Unlimited bandwidth?

Governance & submarine fibre-optic cable initiatives in Kenya

africog
Africa Centre
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Abbreviations and Acronyms

ACECA	Anti-Corruption and Economic Crimes Act
AfriCOG	Africa Centre for Open Governance
AKFED	Aga Khan Fund for Economic Development
BPO	Business Process Outsourcing
CCK	Communications Commission of Kenya
EASSy	East African Submarine System
EIA	Environmental Impact Assessment
FDI	Foreign Direct Investment
FLAG	Fibre Optic Link around the Globe
G/bs	Gigabits
GDP	Gross Domestic Product
GoK	Government of Kenya
IEEE	Institute of Electrical and Electronics Engineers
ICT	Information Communications Technology
IPS	Industrial Promotion Services
ISP	Internet Service Provider
KACC	Kenya Anti-Corruption Commission
KICA 98	Kenya Information and Communications Act 1998
KICTANet	Kenya ICT Action Network
KPLC	Kenya Power and Lighting Company
LION	Lower Indian Ocean Network
MMU	Multimedia University formerly Kenya College of Communication Technology (KCCT)
MoIC	Ministry of Information and Communications
NEMA	National Environmental Management Authority
NOFBI	National Optic Fibre Backbone Infrastructure
PPP	Public Private Partnership
ROI	Return on Investment
SAT 3	South Atlantic 3 (linking Portugal, Spain and South Africa)
SEA-ME-WE 4	South East Asia- Middle East – West Europe 4 (4 meaning Italy, Tunisia, Algeria and France)
T/bs	Terabits per second
TEAMS	The East African Marine System
TKL	Telkom Kenya Ltd
UAE	United Arab Emirates
WASC	West African Submarine Cable

Foreword

Until mid 2009, the Eastern African Seaboard, including Kenya, did not have submarine fibre optic connectivity and therefore depended largely on expensive, satellite-based communications for international connectivity. Affordable connectivity enhances a region's competitiveness and opens up opportunities for Foreign Direct investment (FDI), innovation, education and social development.

In September 2006, Kenya launched an ICT policy strongly articulating the case for urgent additional and significant investment in ICT infrastructure. This investment would seed technology-enabled industries and promote the achievement of Kenya's Vision 2030 (Kenya's national development strategy). These efforts were expected to significantly lower communication costs both for the internet and telephony and increase economic opportunities.

In April 2009, when AfriCOG undertook this study, four submarine fibre optic cable projects were well underway - the first two of which were scheduled to land in Kenya by June 2009: The East African Marine System (TEAMS) - conceived and promoted by the government; SEACOM - a private sector -led submarine cable system; the East African Submarine System (EASSy); and the Lower Indian Ocean Network (LION) - driven by France Telecom.

AfriCOG's attention was drawn to these initiatives, and particularly TEAMS, due to the great public interest of the project and concerns about the transparency of the initiative. We were also intrigued by the potential they present for youth through creating employment and enhancing a culture of innovation. Youth empowerment is a central tenet of the national ICT policy.

Further, improved access to information, as afforded by such projects, is fundamental to achieving good governance, as it has strong positive implications for transparency, accountability and equity. The new constitution's guarantee of access to information promises greater opportunities.

In this respect the process of producing this study showed that civil society capacity for monitoring governance in this crucial sector is still in its infancy. AfriCOG intends to contribute to the growth of this capacity.

This report, therefore, is not intended for a technical specialist audience but for general awareness raising. AfriCOG carried out this study with the aim of answering a number of critical questions, namely:

- Should the government have invested in TEAMS and if so, under what terms?
- Did the investment in TEAMS offer true value for money for Kenyans?
- Were governance best practices adhered to?
- What can be learned from this project for similar future initiatives?

The study draws lessons from all four cable initiatives, with a particular focus on The East African Marine System (TEAMS). With the government using public resources to support the development of TEAMS, governance issues become a matter of compelling public interest. Government has an undeniable central role in protecting and advancing socio-economic goals and the public interest in such initiatives. However its involvement should respect key requirements of good governance such as maintaining the rule of law, ensuring transparency, participation and accountability.

We hope that this report will contribute to more informed public debate on the conception and realisation of inter- national submarine fibre-optic cable initiatives, which are of interest to Kenya, and to a greater understanding of the possible governance issues involved.

We dedicate this report to a Kenya whose future will be driven by the knowledge, excellence and creativity of its citizens.

Gladwell Otieno
Executive Director

Executive Summary

Governance is a key concern in the investment of public resources. This report explores governance issues surrounding projects to install four international submarine fibre optic cables on the East African seaboard. It assesses these initiatives on the four governance dimensions of accountability, transparency, public interest and value for money.

In April 2009, in keeping with its commitment to open and responsible governance in the management of public affairs, AfriCOG carried out this study to collect data through various methodologies including face-to-face interviews, document review and internet research.

KEY FINDINGS

The key findings of this study are summarised as follows:

1. Need for submarine fibre-optic cable

Government investment in TEAMS was justified based on the urgent need for a submarine cable in the East African region. Slow progress of the EASSy initiative, largely due to the widely divergent and conflicting views of the large number of players from various Eastern and Southern African countries, had led to official frustration[1].

2. Legal and regulatory concerns

The government used the Communications Commission of Kenya (CCK), the communications regulator, to develop TEAMS as a project and investment. However, the implementation of TEAMS encountered two main challenges:

a) *Regulatory concerns:* It is a matter of concern that the regulator should also become a player in the very industry it regulates. This raises the possibility of regulatory capture, in which the regulator, established to act in the public interest, instead acts in favour of the industry it is charged with regulating.

b) *Non-compliance with the Kenya Information and Communications Act:* The ICT regulatory framework, specifically the Kenya Information and Communications Act 1998, was not complied within the government instruction that the CCK develop TEAMS. Section 5 of the Act states that instructions to the CCK should be through policy and should be gazetted. These actions set a bad precedent that could compromise the independence of the CCK.

3. Low cost of the TEAMS initiative

Amongst the three cable initiatives that have published construction costs, TEAMS has the lowest costs. This appears to strengthen the government's initial case for getting involved. This could facilitate a drastic reduction in international bandwidth costs in the face of competition – a stated objective of the government in this project.

4. Procurement and ownership

There are a number of compliance and governance concerns including:

- Adherence to procurement laws and requirements;

[1] The SEACOM cable was also conceived around the same time as the TEAMS initiative.

- The transfer of TEAMS shareholding to the private sector
- The shareholder composition of the TEAMS consortium

The implementation of the project, though urgent and necessary, lacked strong legal backing. It is worth noting that a number of laws that would have been critical in guiding the implementation of TEAMS had not been passed by the time the initiative was developed. These include the Privatisation Act and the Public-Private Partnership (PPP) regulations under the Procurement Act.

However, while these would have provided a useful framework for the project, they would still not have been adequate to fully deal with projects such as these.

5. Challenges in flow of information

The development of the TEAMS project was characterised by poor information flow to the public. The flow of information would have been vastly improved by a website, among other communication channels, to provide current and relevant information quickly.

COLLATERAL GOVERNANCE ISSUES RELATED TO THE IMPLEMENTATION OF FIBRE OPTIC CABLE NETWORKS

Beyond the governance issues involved in laying the fibre optic cables are matters pertaining to the operationalisation of the cables. Accordingly, there are some regulatory, legal and socio-cultural governance issues that need to be addressed, namely:

1. Network inter-connection and inter-operability

Several different fibre-optic cables will soon be operating in Kenya. As a result, various technologies and technical standards will need to be harmonised, inter-connected and inter-operated. The specific technical standards and CCK's role in setting and enforcing these standards, need to be urgently clarified. It is important that the regulator does not stifle creativity or efficiency by imposing standards that protect only certain types of operators and technologies.

2. Security architecture

a) *Physical security*: Security issues arise from the risk of physical damage to the cables, sabotage and routine breakdowns. Whereas inbuilt redundancy can mitigate some of the risks associated with the physical threats to the cable, it will not mitigate informational risks.

b) *Information security*: This requires consideration of data protection systems, intellectual property protection i.e. copyright, trademark and other aspects, securing electronic commerce, especially online transactions including banking and definition and control of cyber crimes.

3. Content organisation and regulation

The development of content standards will be a key challenge of content organisation and regulation within the fibre optic networks. A balance must be struck between developing content standards and censorship.

4. Development and universal access

A pressing challenge for developing countries such as Kenya is the question of promoting universal access to the new technologies. The National Optic Fibre Backbone Infrastructure (NOFBI) offers a cost-effective opportunity for widening and deepening access to cheaper communications.

RECOMMENDATIONS

Based on these findings, this report makes the following recommendations:-

1. Strengthen the relevant laws and regulations

The TEAMS experience indicates that there may be compelling circumstances in which the government needs to seed the development of a critical pioneering project such as TEAMS.

To pre-empt the type of governance questions that have arisen in the TEAMS initiative, Kenya should develop a legal and institutional framework that will enable the government to conceive, develop, implement or incubate pioneer projects of this type. This would mean supplementing the framework under the Privatisation Act and the public-private partnership (PPP) regulations. The framework would have to be particularly strong in accountability and oversight mechanisms, and clear about the transparency requirements in such projects.

2. Clarify the role of the regulator

While recognising that the CCK was the only state corporation with the technical skills and capacity to understand the requirements for developing the TEAMS Project, it was vital to ensure that drawing from CCK's expertise would not compromise its regulatory function.

It is critical to put in place laws, procedures and oversight mechanisms to clarify how the government can draw upon the expertise of regulatory bodies such as the CCK in future without undermining their long-term credibility as regulators.

3. Review frameworks for public private partnerships

The TEAMS project has demonstrated that the government can initiate developments, in which the risk is subsequently off-loaded to the private sector. This catalytic function of the government can best be developed if PPP regulations are reviewed.

4. Ensure proper flow of information for accountability

To ensure project integrity and public confidence in such projects, the government must ensure the disclosure of information on issues of probity that may arise during project development. The Kenya Anti-Corruption Commission's (KACC) failure to disclose its findings from investigating the TEAMS project is a serious lapse of accountability. The Anti-Corruption and Economic Crimes Act (ACECA) should be amended to mandate the disclosure of the results of such investigations.

5. Oblige non-government partners to provide relevant timely information to the public

It should be obligatory for large, public interest projects such as TEAMS to develop comprehensive, information rich, well-designed websites and other useful communication channels to provide relevant, timely information to stakeholders and provide a forum through which stakeholders can regularly communicate with project management.

CHAPTER ONE

Background and Context

INTRODUCTION

Kenya has been at the forefront of investment in Information and Communications Technology (ICT) infrastructure, particularly submarine fibre optic systems, in the East African region.

The East African Marine System (TEAMS) was spearheaded by the government to stimulate the development of ICT infrastructure and facilitate the provision of low-cost bandwidth to the public with a view to enhancing competitiveness. Other fibre optic initiatives in the region are the East African Submarine System (EASSy), promoted by a consortium of governments and major technology operators in Eastern and Southern Africa; the Lower Indian Ocean Network (LION), implemented by France Telecom; and SEACOM, a private sector initiative.

The successful implementation of a fibre optic project is of enormous potential benefit to Kenya, particularly if the resulting improved connectivity is delivered to the public at affordable rates and with optimal efficiency. Improved connectivity portends multiple benefits for a country, positively impacting business competitiveness, service delivery and governance.

However, these benefits need to be assessed against the high project costs. In the case of TEAMS, this cost is borne by the public making governance of the project a matter of public concern.

> *Governance encompasses the values, rules, institutions and processes, by which promoters and stakeholders of the projects attempt to work towards common objectives, make decisions, generate authority and legitimacy and exercise power*

It is with this in mind that this report examines governance aspects of the TEAMS initiative. The report is the product of interviews with stakeholders, document review, and analysis and includes:

- An overview of the main public and private sector players including investors, beneficiaries and the regulator
- A comparison of the four fibre optic initiatives highlighting costs, value for money and other governance issues
- A comparison of procurement transparency, probity and accountability issues in the four fibre optic initiatives
- A summary of emerging policy and legal issues and recommendations relating to governance of the TEAMS project

For the purposes of this study, governance encompasses the values, rules, institutions and processes, by which promoters and stakeholders of the projects attempt to work towards common objectives, make decisions, generate authority and legitimacy and exercise power. Reference to technical matters is for the purpose of shedding light on governance issues.

WHAT IS OPTICAL FIBRE?

Optical fibre is a glass or plastic cable that conveys light along its length. Light is kept in the cable by internal reflection, which acts as a wave guide. Whereas in copper-wire communication, sound is converted into electric current and transmitted as such, in fibre-optic communication sound is converted into light. Therefore, in fibre-optic communications, data is streamed from one point of the cable to another at the speed of light.

A single optical fibre cable carries more data than any other cable; for instance, a single fibre optic cable can convey 33,000 simultaneous telephone calls. This capacity makes audio-visual telecommunications considerably easier and more cost-effective.

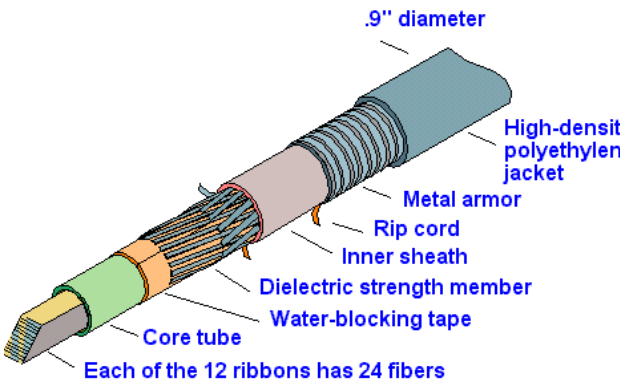
History

Optic fibre technology was first demonstrated in Paris in the 1840s, but it was not until 1977, that the technology became popular and commercialised for communications applications. Today, optical fibre is the state of the art technology for long distance communication including built environments.

Technical description

An optical fibre is a single, hair-fine filament drawn from molten silica glass. The fibre comprises of the core, the cladding and the primary and secondary protection. The core acts as a wave guide of light beam based on total internal reflection. This light carries the information being transmitted. One pair is required to complete the information loop.

Fibre Cable illustration



Source: Computer Desktop Encyclopedia © 1998 The Computer Language Co. Inc.

As illustrated in the figure above, the diameter of the fibre is very small, roughly 0.008 to 0.2 millimetres or barely the breadth of a hair and remains very small, even when the cladding and primary protection is included.

With advances in manufacturing technology, the cost of fibre is significantly reduced. However, the fibre has to be covered to protect against the weather, animals and inadvertent human activity. This increases the size and cost of the fibre.

It is therefore more cost-effective to install more than one pair of fibre because the cost of laying additional fibre to cater for expansion under the sea bed is expensive. Thus, fibre optic cables come in a large number of pairs.

Dark fibre

Optical fibre infrastructure which has been installed but is not being used, and is therefore unlit is referred to as "dark fibre". This excess capacity can be leased out to other users.

SUBMARINE FIBRE OPTICS VS. SATELLITE COMMUNICATION: AN OVERVIEW

Connectivity via fibre optic cable is considerably faster and more reliable than satellite connectivity because data travels through the cable at the speed of light from one computer point to another. With satellite communication, data is beamed to a satellite in the geosynchronous orbit[2] at an altitude of almost 36,000 km above sea level and is then relayed to the destination. The distances involved cause latency – a delay, usually of between 600-800 milliseconds, depending on the time of day and the service provider (which makes voice or video communication more difficult). Satellite systems are susceptible to interruptions during bad weather. Maintenance of satellite systems is also considerably more expensive than that of fibre optic systems.

However, most fibre links have back up via satellite. Satellite communications also serve as a way to getting connectivity in areas where it might otherwise be impossible.

THE NEED FOR A FIBRE OPTIC SYSTEM FOR EASTERN AFRICA

At the time of this study, Kenya and the East African Region relied primarily on satellite communications. Using satellite systems, one megabyte[3] (1 MB) of data costs approximately USD 5,000.

With the fibre optic system, the government estimates that 1 MB should cost as little as USD 100. For a variety of reasons including low cost, high speed of data transmission and large volume of data transmitted, coastal countries around the world have built undersea fibre optic cable systems linking them to the rest of the world. This improves the speed of communication and makes the transfer of data – audio, video and text – more efficient and cost-effective.

Unlike most other parts of the world, including Western and Southern Africa, the East African seaboard was not connected to any fibre optic cable system.

There was thus an obvious and urgent need for fibre optic connectivity in Kenya and in the region – in Uganda, Rwanda, Burundi and Southern Sudan. The decision to invest in TEAMS was therefore justified.

However, the key concern emerging from this study is not the need for the project, but the process through which that need was met.

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[2] A satellite in a geosynchronous orbit maintains the same position relative to the earth's surface at an altitude of 35,786 km above sea level. It therefore appears to be in the same position in the sky all the time. Such orbits are useful for telecommunication networks.

[3] A megabyte is a multiple of the unit byte (8 bits) for digital information storage or transmission. The IEEE Standards Board defines "Mega" as 1 000 000. In rare cases, it is used to mean 1000×1024 (1024000) bytes. It is commonly abbreviated as Mbyte or MB. http://en.wikipedia.org.

CHAPTER TWO

Overview of submarine fibre optic initiatives in the region

There are four ongoing submarine fibre-optic cable initiatives at the Eastern Africa Seaboard:

1. The East African Submarine System (EASSy)
2. The East African Marine System (TEAMS)
3. SEACOM
4. The Lower Indian Ocean Network (LION)

1. EAST AFRICAN SUBMARINE SYSTEM (EASSy)

The earliest fibre optic initiative in the region was the East African Submarine System (EASSy) promoted by state-owned telecommunications operators and governments in the region[4]. EASSy is the longest cable system serving Africa's eastern seaboard and links South Africa to Djibouti in the North East. Telkom Kenya was representing Kenya in the project.

Progress on the project was impeded by persistent governance and funding challenges that significantly delayed its completion. EASSy, partially funded by the World Bank, was initiated on January 2003, when a handful of companies investigated its feasibility. The cable entered service on 16 July 2010 with commercial services starting on 30 July 2010.

Key governance challenges in EASSy include:

a) The modalities for connecting other operators to the system following market liberalisation, given that EASSy was developed by state-owned enterprises
b) The cost of bandwidth on sale in terms of Return on Investment (ROI[5])
c) The post-completion management and control structure. This is a thorny issue related to how different countries perceive the project. For example, South Africa is connected to multiple fibre optic cables and South African investors saw EASSy as a new business opportunity. On the other hand, Eastern African countries, including Kenya, were not connected to any fibre optic cable and regarded EASSy as a social imperative for economic and social development. As such, Kenya's position was that the cost of bandwidth had to be low to stimulate growth whereas the South African investors and many of the operators wanted higher costs to ensure a shorter Return on Investment period. Kenya's position was based on the premise of 10 percent annual economic growth to

[4] In this "hybrid" structure, the larger telecom companies invested directly in their own right, while a number of smaller ones invested through a *special purpose vehicle (SPV) consortium*, named West Indian Ocean Cable Company Limited (WIOCC), that was created to facilitate open access is the largest shareholder with 29 percent. www.wiocc.net

[5] Return on Investment (ROI) is a performance measure used to evaluate the efficacy of an investment based on the time it takes for it to break even and make profits.

realise her Vision 2030 goals[6]. A key flagship to stimulate this growth is the technology-enabled Business Process outsourcing (BPO) industry.

2. THE EAST AFRICAN MARINE SYSTEM (TEAMS)

Disagreements over the purpose and modalities of EASSy led Kenya to the decision to start its own fibre optic cable initiative, the East African Marine System (TEAMS), in 2006. TEAMS is a 4,500 km optic submarine fibre cable linking Mombasa to the world via Fujairah in the United Arab Emirates (UAE). Construction started in April 2009 and the cable landed in Mombasa in June 2009 and began operating in September 2009. It was initiated as a joint venture between Kenya (through Telkom Kenya) and UAE telecommunications giant Etisalat[7] . Each firm was to apply for landing rights in their respective countries.

Shareholding in TEAMS is structured as 15 percent Etisalat and 85 percent TEAMS Kenya Ltd, which is jointly owned by the Kenya government and private sector operators.

3. SEACOM

In 2006, almost concurrently with the inception of TEAMS, a number of private sector investors were exploring the business opportunity provided by the absence of a fibre optic network on the East African Seaboard. Feasibility studies and subsequent business evaluations resulted in the birth of SEACOM, a consortium of African and American companies and individuals, to build a 13,400 km fibre optic cable to link Kenya to South Africa, Europe and Asia.

A significant stake, amounting to 25 percent of the company, is held by the Industrial Promotion Services (IPS), an investment arm of the Aga Khan Fund for Economic Development (AKFED).

The SEACOM cable landed in Kenya in June 2009 and has been operational since July 2009.

4. The Lower Indian Ocean Network

This initiative is owned by France Telecom, which also holds a 51 percent stake in Telkom Kenya as well as other telecommunications interests in Mauritius, Reunion and Madagascar. LION is France Telkom's attempt to use fibre optic cable to link these interests and the rest of the world through the SAT3/WASC[8] cables on the West African Atlantic Seaboard and the SAFE network in the Indian Ocean.

The LION 2 cable joins Kenya to the LION cable via Mayotte. (See table 1 on page 14). These and other undersea cables linking Africa to the rest of the world are shown on page 12.

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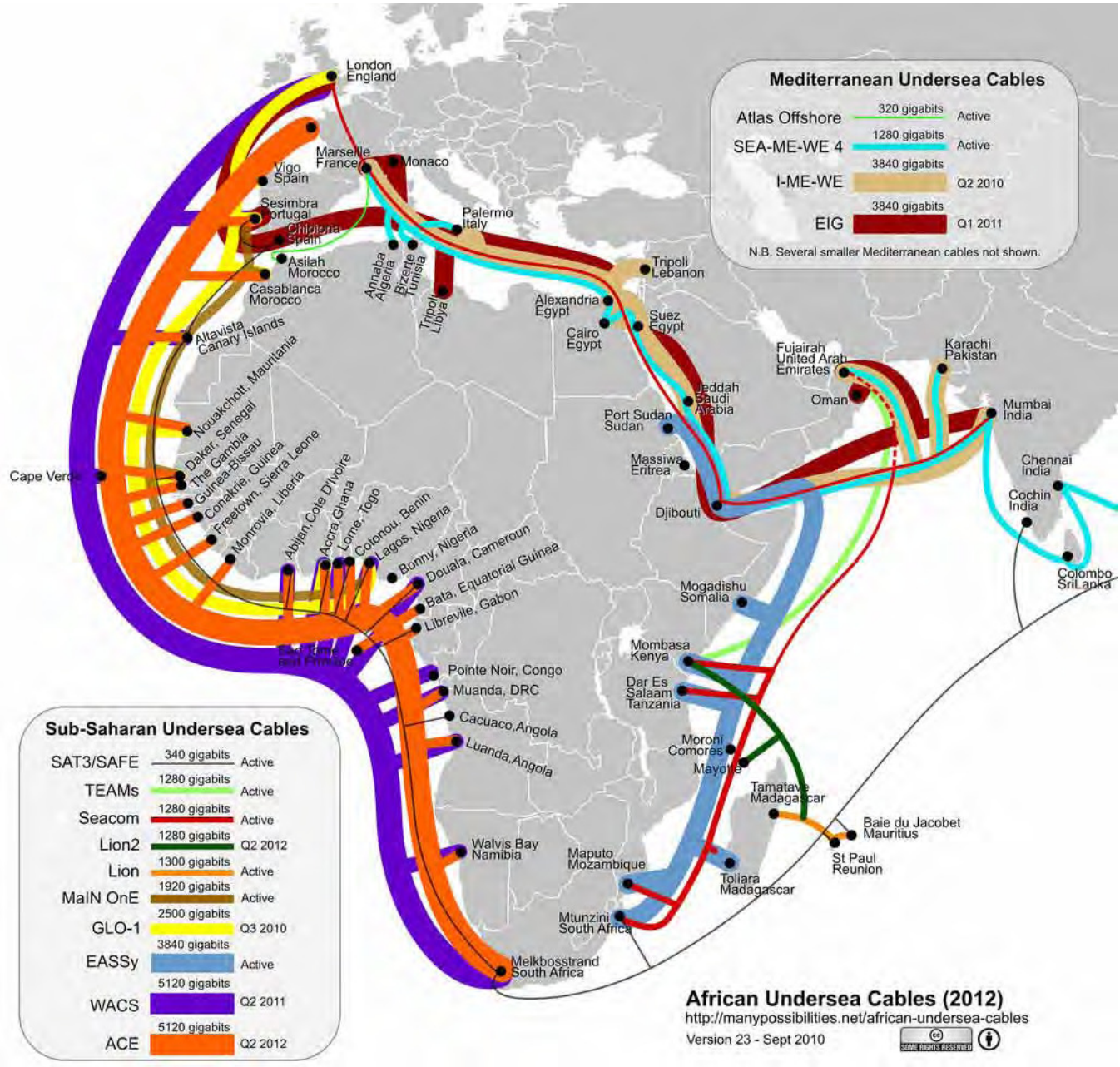
[6] *Kenya's Vision 2030* is an economic development plan by the Kenyan government to develop economic zones in various parts of the country. The plan aims to produce annual economic growth rates of 10 percent. Currently, Kenya has a GDP growth of 4.9 percent (2007). The Vision calls for a series of five-year plans, with the first one being between 2008-2012. The first plan calls for investments in six key sectors with 20 flagship projects. The targeted sectors are tourism, agriculture, manufacturing, trade, information technology, and financial services.

[7] www.etisalat.ae Etisalat is one of the largest telecommunications companies in the world and the leading operator in the Middle East and Africa, with its headquarters in the United Arab Emirates (UAE). Etisalat operates in 18 countries across Asia, the Middle East and Africa.

[8] SAT 3 refers to the South Atlantic 3 (linking Portugal, Spain and South Africa) while WASC is short for West African Submarine Cable.



Source: http://manypossibilities.net/african-undersea-cables/Version 23-Sept 2010

IMPLEMENTATION OF TEAMS AND OTHER REGIONAL INITIATIVES

This section examines the four regional fibre optic cable initiatives and compares them in terms of their features, value-for-money, and ownership structures.

TEAMS traverses 4,500 km. Light passes through the fibre on the ocean floor for the duration of the fibre. The typical cable design life time is 15-25 years.

The TEAMS project has a capacity of 1.2 terabits/per second. Currently, Kenya's usage needs is 13 Gigabits/per second (13 billion bits per second) all carried by satellite prior to the installation of TEAMS. TEAMS alone can provide a hundred times more capacity than this.

Due to the heavy investment involved in the project, a meticulous process had to be followed. Key steps of the generic process included:

1) defining partners and their relationship through an MoU
2) a feasibility study to determine viability
3) marine survey
4) vendor selection to lay fibre
5) construction and cutover

This process can be time-consuming; the conceptualisation and institutional framework has taken up to 7 years for EASSy, while TEAMS will take less than three years to market. SEACOM was just as fast. The speed of construction and implementation depends on the resolution of ownership structure and financing which then drives the rest of the process.

One of the key decisions that determine market entry is the mode of access to the fibre. SAT 3 off the Western African coastline was built by government operators who had a monopoly in the international services. The access cost was artificially high to realise a short payback period. As a result, only a few individuals/companies could afford the new service and the Internet Service Providers (ISPs) stuck to the satellite system they had before the fibre. Indeed, the impact of the new system was insignificant in the region.

This is the lesson TEAMS and others have taken on board. TEAMS will implement an open access strategy, thus ensuring any new operator can access the fibre.

The TEAMS project has the shortest cable and the least cost per kilometre as shown below. Its primary challenge is that it does not offer redundancy[9] in case the cable breaks, is vandalised or sabotaged. There are precedents for submarine cable breaking and sabotage. In January/February and December 2008, the Europe-Asia submarine cable FLAG[10] and SEA-ME-WE 4[11] were cut near Alexandria, Egypt causing a massive disruption of services across the Middle East and into India and neighbouring countries[12].

EASSy and SEACOM have multiple landing stations. This is helpful because, in case there is a disruption of one of the cables, internet and telecommunications traffic would be re-routed without much inconvenience to the consumers. SEACOM and EASSy could thus provide the necessary redundancy for TEAMS.

[9] "Redundancy" implies the ability to seamlessly switch over to another network with full access to one's data and resources. It does not refer only to the existence of alternative cables.
[10] FLAG stands for Fibre-Optic Link Around the Globe.
[11] SEA-ME-WE 4 stands for South East Asia - Middle East – West Europe 4. (4 refers to Italy, Tunisia, Algeria and France).
[12] http://news.bbc.co.uk

Below is a summary table comparing key features of the four fibre optic cable initiatives.

Table 1: Summary of key features of East Africa's fibre optic initiatives

KEY FEATURE	EASSy*	TEAMS	SEACOM	LION/LION 2**
Length in Km	9,900	4,500	13,700	1,800
Capacity	3.84 Tb/s[13]	120 Gb/s[14] - 1.28 Tbs	1.28 Tb/s	No published data
Cost USD/M[15]	265	110	650	No published data
Indicative per capita costs. Km/M USD	37	41	21	No published data
Arrival in Mombasa[16]	March 2010	June 2009	June 2009	
Entry into service	July 2010	June 2009	July 2009	
Ownership	E.A. Telecom Operators co-funded by donors e.g. World Bank.	TEAMS (Kenya) 85 percent Etisalat (UAE) 15 percent	USA 25 percent SA 50 percent Kenya 25 percent	Orange Madagascar, Mauritius Telecom, and France Telecom
Kenyan interest	Government investment through Telkom Kenya Ltd (TKL)	Local consortium led by Kenya government	Private company Industrial Promotion Services	Consortium driven by France Telecom

*www.eassy.org EASSy is the first cable to deliver direct connectivity between East Africa and Europe/North America

**The LION2 cable is expected to land in Mombasa soon following the signing of an agreement between France Telecom-Orange and 12 members of LION in September 2010. The 3,000 km-long LION2 cable extends the LION cable to Kenya via the island of Mayotte in the northern Mozambique Channel. LION is a submarine cable linking Madagascar to the rest of the world via Réunion Island and Mauritius. The first phase of the LION cable has been completed and links Madagascar, Reunion and Mauritius. The project is being conducted by a consortium of France Telecom-Orange and its subsidiaries Mauritius Telecom Ltd, Orange Madagascar and Telkom Kenya Ltd, along with carrier companies Emtel Ltd., Société Réunionnaise du Radiotéléphone and STOI Internet. The construction of the LION2 cable represents a total investment of around 56.5 million euros, about 31.25 million euros of which will come from France Telecom SA. Service is scheduled to begin in the first half of 2012. The new landing station at Nyali near Mombasa is doubled up with existing stations and will be used to redirect traffic if needed. The new cable will also provide an alternate route for secure broadband transmissions through Europe and Asia for all of the African countries in which the Group is located. LION2 was initiated in February 2010.

[13] www.engineeringnews.co.za Tb/s refers to Terabit per second. It is a unit of information or computer storage where 1 terabit = 1012 bits = 1,000,000,000,000 bits. 1 terabit is equal to 1,000 decimal gigabits.

[14] Gb/s refers to Gigabit per second. It is a unit of information or computer storage where 1 gigabit = 109 bits = 1,000,000,000,000 bits which is equal to 125 decimal megabytes. It is worth noting that GB stands for Gigabyte, Gb stands for Gigabit, TB stands for Terabyte, and Tb stands for Terabit.

[15] USD per metre.

[16] www.seacom.mu Seacom ready for service date postponed from 24 Jun 2009 to 23 July 2009. Competing claims on prospective landing dates received much media attention at the time.

CHAPTER THREE

Governance concerns in the TEAMS project

KEY GOVERNANCE ISSUES ARISING FROM GOVERNMENT INVESTMENT IN TEAMS

Governance concerns are a matter of compelling public interest considering that the TEAMS project was carried out using public funds. This chapter identifies and analyses governance issues in the TEAMS project.

1. Value for money

Whereas the landed cost of bandwidth has yet to be determined, TEAMS estimates that the landed cost at the onset of the cable project was USD 300 per MB or a 94 percent reduction in the cost of bandwidth compared to the cost when relying on satellite communications. SEACOM estimates a price reduction of 70 percent of the USD 5000 current cost of bandwidth. This radical reduction of cost was a key motivator of the government decision to invest in TEAMS[17].

Nonetheless, cost-reductions are not automatic and depend on the management and control of the project. There are lessons to be learnt from other fibre optic cable systems on the continent. For example, the SAT3/WASC submarine fibre optic cable in West Africa has been in operation since April 2002. However, its impact on communication in the region has been negligible and its potential has not been fully exploited. Instead, telecommunications operators have used the cable to reinforce their positions by adopting monopolistic tendencies[18]. Costs have therefore remained high and the service inaccessible to many.

The cost of constructing the fibre optic cable is a key determinant of the landed costs. As illustrated in the table on page 14, so far and in global terms, TEAMS is the lowest costing fibre optic initiative. It therefore, provides the best opportunity to maintain low end-user prices.

2. Ownership

The government is not the majority shareholder in TEAMS and bears equal risk with the other shareholders in Kenya and in the region. Shareholders in the project include all major telecommunications operators apart from Zain

[17] Cost here refers to overall operation expenditure and return on investment; optical cables are expensive to install but significantly cheaper to maintain and offer faster speeds than satellites. Further, they offer superior and more reliable performance even in bad weather, and do not cause latency as a result of broadcasting, and other performance challenges faced by satellite communications.

[18] Abiodun Jagun (2008). *The Case for "Open Access" Communications Infrastructure in Africa*: The SAT-3/WASC cable, APC, Glasgow viewed at http://www.apc.org

Kenya Limited[19] and Popote Wireless Ltd[20]. The allocation of shares to the consortium members was carried out in response to a media invitation by the government to interested operators (see Annex 5). The actual allocation of shares is determined by the lead financial arranger, Standard Chartered Bank (see Annex 6).

The financial arranger proposed three categories of shareholding:

a) *Anchor investors:* these are the key promoters of the project in this case Safaricom Ltd. and the Kenya government
b) *Major shareholders:* includes currently licensed Kenyan operators who had applied for an allocation of over 10 percent of the shareholdings
c) *Other shareholders:* an equal split of the remaining shares

The resulting allocation of shares is shown in the table below.

In addition to these shareholders, there is a waiting list that includes the Government of Rwanda, Access Kenya, Africa Online and Open Systems Ltd. The government has stated its intention to maintain its shareholding in TEAMS to safeguard

Table 2: Current shareholding of TEAMS

INVESTOR	SHAREHOLDING	PEOPLE BEHIND THE COMPANY
Government of Kenya	20 percent	Kenyan public
Safaricom Ltd	20 percent	Various shareholders through the Nairobi Stock Exchange (NSE), Kenya government and Vodafone Kenya Ltd
Telkom Kenya/ Orange	20 percent	Kenya and France Telkom
Essar Telecom (Yu)	10 percent	Econet Wireless (K) Limited & Essar of India
Kenya Data Network	10 percent	Sameer Group and Johannesburg Stock Exchange (JSE) listed Allied Technologies Ltd
Wananchi Group	5 percent	Tran-Century Group, Mark Schneider (US media mogul) through African Telecom Company
Jamii Telkom	3.75 percent	Ad Group of Companies
Access Kenya	1.25 percent	The Somen Family, Kenyan public (through the NSE)
Inhand Ltd	1.25 percent	ICT Professional, Mr. Brian M. Longwe and others
Iquip Ltd	1.25 percent	ICT Professional, Brian Longwe
Flashcom	1.25 percent	
Africa Fibre Networks (Uganda)	1.25 percent	Unclear
Free pool	5 percent	

Source: Government of Kenya (Ministry of Information and Communications) www.information.go.ke

[19] Zain Group is a mobile telecommunications company founded in 1983 in Kuwait as Mobile Telecommunications Company (MTC). It was later re-branded to Zain in 2007. Zain has a commercial presence in eight countries across Africa and the Middle East and employs over 5,000 people. On 8 June 2010, the Indian company Bharti Airtel completed a deal to buy Zain's businesses in 15 African countries for USD10.7 billion. As a result of this deal, Zain's Africa presence reduced from 17 countries to just three countries: Sudan, Kenya and Morocco. By the time of going to print Zain had changed its name to Bharti Airtel.

[20] A fixed wireless phone service provider in Kenya.

the public interest for low bandwidth costs as one of the lessons learnt from the West African SAT3/WASC experience.

EASSy is owned by 11 operators in the region with the Kenyan interest represented by Telkom Kenya while SEACOM is entirely a private sector project, as described in chapter two.

3. Public Interest

This is an important issue in analysing the governance aspects of TEAMS due to the large financial commitment and exposure to risk that the project carries for the public.

The government underwrote the risks of the design and promotion of the fibre optic cable while waiting for other investors to come into the project. Cabinet ordered the CCK to champion the project on behalf of the government, which it did, until new partners came on board. Currently, the government has a 20 percent stake in TEAMS and owns 49 percent of Telkom Kenya. See Annex 1 for further details and the evolution of TEAMS.

EASSy is no longer of primary strategic interest to the government. However, it is important because it will provide redundancy (i.e. if it is connected to the TEAMS cable in a manner that allows immediate re-routing) and the necessary competition.

Because they are private ventures, the public interest in SEACOM and LION is limited to any undue leverage they may exploit to impact on the quality or price of international bandwidth in Kenya.

ANALYSIS OF GOVERNANCE ISSUES

This study carried out an analysis of key governance issues in the project using a simple framework which summarises commonly recognised key aspects of good governance[21]. This template is used to determine how well the TEAMS initiative has conformed to the tenets of good governance. The analysis is found below.

Good governance should ensure that high integrity is maintained, respect the rule of law, be responsive and accountable and ensure that the views of minorities are taken into account, and the voices of vulnerable groups are involved in decision making, while being responsive to the present and future needs of society.

It is important to note that TEAMS and LION did not have websites at the time of their implementation, thus making it difficult to obtain up-to-date relevant information on their progress. For TEAMS, the public generally had to rely on regular press briefings by the Ministry of Information and Communications.

1. Adherence to rule of law

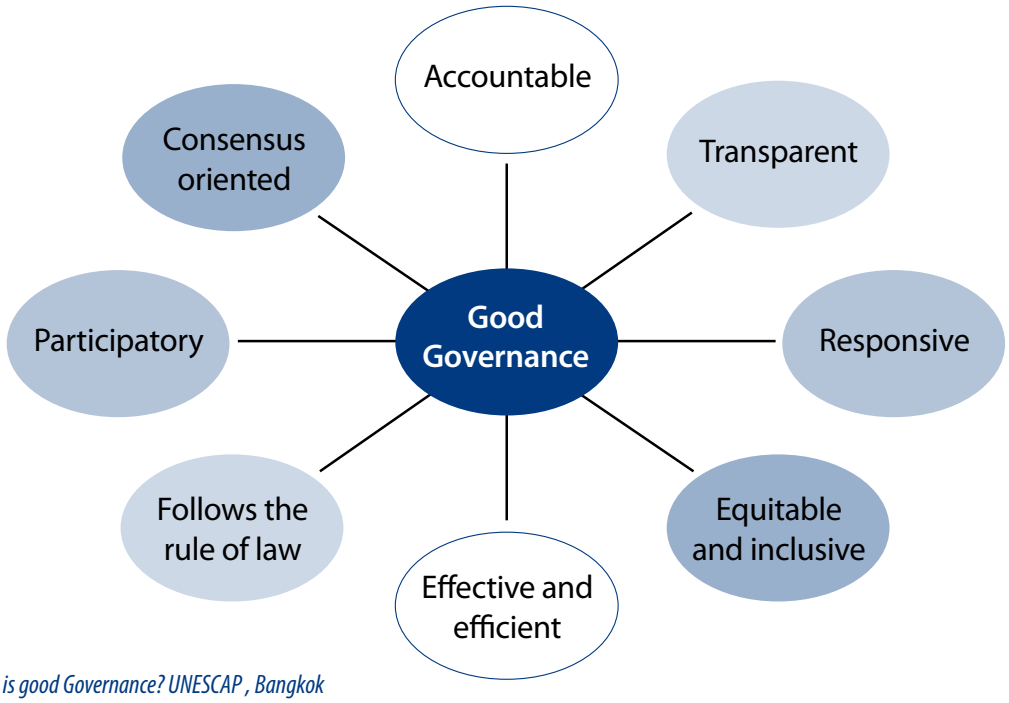
The TEAMS project is subject to the National ICT policy and a number of laws including the Information, Communications and Technology (ICT) Act, the Privatisation Act, procurement regulations and environmental laws.

TEAMS has complied with the Environmental Impact Assessment[22] (EIA) requirements from the National Environmental Management Authority

[21] This framework is based on a discussion by Y.P Sheng in *What is Good Governance?* UNESCAP , Bangkok viewed at www.unescap.org

[22] J. Holder (2004) defines an environmental impact assessment (EIA) as an assessment of the possible impact (positive or negative) that a proposed project may have on the environment, together consisting of the natural, social and economic aspects. It ensures that decision-makers consider the ensuing environmental impacts when developing a project. In Kenya, EIAs are conducted according to the requirements of the Kenya Environmental Management and Coordination Act (2000). EIA documents are submitted to the National Environmental Management Authority (NEMA) for consideration for an Environmental Impact Assessment License.

Good Governance Template



Source: What is good Governance? UNESCAP , Bangkok

(NEMA) and paid the Cable Landing Station Licence fee of KShs 15 Million and the annual operating fee of KShs 5 Million[23].

At the time of publishing this report, TEAMS, SEACOM and EASSy had landed at the Kenyan coast, and LION2 was expected shortly.

Following the rule of law assumes fair policy and existing regulatory frameworks, which are enforced impartially to all and in all circumstances. This parameter addresses the regulatory framework that impinges on TEAMS and the extent to which TEAMS follows the law while adhering to other regulations. It also takes into account any weaknesses of the law.

a) Problematic involvement of the CCK in TEAMS

According to a press release by the CCK, the CCK became involved in the TEAMS initiative by government directive in August 2006 (See Annex 1 and Annex 2).

The Ministry of Information and Communications explained that the engagement of the CCK in

[23] http://www.cck.go.ke

TEAMS was in recognition of the regulator's expertise in the sector and the limitations to the use of private operators like Telkom Kenya which was then government-owned. This was because Telkom Kenya was in competition in the market with other interested players. Nevertheless, government directions to CCK are defined by law. The law, as set out by Kenya Information and Communications Act 1998 (KICA 98), establishes the CCK as an independent organisation to ensure that the body is not influenced by the politics and interests of the day. Section 5 of the Act safeguards that independence by setting out how the Minister or government can direct the CCK[24].

The intent of the law is to ensure the independence of the CCK as well as engage the citizens in policies that the government may impose on the CCK. In the case of TEAMS, if the Act was followed, the Minister should have gazetted a policy after stakeholder consultations, in line with the precedent set by the existing ICT policy.

While it may be appreciated that this approach may have been adopted to save time due to the often-protracted nature of consultative processes, a lack of consultation for TEAMS sets a precedent that can be misused in the future.

As is clear from Section 23 of the Communications Act, the Cabinet directive was not beyond the legal mandate of the CCK[25]. However, the process by which Cabinet instructed the CCK did not follow the law.

b) Questionable privatisation of TEAMS

The process by which additional investors were brought into TEAMS was queried by both the Privatisation Commission and the KACC.
The relevant issues under consideration are as follows:

- Parliament enacted the Privatisation Act in 2005 but the law only became operational on 2 January 2008 when the Privatisation Commission was set up. The Act sets out the framework for the privatisation

[24] Section 5A provides that:- 1) The Minister may issue to the Commission policy guidelines of a general nature relating to the provisions of this Act as may be appropriate. 2) The guidelines referred to under subsection (1) shall be in writing and shall be published in the Gazette.
Section 5B: Except as provided for under this Act or any other law, the Commission shall exercise its functions independent of any person or body.

[25] (1) The Commission shall, so far as is reasonably practicable, ensure there are provided throughout Kenya, such telecommunication services and in particular, emergency, public payphone and directory information services, as are reasonably necessary to satisfy the public demand thereof.
(2) Without prejudice to the generality of subsection (1), the Commission shall:-
a) protect the interests of all users of telecommunication services in Kenya with respect to the prices charged for and the quality and variety of such services.
b) maintain and promote effective competition between persons engaged in commercial activities connected with telecommunication services in Kenya in order to ensure efficiency and economy in the provision of such services and to promote research and development in relation thereto.
c) encourage private investment in the telecommunication sector.
d) promote the provision of international transit services by persons providing telecommunication services in Kenya;
e) enable persons providing telecommunication services or producing telecommunication apparatus in Kenya to compete effectively in the provision of such services or apparatus outside Kenya.

of government enterprises. At the outset, the Act defines the scope of the privatisation process and specifically defines privatisation[26].

From the definition of privatisation[27], it appears that TEAMS would not fall under the Privatisation Act. When the Act came into force, the Privatisation Commission raised queries on the allocation of shares. It appointed a three-man team to review the propriety of the allocation of shares. The committee report stated that the allocation should be more transparent[28].

- The immediate justification for government involvement in TEAMS was the extent and urgency of the need for a fibre optic cable system in Kenya and the region. The Ministry of Information and Communications identified a deep need facing the country and went ahead to address it. However, at the time, there was no legal framework for such projects.

- The Privatisation Act should be reviewed to facilitate government involvement in the development of such projects and venture capital investments where the risks (and benefits) are shared with the private sector as in the model of TEAMS.

- In April 2008, the KACC investigated the share allocation in TEAMS after some controversy and contention that there were issues of probity. Standard Chartered Bank, the Lead Financial Arranger following an open tender[29], had proposed a shareholder arrangement involving anchor shareholders, major shareholders and other shareholders.
- Inquiries conducted for this study did not yield any information on the KACC's findings despite at least four requests to the KACC for the information[30]. In addition, queries made by ICT practitioners interested in the cable project had also prompted an investigation by the Ministry, specifically the Permanent Secretary.

2. Environmental assessment

An interview with NEMA confirmed that NEMA had assessed the impact of the project on Marine and Land resources and issued a certificate of compliance[31].

a) Licensing

A Landings Station Licence was issued by the CCK after the necessary approvals and payment of the Licence Fee[32]. A similar licence fee was issued to SEACOM on meeting the requirements prescribed by the regulations. The key issue here is that CCK, the licensing

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[26] "Privatisation" means a transaction or transactions that result in a transfer, other than to public entity, of any of the following:-
a) Assets of a public entity including the shares in a state corporation.
b) Operational control of assets of a public entity.
c) Operations previously performed by a public entity.

[27] Ibid

[28] *The East African*, 6 September 2008

[29] See Annex 4

[30] There appears to be no information on TEAMS recorded in the latest KACC annual report (2008-2009) and in the quarterly reports from July 2009 to June 2010 (which should form the delayed 2009-2010 annual report) and July 2010 to September 2010. It is worth noting that the KACC has delayed in submitting its annual report to Parliament. This report is usually submitted in September/October. The annual reports summarise findings on a financial year basis i.e. from the beginning of July to the end of June.

[31] www.cck.go.ke

[32] www.cck.go.ke

authority, was also the implementer of the very project it was licensing.

b) *Public Private Partnerships*

The Public Private Partnership (PPP) regulations 2009 came into force in March, 2009 – almost two years after the public private partnership structure for TEAMS had been agreed on.

In September 2007, the government placed a media advertisement inviting the private sector to participate in TEAMS as a PPP[33].

An analysis of the relevant provisions in the regulations shows that TEAMS does not strictly fit into these regulations – except in the case of the generic clause 1(f) of the regulations which provides that a procuring entity may enter into any public private partnership (PPP) arrangement [which includes] "any other scheme as may be prescribed by the Public Private Partnership Steering Committee and approved by the Cabinet."[34] In any case, the regulations came into force when implementation of the project was in its final stages.

However, the National ICT Policy (ICT sector policy guidelines gazetted in March 2006) foresaw the need to create an environment for PPPs for ICT development. These partnerships were identified as a key strategy for the development of ICT infrastructure in Kenya. The regulations should now be revised to specifically provide for this aspect.

3. Transparency

Transparency strengthens citizens' capacity to ensure that public investments are above board. Whereas TEAMS is largely a privately-owned project, as a vital, strategic project initiated and developed by the government, it ought to have been more open to scrutiny both by the public and oversight institutions such as parliament. Even now, the government as a major shareholder, should persuade fellow shareholders of the compelling public interest in the initiative, and their obligation to keep the public informed on the management and progress of the project.

The relevant transparency issues involving TEAMS are largely related to information management and information sharing. These are as follows:

a) *Poor consolidation of information*

During the inception and implementation of the TEAMS initiative, information on the project was scattered between the Ministry

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[33] The relevant provisions in the regulations set out the guidelines for PPPs as follows:-
3. Entering into public private partnership.
(1) Subject to provisions of these Regulations and the Act, a procuring entity may enter into any of the following public private partnership arrangements.
a) management contract whereby a procuring entity awards a private party the responsibility to manage and perform a specific service, within well-defined specifications for a specified period of time not to exceed five years and the procuring entity retains ownership and control of all facilities and capital assets and properties.
b) a lease whereby the private party pays the procurement entity rent and manages, operates and maintains the facility and receives fees or charges from consumers for the provision of the service for specified time not exceeding fifteen years.
c) a concession for a period not exceeding thirty years whereby the private party maintains, rehabilitates, upgrades and enhances the facility in question.
d) a Build-Own Operate-Transfer scheme whereby a private party designs, constructs, finances, owns, operates and maintains the given infrastructure facility for a specified time period not exceeding thirty years, or such longer period as may be agreed, after which the facility is transferred to the procuring entity.
e) a Build-Own Operate scheme whereby a private party designs, finances, constructs, owns, operates and maintains the infrastructure facility and provides services for an agreed time period; or
f) any other scheme as may be prescribed by the Public Private Partnership Steering Committee and approved by the Cabinet.

[34] Ibid

of Information and Communications, the CCK, the Kenya ICT Board[35] and the Privatisation Commission.

Ironically, the TEAMS initiative does not have a website. A website would provide an easy-to-access online portal where stakeholders and the public can find up-to-date information on the project and even interact with each other and the project managers if so desired. SEACOM and EASSy both have web sites at www.seacom.mu and www.eassy.org respectively.

b) Poor public information and outreach

Whereas efforts were made at the ministry level to communicate with key stakeholders through various media advertisements and high level discussions were held between ministry officials and stakeholders, public information was limited in reach.

Similarly, other mechanisms such as the online KICTANeT[36] email list were not wide enough to inform a larger segment of the public.

4. Accountability

As this is a public project, the government has a responsibility to be accountable to the citizenry and investors. This encompasses institutional stakeholders, who have a regulatory or oversight role in the operation of the fibre optic project.

During its inception and implementation, TEAMS seemed to regard this obligation rather narrowly, seeing itself as mainly accountable to its investors through investor meetings and one-on-one sessions. As such, there was no significant effort to be accountable to other stakeholders.

5. Equity and Inclusiveness

As a strategic project for Kenya, TEAMS needs to be inclusive. The following are the key elements of equity and inclusiveness:

a) Adherence to open access principles

These principles ensure that any licensed operator can access the fibre optic cable. The founding elements of these principles are:

- Anyone can play
- Technological neutrality[37]
- Fair and non-discriminatory competition in all layers
- Everyone can connect to everyone else at the layer interface
- Transparency to ensure fair trading within and between layers
- Devolved (and customised) rather than centralised solutions

b) Ensuring equity through the National Optic Fibre Backbone

The government has built and, in the public interest, should continue to develop the national fibre optic network called the National Optic Fibre Backbone infrastructure (NOFBI). This will ensure that all areas benefit from increased bandwidth, even if the private sector feels that some areas are unprofitable.

c) Cheaper access to bridge the digital divide

A key element of equity is cost. With the cost

[35] The ICT Board was set up as a state corporation on 19 February, 2007 to cordinate and promote the ICT industry in Kenya, and promote ICT investments locally and abroad. www.ict.go.ke

[36] The Kenya ICT Action Network (KICTANet) comprises members from civil society groups, private and public sectors, development partners and media. It acts as a catalyst for reforms in the ICT sector in support of the government's mission to enable Kenyans to gain maximum benefits from the opportunities offered by ICTs.

[37] For the *1999 Communications Review,* technologically neutral legislation "should define the objectives to be achieved, and should neither impose, nor discriminate in favour of, the use of a particular type of technology to achieve those objectives".

of bandwidth as low as USD 300 compared to the USD 5,000 currently in place, more people should be able to participate, thus bridging the digital divide.

6. Consensus building

A deliberate mechanism to mediate the multiple stakeholder interests and foster broad consensus is necessary for a project of this nature. In developing the initiative, the government made concerted efforts to further understanding on TEAMS through various stakeholder forums, including:

a) Annual ICT Conferences held since September 2006
b) Discussions on various online forums including the Kenya ICT Action Network (KICTANet - an email list with a membership of a few thousand people)
c) Skunkworks - an email list for ICT professionals[38]
d) media discussions

The challenge of sustaining consensus

However, there are a number of related concerns regarding consensus-building in TEAMS:

a) A broad consensus would have been achieved if the policy process was followed and gazetted in line with the Kenya Information and Communications Act 1998. This opportunity was lost. The challenge in the operation of TEAMS will be maintaining unity of purpose in the management of TEAMS, among the shareholders because of the disparate interests, capabilities and abilities.
b) While the government is a major shareholder, its capacity to leverage its shareholding based solely on its shares – or even by leveraging those of Telkom Kenya and Safaricom[39] – is limited. The challenge for the government will be to persuade co-shareholders to maintain its non-business imperatives and thus ensure affordable bandwidth for the end-user.
c) Many TEAMS shareholders are ICT/ telecommunications operators who can forego maximum profits at TEAMS level, to gain leverage on the more sustainable end-user level revenues. However, investors who are not operators will be hard-pressed to reduce the profit margins at TEAMS level. This could raise conflicts over financial versus service objectives.

Following the foregoing, this study concludes that it will not be easy to sustain consensus both at the level of the TEAMS management, and that of TEAMS and stakeholders. The government will need to balance the competing interests to ensure that the social objectives that justified public investment in TEAMS, such as lower bandwidth costs, are met.

7. Participation

Participation in the process of implementing TEAMS was patchy. While investors participated fully in the process, other stakeholders only played limited roles despite the huge public interest element of the project and in contradiction of

[38] The name of this mailing list is reminiscent of the designation skunk works, or skunkworks – a project typically developed by a small, loosely-structured group of people who research and develop a project primarily for the sake of radical innovation. The group is given a high degree of autonomy and sometimes works in secret. The term typically refers to technology projects and originated with Skunk Works, an official alias for the Lockheed Martin Advanced Development Programs (formerly Lockheed Advanced Development Projects). Skunkworks projects are often undertaken with the understanding that if the development is successful then the product will be designed later using routine procedure. A famous example of a skunkworks project is the first Apple Macintosh computer.

[39] GOK, Safaricom and Telkom Kenya/Orange are the major shareholders in TEAMS with a 20 percent shareholding each. A table showing current shareholding of TEAMS is on page 16 of this report.

this key principle of good governance. Further definitions of the public interest and a tabulated stakeholder analysis are at the end of this chapter.

8. Effectiveness and efficiency

Effectiveness in the case of the TEAMS initiative relates to customer satisfaction. Efficiency means that processes and institutions produce results that meet the needs of society while making the best use of resources at their disposal. These parameters call for an assessment of the impact of TEAMS, particularly on end-user tariffs.

The cost of one megabyte of bandwidth locally was between KShs 298,000 and KShs 445,000 (USD 4,000 to USD 6,000) until last year when the fibre optic cables landed. Many Internet Service Providers (ISPs) say they have reduced this to KShs 45,000 (USD 600) but the government wants this lowered further to KShs 15,000 (USD 200)[40].

There has been a war of words between the government, users and ISPs regarding internet costs with users insisting that the cost of data is still exorbitant despite the availability of three new fibre optic cables. Service providers maintain that they have reduced their prices in proportion to the increased capacity brought about by the cables[41].

In October 2009, it emerged that providers were swamped with excess capacity after signing 25-year contracts for the biggest bandwidth tiers which, according to practitioners, is unlikely to be used within the contract period. Providers are likely to be able to sell only about 20 percent of this bandwidth, and consumers will probably

Table 4: Roles of institutions involved in the implementation of TEAMS

INSTITUTION	RESPONSIBILITY	ROLE
MOIC	Information and Communication Policy, Development of National Communications Capacity and Communications Commission of Kenya.	Intervened in the development of broadband in line with the national policy; Promoted the development of the fibre by establishment of the public-private partnership to own the fibre; Has a continuing responsibility to ensure equity and access to the fibre and national distribution of the bandwidth.
CCK	Regulation of the ICT operators , and fair use of scarce communication resources	Licensed the landing station for TEAMS. Has to monitor compliance of the terms of the licence. Has undertaken the following roles non-regulatory roles: Facilitated the construction of the fibre. Underwrote the construction costs of the fibre.
Privatisation Commission	Oversight of privatisation of state assets	The Privatisation Act was operationalised in 2008. TEAMS does not fit under the Act as enacted. It needs to be amended to cater for initiatives like TEAMS.
Public Procurement Oversight Authority	Ensuring that procurement procedures established under the Public Procurement Act are complied with.	Oversaw the procurement of services –including the marine survey, and Lead Financial Arranger. The subsidiary legislation under the Act establishes the framework governing PPP but the PPP regulations were not operational until March 2009. They need to be amended to fully incorporate initiatives like TEAMS.

Source: AfriCOG/respective websites of the named organisations

[40] http://africanewsonline.blogspot.com

[41] "Kenya's service providers insist internet costs are falling". 11 October 2010. www.ITNewsAfrica.com

have to pay for the surplus. This means that providers would prefer to supply additional bandwidth instead of reducing costs, as a strategy to recouping the costs of having bought more capacity than the market required.

The Permanent Secretary in the Ministry of Information and Communications threatened to put a cap on internet costs[42] particularly because TEAMS was built with public funds and sold later at cost in the expectation that the buyers would sell capacity at cheaper rates. This did not happen. Operators were accused of creating a cartel to fleece consumers but defended themselves saying they needed to recoup their investment first. According to them, meaningful price reductions will take up to three years[43].

In addition, infrastructural deficits in power supply will also impact negatively on efficiency if perennial problems in this sector are not addressed[44].

8. Responsiveness

Good governance requires that institutions and processes try to serve all stakeholders within a reasonable timeframe. It also calls for responsiveness to the present and future needs of society. As indicated in this report, there were some efforts to consult with ICT operators in the region and other business stakeholders during the inception of the TEAMS project. However, consultations with stakeholders, most notably the public/end-users, were limited and did not meet the expectations for a project of this nature. Much more could have been done in the way of facilitating such communication.

INSTITUTIONAL GOVERNANCE ROLES IN TEAMS

There are a number of institutions that are involved in the implementation of TEAMS at varying intervals and with specific roles. These include the Ministry of Information and Communication (MoIC), the CCK, the Privatisation Commission and the Public Procurement Oversight Authority. The KACC was tasked with investigating queries raised by stakeholders. The mandates and roles of these institutions are summarised in the table at the end of this chapter.

Stakeholder analysis for TEAMS

All citizens are considered stakeholders - in the sense that they stand to gain or lose in some way from the implementation of the TEAMS project. This study identified and categorised ten stakeholders for purposes of analysis. These are individuals, organisations and institutions that are affected by or have influence during the implementation and over the outcomes of any of the fibre optic initiatives.

An increasing number of fibre optic cable operators are in business and the quality of service is expected to be far better than that provided in the past[45]. Quality of service and cost are the greatest concerns among the primary stakeholders. The table on page 26 analyses the ten key stakeholders of the fibre optic initiatives under the categories of primary stakeholders, secondary stakeholders and tertiary stakeholders.

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[42] "Kenya may regulate Internet pricing", www.capitalfm.co.ke
[43] *The East African,* 6 October 2009.
[44] *Business Daily,* 1 June 2009.
[45] Kenya Power and Lighting Company (KPLC) entered the national fibre optic cable market in 2009.

Table 5: Stakeholders and their various stakes in TEAMS

STAKEHOLDER	INTERESTS/PROBLEM AND POTENTIAL IMPACT		VALUE/PARTNERSHIP	CONTROL MEASURES IF VALUE IS NEGATIVE
Primary stakeholder– critical to realise goals or directly affected				
Submarine Fibre Operators	Provide backbone service to telecommunications operators	+ve	Profits, Increased business opportunity	
Telecommunications Operators	Provide services to consumers.	+ve	Enhanced market share	
Consumers	Cost-effective and transparent communication resource	+ve	Affordable access costs	
Regulatory institutions	Ensuring fair play in the industry and that all players abide by the laws. In the case of TEAMS, CCK played a role in the investment and development of the initiative by the government.	+ve -ve	Creating an enabling environment for the fibre players and consumers. Speedy implementation of the initiative in response to the urgent need by the country for fibre optic..	Civil society must be extra vigilant in reviewing the implementation. The government must strictly follow the Kenya Information and Communications Act 1998.
Licensed Service Providers	Cheaper bandwidth costs	+ve	A lifeline for service provision	
Investors	Return on investment	+ve	Sustainable cost regime	Investor interests can easily run counter to government demand of cheaper bandwidth.
Government as user	Cheaper bandwidth costs Spur industry growth	+ve	Contributing to the core objectives of the department	
Secondary stakeholder – indirectly affected				
Development Partners	Contribute to lower prices for international capacity, while contributing to improved government efficiency and transparency through selected e-government applications.	+ve		Tied aid has been a challenge and indeed was the undoing of EASSy. TEAMS has avoided development partner assistance.
Supplier networks	Customer satisfaction			
Tertiary stakeholder– not involved or affected but can influence				
Civil Society Organisations	An all inclusive development initiatives	+ve	A multi stakeholder approach to finding solutions to emerging challenges.	
Media	Awareness creation through reporting	+ve	An informed public capable of making independent judgements	Where media commercial interests are linked with the investments in fibre, reporting should ensure that perception of biased reporting is avoided guided by the philosophy of the Media Act.

OTHER KEY PLAYERS

1. The ICT Board

The ICT Board is playing a key role in driving local content with its new initiatives. For instance, in June 2010 the Board launched a USD 4 million World Bank content grant of which 1.5 million was for private sector applications to be disbursed by October 2010.

2. Kenya Power and Lighting Company

Kenya Power and Lighting Company (KPLC) is also a major entrant in the fibre optic market. The company is leasing out excess capacity, or dark fibre. This is likely to change the playing field in terms of pricing, access and regulation as KPLC has a network across the country and is able to reach any user who has electricity[46].

COLLATERAL GOVERNANCE ISSUES RELATED TO THE IMPLEMENTATION OF FIBRE OPTIC CABLE NETWORKS

Beyond the governance issues involved in laying the fibre optic cables are matters pertaining to the operationalisation of the cables. Accordingly, there are some regulatory, legal and socio-cultural governance issues that need to be addressed, namely:

1. Network inter-connection and inter-operability
2. Security architecture
3. Content regulation
4. Development and access

1. Network inter-connection and inter-operability

Several different fibre-optic cables will soon be operating in Kenya. As a result, various technologies and technical standards will need to be harmonised, inter-connected and inter-operated. Further, the specific technical standards and the role of the CCK in setting and enforcing these standards needs to be urgently clarified. It is important that the regulator does not stifle creativity or efficiency by imposing standards that protect only certain types of operators and technologies. Of particular importance is the need for in-built redundancy in order to deal with downtime[47]. Redundancy implies the ability to seamlessly switch over to another network with full access to one's data and resources. The mere existence of alternative networks does not guarantee redundancy.

2. Security architecture

Security here refers to:

a) Physical security of the system
b) Security of information within the system

a) *Physical security*: the first set of security issues arise from the risk of physical damage to the cables, sabotage and routine breakdowns. Whereas in-built redundancy can mitigate some of the risks associated with the physical threats to the cable, it will not mitigate informational risks.

b) *Information security:* this requires consideration of:

[46] TENDER NO: KPLC1/4/3/1/PT/ITT/1 8/08 kenyantenders.blogspot.com

[47] "Downtime" refers to the amount of time a network is not in operation or fails to perform its function.

- Data protection systems
- Intellectual property protection i.e. copyright, trademark and other aspects. Intellectual property rights are informational rights and are prone to violation, particularly through the internet and other ICT technologies
- Securing electronic commerce, especially online transactions including banking
- Definition and control of cyber crimes

3. Content organisation and regulation

How should content be organised and regulated within the fibre optic networks? A key challenge will be the development of content standards. There is a balance to be struck between content standards development and censorship. From a public sector point of view, content organisation and regulation would be an integral part of electronic freedom of information and hence crucial to participation, transparent government and anti-corruption reform.

4. Development and universal access

A pressing challenge for developing countries such as Kenya is the question of promoting universal access to the new technologies. The National Optic Fibre Backbone infrastructure offers a cost-effective opportunity for widening and deepening access to cheaper communications. As mobile/electronic banking services such as M-PESA by Safaricom and Zap from Zain (recently renamed to Airtel) have shown, there is a huge demand for affordable electronic services[48]. Infrastructure development and access issues will be critical, especially in areas which are not considered commercially viable by private companies.

[48] M-PESA and ZAP are mobile/electronic banking services from Safaricom and Zain respectively that allow users to transfer money using a mobile phone. The applications are installed on a subscriber's SIM card. Both applications allow users to use their mobile phone to: pay bills and pay for goods and services; receive money and send money to other subscribers; withdraw cash; and top up airtime, among other services. Kenya is the first country in the world to develop and use this.

CHAPTER FOUR

Conclusions and recommendations

CONCLUSIONS

TEAMS was a pioneering initiative by the Ministry of Information and Communications aimed at overcoming one of the greatest challenges to competitiveness in a globalised world. However, as a pioneer project, it suffered some structural and regulatory challenges that compromised the general governance of this initiative.

Overall, there is a significant and urgent need to review the relevant laws in order to facilitate the implementation of such projects with the speed that they require. This will assist in responding to economic and social imperatives, whilst ensuring that the public interest is protected. Such projects are likely to arise in future, especially with regards to emerging technologies.

While laws including the Privatisation Act and the Public Procurement and Disposal Regulations (Public Private Partnerships) 2009 have come into force (albeit after TEAMS was developed), they still need to be reviewed to identify and fill existing gaps.

Moreover, the role of regulatory agencies in project development should be reconsidered, even in circumstances where such regulatory bodies appear to be the only repository of technical skills in the government.

KEY RECOMMENDATIONS

In view of the findings and analysis contained in this report, a number of recommendations can be made regarding governance and transparency in the inception and implementation of public interest projects such as TEAMS:

1. **Secure the independence of the CCK as a regulator during the development of projects such as TEAMS**

There should be an immediate review of laws such as the Kenya Communications Act, and specifically Section 5, to provide a mechanism through which the government can draw from the expertise of the CCK on specific, time-bound initiatives that it may want to undertake. This will permit the Minister to access resources within the CCK, without compromising the regulatory function of the Commission.

One possibility might be to second staff to an ad-hoc project commission, so as to oversee design and development of the project. During this time, staff would not perform any regulatory functions. Likewise, upon the culmination of the project, the same staff may

not make decisions on the project that they designed and developed.

2. Develop a legal and institutional framework for similar projects

Kenya needs to develop a comprehensive framework that will enable government to conceive, develop, implement and incubate certain pioneer projects that would have a transformative impact on Kenya's economy and society. This framework would:

a) Take into account the need for speed and cost-effectiveness in implementation. The framework should have in-built governance components such as transparency guarantees, and stakeholder engagement throughout the process. This would help ensure effective accountability to both investors and oversight institutions.
b) Develop clear mechanisms for public-private partnerships in the execution of the project.

3. Strengthen the existing legal framework

In the interim, as a suitable legal and institutional framework is being developed, the Privatisation Act and the PPP regulations should be reviewed to accommodate joint ventures that the government may want to undertake in conjunction with the private sector. TEAMS has demonstrated that the government can initiate projects in which the risk is subsequently off-loaded to the private sector. This catalytic function of the government can best be developed if PPP regulations are reviewed.

4. Ensure disclosures on issues of probity that arise during project development

The KACC's failure to disclose its findings on the TEAMS project is a serious lapse in accountability. There appears to be no information on TEAMS recorded in the latest KACC annual report (2008-2009) and in the quarterly reports from July 2009 to June 2010 (which should form the delayed 2009-2010 annual report) and July 2010 to September 2010. It is worth noting that the KACC has delayed in submitting its annual report to Parliament. This report is usually submitted in September/October. The annual reports summarise findings on a financial year basis i.e. from the beginning of July to the end of June.

5. Ensure effective project communications

It should be obligatory for projects like TEAMS to develop a comprehensive, informative, well-designed website to make available all relevant information to stakeholders, and to provide a forum through which stakeholders can regularly communicate with the project managers.

6. The government should maintain close watch on the social aspects of the initiative

Following the foregoing, this study concludes that it will not be easy to sustain consensus both at the level of the TEAMS management, and that of TEAMS and stakeholders. The government will need to balance the competing interests to ensure that the social objectives that justified public investment in TEAMS, such as lower bandwidth costs, are met.

Annex 1: Evolution of TEAMS (2006-2009)

Date	Activity	Organisation/parties	Comments/Source
24 Aug 2006	Cabinet approves the establishment of TEAMS project and directs the CCK to facilitate the implementation.	The Government	Cabinet memo
6 Nov 2006	Request for Expression of Interest for lead financial arranger – TEAMS project	CCK	Press advertisement and CCK website (Annex 4)
Nov 2006	Memorandum of Understanding between the Kenya government and UAE to establish TEAMS initiative.	Telkom Kenya and ETISALAT. Each party to seek landing rights in their respective countries	Joint venture where both governments agreed to acquire landing rights in each respective country. The shareholding structure to be TEAMS Kenya 85 percent and UAE (ETISALAT) 15 percent.
Jan 2007	Formation of a technical committee to facilitate procurement of services on behalf of TEAMS	Comittee comprises: • Investment secretary • Director, Directorate of Public Procurement • MD Telkom • Solicitor General • CCK Director General	Specific tasks include sourcing of companies to conduct; • Detailed Feasibility Study (DFS), • Detailed Technical Study (DTS), • Marine Survey (MS) • Financial services (Lead Financial Arranger)
	Contract awarded to Tyco Telecommunications to conduct Marine Survey through selective tendering. The tender was approved by the Directorate of Public Procurement. Selective tendering was adopted as few companies offer the service.	Telkom Kenya and Tyco Telecoms	Contract sum USD 2.7million[1]. Procurement rules provide for three methods of government procurement namely: • open tender – appropriate for products and services that have multiple suppliers (as in the case of the Marine Survey) • selective sourcing - when there are limited suppliers • Single sourcing – where there is only one supplier or in cases of emergency.
4 Jul 2007	Open invitation of interested investors on TEAMS Project for a consultative meeting at the Multimedia University (MMU then known as the Kenya College of Communications Technology (KCCT), Nairobi.	All licensed operators and individuals	Press advertisement and CCK website (Annex 3)
26 Jul 2007	Invitation to bid for the construction of the submarine cable	Alcatel, Tyco Telecommunications, Fujitsu Corp, NEC Corp, Huawei/ Tech. Global Marine invited to bid.	Press release from CCK (Annex 5)
Oct 2007	USD 2million Contract awarded to Alcatel Lucent for construction of the cable	TEAMS Ltd and ETISALAT	CCK website
12 Oct 2007	Consultative meeting with investors on progress and proposed transaction structure at MMU, Nairobi	All licensed operators	Press advertisement (Annex 6)

[1] *The East African*, 12 March 2007.

11 Dec 2007	Cable construction contract signed	TEAMS Ltd, ETISALAT and Alcatel Lucent	
2 Jan 2008	Entry into force, Privatisation Act operationalisation vide the appointment of the Commissioners.	Ministry of Finance	Enforcement after enactment by parliament from 2005
Jan 2008	CCK gives an undertaking for TEAMS Ltd construction and construction begins in UAE.	CCK, ETISALAT and Alcatel Lucent	Government justified this saying that Parliament was not in session and it was therefore not possible to obtain Parliamentary approval to enable the government to issue the guarantee on behalf of TEAMS.
18 Feb 2008	Investors meeting discusses status, shareholding, escrow agreements and timeline.	MoIC and potential investors By May 2009 the anchor and major shareholders had paid up	Shareholding split into Anchor, Major and Others. The following timelines were proposed: • 21 Feb 2008 - Escrow agreement comments • 22 Feb 2008 - Escrow Agreement signing • 26 Feb 2008 - Funds transfer of initial 5 percent • 15 Mar 2008 - Release of final drafts • 22 Mar 2008 - Signing shareholder documents • 31 Mar 2008 - Remaining 95 percent paid to the escrow account
26 Mar 2008	Clarification of the role played by CCK regarding TEAMS project	CCK	CCK press release (Annex 2)
5 Jan 2009	Issuance of cable landing operator licence	CCK and TEAMS Ltd	TEAMS paid a fee of KShs 15million to CCK
27 Feb 2009	Entry into force, Public Private Partnership	Ministry of Finance	
	Presentation of shareholding to the Privatisation Commission	TEAMS Ltd and MoIC	Done by the MoIC – Letter from the PS dated 20 May 2009
	Issuance of EIA certificate	NEMA and TEAMS Ltd	
April 2009	Construction work commences	Alcatel-Lucent Submarine	
June 2009	Landing in Mombasa		The cable arrived in Mombasa and was launched by the President and Prime Minister of Kenya.

Source: Various sources as stated in the comments column

Annex 2: Press release on CCK's involvement in TEAMS

PRESS RELEASE

CCK'S INVOLVEMENT IN TEAMS PROJECT

The Commission's attention has been drawn to two stories appearing in the Standard of March 25, 2008 regarding the role of CCK in The East African Marine System (Teams).
Both stories appear to suggest that the Communications Commission of Kenya (CCK) has abdicated its role of the industry regulator for the communications industry. They portray CCK as biased on account of having vested interests in Teams. The articles further allege that CCK has denied landing rights to a prospective marine cable operator, Seacom.

Arising out of these allegations, CCK wishes to state the following:

1. That the overall mandate of CCK is to facilitate deployment of modern communication facilities in the country. In doing so, the Commission can on its accord or if called upon to do so by Government, make certain interventions to ensure that Kenyans have access to reliable communications services. CCK's involvement in Teams was as result of a Cabinet decision that required the Commission to play a facilitation role that would speed up the building of the marine cable connecting Kenya with the rest of the world via broadband.
2. Efforts to connect Kenya through an optic fibre cable have been discussed in Kenya since the 1980. The private sector did not show interest in the project then, although the Government appreciated its potential to catalyze faster development in the country. It is for this reason, and in furtherance to Vision 2030, that the Government asked CCK to spearhead the laying of this cable through Teams.
3. That building of infrastructure for public use is a key mandate of Government and the private sector only comes in to augment it. As such, Teams is a Government effort to facilitate high-speed broadband communication in Kenya. CCK's role has been to assist Government achieve this, and there is nothing peculiar in doing that. This is only one of the many other projects CCK has been called upon to facilitate.
4. That by facilitating Teams project, it does not mean that the Commission will not play its regulatory role in this segment of the market. As a matter of fact, the Commission wishes to have even more competition in this area and thus the reason for the establishment of a licence category of cable landing rights. And just as in other licence categories where Government institutions are competing with private companies, CCK will remain neutral in regulating marine cable landing rights. CCK does not invest in business outfits and has not done so in Teams.
5. Whereas a Data Carrier Network Operator licence presupposes that the holder can deploy marine cable network, this is only as far as it is possible technologically, otherwise authorization to land in particular jurisdictions has to be granted for such network to be used. Seacom have not applied for this authorization and the issue of granting them the rights does not arise for now. Every operator, including Teams and Seacom who wishes to offer this service, must get appropriate licence to do so.
6. The Standard's insinuations that CCK officials have personal interests in Teams are baseless and actionable.

The Commission is committed to the development and modernization of communication services in the country to achieve our Vision of "enabling access to reliable communications services by all Kenyans". This is a mandate that CCK is committed to delivering in a fair and transparent environment.

Director General
Communications Commission of Kenya

CCK
Communications Commission of Kenya

Annex 3: GOK invites ICT operators to investment meeting

NOTICE TO ALL LICENSED ICT OPERATORS

PRIVATE PUBLIC PARTERNSHIP OPPORTUNITY: TEAMS PROJECT

The Government of Kenya (GOK) has in the recent past undertaken a series of policy, regulatory and structural reform initiatives meant to enhance the development of the info-communications sector in Kenya and increase its output to the economy. Notable among these measures has been efforts to fast-track access to international fibre optic connectivity to meet the fast-growing national requirements for affordable and high-capacity bandwidth.

In this regard, the Government has, in collaboration with the United Arab Emirates, initiated The East African Marine System (TEAMS) project. The project involves laying a submarine cable from Mombasa to Fujairah in the United Arab Emirates at an estimated cost of US$100 million (approximately Kshs7billion). The Memorandum of Understanding (MoU) between the two governments has been signed by the respective public telecommunications utilities of the two countries namely Telkom Kenya and ETISALAT. Implementation of the project is expected to be completed in 12 months.

While the TEAMS project is a Government initiative, its ownership, implementation and management shall be on a private-public sector partnership arrangement. To raise its portion of the required capital, the Government has in the 2007-2008 financial year committed one billion shillings to the project and has in addition contracted the Standard Chartered Bank as the Lead Arranger to assist raise additional funding from the private sector and other sources. The Government intends to give priority to the licensed operators in the East African Community who may be interested in participating in the project. Subsequently, interested institutions and individuals will also be given an opportunity to participate in the project. The balance of the required resources will be raised through debt financing.

In this regard, the Government wishes to invite all licensed operators in the ICT sector within the East Africa region to a briefing meeting on the investment opportunities in the TEAMS project on **Wednesday 4th July 2007** at the **Kenya College of Communications Technology** as from **10.00a.m.** The meeting is expected to close at 1.00p.m.

The date for the meeting with other institutions and individuals interested in participating in the TEAMS project will be communicated at a later date.

Confirm your participation through info@cck.go.ke

CCK
Communications Commission of Kenya

Annex 4: Expressions of Interest (Lead Financial Arranger)

EXPRESSION OF INTEREST

THE LEAD FINANCIAL ARRANGER FOR THE EAST AFRICA MARINE SYSTEM (TEAMS) PROJECT

The Government of Kenya (GOK), through the Communications Commission of Kenya, is continually undertaking a series of regulatory and structural reform initiatives to enhance the development of the communications sector in the country. Such initiatives have led to the realization of significant achievements in the sector, including increased investment and an overall positive impact to the Kenyan economy.

The Government is cognizant of the sector growth impediments which include inadequate international connectivity and overreliance on expensive satellite connectivity. The Government has similarly explored other international connectivity alternatives but no tangible results have been realized to date. This situation has compelled the Government to consider facilitating the construction of a submarine cable system with a landing point in Mombasa to be established through a Special Purpose Vehicle (SPV). An elaborate financing mechanism is a prerequisite for this project. In this case, the Government of Kenya will require a Lead Financial Arranger.

The Lead Financial Arranger will be responsible for the facilitation of an appropriate financing model for the SPV and securing the requisite project financing.

Qualified institutions are invited to submit an Expression of Interest for Lead Financial Arranger. The submissions should include the following information:

a) Name and physical address

b) Company profile attaching the certificate of incorporation, tax compliance certificate, PIN number

c) Demonstration of experience as a Lead Arranger in similar projects

d) Details of undertaking in similar projects

e) Audited financial reports for the last 3 years.

Proposals of Expressions of Interest should be submitted in plain sealed envelopes, clearly marked **CCK/EOI/01/2006** - Lead Financial Arranger for TEAMS Project. The proposals should be placed in the Commission's tender box situated on the ground floor of CCK Headquarter building or mailed to the address below on or before **8th November, 2006 at 2.30 p.m.**

Secretary
Tender Committee
Communications Commission of Kenya
P.O. Box 14448
Nairobi 00800
Email: info@cck.go.ke
Website: www.cck.go.ke

CCK
Communications Commission of Kenya

Annex 5: Press release on status of TEAMS

PRESS RELEASE ON THE STATUS OF TEAMS PROJECT

The Government of Kenya, through The East African Marine System Ltd (TEAMS Ltd.) and United Arab Emirates' (UAE) Etisalat have been spearheading the establishment of a Submarine Telecommunications Cable project connecting Mombasa in Kenya with Fujairah in UAE.

The submarine cable will provide Kenya with high capacity international bandwidth at affordable cost, and strategically position the country as a lucrative investment destination and a competitive business hub for the region. The cable will also interconnect with the significant number of international submarine cables already landed in Fujairah, and thus boost connectivity between East Africa and the rest of the world.

The availability of international fibre optic connectivity is also envisaged to transform the ICT sector in Kenya and subsequently increase the country's efficiency in delivery of services. The project is expected to be a key catalyst towards the achievement of the Millennium Development Goals as well as Kenya's Vision 2030.

TEAMS Ltd has so far seen significant milestones in Kenya including finalisation of the Marine Survey and the appointment of a financial advisor and lead arranger for securing financing from potential parties including Telkom Kenya Ltd.

The concerned experts from Etisalat and TEAMS Ltd are currently engaged in finalizing the system specification and tender documents. As the construction of the under sea cable is a specialised activity, experienced and reputable international manufacturers and contractors of optical fiber cables have been identified and are being invited to bid for the project. These are:

1. **Alcatel**
2. **Tyco Telecommunications**
3. **Fujitsu Corporation**
4. **NEC Corporation**
5. **Huawei Technologies Co. Ltd/Global Marine Systems Ltd.**

Tender documents will be available for collection from **26th July 2007 at the Etisalat Head Office, Abu Dhabi (Contracts Division, HO Building – A, Level 9, Abu Dhabi, UAE, Tel: +971 2 618 4201/4289).** Completed bids should be returned to TEAMS Limited Secretariat at the Communications Commission of Kenya, CCK Centre, Waiyaki Way, Nairobi on or before 25th August 2007.

The winner of the bid shall be known in September 2007 shortly after which they shall be expected to commence the work by the fourth quarter of this year.

Communications Commission of Kenya
P.O. Box 14448, Nairobi, 00800.
Tel: +254 20 4242000, Fax: +254 20 4451866
Email: info@cck.go.ke Website: www.cck.go.ke

CCK
Communications Commission of Kenya

Annex 6: Goverment invites ICT operators to consultative meeting

PUBLIC NOTICE

The Government of Kenya (GoK) has in the recent past undertaken a series of policy, regulatory and structural reform initiatives meant to enhance the development of the info-communications sector in Kenya and increase its output to the economy. Notable among these measures has been efforts to fast-track access to international fibre optic connectivity to meet the fast-growing national requirements for affordable and high-capacity bandwidth.

The Government has, in collaboration with the United Arab Emirates, initiated The East African Marine System (TEAMS) project, a submarine cable system connecting Mombasa to Fujairah in the United Arab Emirates. The procurement process has now been completed and implementation is to commence immediately.

The Government wishes to invite licensed operators in the ICT sector within the East Africa region to a consultative meeting where they will be updated on the progress made on the TEAMS project to date, and their feedback sought on the proposed transaction structure. It is envisaged that a series of consultative meetings will be held with stakeholders thereafter on a regular basis.

The meeting will be on **Friday 12th October 2007 at the Kenya College of Communications Technology as from 9.00 am** and is expected to close at 1.00p.m.

CCK
Communications Commission of Kenya

Glossary of Terms

Cost refers to overall operation expenditure and return on investment; optical cables are expensive to install but cheaper to maintain, offer faster speeds than satellites, do not stop working because of bad weather and do not cause latency because of broadcasting.

Downtime refers to the amount of time a network is not in operation or fails to perform its function at any given time. In such a case, the internet would thus not be in operation.

FLAG stands for Fibre Optic Link Around the Globe

GB stands for Gigabyte, Gb stands for Gigabit, TB stands for Terabyte, Tb stands for Terabit

Gb/s refers to Gigabit per second. It is a unit of info or computer storage, 1 gigabit = 109 bits = 1,000,000,000 bits which is equal to 125 decimal megabytes

Geosynchronous Orbit enables a satellite to maintain the same position relative to the earth's surface at an altitude of 35,786 km above sea level and therefore if one looked at it, it would appear to be in the same position in the sky all the time. Such orbits are useful for telecom networks.

Megabyte is a multiple of the unit byte (8 bits) for digital information storage or transmission. The IEEE Standards Board has decided that "Mega will mean 1 000 000. In rare cases, it is used to mean 1000×1024 (1024000) bytes. It is commonly abbreviated as **Mbyte** or **MB**.

Reduction refers to the lowered costs of bandwidth which is far much cheaper than satellite communications.

Redundancy is repetition of transmission of a message to avoid loss of data or reduce the probability of errors in transmission.

SEA-ME-WE 4 stands for South East Asia- Middle East – West Europe 4 (4 meaning Italy, Tunisia, Algeria and France)

Skunkworks or the designation "skunk works", is widely used in business, engineering, and technical fields to describe a group within an organisation given a high degree of autonomy and unhampered by bureaucracy, tasked with working on advanced or secret projects or working on a project for the sake of it.

Skunkworks projects often are undertaken in secret with the understanding that if the development is successful then the product will be designed later according to the usual process. A famous example of a skunkworks project is the first Apple Macintosh computer.

Tb/s refers to Terabit per second. It is a unit of information or computer storage, 1 terabit = 1012 bits = 1,000,000,000,000 bits. 1 terabit is equal to 1,000 decimal gigabits

Technological Neutrality is one of the key concepts which underpins the new regulatory framework for electronic communications networks and services (ECNS) which came into

effect on 24 July 2003 across the European Union. In essence technology neutrality seeks to ensure regulatory even-handedness for relatively homogenous products provided in a single market using alternative technologies for delivery. Under new regulatory framework, regulators are obliged to examine markets, not services, to determine whether or not it is appropriate to subject them to *ex ante* regulation."Inter Operability" on the other hand is used in Software development so that makers of different software adhere to certain rules to allow users to operate between different platforms. e.g. Apple computers can communicate with PCs, or machines running on Linux. They can all communicate because of a 7 layer protocol that must be followed.

WASC: West African Submarine Cable. SAT 3 stands for South Atlantic 3 (linking Portugal, Spain and South Africa)

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Who we are

AfriCOG is a civil society organisation dedicated to addressing the structural causes of corruption in Kenya. Its anti-corruption initiatives seek to address issues of poor governance in the public and private sectors.

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