INDUSTRIAL POLICIES AND REGULATORY FRAMEWORK OF THE TELECOM INDUSTRY IN ETHIOPIA

By

GEBREGZIABHER, Ermias Haile

THESIS

Submitted to
KDI School of Public Policy and Management
in partial fulfillment of the requirements
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ABSTRACT

INDUSTRIAL POLICIES AND REGULATORY FRAMEWORK OF THE TELECOM INDUSTRY IN ETHIOPIA

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Ethiopia received the telephone technology seventeen years after its invention in the world. Owing to a number of constraints, however, the telecom sector's performance has not been remarkable even by the standards of Africa. The telecom sector in Ethiopia has been characterized by a vertically integrated market run by a state-owned enterprise outside the realm of competition and the Ethiopian Telecommunications Corporation has a monopoly over all telecom services. This monopolistic structure has resulted in limited access to and poor quality of services in all telecommunications services. Institutionally, the three basic functions (industrial policies, regulation, and operation) have not been separated. Solving these and other related problems would require that the Ethiopian government introduce competition into the sector, remove all institutional hurdles that prevented the sector from growing, build the legitimacy of the regulator, enhance human resources capacity, make it more responsive to the ever growing consumer needs. The purpose of this study was to assess the industrial policies the government seeks to achieve by running a public telecom monopoly and critically assesses whether introducing some form of competition would improve the efficiency and accessibility of telecom services.

Dedicated to my parents Haile Gebregziabher and Negisti Gebregziabher

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KEY TO ABBREVIATIONS

ETC	Ethiopian Telecommunications Corporation (the Operator)
ETA	Ethiopian Telecommunications Agency (the Regulator)
EICTDA	Ethiopian Information and Communication Technology Development Agency
ICT	Information and Communications Technology
RIA!	Research ICT Africa!
EBA	Ethiopian Broadcasting Agency
GSTIT	Graduate School of Telecommunication and Information Technology
VoIP	Voice over IP
VSAT	Very Small Aperture Terminal
ITU	International Telecommunication Union
LDC	Less Developed Countries

I. BACKGROUND OF THE STUDY

1.1 Introduction

Ethiopia is a federally organized country with about 80 million people, characterized by a wide range of ecological and climatic conditions. It covers a total area of 1.10 million square kilometers and is landlocked in East Africa between the Sudan, Eritrea, Djibouti, Somalia, and Kenya, all of which (other than Eritrea and Somalia) have a substantial information and communication infrastructure. Many parts of the country are isolated due to mountainous terrain and weak road infrastructure. Nearly 80% of the population (63 million) lives in rural areas and is dependent on agriculture. The share of the rural population within two kilometers of an all-season road is about 17% (Adam, 2007).

Figure 1. Ethiopia (map)

Source: CIA World Factbook

This agrarian setting poses a significant challenge to the delivery of affordable communications. Being one of the world's least developed nations with a GDP per capita of about US $402 (2008/09)[i], Ethiopia's economy has had to respond to the ongoing impact of drought and problems of poverty and disease. The country faces security challenges with its neighbors, particularly with Somalia and Eritrea (formerly part of Ethiopia). The poverty cycle has put a significant strain on its economic growth. Its GDP growing at an average of 10% per annum, the Economist has predicted Ethiopia's economy to be the fifth fastest growing economy in the world by the end of 2010 (Sudan Tribune, 2009). The service sector is now clearly at top, comprising 45.1 percent of GDP, followed by agriculture at 43.2 percent, and Industry at just 13.0 percent. The customary shorthand description of the Ethiopian economy—as being overwhelmingly agriculture-based—has thus just become obsolete (The Ethiopia Macroeconomic Handbook 2010).

The telecommunications sector in Ethiopia has been characterized by a vertically integrated market run by a state-owned enterprise outside the realm of competition and the Ethiopian Telecommunications Corporation (ETC) has a monopoly over all telecom services. So far, owing to a number of problems, the sector's performance has been very poor even by the standards of Africa.

In the last couple of years, there have been fierce debates in Ethiopia as to whether liberalizing the telecom sector would be a panacea for the long standing telecommunication problems in the country. While a number of researchers and donor organizations are convinced that liberalization is the only way out, the government has been reluctant to open up the sector holding that "liberalization will not result in positive net changes to poor people due to the profit motives of the multinational companies that are interested in the cream of

telecom market" (Adam 2007). But rather than directly starting with the 'cart' (proposed solution), it is worth starting with the 'horse' and investigate into what the industrial policies are the Ethiopian government seeks to achieve by running a public monopoly in the telecom market and see if these policy objectives could really be achieved by the private sector.

This paper assesses the industrial policies and regulatory framework surrounding the telecommunications industry in Ethiopia and whether the existence of more competition in the sector would make telecommunications services more efficient and easily accessible.

1.2 Historical Background

According to company history, Ethiopia received the telephone technology in 1894, seventeen years after its invention in the world. Gradually, the technological scheme was proved to contribute to the integration of the Ethiopian society when the extensive open wire line system was laid out linking the Ethiopian capital city with all the important administrative towns of the country (ETC official website).

The company was placed under government control at the beginning of the twentieth century, and was later brought to operate under the auspices of the Ministry of Post and Communications. In 1952, telecommunications services were separated from postal administration, and structured under the Ministry of Transport and Communications. By this proclamation, a telecommunication entity, called "Ethiopian Telecommunication Board" which exclusively regulates and operates telecommunication services was established. Without affecting its functions, the name was later changed to Ethiopian Telecommunication Authority.

The Ethiopian Telecommunication Authority (ETA) was working on an exclusive basis as an operator and regulator until the promulgation of Proclamation No. 49/1996 (latter amended by Proclamation No. 281/2002) that established a separate federal telecommunication regulatory entity called the Ethiopian Telecommunications Agency (ETA). ETC then has taken a responsibility to operate as a public enterprise with the principal duty of installing telecom infrastructure facilities and expanding telecommunications services in the country, and providing domestic and international telephone, telex, and other communication services under the supervision of Ethiopian Telecommunications Agency (ETA) which has the objective of promoting the development of "High quality, efficient, reliable and affordable telecommunications services". In this respect, it is currently deemed by the regulation that ETC is the sole operator of any telecommunications related services, including the provision of Internet and public phone in Ethiopia. Both ETA (the regulator) and ETC (the operator) are, however, accountable to the Ministry of Transport and Communication (MoTAC) which is responsible for policy issues (Taye, 2010). This will be further discussed in chapter four of this paper in relation to the institutional arrangement of the sector.

1.3 Statement of the Problem

The telecommunications policy reform process began in 1996 with the issuing of proclamation 49/1996 (attached in the appendix) that established the regulator, the Ethiopian Telecommunications Agency (ETA). The Council of Ministers' Regulation No. 10/1996 that established the Ethiopian Telecommunications Corporation as a public enterprise with monopoly over telecommunication services followed this. The public monopoly policy environment has changed only slightly since then. According to Hartley and Murphree (2006), though ETA (the regulator) acts to make ETC internationally competitive, "such an attempt

cannot realize the same benefits as genuine competition". Moreover, the regulator has not been empowered to take sanctions against missed targets by the operator. In other words, the regulator (ETA) remained too weak to enforce quality of service targets, set tariffs and carry out major regulatory functions. Levi-Faur (2003), also quoted in Hartley et al. (2006), hold that the creation of independent regulatory authorities paradoxically reinforces state control over the economy.

According to a paper on *Telecommunication in Ethiopia*, presented by the company's chief telecommunication development officer in Geneva in March 2010, Ethiopian Telecommunication Corporation (ETC) currently has 7.08 million subscribers, of which 1.2 million fixed, 5.9 million mobile, and 0.060 million Internet. Mobile telephone and internet services are being rendered since 1996 and 1997 respectively. Teledensity[ii] is 1.55% for fixed and 7.7% for mobile respectively. The rate of penetration[iii] of telecom service of the country is among the lowest compared with African countries and even among Sub-Saharan African countries (Taye, 2010). As mentioned above, although the country has acquired telephone technology few years after its invention, its geographical coverage as well as performance is not remarkable.

1.4 Purpose of the Study

The main purpose of this paper is to assess the regulatory framework and industrial policies surrounding the telecommunications industry in Ethiopia and their ramifications on the progress of telecommunications services in the country. It also assesses whether introducing some sort of competition into the sector would improve its efficiency and accessibility. Finally, it suggests policy recommendations to improve the efficiency and quality of services delivered to customers.

1.5 Research Questions

Some of the questions this study answers include:

1) What are the industrial policy objectives the government of Ethiopia seeks to achieve by running a state-owned telecom enterprise outside the realm of competition?
2) Would an independent regulatory framework in Ethiopia improve the efficiency and accessibility of telecom services in Ethiopia?
3) How do telecommunications services in Ethiopia measure up compared to selected African countries?
4) Would more competition in the Ethiopian telecom market improve the efficiency and delivery of telecom services?
5) What has been the cumulative impact of these policies on the performance of the telecommunication sector in Ethiopia?

1.6 Supporting Arguments and Data

Data needed for this study are obtained from both primary and secondary sources. Primary data are obtained from the company's (Ethiopia Telecommunication Corporation) publications and interview with some of the company officials in person. The main sources of secondary data include books, journal articles, and various study reports published by a number of independent researchers & international organizations.

II. LITERATURE REVIEW

In the past twenty five years or so, a lot of change has been introduced in the telecommunications industry. For many countries, introducing competition into the telecommunications industry has proved to be much more than allowing additional firms into the industry. It requires the transformation of a monopolistic government business into a competitive industry, which in turn demands the redefinition of the role the government, creation of a proper regulatory regime, a new set of rules governing who can participate in what parts of the new business opportunity, rules to set rates and access charges, and so on (Nam, 2000).

2.1 Liberalization, Monopoly and Reform

Souter, quoted in Hartley and Murphree (2006), defines competition as "a market in which different suppliers of a service compete to provide customers with the service they require – the normal circumstance for most products and services in most countries". Souter (2005) also defines liberalization as "the process of establishing a competitive market out of circumstances in which service was provided by a monopoly." According to Savas, also quoted in Hartley et al. (2006), the aforementioned definitions do not include discussion of privatization, where ownership of a service provider and its assets are transferred to private parties through a variety of mechanisms (Savas, 1999).

Neither competition, and associated liberalization efforts, nor ownership transfers, and associated privatization endeavors truly exist as absolute ideals. Rather, they both exist along spectrums as elaborated by Hartley and Murphree (2006) in Table 1 below. As the Ethiopian

Telecommunications Corporation is public telecom monopoly with virtually no competition, this study discusses the possibility with which progression can be achieved from the bottom-left to top-left square.

Table 1. Patterns of Liberalization and Privatization Matrix

		Privatization/ Ownership Spectrum	
		Public	**Fully Private**
Liberalization/ Competition Spectrum	**Full**	Incumbent operator exists, with competition from second or multiple network operators and service providers in all areas within the sector.	Neo classical market model, government does not own a player and does not interfere with actors entering or exiting the market.
	None	Government monopoly operator exists unchallenged, dominates all sectors of industry.	Monopolistic private actor – not government owned.

Source: Hartley and Murphree (2006)

In the past, telecommunications was viewed as a natural monopoly. Most countries took the position that the only way, or at least the best way, to prevent abuse of monopoly power was for government to operate the telephone system. The government prevented the entry of competitors, allegedly on the ground that they would just wastefully duplicate existing facilities or engage in cream skimming, thus inhibiting the government's ability to provide services broadly at reasonable prices – often called universal access[iv] (Stiglitz, 1999).

In a similar vein, Wolcott and Çağiltay (2001) hold that that under a philosophy that telecommunications is a public service that should be available to all citizens, monopolies are held to be the best mechanism for providing universal service, acceptable pricing, and long-range planning. As a vital national infrastructure for integrating and managing a country, particularly in times of crisis, telecommunications has been viewed as a key element of national military and economic security, too important to be left in private hands, whether domestic or foreign (Urey, 1995; Yildizoglu, 1996).

Wolcott and Çağiltay (2001) further elucidate that the classical arguments include the "economies of scale and capital investment requirements that make single centralized providers the most effective means of delivering a service." It is believed that natural monopolies arise when there is a high fixed cost to providing a good and a negligible marginal cost. In competitive markets, price equals the marginal cost – making the price of each additional unit negligible. An initial market entrant might be able to set the price and recoup the investment expense of high fixed costs (Hartely and Murphree, 2006).

As stated above, a natural monopoly situation usually arises when there are large fixed costs and small marginal costs. The existence of a natural monopoly gives rise to the following problem: Allowing a natural monopolist to set the monopoly price is undesirable due to the Pareto inefficiency, and forcing the natural monopoly to sell at the efficient price (i.e., marginal cost based price) is infeasible due to negative profits. The solution to this problem was then to let the government operate the service, for example, at price equal to marginal cost and to provide a lump-sum subsidy to keep the firm in operation (Kim and Horn, 1999).

Utility or infrastructure monopoly rights are also frequently attached to universal service objectives. These are viewed as strategic assets for economic and national security as well (Urey 1995 cited in Wolcott and Çağiltay (2001). As a monopoly that can set its price high enough to recover costs and turn a profit, it can also provide a source of revenue that governments are reluctant to lose, particularly without an obvious candidate for its replacement.

However, monopoly service provision is not without its significant weaknesses which some scholars and economists argue outweigh the arguments for it. Jerome (2004) also quoted in Hartley and Murphree (2006) notes that public utilities are vulnerable to market failures where

> "public monopolies may allow cost to rise above efficient levels or offer services of inferior quality; information failures such that consumers are unable to assess the quality of the service they are paying for; externalities with implications for controlling environmental standards, public health and safety; and social concerns since many infrastructure services are considered essential to life."

Wallsten (2004) also agrees and states that "a monopoly provider, whether state-owned or private, faces fewer incentives to improve service and lower prices than firms operating in a competitive environment do." Wallesten's (2004) argument is further reinforced by Joseph Stiglitz who holds that companies are likely to dissipate the economies of scale in efficiencies when they have no incentives for efficiency and that competition provides the incentives for greater investment and thus expanded service, greater efficiency and lower prices (Stiglitz, 1999).

Additionally, Wallsten (2004) asserts that a telecommunications sector which is not living up to its potential can create problems in the arena of economic development and growth. Quality and penetration of telecommunications infrastructure can serve as an engine of economic growth, making the country more attractive to foreign investment (Wolcott and Çağiltay (2001), and lack of these can also perpetuate low incomes (Wallsten (2004). Milne (1998), in her discussion of stages of telecommunications network development, notes that the hope is that competition will allow "developing economies to condense or even jump a stage" of development. Evidence from India, a developing state, has also shown that ICT industries can provide a source of economic growth and modernization (Sachs 2005).

In the last 25 years, states began to recognize the benefits of competition in the telecommunication sector, and many countries began full liberalization processes. Successes

have further encouraged the move to the market model from state-led policies. According to Levy and Spiller (1996), "Competition can be a powerful spur to innovation and technical efficiency." Further, they claim "When a country's major telecommunications company fails to develop an adequate communications network, the normative case is strong for opening up the sector to competition." In the local exchange section of the telecommunications sector, it has been confirmed that competition was a significant factor in causing the geographical penetration of the U.S. telephone market throughout the early stages of the technology's development (Jayakar 1999).

Wallsten (2004) analyzes the efficacy of different telecommunications reform strategies by breaking them down into three components – regulatory capacity, competition, and privatization. The best results involve increased regulatory capacity paired with competitive reforms and privatization of the incumbent. However, he also states that positive results occur when increased regulator capacity is included with increased competition, and that competition itself is the most significant factor affecting service.

When it comes to Ethiopia, privatization is generally the most unappealing option to Ethiopian governmental stakeholders. The lack of political will for this prong of reform could stem from the lesson of the failed 2002-2003 effort, from the loss of control that privatization would necessitate, or from other less distinct causes. However, it can be concurred with Wallsten's (2004) assessment that even without privatization, significant gains could be realized in the Internet service provision sector. According to Wallsten (2004), in the telecommunication sector, "competition is associated with increased mainline penetration, payphones, connection capacity and lower prices for local calls. Privatization by itself meanwhile is associated with few benefits."

Ethiopian leadership intends to liberalize downstream services without having to first divest

itself of ownership. Accordingly, the Ethiopian government could continue to operate the ETC and benefit from the stimulus of other entrants into the value-added market. They would not have to give up control of the network, backbone or connection to the international gateway to other market entrants. In the partial liberalization framework, these would remain the exclusive domain of the ETC. Research has thus shown both why governments opt for monopolies, and why they choose to reform them.

2.2 Telecommunications Regulation

Souter and Girardet (2000), in a paper[v] presented for the Commonwealth Telecommunication Organization, have classified the bases for regulation in telecoms into three forms which are presented as follows:

2.2.1 Technical Standards Regulation. To be worthwhile, telecoms networks must interconnect, and telephone receivers and other customer equipment must interoperate with them. Throughout the century the more that people have used telephones, the more the International Telecommunication Union and other agencies have developed standards to facilitate this – the equivalent of standard electrical sockets or railway gauges. The development of such standards is obviously important in access and market development, though increasingly today responsibility for it is being taken by the industry itself.

2.2.2 Public Policy or Public Interest Regulation. Refers to the introduction of rules by governments for reasons of public interest where it is felt that outcomes are too important to allow the free play of market forces, or where markets are thought unable to function effectively (market failure). In other sectors, this public interest regulation includes (for example) restriction of access to markets in

alcohol or firearms. In telecoms, its most important aspect has been the use of various mechanisms, including cross-subsidies, to make access more financially viable for the majority of citizens, particularly where it is believed the market will fail to provide competing service offerings. This is known as universal access or universal service policy, and is of particular importance in LDCs today.

2.2.3 Economic Regulation. This is effectively the implementation in telecoms of the accepted principles of competition law. It is this aspect of competition that has been commonly understood as 'telecommunications regulation' in recent years. It amounts to a process of policing the introduction of competition by imposing constraints on the incumbent operator and offering incentives to market entrants that will facilitate market expansion and better customer service; and subsequently managing the market that develops towards 'normal' market conditions. It differs from the standard application of competition law principally because its starting point – monopoly – necessitates asymmetric application of competition principles in order to secure the establishment of a competitive market; though some regulators in more established markets, like Britain's OFTEL, are now consciously moving towards the application of normal competition law.

2.3 The Role of Regulation

Souter and Girardet (2000) have also identified what specifically telecommunications regulators do, in terms firstly of economic regulation, and secondly of the most important dimension of public policy regulation, universal access.

2.3.1 Economic Regulation. The World Trade Organization (WTO) has established basic standard requirements for economic regulation in a Reference Paper attached to its Agreement on Telecommunications Services. The objective of this Agreement is to open markets, to promote competition, and to ensure fairness between operators.

The key provisions of the Reference Paper are that:

1. the government should establish a regulatory body independent of operating companies;
2. the regulatory body should:
    - establish safeguards to prevent anti-competitive behavior;
    - make licensing criteria publicly available;
    - provide for interconnection between competing operators;
    - apply universal service obligations in a neutral and transparent way;
    - allocate scarce resources fairly between operators.

This gives a good introduction to what most concerns economic regulators in this sector, including those in LDCs. The following summarize the key issues.

2.3.2 Licensing. The regulator will generally be responsible for developing the terms on which telecoms licenses are offered and awarded; and for enforcing license conditions once they are in place. In practice, most developing countries are choosing to issue a limited number of licenses, with liberalization based around, perhaps, two ‘fixed network’ operators, and a similar number for the mobile sector. Universal access requirements will normally be included in these

licenses, as may constraints on the service offerings that can be provided by a particular operator.

2.3.3 Allocation of Scarce Resources. Two key scarce resources exist in telecoms – radio spectrum (required by both fixed and mobile operators) and numbers. The regulator should seek to ensure that no competitor derives a unique advantage from its position in respect of either.

2.3.4 Interconnection. All networks in competitive markets must interconnect so that all customers of all networks can communicate with one other. This is an issue both of technical interoperability [vi] and of commercial practice. The regulator's key concern will be to establish principles which ensure that no operator delays or inhibits interconnection to disadvantage a competitor, and to establish a pricing framework within interconnection agreements that gives competitors access to the incumbent operator's customers on the same terms as that incumbent operator's own retail service provider business. Interconnection charges are typically over 50% of market entrants' costs, making this crucial to their business viability. Unfortunately, the information on real costs within the established network that is essential here is often very poor.

2.3.5 Implementation of Competition Law. The regulator will enforce standard competition law principles within the sector, aiming in particular to prevent abuse of dominance and anti-competitive behavior such as predatory pricing and undue preference by the incumbent (former monopoly) operator. Opening infrastructure use to service providers other than the infrastructure owner has proved particularly important in encouraging service competition.

2.3.6 Pricing. Monopoly telecom tariff structures typically involve extensive cross-subsidies. In particular, line rental and local call usage charges are often below cost, while high margins are maintained on long-distance and, particularly, international calls. This is unsustainable in a competitive market – as market entrants will focus solely on high-margin market segments – and so price rebalancing is required. This needs to be carefully managed, however, if price rises for basic services are not to deter new customers. In addition, the regulator will probably seek to manage the tariffs of the incumbent operator through a general price control regime, such an UK-style price caps or individual rate regulation.

2.3.7 Quality of Service. The regulator may also impose standards for the quality of services offered to consumers, including standards for (*e.g.*) billing accuracy as well as for technical network performance.

These primary regulatory responsibilities are, therefore, to do with the effective development of a competitive market. The degree to which these regulatory responsibilities affect access to information and communication has to do with the effectiveness of competition in promoting access, and partly with the effectiveness of regulation in promoting competition.

2.4 Universal Access

The term *universal access* has been frequently used to refer to a situation in which 100 per cent population of a given country has access to a given service (in this case telecommunication services). In the context of this paper, the given service is understood to be a public payphone or telecenter on a shared community basis. One of the most important issues in the area of telecommunications that regulators are pressed to address is achieving

universal access to telecommunications services for their citizens. The importance of universal access to telecommunications services cannot be understated (Manner, 2003). As the International Telecommunications Union's (ITU) 2003 World Summit on Information Society ("WSIS") recognized, there is a global need "to build a people centered inclusive and development oriented Information Society, where everyone can create, access, utilize and share information and knowledge" and that "connectivity is a central enabling agent in building the Information Society" (Manner, 2003). According to Manner (2003), the goal of universal access is achieved in a country when telecommunications services are made available to all citizens, without regard to geography, on an affordable basis.

Accordingly, to successfully achieve universal access, a country must enable a telecommunications regime that meets the components of affordability, availability, and accessibility (Manner, 2003). These components can be more specifically defined as follows:

i) **Affordability:** Communications services should be affordable to all citizens without any cost variations based on location, terrain, climate and/or rural/urban distinctions.

ii) **Availability:** The level of communications services provided should be the same regardless where one lives.

iii) **Accessibility:** Mental and physical ability should not affect access to communications services.

In crafting a successful universal access policy, it is essential that countries take each of these components into account. If even a single component is omitted, the universal access policy will ultimately exclude significant segments of the population. According to the World Telecommunication Report (1998), for developing countries, basing telecommunications development around policies of universal service is problematic. This is because universal

service is not a single concept but, rather, a composite, comprising *nationwide availability*, *non-discriminatory access* and *widespread affordability* which have tended to be achieved in stages. Pursuing all three simultaneously involves making hard choices: the deployment of a nationwide telecommunication network is a costly undertaking, but regulating for affordable prices may reduce revenues.

III. HYPOTHESIS DEVELOPMENT

According to Stiglitz (1999), the new telecom regulators being introduced in developing countries are primarily concerned with the introduction and management of competition in a sector which has historically been built around public sector monopolies and that the way in which competition is introduced and managed can have an important impact in encouraging or discouraging the development of access in rural/unserved areas. Souter and Girardet, 2000) also hold that Telecommunications regulation as a growth industry forms an essential part of a process of restructuring which is taking place in almost every national telecommunications sector worldwide (Souter and Girardet, 2000). In the case of Ethiopia, the regulator (ETA) has given license to only one operator (ETC) which effectively introduced a public telecom monopoly. Moreover, because the Ethiopian Telecommunications Corporation (ETC) is viewed as a tool to execute the policies determined by the Ministry of Transport and Communication and not as a firm whose objective is to seek profits, it follows that the regulator, Ethiopian Telecommunications Agency (ETA), has not been an independent regulatory body.

Moreover, to improve Internet usage in Ethiopia from its existing level, the regulatory body, Ethiopian Telecommunications (ETA) should allow competing businesses to operate as ISP (Internet Service Providers) along with the incumbent operator, the Ethiopian Telecommunications Corporation (ETC). ETC's monopoly over all telecommunication services has made it less efficient and effective as its work force increases and mandate expands. The participation of the private sector would not only improve competition but also relieve the government from the investment burden in telecommunications. Moreover, competition provides the incentives for greater investment and thus expanded service, greater

efficiency, and lower prices. Hence,

Hypothesis 1: An independent regulatory framework would improve the performance of the sector in Ethiopia.

Hypothesis 2: Introducing competition into the Ethiopian telecom market would enhance the existing level of connectivity in the country.

3.1 Hypotheses Testing and Discussion

This chapter deals with discussion and testing of the hypotheses provided in chapter three of this paper. The hypothesis testing will be conducted in light of the review of literature on telecommunications presented in chapter two and a discussion of the telecommunication policies and performance level in Ethiopia presented in this chapter.

First of all, however, it is worth dealing with what the industrial policy objectives are the Ethiopian government seeks to achieve by running a public telecom monopoly and then discuss their soundness as policy objectives to serve as justification for doing so. Basically, the three main industrial policy objectives justifying the government's grip on the telecom market are: achieving universal access, ensuring national security, and poverty alleviation.

3.2 Industrial Policy Objectives

3.2.1 Universal Access

Much of the ETC's current strategy, as directed by the government, is informed by traditional universal service objectives – i.e. to roll out voice services to every *warada* (district) and ultimately to the smallest administrative unit, the *kebele* (farmer's association) (ITU, 2002). Basic voice services are seen as the primary

concern to be addressed, rather than to use scarce resources for more limited demand for advanced services. This is also seen as a reason for ensuring that ETC retains a monopoly in all services so that the funds for rolling out services in rural areas are not siphoned off by foreign, cream-skimming competitors focusing on the more lucrative urban areas.

The incumbent argues that telecommunications infrastructure is a public good and government is best placed to promote universal access. The government also feels that it has the obligation to deploy communication networks to rural areas as per its decentralization program, and the incumbent operator should do this.

The government holds that if private investors are allowed to enter the telecom market, they would shun capital investments in rural areas. The government is apprehensive that the profit motives of multinational companies who are interested in the cream of telecom market would lead to the marginalization of the rural poor.

While too many people are convinced that liberalization is the only way out, the government has been reluctant to open up the sector holding that "liberalization will not result in positive net changes to poor people due to the profit motives of the multinational companies that are interested in the cream telecom market". According to the government, privatization would only lead to the further marginalization of the rural poor by the profit-seeking private companies. Hence, it looks determined to keep the status quo in telecoms for a long time to come.

According to Adam (2007), although there is merit in some of the arguments, particularly in government's role in rolling out broadband infrastructure that

underpin Ethiopia's future economic growth, clinging to inefficient services will not serve the development purpose. Adam (2007) continues to contend that the argument that liberalization will not result in positive net changes to poor people is invalid since private investment versus subsidy auction (where investors bid for lower subsidy to provide services in rural areas) has now become particularly effective in developing countries like Chile and Uganda. Moreover, studies by RIA! show that poor people often pay more than the wealthier section of the society, in terms of time and fees, to make phone calls and therefore rural access is profitable for small and large players alike.

3.2.2 National Security

Another justification for maintaining the telecom monopoly grip, although not as publicly told as 'universal access', is that the government views telecommunications as strategic assets of the economy and national security. It is true that Ethiopia faces security threats from such neighboring countries as Eritrea and Somalia. Following Eritrea's (part of Ethiopia till 1995) invasion of some Ethiopian territories, Ethiopia requested a return to the *status quo ante* (the way things were before) before any negotiation could take place which didn't get acceptance from Eritrea's side. Ethiopia then fought a bloody war (1998-2000) and regained its territories although both countries spent hundreds of millions of dollars and suffered tens of thousands of casualties as a direct consequence of the conflict. Ethiopia also fought another war with Somali in 2006 following the declaration of Jihad against it by the Islamic Court Union (ICU) of Somalia.

The researcher has browsed the Internet to see if history could provide us with an example of a country that has monopolized or nationalized its telecom industry

for national security reasons. Indeed, in 1918, in the midst of World War I, the US federal government nationalized the entire telecommunications industry for a similar reason. According to Thierer [vii] (1994), this war provided the US government with a convenient excuse to forcefully gain control over communications and forever change the structure of the telephone industry.

When it comes to Ethiopia, the question that should be raised at this particular juncture is whether these threats are credible enough to serve as valid ground for not liberalizing the sector. In the researcher's view, given the fact that Ethiopia's 'arch foe enemies' (Eritrea and Somalia) are weak and fragile nations, Ethiopia's military might in the horn region, and that Ethiopia is not, after all, the only nation in the world to face such security threats, the argument by the Ethiopian government doesn't seem to hold water.

3.2.3 Poverty Reduction

The government of Ethiopia has been aggressively moving and implementing development strategies aimed at reducing the poverty prevailing in the country. In this line, telecommunication plays a key role in facilitating poverty reduction and development strategy being implemented by the government. To this end, the government has designed strategies to expand telecommunication national network infrastructure, and other infrastructures (roads and power) and, thereby, increase the socio-economic development of the country in general and telecom penetration rate in particular.

Apart from the aforementioned reasons for maintaining a monopoly grip on telecommunications, an obvious reason why the government would like to hold on to the state-owned enterprise is its interest in recouping the massive

investment in recent years. The ETC has spent large amounts of capital to develop its monopoly network. Significant investment of time, financial and other resources encourages risk-aversion and promotes sustaining the status quo. This was not counterbalanced by the assessment of the potential positive impact that private investment might have on cost of business, economic growth or potential fiscal revenues through taxation (Adam, 2007).

3.3 Institutional Arrangement, Agents and Influence on the Ethiopian Telecommunication Services

As is well known, one of the most important developments in the area of communications industry was the separation of telecom policy, regulation and operation. This approach is believed to have improved the sector's performance, and hence, globally the number of independent regulators increased from 13 in 1990 to 112 in 2001 (Taye, 2010). In Ethiopia, though some officials from the company believe the government has taken basic steps in separating the three basic functions stated above (industrial policies, regulation, and operation), the reality is rather different. This can be clearly seen in Article 57 of the Council of Ministers' Regulation on Telecommunications Services in 1999 (Regulation No. 47/1999 also attached in the appendix) which reads:

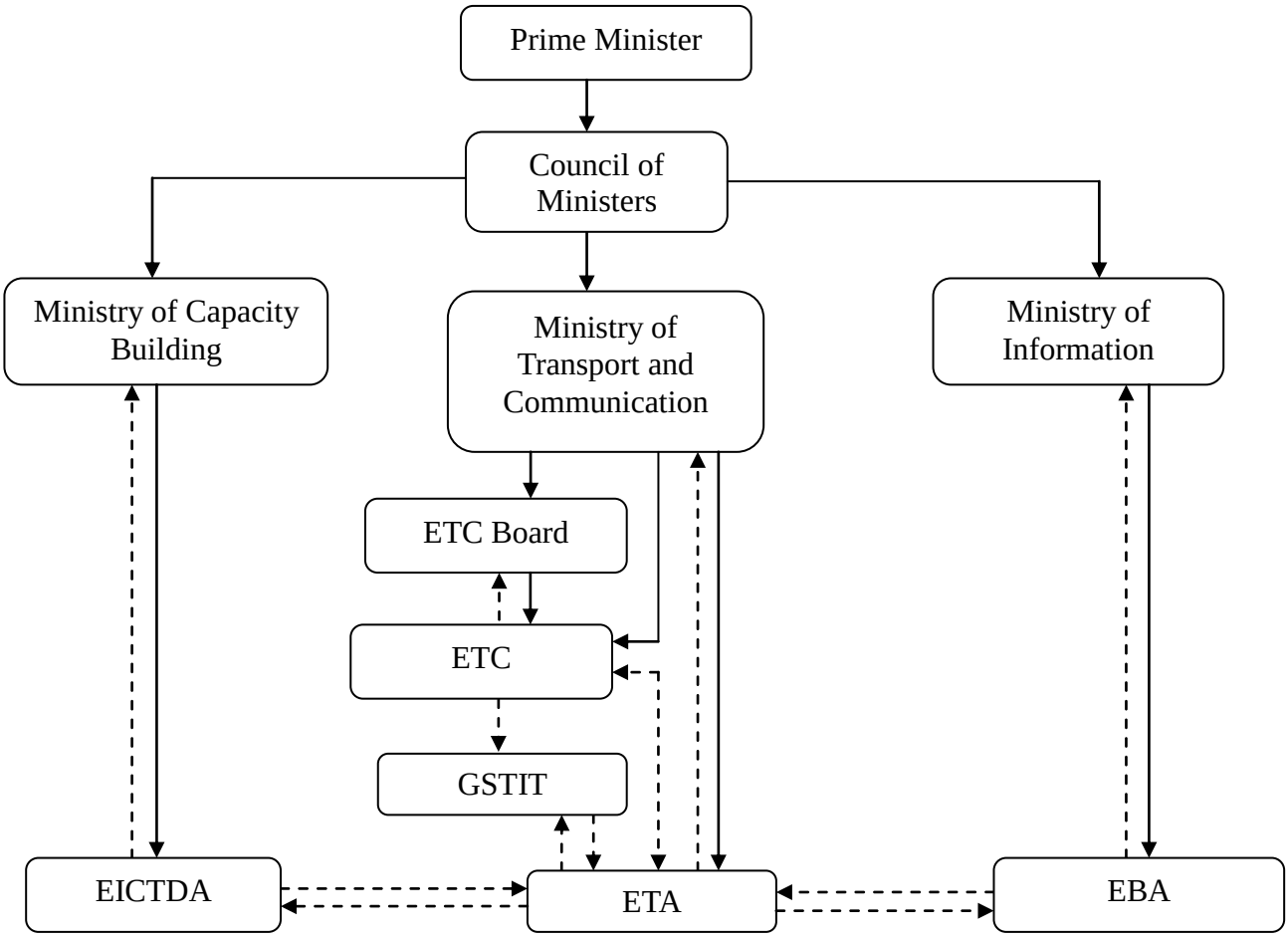
> **57. Power to Issue Directives**
>
> "Without prejudice to the powers given to the Agency by these regulations, the Ministry of Transport and Communications shall have the power to issue directives necessary for the proper implementation of these Regulations."

According to Adam (2007), this regulation, in effect, gives the Ministry of Transport and Communications the power to issue directives without recourse to the regulator. Without distinction on whether the directives are of policy or operational nature, the Ministry can direct the sector without involving ETA if it deems necessary. Effectively, ETA acts as a department within the ministry. This can be compared with the 1980s telecom industry in Korea in which the Ministry of Communications (MOC) tied the Korea Telecom (KT) as a tool to execute its policies and not as a firm whose objective was to seek profits, essentially making KT a business unit rather than a firm (Nam, 2000).

There has been lack of regulatory authority with adequate powers to regulate the sector. Hence, in much the same way as the Ministry of Information and Communication (MIC) of Korea did in the 1990s, the Ministry of Transport and Communication in Ethiopia has, in effect, combined the roles regulation and promotion of industrial policies for the telecommunications industry in Ethiopia. All these testify to the fact that the incumbent telecom operator has been run as instrument of industrial policy rather than a profit-seeking firm. The regulator's role has only been nominal, largely confined to collecting license fees in accordance with the rate approved by the Ministry of Trade and Communication (Article 6:11 Council of Ministers Regulations No. 49/1996).

However, unlike the Ministry of Information and Communication (MIC) of Korea which used to issue licenses to service providers in the 1990s, Article 6(5) of the Council of Ministers Regulations No. 49/1996) has empowered the regulator (ETA), at least in law, to license telecommunication service operator/s though so far it has issued a license to the incumbent operator only – The Ethiopian Telecommunications Corporation (ETC).

Figure 2. Institutional Arrangements



Source: Adam (2007)

As can be seen in the figure above, the communication sector governance framework and institutional arrangement comprises a number of players that have influence on the regulatory environment. These include the Prime Minister, who makes ultimate decisions on policy and regulatory matters, and the Council of Ministers who approve communications regulations and set the budget of the Ethiopian Telecommunications Agency. The Ministry of Transport and Communications defines the policy framework, directs the regulator and oversees the activities of the incumbent operator. The ministry appoints the general manager of the ETA and Chief Executive Officer (CEO) of ETC.

Figure 3. Highlight of the Major Influence Channels

1. ***Ministry →ETC:*** The Ministry receives targets, goals and plan objectives from the Council of Ministers and relays these to the ETC. The ETC, as an operator, has little formal influence on the Ministry. The ETC could lose its monopoly license if it failed to meet targets set by the Ministry.
2. ***Ministry → ETA:*** The Ministry controls the appointment of the Director of the ETA and must approve its annual report. The Ministry sends general policy initiative frameworks to the ETA for drafting.
3. ***Council of Ministers →ETA:*** The Council of Ministers controls the ETA's budget. ETA budgets must be approved by the Council who also reviews the annual ETA performance.
4. ***ETA →ETC:*** The ETA regulates the ETC and has the right to adjudicate in disputes between the ETC and customers. The ETA uses its licensing procedure to hold the ETC responsible to international standards of efficiency and service quality. The Ethiopian government attempts to use effective regulation and service targets as a surrogate for competition. The ETA is also responsible for licensing new VaSPs and ensuring fair contracts are signed between the ETC and individual VaSPs.

Source: Hartley and Murphree (2006)

According to Adam (2007), the regulator (ETA) has no board of directors or councillors; nor does it have sufficient human resources to deal with complex regulatory challenges such as licensing, frequency assignment and monitoring, setting and enforcing tariffs, dispute resolution, maintaining quality of service and promoting universal access. It has been unable to attract and retain skilled employees with legal, regulatory, management and technical skills, partly due to low public sector remuneration. In effect, there is a gross absence of those skills in the country.

The ICT sector falls within the Ministry of Capacity Building that defines the national ICT strategy and promotes ICT in public services. The Ministry hosts the Ethiopian ICT Development Agency (EICTDA) that is responsible for the development and implementation of the national ICT Policy. The ICT Development Agency works closely with the regulator but does not always take into account telecommunications sector issues in its policy provisions. A separate ministry, the Ministry of Information, deals with the broadcasting sector and oversees the activities of the Ethiopian Broadcasting Agency (EBA).

According to Fink and et al (2003), in a number of countries, 'autonomous' regulators have been created but are rarely fully independent. He further argues that while the existence of a separate regulatory agency indicates that a government is willing to commit to pro-competitive regulatory principles, a regulator can be ineffective if key regulatory responsibilities (e.g., interconnection) fall outside its mandate. Hence, it can be argued that an independent regulatory framework would contribute to improved telecommunication services in Ethiopia.

Hypothesis 1: An independent regulatory framework would improve the performance of the sector in Ethiopia.

Table 2. Independent Regulatory Framework versus Improved Telecommunications Performance.

Author	Year	Research Issue
Fink and et al.	2003	An assessment of telecommunications reform in developing countries.
Nam	2000	Competition Policies for the Telecommunications Industry in Korea
Hartley and Murphree	2006	Influences on the Partial Liberalization of Internet Service Provision in Ethiopia
Adam	2007	Ethiopia Telecommunications Sector Performance Review a supply side analysis of policy outcomes
Stiglitz	1999	Promoting Competition in Telecommunications

3.4 Experiences from African Countries and Possibilities of Liberalizing the Sector

As has been shown in table 3 below, as a monopoly enterprise, the state-owned Ethiopian Telecommunications Corporation (ETC) and the regulator (ETA) have exclusive control over telecommunication services in the country. And the Ethiopian Telecommunications Agency (ETA) is not an independent regulatory agency.

Table 3. Regulatory and Policy Highlights

Telecommunication Services	Policy
Fixed line and mobile services	ETC is the sole provider of fixed and mobile services. The services are bundled together.
Internet services	ETC is the sole provider of Internet service; Virtual ISPs are allowed to buy bandwidth and resell Internet
Downstream value added services such as call center, cyber café and messaging services	Downstream value added services such as call centers, pay phones and messaging services are allowed for competition. However, there are a few legally registered phone shops; Cyber café services allowed. Call back or use of modern technology to divert international traffic is not allowed and is punishable by fines and imprisonment.
VSAT	Individuals and enterprises are not allowed to own VSATs. International organizations are allowed to own VSAT with payment of traffic compensation or "landing right" fees on case by case basis. The regulator is being empowered to license VSATs.
VoIP	VoIP is not allowed.
Telecommunications Equipment	Sale of mobile and telephone handsets is allowed

As a result there has not been any opportunity even for the entrance of other Internet Service Providers in Ethiopia while the picture looks different in other African countries. With regard to the number of ISPs and Internet connectivity in some selected African countries, the following table shows that "in countries where there is no competition in the ISP space, Internet penetration is dismal." According to Kassegne et al. (2001), the only guarantee for a growing and sustainable Internet penetration is the presence of competition in the ISP space.

Table 4. Summary of Number of ISPs and Internet Connectivity in Selected African Countries

Country	Number of Licensed ISPs	Estimated Number of Dial-up Internet Account Holders	Average Cost of Connectivity
1. South Africa	120	350,000 (estimated 2 million users)	$12/month
2. Kenya	50	15,000 + 30,000 (e-Touch Service)	-
3. Ghana	40 [only 8 operational]	15,000 (estimated 0.5 million with cyber café access)	$35/month
4. Nigeria	40	50,000 (estimated 100,000 users)	-
5. Egypt	40	50,000 (estimated 250,000 users)	$25/month
6. Zimbabwe	28	25,000	$15/month
7. Mali	13	5000	$30/month
8. Mozambique	10	15,000	-
9. Senegal	9	15,000	$40/month
10. Botswana	6	30,000	$15/month
11. Namibia	6	15,000	-
12. Uganda	5	10,000	-

13. Somalia	3	1500	$15/hour
14. Zambia	3	7500	$20/month
15. Sudan	3	3500	$25/month
16. Ethiopia	1	2500	$20/month

Source: Kassegne et al (2001)

As can be seen in the above table, it can easily be seen that the more ISPs a country has the more the number of dial up account holders and the lower the average cost of connectivity. This is especially true for South African with 120 licensed ISPs dial up account holders (2 million users) that have driven the average cost of connectivity down to $12/month. In contrast, Ethiopia has done very poorly under a single ISP, in which the number of dial up account holders was only 2500 – the average of cost of connectivity standing at almost twice that of South Africa. In cases like South Africa, it is the competition among the ISPs that had created the incentive for greater efficiency and lower average cost of connectivity. What makes it really surprising is that even Somalia often identified as a 'failed state' has 3 providers with 1500 dial up Internet account holders driving the average cost of connectivity down to $12/hour.

According to Kassegne et al (2001), if ISP industry could thrive in an environment as difficult and challenging as in Somalia - almost in the absence of a government - then why is it that Ethiopia, a country with one of the largest and most experienced telecom technical and management labor force is wasting such an opportunity? ETA with the mission of licensing internet service providers (ISPs), monitoring and spectrum allocation, tariff approval, customer protection, adjudication of disputes, and assistance in drafting policy, has offered license to only the state-owned telecom operator (ETC). Experiences from the

aforementioned country examples show that more ISPs would lower costs and improve the existing connectivity in Ethiopia.

Table 5. Communications Market Gap between Ethiopia and Neighboring Countries

	Ethiopia	Kenya	Sudan
Mobile (2008)	3%	39%	30%
Internet Users (2009)	360,000	3,360,000	3,800,000
Penetration (2008)	0.0005%	0.01%	0.02%
Driver of Universal Access	Incumbent	CCK	NTC
Regulator	Partially independent	Fully independent	Partially independent

Source: Ethiopia ICT Sector Performance Review, Lishan Adam (2010)

According to the table above, the number of Internet users in Ethiopia (with 80 million population) in 2009 stood only at 360,000 while the number of Internet users in Sudan and Kenya was 3,360,000 (pop. 44 mil.) and 3,800,000 (pop. 40 mil) respectively. The number of mobile users in Ethiopia in the same year was only 3 per cent of the total population while in Sudan and Kenya the percentage of mobile users was 39 per cent and 30 per cent respectively. The Sudan has 3 Internet Providers while Kenya has more than 50 ISPs.

According to Kassegn and et al (2001), the experience of neighboring African countries shows that governments fare better when they introduce an environment for competition and innovation on a gradual basis. In Kenya for example, the combined government tax revenue from the operators is close to $1 billion. Sudatel is one of the most competitive operators in the African market. Nothing prevents Ethiopia from making similar progress over the next decade, if careful policy choices are made in the communication sector. Although the government recognizes its limitations in the provision of telecom services, it continued to keep on holding its monopoly status (Kassegne and et al (2001).

H2: Introducing competition into the Ethiopian telecom market would enhance the existing level of connectivity in the country.

Table 6. Competition versus Improved Telecommunication Services in Ethiopia

Author	Year	Research Issue
Kassegne and et al	2001	Responding to a New Challenge: The Case of Telecom Policy in Ethiopia
Adam	2007	Ethiopia Telecommunications Sector Performance Review a supply side analysis of policy outcomes
Stiglitz	1999	Promoting Competition in Telecommunications
Wallsten	2003	Of Carts and Horse: Regulation and Privatization in Telecommunications Reforms
Milne	1998	Stages of Universal Service Policy. *Telecommunications Policy*

Hence, the researcher accepts the hypothesis that opening up and introducing more competition into the Ethiopian telecom market would enhance the existing level of connectivity in the country.

3.5 The Combined Impact of these Policies

The telecommunications industry is one of the fastest-growing sectors in most countries. Currently its service revenue alone, equipment sales not included, accounts for approximately two to three percent of GDP in most countries (Li and et al**,** 2001). The sector is believed to offer substantial positive externalities to other industries by, among other things, reducing transaction costs for businesses. Moreover, Roller and Waveman (2001), quoted in Li and et

al. (2001), have found a positive linkage between a country's telecommunications infrastructure and its economic growth.

In Ethiopia, however, the contribution of Telecommunications to GDP has been declining in recent years. As can shown in the figure below, telecommunications revenue as a percentage of GDP rose from 1.6 in 2002 to 2.3 in 2005 but fell to 1.35 in 2009.

Table 7. Contribution of Telecommunication Sector to the GDP

	2002	**2003**	**3004**	**2005**	**2006**	**2007**	**2008**	**2009**
GDP at market price (billions)	7.79	8.17	10.1	12.3	15.2	19.4	26.5	34
Telecommunication Revenue in US $ billion	.104	.123	.144	.211	.280	.367	.345	.453
Telecommunication Revenue as %age of GDP in market price	1.6	1.8	1.75	2.3	2.0	2.0	1.4	1.35

Source: Adam (2009/2010)

Adam (2009/2010) attributes the decline of the revenue as a percentage of GDP partly to the drop in the value of the Ethiopian Birr. The inability of the incumbent (ETC) to improve the quality of service and develop innovative products that boost its Average Revenue Per User (ARPU) is mostly to blame for the plummeting revenue as percentage of GDP (Adam, 2007).

One of the reasons for the poor contribution of telecommunications to the Ethiopian economy is the monopolistic structure of the industry. This view is also supported by The Investment Climate Assessment Report (2004) which holds that considerable lack of access to and quality of services results from a monopolistic structure; restrictive legal environment prohibiting involvement of the private sector, coupled with insufficient public resources for infrastructure development; and weak institutional and human capacity for implementation.

The monopolistic structure of the telecommunications sector in Ethiopia has resulted in limited access to and poor quality of services in these sectors.

IV. FINDINGS AND POLICY RECOMMENDATIONS

Based on the policy and regulatory problems discussed in the preceding chapters, the following policy recommendations have been suggested to rectify the problems observed:

- As it has been discussed above, the three functions that need to be separated to improve the progress of any telecom industry have not been separated. Hence, the Ethiopian government needs to separate the policy, regulatory, and operational functions to establish a level playing field. Moreover, it has to enhance the capacity to regulate and manage within the Ethiopian Telecommunications Agency (ETA), with appropriate changes to the legislation to ensure that it is an independent agency with significant capacity to establish and enforce a predictable and consistent regulatory framework, including licensing. This can be done, for instance, by appointing an independent board. This can go to a great length in enhancing the credibility of the regulator in the eyes of both consumers and potential competitors.

- It has been that the telecom sector in Ethiopia has been a public monopoly with no prospects of liberalization in the near future. Countries that have more than one internet service providers (ISPs), hence the resulting intense competition, have created better access to telecommunication services for their citizens. It is in the interest of the general public for Ethiopian government to liberalize the sector both to the domestic and foreign competition and create a more competitive industry. This would allow the regulator to gain valuable regulatory role later when the sector is opened for competitors. This can be done, for instance, by unbundling the telecommunications services and introduce competition in those particular services suitable for and can be operated by the private sector. The increased participation of

the private sector over time will not only enhance competition but also relieve the government of the much needed investment fund.

- The telecommunications industry has been characterized by discouraging human resource situation; hence, a lot has to be done in training, employing and maintaining well-qualified staff within the Ethiopian Telecommunications Agency (ETA). This, however, is a futile attempt without a governance framework that allows the sector to thrive through gradual introduction of competition and a flexible regulatory structure to enable it.

- Despite the fact that the incumbent government has been making massive investment on telecom infrastructure especially on rolling out broadband infrastructure, the overall utilization of the broadband network is too low. Hence, beyond expanding the existing infrastructure, the Ethiopian government should work on improving the utilization of the existing infrastructure.

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[ii] Refers to the number of landline telephones in use for every 100 individuals living within an area (Computer Dictionary Definition).
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[iii] Refers to the extent to which access to a certain service has been achieved.
http://www.scribd.com/doc/6491215/New-Models-for-Universal-Access-Regulatel

[iv] A situation in which 100 per cent population of a given country has access to a given service. In the context of this paper, the given service is understood to be a public payphone or telecenter on a shared community basis.
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APPENDICES

APPENDIX A

PROCLAMATION NO. 49/1996

A Proclamation to Provide for the Regulation of Telecommunications

WHEREAS**,** telecommunication service performs an essential role in the Country's economic and social development;

WHEREAS**,** the establishment of a separate regulatory organ other than the operator and the prescription of regulatory provisions are found necessary to make the telecommunication service more efficient and reliable;

NOW, THEREFORE, in accordance with Article 55(1) of the Constitution of the Federal Democratic Republic of Ethiopia, it is hereby Proclaimed as follows:

PART ONE

GENERAL

1. Short Title

This Proclamation may be cited as the "Telecommunication Proclamation No. 49/1996".

2. Definitions

1) In this Proclamation, unless the context requires otherwise:
"telecommunication" means the emission, transmission or reception, through the agency of electricity or electromagnetism, of any sounds, signs, signals, writing, images or intelligence of any nature by wire, radio, optical or other electromagnetic systems whether or not such signs, signals, writing, images, sounds or intelligence

have been subjected to rearrangement, computation or other processes by any means in the course of their transmission, emission or reception;

2) "telecommunication line" means any wire, cable, tower, mast, antenna, pole or any other structure or equipment used or intended to be used in connection with a telecommunication system;
3) "basic telecommunication service" means telephone, telegram or telex service;
4) "telecommunication equipment" includes any appliance, apparatus or accessory used or intended to be used for telecommunication services;
5) "TVRO" means an apparatus used only for the reception of satellite television broadcasts;
6) "call-back service" means the use of dial tone of a foreign telecommunication operator for international connections without the knowledge of the domestic telecommunication operator;
7) "Ministry" and "Minister" means the Ministry and Minister of Transport and communication, respectively:
8) "person" means a natural or a juridical person.

PART TWO

THE TELECOMMUNICATION AGENCY

3. Establishment

1) The Ethiopian Telecommunication Agency (hereinafter "the Agency") is hereby established as an autonomous federal agency having its own legal personality.
2) The Agency shall be accountable to the Ministry.

4. Head Office

The Agency shall have its head office in Addis Ababa and may have branch offices elsewhere as may be necessary.

5. Objectives

The objectives of the Agency shall be to promote the development of high quality, efficient, reliable and affordable telecommunication services.

6. Powers and Duties

The Agency shall have the following powers and duties:

1) to ensure that telecommunication services are operated in a manner that will best serve and contribute to the Country's economic and social development;
2) to specify technical standards and procedures for the provision of telecommunication services;
3) to ensure that telecommunication services conform to the specified standards of quality;
4) to regulate tariffs relating to basic telecommunication services;
5) to license and supervise operators of telecommunication services;
6) to regulate types of telecommunication equipment which may be connected to a telecommunication system;
7) to authorize and supervise the use of frequencies allotted to Ethiopia;
8) where authorized by the Minister, subject to the appropriate laws and government directives, to represent the Government in international conferences and international organizations concerned with telecommunications; and to follow up the implementation of treaties dealing with telecommunications to which Ethiopia is a party.
9) to collaborate with educational institutions in order to promote technical education in the fields of telecommunications;
10) to collect licence fees in accordance with the rate approved by the Ministry;
11) to own property, to enter into contracts and to sue and be sued in its own name;
12) to perform such other related activities as may be necessary for the attainment of its objectives.

7. Management of the Agency

1) The Agency shall have a General Manager, to be appointed by the Government upon the recommendation of the Minister, and the necessary staff;
2) The General Manger shall be the chief executive officer of the Agency and shall,

subject to the general directives of the Minister, direct and administer the activities of the Agency;

3) Without limiting the generality of sub-Article (2) of this Article, the General Manager shall:

(a) exercise the powers and duties of the Agency specified under Article 6 of this Proclamation;

(b) employ and administer the employees of the Agency in accordance with directives approved by the Government following the basic principles of the federal civil service laws;

(c) prepare and submit to the Ministry the program and budget of the Agency; and implement same upon approval;

(d) effect expenditure in accordance with the budget approved for the Agency;

(e) represent the Agency in all its dealings with third parties;

(f) prepare and submit to the Ministry the activity and financial reports of the Agency.

4) The General Manager may delegate part of his powers and duties to the employees of the Agency to the extent necessary for the efficient performance of the activities of the Agency; provided, however, that in the case of an employee who acts on behalf of the General Manager for more than thirty days. Prior approval of the Minister shall be required.

8. Budget

1) The budget of the Agency shall be drawn from the following sources:

(a) government subsidy;

(b) license fees;

(c) any other source.

2) The fund referred to in sub-Article (1) of this Article shall be deposited in a bank account opened in the name of the Agency and be expended for the carrying out of the activities of the Agency.

9. Books of Accounts

1) The Agency shall keep complete and accurate books of accounts.

2) The books of accounts and other financial documents of the Agency shall be audited

annually by the Auditor General or by an auditor designated by him.

PART THREE

REQUIREMENT AND CONDITIONS OF LICENCE

10. Operator's License

1) No person may operate a telecommunication service without obtaining licence from the Agency.
2) No license shall be required for the use of telecommunication systems or telecommunication equipment by the police, the armed forces and any other services directly employed by the State for national security.

11. Conditions of License

1) A license to operate a telecommunication service may be subject to such conditions as the Agency considers necessary for promoting the objectives stated in Article 5 of this Proclamation.
2) Without limiting the generality of sub-Article(1) of this Article, a license may include the following conditions:

   (a) the provision of services to rural or other specified areas;

   (b) requiring an operator to publish in such manner as may be specified in the license a notice stating the charges and other terms and conditions that are to be applicable to services provided;

   (c) provision of service on priority basis to the Government or specified organizations;

   (d) criteria for setting tariffs regarding the service ;

   (e) requiring an operator to comply with such technical standards or requirements including service performance standards as may be specified in the license.

3) The Agency may modify any condition of a license if it considers it in the public

interest to do so.

12. Tariffs

The tariffs applicable to basic telecommunication services shall be studied by the Agency and submitted to the Government for approval.

13. Technical Standards

1) The Agency may determine technical standards regarding telecommunications including customer premises equipment.
2) Any directive issued for the determination of standard shall be published in such manner as the Agency may direct.

14. Approval of Equipment

1) The Agency may, by public notice, specify any telecommunication equipment that requires the Agency's approval before it may be connected to a telecommunication system;
2) Without prejudice to sub-Article (1) of this Article, the following equipment require the approval of the Agency:

   (a) radio communication equipment;

   (b) TVRO

3) The Agency shall consider the following criteria in approving types of telecommunication equipment:

   (a) safety to life and health;

   (b) maintenance of the telecommunication network including conditions regarding data protection;

   (c) electromagnetic compatibility;

   (d) appropriate use of electromagnetic frequency spectrum;

   (e) interpretability between the telecommunication equipment and the telecommunications networks;

   (f) other considerations which the Agency may determine by directives.

4) It is prohibited to manufacture, import or distribute, without obtaining prior approval, telecommunications equipment that require the approval of the Agency.

15. Radiocommunications

1) The Agency shall be responsible for the management and authorization of the use of frequencies allocated to Ethiopia in accordance with international conventions.
2) No person shall, except in accordance with a permit obtained from the Agency, possess, install or operate radiocommunication apparatus.
3) The provisions of sub-Article (2) of this Article shall not be applicable to radio apparatus for use by the police, the armed forces and any other services directly employed by the State.

16. Assignment of Frequency

1) The Agency may assign frequencies to be used for telecommunications, radiocommunication services and radio and television broadcasting;
2) The Agency shall coordinate the use of frequencies both locally and internationally; and monitor the proper use of same;
3) In deciding upon an application for assignment of frequencies, regard shall be made to the present use and future needs of the Country;
4) Frequencies may be assigned to different persons on time-sharing basis.

17. Power to Inspect

1) The Agency may assign inspectors to ascertain that the requirements of this Proclamation and its decisions made hereunder are complied with.
2) An inspector assigned pursuant to sub-Article (1) of this Article, may enter and inspect, during working hours, the premises of a telecommunication operator or any place on which he believes on reasonable grounds there is any radio apparatus.
3) An inspector shall have the power to inspect any telecommunication equipment and to examine and make copies of any relevant documents.
4) An inspector shall show his identification card before entering any place for inspection.

PART FOUR

USE OF LAND AND BUILDINGS

FOR TELECOMMUNICATION LINES

18. The Use of Land and Buildings

1) Any telecommunication operator may enter any land and perform all acts necessary for the purpose of installing, repairing, improving, examining and altering or removing a telecommunication line.
2) Where a telecommunication line is essentially to pass upon any building the telecommunication operator may install such line in such manner that the installation shall in no way damage the building.
3) Any telecommunication operator may cut down any tree or branch which may in any way cause damage to or is likely to impede a telecommunication line.
4) Before entering any place for purposes specified in sub- Article (1) or (2) of this Article, an operator shall give a ten – day written notice to the possessor of the land or owner of the building stating the nature of the acts intended to be done.
5) If the possessor of the land or the owner of the building has any objection against the performance of the intended act, he may lodge his objection with the Agency within the notice period specified under sub-Article (4) of this Article.
6) The Agency may upon giving each party an opportunity to be heard, uphold the objection or authorize, either unconditionally or subject to such conditions as it thinks fit, the performance of the intended acts.

19. Removal or Alteration of Telecommunication Line

1) The possessor of land or the owner of a building used by an operator for the installation of a telecommunication line pursuant to Article 18 of this Proclamation may, if he has good cause, apply to the Agency requesting the removal or alteration of the telecommunication line.
2) Upon ascertaining the existence of good cause in submitting an application under sub Article (1) of this Article and the existence of alternatives for the installation of the telecommunication line, the Agency may order the removal of the line or the alteration of its position.

20. Compensation

1) A telecommunication operator shall be liable for the payment of fair compensation to the possessor of land or the owner of a building to whom it has inflicted damages in the course of exercising its power to use land or building.
2) A person who has caused the removal or alteration of a telecommunication line pursuant to Article 19 of this Proclamation shall be liable for the payment of fair compensation to the telecommunication operator.

21. Compulsory Acquisition of Land

An operator may compulsorily acquire any privately possessed lands for public use in accordance with the law.

PART FIVE

MISCELLANEOUS PROVISIONS

22. Town Plans

1) Any town Plan shall clearly indicate lines of telecommunication networks.
2) Any telecommunication operator shall follow the town plan in installing a telecommunication line.

23. Other constructions

1) Any construction or excavation work or permanent fixtures of any nature in the vicinity of a telecommunication line shall require the prior consent of the telecommunication operator.
2) The telecommunication operator shall have the duty to respond, within thirty days, to a request submitted to it pursuant to sub-Article (1) of this Article.
3) Where the telecommunication operator unduly withholds its consent, the Agency may authorize the carrying out of the activities referred to in sub-Article(1) of this Article where it ascertains that they will not cause damage or any impediment to the telecommunication line.

4) Any construction work or fixtures of permanent nature shall be at least two meters away from the installation of a telecommunication line;
5) When any construction work is hindering an existing telecommunication line, the operator may, by giving thirty days notice, request the owner or the possessor to remove it.
6) If the owner or possessor fails to remove the construction work, the operator shall have the right to remove it.
7) **24. Prohibitions**

1) No person is allowed to connect or disconnect telecommunication lines other than authorized employees of an operator or a person licensed by the Agency.

2) The use of call-back service is prohibited.

25. Penalties

1) Any person who has contravened the provisions of Article 15(2) or 24(2) of this Proclamation shall be punishable with rigorous imprisonment from two to five years and with fine not exceeding Birr 10,000.
2) Without prejudice to the provisions of sub-Article (1) of this Article, any radio communication apparatus, a TVRO or any other telecommunication equipment that require the authorization of the Agency shall be forfeited to the Agency if found in the possession of a person who has not obtained the necessary approval from the Agency.
3) Any person who contravenes other provisions of this Proclamation shall be punished in accordance with the Penal Code.

26. Repeal

The following are hereby repealed:

1) the Declaration of Telephones Proclamation No. 55/1944;

2) the Maintenance of Telephone Services Proclamation No. 114/1950;

3) the Imperial Board of Telecommunications establishment Proclamation No. 131/1952.

Effective Date

This Proclamation shall enter into force as of the 28th day of November, 1996.

Done at Addis Ababa, this 28th day of November, 1996.

Negaso Gidada (Dr.)

President of the Federal Democratic

Republic of Ethiopia

APPENDIX B

COUNCIL OF MINISTERS REGULATIONS NO. 47/1999

Council of Ministers Regulations To Provide for the Regulation of Telecommunication Services

These Regulations are issued by the Council of Ministers pursuant to Article 5 of the Definition of Powers and Duties of the Executive Organs of the Federal Democratic Republic of Ethiopia Proclamation No.4/1995.

PAR T ONE
General

1. Short Title

These Regulations may be cited as the "Telecommunication Services Council of Ministers Regulations No. 47/1999."

2. Definitions

1) Definitions provided under the Telecommunication Proclamation No. 49/1996 shall apply to these Regulations.

2) In these Regulations, unless the context requires otherwise:

(a) "Agency" means the Ethiopian Telecommunications Agency;

(b) "Licensee" means the holder of telecommunication service license issued under these Regulations;

(c) "Local Network" includes the local exchange, the junction network and the access network;

(d) "Priority Customers Target" means a target indicating the total number of new exchange lines to be brought into service for priority customers to be specified by the Agency;

(e) "Public Call Office Target" means a target indicating the total number and regional distribution of new public call offices to be brought into service;

(f) "Public Pay Phone Target" means a target indicating the number of coin or card operated telephones to be brought into service;

(g) "Public Switched Telecommunication Network" includes the Local Network, the National Long Distance Network and the International Network;

(h) "Public Switched Telecommunication Service" means any service to be provided using Public Switched Telecommunication Network;

(i) "Roll-out Target" means telecommunication service expansion target to be set by the Agency and may include Public Pay Phone Target, Under-Serviced Line Target, Priority Customers Target and Public Call Office Target;

(j) "Telecommunication Service License" includes public switched telecommunication service license, cellular mobile service license, internet service license and data communication service license;

(k) "Service Target" means a target to be set by the Agency regarding the provision of quality of service by the licensee;

(l) "Under-serviced Line Target" means a target indicating the total number of new exchange lines to be brought into service for zonal and woreda and other towns of the regional states lacking the provision of telecommunication service.

PART TWO
Telecommunication Service
License

3. Application for license

1) Application for telecommunication service license shall be in the form prescribed by the Agency and shall contain:

(a)	identity and address of the applicant;
(b)	documents showing the applicant's financial situation, technical competence and experience;
(c).	such other information the Agency may determine by directives

2) Information provided to the Agency pursuant to the provisions of this Article shall be confidential.

4. Grant of License

1) The Agency shall, upon payment by the applicant of the prescribed fees, grant the requested license within 90 days of the submission of the application; provided, however, that no license shall be granted unless the Agency is satisfied that the applicant has the required technical competence, financial resource and experience to fulfill the obligations relating to the license requested.

2) No license shall be granted under these Regulations unless the applicant is eligible to invest in the sector pursuant to the provisions of the relevant investment law.

5. Refusal of License

i. If the Agency determines that the application or the information supplied or the qualifications, experience or financial capacity of the applicant in connection with the proposed license is materially inadequate in relation to the criteria set by the Agency, it shall so notify the applicant in writing setting the reasons of its decision.
ii. The applicant shall be permitted to consult with the Agency in order to provide all evidence in support of its position, shall be afforded a time not less than 30 days to overcome the objection of the Agency and shall be entitled to amend or complete its application.
iii. If, following such consultation and expiry of such time, the Agency still believes that the application or the information supplied or the qualification of the applicant are materially inadequate to justify the grant of license, it shall so notify the applicant in writing.

6. Contents of a License

A telecommunication license, shall as may be appropriate, specify:

1) the name of the licensee;
2) the installation to which it applies and location of such installation;
3) the service in respect of which it is issued;
4) Roll-out target; and,
5) Service Target.

7. Duties of Licensee

A licensee shall:

i. fulfill the Roll-out Target and Service Target specified in the license;
ii. publish the charges and other terms and conditions specifying the method which is to be adopted for determining the charges that are applicable to its services other than Basic Telecommunication Service;
iii. maintain its telecommunication installations in such condition so as to provide safe, adequate and efficient service;
iv. allow access to the Agency to its installations;

v. furnish to the Agency such report, documents and information concerning its installations and operations as the Agency may request;

vi. continue to apply the existing numbering plan until the Agency prescribes a new numbering plan.

8. Amendment of License

i. The Agency may amend the license upon request of the licensee where it finds the request justifiable.

ii. The Agency may, on its own initiatives, amend a license if it considers the amendment to be necessary for reason of public interest; provided, however, that such amendment shall not substantially affect- the operational and financial viability of the licensee.

9. Duration of License

1) The duration of a license for Public Switched Telecommunication Service may not exceed 25 years.

2) The duration of a license for cellular mobile service may not exceed 10 years.

3) The duration of a license for internet service may not exceed 10 years.

4) The duration of a license for data communication service may not exceed 10 years.

10. Renewal of License

A license may be renewed for successive periods, if the licensee:

1) has submitted to the Agency a renewal application together with its business plan at least six months prior to the expiry of the license; is not in breach of any provisions of the Telecommunication Proclamation No. 49/1996, these Regulations and directives issued hereunder which constitute grounds for revocation of its license; and

2) agrees to upgrade its operations by replacing outdated technology with new technology; provided, however, that the duration of each renewal shall not exceed half of the initial period of the license.

11. Revocation of License

1) The Agency may a license where the licensee:

(a) has failed to fulfill the Roll-out Target or Service Target specified in the license;

(b) failed to follow the technical standards applicable to the service;

(c) violates the tariff set by the government; or

(d) in transgression of the Law:

(i) provides inferior service;
(ii) violates public interest.

2) No revocation of license shall be mde by the Agency unless the licensee has been given adequate opportunity by the Agency to rectify the situation or failure.

12. Termination of License

1) A license shall terminate if:

a) it is not renewed pursuant to Article 10 of these Regulations;
b) it is revoked by the Agency pursuant to Article 11 of these Regulations; or
c) the licensee is declared bankrupt or dissolved.

2) Upon termination of a license the Government may take over, in consideration of compensation on the basis of book value or replacement cost whichever is lower, the facilities of the licensee which are absolutely necessary to continue, without interruption, the telecommunication service.

3) If the Government does not desire to take over the facilities, the licensee may be obliged to remove such facilities at its own cost.

13. Fees

1) Fees to be paid for the issuance of license shall be as follows:

(a) for Public Switched Telecommunication Service . Birr 200,000

(b) for cellular mobile service Birr 200,000

(c) for internet service, Birr 100,000

(d) for data communication service ...Birr 100,000

Fees to be paid for the amendment, upon request of the licensee, or renewal of a license shall be 50% of the fee required for the issuance of such license.

2) The fees under this Article shall not include fees to be paid for frequency allocation.

PART THREE
Telecommunication Service
Price and Tariff

14. Scope of Application

1) The provisions of this part shall apply to the price and tariff of Basic Telecommunication Service.

2) The provisions of this part shall also serve as criteria for setting, by the licensee, the price and tariff of telecommunication services other than Basic Telecommunication Service.

15. General Principles

1) Telecommunication service pricing shall be based on the principles of economic efficiency, public interest and economic viability of the operations of the service.

2) Costs shall be allocated to customers proportional to the burden they impose on the system with the exception of costs incurred to provide Basic Telecommunication Service for under-serviced areas.

3) The tariff level shall be sufficient enough to ensure the sustainability of service provision and the attraction of fresh investment in the sector.

4) The tariff structure shall consider differential rates induced by the elasticity of demand and the varying demand schedules of services.

16. General Pricing Approach

Telecommunication service prices shall be set on the basis of:

1) the system's marginal cost; and

2) optimum system planning.

17. Telecommunication Access Service Pricing

1) The telecommunications access services cost shall be determined on the basis of the cost attributed to the network access component.

2) The connection fee shall be computed on the basis of the marginal invested capital cost attributed to the access network; provided, however, that such cost shall not include the cost of customer premises equipment.

3) The rental fee shall be computed on the basis of the marginal cost attributed to upkeep and maintain the access network.

18. Telecommunication Call Service Pricing

1) The call service cost shall be determined on the basis of the cost attributed to the network component.

2) In cases where a given network is employed for the joint use of various call service groups the cost shall be proportioned on the basis of assigning a share of the common capacity cost.

3) A marginal call service cost shall be computed for each call service.

4) Long distance and international call service rates shall be time and distance sensitive where distance is a factor.

19. Other Charges

Other charges applicable to Basic Telecommunication Service may be effected in accordance with a contractual agreement between the licensee and customers subject to the approval of the Agency.

20. Tariff Revision

Tariff revision shall be conducted whenever compelling circumstances occur; provided, however, that the maximum time between intervals may not exceed four years.

21. Books of Accounts

A licensee shall keep books of accounts of its operation based on generally accepted accounting principles and guidelines of the Agency.

i. The licensee shall submit audited reports of its accounts to the Agency within six months from the end of the Government's fiscal year.

PART FOUR

Technical Standards

Chapter One

General

22. Technology Choice

i. The technology to be employed in the different parts of the telecommunication networks shall be selected by considering future developments in telecommunications and customer service requirements. In particular, it shall be digital, field proven, and shall employ the latest techniques in the field of telecommunications.
ii. All telecommunications equipment to be used shall be compatible to the existing network system.

23. System Modularity

Telecommunication systems shall have a high degree of modularity so that new services and features could be implemented with minimum changes in hardware and/ or software.

24. System Configuration

Telecommunications systems and networks shall employ redundant or duplicated configurations so that failure on circuit element or component may not affect the overall performance of the system.

25. Reliability and Performance

i. The performance of individual components and units of equipment and the system as a whole shall ensure very high standard of reliability.

ii. Mean failure rates, mean time to repair faults and mean time between failures for the different parts of the system and for the whole system shall be in compliance with the standard set by the Agency.

26. Equipment Dimensioning

Equipment Dimensioning shall consider the following:

i. avoidance of major disturbances in handling overload traffic;
ii. minimizing dial tone and call setup delay under normal and over load condition; and
iii. maintaining appropriate level of service.

27. Signaling Systems

i. Modern signaling systems which are flexible and having additional features shall be used whenever technically possible.
ii. Inter-working between the different signaling systems and backward compatibility shall be guaranteed.
iii. The technical requirements for the different signaling systems to be used in the national network shall be in accordance with the existing signaling systems.

28. Safety Requirements

i. Flammable material shall not be used in any telecommunications equipment.
ii. Protection arrangements shall be provided to ensure human safety when equipment voltage and/ or current are at the level dangerous to human life.
iii. Harmful radiation due to radio frequency, heating, harmful ionization or optical radiation shall be protected to ensure human safety. Radioactive materials shall never be put into use.

29. Protection of Telecommunications Equipment

i. Grounding system for equipment and antenna supporting structure shall be made properly.
ii. All metallic enclosures of electrical equipment, racks, wave-guides, and outer conductors of coaxial feeder shall be secured and connected to the grounding system.

iii. Lightening protections shall be provided for telecommunication equipment whenever deemed necessary.
iv. Proper overvoltage and overcurrent protections shall be provided for all telecommunication equipment.
v. All metal parts of the telecommunication equipment and system shall be protected against corrosion.
vi. The electronics part of the telecommunication equipment shall be protected from dust.
vii. Air conditioning shall be provided for telecommunications equipment, where deemed necessary.

30. Marking of Telecommunication Equipment

i. Each unit and parts of any telecommunication equipment shall have type, model and serial number clearly and suitably labeled.
ii. Any electrical and electronics components of telecommunication equipment shall be clearly marked and shall be provided a detailed component data.
iii. High voltage parts of telecommunication equipment shall be clearly marked.

31. Electromagnetic Interference

The permissible level of electromagnetic interference shall be in accordance with directives of the Agency to be issued pursuant to Sub-Article (3) of Article 52 of these Regulations.

32. Environmental Conditions

All telecommunication equipment shall be able to operate in the environmental conditions specified by the Agency.

33. Power System

i. Power system design and performance shall be consistent with the over all system performance requirements.
ii. The direct current power supplies voltage for all telecommunication equipment shall be negative 48 volts.
iii. The power supply system shall include rectifiers, common control equipment and a floating battery bank connected across the rectifiers.

iv. The rectifiers shall be designed with a minimum of 50% reserve capacity.

v. In places where commercial power supply is not available, there shall be a solar power system to provide the necessary power required by telecommunication equipment.

CHAPTER TWO
Technical Standards for Public Switched Telecommunication Network

34. General

Any telecommunication equipment shall comply with the International Telecommunications Union Recommendations, Regulations and Standards.

35. Digital Trunk and Junction Network

Digital trunk and junction network interface shall be in accordance with the international standard adopted by the Agency.

36. Radio Transmission Equipment

i. The geographical coordinates of every radio station should be clearly indicated.

ii. Major transmission systems shall be provided with a service channel which could be used for communication is and transfer of information.

iii. Digital multiplexing hierarchies and techniques shall be based on the international standard adopted by the agency.

37. Antenna and Antenna Supporting Structures

i. Every antenna and antenna supporting structure, including the antenna system shall be strong enough to resist the highest wind pressure expected in the area of installation.

ii. Where necessary, signal lighting system and reflective paints shall be affixed to the tops of antenna supporting structures in conformity with directives of the Agency.

38. Customer Premises Equipment

i. Customer premises equipment shall be compatible with the existing system.
ii. The Agency shall issue detailed technical standards for customer premises equipment.

39. Cable Network Design

The design of cable network shall aim at optimum service provision taking quality, flexibility, reliability, economy and maintainability into consideration.

40. Underground Cable Installation

Safety guards and other proper warning devices shall be provided in all underground cable installations in accordance with the directives-of the Agency.

41. Aerial Cable Installation

i. Aerial cables shall be able to withstand transversal wind pressure in the area of installation.
ii. The maximum pole span shall not exceed 50 meters without any strengthening measures for keeping the required strength.
iii. The allowable sag of aerial cables shall be limited to less than 0.8 meters at an ambient temperature of 45℃ under windless situation.
iv. The minimum clearance between ground surface and the aerial cable including drop wires shall be at least 4.5 meters; provided, however, that the minimum clearance at road crossings may not be less than 6 meters.
v. The clearance between telecommunication and power cables shall be determined in accordance with this Electricity Operations Council of Ministers Regulations No. 47/1999.

42. Cross Connection Cabinet Installation

i. Cross connection cabinets shall be placed on the side walk away from the carriage way in such a way that public inconvenience could be minimized and any damage to the cabinets could be avoided.

ii. Cabinets shall be properly locked and protected from traffic by suitable protecting mechanisms.

43. Drop Wire Installation

i. The sag of one pair of drop wire shall not exceed 0.4 meters under an ambient temperature of 45℃.
ii. Abe drop wires shall be covered with adequate insulated protector.

CHAPTER THREE

Cellular Mobile Network

44. General

1) The cellular mobile network system of the licensee shall be digital and be capable of providing:

(a) comprehensive range of data, short messages and supplementary services; and

(b) roaming facility.

2) Technical standards for cellular mobile network shall be in accordance with the international standard adopted by the Agency.

45. Connection to the Public Switched Telecommunication Network

The interface with the Public Switched Telecommunication Network shall be made via digital links and shall use signaling system No. 7 according to International Telecommunications Union Recommendations.

46. Frequency Al10cation

The licensee shall operate the cellular mobile service within the designated frequency bandwidth and shall use only the spectrum specifically allocated to it by the Agency.

PART FIVE

Telecommunications Service Standards And

Roll-out Target

47. Service Targets

1). The Service target indicators shall be prescribed by the Agency in consultation with the licensee.

2) Service target indicators may include the following:

(a) number of telecommunication line faults per line per annum;

(b) percentage of line faults cleared within:

(i) 8 working hours,

(ii) 40 working hours,

(iii) more than 40 working hours,

(c) percentage of public payphones in operation in a given period of time;

(d/ percentage of reduction of existing waiting list in a specified period of time.

48. Customer Support Services

1) The licensee shall establish procedures for efficient customers support services.

2) Bills to be issued to customers shall clearly indicate the type of service and the units for which charges are made.

3) All fault reporting calls shall be free of charge.

49. Rol1-out Target

i. Roll-out Target setting shall be carried out based on the national telecommunication development policy and priorities set forth by the Government.

ii. Without limiting the generality of sub-article (1) of this Article the Agency shall, in setting the Roll-out Target, take into-account:

(a) the growth of telephone penetration rate;

(b) the reduction of long waiting list;

(c) the extension of telephone services to rural areas;

(d) the provision of new and enhanced services;

(e) the creation of a modern and reliable national network; and

f)the business plan of the licensee.

50. Emergency Ca11 Services

i. All calls to fire brigades, ambulance services, police stations and other organizations providing assistance to the public in emergencies which are determined as such by the Agency, shall be free of charge.
ii. Special numbers shall be assigned for emergency call services.
iii. Appropriate emergency call service facilities shall be installed on main highways at an interval of 50 kilo meters when circumstances so warrant. The use of such facilities shall be free of charge.

51. Directory Service

i. The licensee shall issue, printed directories to be provided to customers free of charge, within periods of intervals to be specified by the Agency.
ii. The licensee shall provide customers with online directory services.

PART SIX

Management Of Frequencies
And Radio Regulations

52. National Frequency A110cation Plan

1) The Agency shall prepare a national frequency allocation plan.

2) The national frequency allocation plan shall, in particular:

(a) define how radio frequencies are used;

(b) aim at ensuring that the radio frequency spectrum is utilized and managed in an orderly, efficient and effective manner;

(c) avoid obstacles to the introduction of new technologies and telecommunication services.

3) The Agency shall issue directives on radio regulations.

53. Granting of Permit for Use of Frequencies

i. The installation and use of radio communication equipment shall only be authorized if, the holder of the equipment has obtained a permit for the use of frequencies, and they are in compliance with directives of the Agency to be issued pursuant to Sub-Article (3) of Article 52 of these Regulations.
ii. The fees to be paid by frequency spectrum users shall be fixed by directives of the Ministry of Transport and Communications.

54. Registration of Frequencies

Upon assigning frequencies to a transmitting or receiving station all technical and operational data indicating the spectrum and geographical coordinates shall be entered in the national frequency register to be kept by the Agency.

55. Frequencies A110cated for Broadcasting Services

The provisions of this Part and directives of the Agency to be issued on radio regulations shall be applicable to frequencies allocated for broadcasting services without affecting the powers given to the Ethiopian Broadcast Agency under the provisions of other relevant laws.

PART SEVEN

Miscellaneous

56. Interconnection

i. A licensee shall interconnect its telecommunication system to the telecommunication system of such other licensee.
ii. The technical inter-operability and availability conditions shall be fully conducive for interconnection.
iii. An agreement relating to the interconnection shall be entered into by the licensees.
iv. The Agency shall issue directives relating to interconnections. Such directives shall determine, among others:

(a) the time limit for interconnections;

(b) the technical conditions and the quality of service to be provided through interconnections;

(c) fees and costs of interconnections.

v. Any dispute arising between licensees in the course of negotiation for interconnection shall be referred to the Agency for arbitration. The decision of the Agency shall be final and binding.

57. Power to Issue Directives

Without prejudice to the powers given to the Agency by these Regulations, the Ministry of Transport and Communications shall have the power to issue directives necessary for the proper implementation of these Regulations.

58. Transitory Provisions

i. The existing telecommunication service operator shall, within twelve months from the effective date of these Regulations, obtain the required licenses to be issued in accordance with these Regulations.

ii. The requirements provided for under part 4 of these Regulations with regard to choice of technology and specific technical standards, shall only be applicable to new installations to be brought into service after the effective date of these Regulations.

59. Effective Date

These Regulations shall enter into force on the date of their publication in the Federal Negarit Gazeta.

Done at Addis Ababa this 27th day of April, 1999.

MELES ZENAWI
PRIME MINISTER OF THE FEDERAL DEMOCRATIC
REPUBLIC OF ETHIOPIA