

GOVERNMENT'S ROLE IN DEVELOPING CRITICAL DEVELOPMENTAL INFRASTRUCTURE: CASE OF THE EAST AFRICAN MARINE SYSTEM (TEAMS)

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Abstract: In 2006, the Government of Kenya initiated the development of The East African Marine Systems (TEAMS) undersea cable. Whereas most of the world telecommunications had access to fibre optics, East Africa had none and every effort to link the region was being frustrated. In Sub-Saharan Africa only two submarine cables, SAT-3/WASC and SAFE provided capacity, mostly to South Africa. Further, in the West and South African countries where SAT-3/WASC provided capacity, it was with only a single landing party per country and some countries on the coastline were without any connectivity. The Governments of Kenya and the United Arab Emirates crafted a new development model to tackle this long-standing problem. The initiative had a direct and positive impact in the development of submarine cable systems in Sub-Saharan Africa, leading to the commissioning of one new submarine cable system on the east coast of Africa in 2009 and the availability of competitive high bandwidth capacity to its citizens. A similar initiative resulted in the start of construction of another on the west coast of Africa in the same year.

Whilst much has been written about the development in the Third World, questions remain in terms of who should take the lead in major projects. Current literature veers towards involvement of development partners and other multilateral arrangements, but responsibility of such development squarely lies with respective countries.

1 BACKGROUND

It is acknowledged worldwide, that the Information and Communications Technology (ICT) industry is fueling the engine of economic productivity and growth. In Kenya, the ICT sector is recognized as driving the economy's performance and growth potential. A knowledge economy has become the most important asset with which people can compete, now and in the future. Access to information is the most dynamic component shaping our lives and building a sustainable knowledge society. Therefore, ensuring access to the fundamental tools of the digital economy is

therefore one of the most significant investments any country can make.

However, the most fundamental requirement is a fast, reliable, affordable and widely available national telecommunications infrastructure. Access to telecommunications is critical to the development of all aspects of a nation's economy including manufacturing, banking, education, agriculture and government.

The sector will also endeavour to improve the way the government does business. It will initiate on-line systems that will bring services nearer to the people. Through the use of new technologies the government stands to benefit in reducing delay,

improving economy, enhancing transparency and accountability, efficiency and effectiveness and the more general objective of promoting confidence in the government system [1].

The availability of web services, the possibility of consulting on-line services and the use of electronic filing, the electronic exchange of documents, are only some examples that will spur the government services. New possibilities are emerging for the integration and automation of all government systems.

2 DEVELOPMENT OF THE MODEL

Today global economic and wealth creation is driven by technology, innovation and globalization [2]. International business and particularly the ICT services industry is moving to countries and clusters with affordable, high-bandwidth, and reliable communications infrastructures. Unfortunately for Kenya (and Sub-Saharan countries by extension), until June 2009, this was not the case as all of the international bandwidth was provided by satellite links, which introduce undesirable delays and high costs. Notwithstanding this, on average, less than 20 of the 54 African countries have international fibre optic cable connections [3].

However, the regional governments in Sub-Saharan Africa have recognized the negative effects of the lack of an international fibre optic connection to the rest of the world. There have been several initiatives towards a collective approach to build new cables. One such initiative is the East Africa Submarine System (EASSy) mooted by the Eastern Africa Countries (Kenya, Uganda, Tanzania) way back in 2003 and it's only now that the project is underway. Unfortunately, progress on the project has been very slow because of divergent objectives among countries in the consortium and complexity of the financing models. For the policy makers in Kenya, lessons from the complexity of the

different attempts pointed to the need for interventions aimed at redefining the existing cable models as well as ensuring that new fibre infrastructure was quickly built to unlock the potential in the African economies.

For the policy makers, the challenge was to recognize fibre optic connectivity as an anchor, which would create future growth options for the sector. Qualitatively it was realized that this opportunity existed, albeit within a limited time scope [4]. Effort and resources were devoted to ensure the realization of an optimal cable system. The objective was mainly to find a development model that was largely driven by developmental objectives, with the focus being on the resultant employment in the ICT sector as opposed to an implementation motivated by profit. The goal was to significantly lower costs of international links as well as to realize an ownership structure open to both the public sector and private players (in line with Public Private Partnership framework).

The approach adopted has been very successful and we pose that there is potential to developing a sustainable model for the developed of critical infrastructure in developing countries based on variants of the two popular approaches, i.e. the private operator model and the consortium model.

Based on objectives and the desired goals, four different models were considered.

2.1 Private Operator Model Sponsored by Equity Financiers

This approach calls for the formation of purely commercial equity sponsors. The sponsors contribute the required finances to construct the system. They also operate the cable as a business governed by the laws and regulations of their operating environment. The hierarchy of the different players is presented in Figure 1.

In this model, the 'new operator', more often than not, ends up trying to provide end-to-end services. This may result in

direct competition with the target operator customers. There is also the allure of strong profit motivation in order to secure sizeable returns for the sponsors¹.

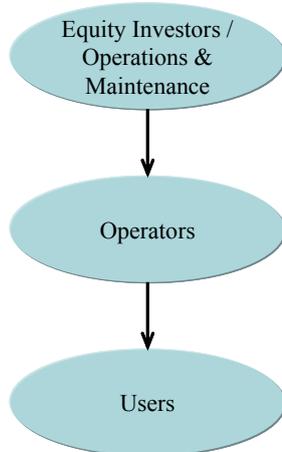


Figure 1 : Private Operator Model

2.2 Consortium Model

This model is similar to the Private Operator (equity sponsors) model, except in this case large telecom operators with financial strength contribute to the financing requirements. The approach guarantees revenue realization, since the big operators carry most of the traffic (i.e. mostly dominant players).

Actualization of a consortium takes a long time and decision making gets bogged down by layers of committees and endless meetings. The interactions between the different groups are as presented in Figure 2.

The complex issue in this arrangement is the creation of a fair entity to operate the cable business on behalf of the sponsors. This is because the major sponsors can veto decisions that are not in their favor [5].

Having a small number of big/dominant players as the key shareholders in this approach has resulted in a few telecom operators carrying most of the traffic in

major routes across the world. The tendency in this approach is that of a 'closed club'. This leads to slow trickling of the cable benefits to end-users.

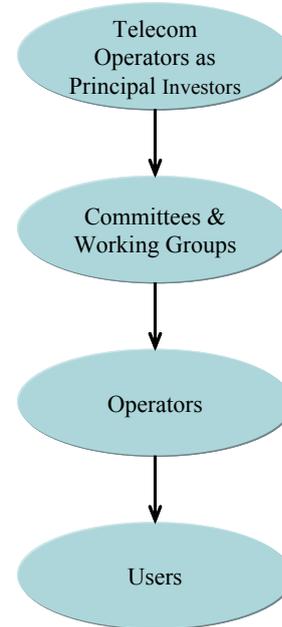


Figure 2 : Consortium Model

2.3 Hybrid Model

In this approach, the sponsors outsource the operation and management of the cable to a corporatized, professional structure [6].

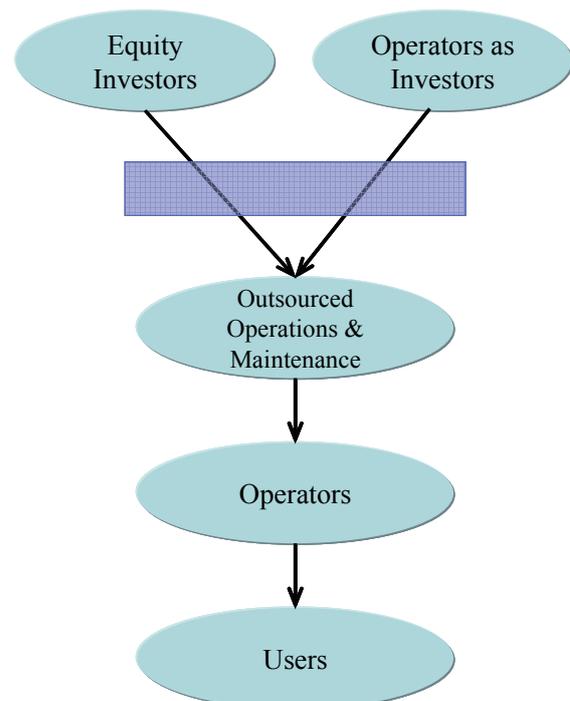


Figure 3 : Hybrid Model

¹ The sole purpose of equity financiers is profit maximization.

2.4 Government Lead Model (The TEAMS Model)

The key role of the Government intervention is to mitigate the initial project risks and to bring the operators together. The Government initiates the project by carrying out the projects feasibility analysis and working on the initial Memorandum of Understanding (MoU), with other international parties such as Etisalat in this case. The Government pays for the marine survey, initial project payments and provides guarantee for the system construction. Thereafter, it invites all operators and any other investors to participate in equity contribution as well as in the management of the construction process.

The parties then outsource the operations and management of the system.

Under the TEAMS model, the approach is like building a highway that licensed operators can use. The role of Government here is to facilitate licensed operators acquiring cheap bandwidth. When all operators have access to low cost bandwidth, you get perfect competition and low prices.

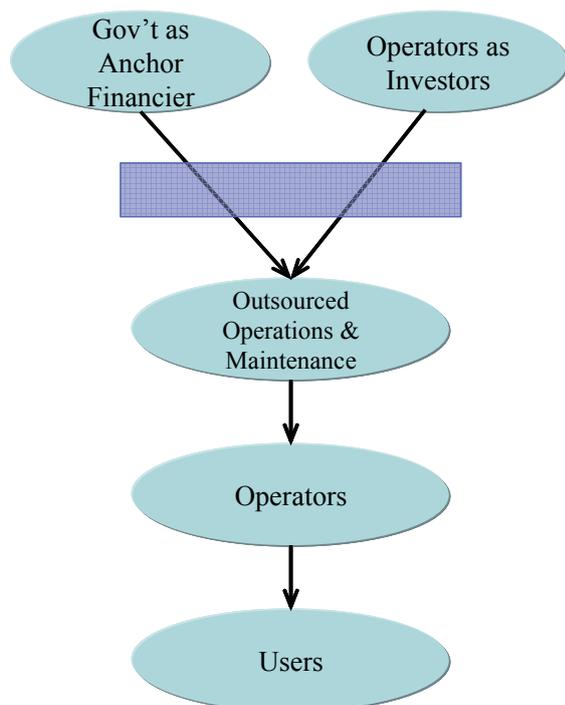


Figure 4 : Government Lead Model

3 BUILDING THE PUBLIC PRIVATE PARTNERSHIP

To get the attention of the prospective investors in TEAMS, two advertisements were placed in the local papers and as expected the response was extensive from both operators and other ICT personalities. There was interest also from foreign companies, including France Telecom, Gilat Satcom and Internet Research. Foreign firms were later dropped at the insistence of local operators who argued that the highly subsidized cable was meant to benefit Kenyans only.

Whereas the larger operators had the real demand to optimally utilize the capacity, smaller organizations were not fully prepared, but still hoped to benefit if there were large profits to be made. It later turned out that the smaller organizations were not able to pay as a result of a poor business plan.

4 RESULTS

The project was finished within eighteen months which by any standards was a record period. This was largely attributed to the fact that government facilitation through provision of guarantee and payments for start of the projects helped to avoid the lengthy process of financial structuring. The outcome of the project has given the Government new confidence to undertake major projects without necessarily having to wait for donor funding.

Further, the study shows the necessity for the Government to take the lead in facilitating such projects. The project has been largely hailed as an exemplar for developing countries. It will also contribute to development economics. It highlights how investor confidence can be built even in unfamiliar sectors. The flexibility exhibited by the Government increased the chances for attracting investors.

In addition, the findings show that existing operators analyzed their demand

projections better than those who were first time investors in the sector. It emerged that smaller and largely new entrants could not arrange for financing hence were later to be dropped. This revealed capacity to analyze project viability was lacking as larger organizations were more successful and willing to fully finance the project, while smaller enterprises were less prepared.

The study focuses on innovative methods of project development, with the aim of imbedding development responsibility on those in most need. The need to constantly search for new ideas that suit individual country development requirements is identified.

5 LESSONS LEARNED

This paper narrates the successful approach used by the Kenyan Government to link the East African Coast with to the rest of the world through a submarine fibre optic cable. This has resulted in the availability of competitive high bandwidth capacity to its citizens.

Could this be a model for new projects in underdeveloped regions? The study would primarily be of interest to countries wanting develop broadband networks and to support the development of research activities. Whilst much has been written about development in the Third World, questions remain in terms of who should take the lead in major projects. Current literature veers towards involvement of development partners and other multilateral arrangements but the greatest lesson learnt here is that responsibility of such development squarely lies with respective countries.

6 REFERENCES

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