

Regionalizing Telecommunications Reform in West Africa

Ioannis N. Kessides

Roger G. Noll

Nancy C. Benjamin

The World Bank
Development Research Group
Environment and Energy Team
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Abstract

In recent years, there has been an increasing recognition that significant welfare gains could be realized through deep forms of regional integration which entail harmonization of legal, regulatory and institutional frameworks. Reforms that reduce cross-border transaction costs and improve the performance of “backbone” infrastructure services are arguably even more important for the creation of an open, unified regional economic space than trade policy reforms narrowly defined. This paper assesses the potential gains from regionalized telecommunications policy in West Africa. To this end,

the paper: (i) discusses how regional cooperation can overcome national limits in technical expertise, enhance the capacity of nations credibly to commit to stable regulatory policy, and ultimately facilitate infrastructure investment in the region; (ii) identifies trade-distorting regulations that inhibit opportunities for regional trade and economic development, and so are good candidates for regional trade negotiations to reduce indirect trade barriers; and (iii) describes substantive elements of a harmonized regional regulatory policy that can deliver immediate performance benefits.

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Regionalizing Telecommunications Reform in West Africa

Ioannis N. Kessides, Roger G. Noll, Nancy C. Benjamin¹

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I. Introduction

Until fairly recently, most nations dealt with telecommunications policy as a domestic concern to be managed by a ministry of post and communications and, among nations with private operators, an independent regulator. International organizations were involved in telecommunications policy mainly to facilitate agreements about telecommunications traffic among nations. But trade liberalization and rapid technological progress, especially in mobile wireless technology, have made greater coordination and harmonization of telecommunications policy more attractive. Moreover, smaller, less wealthy nations, especially in Africa, are interested in regionalization as a means to pool regulatory resources.

In creating the West African Telecommunications Regulators Assembly (WATRA), West African nations and their regional trade organization, the Economic Community of West African States (ECOWAS), are among the leaders in attempting to regionalize telecommunications policy. ECOWAS and WATRA have pursued regional harmonization of telecommunications regulation within the framework of a market-based, largely privatized sector.

This report assesses the potential gains from regionalized telecommunications policy in West Africa. The report seeks to assist officials in ECOWAS, WATRA and member states in designing an effective regional regulatory process. To this end, the report: (i) discusses how regional cooperation can overcome national limits in technical expertise, enhance the capacity of nations credibly to commit to stable regulatory policy, and ultimately facilitate infrastructure investment in the region; (ii) identifies trade-distorting regulations that inhibit opportunities for regional trade and economic development, and so are good candidates for regional trade negotiations to reduce indirect trade barriers; and (iii) describes substantive elements of a harmonized regional regulatory policy that can deliver immediate performance benefits.

II. Preliminary Observations

In most countries, the impetus for reform of telecommunications policy arose from the poor performance of domestic incumbent operators (in nearly all cases state-owned enterprises within a Ministry of Telecommunications), and focused mainly on redefining the roles of the public and private sectors in telecommunications for the purpose of expanding service and improving its quality. For similar reasons, other important infrastructure industries, such as electricity, transportation and water, also attracted the attention of reformers.

Despite their origins in domestic concerns, infrastructure reforms also can have a substantial effect on production costs in trade-related, infrastructure-intensive industries. Consequently, infrastructure reform has become an important component of international economic policy.² The internationalization of reforms of infrastructure sectors occurred for three reasons.

First, as trade liberalization reduced the role of tariffs and quotas in affecting the ability of a firm to compete in foreign markets, inefficiencies in infrastructure industries became more likely to determine the international competitiveness of domestic industries. Specifically, inefficient domestic infrastructure can cause otherwise efficient national firms to lose both domestic and international market share to firms from countries with better infrastructure.

Second, domestic infrastructure policies can create substantial indirect trade barriers. For example, a highly inefficient transportation system can effectively protect inefficient domestic firms from competition from superior foreign suppliers by increasing the advantage of close proximity between buyers and sellers.

Third, both economic integration and technological progress have caused the natural market areas of infrastructure industries to expand, frequently transcending national borders. Electricity, telecommunications, and transportation operate more efficiently if their networks are organized according to the patterns of transactions, and trade liberalization has made these patterns increasingly international. Moreover,

² Roger G. Noll, "Internationalizing Regulatory Reform," in *Comparative Disadvantage? Social Regulations and the Global Economy*, Pietro S. Nivola, ed. Brookings Institution, 1997.

adjacent networks frequently can minimize costs by sharing capacities to take advantage of differences in the time-patterns of usage of infrastructure services during the day and year. Thus, regulation in these sectors rarely has purely domestic effects, and when it does, the reason often is that nations within a region are taking advantage of opportunities for integrating their networks.

Although infrastructure reform programs differ among nations, most are based on creating market institutions and some degree of competition. The purpose of these reforms is to generate more powerful financial incentives for infrastructure suppliers to improve the performance of these industries. The reforms have three common elements: (1) corporatizing and usually privatizing incumbent ministerial operators; (2) permitting and even encouraging competition in markets that had been protected monopolies; and (3) creating a regulatory body that is independent from the incumbent operator.

Internationalization of at least some elements of reform is attractive because it contributes to the efficiency goals of policy reform while sidestepping some of the political obstacles to effective reform. Infrastructure reform, when implemented in each nation independently, can become bogged down in a quest for national advantage that undermines development for everyone. An obvious example in telecommunications policy is termination charges for international calls, in which many nations – including those in West Africa – set exorbitant rates for the purposes of implicitly taxing foreigners to pay for part of the domestic network. Of course, if all nations follow the policy, the primary effect is to suppress international communications, along with opportunities for further economic integration that require inexpensive communications. Similarly, infrastructure operators that are established in one nation are strong candidates for competitive entry in adjacent nations, especially in circumstances where national boundaries reflect historical divisions of colonial authority rather than natural ethnic and economic communities. Yet in the same quest for national advantage, each state is prone to favor fledgling domestic operators rather than established foreign operators who are capable of creating an integrated regional communications system. National balkanization of the industry, especially among smaller states, further reduces the effectiveness of reform. When markets naturally cross national boundaries, a regional

regulatory agreement for mutual recognition of operators facilitates the development of a seamless and competitive network.

Internationalization of regulatory policy also has important political benefits. Within a single nation, infrastructure reform, especially when debated one issue at a time, is often blocked by well-organized interest groups. But if reform becomes part of a broader international policy that covers a range of issues, all stakeholders will likely participate—making it more difficult for a single group to block it. Moreover, once the standard reform package is adopted, the credibility of the newly created regulator often is undermined by political interference on behalf of favored interests. Political interference is more difficult and costly when regulatory policy is part of an international agreement, or when the regulatory body is a multinational agency. In addition, regional cooperation may generate sufficiently large economic benefits that each nation regards deviation from negotiated agreements as too costly. Thus, multilateral regulatory agreements can accelerate domestic reform, enhance the stability and credibility of the reform process, and help countries attract much greater private investment.

Small or poor nations that lack formal institutions and technical expertise have still another reason to internationalize regulatory reform. A pragmatic response to limited national regulatory capacity is to increase policy and regulatory coordination and cooperation—and ultimately to create regional (multinational) regulatory authorities. These bodies also can be an effective means for disseminating information and expertise from countries that are further along the reform path to nations that are just beginning their reform process.

Regional regulatory cooperation and the eventual creation of a regional regulatory authority are more feasible among groups of countries that have already made progress on regional economic integration. ECOWAS was created on the basis of the belief that regional cooperation can accelerate the economic development of the region. To that end, the community has made steady progress towards the development of a common market. ECOWAS, through the West African Monetary Agency (WAMA), has implemented the regional payments system to facilitate regional trade and has made progress in the long process of creating a common regional currency. ECOWAS also has facilitated several multi-country infrastructure projects that are designed to promote

economic integration. Within this framework, regulatory harmonization, the elimination of trade-distorting national regulations, and cooperation to overcome domestic constraints on regulatory capacity are important contributors to the economic integration, sustained economic growth, and international competitiveness of the region.

Obtaining consensus from all governments in a region for a regional regulator is not easy, due to different attitudes, approaches and commitments to reform, as well as concerns about national sovereignty. Effective international regulatory policy requires considerable cooperation and trust between countries, which can be built through an assembly of regulators such as WATRA. As a first step, WATRA facilitates information exchange, offers non-binding advice on procedural issues (such as dispute resolution), and makes substantive recommendations on policy matters (such as standardization, interconnection, and methods for estimating costs and setting prices). Consensus for a regional regulatory body could increase as more countries reform, and the gains from regional policy coordination and trade become more apparent.

III. ECOWAS—Historical Background

The Economic Community of West African States (ECOWAS) was founded on May 28, 1975, when sixteen Anglophone, Lusophone and Francophone countries signed the Treaty of Lagos. ECOWAS is comprised of 15 countries which include: Benin, Burkina Faso, Cape Verde, Cote d'Ivoire, Gambia, Ghana, Guinea, Guinea-Bissau, Liberia, Mali, Niger, Nigeria, Senegal, Sierra Leone, and Togo (figure 1).³ The primary objective of ECOWAS is to promote regional co-operation and integration, and to create a unified economic space in order to facilitate economic growth and development in West Africa. The preamble to the 1975 ECOWAS Treaty notes that the community was created because of the "...overriding need to accelerate, foster and encourage the economic and social development of member states in order to improve the living standards of their peoples."⁴ ECOWAS saw regional integration as a multistage process leading to a customs union and ultimately to the establishment of an economic and monetary union that would raise the living standards of its people and enhance economic stability in the region.⁵ The key elements of ECOWAS' policy have been to eliminate all tariffs and other trade barriers between the member states and to establish a customs union, a unified fiscal policy, a common currency and coordinated regional policies in the transport, communications, energy and other infrastructure facilities.⁶

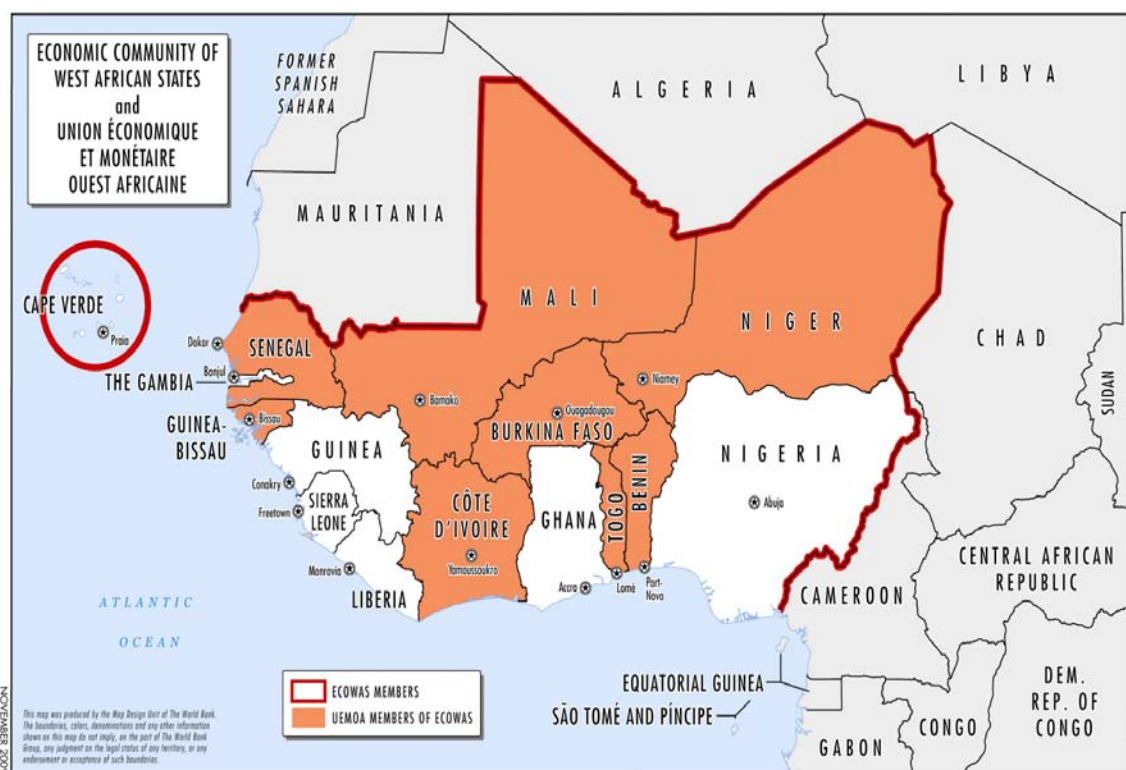
³ In 2000, Mauritania withdrew its membership from ECOWAS.

⁴ Aryeetey, E. 2001. "Regional Integration in West Africa". Working Paper No. 170. OECD Development Centre.

⁵ Lecture by ECOWAS Executive Secretary, Mohamed Ibn Chambas: "The ECOWAS Agenda: promoting Good Governance and Regional Economic Integration in West Africa".

⁶ Source: Centre for Democracy and Development, 2002: "From Regional Security to Regional Integration in West Africa: Lessons from ASEAN Experience".

Figure 1 Economic Community of West African States



ECOWAS exists alongside other sub-regional integration arrangements and inter-governmental organizations (Table 1). The Communauté des Etats de l’Afrique de l’Ouest (CEAO) led the scene in 1973 with the establishment of a joint central bank, the BCEAO. The now dormant Mano River Union (MRU) was established also in 1973. Another community in the same region is the West African Economic and Monetary Union (UEMOA). UEMOA was created in 1994 by the Francophone States of West Africa, all members of the CFA zone. The UEMOA countries share a single currency and monetary policy. As of 2000 intra-UEMOA tariffs were lifted and common external tariffs were applied to all imports. In recent years, and with the support of France, UEMOA has intensified its efforts to achieve policy coordination among its member states. These efforts culminated in the creation of a common Francophone West African Stock Exchange in Abidjan. The Francophone countries have also tried to streamline their commercial law, within the treaty of the Organization for the Harmonization of

African Business Law (OHADA). Performance among UEMOA countries seems to be at a respectable level compared to the rest of the West African countries.⁷

The Gambia, Ghana, Guinea, Nigeria and Sierra Leone, formed another community within the ECOWAS region, the West Africa Monetary Zone (WAMZ). These countries intend to form a monetary union, using the ECO as their common currency. The launching of the union was postponed from 2005 to 2009, due to these countries' difficulties in meeting the primary convergence criteria.

Table 1 Membership of Regional Integration Arrangements in West Africa

ECOWAS-1975	CEAO-1973 ⁴	MRU-1973	UEMOA-1994
Benin	Benin	Guinea	Benin
Burkina Faso	Burkina Faso	Liberia	Burkina Faso
Cape Verde	Côte d'Ivoire	Sierra Leone	Côte d'Ivoire
Côte d'Ivoire	Mali		Guinea Bissau
Gambia	Mauritania		Mali
Ghana	Niger		Niger
Guinea	Senegal		Senegal
Guinea-Bissau			Togo
Liberia			
Mali			
Niger			
Nigeria			
Senegal			
Sierra Leone			
Togo			

Note: Mauritania left ECOWAS in December 1999.

Source: Aryeetey (2001).

The multiplicity of parallel and sometimes competing activities under the umbrella of different inter-governmental organizations within the West African Region has often hampered the progress of ECOWAS. Another often-cited problem seems to be the division into Francophone and Anglophone zones.

Since its creation, ECOWAS has signed a number of agreements on, among other things, free movement of people goods, transport facilitation, monetary integration, and air-transport liberalization. Although many of these agreements have never been fully implemented, ECOWAS has had a number of achievements such as: the resolution of political and social conflicts among some of its member states, the introduction of the

⁷ K. Asenso-Okyere. 2005. "Reflections on Economic Development Policy in West Africa." Paper presented at a seminar at the International Food Policy Research Institute (IFPRI), Washington, DC, July 2005.

ECOWAS travel certificate for member states, the establishment of the Brown Card insurance scheme, the creation of the West African Unit of Account to facilitate international payments within the region, and the elimination of some tariffs.

Trade Liberalization

Trade facilitation has been one of the main objectives of ECOWAS since its establishment. Early attempts at trade liberalization were hampered by the unwillingness of many countries to implement the provisions of the ECOWAS treaties relating to tariff and non-tariff barriers.⁸ Thus, the difficulty of implementing the treaties of the community Treaties is the most often-cited obstacle to integration. This is partly due to the very limited statutory powers of ECOWAS to force governments to implement the trade liberalization directives and agreements. Other problems include the: relatively low levels of intra-regional trade (during 1994-2000 the share of intra-community trade was 19.8% for exports and 20.9% for imports);⁹ overlapping integration arrangements with many countries belonging to more than one regional community; lack of political commitment; and the inadequacy of compensation mechanisms. In addition, trade has been impeded by corruption on the borders and inadequate transport infrastructure.¹⁰

Recently ECOWAS has paid considerable attention to trade integration and has set up a “Roadmap to the ECOWAS Customs Union.” This roadmap includes six broad categories of action that include the creation of a free trade area, a Common External Tariff (CET), and the harmonization of customs legislation and regulation. With the help of the USAID and the ECOTRADE project, ECOWAS has expanded the UEMOA’s CET throughout the region. In May 2005, ECOWAS adopted the plan to implement a common external tariff that will come into force in December 2007. The planned CET encompasses four tariff bands (20%, 10%, 5%, 0%). The newly created ECOWAS CET Management Committee has the oversight responsibility for the CET.¹¹

⁸ OECD. 2001: “Regional Integration in West Africa”.

⁹ United Nations Economic Commission for Africa, 2004: “Assessing Regional Integration in Africa”

¹⁰ www.panos.org.uk.

¹¹ Sources : www.usaid.gov, www.aird.com.

ECOWAS-EU Negotiations

The adoption of a common external tariff was a prerequisite for the ECOWAS – EU negotiations on the Economic Partnership Agreement (EPA). EPAs are trade and development agreements that the European Union is negotiating with the African, Caribbean and Pacific Group (ACP). EPAs will replace the trade chapters of the 2000 Cotonou Agreement between the EU and the ACP countries. The exemption of these chapters from the WTO law expires in 2008, requiring both parties to reach a WTO-compatible agreement by then.

The EPA negotiations were launched in Brussels in September 2002 and were followed by a second phase of negotiations between the EU and the ACP regional communities. The first two regions that entered into the second phase of negotiations were West and Central Africa. ECOWAS (+Mauritania) launched the second phase of negotiations in October 2003. Since the launching of the second phase, there have been discussions on customs issues, a free trade area, EU import standards and the trade of services. Five technical working groups were set up to discuss the main issues to be covered by the EPA and its impact on the competitiveness of the different sectors.¹²

EU and ECOWAS agreed on a roadmap for EPA negotiations in 2004. According to the roadmap the EPA would enter into force on January 1st 2008. There will be progressive establishment of a free trade zone, in accordance with WTO rules, between ECOWAS and the EU for a period of twelve years beginning in 2008. The roadmap also restates the part of the Cotonou Agreement that indicates that the economic cooperation shall build on regional integration initiatives.¹³ In October 2005 the EU Trade Commissioner met with West African Ministers to discuss the results so far and agree on the next phase of the EPA negotiations, starting in 2006.

The EPA negotiations have been controversial. The EU argues that partnership agreements will provide a platform for economic diversification and greater trade, thereby improving the prospects for development and poverty reduction. Others see the EPAs as an opportunity for the deepening of ECOWAS' integration process. Critics say

¹² Source: www.europa.eu.int.

¹³ Meeting of Ministers of Trade on the Economic Partnership Agreement Between West Africa and the European Community: "Road Map for Economic Partnership Agreement Negotiations between West Africa and the European Community." Accra, 2004.

that EPAs will force poor countries to open their economies prematurely, with potentially damaging economic and social consequences. They argue that the EU, in pushing for market access by reducing tariff and non-tariff import barriers, could retard the growth of the West Africa's manufacturing and agriculture by exposing these sectors to stiff competition from established industrial powers.¹⁴

A significant issue concerning the negotiations with the EU is the budgetary impact of tariff reduction. Developing nations frequently rely extensively on tariffs for financing government because of their relative ease of collection. Estimates of the prospective impact of tariff elimination between EU and ECOWAS indicate that some of the participating countries could lose more than 20% of their government revenues.¹⁵ A study by the Hamburg Institute of International Economics (HHIA) concludes that customs revenue would decline, and that in some countries overall budget revenues would be very large, reaching almost 80% in Cape Verde.¹⁶ However, the same study finds that if ECOWAS opens its market to the EU, trade creation would be much larger than trade diversion for all member states except Ghana. The study also raises the point that ECOWAS could abstain from the EPA and have recourse to non-reciprocal trade preferences provided by the "Everything But Arms" EU initiative for Least Developed Countries or the improved Generalized System Preference for non-LDCs (12 out of 15 ECOWAS member states are LDCs).

The potential long-term gains from EPAs will probably involve substantial short-term adjustment costs. Without removing supply-side constraints and improving the competitiveness of the ECOWAS countries, the EPAs will not automatically translate into economic development and poverty reduction.¹⁷ Overall, the low level of development of the productive systems and infrastructures in ECOWAS and the issue of the competitiveness of its enterprises are often cited as points of concern.

¹⁴ www.panos.org.uk.

¹⁵ P. Walkenhorst, "Compensating Lost Revenue in Regional Trade Agreements".

¹⁶ Regional Workshop on the Impact of ACP-EU Economic Partnership Agreements on ECOWAS Countries, Cotonou 2004: "Conclusions and Recommendations".

¹⁷ O. B. Alaba. 2006. "EU-ECOWAS; Regional Integration, trade Facilitation and Development in West Africa." Trade Policy and Training Programme (TRPTR), Department of Economics, University of Ibadan, Nigeria.

Regional Infrastructure Initiatives

In the infrastructure sectors, ECOWAS has initiated several projects in the areas of transport, energy, and telecommunications. In several of these projects, such as the West African Power Pool, the West African Gas Pipeline, Training of West African Regulators, and the Harmonization of Telecommunications Policies, ECOWAS has been cooperating with NEPAD, EU, the World Bank, USAID and other donors.

ECOWAS' commitment to infrastructure is signified by the provisions of its founding treaty, which calls for cooperation in transport, communications and tourism:

“Article 32 – Transport and communications

For the purpose of ensuring the harmonious integration of the physical infrastructures of Member States and the promotion and facilitation of the movement of persons, goods and services within the Community, Member States undertake to evolve common transport and communications policies, laws and regulations.

Article 33 – Posts and telecommunications

In the area of telecommunications, Member States shall:

- develop, modernize, co-ordinate and standardize their national telecommunications networks in order to provide reliable interconnection among Member States;
- complete, with dispatch, the section of the pan-African telecommunications network situated in West Africa;
- co-ordinate their efforts with regard to the operation and maintenance of the West African portion of the pan-African telecommunications network and in the mobilization of national and international financial resources.

Member States also undertake to encourage the participation of the private sector in offering postal and telecommunications services, as a means of attaining the objectives set out in this Article.”¹⁸

In the telecommunications sector, the ECOWAS member states, like the rest of Africa, are struggling with very low penetration, poor service reliability and quality, and instable and incomplete policy reform (see Annex A). However, most West African

¹⁸ ITU. 2005: “West African Common Market Project: Harmonization of Policies Governing the ICT Market in the UEMOA-ECOWAS Space – Final Reports”.

countries have made important reforms. With the exception of Sierra Leone, the Gambia and Liberia, all have adopted a basic telecommunications law, have established a regulatory body, and have introduced some competition in the mobile segment of the market.¹⁹ Moreover, seven member states have privatized their state-owned operators.

Despite these recent reforms, problems remain. Penetration is still very low (only Cape Verde is listed in the medium category of the ITU Digital Access Index), rural areas remain unconnected, and prices are considered out of reach for much of the population. The newly created regulatory bodies are not considered autonomous, as they lack the power to make and to enforce regulations, and many face serious technical capacity problems. Moreover, the small size of the region's telecommunications markets and the perceived high-risk policy environment hamper the attraction of the requisite investment.

ECOWAS has undertaken several regional projects in order to strengthen the regional backbone infrastructure, encourage competition, and integrate the sector in member countries. Its ultimate objective is to create a common liberalized market by 2007, with fully open interconnected networks and a teledensity of at least 10%. The ECOWAS ICT Task Force has been established with the aim of harmonizing ICT policies in the member countries.

Regional Telecommunications Projects

Two of the earliest telecommunications projects were INTELCOM I and II. INTELCOM I was launched in 1984 and ended in 1994 with the completion of thirteen interstate telecommunications links. The objective of the program was to improve and expand the sub-regional telecommunication network. The program achieved 95 percent of its initial objectives, as confirmed by the evaluation undertaken by the International Telecommunications Union (ITU).

After the successful implementation of the first program, ECOWAS' Secretariat launched INTELCOM II in 1997. The main objectives of the second program were to provide the community with a reliable and modern telecommunications network, capable of offering a wider variety of services. The upgraded network would reduce transits

¹⁹ITU. 2005: "West African Common Market Project: Harmonization of Policies Governing the ICT Market in the UEMOA-EOCWAS Space – Final Reports".

through countries outside Africa and improve direct links between the member states²⁰. During the program's implementation, 32 interstate links were planned, mostly between capital cities. The links would be realized on a bilateral basis with the participation of operators and assistance through the NEPAD action plan.

The West African Telecommunications Regulation Association (now Assembly) was formed in 2002 to serve as a vehicle for harmonizing policies and integrating telecom development in the region. Its primary purpose was to establish cooperation among West African States in the field of telecommunications regulation. WATRA also aims at benefiting more countries from the limited resources available in the region for the development of regulatory frameworks for the promotion of ICT development.

Harmonization of Telecommunications Policies Project

In the same year, the ECOWAS secretariat – supported by the World Bank and Public Private Infrastructure Advisory Facility (PPIAF) – launched a program to develop a common framework to facilitate the harmonization of national telecommunications policies. The community commissioned a consultant team to develop a telecommunications harmonization study (launched in 2002) for integrating national legislative and regulatory arrangements, with a view to evolving a telecommunications common market for the region²¹. The primary objective of the study was to create a plan and timetable for harmonizing telecommunications policy in the ECOWAS region. The study evaluated alternative approaches, especially from the perspective of potential investors. The overall conclusions of the study are as follows:²²

- substantial work has already been accomplished to create the legal framework in the member states;
- several member states have adopted laws and regulations that largely meet expectations of international best practice;

²⁰ G. Chukwudum Nwaobi. "Understanding the Determinants of ICTs Diffusion in ECOWAS Region: A Cross-Country Investigation." Quantitative Economic Research Bureau, Gwagwalada, Abuja, Nigeria.

²¹ The World Bank, 2005: "Connecting Sub-Saharan Africa: A World Bank Group Strategy for Information and Communication Technology Sector Development".

²² Deloitte Touche Tohmatsu for the World Bank. 2003: "Harmonization of Telecommunications Policies in ECOWAS – Final Report".

- the ECOWAS Treaty and certain protocols adopted under it provide the legal framework within which member states may act to achieve maximum harmonization in line with the centralized harmonization model;²³
- although the ECOWAS legal framework “looks good on paper,” there has been a failure to follow through expressed ideas and principles, and ECOWAS has a disappointing track record in advancing its Treaty initiatives;
- resources are insufficient to perform enforcement and other regulatory functions.

Other challenges are the different legal traditions of the member states, their different levels of liberalization, and the trade-offs that will affect the relative gains accruing to individual countries.²⁴

The study also provided a set of recommendations with the view of attracting investment in the sector. First of all, the study recommends ECOWAS to adopt the Centralized Harmonization Model, for which the legal framework for implementation already exists both at the country and at the Treaty level. It also proposed an Implementation Schedule and a Draft Protocol as a starting point for discussion and negotiation among ECOWAS members.

The study identified two key shortcomings of ECOWAS. The first is the inability of ECOWAS to enact upon its decisions. Under the Treaty, member states are required to take all the necessary steps to implement community policy objectives into their national legislation, but the track record shows that this frequently does occur. The lack of implementation stems partly from the fact that there is no enforcement authority to guarantee follow through on Community decisions. The recent creation of a Community Court of Justice is a step to the right direction.²⁵

The second key area of concern is the lack of resources within ECOWAS and each member state. The lack of resources goes beyond the financial and budgetary levels to include human resources, training, and expertise.

²³ The study reviewed four harmonization models: centralized harmonization, separated jurisdiction, centralized policy/national implementation and decentralized harmonization.

²⁴ It should be noted that prior to the circulation of the Final Report, ECOWAS organized a workshop to review the draft study. The delegates of eleven Member States, ECOWAS staff, and various representatives from international organizations made comments on the draft conclusions and recommendations of the final report.

²⁵ Conclusions of the Special Event of Sahel and West Africa Club, Accra 2002: “Towards a better Regional Approach to Development in West Africa”.

West African ICT Common Market Project

Another ECOWAS initiative is the ITU West African ICT Market Harmonization Project, which is being financed by the European Commission. The aim of the project is to promote policy development and regulatory reform in the region and to build human and institutional capacity in the field of ICT and regulatory reform through training, education and knowledge sharing. The first phase of the project was launched in 2004. A series of workshops were held under the coordination of WATRA.

The project took into account the ECOWAS vision – *to have a single liberalized telecommunications market, following the adoption of uniform legislative and regulatory frameworks, and the interconnection and integration of national networks*. The project also builds on the recommendations and conclusions of the World Bank study on the Harmonization of Telecommunications Policies in ECOWAS²⁶.

The project issued a final set of guidelines in the following categories:²⁷

- establishing a national ICT policy and law;
- interconnection;
- licensing;
- numbering;
- radio spectrum management;
- Universal access and universal service.

Guidelines for establishing a national ICT policy

ECOWAS has adopted the following guidelines relating to a model ICT Policy:

- ICT policy must give prime focus to the sector
- ICT Policy should address the following objectives:
 - Increasing the benefits from information technology for the country

²⁶ ITU. 2005: “West African Common Market Project: Harmonization of Policies Governing the ICT Market in the UEMOA-ECOWAS Space – Final Reports”.

²⁷ The following text consists of edited parts of the guidelines from: ITU, 2005: “West African Common Market Project: Harmonization of Policies Governing the ICT Market in the UEMOA-ECOWAS Space – Final Guidelines”.

- Building and contributing to a competitive national and regional ICT sector respectively
 - Providing affordable, ubiquitous and high quality services
 - Creating an enabling environment for sustainable ICT diffusion and development
 - Providing wide-spread access to ICT, including broadband through relevant universal access policies and programs
 - Encouraging innovations in technology development and use of technology
 - Promoting information sharing, transparency and accountability and reducing bureaucracy within and between organizations, and towards the public at large
 - Attaining a specified minimum level of information technology resources for educational institutions and government agencies
 - Providing individuals and organizations with a minimum level of ICT knowledge, and the ability to keep it up to date
 - Helping to understand information technology, its development and its cross-disciplinary impact.
- Key Challenges to the adoption of an acceptable and sustainable ICT Policy include:
 - Promotion of stakeholder awareness
 - Guarantee of broad-based stakeholder participation and planning
 - Political buy-in/champions on a local and national level
 - Coordination with other policies/priorities
 - Relevance and usefulness of policy and projects
 - Transparent decision making procedures
 - Sustainability of projects (training, financing, appropriateness of technologies)
 - Regional and international framework
 - Coordination with regional initiatives

Guidelines for a model ICT law

The EU/ITU guidelines focus on the basic elements of telecommunications or ICT law, including: functions of the Minister and the Commission, financial and related provisions, licenses and frequency authorizations, interconnection and access to facilities,

universal service/access and prices, dispute resolution, enforcement of the law, investigation and inspection, fair competition and equality of treatment and sanctions

Guidelines for Interconnection

The ITU/EU study proposes a number of guidelines for interconnection that are intended to facilitate the establishment of a transparent, fair and accessible regulatory environment to prepare the West African countries for opening to full competition. The study also includes a suggested timeline for implementation in view of the ultimate objective of opening of the market in 2007.

The guidelines on interconnection are divided in four categories:

- Guidelines on aspects relating to infrastructure access
- Guidelines on aspects relating to competition
- Guidelines on aspects that are specific to operators with significant market power (SMP)
- Guidelines on aspects specific to the settlements of disputes

The following recommendations on the existing regulatory framework for interconnection were provided by the study:

Recommendation 1: Equally important tools, such as carrier selection, number portability, co-location and local loop unbundling, should be included in legislation, interconnection regulations, or orders and supplemented by necessary regulatory decisions.

Recommendation 2: A definition of relevant markets is needed, and a definition of dominant/SMP operators based on international best practice.

Recommendation 3: The obligations of dominant/SMP operators should be listed in detail, and rules and conditions promulgated for their implementation.

Recommendation 4: Dominant/SMP operators should be obliged to issue an interconnect reference offer every year, implement accounting separation, and undergo an annual audit of accounts, in addition to orienting their tariffs towards costs.

Recommendation 5: It is recommended that a time limit should be established for settling disputes relating to interconnection, allowing a margin for the event that the allotted time proves to be inadequate. The referral procedure should be specified in a separate decree.

Recommendation 6: All the interconnection-related decrees of the West African countries should be revised. A special implementation calendar should be established for the regulatory tools, based on the opening to competition, of the fixed network in particular, within each of the countries concerned by this study.

Guidelines for licensing

The guidelines for licensing reflect international best practice as follows:

- Basic Principles: the basic principles refer to competition, harmonization of procedures, and provision of service between ECOWAS member states. In these aspects there is a need to harmonize the categories of telecommunications networks and services as well as licensing procedures. ECOWAS member states will strive to define and adopt common classifications of telecommunications networks and services as well as common licensing procedures. Member States shall coordinate to the extent possible their licensing procedures for companies wishing to establish or exploit telecommunications networks and/or a telecommunications services in more than one ECOWAS member state so that a company would to only complete one authorization request which it can subsequently submit in the various member states.
- Market structure: the guidelines for market structure fall under the following categories: competitive framework, licensing regime, no barriers to entry, level of intervention and proposed market structure. It is recommended that infrastructure-based competition is promoted to the largest extent possible given that this model has the advantage of favoring a maximum degree of competition while accommodating simultaneously the development of the sector in terms of universal service. Regarding the licensing regime the recommendation is to promote technology neutrality to the greatest extent possible e.g., not to specify technologies such as GSM, CDMA or UMTS) and/or service (e.g. unified license which does not limit the activities such as fixed or mobile). Nevertheless, in the interests of transparency and simplicity, member states may decide that fixed and mobile networks should be licensed separately. Member States should impose no limits which are not in conformity with their respective regulations on the number

of operators or service providers in the market. If a member state limits the number of licenses, such a limitation must be justified. Regarding the level of intervention, the Licensing Framework consists of three levels of intervention, ranging from individual licenses to class license (authorization or declaration) to open entry. Different telecommunications networks and services will be categorized according to the adapted market structure.

Guidelines for numbering

The ITU/EU study lists a number of general approaches for numbering and some key points that can be applied to any numbering scheme. A detailed listing of these points is beyond the scope of this study.

Guidelines for radio spectrum management

The guidelines for radio spectrum management are divided in 17 sub-categories that include among others: interference issues, global and regional regulatory framework, role of regulators, radio spectrum coordination, economic principles of spectrum management, auctions, and spectrum pricing.

Guidelines for universal access and universal service

The guidelines are listed in eight categories. Below we list some of the most important guidelines for each category:

Creating an enabling regulatory and policy environment

- Governments must, at the highest level, identify ICT as a tool for socio-economic development. In doing so, governments should designate a national focal point (ministry, government department, other entity) for ICT development.
- National Regulatory Authorities (NRAs) must be established and given the statutory authority to play a key role in implementing universal access policies first through addressing the market efficiency gap (letting the market deliver universal access/service), and second through the true access gap. NRAs should be responsible for implementing policies directed towards assuring the best

quality reliable services at the most affordable prices that meet the needs of consumers—existing and future.

Designing policies and determining regulatory reform measures

- Formulate a national policy that identifies appropriate and realistic universal access/service objectives that take into account the differences between universal access—public access to ICTs—and universal service—household or private access to ICTs.
- Conduct periodic public consultations to the extent possible with stakeholders to identify their needs and modify universal access/service and regulatory policies accordingly.
- Design universal access/service policies, regulations and practices in order to create incentives for the private sector to expand service.
- Establish a fair and transparent telecommunication regulatory framework that promotes universal access to ICTs. Allow the market to address universal access/service to the greatest extent possible and only intervene where the market has failed or it is anticipated to fail.

Promoting innovative regulatory policies

- Promotion of access to low cost broadband interconnectivity should be integrated from the local level to the international level. Governments, business, non-governmental organizations and international organizations should be involved.
- Adoption of regulatory regimes that facilitate the use of all transport mechanisms, whether wireline, power line, cable, wireless, including Wi-Fi, or satellite.
- The NRAs should implement harmonized spectrum allocations consistent with the outcome of ITU Radiocommunication Conference process and each country's national interest.

Access to information and communication infrastructures

- Provide services in a competitive framework, using new technologies that offer both innovative services and affordable pricing options

- A full range of public access options can be developed, including the creation of public tele-centers and multi-purpose community centers.

Guidelines for providing subsidies: finance and management of universal access policy

- Any funding or subsidies provided must be targeted and determined and delivered in a manner that is transparent, non-discriminatory, cost-effective, and competitively neutral.
- Subsidies must be targeted.
- Subsidies can be provided using several means including: universal service funds, competitive minimum-subsidy auctions, and public access projects can be designed to achieve long-term financial self-sustainability.

Guidelines on monitoring and reviewing policies

- Countries should adopt measurable targets for improving connectivity and access in the use of ICTs which can be based on distance, population density or time taken to have access to ICTs.
- Countries should review universal access/service policies, regulations, targets and practices periodically to adapt to the evolving nature of ICT services and the needs of end users.

In October 2005 regulators from the fifteen countries signed an agreement to adopt the common regulatory framework for their national ICT policies, based on the ICT/EU guidelines. The guidelines will be submitted to the national communications ministers and heads of state of ECOWAS and UEMOA to be approved as directives to be applied throughout the region.²⁸ In May 2006 in Abuja, the ministers in charge of telecommunications and ICT adopted the harmonized ICT regulatory decisions for the establishment of an integrated ICT market in the ECOWAS region. Upon adoption by the ECOWAS council of ministers in June 2006, the implementation phase begins.²⁹

²⁸ Source: ITU press release October 7th 2005.

²⁹ Source : www.itu.int.

Regional Roaming Project

Another telecommunications integration project was initiated in 2003. ECOWAS Council mandated the Executive Secretariat to explore the feasibility of establishing a region-wide GSM roaming facility based on the use of one SIM card in all Member States. Currently it costs more to make calls to Member States within the region than to Europe and the United States. Although a number of GSM service providers have signed bilateral roaming arrangements these usually involve post paid customers, when more than 90% of the GSM subscribers are pre-paid customers.³⁰

A subsequent study on GSM roaming confirmed the technical and economic feasibility of cross-border connectivity but stressed the necessity of substantial investment in requisite infrastructure. To this end the report recommended that the embargo on the use of the Special Fund for Telecommunications (SFT) be lifted, so that member states could access it for the construction of uncompleted sections of the links³¹.

In January 2006, the ECOWAS Council of Ministers endorsed the recommendations of the study for the GSM roaming facility and approved the use of SFT to construct the identified gaps in inter-state links. At the same time, ECOWAS announced that two sub-groups had been set up by its technical branch on GSM Roaming to address the issues of interconnectivity and tariff harmonization that will facilitate the introduction of a region-wide roaming facility by the end of the year.

The ECOWAS Technical Group has also proposed some measures for implementation under a tripartite Memorandum of Understanding (MOU) involving member states, telecommunications regulators and GSM operators that will enhance the creation of an environment conducive to the goals of the roaming project. The measures include the adoption of laws that will promote the implementation of cross-border connectivity, the liberalization of international gateways to include mobile networks, the implementation of a fiscal incentive regime that will reduce tariffs on international calls and the operation of a regulatory framework that will support the full utilization of transmission capacity. The MOU calls for the introduction of appropriate incentives that would encourage member states to develop their transmission capacities and upgrade

³⁰ Sources: www.panapress.com, www.sunnewsonline.com.

³¹ Source: www.businessdayonline.com.

their networks. Member States are also required under the MOU to, among others, work towards the inter-operability of their networks, enter into public private partnership agreements to ensure cross border connectivity and refrain from actions that would prevent or distort competition in the sector³².

Cross-Border Connectivity Project

Within the context of the ITU/EU work, the first World Bank harmonization study, and the ECOWAS Technical Group on GSM Roaming work, ECOWAS and WATRA initiated a cross-border connectivity project. The aims were to identify connectivity gaps and regulatory, commercial and policy obstacles to cross-border connectivity and develop a strategy addressing these gaps³³.

According to the study, traffic is often routed through third party countries (mostly Europe and the United States), making cross-border telecom services costly. There is also reliance on older technologies for intra-regional and long-haul traffic that raises concerns on speed, capacity and costs. More operators rely on satellite for both the exchange of national and sub-regional traffic. The SAT-3 submarine cable, introduced in 2002, offers the most capacity and international connectivity, but it is run by incumbents that exert monopolistic pressures on prices and limit the access of countries not directly connected to the cable. The high tariffs have held back the utilization of the system.

According to the report some of the capacity constraints could be alleviated by alternative infrastructure providers who run other distribution networks such as transport, electricity, oil and gas and deploy their own communications networks along their long-haul routes to service their own needs. There are currently two cross-border fiber routes of this form in use: the Manantali Hydro Electric Power project linking Mali and Mauritania with Senegal and the Chad-Cameroon pipeline.

In addition to the technical obstacles, the report states that coordination and cooperation among ECOWAS member states is limited. The lack of cooperation is found at all levels: between national regulators, between national governments and

³² Source: allafrica.com.

³³ Spintrack AB. 2005: "Cross-border Connectivity Initiative in the ECOWAS Region - ECOWAS Telecommunications Policy Note" and "Cross-border Connectivity Initiative in the ECOWAS Region – Strategies and Recommendations Report".

international organizations, between state-run operators, between incumbent wire-line access providers and entrants. Also, many international gateways are run by incumbents, raising cross-border issues about interconnection and pricing.

According to the study, since intra-regional trade represents only 5-10% of international voice traffic in the region, the sub-regional network's main function should be to provide to landlocked countries and countries without connection to international infrastructure access to submarine cable landing points. The study lists a number of gaps that would become the main missing links in a backhaul network facilitating access for all ECOWAS countries that are not yet connected to the Sat-3/WASC cable or other future international submarine fibre systems.

Another issue is who should invest, own, and operate new cross-border links. According to the study the case for investing in cross-border infrastructure rests on the traffic growth generated by the private operators, not incumbents. These operators tend to construct their own infrastructure wherever possible, using satellite connectivity. Only in a few cases do they establish cross-border infrastructure. For private operators to use the cross-border networks of incumbent operators, a market-based solution must be implemented.

The study identifies a number of policy and regulatory safeguards that would create an enabling regional environment for the success of the cross-border initiatives. First of all, it recommends institutional strengthening and capacity building in the two main regional agencies, ECOWAS and WATRA, in order for them to be able to regulate harmonize and implement ICT policies.

The other basic recommendations are as follows:

- Lower Sat-3/WASC tariffs to incentivise greater international traffic flows onto the cable.
- Harmonize international gateway licensing procedures to help overcome 'artificial' barriers within the ECOWAS region to flows of intra-regional traffic.
- ECOWAS Intra-Regional Interconnection Service: ECOWAS countries need cross-border interconnection agreements between states to allow traffic flow. In April 2005, at least two out of the five cross-border fiber links were not operational pending the finalization of interconnection agreements.

- International termination charges: The effect of implementing a transit service within ECOWAS is that traffic from an operator in one country can flow to another uninhibited by tariffs or licensing barriers.

WATRA's Satellite and Wireless Guidelines

In May 2006, WATRA proposed guidelines on Satellite and Wireless regulation. These guidelines were prepared by WATRA in the context of the Catalysing Access to ICT in Africa (CATIA) program. The initiative aimed to develop new regulatory practices that reflect the emerging wireless technologies in order to attract more investment in the region and ultimately improve access and ICT service delivery. The initiative is also in line with ECOWAS' aim of promoting and encouraging the harmonization of regulations in the region. The guidelines take into consideration international best practice in satellite policy, initiatives for the harmonization of wireless regulation in other regions, as well as other ECOWAS' initiatives for the harmonization and improvement of the telecommunications sector³⁴.

The key elements of these guidelines are the following:³⁵

Policy and regulatory framework

- Urgent steps need to be taken to provide realistic policy frameworks and regulatory regimes to facilitate a more aggressive adoption of wireless communications technologies.
- Key policy changes to be implemented to facilitate the increased deployment of wireless systems will include: independence of regulators, transparent licensing procedures, establishment of competition safeguards, transparent and non-discriminatory universal service obligations, adoption of lower licensing fees and taxes in line with global trends.

Satellite and wireless regulation, policies and principles

³⁴ WATRA. 2005. "WATRA Guidelines on Satellite and Wireless Regulation – Final Report."

³⁵ The following is edited text from WATRA Guidelines.

- Generally, the following principles are considered as key issues for wireless regulation: transparency of rules and policies, content and technology neutrality, protection of public safety, "Open Skies" policy to the extent possible, minimal spectrum management regulation and fair competitive access (non-discriminatory market access).
- Transparency to be facilitated by the publishing of information on rules and policies regarding telecommunications in dedicated websites.
- Governments should encourage service neutral regulation as far as possible.
- Regulatory bodies in the region are encouraged to maintain technology-neutral regulatory policy principles.
- With regard to licensing of satellite and wireless services, regulation is required to protect public safety.

Spectrum Management:

- Governments should examine the extent to which spectrum assignments for public services are being efficiently used regularly.

Licensing wireless and satellite networks:

- WATRA should encourage harmonization of licensing for satellite services by adopting common licensing rules.
- WATRA should progressively implement a policy of non-limitation of the number of licenses; similarly, there should be no limit to the number of earth stations that a licensee may wish to operate. However, member states may limit the number of individual licenses for any category of telecommunications services and for the establishment and/or operation of telecommunications infrastructure, but this should only occur to the extent required to ensure the efficient use of radio frequencies.
- When applying the "first-come, first-served" method in allocating scarce resources, governments should set strict rules in order to ensure that license applicants have genuine need for the spectrum.

- Where auctions are used for granting licenses, WATRA members should be aware that license duration is an important consideration.
- WATRA members should negotiate with caution while granting licenses through auctions in order not to bar access to the market for other operators for an unreasonably long period of time.
- While it is up to individual governments to decide which licensing approach (e.g. auctions, beauty contest, first-come, first-served, etc), is the most appropriate to their environment, they should ensure that regardless of the method chosen, the process is objective, transparent, non-discriminatory and proportionate, ensuring the optimum use of the spectrum and the preservation of public interest.
- WATRA should encourage the adoption of "Open Skies" policies which would permit increased access to orbital resources, regardless of the satellite operators' country of origin.
- WATRA member states should establish a harmonized list of licensing conditions that may be required from license applicants.
- WATRA should promote in the region, the application of harmonized license duration which should be extended to the maximum duration possible.
- License revocation should only take place in exceptional cases--governments should instead apply sanctions for minor breaches of license conditions and impose financial penalties, as appropriate.

Licensing Fees:

The following principles are recommended for setting licensing fees:

- It is considered appropriate to have fees only for satellite and wireless services i.e. annual license fee and frequency usage fee.
- The annual license fee is to be treated as an administrative fee based on transparent cost recovery schemes determined by actual or projected costs of the regulator which are in turn allocated among operators on the basis of revenues, types of services etc.

- In a harmonized environment, all WATRA members will adopt the same principles in determining the costs to be used for calculating license fees. These fees may not be the same but must be comparable.
- Administrations costs incurred and charges collected by regulators should be published annually to promote transparency.

Mutual Recognition of Type Approvals:

- WATRA members are encouraged not to duplicate the regulatory efforts of other countries, or impede the importation of transmission equipment though potentially onerous type approval requirements.
- WATRA members should, as far as possible, accept equipment approvals and certificates issued by other countries, or by recognized international certification bodies so as to eliminate the need for type approval requirements on a country-by-country basis.
- WATRA should put a regional mutual recognition and conformity assessment procedure in place to be adopted by its member states. This would include testing centers and issuing type approval certificates.

Implementation of the Guidelines and Enforcement of Regulations:

- WATRA members to review and adopt the Guidelines.
- WATRA Working Groups to develop action plans in line with priority areas identified by WATRA Administrations.
- WATRA and CATIA to provide support to member states to make policy changes as per the Guidelines and national priorities.
- WATRA members should establish capacity (human resources, equipment) for monitoring the use of the spectrum to ensure adherence to the regulations.
- WATRA members to apply sanctions as necessary to ensure strict compliance with the regulations.

Other Related Regional Projects

Other initiatives in the telecommunications sector include:

- The regulatory capacity building that forms part of the EU/ITU harmonization project. The main objective of the project is to develop and provide regional ICT regulatory reform training resources and sessions tailored to the needs of the West African Region. Training will focus in the areas of cost modeling, universal access policies, competition management and economic analysis of the market, and effective regulation.³⁶
- The establishment of regional database management system in collaboration with ITU.³⁷ The ECOWAS Secretariat has facilitated the establishment of an Information Management System (SIGTEL) in partnership with ITU. Its objective is to establish an information center for potential investors in the telecommunications industry in the West African region.

The number of initiatives and projects for the integration and harmonization of the telecommunications policies in the West Africa region indicates that there is a will within ECOWAS to achieve this goal. It remains to be seen whether the initiatives will translate into reality and the guidelines and recommendations will be followed through by the Community itself and by all the member states.

³⁶ Presentation by Valerie Assoi (ITU), in Abuja, February 2005: “ITU/EC West Africa Market Harmonization Project”.

³⁷ Presentation by Lolia Emakpore (WATRA) at the 4th Africa Internet Summit and Exhibition: “Imperatives of Regional Integration and Harmonization of Policy and Regulatory Frameworks in Accelerating ICT Development”.

IV. The Benefits of Regionalizing Regulatory Policy

Until the 1980s, conventional wisdom held that telecommunications was a natural monopoly in which competition was bound to be inefficient. Now this conventional wisdom is known to be incorrect. Even in less developed nations with low telephone penetration, substantial competition already exists in most telecommunications services. Nevertheless, in some components of telecommunications competition is weak, in part because of the inheritance of a former state-owned monopoly provider of wire-line access and backbone transmission services. Despite the irresistible spread of technology-driven competition, direct regulation of some aspects of telecommunications is necessary until the transition to a reasonably competitive sector is complete. Regulation can ensure fair treatment of customers who still lack the protection that comes from the availability of competitive alternatives. Regulation also can ensure nondiscriminatory access of would-be competitors to bottleneck telecommunications facilities that are controlled by the incumbent firms. If the incumbent telecommunications entities were to operate completely without regulatory restraint, they could use their control of bottleneck facilities to force rivals to bend to their will or to destroy those rivals altogether (box 1).

Box 1 Ghana Telecom

In comparison with other Africa countries, Ghana has done relatively well in fixed line telephony. With respect to mobile telephony, Ghana's performance is not nearly as positive. Mobile telephony in Ghana started early within an African context. However, the subsequent development has not been as fast as in many other African countries.

There is probably no simple explanation for this situation, but an obvious explanation for the relatively good performance in fixed access is the partial privatization of Ghana telecom and the accompanying requirements on extensions on the number of subscribers. With regard to the less positive performance in mobile communications, one explanation could be the unclear regulatory situation in Ghana, especially in the area of interconnection. All mobile operators, the second fixed operator Westel, and the rural operator Capital telecom have had great problems with Ghana Telecom over interconnection. And, the regulator has proved to be ineffective in solving the problem. A regulator was created in connection with the overall change in the telecom environment in Ghana in 1997, but it has never had any real strength to intervene in the market in order to create a more level playing field among the operators.

Source: Frempong and Henten (2004).

The transition to a reasonably competitive telecommunications industry also can be facilitated by competition (antitrust or anti-monopoly) policy, the purpose of which is to ensure that competition is not suppressed either by collusion or combinations of competitors, or by the exercise of private monopoly power to exclude rivals from a fair opportunity to compete. In many countries, competition laws and the agencies that enforce them have proven to be especially effective at preventing vertical leveraging – that is, acts by incumbent monopolists in wire-line access or long-distance transmission from extending their market power into other services, such as wireless access, Internet services, and value-added services.

If structural reorganization in the telecommunications sector is to be successful, the regulatory regime must be effective. Research on the effects of telecommunications reforms reveals that the organization and architecture of regulatory governance is critical to the ongoing success of a telecommunications reform program. Thus, the reform process must include an appropriate mechanism of institutional governance, as well as guideposts for the substantive content of that governance. So long as regulation is necessary, if only to effect a transition to an essentially unregulated competitive market, the regulatory process is capable of executing that transition efficiently, or of obstructing and distorting it, or indeed rendering achievement of that ultimate substantive goal impossible. For this reason, the ex-ante planning of post-reform regulatory governance should give equal weight to the regulatory *process* and to the substantive regulatory *policies* that issue from that process or are effectuated by it.

The most urgent tasks for policy towards the telecommunications sectors in West Africa are to remove the remaining obstacles to competition and to improve the effectiveness of regulatory frameworks. Problems are likely to arise from inexperience with economic regulation, lack of sufficient information and technical skills to regulate effectively, and susceptibility to political interference on behalf of specific service providers or users that seek special favors.

Political Factors Influencing Regulation and the Risk of Capture

The textbook “public interest” theory of regulation presumes that the purpose of regulatory intervention is the enhancement of economic welfare via improved efficiency and that regulatory agencies faithfully pursue this objective. The “positive political” theory (PPT) of regulation explicitly challenges these assumptions. This theory seeks to explain how particular forms of regulation emerge and change by evaluating the gains and losses of various organized interests arising from alternative institutional arrangements. This model of regulatory policy decisions identifies two extreme conditions that produce poor performance by regulated firms: “capture” (when regulators work to enhance the market power of a regulated firm) and “expropriation” (when regulators refuse to allow a regulated firm to recover the reasonable long-run costs of service). According to PPT, where a regulatory agency lies on the continuum between capture and expropriation depends on how it is organized, the resources that it has, and its relationship to the political process.

One distinctive difference between public interest and political-economic theories is that the former predicts efficient prices and use of labor, whereas the latter predicts inefficiencies. According to PPT, prices will be regarded as a means of taxing some consumers to subsidize others, while labor, as an organized group, will benefit from regulation. Trade unions may align themselves with management to seek prices above costs and barriers to competitive entry, then seek to appropriate some of the resulting monopoly profits in the form of higher wages.³⁸

The PPT of regulation is based on simple but important insights. Regulation is a coercive policy instrument that can be used to provide valuable benefits to particular groups. All regulatory policy decisions are inherently conflictual in that they pit one firm against another, or suppliers against their customers. PPT views regulatory policy decisions as the result of a competition among organized interests seeking their own private gains. But this competition does not normally produce an efficient outcome due to *representation bias*: that is, some groups have few or no resources to devote to

³⁸ Noll (1983) notes that “...the key to understanding regulation is only partly in the heavy participation of organized, supply-side interests in the regulatory policy process. This can produce cartelization if others are asleep. But the rest of the story is that regulation is an extraordinarily cumbersome way to provide particularistic favors.”

influencing regulatory policy. All else equal, groups that have more resources to commit to the regulatory policy-making process will receive more benefits from regulation, at the expense of groups who are poorly represented.

Participants in the regulatory process seek to policy in several ways. One way of exercising influence is to seek intervention by political allies. Another is to submit information to regulators that supports a favorable decision. Still another is outright corruption. All of these require that an interest has financial and political resources to expend on regulatory policy-making processes. Representation bias arises because groups differ in their access to these resources.

One source of representation bias is that not all interests are equally motivated to apply the same pressure on political officials to intervene on their behalf. Political pressure here refers to a credible threat to withhold support from an official whose policy preferences and actions are unsatisfactory to that interest. Because participation is motivated by the prospect for economic gains, the resources that a group will commit to participation will be determined by their expected benefits and costs: that is, by the stakes of a group in regulatory outcomes and the costs they must incur to become effectively represented. In general, groups that are already organized, that are small and homogeneous in their interest, and that have high per capita stakes are more likely to be represented. In particular, the regulated firms and perhaps a few large users and input suppliers are likely to participate actively, while most other users are not. Moreover, firms and industries that do not yet exist because service is so poor also will not be represented.

A second reason for representation bias is incomplete information. Because information is imperfect, policy makers seek data from more expert sources. For information pertaining to the details of technology, demand and costs in an industry, those who supply services frequently have extensive private information that is necessary for making efficient policy. Because all parties can be expected to submit information that is beneficial to their interests, on balance the effect of the information that they do submit will bias policy outcomes in favor of those with relevant private information, such as the incumbent former monopoly provider.

The third source of representation bias relates to the interests and experiences of regulators. This bias arises when agencies are staffed by officials who are not fully representative of all the groups affected by a regulatory policy, whether organized or not. For example, in a parliamentary system with strong, ideologically based parties, each important economic interest (say, labor versus ownership, or one industry versus another) may be represented by only one party, so that swings in the partisan control of government cause swings in the identity of the interests that regulators will favor. In addition, regulatory officials may be inclined to favor some interests for other than political reasons. For example, regulators may expect to have short government careers, and so may seek to enhance their post-regulation employment by favoring a likely future employer. Or, some specialized skills of regulators may be obtained or usefully applied only in organizations that actively participate in the regulatory process, so that regulators naturally are inclined to think like those who are represented before their agency. An example of a common source of representation bias in newly liberalizing countries arises when the staff of the regulatory agency is selected from among the staff of the incumbent service provider or the ministry that oversees its operation.

Representation bias can lead to the common problem of regulatory capture because regulated firms are generally much better organized and able to manipulate the political process than their customers and suppliers are. This happens in two main ways. First, producers may work through elected officials to have laws passed and decrees issued that correct what they perceive to be a pressing problem. Sometimes the problem is alleged destructive competition. Or it may reflect producers' desire to avoid spoiling the market through excessive new entry. Second, even when elected officials have only the public interest at heart in passing regulatory laws, and regulatory agencies are established for "public interest" purposes, they subsequently can become the tools of the industry they regulate. This happens because the regulated enterprise has superior technical knowledge upon which regulatory agency staffs come to depend (stated differently, the information needed for imposing controls is frequently only available from the regulated firm), and because regulated firms can use their political influence to have friendly regulators appointed.

The Risk of Expropriation and the Importance of Commitment

Services delivered by infrastructure industries are massively consumed and regarded as “social,” “basic,” and “essential” both to the public and for the effective functioning of the economy. The reasons for the political significance of these industries are many. These industries account for as much as ten percent of gross domestic product and, because they are capital intensive, as much as twenty percent of gross domestic investment. Consequently, expenditures on infrastructure services at cost-based prices represent a substantial proportion of the budget for many households, and are beyond the means of the poorest families. Moreover, since infrastructure services are essential intermediate inputs for other sectors of the economy, their quality and prices are a major determinant of the production costs and international competitiveness of infrastructure-intensive industries. In view of their unique characteristics, the pricing of infrastructure services generally receives considerable political attention and is thoroughly scrutinized by interest groups and even the general public. In fact, cultural attitudes toward paying the full cost of these services change relatively slowly, and price increases frequently generate considerable public opposition.

These characteristics can motivate governments to behave opportunistically vis-à-vis privatized utilities. The fact that the utility industries are monopolistic and provide services that are deemed essential leads to considerable public scrutiny of their conduct and politicization of their pricing. The presence of only one or two utility operators raises immediate concerns about concentrated and exploitative market power, excessive prices and profits, and restriction of freedom of choice. Also, since utility services are massively consumed, they create significant opportunities for political mobilization, consumer and special-interest group activism, and populist manipulation (Spiller and Savedoff 1999).

A utility can continue operating so long operating revenues exceed operating costs. Because a large portion of infrastructure costs are fixed and sunk, once the investment is made, operating costs are only a small fraction of total costs. Moreover, the sunk assets by definition cannot be redeployed elsewhere. Thus, utilities are highly vulnerable to administrative expropriation of their vast quasi-rents, i.e. their revenues in excess of operating costs. For example, after the investment is made, the government can

effectively expropriate this investment by setting prices too low to allow full recovery of costs and cause unnecessary cost increases by dictating inefficient investment, procurement and employment practices. Of course, utility investors are fully aware of this problem. Consequently, private investors will be unwilling to invest in these sunk assets unless the government is able to make a credible commitment not to expropriate these sunk costs.

The extent of the commitment problem is determined by the interaction of technology and politics—the characteristics of the technology underlying the industry’s production, the demand facing its products, and the country’s institutional and political endowment. In sectors like water where technology is changing very slowly, the rate of depreciation of investments is low, and the product is considered as vital to human life, sunk costs and the risk of expropriation are very high. In telecommunications, on the other hand, technology is changing very rapidly, the rate of depreciation is high, and the product, while important, is not vital to human life. Thus sunk costs and the risk of expropriation will be lower and the commitment problem will be less severe in telecommunications relative to the water sector.

Regulatory Design Implications

The solution to both capture and expropriation is the same: to construct a regulatory agency that is unlikely to be unduly influenced by any particular interests. Basically, the design of the agency must allow regulators to have access to as much relevant information as is needed to make reasonably efficient decisions, must assure that the decision makers are neither homogeneous in their biases nor subject to unbalanced external pressure, and must create a mechanism whereby neutral arbiters can intervene if an agency makes an unreasonable decision. These requirements raise three quite different organizational issues: how to design the decisionmaking process within an agency, how to connect the agency to the larger system of government, and how to articulate and enforce the principles for deciding whether an agency has acted unreasonably or unfairly. The arrangements that achieve these objectives are as follows.

First, the personnel of regulatory agencies should be heterogeneous and stable. Short-term changes in the political control of government should not cause dramatic

short-term swings in the composition of the agency, and the careers of regulatory officials should be secure through political change as well as long enough so that regulators are not constantly engaging in on-the-job training and then seeking interesting future employment possibilities. The personnel requirement implies that civil service procedures should govern influential regulatory positions, and that political appointments to agencies should not be purely partisan.³⁹ The U.S. independent regulatory commission, in which political appointments to a multi-headed body are for several years and are subject to partisan diversity rules, represents the extreme form of insulation from political pressures. The British and Japanese systems, in which heads of regulatory authorities and their lieutenants are professionals, but policy authority rests in a cabinet ministry run by a partisan appointment, seek to achieve independence by giving more authority to civil servants.

Second, the agency can be given independent authority and resources to compel information from regulated firms, generate information on its own, and represent interests that otherwise are not organized to participate in its processes. For example, regulators should be able to develop their own procedures for estimating costs and demand, and should be able to undertake their own investigations on alternative technologies and on the performance of domestic firms that they do not regulate or regulated firms in other nations. In some cases, separate bureaus within the agency can be established to advocate unrepresented interests.

Third, the agency can be subject to openness requirements. The agency can be required to conduct all business in public, to refrain from secret contacts with either interested parties or political officials, and to release all relevant information pertaining to

³⁹ Safeguards that can help achieve these objectives include:

- Giving the regulator statutory authority, free of ministerial control.
- Setting clear professional criteria for appointing regulators.
- Requiring that both the executive and legislative branches participate in appointments.
- Appointing regulators for fixed periods and prohibiting their removal without clearly defined cause (subject to formal review).
- Staggering the terms of an agency's board members so that they can be replaced only gradually by successive administrations.
- Funding agency operations with user fees or levies on service providers, to insulate agencies from political interference through the budget process.
- Prohibiting the executive branch from overturning an agency's decisions except through new legislation or judicial appeals of existing laws.

a decision as well as a preliminary indication of the decision it is likely to make before the actual decision is made. Openness requirements are beneficial because they give advance warning to those who are affected by a decision, enabling them to intervene if the decision is unfavorable, but simultaneously guaranteeing that both the existence and the content of their intervention will be public. Openness forces regulators to reveal the informational basis for their decision, and is therefore useful for revealing whether the agency's decision is biased and unsupported by facts (McCubbins, Noll, and Weingast, 1987 and 1989).

Fourth, the agency can be required to publicly articulate the basic economic principles that guide its policy decisions (Willig 1999). Before the telecommunications industry is restructured and private investments are made, the agency should commit to the transparent application of these principles to reach decisions and resolve disputes. To enhance government credibility, these principles should be contained in an overarching statute and so have the force of law. Alternatively, they can be embedded in privatization and concession contracts that are legally binding on the government, even through partisan change.⁴⁰

Fifth, the decisions of the agency can be subject to review by another body that is freer of representation biases, especially biases affecting participation in the agency's processes, at the instigation of anyone who is dissatisfied with a decision. The most

⁴⁰ These principles can require the agency to:

- Refrain from unilaterally imposing policy or rule changes that undercut promised investment value.
- Refrain from intervening in activities of regulated firms that relate to competitive markets, or at least markets not identified as protected natural monopolies.
- Avoid expanding regulatory interventions without demonstrating that the benefits outweigh the costs.
- Ensure competitive service quality and prices by avoiding privatization deals that result in higher prices than necessary, allowing consumers to challenge deals that result in higher prices in return for higher government revenue, using price cap mechanisms to control regulated monopoly prices, and allowing consumers to seek rate adjustments if service quality falls far short of that promised in a privatization agreement.
- Provide consumers, suppliers of complementary and substitute services, suppliers of inputs, and investors with signals and incentives for efficient actions by ensuring that prices reflect the value and marginal costs of services and by giving service providers pricing flexibility.
- Require telecommunications monopolists to give rivals open access to their bottleneck facilities at prices with the same markups as the competing services sold by these monopolists.
- Pay competitively neutral attention to social goals pertinent to each infrastructure sector by targeting subsidies as much as possible and requiring that any surcharges or taxes imposed have equal effects on the prices charged by competing suppliers (Willig 1999).

common reviewing body is a general purpose court that itself is politically independent and diverse in composition (Levy and Spiller, 1996). The advantage of the general purpose court is that it is less likely to favor a particular industrial interest and less likely to regard itself as possessing sufficient specialized expertise that it can substitute its own technical analysis for that of the regulator. The issues to be decided through judicial review are whether the decision is supported by the evidence, is authorized by the regulator's formal policy objectives, as stated in its formal legal mandate, and respects limitations that are imposed by high law. The use of judicial review, by implication, requires that the agency's authority and decision-making processes be clearly specified in some form of legal document, such as legislation or decree, which predates the decision under review.

Sixth, the agency should have a competent, non-political, professional staff, expert in the relevant economic, accounting, engineering and legal principles and familiar with good regulatory practice elsewhere. Regulatory capacity is required to manage the competitive restructuring of the telecommunications industry and to subject it to market discipline, as well as to avoid capture by overcoming representation bias in the information and expertise that is presented to it by organized interests. Thus, the agency's responsibilities should match its financial and human resources. In some cases, achieving this objective requires exempting the agency agencies from civil service salary caps in order to enable it to attract and retain well-qualified staff.

The unfortunate part of the above litany of procedural and structural safeguards is that they are costly to implement and assume the presence of a cadre of technically trained civil servants and a highly developed legal system, neither of which is yet present in most ECOWAS countries. Well-developed economic, accounting, engineering, and legal skills are required for regulatory functions such as monitoring industry performance, analyzing cost data, dealing with information asymmetries, and analyzing the behavior of regulated firms. An independent judiciary that is skilled in adjudicating disputes involving arcane technical information and that adheres to the Rule of Law also is necessary to assure that the regulatory agency is performing its functions honestly and competently.

In some large developing countries with a substantial middle class, these safeguards plausibly are present and affordable, so that a recommendation to implement western-style

regulatory agencies is not out of the question. In small ECOWAS countries, the domestic supply of professionals to implement this kind of regulatory system is low and inelastic, the political system is unstable, and the Rule of Law enforced by a competent independent judiciary is not in place. Thus, the pre-requisites for effective regulation of telecommunications are not likely to be satisfied, creating a significant, long-run barrier to the creation of an effective telecommunications industry.

In 1999, the telecommunications regulatory frameworks of 29 African countries were assessed in terms of their autonomy, credibility, transparency, and efficiency. Among the ECOWAS countries, the report included Benin, Cote d'Ivoire, Gambia, Ghana, Guinea, Nigeria, Senegal and Togo (EIU–Pyramid Research 1999). On a ranking of 1 (lowest) to 4 (highest), all the ECOWAS countries that were included in the report received the lowest score of 1 on autonomy; Benin, Nigeria, Gambia, and Togo also received the lowest score of 1 on regulatory credibility. Only Cote d'Ivoire had a score above 2 in any of the four dimensions of regulatory performance (3 on credibility and efficiency).⁴¹

Since this assessment, considerable progress has been made in some ECOWAS nations, but many still are characterized by a very poorly performing parastatal monopoly in fixed access, long distance and international communications, combined with a weak regulatory system for supporting competition and growth in other services, such as wireless telephony and Internet services. All of the countries in the region have established some sort of regulatory agency for their telecommunications sectors, but in many cases these agencies lack independence and are mere extensions of sectoral ministries. Many governments continue to keep a tight grip on telecommunications while favoring poorly performing state-owned enterprises. Some independent agencies suffer from insufficient resources and legal authority. Annex A contains descriptions of the regulatory systems in West Africa. Here we provide a sketch of some of these agencies.

- In Benin, the regulatory authority has been La Direction de la Politique des Postes et Télécommunications (DPPT);⁴² however, this agency is part of the Ministry of Communication and New Information and Communication Technologies

⁴¹ Pyramid Research. 1999. Privatizing Telecoms Markets. Boston, Mass: The Economist Intelligence Unit.

⁴² Metozouve Dieudonné, "L'EXPERIENCE DU BENIN DANS LE DOMAINE DE REGULATION," at www.cipaco.org/sources/convergence/communication%20MCPTN.doc.

Promotion, which in turn is substantially influenced by the state-owned telecom operator, the Office des Postes et Telecommunications. On March 1, 2006, just before the presidential election of 2006, the outgoing President created an independent regulatory authority, l'Autorité de Régulation des Postes et des Télécommunications (ARPT),⁴³ but on May 1, the newly elected President suspended the agency.

- In Burkina Faso, l'Autorité National de Régulation des Télécommunications (ARTEL) is not an independent regulatory authority.⁴⁴ Eight members of its board of directors represent government ministries, and the ninth is appointed by the workers of the national operator, ONATEL. Moreover, ARTEL's regulations are effectively only advisory, as the Minister of Telecommunications can reject or revise any regulation proposed by the agency.
- Cape Verde has a partially privatized monopoly, Cabo Verde Telecom (CVT), which provides all telecommunications services including wireless. CVT is regulated by Direccao Geral das Comunicacoes, an agency in the Ministry of Infrastructure and Habitat. Whereas the performance of CVT since partial privatization has improved substantially, Cape Verde has not been successful in promoting competition in wireless and Internet services.
- The Cote d'Ivoire regulatory system includes two independent regulatory commissions.⁴⁵ The primary regulator is l'Agence des Télécommunications de Cote d'Ivoire. The second regulator, the Conseil des Télécommunications de Côte d'Ivoire, oversees the primary regulator, and serves as a dispute mediator prior to formal legal appeals of the decisions of the primary regulator. Although massively disrupted by civil war, the telecommunications regulatory framework in Cote d'Ivoire has managed to function during a period of political instability.
- Gambia has taken only the first steps to reform by corporatizing its state-owned telecommunications provider, Gambia Telecommunications Company (Gamtel), by

⁴³ Le Matinal, "Régulation des télécoms au Bénin : Un pas en avant, deux en arrière," at www.quotidienlematinal.com/article.php3?id_article=2592.

⁴⁴ The organization and authority of ARTEL is described in www.delgi.gov.bf/Tic/R%C3%A9glementation/T%C3%A9l%C3%A9communication-Texte4.htm.

⁴⁵ Laffont, J-J, and T. N'Guessan. 2002. "Telecommunications Reform in Cote d'Ivoire". Policy Research Working Paper 2895. World Bank.

allowing a second, private mobile telephone provider to compete with Gantel, and by establishing a multi-sector utility regulator, the Gambia Public Utilities Regulatory Authority. The regulatory authority is independent, but its pricing authority is limited to “provide guidelines on rates and fees.”⁴⁶ In 2006, Gambia is considering a telecommunications bill that would liberalize the sector and strengthen the regulatory authority.

- In Ghana, legislative reforms in 1996⁴⁷ created a regulatory agency, the National Communications Authority (NCA), that is not fully independent. The Act allows the Minister of Communications to “give to the Authority such directions of a general character as appear to him to be in the public interest” (Part 1, Section 4). The NCA’s Board of Directors is appointed by the President and can be removed by the President at any time “for stated reasons” (Part 1, Section 6(2)). One indicator of the lack of structural independence is the fact that until May 2003 the chair of the NCA Board was the Minister of Communications, and for much of the history of the NCA no other commissioners were appointed. Because the government owns stakes in both fixed access carriers, a long distance carrier and the largest mobile carrier, the regulatory structure prevents the government from committing to a genuinely neutral regulatory environment for privately owned ICT firms. Thus far the regulatory authority has been ineffective in resolving disputes in the sector, most of which have been resolved through ministerial intervention. Spectrum management has been messy and overall enforcement has been weak. For example, Ghana Telecom (GT) was prohibited to enter the mobile market, but it nevertheless offered mobile services, and other mobile operators were allowed to offer services without formal licenses.⁴⁸ In 2005, the government announced a sweeping new telecommunications policy framework that emphasizes privatization and competition, with plans to divest its ownership of telecommunications firms and to

⁴⁶ The Gambia Public Utility Regulatory Authority Act, 2001, Part III, Section 13.(1)(a), at www.gda.gm/GAMBIA_PUBLIC_UTILITIES_REGULATORY_ACT.pdf.

⁴⁷ *National Communications Authority Act*, 1996, Law 524, Republic of Ghana, available at www.nca.org.gh/ncatemp/downloads/NCA%20ACT%20524.pdf.

⁴⁸ Laffont, J-J. 2003. “Enforcement, Regulation and Development”. *Journal of African Economics* 12: 193-211.

license two more fixed service carriers and two new mobile carriers.⁴⁹ While the NCA now has a full complement of commissioners (with the Minister not among them), given the structural weaknesses of NCA, the credibility of the commitment to liberalization and competition is weak.

- Guinea does not have an independent regulator. La Direction Nationale des Postes et Telecommunications is an office within the Ministry of Communications, Post and Telecommunications.⁵⁰ Guinea has a poorly functioning telecommunications network, and has not made a clear commitment to liberalization. The incumbent carrier, Société des Télécommunications de Guinée, has a statutory monopoly in fixed service and over 75 percent of the market in mobile telephony. Partial privatization to Telekom Malaysia in 1995 failed when the private partner withdrew in 2005.⁵¹
- Guinea-Bissau is a very small country, one of the poorest nations in the world, and has one of the least developed telecommunications systems with around 12,000 operating telephones. The nation has established a telecommunications regulator, the Institute of Communications of Guinea-Bissau, and has adopted a legislative framework for liberalization.⁵² A majority interest in the state-owned monopoly carrier was sold to Portuguese Telecommunications, but in 1998 the new owner abandoned the country in the midst of political instability.
- Until recently, telecommunications regulation in Liberia was undertaken by an office within the Ministry of Communications, and policy favored the incumbent state-owned enterprise, the Liberia Telecommunications Corporation (LTC). Liberia announced a new liberalization policy in July 2005, and in September a statute was enacted that created an independent regulator, the Liberia Telecommunications Authority.⁵³ The first chair of the LTA was appointed by the

⁴⁹ See Republic of Ghana, Ministry of Communications, *National Telecommunications Policy* at www.nca.org.gh/ncatemp/downloads/Ghana%20Telecom%20Policy%20Final.pdf.

⁵⁰ MBendi *Information for Africa*. 2000. "Guinea: Computers and Communications."

⁵¹ *Trade Policy Review—Republic of Guinea*, Report of the Secretariat, World Trade Organization, p. 73, at www.wto.org/English/tratop_e/tpr_e/s153-4_e.doc and M. Fulgence, "Telekom Malaysia se retire de la société de télécommunications de Guinée," *Le Potentiel*, January 21, 2005, at www.lepotentiel.com/afficher_article.php?id_edition=&id_article=196.

⁵² See www.icgb.org/english/decree999.html.

⁵³ Republic of Liberia, *National Telecommunications Strategy and Policy: Telecommunications Sector Policy Document*, 2005.

provisional, transitional government in October 2005; however, little progress has been made in reforming the sector owing to the nation's political instability, and the LTA is not yet functioning. LTC has operated only intermittently since mid-2005, and the newly elected government is attempting to revive the company by firing redundant employees and trying to attract foreign investment partners.⁵⁴ Because of Liberia's long-term political instability and corruption, the new policy framework faces an uphill battle to attract significant investment.

- Mali has a state-owned monopoly telecommunications carrier, Société de Telecommunications du Mali (Somatel). Although in 1998 the government announced its intention partially to privatize the company and liberalize the sector by the year 2000, this policy still has not been implemented. The regulator is Le Comité de Régulation des Telecommunications, but its functions are primarily advisory to Le Ministère de la Communication et des Nouvelles Technologies de l'Information et de la Communication. Mali has two wireless carriers, and despite continuing interconnection disputes the private carrier has attracted substantially more subscribers than Somatel's affiliate, although overall mobile penetration remains low.
- Although no longer a member of ECOWAS, Mauritania has been active in WATRA, and has done remarkably well during the past decade in modernizing its telecommunications industry, considering that the country has low population (around three million) and low population density. In 1999, Mauritania enacted a comprehensive telecommunications law to guide the liberalization process, and shortly thereafter created a multisector independent regulator, Autorité de Régulation. The former state-owned monopoly, Mauritania Telecommunications (Mauritel), was privatized in 2000. A separate private wireless carrier was permitted to enter before Mauritel's wireless subsidiary was licensed, and wireless telephone penetration is now approximately 20 percent of the total population.
- In Niger, the regulator is Direction de la Réglementation des Télécommunications, which is an office of the Ministre de la communication et de la Culture. The state-

⁵⁴ Michael Kpayili, "Illegal Investment at the Liberia Telecommunications Corporation," *The Liberian Times*, Feb. 1, 2006, www.theliberiantimes.com/article_2006_02_1_0657.html, and "Liberia: VP Boakai Embraces Chinese Investment," May 22, 2006, www.theliberiantimes.com/article_2006_03_22_1032.html.

owned monopoly carrier, Société Nigérienne des Télécommunications, was partially privatized in 2001. Subsequently, two additional mobile carriers have been permitted to enter; however, penetration remains low.

- In Nigeria, the National Telecommunications Commission (NCC) was created in 1992. The NCC operated like a bureau within the Ministry of Communications. From the appointment of its members to the exercise of its functions, the NCC was not intended to be a truly independent regulator.⁵⁵ In 2003 new legislation was passed that replaced the NCC with the Nigerian Communications Commission and redefined its role, powers and appointment process.⁵⁶ In its current form, the President appoints the nine members of the Board of Commissioners (Chapter II, Part 2, Section 5(2)), all of whom must be from one of an explicit list of professions that are relevant to telecommunications regulation (Chapter II, Part 2, Section 7(1)). The President is required to have at least six positions filled at all times (Chapter II, Part 2, Section 5(3)). Commissioners have five year terms (Chapter II, Part 2, Section 8(4)), and can only be removed for cause, with the reasons for dismissal stated in writing with a right of formal reply (Chapter II, Part 2, Sections 10(1) – 10(3)). The law requires that the Minister of Communications consult the NCC about proposed policy changes, but guarantees the independence of the agency from the Ministry (Chapter III, Part 1, Sections 24-25). The new NCC has a large, technically competent staff, many with advanced degrees. The new regulatory framework is as good as any in Africa, but nations with many fewer technically educated civil servants would not be likely to replicate it.
- Senegal has an independent regulator, l'Agence de Regulation des Telecoms (ART), which in December 2005 had postal regulation added to its portfolio and became l'Agence de Regulation des Telecoms et des Postes. Art came into existence only after a protracted political battle. Legislation to privatize the incumbent, state-owned enterprise, Sonatel, was passed in 1996, but the creation of ART was delayed until a second law was passed in 2002,⁵⁷ due to opposition from Sonatel and its

⁵⁵ George Etomi & Partners. 2002. "Regulating the Pricing of Mobile Telecommunications Services - The Role of the Nigerian Telecommunications Commission".

⁵⁶ *Nigerian Communications Act of 2003*, at www.ncc.gov.ng/index4.htm.

⁵⁷ See strategis.ic.gc.ca/epic/internet/inimr-ri.nsf/en/gr-75699e.htm.

employees unions. In the interim the Ministry of Commerce served as the regulator.⁵⁸ In 2004, Sonatel lost its statutory monopoly, and since then Senegal's telecommunications system has become one of the fastest growing and most competitive in Africa.

- Sierra Leone has made slow progress in telecommunications reform due to more than a decade of civil war that only ended in 2002. Since then, liberalization has been under way,⁵⁹ but other than the creation of a competitive wireless industry progress has been slow. The sector is regulated by the Ministry of Transport and Communications and State Enterprises, and fixed access service is provided by a monopoly state-owned enterprise, Sierratel.
- Togo's regulator is Autorite de Reglementation des Secteurs de Postes et Telecommunications, which is an office with Le Ministre de l'Equipement, des Transports et des Postes et Télécommunications. The body has limited authority, serving mostly as an adviser to the ministry on issues pertaining to competition and entry and as a mediator of disputes among service providers.⁶⁰ Although Togo has adopted a policy to liberalize telecommunications, the monopoly fixed access carrier, Société des Télécommunications du Togo, remains a state-owned enterprise. Togo has two wireless carriers, one private and one an affiliate of Togo Telecom. In recent years Togo has suffered political instability that has inhibited its economic progress.

The primary lesson from the recent history of telecommunications reforms is that within the ECOWAS region, progress towards reform varies widely as does the institutional commitment to a liberalized regime. The leaders – the largest nations plus, among the smaller nations, Mauritania – provide both useful role models and a source of technical and legal expertise for the nations that have not progressed as far.

⁵⁸Jean-Paul Azam, Magueye Dia and Tchetché N'Guessan. 2002. "Telecommunications Sector Reform in Senegal." Policy Research Working Paper 2894. World Bank.

⁵⁹ Dr. Prince Alex Harding, "Status Report: Ministry of Transportation and Communications," August 14, 2003, at www.daco-sl.org/encyclopedia/5_gov/5_2/mtc/MTC_state_of_the_nation.pdf.

⁶⁰ See www.artp.tg/quinous.htm.

The Case for Regionalizing Regulatory Policy in West Africa

The relevant market areas of the telecommunications industry, in general, are not coterminous with national borders. Telecommunications operates more efficiently if its network is organized according to the patterns of its transactions. In an open world economy, these patterns do not respect national geographic boundaries. Given that telecommunications market boundaries transcend national borders, very little regulation in this sector has purely domestic effects. International agreements about regulation and the creation of multinational regulatory authority would be natural vehicles to achieve regulatory harmonization and minimize the distortions that arise from national regulatory policies.

In the West Africa region where many countries are small and poor and lack formal institutions and technical expertise, policy coordination, regulatory cooperation, and ultimately the creation of regional telecommunications regulatory authority might represent a pragmatic approach to dealing with the problem of limited domestic regulatory capacity. Furthermore, multi-lateral regulatory agreements could advance domestic regulatory reform, enhance regulatory credibility, and help the ECOWAS countries overcome their commitment problems. In each country, regulatory reform, especially when it is debated one issue at a time, is frequently blocked by well-organized special interest groups. If reform, on the other hand, becomes part of broader international policy that encompasses a whole range of issues, all interests are likely to participate, thus reducing the ability of a single group to block it. Moreover, regulatory credibility is often undermined by political interference (that undermines independence) and opportunistic behavior on the part of the government. It is much more difficult and costly for governments to behave opportunistically when regulatory policy is harmonized as part of a regional/international agreement, or to interfere in the decision process of a supra-national regulatory authority as opposed to national oversight. The gains from regional cooperation may be large enough to discourage deviations from negotiated agreements.

International Regulatory Reform and Trade

Until recently, the regulatory reform debate has been regarded primarily as an issue of domestic economic policy. However, internationalization of regulatory reform is inevitable, and not just because the social and economic problems that give rise to regulation cross borders, as is emphasized by advocates of international environmental regulation. Even without these cross-border problems, regulation inevitably is an international issue because, when other forms of trade barriers are low, regulations can distort trade.

Regulatory distortions take two conceptually distinct forms: domestic and international. This conceptual division implies a prioritization scheme: focus international agreements on regulatory issues that cause significant international distortions. The inefficiencies of regulation that are purely domestic do not necessarily imply an international priority for reform. Whereas these effects are unfortunate, the costs mostly are confined to the country that causes them. If inefficient regulation has significant international repercussions, coordination and cooperation among nations in regulatory reform has the same status as multinational arrangements for reducing direct trade barriers. Mutuality in reform creates economic benefits that are broadly shared among domestic consumers and trading partners.

As a practical matter, very little distorting regulation has purely domestic effects. International boundaries rarely define natural market barriers that cannot be crossed, and in most cases the most efficient organization of an industry is international. For example, infrastructural industries (energy utilities, communications, transportation, finance) all operate more efficiently if their networks are organized according to the pattern of transactions, and in a relatively open world economy, these patterns do not respect national borders. But even if markets are national or even local, entry by foreign firms can be an important source of price competition and productivity improvements. Even many segments of retail trade are more efficient if international chains of outlets and, of course, electronic commerce are permitted. Hence, both market access for foreign-made goods and openness to foreign investment promote economic growth, and regulations that prevent either create distortions of international significance. International agreements about regulation are the natural vehicle to eliminate these distortions.

An additional advantage of internationalizing regulatory reform is that it can be used to elevate the domestic political debate about regulation from narrowly particularistic issues to matters of national economic performance and international cooperation. From a political perspective, making regulatory reform an international issue is highly desirable. A common political barrier to domestic regulatory reform is that if reform is perceived as a domestic issue and is debated one issue at a time, well-organized special interests are more likely to have the political power to block it. For most specific regulatory issues, the beneficiaries of reform are numerous, but their per capita benefits are frequently too low or indirect to generate significant political pressure for reform. If the reform debate is elevated to a matter of international policy that encompasses numerous reform issues, broader attention and participation from all interests is more likely, thereby reducing the ability of a single interest to block reform.

A useful analogy is the process of setting tariffs. When each nation independently sets each tariff separately, the outcome is likely to be tariffs that are higher than the tariffs that would be negotiated bilaterally as part of a comprehensive trade agreement. The reason is that debating tariffs one product at a time maximizes the effect of the tendency for organized interests with a direct stake in a policy to be unduly influential. If a tariff on a specific product is under review, the domestic industry that produces the product is likely to be intensely interested and to exercise whatever political influence it has to obtain a policy decision favorable to itself; however, because the final price of the product is less important to each buyer than to each producer, the former are less likely to participate in the debate. Consequently, each important domestic industry may receive and preserve a tariff or a favorable regulation when policy is debated in a purely domestic context one industry at a time, but receive neither protective tariffs nor protective regulation when policy is developed multinationally and covers many industries.

When each regulation is considered separately as a matter of domestic policy within a specialized agency, the government is likely to be under less pressure to adopt an efficient policy. If a regulation imposes unnecessary costs uniformly on firms in a domestic industry, sales of the industry's product may be suppressed, some by higher prices, but the individual firms are unlikely to suffer very much because none is being disadvantaged relative to a competitor. If international trade threatens the industry,

however, the industry will energetically seek relief. The politically expedient move may be to inhibit trade competition, either by using regulation as an indirect trade barrier or by banning trade while invoking a rhetorical attack on the lax standards of a trading partner. This approach placates the regulated industry and the other interests that place high value on the regulatory policy. The primary organized harmed interest, foreign producers, is more easily ignored because they do not participate in domestic politics.

Just as simultaneous negotiations over tariffs on all products facilitate reaching agreements that provide freer trade, so, too, does simultaneous negotiation of numerous areas of regulation facilitate eliminating regulatory indirect trade barriers. As with tariffs, the inclusion of multiple regulatory policies within the same negotiation creates more opportunities and more mutually beneficial bargains to reduce distortions simultaneously on all fronts. Thus, the incorporation of regulation into trade agreements should follow the same principles that have been generally followed with respect to tariffs and quotas. Specifically, if regulatory policy is part of an international agreement, it must reduce, not increase, distortions in the international economy and extend, not contract, the extent of liberalization. Introducing regulation into single-product negotiations is prone to lead to increased trade distortions (by using regulation to inhibit trade). In particular, negotiations about a single product or area of regulation run the risk of creating an alliance between protectionists and the most ardent advocates of a particular regulatory policy who seek regulations that go far beyond those that maximize net social benefits.

The same argument applies to the enforcement of agreements not to adopt anticompetitive regulations. If enforcement powers reside solely in domestic agencies, a case in which a regulation disadvantages foreign producers rests on unbalanced underlying politics. Domestic producers are likely to be more effectively represented than foreigners in the agency and the background political system in which the agency must operate. Consequently, actions to eliminate the anticompetitive international effects of regulation are likely to face more political resistance than support.

International institutions for resolving regulatory trade disputes operate in a more balanced political environment. These institutions can be a means through which nations mutually can commit to maintain procompetitive regulatory reforms. The GATT and WTO disputes about automobile fuel efficiency and reformulated gasoline illustrate how

domestic regulatory agencies but not international institutions are willing to sacrifice competition as well as some of the effectiveness of regulatory policies in order to advantage domestic producers.

For these reasons, internationalization of regulatory reform can succeed by enfranchising foreign producers in domestic regulatory policy across a spectrum of industries. In the context of a dispute about the trade effects of a particular regulation, intervention by an international organization frequently is met with cries of outrage — an intervention by foreigners into domestic policy. All international agreements entail some loss of the ability to act independently in order to achieve something else of value, which in this case is a worldwide regulatory system that is more efficient and freer of trade distortions. Such an institution generates net economic benefits to each country, even if some cases create some domestic losers. The creation of institutions for enforcing agreements to eliminate indirect trade barriers is a means to balance the political influence of these domestic losers.

The growing movement for regulatory reform throughout the world has increased the potential significance of internationalizing the reform process. If some nations are operating a relatively efficient regulatory system while others are not, international cost differences arising from regulation are likely to surface as political issues in high-cost countries. Perhaps the result will be reform, but another plausible scenario is protection against “unfair” competition. Initiating multisectoral international negotiations over phased reform offers the opportunity to seize the initiative, casting the agenda in terms of improved efficiency rather than retaliation against unfair trade. Domestic reforms that enfranchises competition policy agencies facilitates free trade by promoting reforms of regulatory policies that erect entry barriers. Reforms that impose mandatory benefit-cost analysis facilitate free trade by creating a stronger information base to challenge regulatory trade barriers in international dispute resolution institutions. Finally, designing these same dispute resolution entities to incorporate the principles of competition policy and economic policy analysis has two potential benefits: identifying regulations that have no plausible rationale other than to disadvantage foreign competition, and, beyond this, reducing the degree to which differences in regulatory policy creates differential regulatory efficiency. Both effects of the internationalization of regulatory reform serve

the objectives of international openness and help to eliminate an important source of distortions in the international economy.

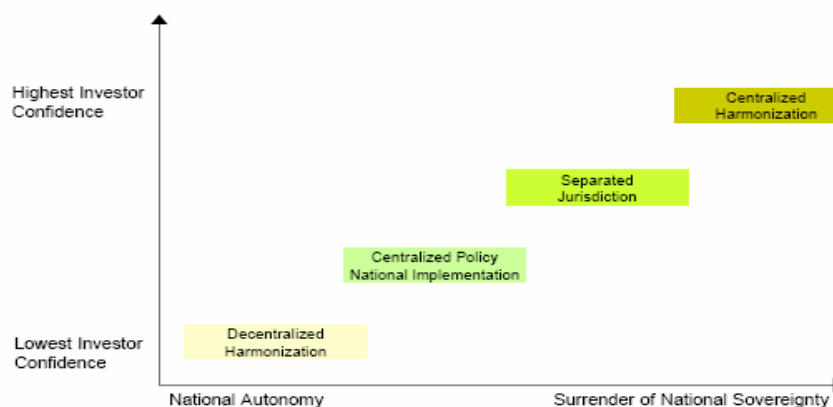
V. Harmonization of Regulatory Frameworks in ECOWAS

Obtaining consensus from all governments in a given region for full-fledged regulatory harmonization and a regional regulatory authority is problematic because of differences in the attitudes and commitment towards reform, and concerns about national sovereignty. However, such a consensus will gradually occur as more countries reform, the gains from regional policy coordination and trade become more apparent, and especially the small countries are confronted with the costs and staffing realities of setting up and running national regulatory bodies.

Spectrum of Harmonization Models

Regional harmonization is not a binary variable. It entails a wide range of policy options that lie between complete national autonomy and full integration (figure 2). At one extreme, the members of the community surrender their sovereignty on regulatory and other policy decisions to a regional regulatory authority (RRA). At the other extreme, the national regulatory authorities (NRAs) retain full jurisdiction over all areas of regulatory policy and decision-making, with the RRA's role limited to disseminating information, issuing non-binding guidelines, and acting as a source of centralized technical expertise.

Figure 2 Harmonization Models



Source: Deloitte Touche Tohmatsu (2003).⁶¹

⁶¹ Deloitte Touche Tomatsu. 2003. *Harmonization of Telecommunications Policies in ECOWAS*. Project No: 7118448.

Centralized Harmonization

Under full, centralized harmonization, the RRA has the statutory authority to make policy determinations that are binding on the member states. Moreover the RRA has the legal power and framework to enforce those decisions and to impose penalties in the event of non-compliance by the member states. Thus, the RRA would have the authority to:

- Regulate end-user prices and impose quality of service obligations on all licensed telecommunications operators in the community, with penalties attached for non-compliance
- Regulate the terms and conditions of interconnection and access to bottleneck telecommunications facilities, and intervene to resolve interconnection disputes
- Manage and allocate all aspects of the frequency spectrum in the ECOWAS territory
- Issue licenses for all telecommunications services throughout the community.
- Pre-empt local and national rules regarding rights of way
- Collect and disburse funds to support universal service and other social goals in the telecommunications sector
- Represent the community in international organizations

Under central harmonization the NRAs would have no independent policy-making authority. Instead, their role would be limited to providing an input into the consultative process of the RRA, supply data on national market conditions, and advise on implementation issues.

The centralized harmonization model treats the entire ECOWAS region as a single economic space and as such it offers the greatest opportunity to exploit regional economies of scale in the telecommunications industry. It also holds the promise of lowering the cost of doing business in the region by reducing the administrative barriers and regulatory costs of entry (e.g. by facilitating access to the necessary licenses and permits through “one-stop shopping”). The creation of a supra-national regulatory authority raises, on the other hand, proper concerns about accountability and the need for checks and balances on the powers of such authority.

Separated Jurisdiction

Under separated jurisdiction, the RRA is charged with regulating telecommunications transactions between the member states and represent the region in international forums while the NRAs have full regulatory authority over telecommunications transactions and services that do not cross national boundaries. This model roughly corresponds to US system of dual state and federal regulation over telephone service where the Federal Communications Commission has jurisdiction over interstate telecommunications transactions and the state public service commissions have authority over all intrastate services.

Centralized Policy/National Implementation

Under this model, the RRA issues binding regulatory and other policy directives which are then adopted by the member states and converted into national law. The NRAs have the full responsibility to implement and enforce these directives. Thus, each member state retains its sovereignty over regulatory matters but it is obligated to implement its national policies in accordance with the overall policy recommendations and directives issued by the center.

In this model, the RRA acts as a policy-making body that establishes regional policy through a consultative process. It is very similar to the one adopted by the European Union where the Commission formulates policy and issues directives that have the force of European law. But it is the responsibility of the member states to adopt the directives into national laws and regulations and thus to establish and implement national regulation.

This model treats the entire ECOWAS region as a single economic space while at the same time it recognizes the importance of national sovereignty and the reality of significant cross country differences in institutional endowments and legal structures, traditions and processes. The practical outcome of this compromise between maintaining national sovereignty and pursuing regional policy harmonization is likely to be the uneven adoption and implementation by the member states of policies developed by the regional authority. Inevitably, some member states will be slow and reluctant to implement the RRA directives into national laws and regulations.

Decentralized Harmonization

Under this model, the RRA acts as a central source of technical expertise, undertakes regional and benchmarking policy studies, facilitates information exchange, publishes reference papers that summarize the emerging international experience on important policy issues, and organizes regional training programs. The RRA has no regulatory authority but it can issue non-binding regulatory and other policy guidelines.

While this model, at least in the early stages of regional integration, represents the most realistic organizational option, it offers very little assurance that uniform and consistent regulatory policies will be effectively implemented across the region. Thus, trade distortions created by differences in regulatory efficiency among the ECOWAS countries are likely to persist.

The West African Telecommunications Regulators Association

The West African Telecommunications Regulatory Association (WATRA) is an association of Regulators and the respective responsible Government Ministries of West Africa Territories. WATRA aims to co-ordinate dialogue of telecommunications policy and regulations in the region. The objectives of the association are to:

- Encourage the establishment of modern legal and regulatory structures for telecommunications service delivery in all States in the sub-region; and to encourage the separation of the roles of policy-maker, regulator and licensed operator/service provider, and the establishment of distinct, independent and adequately empowered National telecommunications regulatory agencies in countries in the sub-region where such agencies have not been created
- Seek the development and harmonization of regulations for telecommunications service delivery and pricing in countries in the sub-region
- Promote the establishment and operation of efficient, adequate, and cost-effective telecommunications networks and services in the West African sub-region which meet the diverse needs of customers while being economically sustainable

- Encourage increased liberalization and competition initiatives in networks development and to enhance efficiency in telecommunications service delivery in the sub-region
- Contribute to the development of policies to enhance universal access and telecommunication penetration in rural and under-served areas in the sub-region
- Facilitate the exchange of ideas, views and experiences among members on all aspects of regulation of the telecommunications sector
- Conceptualize and formulate for eventual recommendation to policy makers in the sub-region, an information and communications technology master-plan which will set policy objectives and milestones for the modernization of telecommunications infrastructures and service delivery in the sub-region
- Contribute, through the progressive integration of regulatory mechanisms, towards sub-regional market integration in the telecommunications sector, leading eventually to integration of the continental African market
- Work towards the attainment of a uniform telecommunications service standard in the sub-region, and the adoption of uniform technical and quality standards for telecommunication applications and equipment employed in the sub-region
- Contribute to human resource and capacity building efforts aimed at redressing the shortage of indigenous skills, competencies and capabilities in emerging information and communications technologies in the sub-region;
- Collaborate and co-operate with the Economic Community of West African States (ECOWAS) towards the attainment of its treaty objectives of sub-regional economic and social integration, as envisaged in the ECOWAS Treaty of 1975, especially in Chapter VIII of the Treaty, with particular reference to Articles 40 and 45 thereof, and in various ECOWAS protocols
- Collaborate and co-operate with the African Telecommunications Union (ATU) towards the attainment of its stated mission of promoting rapid development of info-communications in Africa to achieve universal access to basic telecommunications and full inter-country connectivity in Africa; and the fulfillment of its objectives, especially the objective of promoting the

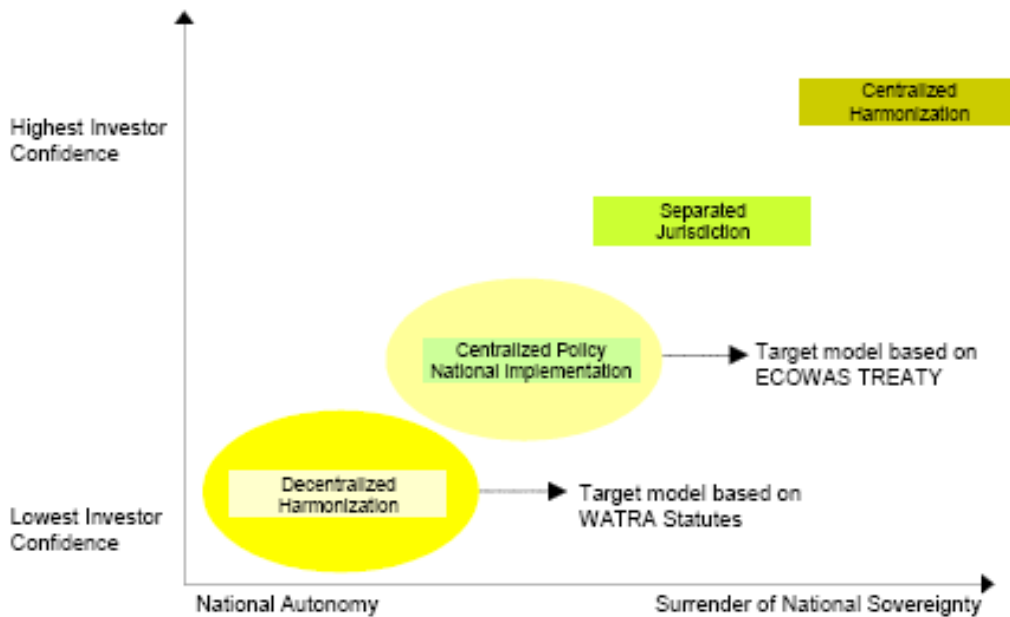
development and adoption of appropriate African telecommunications policy and regulatory frameworks

- Collaborate and co-operate with the International Telecommunications Union (ITU) towards the attainment of its agenda for global telecommunications development, especially with respect to its initiatives for the development of regional and sub-regional structures for more effective telecommunications service delivery
- Collaborate and co-operate with any other regional or international body or institution whose objectives or activities may facilitate or enhance the attainment of WATRA's aims and objectives

In furtherance of these objectives WATRA may:

- Deliberate on issues relating to telecommunications regulation and make necessary recommendations to the respective governments of members or other appropriate authorities, or take any other appropriate action
- Collaborate with, or participate as a consultative or associate member, or in any other appropriate capacity, in the activities of any organisation, institution or body whose objectives involve the regulation of telecommunications, particularly, the Telecommunications Regulatory Associations of other African sub-regional economic blocs, as well as other international organizations and public and private initiatives involved with or interested in the development and modernization of the structures for telecommunications service delivery in Africa
- Co-ordinate the utilization of scarce resources in areas of telecommunications regulation and enhance co-operation among members through the joint use of specialized facilities
- Take any other action and adopt any other measure as it may deem necessary or desirable for the achievement of its objectives.

Figure 3 Spectrum of Harmonization Models: Where Does ECOWAS Stand?



Source: Deloitte Touche Tohmatsu (2003).⁶²

Thus, WATRA is primarily a consultative body. It can formulate common regional policy objectives and issue non-binding guidelines to the NRAs on regulatory and technical issues. However, the member states will retain final authority over policy implementation. Thus, the institutional structure of WATRA is closest to the decentralized harmonization model (figure 3).⁶³ Still, WATRA could exercise considerable influence over regional regulatory policy and make a substantive contribution towards regulatory harmonization by aggregating relevant data and case experience, facilitating cross border benchmarking, and developing mechanisms for regional consultation and consensus building. Such consultative mechanisms could encourage the active participation of NRAs, operators and potential investors in formulating future regulatory policies and thus assist in achieving more uniform and consistent regulatory policies at the regional level.

⁶² Deloitte Touche Tomatsu. 2003. *Harmonization of Telecommunications Policies in ECOWAS*. Project No: 7118448.

⁶³ The statutes of ECOWAS' founding treaty require its member states to adopt and implement community policy objectives and directives into their national legislation. However, ECOWAS presently lacks the authority to enforce compliance. Thus, the intent of the ECOWAS treaty was to adopt the Centralized Policy/National Implementation harmonization model (figure 2).

WATRA--An Agenda for Action

The conventional wisdom has long been that the key to success in reforming and opening up telecommunications markets to competition is to establish independent regulatory bodies along the lines of the FCC in the United States, Ofcom in the United Kingdom, the CRTC in Canada, and the Authotite de Regulation des Telecommunications in France. Determined efforts by international organizations like the ITU and the World Bank have encouraged development of new regulatory mechanisms to oversee the telecommunications. However, like in almost all other developing countries, regulatory efforts in the ECOWAS region have mostly focused on institution building: writing enabling legislation, defining organizational architecture, determining administrative procedures, identifying sources of funding, and so on. Not enough attention has been paid to the substantive content of regulatory governance—i.e. the issues that require regulatory resolution and the related economic, accounting, legal, and engineering expertise. The scarcity of such skills will be one of the main impediments to effective regulation in the most of the countries in the region. Indeed, the requisite expertise in such critical areas as cost modeling and accounting to evaluate pricing proposals and tariff rebalancing schemes is generally lacking throughout the ECOWAS region. The resolution of access and interconnection disputes is another areas of regulation that requires substantial engineering, economic, accounting, and financial expertise.

WATRA could play a very important role in reducing the regional risk of regulatory failure due to the lack of technical and economic expertise in critical areas by: encouraging the design of effective and practical regulatory regimes in the member states; identifying less sophisticated regulatory instruments that do not impose significant informational and analytical requirements on the NRAs; undertaking benchmarking and other studies on important areas of policy and disseminating the findings of those studies through the publication of reference papers and technical guidelines; designing training programs for the staffs of the NRAs.

Thus, WATRA is faced with the urgent need to:

- Identify the substantive regulatory issues that are likely to arise in the member states that are implementing restructuring and privatization programs in telecommunications (e.g. the pricing of access to bottleneck network facilities, reducing rigidities and inefficiencies in retail tariff structures, competitively neutral mechanisms for funding universal service mandates), and suggest strategies for addressing these issues
- Deepen the regional understanding of how to design effective and practical regulatory mechanisms in the face of scarce technical and economic expertise
- Evaluate the efficacy of the new regulatory principles that have emerged in the last decade stipulating a preference for competition and reliance on market-like solutions and assess their applicability to the unique circumstances of the ECOWAS member states-- in particular the consequences of unstable macroeconomic conditions and imperfectly developed capital markets for the pace and extent of appropriate regulatory decontrol
- Identify options for the structural reorganization of industries that reduce the need for regulatory oversight
- Develop more precise criteria distinguishing between cases where regulatory intervention is required and those where it is not
- Develop models for optimal allocation of scarce regulatory resources among firms and sectors with different sizes, technologies, information asymmetries, and political constraints
- Identify appropriate, perhaps less sophisticated, tools of intervention better suited to regulators in the ECOWAS region
- Identify the fundamental principles that must be articulated publicly by the NRAs as the basis for their policy analysis and regulatory decisions—e.g., commitment to the financial interests of investors at the baseline level established by the terms of privatization; reliance on the workings of the market wherever there is or could be reasonably effective competition; weigh the cost of rules against the benefits; allow open access to bottlenecks on terms that reflect competitive parity; assure service quality and price levels that are consistent with the competitive standard; provision of economically efficient signals and incentives to final consumers, to

suppliers of complementary and substitute services, to upstream suppliers, and to investors.

Rules Governing Access to Bottlenecks

One of the most vexing and important tasks facing regulators in ECOWAS is to design the terms and conditions of access to “bottleneck” telecommunications facilities by competing service providers. These are facilities that are essential inputs in the delivery of final services and it would be uneconomic to duplicate them. The most outstanding example of such a bottleneck in telecommunications is the local loop (“final mile”). Access policy is the keystone of the contemporary response to the problem of residual monopoly in telecommunications. Indeed, it is at the forefront of discussion of means to facilitate competitive entry into activities that have traditionally been run by franchised monopolies.

The Goals of Access Policy. With the progressive introduction of competition into the telecommunications industry, a greater number of rival firms will seek to interconnect to its networks than in the past. At each interconnection point, an access price will have to be determined. The terms of access should not distort the process by which prices are adapted to consumer preferences and demands for services. Prices should be sufficiently high to be compensatory (at least cover the long-run incremental cost of the use of the network by the entrant), yet not so high as to preclude efficient operations by the entrant. Regulation should, therefore, ensure that there is sufficient pressure on the owner of the infrastructure to operate in an efficient manner, but that no unnecessary duplication of network construction takes place.

One fundamental goal of access policy is competitive parity-- that is to ensure that competition in the final product market is efficient and not tilted to favor either the owner of the bottleneck facility or its actual and potential rivals. Rules consistent with the principle of competitive parity should generally lead to a distribution of responsibility for performing the contested activity among the competing rivals on the basis of their relative efficiency and so minimize the total cost of supplying the final service. If the bottleneck input is priced in such a way that sales of the final product are diverted to a supplier that incurs in the process real costs higher than that would be incurred by a rival,

then the result is surely inefficient. Such inefficiency will clearly occur whenever the prospective supplier who incurs the lower real incremental cost in producing the final service cannot afford to charge as low as that of a rival with a higher incremental cost of supplying the service in question.

There are two necessary conditions for competitive parity. First, there must be no discrimination, overt or implicit, between the division or affiliate of the company controlling the bottleneck facility and its rivals that are seeking access to it. Such discrimination may arise in the price, quality, and other terms and conditions of access supply. Second, the margin between the wholesale access charge imposed by the owner of the bottleneck, which its rivals must pay, and its final retail price, against which its rivals must compete, must reflect the former's economic costs of performing the contested supply function. These requirements for competitive parity reduce to two specific pricing rules: i) the owner of the bottleneck must charge itself the same access or interconnection charges as it imposes on its competitors, except to the extent that the marginal costs of providing that service to itself and to its competitors differ; and ii) the price charged for the final product by the bottleneck owner must recover both the access charge and the incremental cost of its own retail operations.

In today's fast changing technological and marketing environment in telecommunications, it is difficult to predict what collection of basic network elements will prove to be essential to the efficient provision of some desired service by some supplier. As such, the opportunities for competition to work effectively and to bring innovative offerings to consumers would be enhanced by the availability on an unbundled and non-discriminatory basis of any basic network element, or any collection of functions, that is needed by the entrant.

Why the Issue Is Difficult. The access issue is especially vexing in situations where several firms compete in the sale of a final product, but one of these firms is the monopoly owner of an input that is indispensable in the supply of that product. The problem is how competition in the final product market can be preserved and not tilted to favor either the owner of the bottleneck input or its rivals. The answer, in principle, is that the input should be made available to all competitors, including the bottleneck owner, on a "fair and equal basis". However, if the bottleneck owner has strong

incentives to keep other entities out, it is unclear how effective such "equal access" mandates are likely to be. The telecommunications industries in ECOWAS have already seen many disputes with claims of "unfair" and "unreasonable" exclusion from essential facilities controlled by incumbent monopolists.

In a variety of market settings, monopoly control of bottleneck facilities can create irresistible incentives to behave anticompetitively and to cross-subsidize unregulated competitive activities from regulated monopoly ones. Without regulatory constraint, the holder of the bottleneck monopoly could repress competition by creating artificial handicaps for its rivals in the market for the final products sold to consumers. The monopolist can impose costs on its competitors by impeding their access to the bottleneck, thereby raising the prices that they must charge to cover their elevated costs, and thus weakening their ability to compete.

It is clear that if structural and other circumstances permit the owner of the bottleneck input to engage in anticompetitive leveraging of market power from the "input market" to the "final product market", then the bottleneck monopolist would have incentives to exclude other participants in order to gain additional market power and concomitant incremental monopoly profits. Likewise, under classic rate-of-return regulation the owner of the bottleneck would have incentives to undermine or avoid efficient cooperation with rivals in order to enlarge the portion of services it provides since additional output of end-user services would justify additional capital stock. Moreover, the bottleneck monopolist would be motivated to exclude an efficient participant if by doing so it would weaken, in a predatory manner, the competitive pressure exerted by that participant in another market that is related to the regulated market at issue by important economies of scope.

Basic Methodological Approaches to Access Prices. A variety of different methods for setting access prices have been proposed in the economic literature. Those can be roughly divided along two key dimensions. The first dimension pertains to the institutional setting in which access rates are determined. In particular, access rates can be set directly by the regulator (i.e., determined by an independent body according to some well-defined and transparent set of rules) or, voluntarily negotiated by the parties (subject to some general legal principles, such as competition laws that guard against "abuse" of dominance).

There are very few, if any, countries in which there are no regulatory or antitrust constraints on the terms on which access can be obtained. This makes perfect sense in view of the fact that there is little or no competition in the provision of access. Until such competition develops at the workable level, so that market forces can be relied to keep access rates at competitive levels, there have to be some other means for ensuring that access is not denied or priced excessively. However, it also follows that once a workably competitive market in the provision of access develops, regulatory strictures on the pricing of access will not be required.

The second dimension pertains to whether access rates are build up from costs (the "bottom up" approach) or derived from end-user prices (the "top down" approach) of services that have "access" as an input. Both methods have been used in practice. Neither one is unambiguously superior to the other as a practical tool for setting access rates. It is commonly agreed, however, that the top-down approach provides a tool for gauging whether or not the seller of the access deals with itself on preferential basis. It is also important to note that neither regulation nor negotiation is unambiguously superior to one another. Regulation may be desirable in those countries in which antitrust laws are poorly developed or non-existent and in which competition policy agency (and the courts) may lack the required expertise to resolve disputes regarding access. On the other hand, regulatory agency may be captured by the incumbent (or may be even potential entrants) and pursue access polices that are not necessarily in the public interest. In sum, from the policy perspective, there is not a single method that can be recommended as the correct method for setting access rates in all circumstances.

Box 2 Interconnection Disputes in West Africa

Nigeria—NITEL's arbitrary and anti-competitive conduct?

Industry experience confirms that NITEL has been left with a free hand to arbitrarily impose interconnection charges on other operators without intervention or comment by the National Regulatory Authority (NCC). Interconnection terms and conditions are casually offered to private operators on a "take it or leave it" basis, and at least one private operator has been arbitrarily disconnected from NITEL's network for allegedly breaching those terms. Other operators have been denied interconnection for various unverifiable reasons (e.g. the supposed absence of E1 Channels), or have been arbitrarily restricted to a single location for the establishment of points of interconnection. One of the leading GSM operators implicated yet another factor on the question of high tariffs, this time blaming the unfair interconnection charges imposed upon it by NITEL. The operator emphasized that interconnection with NITEL on fair and reasonable terms must be considered the most significant challenge facing the company today, and it wondered why the NCC appeared unwilling to intervene.

Ghana—Spacefon accuses Ghana Telecom of misleading information on interconnectivity

The impasse between Ghana Telecom (GT) and Spacefon over interconnectivity rates took another twist last week when the latter accused GT of misleading the public with wrong information. Addressing a press conference in Accra, the Managing Director (MD) of Spacefon, Ahmad Farroukh, said GT wanted to increase its service charges, but instead of explaining to the public the factors that have necessitated the increase, it rather sought to put the blame of its past and future losses on mobile phone operators and the National Communication Authority (NCA). He said for the past three months, GT management has sought to deceive the public through the media by presenting wrong information, and only last week incited GT union workers, who threatened to take the unlawful action of suppressing traffic flow from GT to Spacefon network. Mr. Farroukh said according to international standards and NCA regulations, interconnectivity between networks was a must, as it was the essential right of the consumer to make and receive calls to and from any network. He said, "It is very important to understand that the cost per minute for a mobile subscriber is far higher than that of a fixed one because of the different technology and the amount of capital expenditure involved in operating them. The MD accused GT of intentionally twisting the facts about the traffic imbalance between GT and mobile operators "to portray the picture of a company that is bleeding operationally and financially" from the low payment of rates of mobile operators, in order to win public sympathy while covering up its inefficiency.

The economic literature offers two major approaches to the efficient pricing of essential facilities: the Efficient Component Pricing Rule (ECPR) or Parity Pricing, and the Ramsey Pricing Rule. Efficient component pricing is the name that has been given to

the principle that the holder of the bottleneck facility should offer its services at a price that yields it the same contribution that it would earn from performing the end-user service itself. ECPR is consistent with efficient competition--it ensures that the responsibility for supplying the contested services is distributed among actual and potential rivals in such a way as to minimize total costs. However, ECPR does not in itself permit competition to fulfill its other important functions of eliminating allocative inefficiency and eroding monopoly profits--the ultimate determination of how large a markup of the retail price above marginal cost is economically efficient, and therefore what level of contribution should correspondingly be incorporated in access charges, must be correctly supplied by regulation. This requirement is likely to be substantially violated in most of our client countries with deficient regulatory mechanisms where the regulator-imposed price structures are frequently inefficient.

The Ramsey Pricing Rule recognizes the fact that the profit of the integrated incumbent is an increasing function of both the access charge and the final retail price. Under a break even constraint, a higher access charge would permit the regulated firm to lower its final price. A regulator concerned with consumer welfare would take this trade off explicitly into account. The socially optimal level of the access charge will depend on the benefits of reducing the retail price (which will depend on the elasticity of demand) and the effects of raising the access charge on productive inefficiency (which will depend on the entrants).

Despite their internal consistency and powerful theoretical results, the translation of either approaches into workable rules and actual access pricing schedules for the guidance of regulators and their accountants and engineers has been proven to be an extraordinarily difficult and contentious task. The first approach suffers from very restrictive assumptions that limit significantly its applied policy content. Indeed, the case for adopting ECPR is not so unequivocal when allocative and dynamic efficiency are important issues, as is likely to be the case in many of the ECOWAS countries--i.e., when even inefficient competition could make a substantial contribution to allocative efficiency and to stimulating improvements in efficiency and service innovation. The second approach has such formidable informational requirements (demand and supply

elasticities are generally very difficult to estimate in practice) that its translation into operational rules than can be applied in real world settings is almost impossible.

An important and urgent task for WATRA would be to undertake a study with the substantive objectives to: (i) summarize the existing theory of access pricing and the practical issues in implementing access pricing in the telecommunications industries of the region; (ii) translate the principles and results of the theoretical and analytic work on interconnection and access into a set of tractable and workable rules and procedures, especially in the face of severe measurement problems with respect to the relevant economic variables; and (iii) identify the conditions under which, if any, it is appropriate to use access pricing as an instrument for the promotion of supplementary goals (e.g. the promotion of competition) that go beyond the attainment of economic efficiency.

Tariff Rebalancing

One of the most urgent tasks for policy towards the telecommunications industries in West Africa is to redress historic tariff imbalances which have generally resulted in local tariffs being low and long-distance (especially international) tariffs being too high. Raising local tariffs does not appear politically expedient. The real difficulty facing telecom sector authorities and the incumbent dominant operators is how to put the issues of price reform and rebalancing on the larger political agenda in the face of weak economies. Still, the experience of countries that have been restructuring their telecom sectors strongly suggests that repricing local services is imperative.

Distorted telephone rates impose significant costs on an economy by providing wrong economic signals to the users of the telephone network. Low rates for local calling over-stimulate local usage while long-distance calling is inefficiently repressed because of excessive rates. In addition, unbalanced rates create incentives for uneconomic bypass.

One of the consequences of liberalization and deregulation around the world has been the reduction of interexchange and international tariffs. Maintaining these tariffs at traditional levels places national telecom users at a competitive disadvantage in an increasingly globalized economy. The efficiency of telecom pricing may often be a determining factor in foreign investors' decisions about where to locate plants, as well as

service industries dependent on computer processing capabilities. This is especially important in the case of the ECOWAS countries given their critical need for foreign direct investment.

Another reason for moving promptly to adjust tariff structures is that both collection and settlement rates for international services are steadily being reduced as a result of pressures in the international arena. Such services have traditionally contributed a disproportionately high percentage of operators' profits. Failure to put in place new tariff structures to offset anticipated lost international revenues could place the operators at a serious disadvantage.

In the face of the telecommunications sectors' significant investment requirements, the operating entities should also be accorded substantial competitive pricing flexibility. The efficient defraying of these large infrastructure costs will require prices that are based on both cost and demand conditions--demand considerations as well as cost data must be permitted to enter into the determination of rates in order to permit adequacy of revenues and achieve efficiency. In particular, the operators should be permitted to identify means of increasing local tariffs on a selective basis. For example, if an overlay network of new digital facilities is implemented, users of these new facilities might be expected to pay local exchange charges that approximate the international levels.

Mechanisms to Fund the Sector's Social Goals

Traditional regulation has, in many domains, led to prices with systematic elements of cross-subsidization. However, both economic theory and regulatory experience suggest that it is impossible to maintain significant cross-subsidies in the structure of prices for long, with open entry and no remedial policies, whether or not that would seem to policy-makers to be desirable. Therefore, with market liberalization, either new sources of subsidy must be found, or rates that were below incremental costs must be raised to compensatory levels.

In the United States, following the deregulation of key sectors of the economy, a substantial amount of effort was put into the design of competitively neutral mechanisms to foster desirable social goals and positive economic externalities. The need to adopt

support mechanisms that are explicit and sufficient to advance certain publicly articulated universal service principles, and to assist consumers who would otherwise be disadvantaged, is even more pronounced in our client countries that are liberalizing key sectors of their economies.

The experience from the United States contains important lessons. However, in the context of a specific industry in a given country, the requisite policy approach for pursuing universal service goals is likely to be sensitive to the country's political and institutional endowment, its fiscal condition, consumer incomes and preferences, as well as the industry's economic characteristics. Additional work is needed to understand how these factors affect the optimal design of support mechanisms in the ECOWAS region: whether support for universal service should be funded out of general tax revenues, or perhaps out of a broadly-based tax on revenues derived from the industry's products and services; the extent and scope of subsidies; and methods for delivering the subsidy without distorting competition.

Annex A

West Africa Telecommunications—Country Summaries

1. Benin

General

Benin had an old style posts and telecommunications entity until 2004, when the Office des Postes et Telecommunications (OPT), was separated in two companies: Benin Telecom, and Benin Post Office⁶⁴. The separation paved the way for the privatization of the national incumbent, which, however, has not been implemented yet. Some progress has been made in the mobile industry were there are now four private mobile operators, whose combined connections exceed fixed lines by more than 5:1⁶⁵. The fixed-line teledensity is 1%, while mobile penetration is 5.33% (2004)⁶⁶.

Fixed lines

National teledensity is among the lowest in Africa. The state operator covers 75-80% of the country and 36% of the telephone lines are located in the main cities. The waiting time for fixed line connections is up to 3.5 years⁶⁷.

Mobile sector

In 2000 the mobile sector was liberalized and three licenses were issued to Telecel Benin and Spacetel-Benin and Libercom (OPT). Since, the launching of the GSM networks the number of mobile subscribers has grown considerably, a trend that is evident in most African countries. In 2003 a fourth license has been issued to Bell Benin Telecommunications⁶⁸.

⁶⁴ The Economist Intelligence Unit. "Benin Country Profile 2006."

⁶⁵ Paul Budde Communications. 2005. "Benin-Telecoms Market Overview & Statistics."

⁶⁶ All the penetration statistics are taken from the International Telecommunications Union (ITU) Telecommunications Indicators.

⁶⁷ Paul Budde Communications. 2005. "Benin-Telecoms Market Overview & Statistics."

⁶⁸ Paul Budde Communications. 2005. "Benin-Telecoms Market Overview & Statistics."

Regulation

In 1999 the government adopted a strategy of reform to open the market to competition and allow for privatization of OPT. In 2002 two laws came into effect that established a regulatory authority (Autorite de Regulation des Postes et Telecommunications – Decree 2002-003) and created a legal framework for interconnection and tariff policy (Decree 2002-002)⁶⁹. In October 2003, the council of ministers adopted a decree establishing a regulatory body⁷⁰. According to a report on businessafrica.net, the government of Benin has suspended the Posts and Telecommunications Regulatory Authority in early May this year. The government also abrogated all texts of the decrees that mandated the authority and announced that it will review all existing licenses as well as the contracts between Benin Telecoms and private operators.

Liberalization

According to the 2002 decree, telecommunications services in Benin should be liberalized by December 31, 2005⁷¹. Some progress has been made with the separation of OPT but more substantial steps have been made in the mobile sector, which was liberalized in 2000 when three GSM licenses were issued.

Privatization

The privatization process in the telecommunications sector of Benin began with the separation of OPT in two entities. The approval of a strategy for the privatization of Benin Telecom and the issue of an invitation to bid was supposed to be implemented by the end of 2005. However, this deadline has not been met and the process has stalled⁷².

⁶⁹ K. Lohento. 2003. "Civil Society and National ICT Policy in Benin." Association for Progressive Communications, Africa ICT Policy Monitor Project.

⁷⁰ The Economist Intelligence Unit. "Benin Country Profile 2006."

⁷¹ K. Lohento. 2003. "Civil Society and National ICT Policy in Benin." Association for Progressive Communications, Africa ICT Policy Monitor Project.

⁷² The Economist Intelligence Unit. "Benin Country Profile 2006." & African Development Bank and Organization for the Economic Co-operation and Development. 2006. "African Economic Outlook 2006." Paris, France.

2. Burkina Faso

General

Burkina Faso's telecom sector is undergoing transformation with the planned privatization of the national operator (Onatel) and the end of the company's monopoly in fixed lines on December 2005.

Fixed-line teledensity is among the lowest in Africa with only 0.74 telephone lines per 100 inhabitants, while mobile penetration is 4.33% (2005). Moreover, 81% of the telephone lines are in the capital Oagadougou, and only 179 of the 300 districts in the country are covered by a fixed telephone connection⁷³.

Regulation

A national regulator Autorite National de Regulation des Telecommunications (ARTEL) was established in 1998, with the adoption of an Act by the government, and has been fully operational since March 2000. It has since then granted two operating licenses and resolved several legal cases – in favor of private operators⁷⁴.

Liberalization

While Onatel's monopoly ended recently, the mobile sector was liberalized in 2000 with two GSM licenses given to Celtel and Telecel. The third mobile operator is Telmob, Onatel's subsidiary that was established in 1996.

Under a strategy for universal access supported by the World Bank, the government is planning to give licenses to small-scale rural operators⁷⁵.

Privatization

In 1998 the government of Burkina Faso decided to privatize Onatel and adopted a draft legal and regulatory framework. Privatization was originally scheduled for 2000. In

⁷³ S. Oudraogo. 2004. "Burkina Faso: Coping with Poverty" in "Completing the Revolution: the Challenge of Rural telephony in Africa." The Panos Institute, London, U.K.

⁷⁴ S. Oudraogo. 2004. "Burkina Faso: Coping with Poverty" in "Completing the Revolution: the Challenge of Rural telephony in Africa." The Panos Institute, London, U.K. & Paul Budde Communications. 2005. "Burkina Faso – Telecoms Market Overview & Statistics."

⁷⁵ Paul Budde Communications. 2005. "Burkina Faso – Telecoms Market Overview & Statistics."

November 2001 the government announced that it planned to sell the 51% stake of the company to foreign investors, 20% to the public, 6% to the employees and retain 23% ownership⁷⁶. According to recent plans, the government intends to complete negotiations with an investment bank to manage the privatization of Onatel, with a view to sell the 51% stake of the company before the end of 2006⁷⁷.

3. Cape Verde

Cabo Verde Telecom (CVT) is the sole supplier of telecommunications in Cape Verde and it reports to the Ministry of Infrastructure and Transport. By 1999 Cape Verde was in its 3rd stage of privatization with Portugal Telecom International owing 40% share of the company, 13.7% given to national private sector entities, 27.9% owned by the National Social Institute, 13.4% owned by the State of Cape Verde and the remaining 5% given to the employees⁷⁸.

International calls were liberalized as of January 1st 2006, despite the original monopoly provision until 2010. The government of Cape Verde also announced that it will end CVT's monopoly in fixed line as of January 1st 2007. In view of the liberalization of the sector, in late 2004 the government invited bids from Chinese and American telecommunications companies to operate services in Cape Verde in competition with CVT⁷⁹.

The Regulatory Authority of the telecommunications sector is the Instituto de Comunicacoes e Tecnologias de Informacao (ICTI) that was established in 2004 (Resolution No 1/2004)⁸⁰.

Cape Verde is the only country in ECOWAS that is listed in the "medium" category of the ITU Digital Access Index data in 2003. In the fixed lines the penetration is 14 lines per 100 people (2005), which is the highest in the region, although it slightly decreased during the past year. The waiting time for a new telephone was 0.7 years in 2000⁸¹.

⁷⁶ Paul Budde Communications. 2005. "Burkina Faso – Telecoms Market Overview & Statistics."

⁷⁷ The Economist Intelligence Unit. "Burkina Faso Country Report 2006."

⁷⁸ United Nations Economic Commission for Africa. NICI Infrastructure, Country Profiles, Cape Verde.

⁷⁹ The Economist Intelligence Unit. "Cape Verde Country Profile 2006."

⁸⁰ International Telecommunications Union. 2005. Regulators Profile – Cape Verde

⁸¹ United Nations Economic Commission for Africa. NICI Infrastructure, Country Profiles, Cape Verde.

In the mobile sector there is also only one operator Telemovel, a subsidiary of CVT. The cellular phones penetration level was 16.12 subscribers per 100 people in 2005, which is high by African standards.

4. Cote d'Ivoire

General

The telecommunications sector in Cote d'Ivoire has undergone restructuring and liberalization that began in 1991 and totally transformed the sector. The state operator Cote d'Ivoire Telecom (CI-Telecom) was partially privatized in 1997 and its exclusivity period ended in December 2004.

In the mobile sector three mobile operators were licensed in 1996, but one of them ceased operations in early 2004⁸². Despite that, growth continued and there are now more than four times as many mobile subscribers than fixed lines.

Fixed line teledensity in Cote d'Ivoire is 1.43% (2003), while mobile penetration is 12.06% (2005).

Fixed line

The country's telephone system is well-developed by African standards. According to ITU in 2005 there were 1.43 main telephone lines per 100 inhabitants (there were 1.51 in 1999).

The national operator was privatized in 1997 with the sale of 51% stake of the company to France Telecom⁸³.

Arobase Telecom was the second fixed line operator to be given a license in 2002. The company has signed a twenty year concession with the government that allows it to build and exploit telecommunications network in fixed telephony. The company has been building a fiber network, and has officially launched operations in October 2005⁸⁴.

⁸² Paul Budde Communications. 2005. "Cote d'Ivoire – Telecoms Market Overview & Statistics."

⁸³ Paul Budde Communications. 2005. "Cote d'Ivoire – Telecoms Market Overview & Statistics."

⁸⁴ www.buyusa.gov , www.angolapress.angop.ao, www.3g.co.uk

Mobile

Three mobile operators were granted licenses before the privatization of CI-TELCOM, Comstar and Telecel in 1995 and Ivoiris in 1996. This granting was not competitive, but it was given to the three main companies that have expressed interest. These networks were given a five year tax exemption and the freedom to set their own tariffs⁸⁵.

Comstar ceased operations in 2004 due to legal disputes between its shareholders⁸⁶.

Regulation

The reform of the Ivorian telecommunications sector started in 1991 with the adoption of the restructuring scheme and the technical and financial audit of CI-TELCOM. A new telecommunications code was passed in 1995 that established the legal framework to allow competition in the sector. The law (no 95-526, 1995) reorganized the sector and differentiated the policy function (Ministry of Telecommunications), the regulatory activities (Telecommunications Agency and Telecommunications Council) and the operation of the networks (CI-TELCOM and mobile operators). Competition was extended to all services except the telephone services between fixed points and the telex.

The law established the Agence des Telecommunications de Cote d'Ivoire (ATCI) as the independent regulator and the Conseil de Telecommunications de Cote d'Ivoire (CTCI) as the highest telecommunications authority responsible for arbitration in case of problems between ATCI and the operators.

Among ATCI's responsibilities are to enforce the regulatory acts as far as telecommunications are concerned, define pricing under the monopoly regime, and deliver the operating authorization of the telecommunications services. The Agency is submitted to administrative supervision of the telecommunications and civil service ministries⁸⁷.

Liberalization

The 1995 law opened the market to competition in mobile services, public payphones, data transmission and other value added services. Three licenses were awarded to mobile

⁸⁵ Laffont, J., and T. N'Guessan. 2002. "Telecommunications Reform in Cote d'Ivoire."

⁸⁶ Paul Budde Communications. 2005. "Cote d'Ivoire – Telecoms Market Overview & Statistics."

⁸⁷ Laffont, J., and T. N'Guessan. 2002. "Telecommunications Reform in Cote d'Ivoire."

operators in 1995 and 1996 (Comstar, Telecel and Ivoiris). Three licenses were also awarded for international telephony.

In the fixed lines, CI-TELCOM's exclusivity ended in 2004. However, a de facto monopoly still exists until the National Assembly approves the new measures to liberalize the sector, which have been approved by the Council of Ministers since January 2005. The new law seems unlikely to be passed before the end of 2006. Under the new law the market will be fully liberalized and a new regulatory agency will be created⁸⁸.

In 2002 Arobase Telecom, an Ivorian telecommunications company, has been given a license to build and operate a fiber network.

Privatization

Privatization began in 1991 under the pressure of the World Bank, with the technical and financial audit of CI-TELCOM. In 1992, there was a legal and regulatory review of the sector that ended with the 1995 law. The privatization entered into its final stage in 1996 with the competitive invitation to tender. In 1997 a twenty-year concession was granted for the fixed lines and 51% of the capital was given to France Cables et Radio (France Telecom), with the state retaining 47% and 2% given to the employees. The company has exclusive rights for twenty years starting from February 3rd, 1997⁸⁹.

5. The Gambia

General

Gambia Telecommunications Company (Gamtel), is the sole supplier of basic telecommunications services. The company is 99% owned by the government and 1% by the Gambian National Insurance Company.

With the implementation of a number of phased projects Gamtel managed to raise the number of fixed lines from 19,200 in 1995 to an estimated 42,600 in 2003, representing a teledensity of 2.8% (in 2005 main line penetration was 2.90%)⁹⁰. The company currently has an Expansion Project according to which 230,000 fixed lines will be installed by

⁸⁸ U.S. Department of State. 2006 Investment Climate Statement – Cote d'Ivoire.

⁸⁹ Laffont, J., and T. N'Guessan. 2002. "Telecommunications Reform in Cote d'Ivoire."

⁹⁰ Paul Budde Communications. 2005. "Gambia – Telecoms Market Overview & Statistics."

2009⁹¹. However, waiting time for a new telephone line is still more than three years, and more than 65% of all main lines are in the capital city.

In 2001 Gamtel launched the first GSM mobile system, and later that year a private company Africell was given a GSM license⁹². The two companies almost share the subscribers' base, with Gamtel having around 160,000 and Africell around 130,000 customers. This year, a third mobile operator, West Coast Investment, has been granted a license. Mobile tariffs have fallen because of competition and the mobile penetration reached 16.3% in 2005, which is high by African standards⁹³.

Unlike most other African countries, Gambia's small size makes investment in main line infrastructure a viable alternative to mobile expansion.

Regulation

The government has adopted a National Information and Communications Infrastructure Policy (NACIP) which sets out a regulatory framework. In 2004 the Public Utility Regulatory Authority was established (PURA Act 2001) and is responsible for the regulatory oversight of the telecommunications, electricity, water, transportation and posts sectors⁹⁴.

Liberalization – Privatization

With the adoption of the NACIP the government plans to create an environment more conducive to public and private ownership through to 2008. Currently only the mobile sector is open to competition. The operation of private telecenters is also permitted. A new Telecoms Bill that will signal the end of the incumbent's monopoly and open up the market is soon to be passed by the Gambian government. The Bill will outline the guidelines for licensing, spectrum management, interconnection, and VoIP, and it will also set up a Universal Access Fund⁹⁵.

⁹¹ The Economist Intelligence Unit. "The Gambia Country Profile 2005."

⁹² Paul Budde Communications. 2005. "Gambia – Telecoms Market Overview & Statistics."

⁹³ APC Africa ICT Policy Monitor. 02/13/2006. "Gambia: Major Changes in ICT Sector on the Cards."

⁹⁴ Paul Budde Communications. 2005. "Gambia – Telecoms Market Overview & Statistics."

⁹⁵ APC Africa ICT Policy Monitor. 02/13/2006. "Gambia: Major Changes in ICT Sector on the Cards."

6. Ghana

Overview

Reforms in the Ghanaian telecommunications sector began in 1994 when the government announced a five year plan for the restructuring of the industry. An independent regulatory authority was established in 1996 and the same year the national operator, Ghana Telecom (GT), was partially privatized. A Second Network Operator (SNO) was introduced in 1997⁹⁶.

The reforms, though, yielded mixed results. The landline telephone penetration and the number of mobile subscribers increased considerably, but the network did not reach the levels the government hoped. Additionally, the regulator is weak and relatively ineffective and GT's strategic investor was removed in 2002.

Ghana's national telecom network, although it has improved in the past few years, suffers from a range of technical problems that result in congestion and poor quality of service.

Fixed lines

There are two national operators currently in Ghana: GT, the national incumbent and Westel, which was given a SNO license in 2002. GT was partially privatized in 1996, when a 30% stake of the company was sold to G-Com (Telekom Malaysia). In 2002 the contract with Telekom Malaysia was not renewed and Telenor of Norway came to replace Telekom Malaysia as the manager of GT⁹⁷.

Legislation to regulate the two national operators was passed in 1996. The licenses set network expansion and quality of service targets. The two national operators were given a five-year exclusive duopoly over fixed and international voice telephony. Both companies have failed to reach the required number of new main lines that were set in their contracts⁹⁸. Although the number of main lines has increased from 105,500 in 1997

⁹⁶ Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C. & Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics."

⁹⁷ Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics." & The Economist Intelligence Unit. "Ghana Country Profile 2005."

⁹⁸ Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics"

to 240,000 in early 2002, the growth rate was not as high as expected and in 2004 main line penetration was 1.47%⁹⁹.

GT, despite its significant growth in the last years, is currently struggling with a debt to GSM providers. The company and the sector's regulator trade accusations on the causes of GT's problems¹⁰⁰.

In a recent development, WESTEL has become a fully-owned state entity, following a government's acquisition through the Ghana National Petroleum Company. The purchase has put an end to the legal action that Westel has been pursuing against the government and the National Communications Authority, alleging that their delay in making key decisions has caused the company severe financial damage. The re-nationalization of Westel, makes the government the sole shareholder of the nation's two fixed line companies, having also bought back the stake of GT it has sold to Telekom Malaysia¹⁰¹.

In addition to the two national operators, Capital Telecom is licensed as a rural telephone operator to provide access to under-serviced rural areas¹⁰².

Mobile

The mobile sector in Ghana is fully liberalized and highly competitive. The first mobile operator, Millicom Ghana (Mobitel), was launched in 1992, and between then and 1996 other two companies were licensed to provide mobile telephony services. These are Spacefon and Kasapa. GT launched its own mobile service, OneTouch, in 2000. Only GT and Spacefon offer nationwide coverage¹⁰³.

By 2005, mobile lines represented 85% of the total telephone subscribers in Ghana and penetration was 8%.

⁹⁹ Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C. & Alhassan, A. 2003. "Telecom Regulation, the Post-Colonial State, and Big Business: The Ghanaian Experience." *West Africa Review*, Vol 4, 1.

¹⁰⁰ allafrika.com, November 16, 2005: "Woes of Ghana Telecom Deepen."

¹⁰¹ The Economist Intelligence Unit. "Ghana Country Report 2006-2007." & Africa Research Bulletin, Vol. 43, No2.

¹⁰² Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics."

¹⁰³ Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics" & ITU. 2005. "GSM Mobile Networks in West Africa: Mission Report." Dakar.

The country offers potential for mobile operators, as fixed lines are concentrated around the capital area of Accra and the rural areas are neglected. Although tariffs have declined due to competition, they still remain out of reach of much of the population.

In 2004, the regulator proposed a new license fee scheme. Previously none of the operators actually held a proper license and networks were launched based on written authorization, as the government was eager to increase teledensity¹⁰⁴.

Regulation

The government stated its telecommunications objectives in the Accelerated Development Program (ADP) for 1994-2000. The ADP called for competition in the sector with a second network operator (SNO), expansion on mobile networks, no restriction on private networks and the establishment of an independent regulatory body to regulate the sector under the policy of the Ministry of Communications.¹⁰⁵

The National Communications Authority (NCA) was established by Parliamentary Act in 1996. The Act gave NCA considerable authorities, including responsibilities for: granting licenses, allocating frequencies, providing tariff rules and guidelines, and providing advice on policy for the sector to the Minister. NCA reports to the Ministry of Transport and Communications and is financially autonomous¹⁰⁶. The Authority generates funds by collecting 1% of fixed line and mobile operators' turnover. NCA is collecting a further 1% of operators' turnover for Ghana Investment Fund to promote rural telephony¹⁰⁷.

The Act failed to safeguard the independence of NCA from political intervention. All members of its Board of Directors are appointed by the President and could be removed by the President at any time "for stated reasons".

¹⁰⁴ Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics." & Pyramid Research. February 2002. "Ghana: Government to Overhaul a Failed Liberalization Process."

¹⁰⁵ Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C.

¹⁰⁶ Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C.

¹⁰⁷ C. Regobeth Kofi Ahoritor. 2003. "Regulatory Impact in Ghana." Institute of Statistical and Economic Research, University of Ghana, Accra, Ghana.

After its establishment, the NCA operated for four years without a board of directors. After a new government assumed office, the new minister of communications was appointed as a temporary board chairman for one year¹⁰⁸.

The NCA places a price cap on the fixed line operators and allows mobile operators to fix their own tariffs. Thus, while mobile operators do not pay anything to GT for calls originating from mobile to fixed line, GT has to share with mobile operators the amount realized from calls originating from its end to mobile phones¹⁰⁹.

Besides the lack of independence, NCA is reported to have other weaknesses such as lack of staff and expertise to meet its regulatory mandate. Moreover, the regulator operates with more than usual information asymmetry and it does not have even the most minimal information it needs to regulate. In the absence of effective regulation major disputes have arisen over interconnection. NCA has been unable to resolve major disputes without the intervention of the Minister¹¹⁰.

Liberalization

Reforms were introduced gradually in the Ghanaian telecommunications sector, beginning in 1992 with the allowance of cellular entry. Initially, mobile entry was allowed without charge and with minimum regulation. Multiple licenses were awarded in 1992, but only one company, Mobitel, began operations in 1992-93. Two more operators were given licenses until 1996. All operators developed interconnection agreements with GT. The mobile operators were allowed to enter the market using authorizations rather than formal licenses with clearly defined service obligations¹¹¹.

A license for a SNO was awarded in 1997 to Western Telesystems, a consortium led by a US company. The company operated under an exclusive duopoly regime until 2002. Westel started offering services in 1999, due to interconnection issues and limited

¹⁰⁸ Alhassan, A. 2003. "Telecom Regulation, the Post-Colonial State, and Big Business: The Ghanaian Experience." *West Africa Review*, Vol 4, 1.

¹⁰⁹ C. Regobeth Kofi Ahortor. 2003. "Regulatory Impact in Ghana." Institute of Statistical and Economic Research, University of Ghana, Accra, Ghana.

¹¹⁰ Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C. & G. Frempong. 2002. "Telecommunication Reforms – Ghana's Experience."

¹¹¹ Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics." & Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C.

investment. It has not yet started providing cellular services, mainly due to problems of frequency allocation. The company also failed to reach the required 50,000 new phone lines, as by end-2003 it only provided 3,000 lines, and NCA had to impose a penalty¹¹². Westel was unable to pay the full amount and has been virtually removed from competition, as the company's subscribers base has not increased.

Privatization

With plans for privatization, the national operator was incorporated in 1995 as a public limited liability company and separated from postal services. After a bidding process, 30% of GT's stake was sold to G-Com Ltd (Telekom Malaysia). The government retained the remaining 70% of the company. Telekom Malaysia also had the management of the company and held the majority on the board of directors¹¹³.

Following the expiry of the duopoly in 2002, the government announced changes in the board structure of GT with the objective of divesting further and inviting more foreign investment. In the same time, the management contract of Telekom Malaysia expired and the government refused to renew it, despite the 2001 agreement that Telekom Malaysia would be allowed to increase its share by 15%¹¹⁴. The government stated that the company has failed to install the number of additional lines stipulated by the contract arrangements.

Later the same year, the government invited foreign participation to acquire part of the retaining 70% stake of GT. Discussions were entered into with Telenor ASA, but the company did not wish to buy part of GT, and was solely interested in the management. A management service agreement was signed in 2003¹¹⁵.

¹¹² Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics."

¹¹³ Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C. & Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics."

¹¹⁴ Haggarty, L., M. Shirley, and S Wallsten. 2003. "Telecommunications Market Reform in Ghana." Policy research Working Paper No 2983, World Bank, Washington, D.C. & Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics."

¹¹⁵ Paul Budde Communications. 2005. "Ghana – Telecoms Market Overview & Statistics."

In January 2005 the government announced its aim to sell a 51% stake in GT to a strategic Investor. In the same year, the government bought back the 30% shareholding in GT that it has sold to Telekom Malaysia¹¹⁶.

7. Guinea

The main telecommunications company in Guinea, Societe des Telecommunications de Guinee (Sotelgui) was created in 1993 and privatized in 1995. Telekom Malaysia bought a 60% stake and the government retained the remaining 40%. In the framework of this cooperation Telekom Malaysia was expected to fulfill several expectations, mainly improving the whole industry and passing the technical know-how¹¹⁷.

However, in early 2005, Telekom Malaysia announced that it was divesting from Guinea, having failed to increase the number of Sotelgui's subscribers (fixed and mobile) to 500,000. The company currently has only 161,600 fixed lines and its mobile arm is highly inefficient¹¹⁸.

In 2004, main line penetration was only 0.34%.

In the mobile sector, up to mid-2005 there were three operators, Sotelgui's mobile company and private operators (Telecel and Spacetel). In 2005 a fourth GSM license was awarded to the Senegalese Sonatel. Guinea's mobile sector, although it has grown in the last years, is not in a good condition, and further development of the industry is constrained by a lack of adequate infrastructure. In 2005, there were only 2.36 subscribers per 100 people. Sotelgui's mobile branch has been unable to provide even the basic services and the presence of the other companies has done little to improve the situation. One example of Sotelgui's inefficiency is the unavailability of SIM cards, the distribution of which is in its hands¹¹⁹. SIM cards are currently available on the black market at highly inflated prices of around US\$180.

The regulatory authority of the telecommunications sector is Direction Nationale des Postes et Telecommunications that was established in 1992. The body reports to the Ministry and is not autonomous in its decision making¹²⁰.

¹¹⁶ The Economist Intelligence Unit. "Ghana Country Report 2006-2007."

¹¹⁷ The Economist Intelligence Unit. "Guinea Country Profile 2005."

¹¹⁸ The Economist Intelligence Unit. "Guinea Country Report 2006."

¹¹⁹ The Economist Intelligence Unit. "Guinea Country Report 2005."

¹²⁰ ITU. Regulators Profile Guinea, 2002.

8. Guinea-Bissau

The telecommunications sector in Guinea-Bissau is dominated by Guine-Telecom. The majority stake (51%) of the company is owned by Portugal Telecom. In 2004 Portugal Telecom signed a new ten year concession, following the unilateral revocation of a 20-year concession signed in 1989. Under the new contract Portugal Telecom's stake in GT will fall to 40%¹²¹.

In the mobile sector, Guine Tel was established by the government in 2003 and will now form part of GT. Portugal Telecom's stake in the mobile arm of GT is 55%. Since December 2003, Spacotel Guinee-Bissau, a mobile company, has been operating in the country¹²².

In 2003, there were only 0.82 main telephone lines per 100 inhabitants. The number of mobile phone subscribers has increased considerably from 3.19 per 100 inhabitants in 2004 to 5.01 in 2005.

In 1999 the government passed a new law for the reform of the sector. Under this law an independent regulatory body (the Guinea-Bissau Telecommunications Institute) would be established and competition would be allowed in the sector¹²³. As a result, Institut des Communications de la Guinee-Bissau (ICGB) was created as an autonomous body regulating the sector¹²⁴.

9. Liberia

General

Liberia's telecommunications infrastructure has experienced extensive destruction during the 13-year war. Before the war, Liberia Telecommunications Corporation (LTC), the country's only public company providing fixed-line telephone services, served 10,000 subscribers on fixed-line and wireless loop systems. Currently, LTC has approximately

¹²¹ The Economist Intelligence Unit. "Guinea-Bissau Country Profile 2005."

¹²² The Economist Intelligence Unit. "Guinea-Bissau Country Profile 2006."

¹²³ Guinea-Bissau, Ministry of Telecommunications. 1999. "Declaration of Guinea-Bissau Sectoral Telecommunications Policy."

¹²⁴ ITU. Regulators Profile Guinea-Bissau, 2004.

7,000 fixed lines installed and 2,000 wireless system subscribers. In addition, most of the fixed-lines are not even functional¹²⁵. Fixed line penetration is 0.21% (2003).

LTC has been straggling with problems in the past years. Since the beginning of 2005 the company has halted operations and in May 2006 the government announced that it will close it down due to its inability to generate revenues¹²⁶.

The mobile sector is dominated by Lone Star Communications, the incumbent mobile service, which launched its services in 2001. Lone Star is owned 69% by Investcom Holding and 40% by local shareholders. The company was handed a virtual monopoly by the previous regime without a provision requiring it to share its mobile infrastructure¹²⁷. Currently there are four licensed GSM companies in Liberia: Lonestar, Comium Liberia, Atlantic Wirelss Liberia/LiberCell, and Cellcom telecommunications. The increased private sector participation has alleviated the communications gap created by LTC's ineffectiveness¹²⁸. Mobile penetration has increased significantly in the last years from 1.40% in 2003 to 4.87% in 2005.

Regulation

The Ministry of Post and Telecommunications (MP&T) is the body responsible for the policy formulation and regulatory oversight of the sector. The Chairman of the Transitional Government has established a special Presidential Telecommunications Committee to investigate new licenses issued by the Ministry.

Regulatory credibility in the sector is very low owing to the perceived lack of capacity in the Ministry, the absence of an independent regulator and the lack of clarity of the parallel decision making structure¹²⁹.

The Liberian government together with the World Bank has proposed a comprehensive National Telecommunications Policy for Liberia. According to it, the sector will be liberalized, the incumbent operator will be privatized, private operators will be allowed to

¹²⁵ The World Bank. 2004. "Project Appraisal Document on a Trust Fund for Liberia."

¹²⁶ allafrika.com

¹²⁷ The Economist Intelligence Unit. "Liberia Country Profile 2005."

¹²⁸ United States Embassy in Liberia. "Doing Business in Liberia." Economic/Commercial Section, Monrovia, Liberia.

¹²⁹ Bernard, L. 2004. "A Case for Privatization in Liberia." The Perspective, Atlanta, Georgia.

enter the market and an independent Regulatory Authority (Liberian Telecommunications Authority – LTA) will be established¹³⁰.

In September 2005, the Liberian Government has passed a law for the creation of LTA, but there are disputes within the country concerning a violation by the bill of the Liberian Constitution and the appointment of the head of LTA by the Chairman of the Transitional Government¹³¹.

Privatization

In early 2005 the Board of Directors of LTC passed a resolution confirming the Universal Telephone Exchange (UTE) as the winner of the bid for revitalization, modernization and improvement of LTC. However, the head of the transitional government stepped on the confirmation and refused to award the contract to UTE, which has been accused of malpractice by the media¹³².

10. Mali

The Ministry of Telecommunications is the government body responsible for the telecommunications sector. In 1999 the Telecommunications Regulatory Committee (CRT) has been created as the autonomous body responsible for ensuring the application of regulations¹³³. The Societe de Telecommunications de Mali (Sotelma) is the state telecommunications company.

Under the auspices of the IMF the sector is gradually being liberalized. In 2001 laws were passed to open the market to competition and to facilitate the sale of Sotelma. The company generated little interest and according to a revised timetable discussed with the World Bank the sale was scheduled to be completed in July 2006¹³⁴. However, there was

¹³⁰ APC Africa ICT Policy Monitor. 08/02/2005. Liberia: Government Submits Draft Telecommunications Bill.” & Republic of Liberia: “National Telecommunications Policy and Strategy Telecom Sector Policy Document.”

¹³¹ www.liberianobserver.com , www.analystnewspaper.com

¹³² www.liberianobserver.com / Economist Intelligence Unit. 2005. Business Africa- Main Report: June 1st 2005. Regulatory Watch: Liberia.

¹³³ United Nations Economic Commission for Africa. NICI Infrastructure, Country Profiles, Mali.

¹³⁴ The Economist Intelligence Unit. “Mali Country Profile 2005.”

a further delay in the sale that is now not expected to be completed until the end of 2006¹³⁵.

Mali's first mobile operator, Sotelma's mobile subsidiary Malitel, was established in 1999. A second fixed line and mobile operator, Groupe France Telecom's Ikatel, entered the market in 2002. Ikatel is the market leader with 520,000 subscribers, compared to 187,000 of Malitel's. The number of cellular subscribers has grown significantly in the last years and, as elsewhere in Africa, there are now many more Malaysians with mobile phones than fixed lines¹³⁶. According to ITU statistics, in 2005 there were 7.66 mobile subscribers and 0.66 fixed lines per 100 inhabitants.

11. Niger

Societe Nigerienne des Telecommunications (Sonitel) is the national operator. In November 2001 a majority stake in the company was sold to Dataport. The company came under public scrutiny in 2004 for having failed to carry out the expansion that had been promised at the time of the privatization. The number of telephone lines has remained almost unchanged since 1998, at just 0.19 lines per 100 inhabitants in 2004, compared with 0.18 in 1999¹³⁷.

Mobile phone penetration is also very low, at an estimated 1.63 subscribers per 100 inhabitants in 2005. The mobile operators are SahelCom, a subsidiary of Sonitel, Telecel Niger that began operations in 2001, and Celtel Niger that started its activities in 2004. According to ITU, the regulatory authority of Niger's telecommunications sector is Autorite de Regulation Multisectorielle (ARM).

¹³⁵ African Development Bank and Organization for the Economic Co-operation and Development. 2006. "African Economic Outlook 2006." Paris, France & International Monetary Fund. 2006. Country Report No. 06/73.

¹³⁶ The Economist Intelligence Unit. "Mali Country Report 2006."

¹³⁷ The Economist Intelligence Unit. "Niger Country Profile 2005."

12. Nigeria

General

The Nigerian telecommunications industry has undergone a series of reforms during the last years. An independent regulator was established in 1992, and has since then given a number of licenses in fixed telephony, mobile and long distance operations. Despite the initial plans for its privatization, the national operator (Nitel) has not yet been sold.

The ongoing liberalization has led to a multi-operator environment, the gradual end of monopolies, increased investment in the sector and improved quality. The expansion of the network was also significant, especially in the mobile sector. Nevertheless, Nigeria's present telecommunications infrastructure remains, by international standards, inadequate.

Fixed-network

The national carrier Nigerian Telecommunications (Nitel) has a derelict public network that is incapable of meeting demand. The company has blamed its poor performance on outstanding customer debt. In 2003 Nitel appointed a private company, Pentascope, as its new manager for the next three years, to lead up to its sale.

A second national operator (SNO), Globacom Ltd., was given a license in 2002. To encourage competition at all levels of the market, the SNO license allows the company to operate a national carrier, a GSM network, a Fixed Wireless Access (FWA) network and an international gateway.

In May 2002 the sector's regulator also awarded 22 licenses to private companies to operate FWA services.

Fixed line teledensity was 0.93% in 2005, still below the government's target of 1%. The majority of the lines are concentrated in a few major cities, and large areas of the country, including towns of more than 300,000 people, remain isolated from telecommunications facilities¹³⁸.

Mobile network

¹³⁸ Paul Budde Communications. 2005. "Nigeria – Key Statistics and Telecommunications Market Overview." & "Nigeria – Major Fixed Network Operators and Telecommunications Infrastructure."

The mobile sector of Nigeria has seen a remarkable growth in the last years. By 2005, 14.14% of the country population had access to mobile phone, compared with just 0.03% in 2000. Now the country has the second largest mobile market in Africa, after South Africa, but its services remain quite expensive (the operators are severely criticized for their high tariffs). In addition, capacity problems have forced operators to suspend new subscriptions temporarily, while investing in infrastructure¹³⁹.

There are four operators currently in the market: Mobile Telephone Networks (MTN) Nigeria and Econet Nigeria International (now V Mobile) that began operations in 2001, M-Tel (Nitel's mobile subsidiary) that was launched in 2002, and Globacom, which entered the market in 2003.

Regulation

Nigeria's telecommunication's industry was essentially restructured in 1992 with the promulgation of a communications decree, which led to the establishment of the Nigerian Communications Commission (NCC), the sector's regulator. The Ministry of Communications has the task of formulating the telecommunications policy.

In 2000 the revised National Telecommunications Policy (NTP) was published, having as basic objective the modernization and rapid expansion of the telecom network. The NTP led the foundations for the opening of the communications market and set the target of achieving 1% teledensity.

In 2003 a new Telecommunications Act that repeals the Act of 1992 came into law. The Act ensures the reform of NCC, with a view of giving it full autonomy, and establishes a Frequency Management Board¹⁴⁰.

Among the NCC's regulations are a set of interconnection guidelines known as Interconnection Rules. The two main elements of the rules are that: i) every operator must allow other operators full interconnection to its network, and ii) interconnection payments should be based on the actual cost and applied on a non-discriminatory manner¹⁴¹. Despite the establishment of the guidelines there are cited problems with

¹³⁹ Paul Budde Communications. 2005. "Nigeria – Mobile Communications & Broadcasting."

¹⁴⁰ Paul Budde Communications. 2005. "Nigeria – Key Statistics and Telecommunications Market Overview."

¹⁴¹ BMI TechKnowledge. 2005. "Communication Technologies Handbook."

interconnection in Nigeria. For example, many customers carry multiple phones, one from each operator, in order to be able to communicate with all networks. Recently there was an interconnection dispute between mobile operators, MTN and Econet, and the incumbent fixed line operator over unpaid revenues and lack of bandwidth. Since, there are only guidelines, and no firm regulations, NCC lacks the enforceability to arbitrate interconnection dispute and negotiations. As a result, interconnection decisions stay with the operators, unfairly benefiting the larger ones at the expense of smaller Private Telecom Operators (PTOs)¹⁴². Moreover, there is an ongoing dissatisfaction among users concerning interconnection charges and NCC has drew a downward prediction on interconnection rates, which is regarded as equitable by end users and the business community.

As far as tariffs are concerned, NCC has established a set of tariff guidelines. According to them service tariffs must be cost based and allow the operator to derive sufficient revenues, and cross subsidization is prohibited, except in the case of promoting universal access¹⁴³.

NCC has also drawn a set of ‘Enforcement Regulations’ that empower subscribers to petition in writing any operator whose services are less than satisfactory¹⁴⁴.

Since its establishment the NCC has adopted a policy of full liberalization, issuing a large number of licenses to a SNO, four mobile operators, two long distance operators and over 200 value added-services companies¹⁴⁵. The regulator used licensing as a tool to meet market demand. Although successful to some extent, the end result is a highly fragmented market which is difficult to regulate¹⁴⁶. Moreover, many of the companies that have received a license from NCC never began operations¹⁴⁷.

The five years exclusivity period given to mobile operators ended in February 2006. In order to further open up the market NCC introduced a unified licensing scheme, which

¹⁴² Pyramid Perspective. 2001. “Nigeria Setting the Tone for the Post-Exclusivity Period.” Africa/Middle East – Main Report: March 6th 2006.

¹⁴³ BMI TechKnowledge. 2005. “Communication Technologies Handbook.”

¹⁴⁴ Paul Budde Communications. 2005. “Nigeria – Key Statistics and Telecommunications Market Overview.”

¹⁴⁵ Paul Budde Communications. 2005. “Nigeria – Key Statistics and Telecommunications Market Overview.”

¹⁴⁶ Wills, A. and G. Daniels. 2003. “Nigeria Telecommunications Market – A Snap Shot View.” White Paper, Africa Analysis.

¹⁴⁷ APC Africa ICT Policy Monitor. 07/20/2005. “Nigeria: The Limits of Telecoms Deregulation.”

allows existing fixed wireless and mobile licenses to provide both services, subject only to regional limitations. Under this scheme licenses are not segmented in terms of fixed or mobile services, but once spectrum is allocated, licensees are able to offer voice, data or multimedia services as they see fit. The first batch of unified licenses was given to four operators in May 2006. The four companies were the winners amongst a vast number of applications that will continue to go through licensing procedures. The companies paid N260 million (US\$1.8 million) for each license for an initial period of ten years¹⁴⁸.

Liberalization

A policy to liberalize the telecommunications sector was announced in 1991, and the government has been implementing this since then, with the entry of numerous players in all segments of the market¹⁴⁹.

Liberalization began with the opening up of the mobile market. In 1998 and 1999 six licenses were given to companies to operate nationwide GSM-900 services and seven more licenses were given in the 1800 frequency band. However, in September 1999 the government unexpectedly decided to issue only four licenses and maintain exclusivity for the next years¹⁵⁰.

In 2002 the fixed telephony market opened up for competition. A Second National Operator (Globacom Ltd) was awarded a license in September 2002. The license is valid for twenty years and also includes mobiles services, FWA network, and an international gateway.

In May 2002, NCC granted licenses to 22 private companies to operate Fixed Wireless Access (FWA) services. In addition, two companies won licenses in 2002 to operate national long-distance communications services, and numerous companies have secured licenses to provide value-added services, community and rural telephony and regional telecom services¹⁵¹.

¹⁴⁸ Pyramid Perspective. 2001. "Nigeria Setting the Tone for the Post-Exclusivity Period." Africa/Middle East – Main Report: March 6th 2006. / www.tmcnet.com May 26, 2006, Regulatory Watch Nigeria / allafrica.com, May 17, 2006, "With Four Unified Licenses, NCC Stirs New Competition in Telecoms." / www.telecomdirectnews.com

¹⁴⁹ Paul Budde Communications. 2005. "Nigeria – Key Statistics and Telecommunications Market Overview."

¹⁵⁰ Paul Budde Communications. 2005. "Nigeria – Mobile Communications & Broadcasting."

¹⁵¹ "Nigeria – Major Fixed Network Operators and Telecommunications Infrastructure."

Privatization

Nitel's privatization, although planned for since 1998, has still not materialized. The Nigerian government first announced plans to privatize Nitel in 1998. The sale finally occurred in 2001, when Investor International London Limited (IILL) signed an agreement to buy a majority 51% stake of Nitel. In March 2002 Nigeria's ambitious privatization program received a major setback when the planned sale collapsed, since IILL failed to come up with the full payment¹⁵².

In 2003 Nitel entered into a three year management contract with Pentascope International, but the contract was terminated early in February 2005, due to alleged incompetence and inability of the company to meet rollout and performance targets¹⁵³.

In 2005, the Bureau of Public Enterprises (BPE) put forward an alternative privatization plan to sell 20% stake of the company through a domestic IPO and 51% stake to a strategic foreign investor. In mid-2005 BPE announced that it has short-listed six organizations that are interested in buying Nitel's majority stake¹⁵⁴. Problems seemed to appear with the exclusion of some of the company's assets (the Trans-Atlantic SAT-3 cable) after the initiation of the bidding process. The matter was taken to court after a company worker filed a suit¹⁵⁵. In December 2005, the government rejected an offer of US\$256 million made by Orascom.¹⁵⁶

In May 2006 BPE announced that it had adopted a new strategy for the privatization of NITEL, and will now seek a negotiated sale rather than risk a third failed auction process. BPE also said that it wished to avoid the auction process since it would take more time, during which the company would continue to lose value. The company's revenues halved over the past three years and its mobile unit lost more than half of its market

¹⁵² Paul Budde Communications. 2005. "Nigeria – Key Statistics and Telecommunications Market Overview." & BMI TechKnowledge. 2005. "Communication Technologies Handbook."

¹⁵³ BMI TechKnowledge. 2005. "Communication Technologies Handbook."

¹⁵⁴ BMI TechKnowledge. 2005. "Communication Technologies Handbook." & The Economist Intelligence Unit. "Nigeria Country Profile 2006."

¹⁵⁵ APC Africa ICT Policy Monitor. 10/27/2005. "Nigeria: Another Botched NITEL Sale?" / Africa Research Bulletin, Volume 42, No. 12. / allafrika.com: November 23, 2005: "BPE Assures Privatization of NITEL on Track."

¹⁵⁶ The Economist Intelligence Unit. "Nigeria Country Report 2006."

share. The government has short-listed seven candidates to compete in the negotiated sale¹⁵⁷.

13. Senegal

General

According to the International Telecommunications Union (ITU) Senegal has one of the most efficient telecommunications networks in West Africa. The sector began its reform in 1985, with the unbundling of the posts and telecoms monopoly and the creation of Sonatel. However, it wasn't until 1997 that real liberalization began with the partial privatization of the national operator. The incumbent's monopoly officially ended in 2004. Mobile services were introduced in 1996 and competition began in that sector in 1999¹⁵⁸.

In the fixed lines, the sole operator is Sonatel, partially owned by France Telecom, that enjoyed a monopoly up to 2004. A second national operator license for fixed lines, mobile, and international calls is soon to be tendered out¹⁵⁹. Although, Senegal has one of the highest penetration levels in the ECOWAS region with an estimated fixed line teledensity of 2.29% in 2005, the growth rate has decreased in recent years. Moreover, France Telecom has failed to reach the target specified in its contract of connecting 1,000 villages each year¹⁶⁰. A major program to expand telephone coverage to rural areas is under way.

In the mobile sector, there is controlled competition with the presence of two companies, Alizee (subsidiary of Sonatel), and Sentel. Sentel's license was withdrawn in 2000 after the new government discovered that the price paid for the license was too low. After a period of unsettlement, and threats by the government that the license would be revoked,

¹⁵⁷ Oxford Analytica, May 5 2006. "Nigeria" NITEL Fast-Track Sale Good News for Telecoms." / allafrica.com, May 25, 2006: "Nigeria Short-Lists Nitel Sale Candidates." / www.independentngonline.com, May 24, 2006: "BPE Short-Lists Globacom, Trancorp, Celtel, for NITEL Sale."

¹⁵⁸ Azam, J., M. Dia, and T N'Guessan. 2002. "Telecommunications Sector Reforms in Senegal." Policy Research Working Paper No 2894,, World Bank, Washington D.C. & Paul Budde Communications. 2005. "Senegal – Telecoms Market Overview & Statistics."

¹⁵⁹ Pyramid Research. 2005. "Senegal Gears up for Competition." & www.balancingact-africa.com June 05, 2006.

¹⁶⁰ Thiam, B. "Senegal: The Public Service Challenge" in "Completing the Revolution: the Challenge of Rural telephony in Africa." The Panos Institute, London, U.K.

the company continued operations¹⁶¹. Mobile penetration is high by African standards, and has increased considerably in the last year from 10.85% in 2004 to 14.84% in 2005.

Liberalization

The reform of the sector began officially in 1995 with the adoption of a law that laid the ground for the liberalization and the privatization process. The monopoly right was taken from Sonatel, and a framework was set for organizing competition in the sector. The act established three levels of operations: free competition in value-added services, organized competition in the cellular phone sector, and monopoly in fixed lines¹⁶².

The Ministry of commerce was in charge of the liberalization process of the mobile sector. Sonatel created Alizee, its cellular department, in 1996 just before its privatization. A second license was given to Sentel in 1998 and the company began operations in 1999. Sonatel's mobile company retains a monopoly on international calls until 2006¹⁶³.

In December 2001 the government updated the telecommunications law, with the aim to further liberalize the sector. The new Act liberalized the market for a number of services and removed some monopoly benefits from Sonatel.

The main element of the law was the creation of an independent regulatory agency, Agence de Regulation des Telecommunications (ART). It also paved the way for the opening of rural telephony to private investment as a means of achieving universal service¹⁶⁴.

Sonatel's monopoly in fixed lines officially ended in 2004 and a second company is currently expected to enter the market.

Regulatory authority

Agence de Regulation des Telecommunications (ART), the sector regulator, was created by law in December 2001 and established in 2002. The agency took on several of the

¹⁶¹ Azam, J., M. Dia, and T N'Guessan. 2002. "Telecommunications Sector Reforms in Senegal." Policy Research Working Paper No 2894,, World Bank, Washington D.C.

¹⁶² Azam, J., M. Dia, and T N'Guessan. 2002. "Telecommunications Sector Reforms in Senegal." Policy Research Working Paper No 2894,, World Bank, Washington D.C.

¹⁶³ Thiam, B. "Senegal: The Public Service Challenge" in "Completing the Revolution: the Challenge of Rural telephony in Africa." The Panos Institute, London, U.K.

¹⁶⁴ Paul Budde Communications. 2005. "Senegal – Telecoms Market Overview & Statistics."

functions of the Ministry of Communications, which was dissolved in May 2001¹⁶⁵. It is a public institution with financial autonomy, responsible for licensing, spectrum management, tariff approval, interconnection, and renegotiation of licenses and contracts. As a young agency, ART still needs to make progress in respect to independency and transparency.

The creation of ART, although ready on paper for a long time, has been resisted. The regulator was originally expected to become operational in 2000¹⁶⁶.

Privatization

Sonatel's privatization took place in 1997 in three steps: i) sale of a strategic bloc of 33% to France Telecom, ii) sale of 10% of the company to employees, iii) public sale of shares (18%). Neither the government, nor the strategic partner controlled the administrative board¹⁶⁷. The strategic partner had a seven-year concession with exclusive rights that ended in 2004. In 1999 a capital restructuring increased France Telecom's stake to 42%, reducing the government's share to 30%¹⁶⁸.

The most important event that took place after the liberalization and privatization processes was the withdrawal of Sentel's license by the Senegalese Government in October 2000, on the ground that the price paid for the license, as well as the annual fee were very low. The withdrawal of the license provoked criticism from the French and US governments, and since then there have been reports of plans to renegotiate the license¹⁶⁹.

Since privatization Sonatel has cut its prices and improved the quality of service. However, the company failed to reach the expansion targets set at the year of privatization, which were to connect 1,000 villages each year. Seven years later fewer than 1,000 villages in total have been connected¹⁷⁰.

¹⁶⁵ Paul Budde Communications. 2005. "Senegal – Telecoms Market Overview & Statistics."

¹⁶⁶ Azam, J., M. Dia, and T N'Guessan. 2002. "Telecommunications Sector Reforms in Senegal." Policy Research Working Paper No 2894,, World Bank, Washington D.C.

¹⁶⁷ Azam, J., M. Dia, and T N'Guessan. 2002. "Telecommunications Sector Reforms in Senegal." Policy Research Working Paper No 2894,, World Bank, Washington D.C.

¹⁶⁸ The Economist Intelligence Unit. "Nigeria Country Profile 2006."

¹⁶⁹ Azam, J., M. Dia, and T N'Guessan. 2002. "Telecommunications Sector Reforms in Senegal." Policy Research Working Paper No 2894,, World Bank, Washington D.C.

¹⁷⁰ Thiam, B. "Senegal: The Public Service Challenge" in "Completing the Revolution: the Challenge of Rural telephony in Africa." The Panos Institute, London, U.K.

14. Sierra Leone

General

There is only one fixed-line network operator in Sierra Leone, Sierratel, the national incumbent that is 100% owned by the government. During the war the company lost most of its equipment and has managed to restore services only to the major provincial centers¹⁷¹. The main lines penetration remains very low at 0.48 lines per 100 inhabitants (2003).

Currently there are five licensed mobile operators in Sierra Leone, competing in one of the most underdeveloped wireless markets. The market leaders are Celtel and Millicom, and the other three are Commium, Lintel and Datatel¹⁷². There are now around 100,000 mobile customers in the country, with a penetration of 2.28 subscribers per 100 inhabitants (2004). However, the mobile industry faces a number of problems. One of the issues has to do with the lack of rural coverage and another problem is the fact that the three private companies charge in dollars¹⁷³.

Regulation

The sector is regulated by the Ministry of Transport and Communications with the assistance of the incumbent operator. The government is on the first stage of a Telecommunications reform. The goal is to establish an independent regulator and liberalize the sector. It is expected that the regulator will take over the responsibilities of the Ministry and Sierratel and will be independent from the government¹⁷⁴.

¹⁷¹ Panos London Online. 06/02/2004. "From Guns to Mobile Phones: Calling for change in Sierra Leone."

¹⁷² ITU. 2005. "GSM Mobile Networks in West Africa: Mission Report." Dakar.

¹⁷³ Panos London Online. 06/02/2004. "From Guns to Mobile Phones: Calling for change in Sierra Leone."

¹⁷⁴ www.cto-ict.org : ICT Data – Telecoms Overview: Sierra Leone.

15. Togo

General

The main operator of the sector is Togo Telecom that belongs to the State. The company managed to raise its lines from 21,700 in 1995 to 60,600 in 2003, but the penetration is still low at 1.2 fixed lines per 100 inhabitants.

In the mobile sector, Togocel, a subsidiary of Togo Telecom was established in 1997. A second license was issued in 1999 to Telecel Holding International, which was later bought by Orascom. The mobile market reached an estimated penetration of 11.23 subscribers per 100 people in 2005¹⁷⁵.

Regulation

An independent regulator, Autorite de Reglementation des Secteurs de Postes et Telecommunications (ART&P), was established by law in 1998 and has been operational since 1999. Since then, the agency has established interconnection and tariff policies and has completed the regulatory framework¹⁷⁶.

Liberalization

Togo's telecommunications sector is undergoing serious reforms in the last years. The plans were to liberalize the sector and privatize Togo Telecom. As far as liberalization is concerned, the monopoly of Togo telecom was partially broken with the introduction of competition in the mobile sector. The government also awarded a rural telecommunications license to a private operator in 2002¹⁷⁷.

¹⁷⁵ The Economist Intelligence Unit. "Togo Country Report 2005."

¹⁷⁶ World Bank. 2003. "Implementation Completion Report on a Credit to the Republic of Togo." Washington, D.C.

¹⁷⁷ World Bank. 2003. "Implementation Completion Report on a Credit to the Republic of Togo." Washington, D.C.

Privatization

In 2001, a consultant was appointed to advise the Government and oversee the privatization of Togo Telecom. At first the transaction was scheduled to be completed in December 2003, but now this is not expected to happen until 2006 at the earliest¹⁷⁸.

Overall Togo's reform, although not finished yet, was rated as one of the most successful in a recent ECOWAS review, resulting in an increase in the penetration and the sector contribution to GDP, and a decline in the tariff level. On the other hand, the service coverage objective for non-urban areas has not yet been achieved.

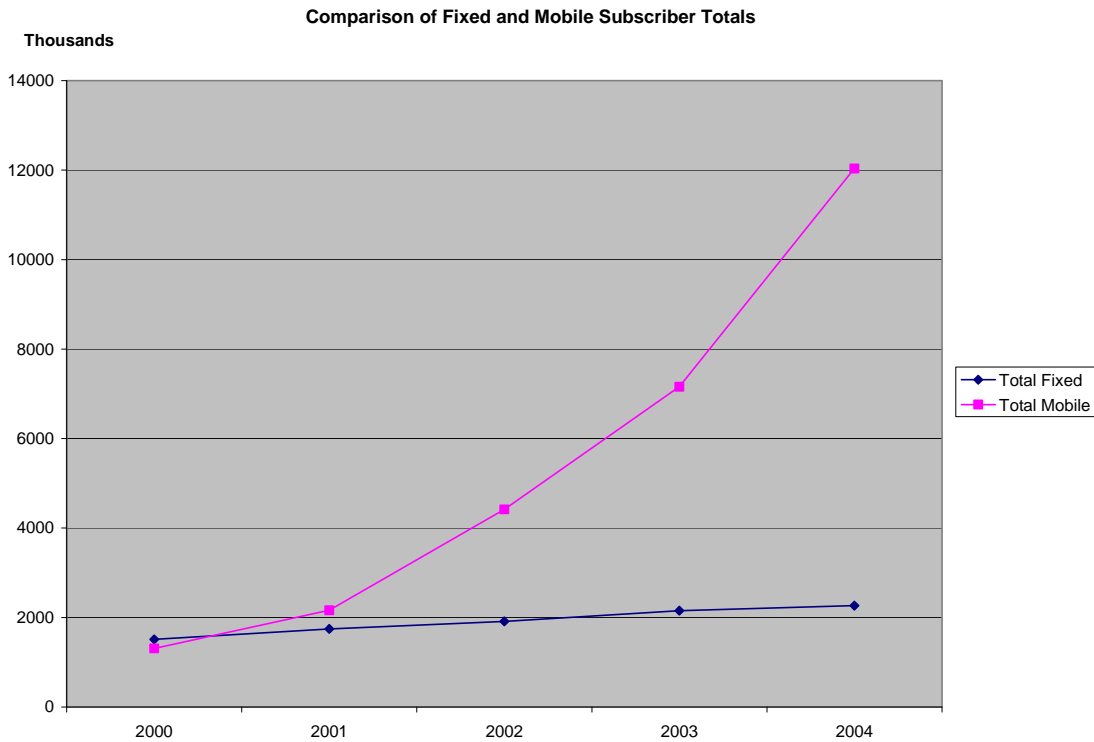
¹⁷⁸ The Economist Intelligence Unit. "Togo Country Report 2005." & World Bank. 2003. "Implementation Completion Report on a Credit to the Republic of Togo." Washington, D.C.

Comparative Table ECOWAS Region

Country	Regulatory Authority	Year authority created	Privatization of national operator	Competition in Fixed Line	Competition in mobile	Total telephone subscribers¹
Benin	Yes	2002	No	Monopoly	Competition	2.02
Burkina Faso	Yes	1998	No	Monopoly ²	Competition	5.06
Cape Verde	Yes	2004	Yes	Monopoly	Competition	30.20
Cote d'Ivoire	Yes	1995	Yes	Partial Competition	Competition	9.13
Gambia	Yes	2004	No	Monopoly	Partial	19.21
Ghana	Yes	1997 ³	Yes	Partial Competition	Competition	9.39
Guinea	Yes ⁴	1992	Yes	Partial Competition	Competition	1.78
Guinea-Bissau	Yes	1999	Yes	Monopoly	Partial Competition	0.92
Liberia	No	n/a	No	Partial Competition ⁵	Competition	0.28
Mali	Yes	1999	No	Partial Competition	Partial Competition	8.33
Niger	Yes	n/a	Yes	Monopoly	Competition	1.39
Nigeria	Yes	1992	No	Competition	Partial Competition	15.07
Senegal	Yes	n/a	Yes	Competition	Competition	17.13
Sierra Leone	No	n/a	No	Monopoly ⁶	Competition	1.84
Togo	Yes	1998	No	Partial Competition ⁷	Partial Competition	5.61

Source: Adopted from ITU

1. Combined fixed and mobile penetration in 2005. In countries in Italics the number corresponds to previous years.
2. Onatel's monopoly ended recently, no new operators have entered the market.
3. The law establishing the authority was passed in 1996
4. The authority is not autonomous in its decision making
5. There is full competition in international long distance
6. There is partial competition in international long distance
7. There is a monopoly in domestic long distance



Note: The total numbers correspond to all ECOWAS countries except Guinea-Bissau, Liberia and Mali.
Source: ITU. 2005. "GSM Mobile Networks in West Africa. Mission Report." Dakar.