it is only limited to official communication and staff wishing to communicate with friends and relatives outside the field sites had to travel to the district level in Kasulu and Kigoma to do so. This was not only inconvenient but also a waste of time. Therefore, IFRC initiated the project with a major objective of facilitating communication among its field staff, other agencies working together with them to relieve the plight of refugees, as well to facilitate communication outside the field sites. According to TRCS, they approached Ericsson as a business company and wanted the company to assess whether the project would be viable.

While for IFRC and UNHCR, the project would improve communication, there seemed to be more than that for Ericsson as a business company. Apart from being a corporate leader of more efficient response to

disaster, Ericsson also addresses business. Therefore, for Ericsson, the viability of the project depends also on amount of the returns/profit to be generated. This was easily reflected in the sentiments raised by one senior Ericsson official. That, although it was true that the country strategy towards this sector is of a high priority, much still needs to be done. For example, the government Telecommunication Company TTCL is in the process of a total restructure to meet the needs of the future growth of the country. The sale of part of TTCL to the private sector has rapidly stepped up the improvements in this sector in the industry. Hence, growth in the private sector in telecommunication is on a high, with new mobile networks providing the state of the art equipment to support the Tanzania growth pattern. However, the problem with the growth of Telecommunications is that it spreads from the main cities and this takes time for the network infrastructure to cover the areas of extreme remoteness. In the cases of extreme remoteness the government provide with support if the infrastructure is available, but in most cases it is planned for the future. Therefore, Ericsson was very much concerned that indeed, the private sector is providing telecommunications to the remote areas and thus promoting growth, but this is at a high cost and low return. However, this was part of Ericsson's Response Programme to provide assistance during situations of natural disaster.

This partly explains why Ericsson could not carry out the project alone: As indicated in an interview with Ericsson Operation Manager "Partners and Business Companies benefit from each others strengths". The nature of the partnership in terms of sharing funds and joint implementation activities is indicated in the following section.

GOVERNANCE AND MANAGEMENT STRUCTURE

The main input to the project is from Ericsson International response. Ericsson has committed itself to manage the project, to establish mobile phone communications and Internet connectivity in Kigoma town, Kasulu and Garaganza in the Kigoma Region of North-Western Tanzania. In this context, Ericsson will supply all the radio equipment required for this purpose, as well as the towers and containers for two of the above sites. Ericsson local project office and Headquarters staff will provide the technical support for this project. Ericsson's contribution to this project will be in the range of US dollars 300,000 to 400,000.

Mobitel Tanzania has committed **itself in writing** to Ericsson to supply two satellite connections (one each in Kasulu and in Kigoma town respectively). The site required in Kigoma will be constructed with a tower and shelter, to be funded by Mobitel. In addition, Mobitel will charge reduced rates for calls made by staff members working for aid organisations in the Kigoma Region. This reduced rate from Mobitel will be provided under separate contract agreement. Furthermore, Mobitel will maintain the system, once in place. The Internet connection will also be made available through Twiga/Mobitel. Mobitel's contribution to the project is estimated at US Dollars 200,000 with an on going maintenance service providing cost.

The International Federation of the Red Cross and Red Crescent Societies provides support in terms of transport for the equipment to be shipped to the Kigoma Region, for the acquisition of the sites in the required areas, and for construction equipment and manpower for the task of building the sites. TRCS also provides accommodation for Ericsson and MOBITEL staff when on field as well as facilitating their entry to the refugee camps since these are re-stricted areas. There is no formal contract signed between Ericsson and TRCS for provision of such services. This is done on the basis of the good working relationship.

UNHCR has committed itself to the supply power at the site in Kasulu with generator backup from the existing compound facilities. UNHCR has also signed an agreement with Ericsson to fund the cost of construction material for the foundation of the shelters/ towers in Kasulu and Garaganza at a maximum cost of US dollars 5,000 per site, i.e. a maximum of US dollars 10,000 (ten thousand)

HIFAB International will support the local construction supervisors for the duration of the Implementation of the sites mentioned above

Various companies in Dar es Salaam have committed to supply generators for two of the sites in the area. This is to support the telecom infrastructure to be installed in the fore mentioned sites

IMPACT OF THE PROJECT

It may sound too early to give any substantial comments on the impact of the project given its infancy. Nonetheless, some benefits have already been recorded in this trial period. Overall, the main beneficiaries will eventually be the refugees in the areas. With greater improved communication, NGOs planning, administration and response to the needs of the refugees will be more cost effective and efficient. Specifically, the anticipated benefits of project include:

- Active communication within the area between the NGOs in refugee issues.
- Communication in the area will promote the productivity of the NGOs, thus improving cost effectiveness & efficiency.
- The quality of life for the NGOs staff and family will improve due to communications.
- Cost of communication for local and international calls for the NGOs will be reduced.
- Access to data communications will also improve correspondences with NGO'S head offices throughout the world via E-mail.
- Making available Internet access for reference documents and news.
- Improving emergence response time in a crisis.

The second part of this project is for the local communities and is expected to have the following impacts;

- Improving the communications will promote growth in the area, for business. Kigoma town is situated on the shores of Lake Tanganyika and its here you will find ferry boats plying the waters of the lake ports in Zambia, Burundi and the Democratic Republic of the Congo. As such, Kigoma town is a natural point for commerce with an active business community.
- This remote area having access to this form of communication will improve education and the general quality of life.
- Business correspondence with supplier will improve, thus promoting local companies.

These are the anticipated positive impacts. A visit to Kigoma where the cellular links services are now operating points to similar direction. Within two weeks of operation MOBITEL dealer in Kigoma had sold 1350 new lines with the sell of airtime raising up to US \$ 10,000 within the same period. According to the dealer this was a very good business indicator which would lead into more profit. Indeed, for the surrounding local communities especially business-persons and government/non-governmental employees this was seen as a blessing which they preferred to term as a "revolution". They were excited. One key group that expressed appreciation to the project was the small fishermen. Several incidences have been reported where small fishermen are invaded by people alleged to be refugees and are being robbed off their fishing nets and sometimes their motor boats. For such fishermen mobile phones would be used for security purposes. With mobile telephones they could communicate among themselves while fishing and could easily seek support in case of any attack. Accordingly, it was even possible to communicate with fellow business-men outside the country on the expected amount of fresh fish to be exported.

It is important to note that Kigoma as indicated in the introduction is among the poorest region in Tanzania. This means also that perhaps it is a just a segment of the population that will have the financial capacity to purchase the equipment, line and manage charges for the air-time. Mobile telephones are convenient but expensive for an ordinary government employee let alone a peasant. The minimum wage of an ordinary employee is about USD 50.00. Although, there is no empirical evidence to show how much higher the standard of living from poor people in Tanzania is, USD 50.00 is not adequate to meet expenses related to owning a mobile telephone. Therefore, majority of the population in Tanzania will get indirect benefits. This refers to those who may not have the ability to purchase the mobile telephones and be able to maintain them.

It is also worthy noting that, the cellular links services are not yet connected to the refugee camps although this is the target place. It was learned that interested refugees would be allowed to buy the mobile

telephones for personal use. This will facilitate communication with relatives and friends wherever they are.

While cellular links services have multiple positive impacts it may have negative impacts as well. For example, the fishermen can use them for security purposes but it can also facilitate communication among bandits on how efficiently and effectively to attack them in the lake. It can also facilitate communication among refugees who have other hidden political motives hence making the camps insecure.

PROBLEMS EXPERIENCED IN THE PROJECT AND LESSONS LEARNED

It might be too early to give substantial comments on the problems and prospects of the project. But based on few months the project has been on the ground some observations were made. In the first place, there seem to be no problems in so far as the main partners are concerned. However, according to Ericsson Company the project has suffered some small set backs in the fund raising. The main organisation has a long draw out procedures to justify donating funds. The main funds have already been donated for this project, but the small cost for implementation and construction seems to be difficult for the Aid organisation to justify.

The other side to this is that out of ten NGOs in the area communication between them is very poor, or if at all. This has had a tendency to slow down and stop the project from reaching its goal, which is to give communications to the NGOs in the front line of the refugee's camps in Tanzania. In addition to that, the time to come to conclusions and finalisations are a lot longer with so many players involved.

Another challenge without a direct effect to the activities of the project and partnership is the ICT literacy. A cellular links service is a new technology to many people. It can perform multiple functions. Therefore, customers have to learn how the new technology functions as well as how to operate it in order to maximise its utility. This calls for technical support, which MOBITEL will be willing to offer so long as the business is viable. Unfortunately, for semi-illiterate and illiterate persons this may mean a total exclusion.

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Tanzania Data Profile

	1995	1998	1999
Population, total	29.6 million	32.1 million	32.9 million
Population density (people per sq. km)	33.6	36.4	37.3
Population growth (annual %)	2.9	2.6	2.4
Life expectancy at birth, total (years)	48.5	..	45.0
Fertility rate, total (births per woman)	5.7	5.6	5.4
Mortality rate, infant (per 1,000 live births)	106.6	..	94.8
Mortality rate, under-5 (per 1,000 live births)	152.0
Malnutrition prevalence (% of children under 5)	29.4
Urban population (% of total)	26.9	30.5	31.7
Population density, rural (people per sq km)	578.2	595.4	..
Illiteracy rate, adult male (% of males 15+)	19.0	16.7	16.0
Illiteracy rate, adult female (% of females 15 +)	40.5	35.7	34.3
Economy			
GDP at market prices (current US \$)	5.3 billion	8.6 billion	8.8 billion
GDP growth (annual %)	3.6	4.0	4.7
Agriculture, value added (% of GDP)	47.1	44.8	44.8
Industry, value added (% of GDP)	14.5	15.4	15.4
Services, etc., value added (% of GDP)	38.4	39.8	39.8
Exports of goods and services (% of GDP)	24.1	12.8	13.3
Imports of goods and services (% of GDP)	41.5	26.9	28.0
Gross capital formation (% of GDP)	19.8	16.5	17.0
Technology and Infrastructure			
Telephone mainlines (per 1,000 people)	3.0	3.7	4.5
Telephone average cost of local (US \$ per three minutes)	0.0	0.1	0.1
Personal computers (per 1,000 people)	..	1.7	2.4
Internet hosts (per 10,000 people)	0.0	0.0	0.0
Aid per capital (current US \$)	29.6	31.1	30.1
Source: World Development Indicators database, July 2000			