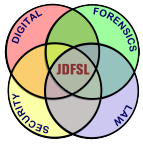

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Telecommunications Liberalisation in Africa: Proposed Regulatory Model for the SADC Region

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Cover Page Footnote

1. See Angus Henderson, Iain Gentle & Elise Ball, 'WTO Principles and Telecommunications in Developing Nations: Challenges and Consequences of Accession' 29 (2005) Telecommunications Policy, 205–221 2. See generally Cristiano Antonelli, 'Technological Change and Multinational Growth in International telecommunications Services', 10 Review of Industrial Organization, 161-162. 3. Ibid. 4. Ibid. 5. Ibid. 6. See Bobjoseph Mathew, The WTO Agreements on Telecommunications (2003) , 81-82. 7. See WTO, GATS, Article XVI. 8. Ibid. Article XVII. 9. Ibid, Article XVIII. 10. See Mathew, note 6 supra,45-46 11. Ibid. 12. See http://www.wto.org last visited 5 May 2009. 13. Ibid. 14. See Amin Alhassan, 'Telecom regulation, the Postcolonial State, and Big Business: The Ghanaian Experience' West Africa Review (2003), http://www.westafricareview.comvol4.1.alhassan,html. 15. See http://www.wto.org TELECOMMUNICATIONS SERVICES: LIST OF COMMITMENTS AND EXEMPTIONS Telecommunications commitments and exemptions 16. Ibid. 17. See http://www.wto.org last visited 10May 2009-05-12. 18. See WTO, GATS, Articles II-XV. 19. See generally Calvin Djiofack-Zebaze & Alexander Keck, 'Telecommunication Services in Africa: The Impact of WTO Commitments and Unilateral Reform in Sector Performance and Economic Growth' Vol 37 No 5 (2009) World Development, 919-940. 20. See P A Black, PO Baird & A Heese, 'Ownership and Competition in South African Telecommunications' Vol 65 (2) (1997) South African Journal of Economics,104-111. 21. Ibid. 22. Ibid. 23. Ibid. 24. Ibid. 25. Ibid. 26.See THE ECONOMIST (1993). "Selling the State", 21-27 August;THE ECONOMIST (1993). "Utilities & Telecoms: The Third Wire", 21-28 January;THE ECONOMIST (1993). "Asian Telecoms: Private Numbers", 30 September-6 October. 27. Ibid. 28. See Gershon Sibinda, 'Regulatory Environment Analysis in the South African telecommunications Industry' Vol 76(2) 2008 South Africa Journal of Economics, 213-227. 29. See generally South African Telecommunications Sector Performance Review 2006, Steve Esselaar, Alison Gillwald & Christoph Stork (eds), LINK Centre Public Policy Research Paper No. 8 Learning Information Networking and Knowledge (LINK) Centre Graduate School of Public and Development Management Witwatersrand University. 30. See ITU, CASE STUDY, BROADBAND THE CASE OF SOUTH AFRICA, 1-27. 31. See Sibinda, note 28 supra, 225-227. 32. Ibid. 33. See Connect Africa, 'Creating an Enabling Environment for Investment', Background Paper, Session 5 (20070 Connect Africa Summit, 20-30 October 2007. 34. Ibid. 35. Ibid. 36.See Reamonn & Mark Williams, COMMUNICATIONS & STRATEGIES no 58, 2nd quarter 2005, 43. 37. Ibid. 38. See Information Economy Report 2007-2008, Chapter 8, 2. 39. See generally, African Mobile Fact book www.africantelecomsnews.com last visited 3 May 2009. 40. Ibid. 7-8. 41. Ibid. 42. See Mobile Penetration Statistics from Africa, African Telecommunication / ICT Indicators 2008: At Crossroads. 43. See further http//wwwglobalinsight.com, where it is stated that Portugal Telecom and its subsidiary Cape Verde Telecom have reportedly invested US$50 million in a West African submarine cable WASC), which will connect Cape Verde and Portugal. According to Macau Hub, the investment is part of an international consortium. The report says that the cable will run along the west coast of Africa and have landing points in Cape Verde, Portugal, and London; it is due to become operational in 2011. Besides Cape Verde Telecom, in which Portugal Telecom owns a 40% stake, the operator also has subsidiaries in Morocco, Guinea Bissau, Sao Tome & Principe, Angola and Namibia. According to Macau Hub, Portugal Telecom plans to use the cable for connectivity to some of its African operations as well as its own Internet connectivity to the hub in London. Cape Verde Telecom had an international bandwidth of 24 Mbps in 2006 and 68 Mbps in 2007 44. See SAFE http://www.safe-sat3.co,.za 45. Ibid. 46. See www.pmtech.net last visited 12 May 2009.05.12 47. See Oracle The World's Largest Enterprise Software Company http:www.oracle.com/index.html last visited 11 May 2009.05.12 48. See RSA SecurityD http://www.rsa.com/mode.aspx?id+1156 last visited 10 May 2009. 49. See http://www.otelecom.com/ last visited 9 May 2009 50. See Cass R Sunstein 'The Functions of Regulatory Statutes' in G Teubner (ed), After the Rights regulation: Reconceiving the Regulatory State (1990), 48-55; see also Barry Barton 'The

Theoretical Context of Regulation' in Barry Barton, Lila K Barrera-Hernández, Alastair R Lucas & Annita Ronne (eds), Regulating Energy and Natural Resources (2006)), 16-17. 51. Sunstein, note 50 supra, 49. 52. Ibid. 53. Sunstein, note 50 supra, 49 54. See Barry Barton 'The Theoretical Context of Regulation' in Barton et al, note 50 supra,15. 55. Ibid. 56. Ibid.

Telecommunications Liberalisation in Africa: Proposed Regulatory Model for the SADC Region

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ABSTRACT

The liberalisation of the telecommunication industry in Africa, and the further development of the region's physical infrastructure was accompanied by the further development of Africa's information, communication and technology infrastructure. Competition within the industry stimulated heavy economic investment in other sectors of the economy. The outcome of liberalisation also included the establishment of community-based structures that continue to enable communities to manage their own development and gain access to information and communication technologies (ICTs) in an unprecedented manner. The telecommunication infrastructure further stimulated the fast development of other related services, for example, e-commerce and mobile commerce (m-commerce), e-government, internet banking, mobile banking etcetera. Latest reports and statistics disclose that in Africa m-commerce is set to even overtake the development of e-commerce, through the popular use and penetration of mobile telephony whilst e-commerce development is constrained by difficulties in rolling out speedily fixed telephone lines. These new methods of communication have so intensified that there is hope that further penetration of mobile telephony would leap-frog economic growth and development in Africa, especially in rural communities. Therefore, innovations and investment in ICT's are changing the world in a number of ways, resulting in a globally connected digital economy. However, there are regulatory challenges that need to be addressed as a matter of urgency. Certain sections of the continent's population, especially those in rural areas, have very limited access to ICT's. This prevents them from exploiting opportunities offered by ICT's. The main barriers to ICT access relate to inadequate regimes and their supporting legal frameworks, high cost of internet access, connectivity problems, the lack of technical skills to support maintenance and low number of computers with internet connectivity at schools, libraries and other public places. In this paper such challenges are identified and further reforms suggested. The ultimate recommendation is the one that states that a SADC telecommunication independent regulatory agency be established, independent of any government ministry, though consulting with a SADC

Ministerial Council. Already, some countries in West Africa have developed a harmonized regulatory framework designed to integrate the Acts covering ICT markets in the sub-region and to keep policy and regulatory frameworks in line with the constant evolution of technologies, applications and services.

1. INTRODUCTION

The information communication technologies (ICTs), have become enablers of change though on their own do not create transformation but can best be seen as facilitators of change, innovation and creativity. The most important economic impact of the spread and use of ICTs is indirect and is through transforming the way individuals, business and other parts of the society work, communicate, and interact. In other words, ICTs unleash the creative potential embodied in people. Apart from the contribution the ICTs industry makes to economic growth and development, it also acts as a catalyst in promoting qualitative improvements in other sectors of the economy. Reasons for that are that ICTs are generally important intermediates in production and in the infrastructure on which the information age is being built. It is therefore contended that for Africa, ICTs definitely have the potential to strengthen economic growth and to be used to create new markets, new technological applications for collaboration, and new methods and tools for scientific and technological research. The ICTs not only facilitate information exchange, but actually deepen the change process, creating new modes of sharing ideas, and reducing the costs of collecting and analyzing information. ICTs are about information flowing faster, more generously, and less expensively throughout the planet. As a result, knowledge is becoming an important factor in the economy, more important than raw materials, capital, labour, or exchange rates. Report of the Commission for Science and Technology for Development (2003) states that "ICTs refer to technologies people use to share, distribute, gather information and communicate, through computers and interconnected computer networks. They are a complex and varied set of goods, applications and services used for producing, distributing, processing, transforming information, including telecoms, TV and radio broadcasting, hardware and software, computer services and electronic media." The present attitude of Africa's governments to the ICT industry has since changed. There is a growing consensus that national monopolies have become inefficient, costly, and sometimes corrupt and therefore must ultimately be opened to private competition if the industry is to flourish. Overall, the consensus seems to be that properly used ICTs could reduce poverty; empower people; build capacities, skills and networks; inspire new governance mechanisms and reinforce popular participation at all levels. The range of applications seem limitless; from electronic commerce (e-commerce), mobile commerce (m-commerce), to the empowerment of communities, women and youth; from the promotion of good governance and decentralization, to advocacy programmes, including the observance of

human rights; from long-distance education to tele-health and environmental monitoring.

The process of liberalisation is now being pursued within the World Trade Organization's General Agreement on Trade and Services and Annexures thereto. Building the required infrastructure is a daunting problem in Africa, but these challenges, under an appropriate regulatory regime, can be turned around into opportunities. Business players and stakeholders in the telecommunications industry are generally well-resourced multinational companies which are notorious for using their dominant economic influence to undermine the natural development of infant industry. It is for this reason that in this paper a proposal is made for the establishment of a strong independent, effective, efficient, and well-funded communications regulatory authority for the Southern African Development Community (SADC), as a basis and pioneer for a continental similar project. The aim is to have a regulatory regime that will monitor and coordinate the activities of economic players and protect consumers and weak government alike. A catalyst for economic stability, levelling of the playing ground, providing an environment conducive to investment, and helping governments and other stakeholders manage their ICTs.

Section 1 is a brief discussion of the WTO framework on rules and regulation that guide the service industry, especially the telecommunications sector. Section 2 is a brief survey and an account of progress in the liberalization of the telecommunications sector in Africa and, generally, the dismantling of State monopoly utilities. Privatization issues are also raised and analysed. The future role of mobile telephony industry is particularly included in Section 3, because of its advantages over fixed telephone lines which are costly to roll-out in a continent known for its rugged terrain. Besides mobile telephony has overtaken fixed lines in Africa, and its penetration is fast growing, even reaching out to remote rural areas. In section 4, the competitive environment is analysed more especially as it is influenced by the presence and operation of foreign corporate groups. Concerns have been expressed about their influence and likely dominance in an industry that is capital intensive and employs highly skilled personnel. Section 5 represents the ultimate recommendation of this paper, the establishment of a SADC Communications Regulatory Authority – SADC-CA. Section 6 is the Conclusion.

2. THE TELECOMMUNICATION INDUSTRY: THE WTO CONTEXT

The liberalisation processes in the telecommunications cannot just take place outside the WTO framework in terms of the General Agreement on Trade in

Services (GATS). Of special importance are the second and third preambular paragraphs of GATS which state:

> *Wishing* to establish a multilateral framework of principles and rules for trade in services with a view to the expansion of such trade under conditions of transparency and progressive liberalization and as a means of promoting the economic growth of all trading partners and the development of developing countries;
>
> *Desiring* the early achievement of progressively higher levels of liberalization of trade in services through successive rounds of multilateral negotiations aimed at promoting the interests of all participants on a mutually advantageous basis and at securing an overall balance of rights and obligations, while giving due respect to national policy objectives …

The trade in services falls broadly into four categories under the WTO umbrella:[1] those services which are supplied across national borders, those services consumed abroad; those services for which a commercial presence is required, and those provided through the presence of a natural person. The dramatic rise in trade in all of these categories since the establishment of the World Trade Organization (WTO) reflects liberalisation in capital markets and freeing of restrictions on capital flows which have increased the ability of large multi-national corporations to enter countries and provide services directly.[2]

Before this development, and in telecommunications industry, all the three standard forms of international growth, i.e. exporting, direct foreign investment and non equity agreements, were barred for a long time by the institutional set up of national markets of this industry.[3] Even international telecommunications were treated as an extension of domestic telecommunications with tight heavily regulated international oligopoly established.[4] As observed by Antonelli, the network of each country was managed just by one firm, heavily regulated, and most importantly, with a strong "national" character. Cristiano Antonelli further states that in almost all the States representing developed or developing countries, telecommunications services were managed either by state-owned companies or directly by public agencies.[5] Today what was once a regulatory area, the

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[1] See Angus Henderson, Iain Gentle & Elise Ball, 'WTO Principles and Telecommunications in Developing Nations: Challenges and Consequences of Accession' 29 (2005) *Telecommunications Policy*, 205–221

[2] See generally Cristiano Antonelli, 'Technological Change and Multinational Growth in International telecommunications Services', 10 *Review of Industrial Organization*, 161-162.

[3] Ibid.

[4] Ibid.

[5] Ibid.

telecommunications industry has become a market access issue under the GATS and the General Agreement on Tariffs and Trade. This also, increasingly reflects technological advances in the easy provision of services across borders.

Part II of the GATS establishes the general obligations and disciplines to be observed by all WTO member states.[6] Amongst those likely to have a direct impact on telecommunications regulatory regimes are the following:

- MFN—most favoured nation treatment which is established in Article II,
- legal and regulatory transparency as required by Article III,
- impartial regulation and access to procedures for review under Article VI,
- the obligation under Article IX to work toward the elimination of business practices that may distort competition, and
- the obligation on members to enter into negotiations regarding subsidies.

Countries make specific commitments, limitations and conditions pursuant to Part III of GATS, in respect of market access,[7] national treatment,[8] and additional commitments.[9] It is particularly in terms of Articles XVI and XVII that specific commitments are made by countries in the telecommunications sector in relation to the opening of competition and issue of additional licences (market access) and foreign investment (national treatment), respectively.

GATS was initially opposed by most governments in the developing countries, as there was a perception that in future there would be dramatic increase in the provision of often essential services by foreign entities.[10] These fears were justified on several grounds, amongst which were, that any such agreement would threaten the right of governments to maintain public services, that liberalisation of services markets under the WTO would effectively mean deregulation, and that foreign investment in the supply of services would retard the development of the relevant infant local service industry. The developing countries had argued that in the service industry sector, developed countries were already enjoying comparative advantage over developing countries, in a service industry sector which was capital

[6] See Bobjoseph Mathew, *The WTO Agreements on Telecommunications* (2003) , 81-82.
[7] See WTO, GATS, Article XVI.
[8] Ibid. Article XVII.
[9] Ibid, Article XVIII.
[10] See Mathew, note 6 supra,45-46

intensive needing highly skilled personnel.[11] Obviously, in view of the fact that the governments of developing countries typically face tight fiscal constraints, there was fear about the dissipation of revenues through foreign competition.

According to the World Trade Organization, the telecommunications services are a global market worth over US$ 1.5 trillion in revenue.[12] The participation of African countries, especially, the least developed countries (LDCs), in this sector is very crucial as it has foreign direct investments implication in billions of US dollars. The mobile services account for roughly 40 per cent of this market, while mobile subscribers worldwide currently outnumber the use of fixed telephone lines by more than two to one.[13] Since 1998, the market has witnessed far-reaching changes, with the introduction of competition into a sector that was once principally a monopoly.[14]

Commitments in telecommunications services were first made during the Uruguay Round (1986-94), mostly in value-added services. In post-Uruguay Round negotiations (1994-97), WTO members negotiated on basic telecommunications services. Since then, commitments have been made by new members, upon accession to the WTO, or unilaterally at any time. According to the WTO report, a total of 108 WTO members have made commitments to facilitate trade in telecommunications services.[15] These commitments include the establishment of new telecoms companies, foreign direct investment in existing companies and cross-border transmission of telecoms services. Out of this total, 99 members have committed to extend competition in basic telecommunications (e.g. fixed and mobile telephony, real-time data transmission, and the sale of leased-circuit capacity).[16] In addition, 82 WTO members have committed to the regulatory principles spelled out in the "Reference Paper", a blueprint for sector reform that largely reflects "best practice" in telecoms regulation.[17]

Telecommunications, like other services, are included in the services negotiations, which began in January 2000. In the current Doha Round of negotiations, additional market opening as well as the binding of recent reforms (i.e. a commitment not to increase a rate of duty beyond an agreed level) in telecommunications is the objective of many of the negotiating

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[11] Ibid.
[12] See http://www.wto.org last visited 5 May 2009.
[13] Ibid.
[14] See Amin Alhassan, 'Telecom regulation, the Postcolonial State, and Big Business: The Ghanaian Experience' *West Africa Review* (2003), http://www.westafricareview.comvol4.1.alhassan,html.
[15] See http://www.wto.org TELECOMMUNICATIONS SERVICES: LIST OF COMMITMENTS AND EXEMPTIONS Telecommunications commitments and exemptions
[16] Ibid.
[17] See http://www.wto.org last visited 10May 2009-05-12.

requests made by WTO members to their trading partners. As of July 2008, 39 governments had made offers to improve their existing commitments or to commit for the first time in the telecommunications sector.

All in all, the trade rules that apply to telecommunications services include the framework articles of the GATS,[18] which contain the principles for trade in all services. In addition, the GATS also contains an Annex on Telecommunications. This provides guarantees for reasonable access to and use of public telecommunications, in a given market, by suppliers of all services benefiting from commitments scheduled by the member concerned. The Reference Paper (RP) is a set of regulatory principles that is legally binding for those WTO governments which have committed to it by appending the document, in whole or in part, to their schedules of commitments. There is therefore no telecoms regulatory regime that can dare ignore the contents of the RP document.

3. PRIVATIZATION AND THE LIBERALISATION IN AFRICA

As have been stated earlier, infrastructure industries have traditionally been monopolies, owned and operated by the public sector. Post-colonial Africa was no exception as it inherited *holus bolus* these models as for much of the 20th century, infrastructure services in all countries were provided by state-owned utilities that were vertically integrated.[19] In their initial stages these models produced some desirable results, later however, their service delivery ultimately led to serious problems for the public interest. The problems included underinvestment, in large part caused by under-pricing; low productivity; poor service quality; long queues and large portions of the population without access to basic services; lack of transparency; and damaging political interference in the operations of these infrastructure entities.

The primary aim of any liberalisation process is the achievement of effective competition. Black et al state that the theoretical justification for privatisation and deregulation comes partly from the potential efficiency gains to be had from a change in ownership and in market structure.[20] That in the telecommunications industry specifically, the justification comes also partly from a technological revolution which has effectively removed the need for state ownership and protection.[21] The other gains from privatisation stem from the sale of state assets which, coupled with the broadening of the tax

[18] See WTO, GATS, Articles II-XV.
[19] See generally Calvin Djiofack-Zebaze & Alexander Keck, 'Telecommunication Services in Africa: The Impact of WTO Commitments and Unilateral Reform in Sector Performance and Economic Growth' Vol 37 No 5 (2009) *World Development*, 919-940.
[20] See P A Black, PO Baird & A Heese, 'Ownership and Competition in South African Telecommunications' Vol 65 (2) (1997) *South African Journal of Economics*,104-111.
[21] Ibid.

base, may help governments to break out of their fiscal deadlocks and improve their ability to provide public goods and services to their respective constituencies.[22] Black et al further identify efficiency benefits which derive primarily from the nature of principal-agent relationships which are normally associated with a system of private ownership and competitive markets.[23] Under such a regime the principal shareholders will see to it that appropriate incentive schemes and monitoring procedures are put into place at all levels of management, thus 'minimising practices of moral hazard and adverse selection and setting conditions for maintaining high levels of operational …efficiency.'[24]

Black et al further argue that technological progress (or 'dynamic' efficiency) is likewise, likely to be more advanced under private ownership and competition than under a system of state control, since under the former system managers will more readily adopt new technologies aimed at cutting costs and boosting profits.[25] Quoting from previous issues of the *Economist*, Black et al state that with regard to the telecommunications industry, it is perhaps the technological revolution itself that has triggered the world-wide restructuring and privatisation of the industry.[26] They opine that technological changes have affected virtually the whole of the industry, and are largely responsible for the introduction of optical fibres, digitised exchanges, mobile and cellular telephones, personal wireless handiphones, and electronic mail. They conclude that these changes have effectively broken down entry barriers and encouraged governments to liberalise and privatise the industry.[27]

Finally, Black et al. state that whilst the process of privatization is still ongoing, it is generally necessary to impose price controls on dominant operators and, in a network industry, to allow new entrants, at least initially, to access the infrastructure of the incumbent.[28] This strategy was adopted by the South African government. The result was that a range of policy decisions on the part of the South African Government further entrenched Telkom's dominance and restricted the ability of competitors to access bottleneck facilities in a manner which would have enabled them to compete.[29] These

[22] Ibid.
[23] Ibid.
[24] Ibid.
[25] Ibid.
[26] See THE ECONOMIST (1993). "Selling the State", 21-27 August;THE ECONOMIST (1993). "Utilities & Telecoms: The Third Wire", 21-28 January;THE ECONOMIST (1993). "Asian Telecoms: Private Numbers", 30 September-6 October.
[27] Ibid.
[28] See Gershon Sibinda, 'Regulatory Environment Analysis in the South African telecommunications Industry' Vol 76(2) 2008 *South Africa Journal of Economics*, 213-227.
[29] See generally South African Telecommunications Sector Performance Review 2006, Steve Esselaar, Alison Gillwald & Christoph Stork (eds), LINK Centre Public Policy Research Paper

included the restriction placed on value-added service (VANS) providers as to where they could obtain facilities. It has now been acknowledged that the unbundling of the local loop and opening international gateways (such as the SAT-3 undersea cable), to operators are pro-competitive interventions that have proven successful elsewhere. However when it comes to Telkom similar measures have not been imposed in South Africa.[30] Unfortunately, alongside a market structure wherein competition is inhibited, is ICASA, a regulatory authority which is equipped with such inadequate resources that will not enable it control Telkom's retail and access prices.[31] The general observation is that the South African telecommunications market is presently characterised by very limited competition and a regulator without the means necessary to control the dominant operator.[32] The result is that prices of telecommunications services are extremely high in relation to other jurisdictions. African governments have also given reasons for market access restrictions. Among others was the desire to give incumbents time to prepare for competition, for examples: Telkom in South Africa (fixed); Ethiopia (mobile & fixed); Cameroon (fixed). There was secondly the consideration to increase government revenue from privatization and the argument that exclusive rights were necessary to attract strategic investment, and to reserve exclusive rights in order to allow for the provision of universal service.

The challenge is for governments to develop capacity within their public service. Capacity building and training projects will enable governments analyse telecommunications market conditions; set policy frameworks; draw up, negotiate and enforce contracts; regulate monopolies; coordinate, finance and support producers; enable community self-provision; protect consumers and provide them with information on their options and remedies. There must however be realization that privatization is not the end of government participation but rather a new beginning. It is against this backdrop of complexities that this paper proposed the establishment of a regional telecommunications independent regulatory agency.

Many countries in Africa have completed the initial stages of reforming their telecommunication sector. Others are just initiating the process. All African countries seek to turn the digital divide into a digital opportunity and address the emerging broadband gap. Creating an enabling environment to attract investment is essential to meeting this goal. Policies being introduced deal with issues of privatization, establishment of national regulatory authorities, and enabling environment for competition. In 2007, Connect Africa reported that, at least, some thirty African economies (or 55 per cent) had at least

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[30] See ITU, CASE STUDY, BROADBAND THE CASE OF SOUTH AFRICA, 1-27.

[31] See Sibinda, note 28 supra, 225-227.

[32] Ibid.

partially privatized their incumbent telecoms operator.[33] It has been observed that privatization sends a strong signal that policy decisions and regulations will be fair to all in the market place. The Connect Africa Background Paper opines that 'fostering a level playing-field is more likely if the State avoids being both a market player (i.e. owner or part-owner of the incumbent) and a referee at the same time."[34] In the same Paper, it is reported that forty-five African economies (or eighty-three percent) have established a telecommunication/ICT regulatory authorities, with sixteen created since 2000.[35] However though in Africa some effective regulatory bodies have been identified, other continent's regulatory authorities lack the power to enforce pro-competitive regulatory decisions and many more require capacity building initiatives in order to become more effective regulators.

Rolling out fixed telephone lines is costly and few SADC countries can afford from their meagre resources such massive physical infrastructure. The capital is scarce, moreover savings are generally poor and the tax base very narrow. Foreign direct investment and policies related thereto should be specially addressed by a specialized body not an individual State communications department. As stated by Lydon and Williams, higher investment is central to achieving sustainable economic growth and poverty eradication.[36] Such higher investment can be achieved through FDI flows. In their study, Lydon and Williams, focused in particular on the relationship between FDI flows into developing countries and the penetration of telecommunications network in the recipient country. They found that both fixed and mobile communications networks 'are positively linked with inward FDI.'[37]FDI is also associated with privatization in the African market for mobile telephony.

4. MOBILE TELEPHONY AND PRIVATIZATION

Currently, mobile telephony is the most important mode of telecommunications in developing countries. It has been observed, that while internet access has become a reality for many businesses and public institutions, and for individuals with higher levels of education and income, for the vast majority of the low-income population, mobile telephony is likely to be the sole tool connecting them to the information society in the short to

[33] See Connect Africa, 'Creating an Enabling Environment for Investment', Background Paper, Session 5 (20070 Connect Africa Summit, 20-30 October 2007.
[34] Ibid.
[35] Ibid.
[36] See Reamonn & Mark Williams, COMMUNICATIONS & STRATEGIES no 58, 2nd quarter 2005, 43.
[37] Ibid.

medium term.[38] Privatization has been brisk in Africa with regard to the liberalization of the mobile telephone industry.[39] Around 1996, telephone density in Africa was under one subscriber per 1000 inhabitants and it was thought that the region's development potential would be severely curtailed for a long time until this low density was reversed. However, by 2001, Africa reached a historic milestone with a density of one telephone subscriber per 100 inhabitants. The remarkable growth in so short a time has been attributed to the region's remarkable economic growth, the doubling of export trade, the liberalization of telecommunications, and the marriage between African subscribers to telecommunication services and mobile cellular and pre-paid card services. The underlying proposition is that, of all ICTs, mobile telephony has the most immediate potential to stimulate growth in the developing countries, and especially in Africa, in particular in sectors where entrepreneurship and access to market information are important factors. Mobile telephony has real economic consequences, particularly for micro-entrepreneurs.

The technology and infrastructure prerequisites saw **t**he majority of countries in Africa deploy GSM-based networks.[40] GPRS- and EDGEtechnologies have also been deployed in some of the comparatively developed mobile markets. Demand in broadband internet services is very high even though only few Africans are capable of affording them, making 3G service a viable business opportunity for mobile operators in the major cities in the continent. Some of the market players feel that 3G services will fill the void created in the regions where decent fixed line infrastructure is scarce and subscribers are unable to access the Internet.[41]

At least 15 mobile operators have already announced plans of introducing 3G services including existing networks in South Africa, Egypt and Tanzania and others planned in Kenya, Namibia and Nigeria. Only 5 percent of subscribers availed 3G voice and data service by 2006, according to Informa Telecoms and Media, an industry watcher. The relevance of mobile phones for small businesses in developing countries was noted in UNCTAD's *Information Economy Report 2005*. The use of mobile telephony in the conduct of business reduces the costs and increases the speed of transactions. Mobile connectivity sidesteps some important obstacles to other types of connectivity. It is not hampered by, among other things, cost and the remoteness of certain areas.

In Africa, mobile phones have proved so successful that in many cases they

[38] See Information Economy Report 2007-2008, Chapter 8, 2.
[39] See generally, African Mobile Fact book www.africantelecomsnews.com last visited 3 May 2009.
[40] Ibid. 7-8.
[41] Ibid.

have replaced fixed lines. Almost 56 percent of the sub-Saharan Africa countries now allow competition in mobile cellular, up from 7 percent in 1995; only six countries lacked cellular services in 2001, compared with 28 in 1995; and 4 of 5 subscribers on the continent use pre-paid mobile service. Moreover, the growth in mobile cellular services is outstripping fixed telephone services by geometric proportions. In 2001, mobile cellular overtook fixed telephone subscribers for the first time, with 28 million compared to 22 million subscribers. By 2005, there will be 130 million phone subscribers in the region, 98 million of them mobile cellular subscribers.

There are several reasons for the rapid growth in mobile phone in Africa market. But the two most important are: first, the limited penetration of fixed-lines telephone network, lack of investment, inadequate private-sector involvement, foreign exchange scarcity (lack of trade), poor management incentives; second, the prepaid system which has its own advantages - low operating cost; no credit and less fraud than fixed line.

By 2007, the summary results of mobile telephony penetration in Africa was represented as follows:[42]

- At the end of 2007 there were over 280 million mobile phone subscribers in Africa, representing a penetration rate of 30.4 percent
- Africa has become the fastest growing mobile market in the world with mobile penetration in the region ranging from 30 percent to 100 percent from country to country.
- Fastest growing markets are in Nigeria, South Africa and Egypt
- Increased competition as more operators come online in each country (11 in Nigeria, 4 in Kenya and SA, 3 in Egypt and Morocco)
- Pre-paid subscriptions account for nearly 95 percent of total mobile subscriptions in the region.
- The Democratic Republic of Congo, population 60 million, has 10,000 fixed telephones but more than a million mobile phone subscribers.
- In Chad, the fifth-least developed country, mobile phone usage jumped from 10,000 to 200,000 in three years.

[42] See **Mobile Penetration Statistics from Africa**, African Telecommunication / ICT Indicators 2008: At Crossroads.

5. COMPETITION AND FOREIGN CONTROL

There is fear that in future, the pioneer telecommunications service providers in the mobile telephony industry, may be vulnerable to international control, international sabotage, or to predatory economic practices. This in spite of the fact that the initial boon in mobile cellular telecommunications services in the continent was initiated by a new breed of pan-African mobile companies. These companies were in the first place not state-owned nor large multinationals as was previously speculated. This should be viewed against the background that, virtually in every country there is either lax regulation or weak regulatory framework for protecting both the new market providers and domestic consumers of cellular telecommunications services. The infant domestic telecom industry might not withstand the dominant multinational corporations economic power of competition. Multinationals in developed countries have huge advantages in technological and marketing capability, will enjoy comparative advantages over local industries. These multinationals will, once they enter the market, displace local operators and put them out of business as SADC telecom markets become attractive. The emergent players in the private telecommunications markets in the SADC region are not only small in market capitalization, but are failing to recognize the advantages of economies of scale. Players in these markets have not so far realized synergies by cooperating with one another. Instead, they are presently engaged in highly predatory and ruinous competition that leave them exposed and vulnerable to larger international entities who are making inroads into the SADC and Africa market. Eventually, the lucrative profits and revenues envisaged in the sector will in future accrue to foreign shareholders. Another observation made is that where strategic alliances are being made between providers of domestic mobile cellular services and foreign investors, the locus of control and strategic opportunities for both dominating and disrupting the markets of sub-Sahara Africa countries are located either in the United States, Holland, England, or the Middle East. And in some of these cases, the foreign partners have strategic alliances with military, industrial, and intelligence services in their host nations. For example, the major players, along with their home country affiliations in the African market include: RSA Security (Dutch/U.S.A.); MTN or Mobile Telephone Networks (South Africa); ECONET (Zimbabwe); PM Tech (U.S.A./UK); Oracle (U.S.A.); Microsoft (U.S.A.); and Orascom (Egypt).

The density of integration of the African communications networks with the foreign operations is as remarkable as it is invisible to all but the most critical observers. First, there is the element of platform interconnectivity, as in the joining of the West African Submarine Cable (WASC) system with the South

African Far East (SAFE) cable system.[43] SAFE is submarine fibre optic cable measuring 28,000 kilometres and linking Europe to Africa and Asia, designed to carry telephone, multimedia and internet traffic. This huge project, costing USD640 million, was financed by a consortium of 36 international operators including France Telecom, which invested USD96 million or 15 percent of the total. The SAT-3/WASC/Safe submarine cable will enable broadband telecommunication services in particular to be strengthened.[44] Also, the West Africa Cable System (WACS) will boost broadband capacity and could cut comparatively high Internet tariffs in Africa's biggest economy, which has relied on a single international cable controlled for years by Telkom.

What is curious about this SAFE system is that it is anchored in Kochi, Kerala (India). But its operations and the profile of the services it provides have significant implications for Africa and many non-African countries. West Africa is also currently served by two cables (Atlantis II and SAT-3). Besides, seven more are planned; namely, Glo-1, Main-1, WAFS, Infinity, Uhurunet, AWCC/WACS, ACE. The investment would either be into the WACS cable which would run to London, or more likely the ACE (Africa Coast to Europe) cable planned by France Telecom which would run via Cape Verde and Portugal to France.[45]

With this type of integration, cable and satellite services have been linked between Far East Asia, Africa, and Europe, with connection points in India, Durban, the Reunion Island, Mauritius, Malaysia, Melkbosstrand (S. Africa), Angola, Gabon, Cameroon, Nigeria, Benin, Ghana, Senegal, the Canary Islands, Spain, and Portugal. The system, with its controls in India, already has 42 telecommunications companies located in 35 countries using its services.

Platform interconnectivity via computer and database-linked systems such as those provided by the U.S.-based Microsoft and the Oracle corporations, illustrates, the now dominance of foreign telecom operating entities in Africa. Although they provide no visible mobile cellular telecommunications services, they control and virtually own the hardware operating systems

[43] See further http//wwwglobalinsight.com, where it is stated that Portugal Telecom and its subsidiary Cape Verde Telecom have reportedly invested US$50 million in a West African submarine cable WASC), which will connect Cape Verde and Portugal. According to *Macau Hub*, the investment is part of an international consortium. The report says that the cable will run along the west coast of Africa and have landing points in Cape Verde, Portugal, and London; it is due to become operational in 2011. Besides Cape Verde Telecom, in which Portugal Telecom owns a 40% stake, the operator also has subsidiaries in Morocco, Guinea Bissau, Sao Tome & Principe, Angola and Namibia. According to *Macau Hub*, Portugal Telecom plans to use the cable for connectivity to some of its African operations as well as its own Internet connectivity to the hub in London. Cape Verde Telecom had an international bandwidth of 24 Mbps in 2006 and 68 Mbps in 2007

[44] See SAFE http://www.safe-sat3.co,.za

[45] Ibid.

platforms, the routing networks, the databases, and the appliances that run and remotely monitor every computer and database operation in the region. Of late, Microsoft, has struck strategic partnership with PM Tech Holdings for software solutions development, networking, database management, e-security, and IT (information technology) consulting.[46] PM Tech already has extensive holdings in the petroleum, financial, telecommunications sectors of Nigeria, Cameroon, the Congo, Swaziland, Botswana, and it is rapidly expanding its operations throughout West Africa. Also, it is targeting Kenya, Namibia, Mozambique, and Zambia. Oracle Corporation has already set up shop in Abidjan as a regional hub and with its business applications suites and networking solutions already controls 80 percent of all public administration projects in West Africa, all banking operations, telecommunications services, and is seeking to establish strategic partnerships with companies with defense industry links.[47] RSA Security, a major South-African military defense industry subsidiary at one point, has Dutch and US affiliations with headquarters in Bedford, MA.[48] The company's expertise includes electronic security solutions and e-security intelligence and it has established strategic partnership with Schlumberger-Sema, a global information technology services company, to provide smart card-based solutions that interface with RSA Security smart cards operations in banking and other services throughout Africa. RSA Security already boasts 12 million customers worldwide. In 2001, e-security solutions accounted for 100% of RSA Security revenues. In 2000, the company reported a gross income of $280.2 million and an after-tax profit of $205.8 million. Econet, a small Zimbabwe wireless company, secured in 2002 contracts worth $50 million to deliver international commercial satellite services to customers, providing linkage between African countries and Europe, allowing Econet to gain European footprints, but with heavy reliance and dependence on UK companies that provide the gateway into Europe. Then, as a last there is Orascom as a last example. Orascom is an Egyptian company, with 57 percent of the stock held by the Sawaris family of Egypt, presently operating in 18 Middle Eastern and sub-Saharan Africa countries, with a mobile cellular link hub in Belgium.[49] Orascom's core business activities are extensive and touch on a wide swath of sub-Sahara Africa life -- IT, computer-related services, hotels, medical, dental, hospital supplies, construction and petroleum services.

These inroads by foreign capital, now translating into multibillions of US dollars, will eventually swallow infant industry in the SADC region in the

[46] See www.pmtech.net last visited 12 May 2009.05.12
[47] See Oracle The World's Largest Enterprise Software Company http:www.oracle.com/index.html last visited 11 May 2009.05.12
[48] See RSA SecurityD http://www.rsa.com/mode.aspx?id+1156 last visited 10 May 2009.
[49] See http://www.otelecom.com/ last visited 9 May 2009

whole of the telecommunications sector. Weak, economically underdeveloped, sometimes corrupt States in the SADC region might never have power to coordinate and monitor the dangerous and negative activities of these companies in a sector industry which is by its nature, capital and resource intensive, and deploying highly skilled personnel in all its divisions.

6. SADC COMMUNICATIONS INDEPENDENT REGULATORY AUTHORITY

The Southern African Development Community (SADC) has been in existence since 1980, when it was formed as a loose alliance of nine majority-ruled States in Southern Africa known as the Southern African Development Coordination Conference (SADCC), with the main aim of coordinating development projects in order to lessen economic dependence on the then apartheid South Africa. The founding Member States are: Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe. The present States membership include: Angola, Botswana, the Democratic Republic of Congo, Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, Seychelles, South Africa, Swaziland, United Republic of Tanzania, Zambia and Zimbabwe.

The need for the establishment of an independent regulatory authority for telecommunications in the SADC region is motivated by the existence of a number of factors political, economical, developmental, and all in the ever globalizing world. One of the central objectives of SADC is to forge links among Member States to create a genuine and equitable regional integration and promote advancement of its citizens, thereby raising the quality and standard of life and, consequently, alleviating poverty. The enabling factors to achieve this goal include: co-operation in infrastructure development, coordination of sectoral plans and programmes, promotion of investment and production, and the development of indigenous contents, are still being harnessed.

The telecommunications has been identified by SADC members as one of the key infrastructures that still has to progress to the desirable standard. A large scale and advanced telecommunications infrastructure in SADC, capable of delivering telecommunication services, has been recognised as a pre-requisite for economic growth. Therefore, the availability of adequate communications links within both individual countries, the region and internationally is accepted by stakeholders as an essential instrument to facilitate intra-SADC and extra-SADC trade, leading to socio-economic development. It has however been acknowledged in the region and confirmed through various studies, including those of the International Telecommunications Union (ITU), that there is a serious inadequacy of info-communications capacity.

As the free movement of goods, services, labour and capital intensifies, the telecommunications sector is certainly going to be capitalized in massive

proportions and become complex to regulate. In place must the therefore be an independent, efficient, effective, transparent, well-funded and well staffed, technologically endowed regional regulatory regime. A regime capable of engaging and reining the power and economic dominance of multination companies and other powerful stakeholders in the ICT sector, in particular the Telkom corporate group structure.

There are a variety of explanations for the adoption of regulatory statutes or treaties, most of which amount to justification. Regulatory legal regimes can be distinguished according to function. Sunstein asserts that many statutes in this regard are responding to market failures.[50] For example, in the field of regulation against a monopolistic business practice, regulatory statutes are, least controversially, a response to the risks of monopoly. Regulation may be a response to collective action problems, coordination questions and transaction costs.[51] Sunstein states that it is a familiar point that individually rational private behaviour may produce collective or public irrationality.[52] For instance, if everyone acts in his/her self-interest, serious harm will sometimes result. Instances in this regard involve public or collective goods which are characterised by two features, non-rivalrous consumption and non-excludability. In cases of this nature, each person acting rationally is tempted to 'free ride' while others pay, the consequence being that the good would not be provided for all. Sunstein states further that government regulation is needed to eliminate the free-rider problem and to ensure the public goods will be created.[53] However in this paper I deal with a regulatory agency of a special kind, an independent regulatory agency (IRA), on telecommunications dealing with ICT services and goods and personnel with an ICT infrastructure. A regime that owes its creation to a collective group of independent who have undertaken to shed part of their sovereigny to establish a regulatory regime that is not accountable to any particula State. The strategy is to avopid capture by any State member or a particular State Ministry. Opportunities for corruption are immediately eliminated in a sector valued in trillions of US dollars, and still growing in tandem with the nergy sector (not discussed here).

Accordingly, in this paper, an IRA is exclusively defined as an agency having its own powers and responsibilities under public law; whose organizational structure is separated from government ministries and whose members are neither directly elected by people nor managed by elected officials. If these

[50] See Cass R Sunstein 'The Functions of Regulatory Statutes' in G Teubner (ed), *After the Rights regulation: Reconceiving the Regulatory State* (1990), 48-55; see also Barry Barton 'The Theoretical Context of Regulation' in Barry Barton, Lila K Barrera-Hernández, Alastair R Lucas & Annita Ronne (eds), *Regulating Energy and Natural Resources* (2006)), 16-17.
[51] Sunstein, note 50 supra, 49.
[52] Ibid.
[53] Sunstein, note 50 supra, 49.

are the minimum requirements that this regional IRA should meet in order to be counted as really independent, then those agencies which are organized as units of ministries, organic organs of government or within the bureaucracy should be excluded from the analysis, because these latter referred to formations are exercising state power under the direct control of ministers and the civil service. Moreover, their powers and institutional designs are not independent from the government. Immediately therefor Telkom (SA) and other State utilities in the telecommunications sector are excluded from participating in this envisioned regional IRA, and this includes ICASA.

This envisaged regional IRA structure will also have intergovernmental features, though not monopolised by a single parliament (or ministries) of participating States in that there will be regular consultative summit with State Ministers in charge of ICT and infrastructure. It must be understood that ICT products are cross-cutting, multi-media and defy geographical boundaries. Added to these factors are the magnitude, technical complexity and the variability of the material or entities being regulated. There is also a need to remove these matters from direct political control and to follow a quasi-judicial mode of procedure that includes enforcement. As stated by Barry Barton,[54] regulation (independent regulatory authority) often pursues multiple processes and is also a matter that cannot be left to the courts of law. Barton also distinguishes the relative roles these two institutions (courts and regulatory agencies) play. He states that,[55]

> regulatory agencies must often develop and implement policy consistently with other public agencies, while the courts are independent. Regulation is generally a long-term engagement with an area activity, while the judicial process is one of deciding each matter that is brought to court. Regulation usually looks ahead, while the courts are usually concerned with applying the law to past events. The focus of regulation is the management of an area of activity, as applied by law, rather that the determination of rights under the law…

Barton also offers a cogent argument why on the other hand regulation is not left in the hands of the executive. He states,

> [i]n the United States in particular, regulatory agencies were established because it was necessary to entrust aspects of the public interest to independent scientific experts, removed from politics, and from outside the normal civil service framework.'[56]

A number of initiatives have been undertaken by several institutions, including the ITU to address this critical problem. One valuable initiative is

[54] See Barry Barton 'The Theoretical Context of Regulation' in Barton et al, note 50 supra,15.
[55] Ibid.
[56] Ibid.

the African Green Paper that focuses entirely on the problems of telecommunications in Africa and offers a comprehensive policy guideline for countries in Africa to harmonise telecommunications sector policies as a strategy to develop telecommunications infrastructure and services. There is also the SADC Protocol on Transport, Communications and Meteorology which prescribes the development of a harmonised regional policy with the provision of reliable, effective and affordable telecommunications services, as its central goal. The Protocol specifies actions that will have to be undertaken to transform the state of the national and regional telecommunications infrastructures from their present state of under-capacity to an integrated and advanced info-communications network.

Regional policy on telecommunications becomes even more crucial in this period of globalisation of the world economy, where telecommunications is reckoned as both a tradable service and transport of info-communications services. In this context, the capability of an individual State for effective delivery of services is not likely to contribute to stronger regional co-operation. Instead there is now unnecessary duplication of structures and efforts, dissipation of funds from foreign donors directed to improve individual State's ICT structures but diverted to other irrelevant programmes or projects through capture and failure to prioritise. From the beginning two benefits may be realised.. Firstly, a group of countries combines their strengths, on one hand, to resist competitive threats and, on the other hand, to take advantage of the opportunities that emerge in the global market, such as the transport of international telecommunications or information traffic. Secondly, the group of SADC countries will present a larger market to private investors who could find an opportunity to achieve standardisation and economies of scale, factors that may be decisive in investment decisions. Finally, the interest of society as a whole must be taken into consideration in any decision affecting the development of the telecommunications industry.

7. RECOMMENDATIONS

A. Establishment, through treaty and protocols of the SADC Independent Communications Authority (SADC-CA).

B. The personnel should be independent of and not be appointees of SADC member States governments; neither should the personnel be drawn from SADC related ministries.

C. SADC-CA will hold quarterly consultative summit meetings with SADC telecommunications ministries and other relevant bodies, with a major mandate to develop and adopt Telecommunications Acts and other ICT related rules and regulations.

D. All the functions of the already existing telecommunications agencies under State ministries, and those of existing so-called independent regulatory agencies would be subsumed under SADC-CA.

E. Funding of SADC-CA will come from contributions made by SADC member States – from each according to its means in terms of a certain percentage of a State's GDP. Consequently all the employees of SADC are paid from the fund administered exclusively by the Authority.

F. Foreign ICT aid presently enjoyed by respective individual States, will in future be directed to the exclusive use of the Authority – to minimise abuse by political leaders and to avoid stakeholder capture.

8. CONCLUSION

The world is witnessing an upsurge in the use of telecommunications and information in nearly all aspects of human endeavour. The wireless revolution and the internet phenomenon have recently changed the way people live and transact business, and the telecommunications/information technology industry has taken centre stage in world affairs and will continue to be so far into the foreseeable future. The WTO has confirmed that the world telecommunications and information technology industry was worth US$ One trillion in market capitalization. In Africa, there is however dearth of telecommunications infrastructure, though the penetration has been noticeable over the past decade, mostly through the dismantling of State monopolies, especially the telecommunications State utilities, sustained without an efficient telecommunications infrastructure. Telecommunications and information technology present copious opportunities for the creation of unprecedented wealth for Africa. For Africa to benefit from these opportunities, it needs to improve services by eradicating misuse of monopoly powers and inefficient use of public resources, The African States need also remove policies that fostered and encouraged the dominance of the public sector in national economies in order to attract modern industries and business - of course to attract foreign investment. Granted some significant progress has been made in some countries, though there are challenges on the way. There is now a general awareness all over the continent of the need for liberalisation, with some countries moving faster than the others. Some countries have embraced liberalisation and there have been remarkable progress, thus encouraging others to move in the same direction. Studies associate foreign direct investment with economic growth rates, and that improvements in the telecommunications industry stimulate FDI inflows. The framework for these reforms is provided for by GATS in terms of its overall annexures. The telecommunications industry is complex and resource

intensive and requires massive capital outlays. The industry also demands highly skilled and technologically endowed personnel. Such skills and capital are not readily available in Africa. In the SADC region the level of savings is very low and the dominance of the South African economy and its multinationals is a cause for fear. The SA'S State's utility, TELKOM, is still under managed liberalisation. It would be in the interest of the SADC region to establish through treaties and protocols a regional independent communications regulatory authority. This will require that SADC member States relinquish part of their sovereignty and allow their respective regulatory agencies to be subsumed under the envisaged independent regional regulatory agency (IRA). This regional IRA will have powers to deal with excesses designed by multinationals while levelling the playing field, giving certainty to the markets whilst providing security to investors. The WTO Reference Paper which is a blueprint for the telecommunications sector can always be consulted by policy makers when developing future policies, rules and regulations for an acceptable efficient, effective, transparent regulatory regime. Highly skilled personnel should be recruited and trained. To avoid capture by dominant stakeholders all the personnel regulatory agency will not be accountable to their respective home governments. The regulatory regime will be in charge of its own funding and finances and will regularly hold quarterly consultative summit meetings with ministries relevant to the telecommunications industry.