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INCREASING REGULATORY CAPACITY: THE ROLE OF THE REGION IN SHAPING NATIONAL ICT POLICY IN SOUTHERN AFRICA

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Abstract

Since the 1990s regional economic communities (RECs) are increasingly developing model information and communication technology (ICT) policies and regulations in cooperation with semi-autonomous regional regulators' associations (RRAs). As the capabilities of regional authorities such as the European Union (EU), Asia Pacific Economic Cooperation (APEC), and the Southern African Development Community (SADC) continue to grow, the level of influence on national ICT policy and regulation making is likely to increase.

This study investigates this influence of the region on national ICT policy and regulation making, with a particular focus on the role of the regional regulators' association, which to date has gained little attention. To this extent, a model grounded in Levy & Spiller's (1994) regulatory governance framework is developed and subsequently tested in the context of SADC in order to answer the following overarching research question:

How do regional economic communities (RECs) and their Regional Regulatory Associations (RRAs) influence national ICT policy and regulation in member states?

This research finds that SADC's Communications Regulators' Association of Southern Africa (CRASA) has two primary mechanisms of influence on national ICT policy and regulation making in its member states, namely through capacity building and policy lobbying. The learning processes that take place through these mechanisms can potentially lead to converging perspectives across the region about regulatory principles that in turn will be used in national regulation and policy making processes.

The study has shown Levy & Spiller's (1994) framework to be a suitable framework for analyzing regional, as opposed to purely national, regulatory policy making. Further, by integrating concepts of governance structure and regulatory processes from the domains of public policy and organization science, together with the more formal approach of regulatory governance commonly taken by telecommunications policy scholars, side effects to regional regulatory governance are identified.

The study contributes both to new institutional economics research in the telecommunications policy realm, as well as the broader field of regionalization research. The study extends the domain of regionalization research, which is dominated by studies of the EU, to include a developing region. As such, the study has implications for resource-constrained regions that unlike the EU have the potential to play an important role in basic regulatory capacity building for both regulators and policy makers.

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List of Acronyms

ADSL	Asymmetric Digital Subscriber Line
AfrISPa	African Association of Internet Service Providers
AGM	Annual General Meeting
AIDS	Acquired Immune Deficiency Syndrome
APEC	Asia Pacific Economic Cooperation
APEC TEL Working Group	APEC Telecommunications and Information Working Group
ARICEA	Association of Regulators of Information and Communications for Eastern and Southern Africa
ARPTC	Autorité de Régulation de la Poste et des Télécommunications du Congo
ASEAN	Association of South-East Asian Nations
ATRC	ASEAN Telecommunications Regulators Council
ATU	African Telecommunications Union
AU	African Union
BISPA	Botswana Internet Service Provider Association
BTA	Botswana Telecommunications Authority
BTC	Botswana Telecommunications Corporation
BTG	Bytes Technology Group
CATIA	Catalyzing Access To ICT in Africa
CAZ	Communications Authority of Zambia
CDMA	Code Division Multiple Access
CEO	Chief Executive Officer
CRASA	Communications Regulators' Association Southern Africa
CRM	Corporate Resource Management
CTO	Commonwealth Telecommunications Organization
DFID	UK Department for International Development
DoC	Department of Communication
DRC	Democratic Republic of Congo
DSL	Digital Subscriber Line
EAC	East African Community
EAP&TC	East African Post and Telecommunications Corporation
EARPTO	East African Regulatory Postal and Telecommunications Organization
EASSy	Eastern Africa Submarine Cable System
EC	European Commission
ERG	European Regulators' Group
EU	European Union
FCC	Federal Communications Commission

FLS	Front Line States
GDP	Gross Domestic Product
GPRS	General Packet Radio Service
GSM	Global System for Mobile communications
HIV	Human Immunodeficiency Virus
HR	Human Resource
HRD	Human Resource Development
HSDPA	High-Speed Downlink Packet Access
IBA	Independent Broadcasting Authority
ICASA	Independent Communications Authority of South Africa
ICT	Information and Communication Technology
ICTA	Information and Communication Technologies Authority
IIC	International Institute of Communications
IMF	International Monetary Fund
INACOM	Instituto Angolano das Comunicações
INCM	Instituto Nacional das Comunicações de Moçambique
ISDN	Integrated Services Digital Network
ISP	Internet Service Provider
ITU	International Telecommunications Union
LTA	Lesotho Telecommunications Authority
MACRA	Malawi Communications Regulatory Authority
MCST	Ministry of Communications, Science and Technology
MCTS	Mobile Cellular Telecommunications Service
MIC	Millicom International Cellular
MoC	Ministry of Communication
MoID	Ministry of Infrastructure Development
MoU	Memorandum of Understanding
MTN	Mobile Telephone Networks
MVNO	Mobile Virtual Network Operator
NCC	Namibian Communications Commission
NEPAD	New Partnership for Africa's Development
NIE	New Institutional Economics
OECD	Organization for Economic Cooperation and Development
OMERT	L'Office Malagasy d'Etudes et de Régulation des Télécommunications
PEEPA	Public Enterprise and Evaluation Privatization Agency
POTRAZ	Postal and Telecommunications Regulatory Authority of Zimbabwe
PPP	Purchasing Power Parity
PSTN	Public Switched Telecommunications Network
PSTS	Public Switched Telecommunications Service

PTN	Private Telecommunications Network
PTO	Public Telecommunications Operators
PTT	Postal, Telegraph and Telephone provider
RASCOM	Regional African Satellite Communications Organization
REC	Regional Economic Community
RIARC	Reseau des Instances Africaines de Regulation de la Communications
RRA	Regional Regulators' Association
RTOA	Regional Telecommunications Operators' Association
SADC	Southern African Development Community
SADC I&S	SADC Directorate of Infrastructure and Services
SADCC	Southern African Development Coordination Conference
SAPRA	Southern African Postal Regulations Association
SATA	Southern African Telecommunications Association
SATCC	Southern Africa Transport and Communications Commission
SATCC-TU	Southern Africa Transport and Communications Commission Technical Unit
SATRA	South Africa Telecommunication Regulatory Authority
SGM	Special General Meeting
SIDA	Swedish International Development Cooperation Agency
SNO	Second Network Operator
TCC	Tanzania Communications Commission
TCRA	Tanzania Communications Regulatory Authority
TISPA	Tanzanian Internet Service Providers Association
TPTC	Tanzania Posts and Telecommunications Corporation
TRASA	Telecommunications Regulators' Association of Southern Africa
TTCL	Tanzania Telecommunications Company Ltd
UMTS	Universal Mobile Telecommunications System
UN	United Nations
USAID	United States Agency for International Development
USAL	Under Serviced Area License
VANS	Value-Added Network Services
VoIP	Voice over Internet Protocol
WATRA	West African Telecommunications Regulators Assembly
WiMAX	Worldwide Interoperability for Microwave Access
WRC	World Radiocommunication Conference
WSIS	World Summit on the Information Society
WTO	World Trade Organization

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1. Introduction

Information and communication technologies (ICTs) have been widely recognized to empower people and stimulate socio-economic development in developing countries (e.g. Courtright, 2004; Kenny, 2002; e.g. Wang, 2003). Hence, it is imperative that Africa's level of ICT deployment is enhanced, as it continues to lag behind the vast majority of the rest of the world. Despite Africa's fast growth in mobile telephony, that in 2001 led to Africa becoming the first continent in the world with more mobile telephony than fixed line telephony users[1], a wide gap in coverage particularly between urban and rural areas continues to persist (Allen, 2003; The Panos Institute, 2004).

One means for achieving this is implementation of appropriate policies and regulation, as they constitute a major driving force for market development (Gutierrez & Berg, 2000). However, even though policy and regulation are important channels through which *the state* can influence economic activity (Amann & Baer, 2005), in many developing countries policy and regulatory constraints continue to hamper deployment of innovative wireless ICT solutions (Galperin, 2005; Neto et al., 2005). This has often been blamed on policy makers protecting the incumbent operator at the expense of taking measures to stimulate competition and effective regulatory control (e.g. Gillwald, 2005; Horwitz & Currie, 2007), and thereby leaving little room for national regulators to implement effective regulation. As a collective of regulators[2], regional regulator associations (RRAs) have the potential to stimulate further liberalization and increase ICT connectivity, which indeed is one of the goals of the Southern African Development Community's (SADC) regional regulatory association CRASA; the Communications Regulatory Association of Southern Africa.

1.1. The Role of Regions in ICT Policy & Regulation Making

Since the 1990s venues for regulatory policy making around the world have become increasingly diversified, transitioning from a predominantly national level to one that is multilateral and regional (supranational) (Cricelli *et al.*, 1999; Drahos & Joseph, 1995; Kaiser & Prange, 2005; Wilson & Wong, 2003). This transition is due in part to the growth of regional[3] economic communities (RECs) such as the European Union (EU), Asia-Pacific Economic Cooperation (APEC), the Southern African Development Community (SADC), and Association of Southeast Asian Nations (ASEAN). To the

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[1] http://www.itu.int/AFRICA2004/media/mobile.html Last accessed August 1, 2007.
[2] In this study the term regulator typically refers to an organization, also known as national regulatory authority, as opposed to function (i.e. a person working at a regulator/regulatory authority could also be referred to as a regulator). When talking about staff of a regulator, this will be referred to in terms of e.g. manager of a regulator or councilor of a regulator, etc. The term RRA – regional regulators' association – in turn thus refers to the collective, or association, of national regulatory authorities/regulators.
[3] Here 'regional' refers to *supra*national relations, whereas in other contexts 'regional' sometimes refers to the *sub*national level. For example, in the European Union the 'Committee of Regions' is made up of representatives of sub-national regions, and provides advice to the Commission, Parliament and Council of Ministers. Indeed, in discussing European integration Hooghe and Marks (L. Hooghe & Marks, 2001b) contrast the force of European integration with that of regionalization, meaning the increasing importance of sub-national governance.

extent that these organizations serve as policy making bodies, they are likely to influence policy making activities at the national level. For example, as discussed by Majone (1996), in the EU between 1960 and 1990 the growth in the number of policies and regulations was nearly exponential and already in 1991 roughly three fourths of the laws implemented in France were made in consultation with regional authorities.

As regulatory policy makers, RECs ostensibly seek to resolve regional market failures through policy coordination, thereby facilitating the development of a more integrated regional market. In the ICT realm this can take the form of facilitating cross-border market entry by service providers and intra-regional trade in telecommunication equipment and services. Further, higher degrees of similarity in policies and regulation and predictability in the regulatory environment are expected to stimulate investment and therefore market development across member states.

These activities are increasingly pursued in conjunction with semi-independent regional regulators' associations (RRAs), such as the APEC TEL Working Group (Telecommunications and Information Working Group), established in 1990; the ASEAN Telecommunications Regulators Council (ATRC), established in 1995; and the European Regulators Group (ERG), established in 2002. While RECs typically focus on the higher level policy aspects, these RRAs seek to provide models for regulation, which member states can use to shape the development of their national regulatory frameworks.

The presence of such bodies has implications at the global, regional and national levels and raises a variety of questions. Particularly, given RRAs' explicit objective to "harmonize" policy and regulation across their respective regions, a question that needs to be answered is what, if any, effects do RECs and RRAs have on national level policy and regulation making in their member states? In other words, how do these RRAs influence national regulation and policy?

While significant research has been conducted by political scientists on how REC administrative institutions (i.e. directorates responsible for telecommunications policy making), and in particular the European Commission (EC), influence national telecommunication policy and regulation (see e.g. Bartle, 2005; see e.g. Humphreys & Simpson, 2005; Levi-Faur, 1999), the role of RRAs has gained limited attention. Furthermore, as pointed out for example by Hurrell (2005), theories developed in the highly integrated and comparatively wealthy EU may distort studies of other regions.

To this extent, this research aims to analyze the role of both REC and RRA in shaping national policy making in the context of the Southern African Development Community. A REC with one of the highest intra-regional income disparities, yet the first one in the African continent to set up an RRA that served as a model to other RECs in the continent including the West African Telecommunications Regulators Assembly (WATRA) and the Association of Regulators of Information and Communications for Eastern and Southern Africa (ARICEA), this case will generate insights potentially generalizable to other developing regions, and therefore has the potential to lead to new insights into the mechanisms of regional policy making in general.

1.2. Research Objectives and Research Questions

This study will analyze regional ICT policy making in SADC. SADC is an economic community comprised of the fourteen most southern countries of Africa, and together with CRASA aims to harmonize telecommunications policies and regulation across the region through the development of model telecommunications policies and regulations that are to be implemented across member states. Nevertheless, by trying to establish a common set of policies across jurisdictions, SADC faces enormous challenges because of the need to align a variety of stakeholders with competing goals as well as countries at different stages of economic development.

One of SADC's primary goals has been to establish autonomous regulators across the region (McCormick, 2003). To this extent, main provisions of SADC's Model Telecommunications Law included specifications concerning the licensing of operators and service providers, encouragement of an investor friendly environment, and privatization and liberalization of the telecommunications sector (Goulden, 2005). Regional models for deployment of new wireless technologies have consequently been developed, extending SADC's focus beyond fixed and mobile telephony services provision to include services provision through satellite and local wireless access networks as well (see TRASA, 2004). Currently, already 13 out of 14 member states have regulatory agencies in place. Additionally, throughout the region, private investments have increased, and significant growth in the mobile sector has been observed (Goulden, 2005).

Nevertheless, while significant activity regarding reform within the SADC region has been observed, the specific role SADC and CRASA have played in stimulating reform has yet to be systematically examined. Since SADC's main goal to stimulate harmonization is the development of model policies that are to be (voluntarily) adopted across its member states, we need to gain insight in the mechanisms through which model policies are shaped and implemented, as well as whether and if so how, other mechanisms of influence are exerted. Therefore, the study aims to answer the following overarching research question:

> **RQ$_0$:** *How do regional economic communities (RECs) and their regional regulators' associations (RRAs) influence national ICT policy and regulation in member states?*

While the development of model policies and guidelines is stated as an important means to influence national ICT policy and regulation, SADC and CRASA may employ different mechanisms of influence as well. Further, as SADC and CRASA are primarily driven by their member states due to low numbers of staff at both the SADC and CRASA Secretariats, member states have an important role in shaping activity at SADC and CRASA. To this extent, the study aims to analyze how differences among member states influence activity at the regional level as well as how outputs from the regional level have

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potentially different effects in these member states with such varying backgrounds. Therefore, the following sub-questions will be answered in this study:

RQ₁: What different mechanisms of influence do RECs/RRAs employ to influence member states' regulatory governance and regulatory incentives?
RQ₂: How do institutions and contexts of member states influence regional regulatory governance and incentives?
RQ₃: How do institutions and contexts of member states affect the influence of CRASA on national regulatory governance and incentives?

The study focuses particularly on what is considered the telecommunications side of ICT. As such, the study constitutes a telecommunications policy study. The study is interdisciplinary in nature, and draws upon research from other fields such as institutional economics, public policy, organization science and political science. The study should thus be read as spanning these disciplines.

1.3. Intellectual Merit and Broader Impacts to Society

This study contributes to the nascent literature on the role of regional economic communities and their influence on national level ICT policy making. In addition, the study will provide *empirical* insights into market development in Africa, a region that has received relatively limited attention in international telecommunications research so far.

The results will be of interest to the information sciences and telecommunications research communities both in the academic and governmental spheres, and academics concerned with international policy studies in general. Of particular interest to the information sciences and telecommunications research communities will be the insights generated into international mechanisms through which ICT policy implementation takes place, which is increasingly relevant across the globe. Drawing on the experience in Southern Africa, findings will be generalized where applicable to other regional experiences. In addition, this research can be seen as a sector specific case study of regional policy making that may provide insights to regional policy making in other sectors, such as the environmental and transportation sectors.

This study aims to contribute to practice through the development of recommendations to SADC as a regional body with regard to its institutional effectiveness by means of process management recommendations. In addition, policy makers from other regions and international organizations may find practical insights relevant to their own contexts.

2. Telecommunications Policy Development and Regionalization

Even though telecommunications policy making nowadays takes place not only within national political systems, but increasingly within the larger world system, adoption of policies still occurs through formal national structures. In the early days, in many countries the national government owned the monopolistic telecom operator and thus fully determined the latter's behavior. However, nowadays telecommunications laws and general policies are proposed in governmental departments or ministries responsible for (tele-)communications that have to pass parliament, and set boundaries for further interpretation by autonomous (tele-)communications regulators. Thus, the influence of (tele-)communications ministries has diminished, and moreover, new modes of production and trade have increased the influence and power of multinational institutions and corporations that consequently have even further diminished the capacity of national policy makers to set their own agendas (Parsons, 1996). This has led to expansion of stakeholder involvement in policy making from the national level to the regional and international level (Hosein, 2004; W. H. Melody, 1999). But, while regionalization has been of concern in the areas of trade and political integration for years, in particular telecommunications regionalization and policy harmonization have yet to be systematically assessed.

One way of studying regionalization of telecommunications policies, in line with prior telecommunications policy studies, is through an institutional economics lens (see Bauer, 2005; Garcia-Murillo, 2005; see Levy & Spiller, 1994), in particular New Institutional Economics (NIE). NIE provides a basis for understanding how policy making is influenced by governance and the participation of myriad stakeholders that influence telecommunications market development, as well as provides a basis for understanding how policy influences market development.

This chapter is organized as follows. First the theoretical foundations of NIE will be laid out, followed by a more specific discussion of governance and stakeholder participation in policy making processes. Then we will turn to a discussion on factors influencing policy adoption within regional policy harmonization efforts.

2.1. New Institutional Economics

Institutional economics in its broadest sense is concerned with the relation between institutions and wealth. Institutions are defined as "the rules of the game in a society or, more formally, are the humanly devised constraints that shape human interaction" (North, 1990: p. 3). They reduce uncertainty to structure human exchange, whether of political, social, or economic nature. These institutions, together with technology, affect performance of the economy by their impact on the costs of exchange and production (transaction and transformation costs). Organizations are the structural mechanisms that enforce institutions. Institutions have three dimensions: formal and informal constraints and enforcement (North, 1990). Formal constraints are typically defined to consist of laws and regulations of a society, while informal constraints give structure to individuals'

relations with others (Alston et al., 1996). Examples of the latter include the norms and customs of a society. Informal constraints are the reason that similar formal rules in different societies produce different outcomes, and, whereas formal constraints may change relatively quickly, informal constraints often persist having a pervasive influence on the long-run character of economies (North, 1990). A change in these institutional dimensions results in institutional change, which shapes the way societies evolve through time and hence is the key to understanding historical change. Thus, the varying performances of economies over time are fundamentally influenced by the way institutions evolve.

Whereas institutional theory is used in many disciplines, the emphasis on particular aspects varies. To this extent, Scott (2001) underscores three different pillars of institutions: the regulative, normative, and cultural-cognitive. This study will focus on the regulative: how institutions constrain and regularize market behavior through policy and regulatory processes that "involve the capacity to establish rules, inspect others' conformity to them, and, as necessary, manipulate sanctions – rewards or punishments – in an attempt to influence future behavior" (Scott, 2001: p. 52).

While regulation is a typical example of a formal constraint, regulatory processes are not only shaped through formal constraints, but through a variety of informal mechanisms as well: the effectiveness of similar regulatory frameworks has been shown to vary according to countries' political and social institutions (Levy & Spiller, 1994). In particular, market performance may be deemed satisfactory with a wide range of regulatory procedures in place, as long as three complementary mechanisms exist that restrain arbitrary administrative action: (1) substantive restraints on the discretion of the regulator, (2) formal or informal constraints on changing the regulatory system, and (3) institutions that enforce the above formal constraints (Levy & Spiller, 1994). Thus, as the design of efficient formal rules must take into consideration the interaction between new formal constraints and existing informal ones, institutional economics provides a particularly appropriate approach to study policy (Eggertson, 1996).

A further distinction in NIE could be made according to the levels of analysis and their relation to the interplay between formal and informal constraints on institutions. To this end, Davis and North (Davis & North, 1971) made a distinction between the 'institutional environment' and 'institutional arrangements'. The institutional environment refers to background constraints or rules of the game, which may be formal or explicit rules (e.g. constitutions, bureaucracy, or the legal system) and informal rules such as social conventions and norms. The institutional arrangements are specific guidelines which have been referred to as *governance structures*, that are specifically designed to mediate economic relationships (Klein, 1999). The distinction between the institutional environment and institutional arrangements is further reflected in Williamson's (2000) attempt to summarize the NIE literature, introducing a four level framework that categorizes NIE research programs. The highest level, level one, refers to embeddedness: informal institutions, customs, traditions, norms and religion. The second level refers to the institutional environment that consists of the formal rules of the game (such as polity, judiciary, and bureaucracy), and thus the institutional environment. The third level refers

to governance, also known as 'the play of the game' or institutional arrangements, and the fourth level refers to resource allocation and employment. These four levels interact, with the higher levels imposing constraints on the level below, and the lower levels providing feedback to the level above. The different levels of analysis can furthermore be distinguished according to the frequency of institutional change. Measured in years, informal institutions change approximately once every 10^2 to 10^3 years, the institutional environment changes approximately once every 10 to 10^2 years (level 2), the institutional arrangements or governance structure changes approximately once every 1 to 10 years, and resource allocation and employment changes continuously (Williamson, 2000).

Following Davis and North (Davis & North, 1971) and Williamson (2000), this study intends to examine how SADC's institutional environment and institutional arrangements or governance structures, influence national ICT policy and regulation. While the institutional environment and institutional arrangements are among the most widely researched levels (Williamson, 2000), and the influence of the institutional environment on institutional arrangements has been investigated before (e.g. Behera & Engel, 2006; Oxley, 1999) this study seeks to provide further insight on the actual development of both the institutional environment and arrangements (thus, both rules *and* play of the game or governance), as well as their particular *interactions,* an area that has gained limited attention so far (Oxley, 1999).

2.2. Governance Structure & Process

Governance structures and processes in supra-national organizations are complex and as such a broad range of factors have been identified that influence both process and structure. At a level beyond the nation state, international governance relates to international organizations or regimes that are based on explicit principles, norms and rules that are typically agreed upon by national governments and can take numerous forms. In regional bodies in particular, governance relates to the finding of joint solutions through multi-leveled partnerships (Bulmer, 1998), and thus entails decision making via a multi-tiered structure, such as is the case with regional telecommunications organizations that try to influence autonomous regulators (Geveke, 2003).

In terms of NIE, these rules could be referred to as the institutional *environment*, where *modes* of international governance and thus the institutional arrangements or 'play of the game' refer to the creating or maintaining of political order and the provision of common goods (Carter & Scott, 1998; Risse, 2004). Public policy scholars in turn have emphasized the role of stakeholder inclusion in governance processes and the ability to increase problem solving capacity of institutionalized cooperation in the international system (e.g. Risse, 2004).

Within NIE abundant research has been conducted concerning governance structures or institutional arrangements (e.g. Aberbach & Christensen, 2003; Ferris & Graddy, 1998). However, formal typologies of regulatory institutional arrangements have been argued to remain insufficient, since they typically do not assess the relative merits of different

systems of regulation that depend not only on the political environment and economic coordination structures, but on preferences of actors as well (Dedeurwaerdere, 2005).

Moreover, the typical focus on governance within NIE regards efficiency of governance such as economic policy coherence and public service effectiveness (e.g. Alence, 2004). In this literature, modes of governance are commonly discussed at the level of the national economy or industry sectors referring to hierarchical vs. market forms of governance (Williamson, 1996). Apart from these two modes of governance, a variety of 'third' modes of governance have been identified such as clans, trust, and networks (e.g. Bradach & Eccles, 1989; Grandori, 1997; e.g. Ouchi, 1980; Thompson *et al.*, 1991), which however are difficult to compare due to their different constitutive elements (Grandori, 1997). Further, due to their additional high level of abstraction, they frequently lack specific focus on the relation between stakeholder participation and governance modes and outcomes, which especially for regional organizations is of importance: as opposed to the great influence of top level executives in national level policy making processes, at the regional level those who draft legislation are the ones with most influence on policy outcomes (Peterson, 1995).

Furthermore, zooming in on the role of stakeholder participation in governance processes, empowerment is a key dimension of governance (e.g. McCall & Minang, 2005). Through decision-making rules - including voting rules (Steinberg, 2003) – governance structure either reinforces or constrains *power* of stakeholders, which in turn influences policy outcomes (Klein, 1999). Power or influence between two agents may be referred to from two points of view: factors determining the behavior of the agent exerting the power (exercise of power) and factors determining the reactions of the recipient (French & Raven, 1959).

In the telecommunications policy arena the basis of power varies; voting rights may for example establish reward or coercive power, which allows exertion of power on other stakeholders in the policy making process. Expert power may influence negotiations prior to decision making. The different bases of power may furthermore influence a variety of exercises of power. In this regard, during telecommunications negotiations in international institutions such as WTO (World Trade Organization) and the European Union, power imbalances have been shown to increase negotiation power of wealthy nations and firms in decision making processes over poorer nations (e.g. Murphy-Ives, 2003), and in the SADC region South Africa has been found to have significant power or control over other countries in the region (McCormick, 2003). Therefore, this study will focus on how governance structure influences the exercise of power and the effects of this exercise of power, in relation to stakeholder participation, on the development of policies. Power will be assessed as exerted within official decision making processes, as well as through means of lobbying, which within the telecommunications sector has been found to constitute another important means for participating in the policy making process (e.g. Dang-Nguyen *et al.*, 1993; e.g. Woll, 2003).

2.3. Policy Adoption

As the exertion of power plays a key role in policy making processes, it subsequently will influence the outcomes of these processes, and thus on policy design outcomes (e.g. Liefferink & Andersen, 1998). In addition, stakeholder participation in policy making processes has been shown to influence the design outcomes *and* adoption of policies, through building legitimacy and overcoming conflicts (e.g. Altman & Petkus, 1994; Koontz & Johnson, 2004), as well as through increasing stakeholder compliance and support to the policy making process (Pelletier et al., 1999). Commitment building through stakeholder participation in the policy making process is especially of importance in the coordination of regional policies (Heritier, 2001; Maher, 2006). Since strict enforcement structures for adoption are lacking, accords need to be adopted essentially on a voluntary basis. Through inclusion of stakeholders throughout the policy making process, learning and persuasion takes place which increases member states' commitment to the policy, and therefore increases the likelihood for policy adoption. Moreover, through the interaction of stakeholders such as interest groups, legislatures, courts, parties, academia, and the private sector, policy problems are defined, agendas established, and decisions made (Hosein, 2004).

Besides the role of stakeholder commitment in policy adoption, policy adoption in international forums depends on compatibility of national institutional structures and the extent to which they are compatible with the proposed international policies (Maher, 2006; Norgaard & Moller, 2002; Schneider & Tenbucken, 2003). Policy adoption across different countries can be particularly difficult as national systems of political economy differ from each other in terms of the purposes of economic activity, the role of the state in the economy, and the structure of the corporate sector. Therefore, they have differential policy objectives (Gilpin, 2001). This has frequently led international policy transfer to become an iterative process, involving adaptations within countries (e.g. Hays, 1996).

The national level institutions underlying policy adoption decisions and the institutional differences among nation states involved in international forums thus are key to understanding policy transfer and adoption (Dolowitz & Marsh, 2000). However, while international policy transfer has been on the research agenda among policy scholars for a long time (e.g. Colin J. Bennett, 1991b; Bulmer & Padgett, 2005; Delmas, 2002; Radaelli, 2000), it often does not analyze and explain the particular processes involved leading up to policy transfer (Dolowitz & Marsh, 2000).

Along with the national institutional structures feeding into adoption outcomes, general regional differences may be observed in policy harmonization efforts across the world that affect policy development and adoption. The regional transfer of rules may be inherently region specific, and policy models do not always prove viable in all regions (e.g. Claeys & Sindzingre, 2003). In particular, the viability of policy models in developing countries lies in local socio-institutional specificities (Claeys & Sindzingre, 2003; Courtright, 2004); for example development of telecommunications policies addressing rural connectivity need to be assessed with an eye towards the particular perspectives of a broad range of stakeholders, local autonomy and challenges of reducing

socioeconomic inequality (Andrew & Petkov, 2003; Courtright, 2004; Samarajiva & Shields, 1990).

Regardless of these criteria outlining boundaries for the development of the content of policies, developing countries frequently face high levels of corruption. Corruption may be due to the absence of effective rules and (political) institutions in Africa (Campbell, 2002), enabling limited, or lack of, transparency in policy making processes. In addition, weak institutions may lead to an inability to enforce policies resulting in lack of control and therefore increases opportunities for corruption. Hence, corruption may lead to not only weak policy formulation but failure of policy adoption and enforcement as well (Alence, 2004; Doyle & McShane, 2003). However, despite the corruption Africa faces throughout the continent, it does not mean all policies are inherently ineffective. For example, the establishment of autonomous regulators and the introduction of regulation in developing countries is found to have stimulated telecommunications rollout in (Baudrier, 2001; Gutierrez & Berg, 2000).

To conclude, region- and country-specific institutional constraints will determine the extent of policy adoption and enforcement, providing both opportunities and constraints for the introduction and international transfer of policies.

3. Theoretical Framework

3.1. A Framework for Understanding Regulatory Policy Regionalization

Bringing together the previously discussed strands of research, this study will examine how the regional economic community of SADC and its RRA CRASA influence national ICT policy and regulation in its member states, including the different mechanisms of influence that are employed, and the institutional differences among member states that influence SADC and CRASA's efficacy. Next the theoretical framework for analysis is presented.

3.1.1. Regulatory Underpinnings: Levy & Spiller's Regulatory Governance Framework

The theoretical framework is developed by conceptualizing the basic activity of RECs and RRAs, namely the design of model policies and regulations in order to stimulate investment in the region, as an extension of the regulatory design problem from a purely national level perspective to include the regional level as well. The regulatory design problem in general concerns the problem of finding an optimal rule, given some constraints, which will provide for satisfactory sector performance. Whereas most telecommunications policy research indeed focuses on finding these 'optimal rules' to stimulate market performance (i.e. formal policies and regulations such as interconnection regulation or setting price caps), Levy & Spiller (1994) have emphasized the constraints for finding those rules, categorizing these constraints broadly as institutional endowments and regulatory governance, and arguing that together they influence the rules, or 'regulatory incentives' that are implemented in society (see also Figure 3.1).
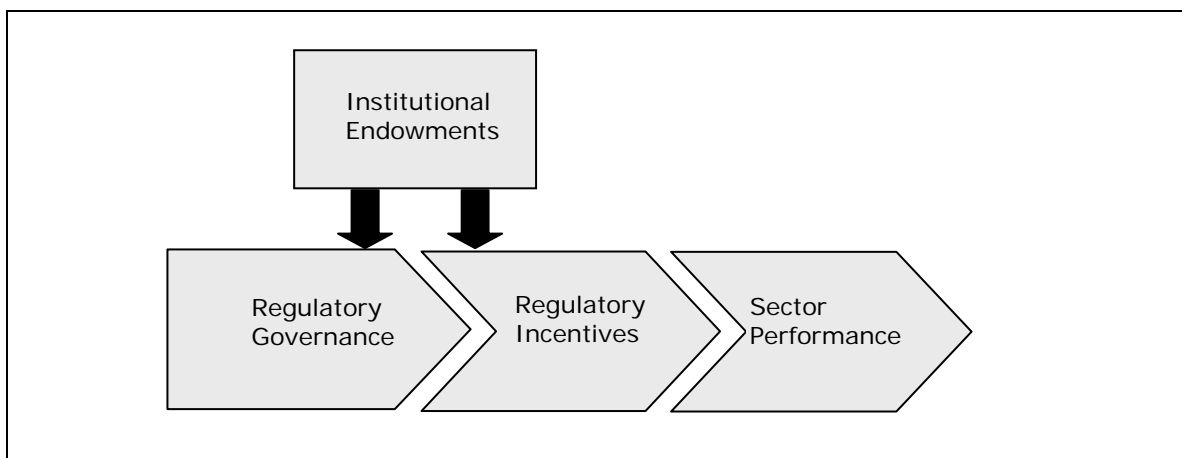
Figure 3.1: Theoretical Basis - The Regulatory Design Problem
Source: Levy & Spiller (1994)

Regulatory incentives are thus the rules or regulations that are implemented in a society to increase sector performance, and may include price setting, interconnection requirements, etc. But, more than one set of regulatory incentives may generate satisfactory sector performance, depending on the regulatory governance mechanism in place (Levy & Spiller, 1994). Regulatory governance refers to the "mechanisms that societies use to constrain regulatory discretion and to resolve conflicts that arise in relation to these constraints" (Levy & Spiller, 1994). Moreover, depending on a specific governance mechanism in place in a society, particular regulatory incentives will be appropriate while others are not, thereby explaining failures in transplanting 'successful' policies across nations. Thus, while regulatory incentives intend to affect the behavior of the private sector, a nation's institutional endowments and regulatory governance intend to affect or restrain the behavior of regulators (Cherry and Wildman, 1999).

Levy & Spiller (1994) furthermore argue that for any governance mechanism to be effective, regulatory commitment is the key, through stimulating private sector investment and enhancing sector performance. A regulator must be committed in the longer run to regulations introduced at a particular time, or in other words, it must be believable that a regulator will not change regulations to the disadvantage of operators once they have invested. For example, once operators invest in telecom systems that are characterized by high sunk costs, they will continue to operate even when they cannot recover the sunk costs (and thus will be unable to break even), as long as they are able to cover the operating costs. Hence, after the initial investment, government or regulators could for example set price caps or introduce other regulation to force operators to sell services below long-run average costs and thus engage in administrative expropriation for political gains. If prior to making the initial investments an operator would know such rules would be introduced, chances are high it would not enter the market. Thus, the regulatory environment has to be predictable through regulatory commitment in order to stimulate investments by the private sector.

To this extent, Levy and Spiller (1994) argue that sector performance can be satisfactory with a variety of regulatory incentives in place, as long as there are three basic regulatory governance mechanisms in place that restrain arbitrary administrative action, namely (both formal and informal) constraints first on the discretion of the regulator and second the ability to change the regulatory system (regulatory governance). Third, institutions that enforce formal constraints must be in place, i.e. the institutional endowment. Yet, while regulatory commitment is important, as without it private investments will not occur (or in a very limited fashion), there also runs the risk of inflexibility. Some degree of flexibility, and thus regulatory discretion, is needed in order for regulation to evolve alongside technological and market changes. Thus, a balance must be found between regulatory discretion/flexibility and regulatory commitment (Levy & Spiller, 1994).

The 'institutions that must be in place to enforce formal constraints', i.e. the national institutional endowment, are comprised of five elements: 1. a nation's legislative and executive institutions; 2. its judicial institutions, 3. the customs and informal and widely accepted norms that constrain action, 4. the character of contending social interests and the balance between them, including ideology, and 5. its administrative capabilities (Levy

& Spiller, 1994). While institutional endowments thus relate to the broader, non-telecommunications sector specific, national political and legal system of checks and balances, formal regulatory governance on the other hand refers specifically to telecommunications sector governance, including Telecommunications Acts etc. Then together a nation's institutional endowment and regulatory governance determine, at least to some extent, the regulatory incentives that are implemented. Hence, while regulatory incentives directly affect sector performance, their impact is determined through the efficiency of regulatory governance (Levy & Spiller, 1994).

While usually this regulatory design problem is considered at the national level, in this study it is extended to include not only the national level but the regional level as well. Assuming regional level activity has some effect on national level regulatory activity, first of all through RECs and RRAs aiming to influence national regulation and policies (national regulatory incentives) through the development of model policies (regional regulatory incentives), and where the efficacy depends on how the structure of the region (regional institutional endowment and regulatory governance) can deal with national regulatory governance, in addition to member states' national regulatory governance and incentives perhaps influencing what happens at the regional level, an extension of the regulatory governance framework to include the regional level as well seems to fit well. Moreover, as the constructs from Levy & Spiller's framework have been shown to be applicable in countries at various stages of economic development, such as the US (Cherry & Wildman, 1999), the UK, and developing countries in Latin America and Asia (Levy & Spiller, 1994), it provides an appropriate basis for studying regions at different stages of economic development. Finally, as the regulatory design problem approach has its roots in New Institutional Economics (NIE), a well-known approach to telecommunications policy studies, it provides the opportunity to further integrate findings from this broader body of work.

3.1.2. Extending Levy & Spiller's Regulatory Governance Framework

While Levy & Spiller developed their framework with an eye on how a nation's institutional endowment and regulatory governance mechanism prohibit administrative expropriation, in this study the framework is applied in a broader context. It follows the line of Cherry & Wildman (1999) who interpreted the framework in light of the influence of the institutional endowment and regulatory governance on the efficacy of regulatory policies in general.

Therefore, given the focus of this study on the role of regulatory governance and its constraining effect on regulatory incentives, this provides an appropriate way to look at regionalization, where a supra-national organization tries to influence national policy and regulation, and thus needs to deal with member states' national regulatory governance mechanisms and national regulatory incentives. As such, it is key to understand how national regulatory governance as well as national incentives already in place affect the extent to which a regional body itself faces constraints, and is able to influence the national environment.

This study furthermore extends the use of Levy & Spiller's framework by focusing more on informal aspects of regulatory governance. While as posed by Levy & Spiller the institutional endowment and regulatory governance include informal aspects as well, such as norms and ideology, to date Levy & Spiller's framework has predominantly been applied in a formal context, which focuses primarily on legal frameworks that guide the legislative and executive institutions. To this extent, national endowments have extensively focused on the formal checks and balances that exist in a nation's various branches of the political and legal system that limit government power, such as for example the role of a nation's constitution in telecommunications regulation (e.g. Levy & Spiller, 1994 and Cherry and Wildman, 1999). The same applies to regulatory governance: Levy and Spiller have focused primarily on the role of licenses in restraining arbitrary administrative action.

Informal aspects of regulatory governance can be argued to play a significant role in determining the regulatory incentives implemented in society. Moreover, informal aspects as related to the process of policy and regulation making will determine which of the set of choices generated by the institutional endowment and formal regulatory governance mechanism will be implemented. Hence, while Levy and Spiller (1994) have defined regulatory governance as the mechanisms that constrain regulatory discretion, in this study the construct of regulatory governance is expanded to include the more informal part of the process of developing regulation as well. The study particularly emphasizes the role and influence of stakeholder participation and power, as they have been shown to significantly influence governance processes and policy design outcomes (i.e. regulatory incentives), through the identification of policy problems and a range of solutions, the establishment of agendas, and the final decision – or choosing a specific policy option - during the governance process (Hosein, 2004). Thus, regulatory governance and in turn regulatory incentives are influenced by stakeholder participation and power, but are also driven in part by the regional institutional endowments and formal regulatory governance mechanisms.

Stakeholder participation is particularly important in regionalization processes. Given the extant number of actors having stakes in what happens at the regional level, understanding the participation of both internal and external stakeholders in the regional model policy development process is important. First, given RECs' and RRAs' goals to harmonize the policy and regulatory environment across member states, it is key for all countries to adopt the model policies. To this extent, stakeholder participation in policy design processes has been shown to increase stakeholder compliance and support to the policy making process and outcomes (Altman & Petkus, 1994; Koontz & Johnson, 2004; Pelletier et al., 1999), through commitment to the policy making process itself (e.g. Maher, 2006) as well as through potentially steering policy design to preferences. Hence, stakeholder involvement at the regional level will affect the development of regional model policies as well as the adoption, for which next propositions are developed with reference to the role of formal regulatory governance. Therefore, in this study of primary concern are both the *process* of policy and regulation making through participation of various stakeholders as well as the formal constraints, that together influence the final design of regulatory incentives.

3.2. Propositions

This section provides the propositions that are tested in this study. Figure 3.2 depicts the conceptual model, including the core concepts and relations of investigation that reflect the theoretical model to be tested. The model will be described in detail below.
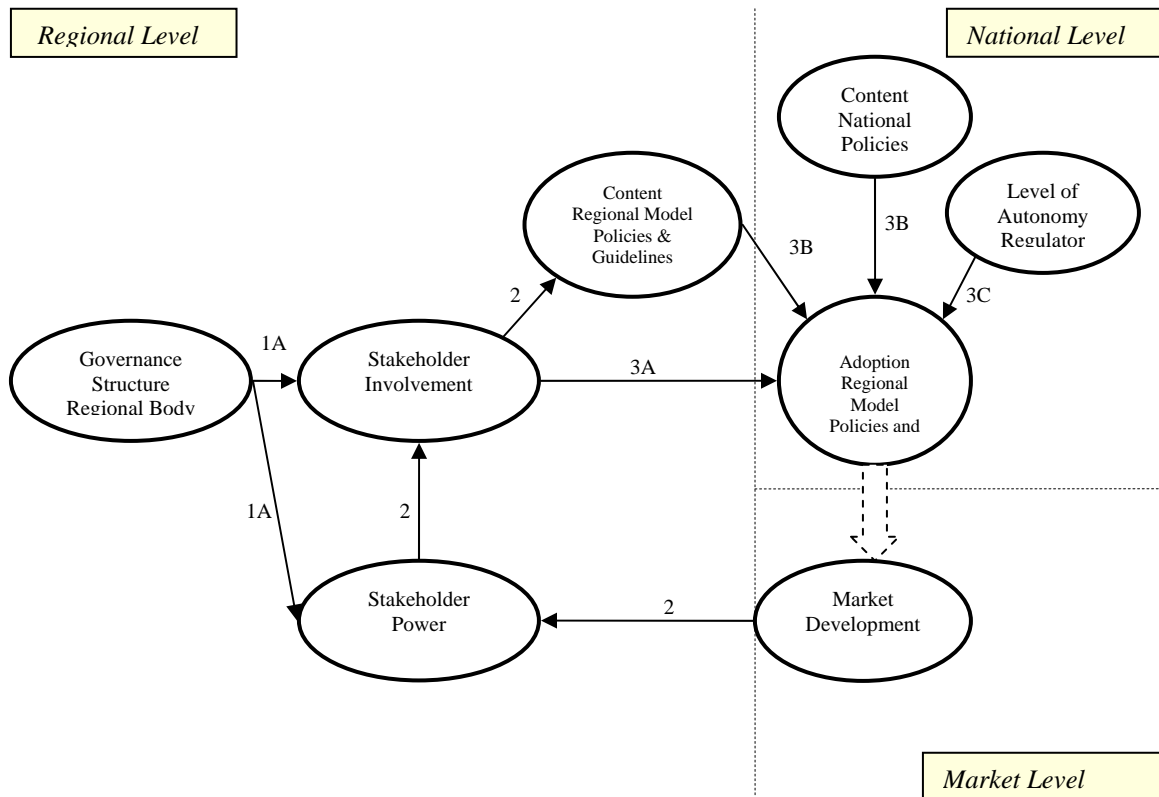
Figure 3.2: Conceptual Model

3.2.1. Mechanisms of Influence of REC and RRA

In order to assess the mechanisms that RECs and RRAs employ to influence member states' regulatory governance and regulatory incentives, first the regional body's institutional structure with regard to its employed governance structures needs to be examined. Governance structure determines how stakeholders *may* become involved in the model policy development process as well as broadly defines decision making processes. This will affect the final design and thus content of regional model policies and guidelines. At the same time, governance structure constrains or reinforces stakeholder power which in itself will affect the extent to which particular stakeholders will become involved and are able to exert influence on regional model policy and guideline design (governance process), and thus provides an additional factor shaping model policy and guideline content.

Key stakeholders engaged in telecommunications regionalization are ministerial representatives, regulators and private sector representatives. The REC's telecom body is typically comprised of ministerial representatives. The RRA in turn is made up by

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regulators, and private sector representatives may be involved either in a direct (lobbying) fashion with REC and RRA, or indirectly through a Regional Telecommunications Operators' Association (RTOA) that may have a consulting relationship to both REC and RRA, as defined by the institutional structure of the regional telecom body.

This structure seemingly reflects the three tiered systems that separate functions of policy, regulation, and operation across different entities, at the ministry, regulatory authority and in the private sector respectively, that have been introduced across the globe since the 1990s. However, the extent to which functions of, and relations between these regional associations are similar to the national level is unclear. Therefore, this research first aims to assess the extent to which this three tiered model from the national level is mirrored at the regional level in terms of functions and relations.

Proposition 1A: The structure of separation of policy, regulation and operation in terms of functions and relations at the national level will be mimicked at the regional level.

Insights into the structure of functions and relations thus partially determine how stakeholders may become involved at the regional level, but also the scope of work executed at the regional level. As the REC's and RRAs' goal of telecommunications harmonization is explicated stated to be aimed for through the development of model policies and guidelines[4], these concepts will be the main focus of the research. Nevertheless, telecom bodies pursue a wider range of activities and are situated in a broader context. To this extent, the research investigates in a very open manner the different activities of RRAs and ways of influence of RRAs on national regulatory. The extent to which the development of model policies and guidelines constitutes the RRA's primary means of influence on the national level vs. any other activity employed at the regional level is tested through proposition 1B:

Proposition 1B: RRAs' primary means to influence national regulation is through the development and subsequent adoption of model policies/regulations/guidelines at the national level.

3.2.2. Governance Structure & Process: National Level Influences on the Regional Level

While Levy & Spiller (1994) refer to regulatory governance in a very specific manner; i.e. "the mechanisms that societies use to constrain regulatory discretion…", in the more general field of policy studies governance has been interpreted as the set of rules that guide decision making. While indeed these may be formal rules and institutional endowments as point of emphasis in Levy & Spiller (1994), in policy studies governance refers to political arrangements which may rely on non-hierarchical forms of steering,

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[4] The SADC Protocol on Transport, Communications and Meteorology states its major goal as "[i]n order to attain telecommunications objectives, Member States agree to develop a harmonized regional telecommunications policy.." (Article 10.2) http://www.transport.gov.za/library/docs/misc/sadc.html Accessed 03/03/2006.

and are the result of both formal regulations and informal customs, particularly In the case of the absence of a sovereign government (adapted from DeJong (1997) and Risse (2004)). Governance *structure* then relates to the structure broadly defining the interaction between stakeholders and rules (Heritier, 2001; Lowndes & Wilson, 2001), thus necessitating the specification of actors and decision structures. Further, as governance structure influences which stakeholders will be involved in reaching an organization's goals and how they may interact, the governance structure for regional telecom bodies' activities per se could be defined to entail formal decision procedures and guidelines for participation in the policy making process to achieve the objective of policy and guideline development.

Through legal arrangements such as treaties (i.e. the regional institutional endowment), telecom bodies define governance structure by explicating institutions responsible for implementation and monitoring of actions to reach the goals as stated within these arrangements. This provides a generic framework for decision procedures and participation in regional model policy and guideline development processes. To this extent, the governance structure defines who *may* be involved, in what manner, and how stakeholders could exert influence on decisions regarding the operationalization of these two overarching goals.

In addition, formal arrangements explicating governance structure also determine member states' mandates by locating transparency to, and (democratic) legitimating of decision making processes (e.g. Heritier, 2003), which necessitates explication of voting procedures. Hence, governance structures will constrain or reinforce stakeholders' power, which is likely to affect stakeholder involvement and policy outcomes: through governance structure the regional body determines governance process.

As discussed in chapter 2, power issues in these policy making processes have been shown to be influential on policy design outcomes (Liefferink & Andersen, 1998). As in international institutions such as WTO and the European Union has come to the fore, power imbalances may increase negotiation power of wealthy nations and multinational firms over poorer nations in decision making processes (e.g. Murphy-Ives, 2003; e.g. Steinberg, 2003). Therefore it is likely that in telecommunication regionalization efforts such power imbalances will influence decision making processes as well. In particular, through exertion of power, stakeholder involvement will take its actual shape as opposed to being solely determined by the governance structure per se. Stakeholders with more power are likely to be able to be more involved in these processes than less powerful member states, thereby obtaining more opportunities to exert their power on others.

It is expected that countries with more advanced telecommunications and ICT deployment, and thus relatively advanced market development, will show greater participation, at all levels: the ministerial level, regulatory level, and private level. Because of their advanced status of ICT deployment these countries and their stakeholders likely have greater means to be involved, and through their advanced status, have most power. As those with most power will likely be the stakeholders most involved in the policy and guideline design process, they will be able to exert significantly more

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influence on the content of regional model policies and guidelines than those with less power. While the relationship between power and political influence is well known, the extent to which these relationships exist at the regional level is yet unclear.

Proposition 2: Stakeholder power derived from national sector performance leads to increased involvement in the regional guideline development process, and consequently to increased influence on outcomes.

3.2.3. Model Policy and Guideline Adoption: Regional Level Influences on the National Level

The extent to which member states comply with model policies and guidelines will depend on the status of policy frameworks already in place in member states of regional economic communities. If a member state has no policies in place yet regarding a proposed model policy, the full policy may be easily adopted as the likelihood increases that no other policy is already in place that impedes adoption. If an extensive policy framework is already in place, the model policy needs to be incorporated in already existing policies.

From this it also follows that the content of regional model policies will affect adoption: the better the regional model policies and guidelines are compatible with policies already in place, the greater the likelihood that member states will comply with these model policies and guidelines. Compatibility refers to the degree to which they contain 'similar' sections. For example, competition policy may address many issues, such as barriers to entry, market power and dominance, and pricing. Hence, policies may be perceived 'similar' or 'compatible' when they both address the same issues with similar rules.

Furthermore, stakeholder participation in policy design processes has been shown to increase stakeholder compliance and support to the policy making process and outcomes (Altman & Petkus, 1994; Koontz & Johnson, 2004; Pelletier et al., 1999), through commitment to the policy making process itself (e.g. Maher, 2006) as well as through potentially steering policy design to preferences. Hence, stakeholder involvement will likely affect the adoption of regional model policies and guidelines as well.

Finally, given that in many developing countries regulators continue to struggle with implementation of reform policies and regulations, often hampered by limited autonomy due to dependence on the ministry (e.g. (Gillwald, 2005; Horwitz & Currie, 2007), the adoption of model policies might be constrained by a regulator's level of autonomy.

Hence, the following propositions will be tested:

Proposition 3A: Countries with stakeholders that show the greatest involvement in developing model policies and guidelines are most likely to comply with regional model policies and guidelines.
Proposition 3B: Adoption of regional policies depends on the compatibility of the content with existing national policies and regulations.
Proposition 3C: National implementation of regional model policies will be constrained by a national regulator's level of autonomy.

Table 3.1 provides an overview of the research questions and its related propositions.

Research Question	Propositions
1: What different mechanisms of influence do RECs/RRAs employ to influence member states' regulatory governance and regulatory incentives?	**1A**: The structure of separation of policy, regulation and operation in terms of functions and relations at the national level will be mimicked at the regional level. **1B**: RRAs' primary means to influence national regulation is through the development and subsequent adoption of model policies/regulations/guidelines at the national level.
2: How do institutional and contextual differences among countries influence regional regulatory governance and incentives?	**2**: Stakeholder power derived from national sector performance leads to increased involvement in the regional guideline development process and consequently to increased influence on outcomes.
3: How do institutional and contextual differences between countries affect the influence of CRASA on national regulatory governance and incentives?	**3A**: Countries with stakeholders that show the greatest involvement in developing model policies and guidelines are most likely to comply with regional model policies and guidelines. **3B**: Adoption of regional policies depends on the compatibility of the content with existing national policies and regulations. **3C**: National implementation of regional model policies will be constrained by a national regulator's level of autonomy.

Table 3.1: Research Questions and Related Propositions

4. Research Methods

In order to test the propositions, this study employs the case study method to investigate how SADC and CRASA influence national ICT policy and regulation making in three of its member states: South Africa, Tanzania, and Botswana. The study uses a comparative multiple-case design (Yin, 2003), and to that extent will investigate the three country cases within the SADC context (see figure 4.1). The cases are selected based on the logic of theoretical replication, to allow for both replication of results and contrasting of conditions for predictable reasons (Yin, 2003): each case will be approached similarly, where evidence will be sought to corroborate propositions and to compare similar concepts with possibly varying dimensions.

In addition to the three country cases, SADC will be investigated as a regional case, but partially as embedded within the country cases. The SADC case includes an examination of SADC's three regional telecommunications sector related bodies: SADC Infrastructure & Services (I&S), its RRA CRASA, and its regional telecommunications operators' association SATA (the Southern African Telecommunications Association). SADC I&S is SADC's main body responsible for guiding and coordinating activities related to the formulation and implementation of a regional policy agenda and development strategies in the communications sector. While CRASA and SATA are independent regional bodies, they are all interrelated as they consult to each other and attend each other's meetings. The primary focus however constitutes CRASA.
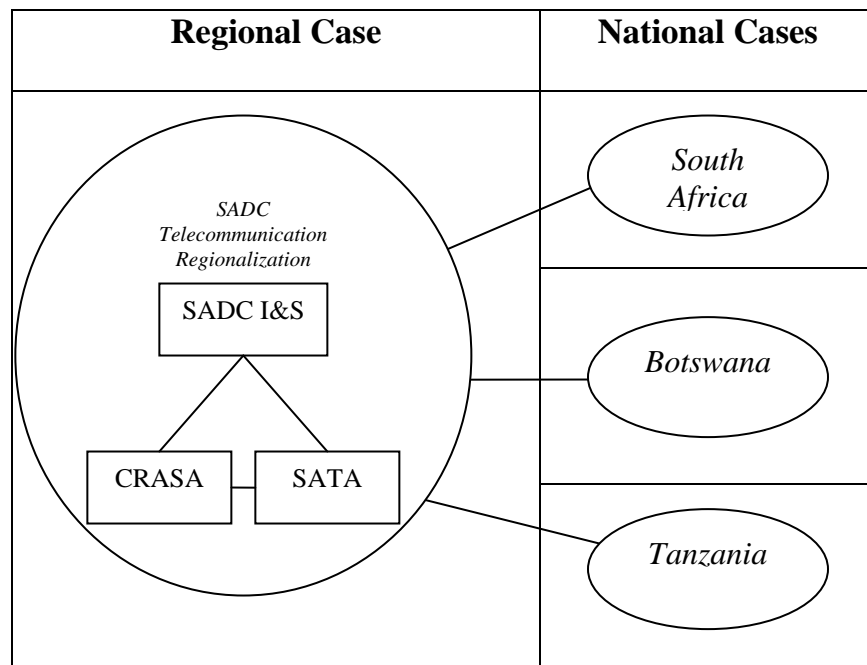
Figure 4.1: Multiple Case Design

The three countries of South Africa, Tanzania and Botswana are selected because they represent SADC member states in three significantly different stages of economic development and telecommunications deployment (SATCC, 2002), with South Africa representing the most developed end, Botswana in the middle, and Tanzania on the lower end, as one of Southern Africa's Least Developed Countries. See also table 4.1 on statistics regarding ICT and economic development indicators. The different degrees of ICT deployment across the case study countries are used as a case selection criterion because the status of ICT and telecommunications deployment is hypothesized to influence power and stakeholder involvement in CRASA, that in turn will influence the design and adoption of regional model policies and guidelines. Additional case selection criteria are significant use of English language in the case countries and considerable Web presence of the country's wireless operators and regulator, which enables preliminary document analysis. Additionally, Botswana houses the SADC and CRASA Secretariats, which is convenient for collection of data on SADC.

	South Africa	**Botswana**	**Tanzania**
Population	45.3M	1.8M	39M
GDP	USD $587.5 billion	USD $17.93 billion	USD $29.64 billion
GDP/capita	USD $13,300	USD $10,900	USD $800
Fixed line operator [5]	Telkom SA Ltd	Botswana Telecommunications Corporation (BTC)	TTCL
# Fixed lines	4,924,458	140,000	145,000
Mobile network providers	▪ Vodacom ▪ MTN ▪ Cell C	▪ Mascom Wireless ▪ Orange Botswana	▪ Zantel ▪ Mobitel/Tigo ▪ Vodacom Tanzania ▪ Celtel Tanzania
Total # mobile users	45,000,000	800,000	>6.3 M

Table 4.1: ICT Deployment in South Africa, Botswana & Tanzania in 2006
Sources: CIA Factbook, regulator websites, organization websites. Data are estimates for 2006.

The method of the case study is chosen because of the study's focus on a contemporary complex phenomenon in a real-life context where the researcher cannot exert any control over unfolding events (Yin, 2003). In addition, as one of the objectives of the study is to cover contextual conditions of SADC as a region as well as peculiar contextual differences among the country cases, the case study entails the most appropriate research strategy. The case study will be of explanatory nature, i.e. has the intent to make *causal claims* about factors influencing CRASA's regional regulatory governance as well as the influence of CRASA on national ICT regulation and policy.

4.1. Data Collection

Data for the study has been collected during an eight month stay in South Africa (May-December 2006), from where two week research trips to Botswana (September 2006) and Tanzania (November 2006) were made. Three primary data collection techniques have been used: interviewing, document collection, and observation. Interviews were primarily used to gain more insight into the process of CRASA guideline development, the

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[5] Both South Africa and Botswana have a fixed line operator that does not offer mobile services.

(perceptions) of use of guidelines at the national level, and liberalization strategies pursued within the case countries. Document analysis has provided a means to analyze liberalization related policies and more general changes in national markets. Figure 4.2 shows the key stakeholders in the context of SADC's market development as well as the relationships among them. These stakeholder organizations constitute the pool of subjects for interviews, and consist of SADC I&S (the primary ICT/telecom body of SADC), CRASA, SATA, national ministries responsible for telecommunications, regulators (in the telecommunications area), and operators and Internet service providers.
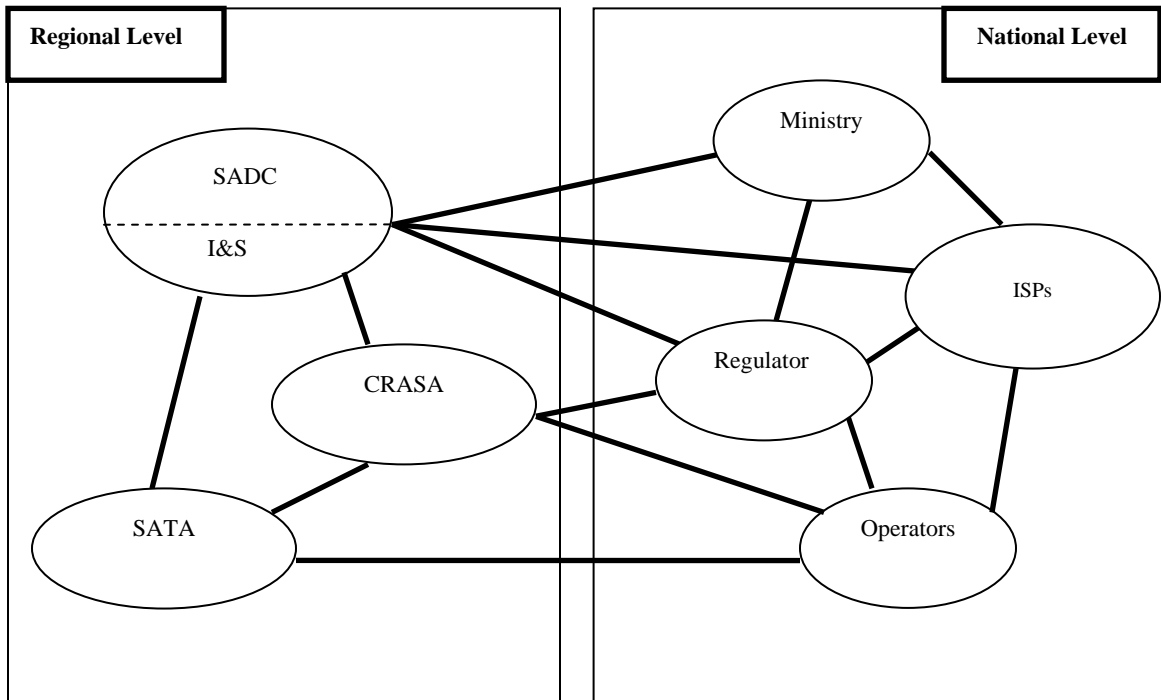
Figure 4.2: Scope of Investigation – Relationships between Key Stakeholders in the Context of SADC

As mentioned before, the regional case is partially embedded within the national cases, meaning that particular stakeholders may serve a role in both a regional and national organization (e.g. ministerial representatives at the regional level may play part in SADC I&S while at the national level they are potentially the primary changers of telecom policy within countries; regulators play a regulatory role at the national level while at the same time they participate in CRASA and consul to SADC I&S through CRASA; and operators and service providers are the primary providers of telecommunications services at the national level, while taking on a consulting function to CRASA and SADC I&S via SATA at the regional level). These stakeholders are depicted in figure 4.2, as well as relations among on the one hand regional organizations, and on the other hand national organizations.

As part of the broader regional telecommunications harmonization effort, CRASA and SATA consult to SADC I&S. At the national level, the regulator regulates operators and ISPs, and at the same time is engaged in a relationship with the communications ministry concerning regulatory issues. Subjects have been selected according to their functions in

terms of expertise areas as well as according to their formal external relations. Those subjects that have formal associations to related stakeholder organizations as depicted in Figure 4.2 will be of particular interest.

In addition to the pool of subjects consisting of policy makers and managers at these stakeholder organizations, project managers and consultants that have been engaged in SADC projects and evaluations have been interviewed. Besides their ability to share their own experiences on SADC's activities and effectiveness in mobilizing resources and stakeholders, their current position outside of SADC and its constituent bodies may bring to bear different perspectives.

Interview guides have been used during semi-open interviews. In order not to overlook important factors shaping the SADC and national wireless market contexts, the use of guidelines was preferable over the use of narrow, fully structured, interview questionnaires (Patton, 2002). See also appendix A for interview protocols. Interview subjects have been selected according to stakeholder organizations as pointed out above[6], and through the use of referral sampling (e.g. McMurtrey et al., 2002). Great willingness by both regional and national stakeholders to cooperate in interviews was experienced.

In addition to data collection through interviews, data was collected through document analysis. Documents used are (1) online documentation (e.g. SADC model policies/ guidelines and national policies, news articles and project documentation); and (2) documents and archival records that were collected in the field (from stakeholder organizations as identified above). See appendix B for an overview of documents collected in the field.

The variety of data sources for both interviews and document analysis has allowed data triangulation (Mason, 2002; Patton, 2002; Sawyer, 2001). The use of both interview and document analysis – methodical triangulation - furthermore allowed to corroborate and augment evidence (Yin, 2003). In case contradictory evidence was found, inquiry deeper into the topic was performed (Yin, 2003), through the use of new sources and by checking evidence with multiple interviewees. Different perspectives by different stakeholders has been checked upon by using different types of stakeholders, as well as possibly interviewing more people within one stakeholder organization. As organizations have functional divisions with managers concerned with governmental, regulatory, or business/ innovation affairs, to get a full picture on a stakeholder organization's involvement in telecommunications regionalization, multiple interviews within one organization were frequently done to gain in-depth insight.

Just like with interviews, information coming forth from documents may not always be accurate and moreover may be biased. To avoid literal reading, documents from different sources were used, and were double checked during interviews.

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[6] Please note that this constitutes a first identification of stakeholder organizations. Once in the field, additional stakeholders may be identified.

Data collection mainly proceeded from South Africa for two reasons: (1) it is one of the case study countries; and (2) it constitutes a place frequently visited by policy makers from other SADC countries. This enabled significant data collection on other cases besides the South Africa case itself.

4.2. Measurement: Operationalization of Variables

Table 4.2 lays out the operationalization of the concepts as identified in the propositions, and explains how they are defined and how they will be tested.

Constructs	Proposition#	Operationalization
Regional Governance Structure	1A	- SADC I&S, CRASA, & SATA membership criteria - Official relationships between SADC I&S, CRASA, and SATA as put forward in their respective constitutional documents[7] - Official decision making procedures as put forward in their respective constitutional documents; voting mandates
Stakeholder Power	2	Differential and comparative assessments of[8]: - Perception of influence of ministerial representatives in SADC I&S and examples of outcomes - Perception of influence of regulators in CRASA and examples of outcomes - Perception of influence of market players in SATA and examples of outcomes
Stakeholder Involvement	1B, 2, 3A	- Attendance of SADC I&S, CRASA and SATA representatives at meetings - Participation of SADC I&S, CRASA and SATA representatives in committees - Lobbying of regulators and major players from the wireless market in SADC I&S, CRASA and SATA
Content Model Policies and Guidelines	2	Note: This relates to model policies and guidelines primarily concerning the wireless market, including CRASA's Guidelines on Wireless Technologies Policy and Regulation (TRASA, 2004) and others pertaining to e.g. spectrum management and licensing.
Adoption Model Policies and Guidelines	1B, 3A, 3B, 3C	Adoption occurs when content of model policies and guidelines (as described above) are taken up in national policies.
Market Performance	2	Changes over time in: - Teledensity - Number of service providers - Number of subscribers - Range of communication and Internet access technologies provided
Level of Autonomy Regulator	3C	Relation ministry-regulator: (1) budget dependency; (2) perceived flexibility for regulator to develop regulations; (3) licensing responsibilities regulators
Content National Policies	3B	Specific requirements in national policies

Table 4.2: Operationalization of Variables

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[7] Constitutional document is defined here as the document pertaining to the fundamental laws and principles that prescribe the nature, functions, and limits of the institution
[8] Comparative assessments refer to peers commenting on power by similar stakeholders; differential assessments refer to perceptions of power of stakeholders in different roles.

4.3. Evaluation Criteria

The research design keeps in mind the four evaluation criteria for judging quality of qualitative inquiry: construct validity, internal validity, external validity, and reliability (Yin, 2003). The use of multiple sources of evidence, as well as having informants review drafts of interpretations (i.e. member checking) will allow for construct validity. Explanation of various findings as well as addressing rival explanations through triangulation, first by doing document analyses before interviews, as well as using multiple subjects per organization and different types of stakeholders, will allow for internal validity. Replication logic, namely using the same approach to the three cases will allow for external validity. Finally, a case study protocol (interview protocols) and precise documentation of the steps taken during the investigation will ensure reliability.

4.4. Data Analysis Approach

4.4.1. Pre-Analysis: Getting Ready to Analyze

Data has been collected in the form of documents and through interviews. Documents that have been collected, among others, are regulations and policies, both national and regional, CRASA annual reports, project reports, and participant lists for regional meetings. Interviews have been audio recorded (digitally) when consent was provided by the interviewee and the level of background noise was low enough (a total of 77/101). Hand-written notes have been made and typed up for all 101 interviews. Transcriptions of portions of interviews have been made. While full transcriptions of the audio material might be preferable for a closest as possible overview of the discussions during the interviews, feasibility in terms of time and cost required partial transcription only (see e.g. Schensul *et al.*, 1999). The interviews selected for transcription have taken into account issues related to sampling of recordings, selection of relevant interview segments, and identification and transcription of critical incidents (Schensul et al., 1999), as will be described next.

4.4.1.1. Recording sampling

Interview recordings have been purposefully selected for transcription. The criterion for transcription is that the interviewee be a key informant. Key informants have been identified ex-ante and ex-post. Before interviews are conducted the job status, level of experience, and level of involvement with CRASA (i.e. level of participation in AGMs and committees) determine whether an interviewee may be described as a key informant. Interviewees at Ministries in Deputy Director General function and Director of Telecommunications have been identified, as well as councilors, directors, and international relations managers at regulators, managers from industry who have had direct involvement in CRASA, and people (currently and formerly) employed at the Secretariats of regional organizations involved with telecommunications. Ex post identification of key informants depends on the 'informativeness' of the interview (see e.g. LeCompte & Schensul, (1999). In this study, interviewees not identified ex-ante have been termed key informants when they turned out to be extremely knowledgeable about the national or regional telecommunications market and processes of policy and

regulation development, or when they turned out to have been closely involved with CRASA, which was not known at the start of the interview. In two instances interviewees identified ex-ante as key informants have been changed into regular informants due to short experience at the job and limited information provided during the interview. A total of 30 key informants have been identified, of which 25 have been recorded, and thus (partially) transcribed.

4.4.1.2. Selecting relevant segments and identification and transcription of critical incidents
Of the sample interviews selected for transcription, some interviews have only been partially transcribed. The parts transcribed are those related to discussion of the critical variables in the study (i.e. development of regional model policies, factors stimulating market development, participation in CRASA, perceptions on the value and shortcomings of CRASA, and perceptions on overall stakeholder participation in CRASA). Parts that have not been transcribed have been summarized in notes. Both notes and transcribed text have been coded for analysis.

4.4.2. Data Analysis: A Hybrid Approach Mixing Top Down and Bottom Up Analysis

Data analysis is pursued in order to "discover patterns and themes in the data and to link them with other patterns and themes", and turns raw data into results (LeCompte & Schensul, 1999, p. 3). A common approach to qualitative data analysis entails 1. coding collected data; 2. adding memos containing comments and reflections; 3. going through the codes to identify patterns, themes, sequences, similarities and differences between sub-groups, and relationships; and 4. making generalizations that cover consistencies in the data and linking them into formal constructs and theory (Robson, 2002). This study has followed a similar approach. The notes and transcriptions of interviews and documents have been analyzed through coding and categorizing data.

An iterative approach of deductive and inductive coding and categorizing has been applied (or top-down and bottom-up analysis respectively). A deductive analysis refers to categorizing data based on predefined principal concepts or the theoretical framework (e.g. LeCompte & Schensul, 1999). To this extent, in this study the data from interviews and collected documents have been organized according to the theoretical framework, or conceptual model, as presented in chapter 3, which was developed before the field work was conducted. This has resulted in an initial coding scheme. Due to the relatively open (or semi-structured) approach to interviewing, additional findings have been included in an iterative, inductive manner, through open coding.

While the deductive analysis stems rather straight forward from the conceptual model, the approach to inductive analysis demands more explanation. During inductive analysis, the item-level of analysis plays an important part. The inductive analysis "produce[s] items in the form of those events, behaviors, statements, or activities that stand out because they occur often; are crucial to other items; are rare and influential; or are totally absent, despite the researcher's expectations" (LeCompte & Schensul, 1999, p. 69).

Inductive analysis can be guided by a variety of methods for item-identification (see e.g. LeCompte & Schensul, 1999).

One inductive approach used in this study is based partially on 'Domain Analysis' as introduced by James Spradley (1979) (LeCompte & Schensul, 1999). While Spradley introduced the approach for cultural ethnographic studies that focused very much on the meaning and interpretation of terminology, in this study domains are used to broadly categorize the different aspects of focus that the research questions reveal. However, as questions posed during the interviews have often targeted descriptive reactions, Domain Analysis is an appropriate approach, as it typically entails the use of descriptive questions that make interviewees describe the important components of the system of interest in which they move around (LeCompte & Schensul, 1999). This furthermore fits the relatively explanatory nature of the study (Yin, 2003) very well, as the focus on broad domains allows new concepts to be discovered. It must be noted though, that this approach partially overlaps with the deductive approach; i.e. domains are identified based on the research questions, propositions, and theoretical framework.

A second approach to identify items that is partially used is Lofland's (Lofland, 1971) and Lofland & Lofland's (1995) structure of activities. In particular, the focus of Lofland's (1971) approach on actors, activities, formal and informal roles, ways of participating, and relationships will be used. For this study the focus on actors, their relations, and how they participate in international organizations is of interest. Further, the variety of actors, in terms of organizations that they work for and job functions they have in this study make this a suitable approach in order to get a full picture of what actually constitutes the regional regulatory body, who are the key participants and what are the actors surrounding.

Finally, in an attempt to not only look for evidence corroborating the propositions, evidence that may falsify propositions needs to be taken into account as well. Hence, analytic induction has been used. Analytic induction emphasizes search for disconfirming cases (LeCompte & Schensul, 1999). Further, during the data analysis outliers will not be discarded but carefully assessed as to their adding value to the more common findings (see also Robson (2002).

The coding has been performed partially by using software and partially manually. Atlas ti was used for the regional case. Due to problems with software and/or hardware stability and finding that for the national cases less detailed coding than used for the regional case was more effective, manual coding was used for the national cases.

4.4.3. Assessing Evidence

Evidence to corroborate or falsify propositions has been looked for by assessing the spectrum of interviewees' responses to similar questions. Generally speaking, a significantly high percentage of particular responses has been interpreted as evidence. However, responses were contextualized as well: First, the different categories of responses have been reported on, in order to provide a full overview of the different

perceptions. Second, the strength of the responses has been assessed: Some interviewees have been identified as key informants issues due to their close involvement in the matter at stake, whereas other interviewees may have had more indirect knowledge about the subject matter. The extent to which an interviewee was knowledgeable about the subject matter has played a role in assessing the true meaning (and strength) of a response. This has been assessed according to the years of the interviewee's employment at an organization, the years of employment in the telecommunications and ICT sector, and the interviewee's job function. Additionally, answers were contextualized by assessing responses to a number of questions that related to facts so that knowledge about the subject matter could be determined as objectively as possible.

4.4.4. Reporting on Findings: the Case Study Approach

The data collection methods and related techniques for analysis and coding presented above serve to inform the four case studies that this research consists of: the regional case and three country cases, followed by a comparative case study of the national cases. The national cases in a way are embedded in the regional case; i.e. CRASA consists of national regulators and thus what happens at CRASA potentially has an impact on the national level due to the people of CRASA also acting at national levels. However, it is imperative to report on the results through both regional and national case studies, particularly as the regional case provides a historical and contextualized background on the regional associations.

A total of 101 interviews has been conducted, of which 10 were discarded for analysis. Interviews were discarded if they did not provide sufficient information on either policy regionalization endeavors within SADC or perspectives on ICT market development within the SADC region. The number of primarily regional level interviews is 18. The number of primary national level interviews for South Africa is 34, for Tanzania 17, and for Botswana 22. See also table 4.4.

Case	# Primary Interviews
Regional case	18
South Africa	34
Botswana	22
Tanzania	17
N_{Total}	91

Table 4.3: Number of Interviews per Case

4.5. Descriptive Statistics: Overviews of Research Participants by Organization Type and Country

The 101 interviews were held with 36 managers from service providers (which are here defined as large telecom firms; either cellular or fixed line operators, backhaul providers or equipment providers, and ISPs), 8 policy makers at ministries responsible for (tele-)

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communication and ICT, 28 staff at regulators, 5 people currently employed at regional Secretariats (SADC, CRASA, and SATA), one deputy president from a telecom labor union, 13 experts, and 3 others. The experts may be consultants in the ICT industry, researchers that are or have been researching aspects of regionalization as relates to telecommunications, and people formerly engaged in SADC and CRASA. Table 4.5 provides an overview on the different type of interviewees.

	South Africa	Botswana	Tanzania
Regulators	9	11	8
Policy Makers	4	3	1
Service Providers	20	8	8
Other	1	0	0
Regional Experts	8	2	3
Regional Secretariat Staff	N/A	2 CRASA; 2 SADC	N/A

Table 4.4: Number of Interviews per Stakeholder Type per Country

The total number of interviews conducted *within* countries (which includes both primarily regional and national level interviews) is as follows. In South Africa 42 interviews have been conducted (of which 8 were primarily regional level interviews), in Botswana 28 (of which 6 were primarily regional level interviews), in Tanzania 20 (of which 3 were primarily regional level interviews), as well as one in Mozambique that was a regional level participant. Here regional level interviews refer to interviews with people currently employed at a regional organization's secretariat or regional experts (i.e. people who have been involved in regional projects). See also table 4.4 for an overview of the number of primary interviews per case, and see table 4.6. for the number of interviews per stakeholder type conducted in each country.

The next four sections will report on the case study findings. First the regional case is provided, followed by the national cases of Tanzania, Botswana and South Africa respectively.

5. Regionalization of Telecommunications Regulation through SADC, CRASA and SATA: The Regional Case

This chapter will describe the regional regulatory context of SADC, including the various entities within the SADC region that are involved in stimulating ICT connectivity in the region. This chapter will subsequently serve as the basis for analyzing the influence of regional regulatory governance on national ICT policy and regulation making, and as such provides the background for the following three chapters that present the national cases of Tanzania, Botswana, and South Africa.

The objectives of this chapter are first to provide some history and background of the SADC region within which regionalization of telecommunications policy and regulation takes place. To this extent, first the history of the regional economic community of SADC is provided, followed by a discussion of the history and background of SADC's regional telecommunications regulators' association CRASA. This furthermore includes an analysis of member states' participation in CRASA. Finally, some history and background of SATA, the Southern African Telecommunications Association is provided, as SATA, just like CRASA, is an official SADC agency and has formal ties to CRASA as the operators' body.

5.1. Telecommunications Policy Making in SADC

5.1.1. A Brief History of SADC

To understand telecommunications policy regionalization efforts within CRASA, it is important to start at the beginning, at SADC, where the first efforts for telecommunications regionalization were made. Sub-Saharan Africa's largest economic community is the Southern African Development Community (SADC). SADC aims to achieve complementary national and regional programs to promote sustainable development and economic growth through regional integration. SADC currently consists of 14 countries: Angola, Botswana, the Democratic Republic of Congo (DRC), Lesotho, Madagascar, Malawi, Mauritius, Mozambique, Namibia, South Africa, Swaziland, Tanzania, Zambia and Zimbabwe, which together comprise an area populated by approximately 180 million people.

SADC has grown out of the Southern African Development Coordination Conference (SADCC). This organization was established in Lusaka, Zambia, on April 1, 1980, where it adopted the Lusaka Declaration 'Southern Africa: Towards Economic Liberation'. At that time SADCC had a different scope and a significantly different institutional structure: it was established as a rather loose alliance focusing on the coordination of development projects, aiming to make its – at that time - 9 member states less economically dependent on South Africa[9]. The official foundation of SADCC marked the

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[9] http://www.sadcreview.com/sadc/frsadc.htm. Accessed November 15, 2005. At that time Angola, Botswana, Lesotho, Malawi, Mozambique, Swaziland, Tanzania, Zambia and Zimbabwe were Member States.

more formal socio-economic cooperation of the former merely political, diplomatic and military grouping of the Front Line States (FLS). The FLS brought together national liberation movements that struggled to bring an end to colonial and white-minority rule in southern Africa, primarily in South Africa, but also for example Namibia, Mozambique, Zimbabwe, and Zambia. The seven countries that were part of the FLS include Angola, Botswana, Lesotho, Mozambique, Tanzania, Zambia, and Zimbabwe. These countries initiated SADCC, along with Malawi and Swaziland. FLS continued to exist independent of SADCC, and resolved after the ending of apartheid and the first democratic elections in South Africa in 1994[10]. This was also the time that South Africa acceded to SADC, after Namibia had already joined in 1990. Soon after, in 1995 Mauritius joined, and finally, in 1997 both DRC and Seychelles joined to bring the number of member states up to 14. However, at the end of 2003 Seychelles left SADC, while Madagascar joined in 2004. For an overview of the growth of member states in SADCC/SADC, see also figure 5.1.

SADC as we currently know it was established on August 17, 1992, in Windhoek, Namibia, where the new Declaration and Treaty were signed at the Summit of Heads of State or Government. SADC now is an intergovernmental organization and is categorized as a Regional Economic Community at the United Nations (UN). The Treaty principles commit SADC member states to: (1) sovereign equality of all member states; (2) solidarity, peace, and security; (3) human rights, democracy, and the rule of law; (4) equity, balance and mutual benefit; and (5) peaceful settlements of disputes[11].
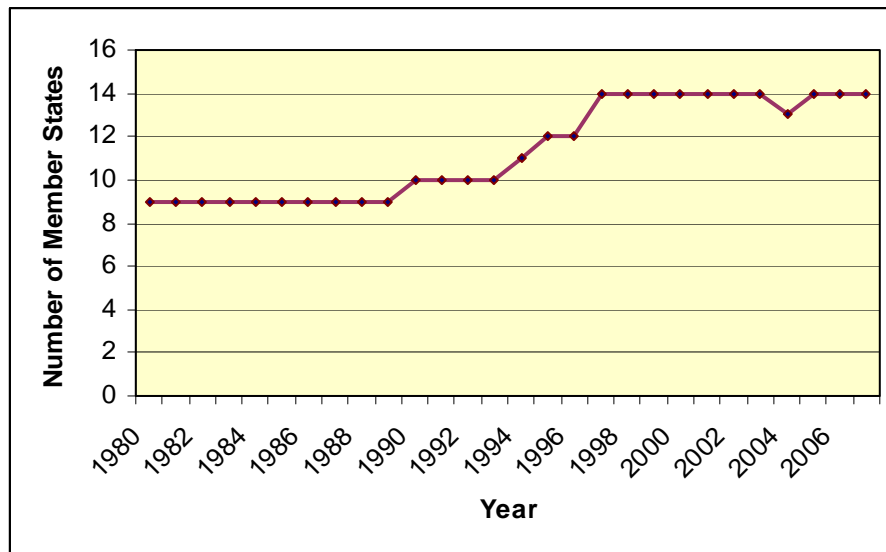
Figure 5.1: SADC Member State Growth over the Years

In March 2001 during an Extra-Ordinary Summit in Namibia, the SADC Heads of State and Government approved a report on the restructuring of SADC institutions. Since SADC's restructuring its Common Agenda has articulated a number of principles more

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[10] http://www.traveldocs.com/bw/economy.htm. Accessed November 15, 2005.
[11] See http://www.iss.co.za/Pubs/Monographs/No43/TheTreaty.html

explicitly, such as a development orientation, market integration and development, and promotion of trade and investment[12]. To this extent, in 2008 SADC hopes to establish a free trade area[13], followed by a common customs union in 2010[14], a Central Bank in 2016 and a common currency in 2018 (Alweendo, 2004). Enhanced political integration is taking place through SADC's parliamentary forum in Windhoek, Namibia, where parliaments from the region meet to discuss parliamentary issues[15].

5.1.2. SADC and Telecommunications (Policy) Integration

SADC itself is based on a treaty, which has been signed and ratified by all its member states. Additionally there are sector specific protocols. To this extent, the core of SADC's regionalization efforts in the telecommunications realm lies in the "SADC Protocol on Transport, Communications and Meteorology in the Southern African Development Community Region" (SADC Protocol, 1996). The protocol lays out SADC's institutional framework for monitoring and implementing developed regional policies.

The Protocol furthermore provides a number of explicit requirements for member states' to integrate in their national regulatory frameworks: "Member states shall ensure the separation between the regulation and operation of telecommunications services within their national jurisdictions, and to this end, Member States shall – a. establish autonomous, independent and national regulatory bodies which shall have statutory authority to regulate and monitor specified telecommunications related activities in the respective Member States; and b. encourage the establishment of industry based bodies for or with a view to ensuring participation by industry in telecommunications policy development" (SADC, 1996). Additionally, the Protocol explicates some issues regarding universal service, regional telecommunications cooperation, and technical standards (article 10.1-10.11). Member States having signed the protocol agree to continuously review the protocol as well as identify new areas of cooperation and update the provisions of the protocol.

5.1.3. SADC Organizational Structure and Protocol Implementation

Currently, SADC is headquartered in Gaborone, Botswana, where it houses its Secretariat that employs over 100 staff. The Summit and the Council of Ministers, which brings together Ministers of various areas, are the supreme decision making organs.

Below the high level organs are SADC's five directorates, namely (1) Food, Agriculture, and Natural Resources, (2) Trade, Industry, Finance and Investment, (3) Infrastructure and Services, (4) Social and Human Development & Special Programs, and (5) HIV and AIDS program. These directorates are responsible for (coordination of) implementation of SADC policies. The Directorate of Infrastructure and Services (I&S) is the directorate

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[12] http://www.sadcreview.com/sadc/frsadc.htm Accessed November 15, 2005.

[13] http://www.fao.org/tc/spfs/pdf/sadc.pdf. Accessed November 15, 2005.

[14] See http://www.tralac.org/scripts/content.php?id=6339 Accessed July 18, 2007

[15] This however should not be confused with a regional parliament. No decisions are taken; only experiences are discussed.

responsible for all (tele-) communications issues, along with management of water, energy, and tourism. Within the Directorate sector portfolios are run by program managers.

The current directorates have replaced the older sectoral groups after the restructuring of SADC in 2001. Before the restructuring, the Southern Africa Transport and Communications Commission (SATCC) was in charge of all (tele-)communications issues within SADC. This has been replaced by the Infrastructure & Services (I&S) directorate.

In addition to its Directorate, SADC has created agencies that are the practical implementers of SADC policy. Within the telecommunications sector these are the Communications Regulators' Association of Southern Africa (CRASA), which brings together communications regulators from the region, and the Southern Africa Telecommunications Association (SATA), which brings together telecommunications operators from the region.

5.1.3.1. The History of SADC's Directorate of Infrastructure and Services
Article 13.3 of the SADC Protocol on Transport, Communications and Meteorology defined the tasks of Southern Africa Transport and Communications Commission (SATCC), which was the precursor to the current Directorate on Infrastructure & Services (I&S). SATCC was the commission in charge of the transport, communications and meteorology sectors, as directed in Article 12 of the Treaty. SATCC becomes under the Protocol the main SADC body responsible for guidance and coordination of activities related to the formulation and implementation of a regional policy agenda and development strategies in the transport, communications and meteorology sectors. SATCC was mandated to drive and monitor the 1996 protocol implementation[16].

SATCC was comprised of a Committee of Ministers (those responsible for transport, communications and meteorology), which was the supreme decision making body of SATCC, providing overall guidance and coordination. Additionally, a Committee of Senior Officials reported to the Committee of Ministers. It guided and coordinated sectoral and sub-sectoral implementation strategies, and monitored alignment with the regional policy agenda. The sub-sectoral committees and working groups reported to the Committee of Senior Officials. SATCC was responsible to SADC's Council and furthermore worked together with SADC's Secretariat providing information and documentation regarding the implementation of the protocol.

SATCC was in charge of the development of Telecommunications Policies for SADC as well as a Model Telecommunications Bill. They have been prepared in conjunction by pursuing the provisions of Article 10.2 from the Protocol on Transport, Communications and Meteorology (SADC, 1996). The Policies and Bill were developed through meetings of stakeholders and were endorsed by relevant SATCC structures. During the annual

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[16] See http://r0.unctad.org/ecommerce/event_docs/tunis03/jaddoo.ppt "ICTin SADC -- From Policy Consensus to Strategic Actions". Presentation by Nitin Jaddoo to the UNCTAD Tunis, 19-21 June 2003. Accessed 01/12/2006.

meeting in Swaziland on June 26, 1998 the Telecommunication Policies for SADC were approved as a common policy guideline for adoption and implementation at the national level. The Telecommunications Policies contain an institutional framework for Member States: it lays out the key roles to be played by national governments and regulatory bodies, as well as objectives and principles for further telecommunications policy development within member states (SATCC-TU, 1998). See also Figure 5.2.

- Affordable, Efficient and High Quality Services
- Influencing Global Trends and be Active in GIS
- Building a Competitive Regional Telecommunications Sector
- Creating an Environment for Sustainable Info-Communications Development
- Creating Partnerships
- Code of Conduct and Business Practices
- Gender and Telecommunications Development

Figure 5.2: Telecommunications Policies for SADC: Policy Objectives (SATCC-TU, 1998)

SATCC has drafted the Telecommunications Policies, while TRASA developed the SADC Model Telecommunications Bill[17]. The Model Telecommunications Bill encourages the separation of policy making, regulation and operation/ service delivery. Additionally, it facilitates greater liberalization, private-sector involvement and investment as well. The Model Telecommunications Bill supports the aims of the Protocol, and serves as model legislation, or as a guideline for all member states.

The Member States were urged to quickly adopt and implement the Telecommunications Policies and Model Telecommunications Bill in order to stimulate early regional integration. They were furthermore asked to provide the SATCC-TU (SATCC's Technical Unit) with time schedules for national adoption and implementation. SATCC-TU was appointed to monitor these implementations (SATCC, 1998).

5.1.3.2. From SATCC to I&S
After SADC's restructuring in 2001, the function of SATCC was taken over by the Infrastructure & Services (I&S) Secretariat. The I&S Secretariat was established in Gaborone, Botswana in 2003. While SATCC used to be responsible for telecommunications, transport and meteorology, I&S now also includes water and energy management.

SADC was restructured because of a need for a more integrative approach to development across sectors. Prior to the restructuring, each member state coordinated a particular sector. Mozambique was responsible for transport and communications (which is also why SATCC was located in Maputo, Mozambique). Along with this decentralization also came the need for countries to fund committees as related to their sectoral responsibilities. Over time, these regional activities became affected by countries' own level of development, which sometimes meant regional integration was not achieved due to some countries being unable to fund activities pursuant of their

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[17] http://www.apc.org/books/ictpolsa/app/app-6.htm Accessed November 26, 2005.

sectoral mandate. As SADC wanted to be stronger as one community, it was realized SADC needed to concentrate on all areas and all sectors. Therefore one Secretariat was established in Gaborone, Botswana, as Botswana has one of the strongest democracies in the region. The restructuring started in 2001. Before there were 21 units, but they are now integrated into 4 main directorates at the Secretariat, where all sub-sectors still are coordinated by a program manager. Right after the restructuring a Program Manager for communications was appointed at SADC I&S, but this person resigned within a matter of months. Next an acting Program Manager was appointed who passed away, after which a void of about 3 years arose. Therefore, activity regarding the telecommunications sector in I&S effectively started only in March 2006 when a new Program Manager was appointed. SADC I&S in total employs ten people, which includes the director, four program managers and a few staff members.

Telecommunications however does not seem to get a large share of attention within I&S. It is indicated that water and energy are the main focus areas within the Directorate currently. Before the restructuring when SATCC was in charge of transport and communications, transport (and particularly construction of roads and railways) gained most attention, as the prevailing thought was that regional integration could not take place without decent transport systems. Nevertheless, at that time telecommunications gained a greater share of attention than it does right now. This void in the telecommunications areas after SADC's restructuring becomes particularly clear when looking at the formal documents regarding telecommunications and ICT that have come forth from SADC. The list indicates that no official documents have been published since 2001:

- Declaration on Information and Communications Technology (2001)
- SATCC Telecommunications Policies for SADC (1998) (together with CRASA)
- SADC Model Telecommunications Bill (1998) (together with CRASA)
- SATCC-TU: Guidelines for Restructuring of State-Owned Transport and Communications Enterprises (1997)
- SATCC-TU: SADC Protocol on Transport, Communications and Meteorology (1996)

The most recent efforts of I&S in the telecommunications area target the African Union: at a recent (2006) ICT resolution from SADC regarding the "incorporation of specialized technical agencies under the African Union", the ICT Ministers of the SADC region complain about the AU's disregard for decisions made in the sub-regions, and recommend that SADC member states suspend their membership of AU until specialized technical agencies are integrated into the AU.

SADC is a guiding institution like CRASA and SATA: as a SADC manager explains, SADC guides its member states, but does not "go into internal politics or operations of countries. […] We just guide in terms of the format and the structure, but we also don't really get involved in the discussion.[…] we can present something, and we do have an agenda and we do have motivation, but then the decision is for [the member states]". At present one of the primary telecommunications issues that SADC I&S is dealing with is

the NEPAD ICT Broadband Infrastructure, or EASSy (East African Submarine System), project.

5.1.4. Member States' Participation in SADC

Ideally for its communications sector SADC should have meetings once every year with the member states' Ministers, according to a SADC manager. However, the number of meetings varies. In 2006 up till September SADC had two Ministers' meetings, and one meeting combined with Southern and Eastern Africa. The SADC secretariat does not necessarily have to convene these meetings; member countries can do this as well. SADC has a rotating chair, and usually the chair will host and chair such meetings. The SADC secretariat facilitates the meetings.

Besides formal meetings, there are SADC workshops. Here advisors on certain issues can be brought in. Specialist meetings take place as well, where people at the technical level discuss issues that are brought up to the Ministers. Further, during SADC meetings all the regional agencies, like CRASA, SATA, and SAPRA (the regional postal agency – the Southern African Postal Regulations Association), are invited. Decisions are based on consensus, and if one country says 'no', then no decision will be taken. Meetings typically have a large number of attendees, but attendance depends on the topic to be discussed at the meeting. Nevertheless, SADC faces a number of challenges. Due to the different levels of development of its member states, and more particularly, because some countries face significant internal economic and political problems (e.g. Zimbabwe and DRC), not all countries are able to participate at all times. For example, while Angola was one of the founding members, and was one of the Front Line States, because of its civil war Angola could not participate for a long time.

In addition, there are language problems within SADC. Most of the region speaks English, except for Mozambique, Angola, Madagascar, and DRC. The former two are Portuguese language speakers, while Madagascar and DRC are French speaking countries. As is indicated a SADC manager, Mozambique's language problem is by far not as serious as compared to Angola, as it is surrounded by English speaking countries. To this extent, at SADC translation services are provided, but interpretation to a lesser extent. Translation is done for documents for meetings and policies, but also background documents. All agreements are translated into 3 languages before they are signed. Prior to the use of translators, it has happened that for example Angola did not sign, according to a SADC manager. SADC's first translator was appointed about 12 years ago, which was at the time that Angola started to join SADC again. Previously at SATCC, Mozambique used its own translators. Angola used to have some freelancers as well but found it too expensive. At SATCC, translators were therefore primarily recruited for Angola.

5.1.5. The Relation between SADC and CRASA

Since CRASA was founded in 1997, SADC and CRASA have had a cooperative relationship. SADC I&S and CRASA attend each others' meetings. Previously, from the 4th- 6th AGMs, SADC sent one representative to each of CRASA's AGMs. However,

since then until the last AGM SADC I&S has not sent representation anymore, which is due to the void in telecom staff at SADC I&S. Nevertheless, at the 2007 annual general meeting the SADC program manager was present.

The formal relationship between SADC and CRASA is such that if CRASA wants to have its model guidelines formally endorsed by all member states, it has to have its guidelines approved by SADC. In such a case, CRASA submits its model guidelines to SADC I&S that takes it through the appropriate steps to have it approved.

Lately however CRASA and SADC I&S do not seem to have been extensively engaged in each other's activities. Again, this may be the result of I&S for a long time not having a telecommunications program manager. The lack of discussion between SADC and CRASA about CRASA's constitution and name change, and its change of focus on integrated communications that is to include postal and broadcasting as well, which potentially could bring significant changes in the landscape of regional associations, gives an impression of the current disconnect between the two organizations. However, at both Secretariats the relationship is explained as healthy – and both acknowledge the impact of lack of telecommunications staff in SADC I&S previously.

5.2. History CRASA

CRASA has been established in 1997 under the name TRASA – the Telecommunications Regulators' Authority of Southern Africa, based on the SADC Protocol on Transport, Communications and Meteorology. It was the first regional regulatory body on the African continent, and plays an aligning role in the development of telecommunications in the Southern African region.

The idea for the establishment of a regional regulatory agency started when SADC's technical unit responsible for telecommunications, at that time SATCC, convened a conference in Dar Es Salaam in Tanzania, where it was decided an RRA was needed. During the following year more meetings were convened, and many of SADC's member states became involved. Finally, CRASA's constitution was signed by its six founding members in 1997, including South Africa, Tanzania, Botswana, Mozambique, Malawi and Namibia, and became effective on 22 April 1998. This was due to the fact that at that time many countries had not yet established autonomous regulators. In principle all SADC regulators are members, but membership is not official until a regulator registers with CRASA. Membership has changed slightly over the years.

Officially, only SADC member states with autonomous regulators could become members. Therefore, in March 2001 CRASA counted 11 members out of 14 SADC member states, as DRC, Seychelles, and Swaziland were observing members. During the Special General Meeting in February 2004 DRC became an official member with its newly established regulator. Seychelles furthermore left SADC in 2004 and therefore also left CRASA, while Madagascar joined SADC in 2005 but has not yet joined CRASA, even though it is expected to join soon. While Swaziland never officially became a member, all other members refer to Swaziland as a member. Swaziland furthermore

serves on committees, and as such seemingly has full member status. Thus, currently CRASA's members are South Africa, Botswana, Lesotho, Swaziland, Mozambique, Tanzania, Namibia, Zimbabwe, Angola, DRC, Zambia, Mauritius, and Malawi.

In its early days, two of CRASA's goals were to share regulatory best practices and to establish strong autonomous regulators. To this extent, CRASA opened its meetings not only to official regulator members, but would also invite government officials or even operators from countries that did not have an autonomous regulator yet. One interviewee therefore commented: "So TRASA had a catalytic effect and brought awareness about establishing regulators", while another person mentions CRASA to have played the role as "safe haven" for countries that did not have a regulator yet, because they could raise issues at CRASA that they could not raise at home.

5.2.1. CRASA's Objectives & Guideline Development

The official objective of CRASA as stated in its founding constitution was to (1) " coordinate regulatory matters and to exchange ideas, views and experiences on all aspects of regulation of the telecommunications sector throughout the Southern Africa region"; (2) "Promote the establishment and operation of efficient, adequate, and cost-effective telecommunications networks and services in the Southern Africa region which meet the diverse needs of customers while being economically sustainable"; (3) "Facilitate a uniform level of understanding regulatory matters; and (4) "Maximize the utilization of scarce resources in specialist areas of telecommunications".

To achieve its objectives, CRASA's main activity constitutes the development of model guidelines (or regulations) that its members can use to shape their national regulations and policies. As explained at the Secretariat: "What we do is regulation. When we receive the policies [from SADC] it is our task to try to make guidelines, to make regulatory guidelines in order to [commit] to policies". CRASA makes guidelines as opposed to "model regulation". The guidelines are rather open, and serve as a guideline when regulators are developing their own regulation according to the realities of their own national markets. Another important activity of CRASA is the organization of workshops for its members to attend, that aim to build capacity.

The following guidelines have been developed by CRASA to date:
- The Wireless Technologies Policy and Regulations (2006)
- CRASA Consumer Protection Guidelines (2004)
- Policy Guidelines on Licensing for Telecommunications in SADC (2002)
- Policy Guidelines on Universal Access/Service for Telecommunications Services in SADC (2002)
- SADC Regional Frequency Allocation Plan for 20-3100 MHz (2000)
- SADC Policy Guidelines on Tariffs for Telecommunications Services & Model Telecommunications Regulations on Tariffs (2000)
- Policy Guidelines on Interconnection for SADC Countries (2000)
- SATCC Telecommunications Policies for SADC (1998)
- SADC Model Telecommunications Bill (1998)

While the development of model guidelines constitutes one of CRASA's core activities, CRASA has also been active in organizing training and workshops for its members. Further, CRASA stood at the beginning of the NetTel@Africa program - a training program offered through universities across the continent for online training, certificate and degree programs in telecommunications policy[18]. In these programs regulators together with university faculty share their knowledge with regulatory staff from a variety of countries. While originally started in the SADC region, the program has grown, and a number of participants have graduated already.

5.2.2. CRASA's Governance Structure
CRASA is primarily run by representatives from the national regulators, but also has a Secretariat with full time staff which has been hosted throughout the years by one to three people, and at various locations, depending on available budget.

5.2.2.1. Decision Making Organs: AGMs and the Executive Committee
The primary decision making organs within CRASA constitute the Annual General Meetings (AGMs) and Special General Meetings (SGMs). The annual general meeting brings together delegations from the national regulators, and discusses all ongoing issues from the year, reports on committee progress, and elects the Executive Committee. The agenda for the AGM is developed by the Executive Secretariat, and is based on the last AGM as well as on ongoing work throughout the year. Anyone is open to submit agenda points. The executive committee finally approves the agenda before the AGM. While common agenda points regard the work that has been done throughout the year, and are of a regional nature, sometimes bilateral issues are discussed as well, for example cross-border issues between countries that two regulators themselves cannot easily resolve. During the AGM, each country has one vote. However, voting is rarely used. Decisions are rather based on consensus.

The Executive Committee consists of a Chair, two Vice-Chairs and Treasurer. The regulator that hosts the AGM is traditionally elected chair for the next year. CRASA furthermore has standing committees and task forces, which report to the AGM and Executive Committee. Committees furthermore relate to external stakeholders through workshops in which they invite input from industry and policy makers. Committees prepare submissions for the AGM which adopts or rejects them. Finally, the Secretariat currently employs three people (Executive Secretary and two support people) who support the committees and prepare the agenda for the AGM (which is furthermore approved by the Executive Committee), and which also has representatives going to SADC and SATA meetings and develops further relations with SADC and SATA through their respective Secretariats.

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[18] See also http://www.dot-com-alliance.org/newsletter/article.php?article_id=138 . Last accessed April 7, 2008.

5.2.2.2. The CRASA Secretariat
Due to budgetary constraints, CRASA has a small Secretariat. The location of the Secretariat has changed over the years. Until recently when an independent location was established, the Secretariat was hosted at one of the member regulators who had the resources to offer office space.

In the beginning, as of CRASA's inception until September 1999, SATCC-TU (the SADC commission in charge of telecommunications) provided secretarial services. In 1999 the ITU funded a Program Manager for two years until May 2001, and a Secretariat was established at the South African regulator SATRA (South Africa Telecommunication Regulatory Authority) in Johannesburg. The Secretariat also was staffed by one administrative assistant. Due to further financial constraints, and SATRA's merging with the broadcasting regulator into ICASA (Independent Communications Authority of South Africa), it was felt that the Secretariat should not be hosted at the South African regulator anymore. Then the Botswana regulator BTA (Botswana Telecommunications Authority) offered to host the Secretariat and have one of its employees take on the job of Program Manager. At the same time, a senior Market Analyst was added to the Secretariat.

Because of the significant financial burden on regulators for providing a Program Manager, during the fifth AGM in August 2002 it was decided that the post would be filled by members (regulators) on a rotational basis. Hence, in 2003 a new Program Manager from the Communications Authority of Zambia (CAZ) assumed duty. BTA continued to host the secretariat, and meanwhile TRASA and BTA agreed to have a fifty percent cost sharing for the post of administrative assistant. After one year the Program Manager from CAZ left and the former Program Manager from the Botswana regulator re-assumed duty for seven months.

During a Special General Meeting in February 2004 it was decided that the post of Program Manager was to be changed to Executive Secretary, and remuneration packages were approved of. To this extent, a new, 'independent' Executive Secretary was recruited that assumed duty in October 2004 but resigned early March 2005. The BTA officer again took office as acting Executive Secretary, until later in 2005 a new Executive Secretary was recruited, who remains in the office until today. Finally, during 2006 the staff of the Secretariat was complemented by an economist who takes the function of Operations Manager.

5.2.3. Member Participation in CRASA

5.2.3.1. Executive Committee Participation
Many of the member regulators have served in the executive committee. People to serve on the Executive Committee are chosen during the AGM. Typically chief executives of regulators serve on the Executive Committee, or in the case of South Africa, a member of the Council. As particularly active regulators come to the fore the regulators of Botswana (once chair, 9 times treasurer/vice-chair), South Africa (twice vice-chair, once chair), Lesotho (once chair, three times vice-chair), Mauritius (2 times chair, one time vice-chair), Zambia (once chair and twice vice-chair, as well as taking up the position of

Program Manager for one year), and Tanzania (once chair and once vice-chair). See also Table 5.1.

Year	Chair	Vice-Chairs	Treasurer
1998-1999	South Africa	Botswana Zambia	
1999-2000	Botswana	Zambia Malawi	
2000-2001	Malawi	Mozambique Botswana	Namibia
2001-2002	Zambia	Lesotho Tanzania	Botswana
2002-2003	Mozambique	Zambia Namibia	Botswana
2003-2004	Lesotho	Mozambique South Africa	Botswana
2004-2005	Mauritius	Lesotho South Africa	Botswana
2005-2006	Mauritius	Lesotho South Africa	Botswana
2006-2007	Tanzania	Mauritius Angola	Botswana
2007-2008	Namibia	Tanzania Zambia	Botswana

Table 5.1: Executive Committee Membership CRASA

The most remarkable membership in the executive committee constitutes that of the CEO of BTA in Botswana, who has been part of the executive committee since CRASA's inception until the end of 2006 when he retired. He was the second chairperson in 1999-2000, and in all other years he has been the treasurer or member/vice chairperson of the executive committee. Other than that, South Africa, Malawi, Zambia, Mozambique, Lesotho and Mauritius have served as chair, while the two vice-person positions have been filled by Zambia, Malawi, Botswana, Lesotho, Namibia, Mauritius, Mozambique, Tanzania, Angola, and South Africa. Interesting is the fact that many regulators/people serve two consecutive years. This is true for six cases. Each year the Executive Committee has changed, except over the years 2004-2005 and 2005-2006.

5.2.3.2. Committee Participation
As of 2001, there have been 5 standing committees: (1) the Interconnection and Tariff Committee; (2) the Frequency Planning Technology and Advanced Services Committee; (3) the Universal Service and Licensing Committee; (4) the Standards and Numbering Committee; and (5) the Human Resources and Empowerment Committee. In 2002-2003 a sixth standing committee was established: the Consumer Issues Committee. In addition, a taskforce on Publication and Income Generation (Finance and Audit) was established.

Committees generally speaking have the same members throughout the years. Committees have a convenor and co-convenor each. It is up to the committees to decide whether they want to keep those the same or if they want to rotate or change. Only the Frequency Planning Technology and Advanced Services committee changed its convenor in 2004, when Malawi took over Namibia's position as convenor. The only regulators

that are not represented as convenor or co-convenor in standing committees are Angola and DRC. Of the six standing committees, Zambia, Botswana and South Africa are the most represented: Zambia has twice the role of convenor. Both Botswana and South Africa are convenor and co-convenor of two committees. See also Table 5.2.

Committee	Convenor	Co-convenor
Interconnection and Tariff	Zambia	Lesotho
Frequency Planning Technology and Advanced Services	Namibia until 2004 Malawi as of 2004	Zimbabwe
Universal Service and Licensing	Botswana	Swaziland
Standards and Numbering	South Africa	Mozambique
Human Resources and Empowerment	Tanzania	South Africa
Consumer Issues	Zambia	Botswana

Table 5.2: CRASA Committee Convenors and Co-Convenors

Committees can be formed during AGMs. Members have to volunteer to participate. Nevertheless, four of the regional level interviewees explain that (sub-)committee membership is typically based on regulatory experience (for the development of particular guidelines), as well as people from a particular discipline (e.g. a lawyer vs. engineer). Committee members are not chosen as people, but as regulator or country. Further, one regional level participant indicates that usually technical staff members come to committee meetings, whereas managers usually go to the AGMs.

Regional level participants do not fully agree on the extent to which the different members participate in committees. Some say that countries participate equally in committees, even though sometimes participation may depend on national experiences in a particular area. Input and participation furthermore depend on members' topical interests, and countries may one year be more active than the other. Further, some countries have the resources to send a few people to a delegation, whereas other countries may not always have enough money to participate. Nevertheless, often there are so-called "hot-topics" that are of interest to all countries, regardless of their size or wealth, as one participant explains. A larger group of people however indicates that resources (i.e. money) is a significant constraint for some countries to send staff to meetings and thus to participate in meetings. To this extent, among regional level participants South Africa and Botswana are perceived as active countries, whereas Angola and DRC are among the least active.

Consultants have at some occasions joined committees as well. Consultants prepare draft reports that are reviewed and discussed by the committee, as well as sometimes in workshops with other stakeholders. Consultants are asked for their expertise on particular topics, particularly when the CRASA members themselves do not have expertise in the field of interest.

5.2.3.3. AGM delegations

A number of differences in AGM delegation sizes across member regulators are observed. See also Table 5.3 for an overview of AGM delegation sizes by country. While the majority of regulators come with about two delegates, South Africa and Botswana typically bring the largest delegations, with on average five people, closely followed by Lesotho, which brings an average of 4 delegates to the AGMs. The size of Tanzania's delegations fluctuates, but has an average of about 3.5. Among the smallest delegations are DRC, Swaziland and Zimbabwe. The biggest outlier is DRC, which has only come to an AGM once, in 2004, with one person only. Other countries like Angola and Zimbabwe have also not been able to participate a few times (respectively two and three times). As regional level participants explain, countries that do not, or have not participated for a while, are those that have been facing problems in their home countries due to e.g. civil wars. Since two years ago, Angola however has started coming to AGMs again, even with a 7-person representation at the last AGM that was held in Namibia.

	4th	5th	6th	SGM	7th	8th	9th	10th	Average Delegation Size
Angola		3	3	2	2		3	7	2.5
Botswana	6	6	4	4	3	6	4	5	5.4
DRC					1				0.1
Lesotho	4	6	4	2	4	4	4	3	4.4
Malawi	2	2	2	2	3	5	3	3	3.1
Mauritius			2		8	2	2	2	2.3
Mozambique	2	12	2	4	3	4	2	4	3.0
Namibia	2	2	2	2	2	2	2	4	2.6
South Africa	7	5	7	3	4	3	6	7	6.0
Swaziland	2	3	2		2	2	2	1	1.9
Tanzania	2	1	4	2	4	2	11	3	3.7
Zambia	5	1	3	2	3	3	3	2	3.1
Zimbabwe	4	4				2	1	1	1.7
SATA		2	1		1	1	1	2	1.0
SADC	1	1	1					1	0.5

Table 5.3: AGM and SGM (Special General Meeting) Delegation Sizes CRASA

5.2.3.4. Meeting Locations

AGMs are held on a rotational basis, and have taken place in different countries with the only exception of Botswana that hosted two meetings: one of the first TRASA meetings in 1999 and the 8th AGM. See also table 5.4 for an overview of AGM and SGM locations.

Committee meetings however are not as carefully rotated across member countries as AGMs. Table 5.5 provides an overview which is indicative of a large number of committee meetings taking place in South Africa. Overall, 17 out of 30 meetings of which the meeting locations are known, have taken place in South Africa. Another interesting observation is that while most committees had about 5 meetings, whereas the Human Resources and Empowerment (HRE) committee convened 9 meetings in the period 2000-2005.

AGM #	Date	Location
Special General Meeting	7-8 April 1999	Gaborone, Botswana
AGM	13-14 August 1999	Gaborone, Botswana
Special General Meeting	29-30 May 2000	Dar Es Salaam, Tanzania
AGM	14-15 September 2000	Mangochi, Malawi
4th AGM	5-6 September 2001	Livingstone, Zambia
5th	21-23 August 2002	Beleni, Mozambique
6th	02-03 October 2003	Maseru, Lesotho
Special General Meeting	26-27 February 2004	Port Louis, Mauritius
7th	19-20 August 2004	Balaclava, Mauritius
8th	10-11 February 2005	Gaborone, Botswana
9th	2006	Dar Es Salaam, Tanzania
10th	26-28 March 2007	Windhoek, Namibia
Special General Meeting	4 September 2007	Maputo, Mozambique

Table 5.4: CRASA AGM and SGM Meeting Locations

Committee	Number of Meetings	Meeting Locations
Interconnection and Tariff	6	2x Lesotho; 4 unknown
Frequency Planning Technology and Advanced Services	5	4x South Africa; 1 unknown
Universal Service and Licensing	5	3x South Africa, 2x Swaziland
Standards and Numbering	4	1x South Africa; 4 unknown
Human Resources and Empowerment	9	5x South Africa; 2x Tanzania; 1x Malawi
Consumer Issues	Unknown	Unknown
Public and Income Generation Task Force	4	3x South Africa; 1x Mozambique; 1x Mauritius

Table 5.5: CRASA Committee Meeting Locations
Source: CRASA Annual Reports 1999-2005

In addition to committee meetings, over the period 2002-2004, ten special workshops (as reported on in annual reports) were organized to enhance the knowledge of CRASA members. The workshops have been organized by the Human Resources committee, often with the funding of ITU (International Telecommunication Union), CTO (Commonwealth Telecommunications Organization), and lately CATIA (Catalyzing Access to ICTs in Africa). Four of these workshops took place in the Johannesburg/Pretoria metropolitan area in South Africa. Two have taken place in Mozambique, while others were held in Tanzania (Dar Es Salaam), Zambia (Lusaka), Lesotho (Maseru), and Botswana (Gaborone).

Workshops have covered a wide variety of topics. They included topics related to model guidelines, such as the universal fund model, wireless technologies policy and regulation, and costs and tariffs. But also topics not covered at all in model guidelines have been covered, such as Internet policy and human resource development (twice). Further, in 2002 a workshop on introduction to regulation was held. Two more workshops were held about the NetTel@Africa project. In cooperation with development partners USAID (United States Agency for International Development), DFID (UK Department for International Development) and SIDA (Swedish International Development Coordination Agency), among others, CRASA founded a training program called NetTel@Africa.

NetTel@Africa, through CRASA member regulators, together with universities from across the southern African region (as well as universities in the U.S.), launched a program to provide online training, certificate and degree programs in telecommunications policy. In these programs regulators together with university faculty share their knowledge with regulatory staff from a variety of countries. To this extent, CRASA organized a workshop about pilot testing the project, and another workshop about course development. Finally, CATIA held one workshop with an unknown topic.

As regional level participants explain, the reason for South Africa to host a relatively large number of meetings stems from logistical advantages, as the airport in Johannesburg is the regional hub. Hence, if one wants to fly to for example Namibia, Mozambique, or Botswana from elsewhere in the region, the flight is directed via Johannesburg. Hence, having meetings in Johannesburg is convenient as well as relatively cheap, and in addition, has big shopping malls which many attendees like to visit. In addition, as a former Vice-Chairman of the Executive Committee explains, South Africa does have a well developed status in the region. It has three mobile operators of which two are very active across the continent. This brings with it a lot of knowledge about mobile sectoral issues, and thus brings a resource advantage for having meetings in South Africa as representatives from the South African ICT sector can be invited as well.

5.2.4. External Stakeholder Participation in CRASA

Until the change of CRASA's constitution in 2006, external stakeholders such as infrastructure and service providers, equipment providers, and the like, were only able to participate in CRASA by invitation. Previously external stakeholders have been invited on an ad-hoc basis (1) to workshops convened by committees that are looking for input in their guideline development process, (2) to committee meetings, and (3) in some instances, external stakeholders were actually members of sub-committee such as was the case for the development of the Wireless Technologies Policy and Regulations.

Just like at the national level, input from market players is needed for regulators to gain a full understanding of the problems at hand as well as to gain input on various solution directions. While at the national level typically public hearings are organized to hear interest groups and their concerns regarding draft policies, at the regional level coordination is more complicated, as a region counts many countries and a large geographic area. Hence, the process at CRASA is significantly different from the general approach taken in most of its member states. Further, as CRASA develops guidelines instead of official directives, national regulators could thus hear their national private sectors at a later point.

Nevertheless, the extent of external stakeholder inclusion is mentioned by some regional level participants – both insiders as well as external stakeholders - as being insufficient. This is also acknowledged within SADC, as once a CRASA model which was submitted to SADC for official endorsement was sent back as it was perceived to have used too little input from external stakeholders.

Further, a few particular people from the private sector have been involved rather extensively in CRASA. While they may be the only ones expressing interest in CRASA, this may also mean that through relationship building perhaps not a general representation of the private sector participates in CRASA, but just those people that have become familiar with the organization.

Another interesting development concerns the inclusion of the private sector in one of CRASA's latest approved guidelines, the Wireless Technologies Policy and Regulations. In the committee regional interest groups were invited to participate: SATA, to represent the incumbent, predominantly fixed line providers, GSM Africa, to represent the mobile operators, and AfrISPa, the African Association of Internet Service Providers. While the latter two are not SADC region specific, many of their members are from the SADC region. While SATA and AfrISPa sent representatives to join the committee, GSM Africa did not respond to the invitation and hence did not participate.

As a consequence of these issues, during the 2006 AGM, CRASA has decided to enhance external stakeholder inclusion, through extension of its membership to associate membership, which is open to any organization or interest group. While these members will not get official voting powers at the AGM, they will be allowed to give more input, as the AGM is extended with two extra days in a conference-like style, with presentations and workshops. The last day, the official AGM, will still only be for the regulator members.

5.2.5. Regional Perceptions on CRASA's Role in Regional Integration

Beyond the rather abstract formal objectives as stated by CRASA in its annual reports, the regional level participants in the study stated a variety of objectives of CRASA, with the ultimate goal being the establishment of a common market (mentioned by three participants), harmonization of policies and regulation across the region (mentioned by four), increasing the competitive position of the region (mentioned by one participant). This is to be achieved by developing model guidelines, which all regional participants seemingly believe to be one of the core activities of CRASA, as well as through the sharing of best practices in order to become efficient regulators and to build capacity across CRASA's members. It is furthermore mentioned that one of its goals is to influence policy makers.

The first Executive Secretary of CRASA explains that capacity building was the first focus of CRASA, but yet went hand in hand with regulation making, which started at the time of CRASA's inception as well. Moreover, another regional level participant explains that CRASA was established right at the time that the concept of regulation was introduced and thus that the newly established, and in some cases yet to be established regulators, had to learn about this new function. Therefore, "training, awareness building was thus required, as they needed to adopt basic skills". To this extent CRASA was also used in a "lobbying fashion". As one participant explains, some countries realized that they would not become full members of CRASA if they would not establish a regulator, and so by 2000 already 9 countries founded regulators. Another person mentions that

particularly Malawi, Lesotho and Mozambique followed very quickly. See also table 5.6 for an overview of the foundation years of regulators in the SADC region.

Name Regulator	Country	Year Foundation
Namibian Communications Commission (NCC)	Namibia	1992
Tanzania Communications Commission (TCC)/ Tanzania Communications Regulatory Authority (TCRA)	Tanzania	1993
Communications Authority Zambia (CAZ)	Zambia	1994
Botswana Telecommunications Authority (BTA)	Botswana	1996
Independent Communications Authority South Africa (ICASA)	South Africa	1997
Office Malagasy d'Etudes et de Régulation des Télécommunications (OMERT)	Madagascar	1997
The Malawi Communications Regulatory Authority (MACRA)	Malawi	1998
Instituto Angolano das Comunicações (INACOM)	Angola	1999
Lesotho Telecommunications Authority (LTA)	Lesotho	2000
Information and Communication Technologies Authority (ICTA)	Mauritius	2001
Postal and Telecommunications Regulatory Authority of Zimbabwe (POTRAZ)	Zimbabwe	2001
Autorité de Régulation de la Poste et des Télécommunications du Congo (ARPTC)	DRC	2002
Instituto Nacional das Comunicações de Moçambique (INCM)	Mozambique	Not Available

Table 5.6: Foundation of Regulators in the SADC Region
Source: Organization websites

Further, while a true common market may be an ideal that is difficult to achieve, one regional level participant explains that "our intention is for this region to be a huge market of telecom. […] Some markets are too small, and creating a larger market is helpful to especially countries like Botswana with only 1.2 million people, and sitting next to big markets like Zimbabwe and South Africa. […] Markets need to attract investors".

Even though many indicate that harmonization is a clear objective, CRASA's primary benefits as felt by regional level participants at this point in time come from capacity building, through knowledge sharing and learning lessons from each other.

5.2.5.1. Harmonization
Many regional-level participants discuss the issue of harmonization. One participant explains why harmonization is 'necessary': "investors will be able to understand the market in the region broadly, and will be able to invest without hindrances of different ways or different regulatory requirements". The main perception seems that harmonization will be the result of regional guideline implementation across CRASA's members. However, the difficulty in achieving this due to the vast differences across countries is also stated by a few participants. While clear statements about the extent to which harmonization has already been achieved have not really been given, one participant does mention he believes that CRASA has already led to more harmonization, even though some obstacles still exist. But, as another participant mentions: "SADC and CRASA really drove […] harmonization, but not all models are adopted by all countries".

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5.2.5.2. Power
The regional-level participants in the study do not indicate any significant power play to be at stake in CRASA. Nevertheless, some participants do mention that countries like Botswana and particularly South Africa have been able to be rather active because of their capacity, and also, that a country like South Africa does not need to come to CRASA for any advice, as they can afford to get their own advice by use of consultants. Nevertheless, at the same time it is also mentioned that some regulators other than ICASA from South Africa sometimes have better resources due to a better funding mechanism.

5.2.5.3. Financial Situation CRASA
Problems with funding are acknowledged as an issue standing in the way of the development of CRASA. In the early days, CRASA used to get a lot of funding from agencies like USAID (United States Agency for International Development), DFID (UK Department for International Development), and ITU (International Telecommunications Union), among others. This donor funding has decreased due to CRASA's relative maturity. CRASA's members pay a membership fee every year. However, this is hardly enough to pay for the staffing of the Secretariat.

According to the staff members at the Secretariat, the member fees are about USD $10.000 per year. While it is indicated that these fees are not very high, there have been few (2 or 3) instances when members could not pay their dues. Because of financial problems, a few years ago regulators have provided a one time seed funding in order to be able to initiate more projects. Additionally, CRASA is looking into expanding sources of funding. To this extent, CRASA membership has been opened up for Associate Membership, as explained above.

5.2.6. Recent Developments at CRASA

CRASA is currently in a period of change. CRASA, established as TRASA, recently changed its constitution and thereby expanded its scope. While founded as a telecommunications-specific regulatory association, it now focuses on communications in a broader sense; including broadcasting, telecommunications and postal regulatory issues. To this extent, membership is now open to postal and broadcasting regulators as well. Furthermore, membership has opened up to associate members as well, which may be any organization interested or active in the communications sector. Reasons for change were complaints about limited private sector stakeholder inputs into regional guideline development processes as well as an opportunity to raise extra funds through membership fees.

Interestingly however, CRASA's change of constitution has not been tabled at SADC I&S yet for approval, even though it is required to do so by the SADC protocol. Further, currently CRASA is contemplating as to whether or not it should integrate SAPRA, the Southern African Postal Regulators' Association, another regional organization based on the SADC protocol on transport, communications and meteorology. .

5.3. SATA

SATA was founded in 1980, and its mission is to coordinate operators and to carry out projects in the region. SATA, like CRASA, is based on the SADC Protocol on Transport, Communications and Meteorology in the Southern African Development Community Region. Its membership is open to any operator or service provider in the region, but cooperates more with fixed line operators than with mobile operators due to historical reasons; i.e. SATA was founded at the time that all countries still had PTTs (Postal, Telegraph and Telephone providers) that were the sole providers of public telecommunications services within countries, and therefore continued to be for fixed line operators only until more competition set in. SATA's member base consists of 14 fixed line operators and as of recently also includes three mobile and one satellite operator (RASCOM – the Regional African Satellite Communications Organization). At the moment, all network providers from the SADC region are allowed full membership, whereas any other company active in the ICT realm such as Internet Service Providers are allowed associate membership.

SATA holds annual conferences with the Chief Executive Officer's (CEO) Meeting that forms the main decision making organ. The CEOs of the member organizations are present and vote during the third day of the conference, while during the first two days primarily committee meetings take place where member organizations join with varying delegation sizes that report to their CEOs. Besides the annual conference there are committee meetings, which are hosted twice or three times per year, as well as meetings of sub-committees, which may take place with varying frequencies. The annual conferences take place on a strict rotational basis, and are planned years ahead – currently a schedule is available until 2016. Delegation sizes at the conference vary, with the smallest delegation size consisting of two people for one company, while for the larger ones, particularly Telkom, this could be up to 20. SATA has a full time executive Secretariat that consists of an Executive Secretary, a Manager of Technology and Policy, a Finance and Administration Officer, and a Secretary to the Executive Secretary.

SATA's primary committees are the Policy and Strategy Committee and the Technology and Infrastructure Committee. As the SATA Manager of Technology and Policy explains, usually all organizations are invited to their meetings, in addition to key external stakeholders such as people from Ministries etc. The committees have their own chairs and rapporteurs, and the SATA secretariat facilitates these committees. One of the most important sub-committees currently active is the Backhaul Working group, which works on the inland transmission links for the EASSy project – the East African Submarine Cable System project, that aims to implement a submarine cable along the eastern African coast.

As explained at the Secretariat, committee members participate equally as much as possible. However, members' involvement in the committees depends strongly on the extent to which the issue at stake is important to them. Nevertheless, there are issues of proportions, where particularly Telkom from South Africa typically brings very large delegation sizes. For this reason, it is no surprise that members at certain occasions have

developed a block to counteract Telkom's influence. In addition, many spin-off bilateral meetings as related to SATA take place.

CRASA and SATA are closely related. They have signed a Memorandum of Understanding (MoU). CRASA and SATA invite each other to meetings. This relation is primarily from Secretariat to Secretariat. However, issues discussed at CRASA meetings are oftentimes reported at SATA meetings. Finally, for the EASSy project, CRASA and SATA cooperate in a standing committee from CRASA.

6. The case of Tanzania: recent developments in national regulation & the ICT market, plus the role of two regions

6.1. Introduction

The three country case studies in this study have been selected for their differences in stages of economic development. This chapter discusses the case of the East African country of Tanzania, which represents a country on the lower end of the development continuum, and furthermore is member of two regional economic communities (RECs) and regional regulatory associations (RRAs). Located in East Africa, bordering the Indian Ocean on the east, Kenya and Uganda on the north, Rwanda, Burundi and the Democratic Republic of Congo (DRC) on the west, and Zambia, Malawi, and Mozambique on the south, the country of Tanzania with its population of over 39 million is a member of the East African Community (EAC) and the Southern African Development Community (SADC). See also figure 6.1 for a location map.

The nation of Tanzania was born in 1964 shortly after then Tanganyika gained independence from Britain and merged with the also newly independent nation of Zanzibar. Zanzibar, an island nation just off the coast of Tanzania, still has a semi-autonomous status. After Tanzania's independence in 1964, the charismatic President Julius Nyerere introduced socialist principles to the predominantly agricultural economy. Mismanagement however led to a harsh economic downturn with severe consequences for the Tanzanian people. After President Nyerere's resignation in 1985, the new President slowly introduced capitalist principles. Macro-economic reform programs were established that slowly started to strengthen Tanzania's economy (Marandu, 2004).

Figure 6.1: Map of Tanzania
Source: CIA Factbook

For the purpose of this study, Tanzania constitutes a remarkable case not just due to its place at the lower end of the development scale and its membership in two RECs. Even

though ranking only 162nd out of 177 on the UN Human Development Index[19], with a low average GDP (Gross Domestic Product) per capita of USD \$800[20], Tanzania has recently made great strides forward in its telecommunications and ICT deployment.

Teledensity in Tanzania has been traditionally low even according to African standards. However, over the last few years Tanzania has seen its teledensity grow exponentially, from a meager 0.4% in 1998 to over 17%[21] in 2006, even managing to nearly double it from the year 2005 to 2006. Further, regulators and operators throughout the Southern African region frequently refer to Tanzania as a pioneer on the sub-Saharan continent[22], particularly because of its implementation of a fully converged, technology and service neutral licensing framework already in 2005. It is therefore no surprise that the Tanzanian Communications Regulatory Authority (TCRA) has been declared best African ICT regulator during the ICT Africa Investment Summit in 2006.

This remarkable situation asks for further insights into the factors that drove these developments. To this extent, this chapter will examine: (1) Tanzania's telecommunications market development throughout the years; (2) the role of national regulatory governance and incentives in this development; and (3) the role of SADC and EAC's RRAs (respectively CRASA and EARPTO, the East African Regulatory Postal and Telecommunications Organization) in stimulating Tanzania's regulation and market development, as well as Tanzania's role in, and benefits to, the former.

Next, first an overview of the development of the Tanzanian market over the years is provided, as well as Tanzania's liberalization strategy and recent implementation of regulations, followed by a discussion of the administrative capabilities of the regulator and Ministry of Infrastructure Development. This is followed by a discussion of the role of Tanzania in, and effects of, SADC and EAC and their RRAs.

6.2. Tanzania's Liberalization Strategy and Market Development

6.2.1. The Early Telecommunications Market: From PTT to Commercial Business and Autonomous Regulator

Historically, Tanzania's telecommunications development has been strongly tied to its membership of the East African Community. Tanzania's history of cooperation in the East African Community with Uganda and Kenya dates back to 1927, when Tanzania joined the Customs Union between Kenya and Uganda. Increased cooperation led to the establishment of the East African High commission from 1948-1961, followed by the foundation of the East African Common Services Organisation (1961-1967), and finally

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[19] See UNDP (UNDP, 2006) downloadable at http://hdr.undp.org/hdr2006/pdfs/report/HDR06-complete.pdf (p. 286)

[20] See CIA World Factbook https://www.cia.gov/cia/publications/factbook/geos/tz.html

[21] 2006 shows a total of 6,398,070 mobile and fixed line telephony users (see http://www.tcra.go.tz/Market%20info/statsTelecom.htm), over a total population of 37.4 million (see https://www.cia.gov/cia/publications/factbook/geos/tz.html)

[22] This has been indicated in numerous interviews held in Botswana and South Africa from May – December 2006.

the foundation of the East African Community (EAC) in 1967. In 1977 East African cooperation came to a halt, due to diverging political trends in the three member countries (socialism in Tanzania, capitalism in Kenya, and a dictatorship in Uganda). As a consequence, each of the three East African countries had to establish nationwide industries that were formerly provided at the Community level. The telecommunications industry is one of these industries.

Tanzania's oldest fixed line telecommunications service provider is TTCL, the Tanzania Telecommunications Company Ltd. TTCL came forth from a split of an East African telecommunications provider that provided one network in the countries of Uganda, Kenya, and Tanganyika. In more detail, the East African Posts and Telegraph Company in 1933 incorporated the Tanganyikan, Kenyan, and Ugandan PTTs (Postal, Telegraph and Telephone providers). Then, in 1951, the East African Posts and Telecommunication Act enabled the establishment of the East African Posts and Telecommunications Administration. When in 1967 the East African Community (EAC) was established, which replaced the East African Common Service Organization, the East African Post and Telecommunications Corporation (EAP&TC) was established, which replaced the East African Posts and Telecommunications Administration. From then on, the organization was based on commercial premises. Nevertheless, in 1977 the EAC broke up and all three former EAC member countries had to again establish their own national PTT businesses. In 1978 in Tanzania a parastatal was established under the name of Tanzania Posts and Telecommunications Corporation (TPTC).

In 1993 Tanzania started its telecommunications sector liberalization process. To this extent, the TPTC was split into three separate entities, namely the Tanzania Posts Corporation, the Tanzania Telecommunications Company Limited (TTCL), and the Tanzania Communication Commission (TCC). Thus, a regulator was established (TCC) and two operators, one responsible for postal, the other responsible for telecommunications services (TTCL). The establishment of TTCL was based on a Parliamentary Act, "The Tanzania Telecommunication Company Incorporation Act of 1993"[23]. TTCL officially started operations on January 1, 1994.

Tanzania's establishment of a regulator in 1993 was for Africa, and even worldwide, an early endeavor at regulating the telecommunications market, and to separate operation, policy making, and regulation. A TCC manager mentions that TCC was actually among the first 30 established autonomous regulators in the world. TCC focused purely on telecommunications regulation. Broadcasting was not yet included. However, a new Act in 2003 led to TCC's merger into the newly established TCRA, the Tanzania Communication Regulatory Authority, together with the broadcasting and postal regulator. The establishment of TCC happened at a time of economic restructuring when reform programs were introduced across many sectors in the Tanzanian economy. It was felt that restructuring of the telecommunications market was needed as well, and hence the Minister called for the establishment of a regulator.

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[23] See http://www.ttcl.co.tz/about_history.asp Last accessed August 6, 2007

6.2.2. The Upcoming of Mobile Telephony

Around the same time as the establishment of TTCL, which saw its rollout stagnating and started to face escalating maintenance costs of its network that dates back to the 1960s, competition was introduced in the market by the licensing of the first mobile operators. Shortly before TTCL was operational, regulator TCC introduced a licensing framework for mobile operators within which the country was divided into four zones. Each zone could be licensed to two mobile operators (Moshiro, 2005). To this extent, as of 1994, the first two operators on the mainland were Mobitel (currently known as MIC Tanzania-Tigo) and TriTel, while ZanTel operated in Zanzibar (Moshiro, 2005).[24]

As the numbers of subscribers remained low until 1998 (i.e. a total of 37,940), and operators concentrated on a few zones only, TCC decided to change its zonal licenses into national licenses (Moshiro, 2005). In September of 2000 Vodacom Tanzania started operating, followed by Celtel Tanzania's market entry in November 2001. Celtel International has shares not only in Celtel Tanzania but also in the incumbent TTCL. Since 2000 the number of telephony users has grown exponentially, even though TriTel went bankrupt in early 2003[25].

6.2.3. Market Liberalization Strategy: 2001-Present

While the market entry of mobile operators significantly enhanced ICT connectivity in Tanzania, other measures for further liberalization of the market were introduced, to stimulate further rollout, not only by enabling new service providers to enter the market, but also by enabling a greater diversity of service offerings by ending separation between licenses for basic services versus value added service offerings.

One of the first steps towards full liberalization of the market was the partial privatization of TTCL on February 23, 2001. Celtel International, at that time MSI, which is headquartered in the Netherlands, together with Detecon from Germany, obtained 35% shares from the Government of Tanzania. The consortium took over board and management control of TTCL, making it a rather autonomous company. Other shareholders are: local financial institutions (14%); international financial institutions, (10%); and TTCL employees (5%). The government kept 36% of the shares[26]. However, due to problems in the mutual understanding of the specifics of management control, including that of TTCL's subsidiaries, new negotiations started. The management control has gone back to government meanwhile. While official number are not available, managers from Celtel and TTCL indicate that currently Celtel has about 60% of the shares, while the government has 40%.

Along with the privatization of TTCL it was decided that TTCL was to have a four year period of exclusivity for providing fixed line telephony services, from 2001-2005. To this

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[24] See also http://www.uneca.org/aisi/NICI/country_profiles/tanzania/tanzinfra.htm Last accessed
 August 15, 2007.

[25] See http://www.balancingact-africa.com/news/back/balancing-act_139.html Last accessed August 29, 2007.

[26] See http://www.ttcl.co.tz/about_history.asp Last accessed August 6, 2007

extent, in February 2005 the market became fully liberalized. A range of new regulations was introduced, of which a new fully converged, technology and service neutral licensing framework was the most famous one, and arguably provided another boost to Tanzania's ICT growth.

Meanwhile, in 2003 the regulator was changed into a converged communications regulator; including telecommunications, broadcasting and postal. Based on the 2003 Act, TCC was changed into the Tanzania Communications Regulatory Authority (TCRA), and became one of the first fully converged regulators on the continent.

In further pursuance of the National Telecommunications Policy (1997), and the National ICT Policy (2003), TCRA introduced regulations regarding the following areas: Broadband Services; Consumer Protection; Content; Licensing; Importation and Distribution; Installations and Maintenance; Interconnection; Numbering and Electronic Address; Postal; Radio Communications and Frequency Spectrum; Tariffs; Type Approval of Electronic Communications Equipments; Access and Facilities.

The new licensing framework entails a horizontal approach to licensing in that it is technology and service neutral, and allows any license holder to provide any service by using any technology. Currently only four major licensing types for telecommunications service provision are available, which stands in sharp contrast with the old licensing framework that had seven categories, with separate licenses for basic telephone operators, mobile operators, public data operators, and internet service providers, among others. This old licensing framework thus prohibited a fixed line provider to provide mobile telephony and vice versa, and lengthy application procedures would have to be endured in order to obtain such licenses. The new licensing framework takes away this burden.

The converged licenses currently available are:
- Network Facility License: Network facilities means "any element, or combination of elements, of physical infrastructure used principally for, or in connection with, the provision of one or more network services, but not including customer premise equipment". A network facilities license therefore is a license that entitles the licensee to "construct, maintain, own and make available one or more network facilities"
- Network Service License: Network service is "a service for the carrying of information in the form of speech or other sound, data, text or images, by means of guided or unguided electromagnetic energy but does not include services provided solely on the customer side of the network boundary" A network service license therefore is a license that entitles the licensee to provide "one or more network services".
- Application Service License: An applications service is "a service provided by means of one or more network services but does not include such a service provided solely on the customer side of the network boundary". An application service license therefore is a license that entitles the licensee to provide applications services.

- Content Applications Service License: A content applications service is "an applications service which also supplies content". A content applications service license thus entitles the licensee to provide one or more content applications services.

(TheCommunications(Licensing)Regulations, 2005)

Other licenses available, for more specific services, are: Public postal license, courier service license, frequency user license, installation and maintenance license, importation and distribution license, type approval, and number resources[27]. This means for typical telecommunications services provision one or more of the four above stated general license categories is needed, in addition to, in the case of wireless services provision, a frequency user license. All major traditional operators (i.e. TTCL, Vodacom Tanzania, Celtel Tanzania, ZanTel and MIC Tanzania-Tigo) have a network facility license, network service license, and application service license, in some instances complemented with a content services license. Further, since all provide wireless services nowadays, they have frequency user licenses.

The fully Converged Licensing Framework is not the only evidence of Tanzania's progressive, pro-competitive approach to regulation and market development. Further evidence for example can be found in the Access and Facilities Regulation, which constitutes an open approach to third party access to facilities. Any owner of network facilities is allowed to resell use to third parties, and is required to do so in a non-discriminatory manner. It has to be noted that a significant number of countries (including South Africa until very recently) restricted third parties to only use facilities provided by the incumbent telecom operator, which leads to unfair competition in favor of the incumbent telecom operator. To this extent, Tanzania's Access and Facilities Regulation for example states: "A facilities provider shall treat each: a) Facilities Acquirer on a basis that is non-discriminatory in its provision of facilities and no less favorable than the treatment which the Facilities Provider affords to its subsidiaries, its affiliates, or other similarly situated telecommunication service providers […]" (TheCommunications(AccessAndFacilities)Regulations, 2005).

The introduction of these new regulations, even though implemented recently, has already led to significant changes in the market. As indicated by a manager at TTCL: "The market is being redefined now". The next section will provide more insights into Tanzania's recent market development.

6.2.4. Recent Market Developments
The new licensing framework has had two types of effects. First, it has led to an increased variety of implemented (wireless) technologies, and second, it has led to new market entry.

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[27] See http://www.tcra.go.tz/licensing/license_categories.php Last accessed August 11, 2007.

6.2.4.1. Expansion of the Wireless Access Technology Base

During 2006 most service providers obtained their new licenses. As of then, a significant expansion of the deployment of (wireless) access technologies took place. For example, TTCL received its new license on December 30, 2006, and as of then could compete with any type of technology or service. To that extent, it started offering mobile services. Furthermore, at the time that ZanTel was established it was only granted a license for mobile telephony provision in Zanzibar. After TTCL's exclusivity period ended and the licensing framework was changed, Zantel could also go to the mainland. In addition, Zantel received a license for operating the international gateway, which before used to be a monopoly by TTCL.

As the following overview shows, the major service providers in Tanzania now provide a mixture of services. Furthermore, all of the service providers focus on the wireless market as of now. Even though TTCL has faced problems with fixed line rollout, and has only recently been allowed to start offering mobile and wireless services, which has led to a market share of only 3% currently, TTCL staff still sees the Tanzanian market as wide open, and do not see a major problem with competition. However, they do acknowledge that service providers tend to go to the same areas where investments are most likely to be recouped soon.

While traditionally mobile operators in Tanzania opted for GSM technology (the set of standards known as the Global System for Mobile communications), new mobile services provision has extended to include the CDMA standard (Code Division Multiple Access) as well, which is partially due to scarcity of GSM frequency bands. Furthermore, mobile networks are being upgraded to include third generation mobile (both UMTS – Universal Mobile Telecommunications System, a third generation mobile technology that follows up on second generation GSM technology, and CDMA 2000 – a new generation CDMA technology), as well as WiMAX rollout, which is globally still in its infancy. Table 6.1 provides an overview of the various access technologies deployed by Tanzania's major service providers.

Tanzania's sixth network operator, Six Telecom, currently has an international and national network facility license, an international and national network service license, and a purely international applications services license. It has been incorporated in December 2004, as the first communications company fully owned by Tanzanians[28]. Six Telecom acts predominantly as a carrier of carriers, and provides international voice transport, signaling services, as well as value added services to GSM providers and international telecommunications carriers. Given its business focus on carrier services, it is not included in the table below.

The extent to which Tanzania's population is covered remains unclear. While for example TTCL has 100% regional and district coverage in terms of Points of Presence, this does not indicate how deep they go from there to different villages. Managers at mobile operators indicate signal coverage ranging around 75 and 80% for Celtel and MIC Tanzania-Tigo. ZanTel has its own network in Zanzibar, and has made an agreement with

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[28] See http://africa.rights.apc.org/index.shtml?apc=21870ne_1&x=3567527 Last accessed August 13, 2007.

Vodacom Tanzania to use the latter's facilities on the mainland, and thus, essentially to provide national roaming with Vodacom by acting as a mobile virtual network operator (MVNO) on the mainland.

Name Service Provider	Fixed line service	Mobile/Wireless Local Loop	Plans for WiMAX?	Other strategies
TTCL	Incumbent (copper; leased lines); basic POTS; ADSL; SDSL	Mobile & Fixed Wireless: CDMA (3G) Coverage area: first major cities, plan to cover the whole country	Yes	Major strategy: voice access and backbone provision. National and international calling; Internet access, International gateway license; video on demand in the future?
Celtel Tanzania	No	GSM 900/1800/400; GPRS, EDGE	Unknown	Mainly voice; carrier of carriers
MIC Tanzania-Tigo	No	GSM 900/1800, plans for 3G	Yes, currently doing groundwork – no frequency application yet	Mainly voice
Vodacom Tanzania	No	GSM 900/1800, plans for 3G by 2007 (frequency allocated)	Yes – spectrum guaranteed by regulator for 3.5GHz. Targeting data transfer for corporate sector - major cities	Basic voice services; data transfer
ZanTel	No	GSM 900/1800 – planning for 3G CDMA – Dar Es Salaam, Zanzibar, Pemba National roaming agreement with Vodacom on the mainland	Yes	Voice; access to the international gateway

Table 6.1: Service Strategies and Technology Use by Major Service Providers

6.2.4.2. Recent Market Entry
The variety of access technologies deployed is further increasing with the entry of new service providers in the market. In particular, after the introduction of the new Converged Licensing Framework, by May 2006 already four new service providers were licensed that are rolling out wireless and mobile services, in addition to Benson Informatics that is starting to provide wireless broadband Internet access services in the 450 MHz band. The 4 new service providers are Broadpoint, MyCell, Dovetel and Betafone. MyCell is rolling out 3G services with CDMA2000 technology. DoveTel has also been assigned frequency for CDMA provision, according to a TCRA staff member.

Reflecting on these developments, the acting Director General of TCRA commented in May 2006 as quoted in the East African Business Week the following: "This is the benefit of reforms (after) the introduction of full liberalization of the market in February

2005". He furthermore adds: "Over the same period, radio broadcasting stations increased from 14 to 32 and internet service providers from eleven to 23"[29].

In August 2007 the market shares (including both fixed and mobile telephony) are as follows: 1. Vodacom with 3.2 million users (51% marketshare); 2. Celtel with about 1.7 million users (26% marketshare); 3. MIC Tanzania-Tigo with little over 800.000 users (13% marketshare); 4. Zantel with about 414.000 users (7% market share); and 5. TTCL with almost 150.000 (fixed line) users (3% market share)[30].

In addition, today, Tanzania has about 20 ISPs, even though not all of them are operational. The majority (about 10) of these operational ISPs are located in Dar Es Salaam. There are likely about 25.000 Internet users in Dar Es Salaam. Tanzania has an ISP association – TISPA, the Tanzanian Internet Service Providers Association - with about 14-20 members. Most operational ISPs are members. TISPA coordinates and protects the interests of ISPs. The major constraint that ISPs face currently regards obtaining bandwidth, and they often need to use expensive satellites. At least one of the ISPs has already started deploying a broadband wireless access network[31]. ISPs are currently starting to compete with mobile service providers as well, as the latter are entering the Internet access market through enhanced data services provision.

6.2.4.3. Celtel Local Calling Throughout the East African Community
Another interesting development, even though not the result of the introduction of the Converged Licensing Framework, is Celtel's introduction in September 2006 of local calling throughout the East African Community. Further, while many mobile operators in the African continent do not provide international roaming at all to prepaid customers, Celtel's borderless mobile network, called One Network, automatically enables local calling to all Celtel users, including prepaid mobile phone users. Celtel is the first company in the world to provide such a service, and therefore has gained a lot of attention in the (international) press.

This move required Celtel to synchronize billing, interconnection, and interoperability of all three platforms. Celtel upgraded its entire network so that it would be able to provide enhanced multimedia services and would be able to facilitate increased use of the network for an expanded customer base[32]. Furthermore, Celtel's move does not only provide evidence of effective coordination among the semi-autonomous mobile operators of Celtel throughout the East African Community, but also is an indicator of effective

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[29] Quote taken from East African Business Week, "TZ Okays More Cellular Firms", 22 May 2006. See http://www.busiweek.com/index.php?option=com_content&task=view&id=1582&Itemid=39 Last accessed August 11, 2007.
[30] Numbers are from the regulator. See the TCRA website: http://www.tcra.go.tz/publications/telecom.html. Last accessed August 6, 2007
[31] ISP Catsnet Tanzania deploys a broadband wireless access network. See http://www.WiMAX.com/commentary/spotlight/WiMAXspotlight2005_06_15_part1 Last accessed August 11, 2007.
[32] See See East African Business Week, "Safaricom, MTN, Vodacom in single network this week". http://www.busiweek.com/index.php?option=com_content&task=view&id=2759&Itemid=9 Last accessed August 13, 2007.

coordination between regulators among the East African countries of Uganda, Kenya, and Tanzania. Celtel's move forced the regulators to implement changes, such as for example harmonizing phone numbers for voicemail retrieval, recharge, customer care, and access to the call center.

Meanwhile, other mobile telephony providers in the East African region did not want to stay behind. Within four months of the launch of One Network, Safaricom of Kenya, MTN Uganda and Vodacom Tanzania announced their plans to also launch a single regional mobile telephone network, which went live as of February 2007[33]. Yet, Celtel seems to remain a step ahead of its competition. Only nine months after the establishment of the One Network in East Africa, Celtel announced its plans for further expansion in Africa. One Network now includes the Democratic Republic of Congo (DRC), Gabon, and the Republic of Congo as well[34]. A manager at Vodacom explains the implementation of regional networks as "a push for a common market".

6.2.5. Current Regulatory Challenges

The newly introduced regulations along with the new communications landscape that Tanzania created seemingly are well appreciated by all service and network providers. By the end of 2006 none of the service providers express to face any major regulatory challenges. All managers indicate that they feel strong competition, but perceive this as fair. The major challenges they indicated they have faced seem to have been solved with the introduction of the Converged Licensing Framework. For example, a few managers at TTCL mentioned that they felt treated unfairly before as they had to have their tariffs approved whereas mobile operators were free to adjust their tariffs as they liked, but this has been resolved.

Nevertheless, as the new licensing framework does not set a limit for the number of licenses that can be awarded, at the moment the scarcity of frequency is becoming a constraint. The increased market entry has led to a significant increase in spectrum frequency demand that cannot all be fulfilled. To this extent, TCRA released the following press statement in 2007:

> "An increase in the number of prospective operators has tremendously increased the amount of spectrum usage. Considering that spectrum is a scarce resource, TCRA is conducting a spectrum audit vis-à-vis allocation of bandwidth with the objective of determining the optimum amount of spectrum required by each service.
>
> In order to conduct the said audit, TCRA wishes to inform prospective applicants and the public in general that new applications requiring the following frequency resources: **450 – 470 MHz, 824 – 890 MHz, 890 –960 MHz, 1710 – 1880 MHz, 1920 – 1980 MHz, 2110 – 2170 MHz, 2560 – 2790 MHz and 3400 – 3700 MHz** shall not be considered with effect from 10th May 2007 until further notice." (TCRA Press Statement, from

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[33] See East African Business Week, "Safaricom, MTN, Vodacom in single network this week". http://www.busiweek.com/index.php?option=com_content&task=view&id=2759&Itemid=9 Last accessed August 13, 2007.
[34] See http://allafrica.com/stories/200706070001.html Last accessed August 13, 2007.

members, and as such is a relatively small department. Communications deals with postal, telecom, and ICT. Telecom and ICT has 6 staff employed, and postal 4. According to a manager at the communications department, there is an intention to recruit 12 more people, as well as for communication to become a department by itself.

While the MoID and its minister have a role in developing policy and approving of regulations, realistically, MoID, due to its small number of employees, does not have a strong influence on ICT and telecommunications policy or regulation. As one interviewee put it, "the regulator is trying to compensate for lack of policy from the Ministry's side". Furthermore, this interviewee mentions that the Minister has an overseeing role, but that in practice TCRA is "independent". Another person says "frankly speaking, the ministry doesn't have enough staff. They should actually give more input". This relative lack of involvement of the Ministry in the telecommunications sector might be further reflected in the lack of engagement of operators with MoID, as explained by a regulatory affairs manager at a mobile operator. Nevertheless, a manager at MIC Tanzania (Tigo) mentions that "sometimes" there is interaction with MoID or parliamentary members. Nevertheless, one TCRA staff member does mention that he believes that the government has very good policy, and very good legislation. This however might also be due to TCRA's significant involvement in drafting this. As a director at TCRA explains, while the 2005 regulations were issued by the Minister, TCRA had been responsible for drafting them and presenting them to the Minister. After this dialogue took place until all agreed.

The positive result of MoID's limited involvement in communications is that many people perceive TCRA to be very "independent" of the Ministry, both at operators and regulator. Another reason for this "independence" is the fact that TCRA has financial autonomy as licensees pay directly to TCRA, and thus TCRA is not dependent on the Ministry for its funding.

6.3.2. Capacity Building within TCRA

While the lack of resources of MoID, and the abundance of resources by TCRA, has led to TCRA being capable of exerting great influence over regulation, it does not yet explain the reason for TCRA's development of such forward looking, or progressive, regulations. A partial answer to this arguably lies in TCRA's internal human resource policies with a strong focus on capacity building. Organizational development and performance is strongly tied to human resource development (see e.g. Lawler III, 2005; Torraco, 2005), and as such, major tools for human resource development like training and education, will influence regulators' performances and thus administrative capabilities, as well.

TCRA is comprised of a number of departments, with the two primary administrative departments being (1) the Director General's Office, which includes PR, the Secretary to the Board, zonal offices, and systems management; and (2) Corporate Resource Management, consisting of Human Resource & Administration, Finance, and Library and Information Services. In addition, there are four departments with special 'technical' focus areas: 1. Broadcasting; 2. Consumer and Industry Affairs (CIA), consisting of

License and Enforcement; Industry Analysis and Tariff Regulation; and Consumer Affairs; 3. Information and Communication Technology, consisting of Information Technology and Standard and Spectrum Management; and 4. Postal.

Even though Zanzibar has a semi-autonomous status, telecommunications sector regulation and policy falls under the Union Government. As such, TCRA caters for the whole of Tanzania, including Zanzibar. It does have a separate branch located in Zanzibar as one of its zonal offices. Broadcasting regulation in Zanzibar however falls under the Zanzibar Communication Commission. According to the TCRA official heading the Zanzibar office (an office with 4 personnel), issues in Zanzibar are generally speaking similar to those on the mainland. The Zanzibar zonal office therefore has a primary function in monitoring and enforcing regulation in Zanzibar, which houses a significant number of communications company branches and even headquarters, including ZanTel's headquarters, a few ISPs, cable operators, and branches of Vodacom, Tigo, Celtel, and TTCL.

TCRA is characterized by a remarkably active Human Resources department. This is observed in three ways. First, TCRA stands out in the region simply by having a Human Resources sub-department. As one of TCRA's managers explains, a number of regulators in sub-Saharan Africa do not even have an HR department yet.

Second, TCRA dedicates a relatively large budget to human resource development, and employs a variety of HR activities. For example, TCRA's HR department has been working on an intra-organizational policy to push its employees to pursue advanced graduate degrees at the Master's and Ph.D. levels. Furthermore, for the year 2006 TCRA, which counted roughly 97 employees had a budget of about USD $630.000 set aside for workshops and training, on topics such as Quality of Service, accounting principles, and radio frequency management, as well as another $620.000 for conferences and meetings (TCRA_AnnualReport, 2006). For comparative purposes, in the year 2006 the South African regulator ICASA, with about 300 staff, spent little over USD $380.000 on training and conferences (ICASA_AnnualReport, 2006), and Botswana regulator BTA, with about 70 staff members, spent little over USD $320.000 (BTA_AnnualReport, 2006)[35]. Even though these numbers might not be directly comparable as different issues might be included under these budgets, the numbers do suggest that TCRA has a relatively large budget dedicated to Human Resource Development.

Thirdly, other regulators in the region refer to TCRA as having a strong human resources department. To this extent, the HR department is referred to by a variety of consultants and regulatory officers outside Tanzania as having been pivotal in driving regulatory capacity building efforts in southern Africa. Through its role as convenor in the Human Resource and Empowerment committee in the Communications Regulatory Association of Southern Africa (CRASA), which is a regional regulatory body of the Southern African Development Community (SADC), TCRA has been pivotal in driving capacity building in the region. As convenor of the committee, TCRA has been engaged in organizing workshops and training for all regulators of the SADC region. Not only did

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[35] Exchange rates of August 13, 2007

this enable direct learning about specific regulatory topics, it also enhanced bilateral relations. To this extent, membership of CRASA has provided a basis for peering programs where staff members of different regulators in the SADC region visit each other. Finally, TCRA has been pivotal within CRASA in laying the basis for the NetTel@Africa program, a program that through cooperation of regulators and universities offers online training, certificate and degree programs in telecommunications policy. With the ground work of the program being laid in CRASA, the program now spans the continent and even includes United States based universities. TCRA again has been very active within this program, and the University of Dar Es Salaam (in Tanzania) serves as one of the major active universities in the program[36].

To conclude, as the case analysis shows, administrative capabilities of both MoID and TCRA have played a significant role in driving regulatory governance, and are in turn influenced by resource constraints. TCRA's resource abundance (as it receives licensing fees directly and is not dependent on a budget allocated by the ministry), and at the same time the lack of resources at MoID (i.e. understaffing) that pressed TCRA to compensate for lack of policy as well as provided the regulator with significant autonomy, have enabled TCRA to do a great deal of work on capacity building. The effect of capacity building on organizational development arguably partially enabled the development of progressive regulations.

6.4. Tanzania's Regional and International Involvement

6.4.1. Membership of International Bodies

When developing regulation, TCRA frequently examines regulations of other countries with regard to their applicability and appropriateness for implementation (after adjustment) in Tanzania. This has for example been the case in Tanzania for both its consumer guidelines and universal access model. With regard to the latter the Ugandan model was taken as a basis, while for the former parts of both the Kenyan and Ugandan regulations were used, as well as regulations from Nigeria.

While these examples are the result of perhaps purely national searches for appropriate examples, Tanzania is engaged in a variety of international initiatives that aim to synchronize aspects of different countries' regulations and policies. International organizations by now have a significant impact on TCRA. For example, TCRA's numbering and frequency plans are based on ITU guidelines. As such, ITU is one of the important international organizations that TCRA participates in. Nevertheless, bilateral relations are an important part of TCRA's development strategy. To this extent, TCRA, from its early days on, when it was still known as TCC, has been heavily engaged in the international regulators' scene. Starting right after TCC's foundation, TCC employees were sent to other regulators to learn from them about regulatory governance. TCC sent people to for example the Federal Communications Commission (FCC) in the U.S. as well as to U.S. state regulators, including Florida. Finland and other Scandinavian

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[36] See www.nettelafrica.org

countries also were looked at, as they had already successfully restructured their markets. Nowadays, TCRA's main international involvement includes regionalization endeavors in SADC and EAC's RRAs, as well as international involvement in the ITU.

Besides TCRA, other stakeholders in the Tanzanian communications market show extensive involvement in regional and international bodies. For example, MoID is involved with SADC and EARPTO, as well as the African Telecommunications Union (ATU), and finally ITU, where expertise is shared through experts of different countries.

Service providers, and particularly the incumbent operator and mobile network operators are engaged in a number of international forums. TTCL engages in international and regional forums like EARPTO, ITU, ATU, and SATA. With regard to SADC's regionalization endeavors, TTCL is not at all involved in CRASA, but however finds great benefit in its SATA membership. Even though according to one manager involvement in SATA was limited during the time that Celtel took over board management control, since government took back management control TTCL has increased its regional involvement. Even though TTCL does not see a "tangible profit readily" in its SATA membership, "sometimes you can see benefits" one TTCL manager explains, because, "you learn a lot in such an organization. It is a learning forum, and you get experience there. But not in terms of money". SATA particularly provides value to TTCL first as it enhances bilateral relationships. As one manager explains: "This is very important to us. The regions are coming closer this way". Secondly, SATA membership provides value in that it is an organization that consists of "former government owned operators […], they were all monopolies". To this extent, another manager explains, TTCL "learn[s] techniques to survive in a competitive arena". Currently, TTCL is particularly engaged in SATA's backhaul working group for EASSy.

The mobile operators are also members of EARPTO, and participate in a number of international conferences such as ITU forums. Furthermore, managers at a variety of mobile operators indicate that they find particular value in membership of the GSM Association, and GSM Africa, where experiences are shared, positions are taken, and studies and research are conducted.

Membership of ISPs in international bodies seems limited as compared to the network operators. A manager at one ISP mentions that their issues are "too small" for engagement at the regional level or international level. Nevertheless, Tanzania's ISP association TISPA is part of AfrISPa, the pan-African ISP organization. However, one of the leaders of TISPA feels there are currently no benefits in being part of AfrISPa, even though he does think it would be beneficial to have a regional East African association for ISPs.

Next more detail is provided on Tanzania's involvement in its two RRAs. First Tanzania's involvement in CRASA is described, as well as the benefits it derives from membership, followed by a discussion of Tanzania's involvement in EARPTO. The section finishes with an overview of interviewees' perceptions of differences between EARPTO and CRASA.

6.4.2. CRASA

TCRA has been an active member of CRASA since its inception, and has cooperated significantly with SATCC in the early days. Currently, TCRA is an active participant in CRASA not only through participation at AGMs, but also as convenor of the Human Resources and Empowerment (HRE) committee. TCRA has hosted a number of committee meetings, and plans to develop Human Resource (HR) guidelines for SADC member states.

Different TCRA staff members have identified different benefits that they derive from CRASA membership. However, an overarching benefit that all interviewees agree upon is the value they derive from exchange of knowledge and ideas within CRASA. One of TCRA's HR managers furthermore finds benefits in CRASA as issues are identified from a regional perspective that touch all regulators. The identification of such issues has led to workshops where experts have given presentations. In addition, two managers at TCRA indicate that CRASA has enhanced TCRA's bilateral relations. For example, membership of CRASA has provided a basis for peering program where staff members of different regulators in the SADC region visit each other. While not directly engaged in CRASA, a policy maker at MoID also believes that CRASA has led to more cooperation between SADC countries, and that through SADC Tanzania now also has more bilateral contacts with Malawi and Mozambique.

Due to TCRA's membership in the HRE committee, TCRA has not only benefited from CRASA, but has also provided value to CRASA. From an HR perspective, TCRA has benefited from participating in workshops and discussions to further develop its own HR policy. In addition, according to an HR manager, CRASA's HRE committee and TCRA's sharing of its own HR experiences through the committee, has benefited other regulators as some do not yet have HR policy in place, or in some instances do not even have an HR unit.

Even though all involved people find value in CRASA membership, an interesting finding is that the availability of guidelines in itself is not mentioned by any TCRA staff member as providing outstanding value. One manager explains that actually the *process* of developing guidelines is important; but not so much reading guidelines without having been involved in the process. This is partially due to the fact that guidelines cannot be implemented literally, but need to be adjusted to the situation in a country, as pointed out by both a current and former TCRA manager. The current TCRA manager perceives being involved in the process as important, as it entails discussion and learning from each other about a topic, and allows for knowledge transfer, so that these principles can be applied during national regulation development.

6.4.2.1. Service Providers' Perceptions on CRASA

While at the regulator CRASA is perceived as a beneficial organization, service providers in Tanzania are hardly engaged with CRASA at all. At TTCL one manager says that he feels that CRASA is "far away from TTCL". One person mentions that CRASA could

have an impact, but if so, they would hear about it via TCRA. Hence it is felt that TCRA is purely an organization for regulators. Another manager at TTCL omdocates not to know CRASA: "I haven't seen any impact, and haven't heard anything of it. I believe the regulators are involved. But I haven't seen any resolutions". At other service providers similar perspectives are held: A regulatory affairs manager at a mobile operator explains that he feels that CRASA has very minimal influence, and that therefore CRASA matters are not followed tightly at this mobile operator. The manager does not rule out that in the future they might do so however. A manager at another mobile operator mentions that "CRASA is a worthless club. It is a waste of time. It is impossible to follow CRASA. They keep their cards on the chest." This manager furthermore feels like there is no operators' forum in SADC.

6.4.2.2. Challenges for CRASA
One manager at TCRA also perceives CRASA to have a problem with regard to service providers' involvement. While SATA officially is the SADC organ for service providers, and has a formal relationship to CRASA, it attracts mainly incumbent operators. This manager however feels that either all service providers should be allowed to provide input, or none at all, but not in an ad-hoc manner where just few are invited.

Other challenges that TCRA staff have found are the problem of funding, which up to some degree prevents some regulators to take part in AGMs or workshops and training. Even though this is not a problem for TCRA, it has created the necessity for all CRASA training and workshops to be free of charge for members, so that members only have to pay for travel and lodging.

A more general challenge related to the nature of regionalization, and not easily solvable, that is expressed, is the difficulty to get all CRASA members on one line. An example is provided that a few years ago discussions were taking place at CRASA to harmonize numbering throughout the region. However, some countries had already recently changed their numbering plans. Due to those recent changes, they could not change again because of the involved costs and the need for stability. As TCRA's numbering plan was basically compliant with ITU guidelines, TCRA did not take further part in the meetings. As such, the negotiations "failed".

In the next section Tanzania's involvement in EARPTO will be discussed. The analysis of Tanzania's involvement in EARPTO will provide insights into the difference in organizational structure of RRAs and other contextual factors that may influence the value of membership as well as the extent to which an RRA can influence national regulation.

6.4.3. EARPTO

6.4.3.1. EAC Background
Countries of EAC have resumed cooperation in 1995 after the EAC's collapse in 1977. In 1999 Uganda, Kenya and Tanzania signed a new treaty which officially re-established the EAC. Currently, with a customs union already in place, EAC plans to expand the regional

integration by starting a monetary union with a common currency, and furthermore plans to establish the East African Federation in 2010[37], which would entail both an economic and political union with a common market. The EAC already has an East African Court of Justice, which has jurisdiction over the interpretation and application of the 1999 Treaty, and plans are made to extend its jurisdiction in the future over other matters such protocols coming forth from EAC. EAC has furthermore very recently (in June 2007) extended its membership to include Burundi and Rwanda as well.

Generally speaking, people seem to feel closely related to the other EAC member states, due to such reasons as speaking "almost" the same language (i.e. Swahili), and "being so close to one another". One interviewee mentions that people are "so willing" to cooperate and work on integration, and that "the impact is going to be large". A strategic manager at TTCL says that "we are like one country". A policy maker mentions that the people in Tanzania are more aware of EAC than SADC.

The EAC is headed by the Secretary General who is appointed by the Summit for a fixed five year term. In addition there are Deputy Secretaries General and a Counsel to the Community who is the principal legal advisor to the Community. Finally there is the Secretariat – the executive organ - that handles day to day business, including strategic planning, management and monitoring of projects, etc.

The Summit is comprised of the heads of government, and gives direction towards the objectives of EAC. The Council of Ministers is the main decision making organ and includes ministers from the member states. The Coordinating Committee entails permanent secretaries and coordinates activities of sectoral committees. The Coordinating Committee reports to the council. The council further establishes Sectoral Committees that initiate programs and monitor program implementation. Finally, the East African Legislative Assembly provides a forum for democratic interaction, playing part in the legislative process[38].

As an economic community, EAC focuses on many issues ranging from defense to trade, natural resources, transport, health, tourism and the like[39]. Communications is of its focus areas too, and to that extent EARPTO has been established: the East African Regulatory, Postal and Telecommunications Organization.

6.4.3.2. EARPTO Background
EARPTO's main objectives are to:

    a) "Harmonize and promote the development of postal and telecommunications services and regulatory matters and devise ways and means to achieve fast, reliable, secure, economic and efficient services within the community
    b) Ensure the provision of tariff structure and settlement of accounts
    c) Promote the development and application of Information Communications Technologies (ICT)

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[37] It is doubtful however if this date is realistic.
[38] See http://www.eac.int/institutions.htm Last accessed August 14, 2007.
[39] See e.g. http://www.eac.int/achievements.htm Last accessed August 14, 2007.

d) Serve as a consultative organization for settlement of postal and telecommunications matters which are regional in nature, promote the development of technical facilities and their most efficient itlization with a view to improving the efficiency for telecommunications and postal services, increasing their usefulness and making them generally available to the public

e) Harmonize policies and legislation in the communications sector (i.e. managing competition and licensing requirements in the region)" (Source: http://www.cck.go.ke/earpto_issues/ Retrieved August 14, 2007)

To this extent, within EARPTO issues like tariffs, frequency management, digital broadcasting, signal spillovers, satellite, interconnection, backhaul, etc. are discussed.

6.4.3.3. EARPTO's Organizational Structure

The official organs under EARPTO are the EARPTO Congress, the Assembly of Regulators, the Assembly of Postal Operators, and the Assembly of Telecommunications Operators. The EARPTO Congress is comprised of regulators and operators of telecom and postal services of the EAC member states. The Congress as the highest decision making organ can establish committees. To this extent, there are a regulators' committee and an operators' committee, as well as other standing committees, of which the Human Resources committee is one alongside other technically oriented committees. Finally, ad-hoc committees can be established by the Congress. Committee members from time to time are (financially) responsible to host meetings, assign a facilitator. Often external experts are invited to share their knowledge at those meetings.

However, EARPTO has, as one manager at TCRA states, "a loosely organized structure". The Congress takes place every two years, and is attended by CEOs and a few senior officers from the member organizations (i.e. regulators and postal and telecommunications operators). In addition, every year Assemblies are held which are also attended by CEOs and senior officers to discuss committee work and new issues[40]. Government representatives from ministries (like MoID) will attend EARPTO meetings as observers[41]. EARPTO, as opposed to CRASA, does not have a permanent Secretariat. Meeting agendas are established long before the Assembly takes place; all regulators submit issues for the agenda.

EARPTO's General Assembly is chaired by a regulator which rotates every other year. A variety of plenary sessions are held during the three day General Assembly, where topics such as human resources and technical aspects regarding telecommunications are discussed. Whereas EARPTO only had 3 member states at the time of data collection, meetings already attracted some 100+ attendees according to a manager at TCRA: most of the time there are 10+ companies from the sector represented, that bring a number of delegates, including a lawyer, engineer, and economist.

Even though there are separate Assemblies for operators and regulators, it remains unclear to what extent they meet separately or together. While few interviewees indicate regulators and operators at some point during the General Assembly meet separately,

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[40] See http://www.cck.go.ke/earpto_issues Last accessed August 14, 2007.
[41] See http://www.cck.go.ke/earpto_issues Last accessed August 14, 2007.

others mention that much of the meetings taking place are plenary sessions for operators and regulators at the same time.

During the General Assembly resolutions are put forward. Even though managers at operators and regulator indicate that EARPTO is rather consensus based, there is an interesting variety of interpretations as to the power of those resolutions. A manager at TCRA interprets the resolutions as "binding", whereas another interprets them as "advisory", furthermore commenting that EARPTO does not have "the teeth to enforce". Another manager perceives this to be very effective, because he feels that understanding among the people is more important than 'rules and punishment'. This understanding is furthermore created through regular visits among regulators.

6.4.3.4. Membership Benefits and Impacts
The Tanzanian members of EARPTO obtain a number of benefits from their membership in EARPTO, ranging from fixing cross border technical issues, to enhanced bilateral relations and knowledge sharing. First, important cross border issues such as signal spillover are resolved through EARPTO, which prevents people from unknowingly expensive (international) roaming. Furthermore, the knowledge sharing and coming up with best practices during meetings is perceived to benefit capacity building for staff at the regulator. Thirdly, and related to capacity building, is EARPTO's benefit in increasing bilateral relations. Increased bilateral relations have led to exchange of staff among the member states' regulators to learn from each other, but operators acknowledge benefits in bilateral relations as well through increased cooperation among operators. Finally, a manager at a mobile operator indicates that cooperation within EARPTO has value for larger scale international forums, as in such venues EARPTO now "works and appears as a family".

Besides these rather general benefits that those involved in TCRA perceive, there is a general belief by staff at TCRA and operators that EARPTO has a significant impact on Tanzania's communications sector. Examples of direct impacts provided by different managers at TCRA include: 1. TCRA's use of Kenyan and Ugandan consumer guidelines; 2. a harmonized band plan for trunking systems in UHF bands; 3. recognition of cross border frequency assignments to prevent or minimize interference; and 4. decision on a price cap for interconnection. While a fully harmonized frequency band plan has not been developed in EARPTO, the members do coordinate submissions of a common position to the World Radio Conference. Nevertheless, while most staff have a very positive attitude towards EARPTO, one manager at TCRA finds EARPTO to "lack some seriousness" with regards to his area of expertise, as the manager finds that issues are often not adequately followed up on.

At operators generally positive perceptions about EARPTO's impact on Tanzania are expressed as well. For example, a manager at TTCL feels that EARPTO has a strong impact, because "you have to abide by them [the resolutions]". Even though he acknowledges that EARPTO as a regional body cannot be compared with "the national level", and has no "direct command", the manager feels that "anything agreed upon will be implemented". The manager furthermore feels the company learns a lot from other operators, through getting directives and guidance from others. Another manager at

TTCL shares these believes: "We do hear a lot from EARPTO here". The manager mentions that they can see that the regulators are harmonizing and are active. Finally, a regulatory affairs manager at a mobile operator believes that EARPTO has significant influence, mainly because it is small and persuasive rather than authoritative.

Apart from the perceptions by all involved, EARPTO's impacts can be observed already in Tanzania's regulation, and in particular in the Tanzania Communications (Interconnection) Regulation of 2005. Here, interconnection traffic is categorized under the regulation for domestic *and* East African traffic, besides general fixed and mobile transit services, as per section 4: "Telephone traffic provided by interconnected network service providers shall be categorized as follows: (a) mobile to mobile traffic – Domestic and East Africa; (b) fixed to fixed traffic – Domestic and East Africa; (c) mobile to fixed traffic- Domestic and East Africa; (d) fixed to mobile traffic – Domestic and East Africa; and (e) fixed and mobile transit services" (The Tanzania Communications (Interconnection) Regulations, 2005).

6.4.3.5. EARPTO Challenges
As with CRASA, in EARPTO there are also the challenges of the different country structures in terms of regulation that have an effect on the 'ease' of harmonization. For example, a manager at a mobile operator has found some challenges in regional frequency management, which might not always align when some countries allocate frequency bands for regions while others do it nation wide. Particularly because it is a scarce resource, it is sometimes difficult to agree on making changes to the existing national structure. Finally, one manager at TCRA wonders whether budgetary constraints might be a barrier to deeper integration.

6.4.4. The Benefit of Regionalization in General

Overall, when managers at operators, MoID, or TCRA talk about involvement in EARPTO or CRASA, is a general belief in the benefits of regionalization in general comes to the fore. A policy maker mentions that he perceives regional initiatives in general as important, as it "enables harmonization and standardization", and "allows for moving together". A director at TTCL says that regional endeavors are important because "the world has become small. […] Everybody needs to communicate, and to make it feasible is to have good relations with others; both region wide and world wide". A regulatory affairs manager at a mobile operator finds regional forums "good for exchanging ideas, and learning from others", because, as he mentions, "changes across the world can be appreciated in that way".

6.4.5. EARPTO vs. CRASA

6.4.5.1. Regulator perspectives
Within TCRA a rather equal priority to both regional organizations is given. Nevertheless, some differences between CRASA and EARPTO are identified. One of these differences regards the inclusion of both operators and regulators in EARPTO vs.

the focus on regulators only in CRASA. While one manager sees a problem in CRASA's selective invitation of particular operators to provide input, a variety of interviewees indicate a that topics for discussion within CRASA are more focused on regulators' issues only. Thus, the different types of members affect the topics discussed within the organization.

Furthermore, one TCRA manager finds that the success of EARPTO and CRASA depends on their organizational structure. He believes that even though EARPTO is more loosely organized, it is more effective than the more structured CRASA. While CRASA has a Secretariat, in EARPTO the organizational memory is kept within three organizations, but meeting minutes are well developed and circulated. Another manager finds EAC very strong, and significantly stronger than SADC. He believes that this might be due to the frequent interactions between EARPTO members, which he thinks in turn might be due to the significantly smaller size of EARPTO which makes it easier to coordinate. For this reason, a former TCRA employee mentions that it is unfair to compare a small region like EAC with only three countries (at the time of interviewing) with a region like SADC that has 14 member states.

Nevertheless, overall it seems that there is widespread satisfaction by TCRA staff about being part of two RRAs, as benefits come forth from both. As one manager puts it, "if you can't answer the question of the benefit, then it is questionable if membership is valuable". Nobody seemed to have a problem in answering this question. One of the policy makers finds some redundancy in being member of two RECs, but nevertheless finds value in both, as the regions are different. For example, within EAC there is more similarity in average incomes than in. Since the objectives of harmonization and capacity building are the same, membership in both is valuable.

6.4.5.2. Operator perspectives

Operators have a significantly different perspective on the benefits of regionalization within the SADC region vs. the EAC region, which might be partially due to none of the operators being directly involved in CRASA. A manager at TTCL comments that EARPTO is more beneficial than SATA. However, another TTCL manager comments that each organization has its specific advantages. An advantage within SADC is found through SATA, where primarily incumbent, traditionally fixed line providers, are engaged, as opposed to EARPTO where mobile operators and regulators are involved. This provides a means to discuss issues that all incumbent operators face since the ending of monopolies. Nevertheless, this manager also finds that EARPTO has an advantage in the region having come closer together, and that through EARPTO business relationships across operators *and* regulators have significantly improved. As such, the manager also notices that the company often hears about what happens within EARPTO, while she never hears about CRASA.

Yet another TTCL manager does not see a big difference between the two regions: they all work on the same issues and the regional organizations facilitate coordination between the countries. Another manager at TTCL explains these differences between the regions as follows: "EARPTO is more of an East African thing, while CRASA is more regional", thus outlining the close ties between the three East African countries. A regulatory affairs

manager at Celtel finds that "EARPTO is significant as compared to SADC", as it has "heavy discussions". None of the mobile network operators has any direct involvement in a SADC organization.

6.5. Intra-Case Analysis

This case has identified a number of factors at both the national and regional levels relating to institutional endowments, regulatory governance, and regulatory incentives that drive the effect of RRAs on Tanzania and vice versa. Next, first a discussion of the influence of national level institutional endowments on national regulatory governance and incentives is provided, followed by a discussion of bidirectional influences between the national and regional levels. This is followed by a summarizing discussion of underlying factors that have driven the interaction between national and regional levels.

6.5.1. National Level Endowments, Regulatory Governance, and Regulatory Incentives

Tanzania's recent growth in ICT connectivity has been greatly influenced by the introduction of a technology and service neutral Converged Licensing Framework. In particular, as the case analysis shows, the institutional endowments in terms of administrative capabilities have played a significant role in driving regulatory governance and regulatory incentives.

The administrative capabilities regard two key stakeholders in the national policy and regulation making process, namely those of TCRA and MoID. Within Tanzania's broader macro-economic reform programs ministerial commitment to reform of the communications market was created. At the same time, lack of resources at MoID, which is observed in the understaffing of the department responsible for communications, has led MoID to give significant space to TCRA to develop regulation, and even for TCRA to draft documents that normally are to be initiated and drafted by the Ministry.

In making up for the lack of capabilities at the Ministry, TCRA has taken full advantage of its extensive responsibilities in a positive manner. This can be argued to be the result of (1) TCRA having budgetary independence as licensing revenues are directly received by the regulator as opposed to the state Treasurer, which in some countries is the case; and (2) TCRA's effective internal management that enabled significant organizational development. Organizational development and performance are strongly tied to human resource development (see e.g. LawlerIII, 2005; Torraco, 2005), and therefore major tools for human resource development such as training and education will influence regulators' performances as well. TCRA has dedicated a significant amount of effort and budget to the development of an extensive capacity building program. Supported by its active Human Resources Department, training programs, plus workshop and (international) conference attendance, have educated and enabled TCRA staff to develop forward looking regulations. TCRA's effective HR activities are furthermore not only observed through analysis of its HR development practices; they are also acknowledged by external stakeholders: TCRA's Human Resources department is referred to by a

variety of consultants and regulatory officers outside Tanzania as having been pivotal in driving regulatory capacity building efforts in southern Africa. To this extent, TCRA's role as convenor in CRASA's HRE committee services as an example.

6.5.2. Cross Level Influences

Across the national and regional levels a few bidirectional influences can be discerned. Three mechanisms in particular can be observed: (1) National endowments and governance influencing regional governance; (2) Regional governance influencing national endowments; and (3) National incentives influencing regional governance.

First, TCRA through its role as convenor in the HRE committee in CRASA has been pivotal in driving capacity building in the region. As convenor of the committee, TCRA has been engaged in organizing workshops and training for all regulators of the region. Further, as explained above, TCRA's sharing of its own HR experiences through the committee has benefited other regulators as some do not yet have HR policy in place, or in some instances do not even have an HR unit yet. Thus, Tanzania's institutional endowments (its administrative capabilities) and regulatory governance (its way of regulation making, and TCRA being a "model regulator"), through the sharing of experiences at regional level meeting platforms (i.e. CRASA committee meetings, AGMs, and workshops), provide input for discussion, and thus affect regional governance.

Nevertheless, as was explained by a TCRA manager, there are also certain areas in HR where TCRA can still learn from colleagues. To this extent, within TCRA it is felt that it also benefits from taking part in workshops and discussions where it learns from others. Hence, regional governance, in terms of committee meetings, AGMs, workshops and trainings, influences TCRA's administrative capabilities and national regulatory governance, as topics discussed at the regional level are an input for discussion during national regulation making activities. These influences come from both CRASA and EARPTO.

Thirdly, national incentives influence regional governance as well. As has been indicated by managers at regulators in the SADC region, TCRA is seen as an expert for example in the area of Converged Licensing. To this extent, if CRASA is going to adjust its model guidelines for licensing, Tanzania's licensing framework will likely provide a basis around which discussions for the development of a new model will evolve. Thus, national incentives (i.e. Tanzania's licensing framework) influence regional guideline development and discussions (i.e. regional governance). Another example constitutes Tanzania's establishment of a converged regulator. Tanzania and South Africa were the first two countries to establish converged regulators. This focus on convergence has been adopted at CRASA, which changed from TRASA (telecommunications focus only) to CRASA (communications focus including telecommunications, broadcasting and postal) in 2006.

Finally, it was indicated that membership in both EARPTO and CRASA not only enabled TCRA to learn about specific regulatory topics via knowledge sharing during regional level meetings, it also enhanced bilateral relations. To this extent, for example membership of CRASA has provided the basis for a peering program where staff members of different regulators in the SADC region visit each other. Thus, here it is found that regional level governance in itself actually constitutes a mechanism for influencing national to national level influences of regulatory governance and regulatory incentives, as during exchange programs insights are gained into particular regulatory incentives in place and their effects, and the learning points in turn provide an input to national regulation making.

6.5.3. Discussion

The influences identified above constitute primary mechanisms of influence of RRAs on Tanzania and vice versa. An interesting finding is that it is not that much CRASA or EARPTO's 'model guidelines' or resolutions that affect Tanzania's benefits of membership in RRAs or RECs. As a matter of fact, no one indicated the RRAs' primary benefits to be the model guidelines or resolutions. Yet, the benefits were found in a more indirect way, namely through knowledge sharing and networking which has led to increased bilateral relations. Furthermore, Tanzania's membership of two RECs and accordingly two RRAs has provided some insights into the different ways in which RRAs can influence national regulatory design.

Overall managers at the regulator expressed to gain rather similar benefits in membership of CRASA and EARPTO, namely primarily through knowledge sharing and enhancing bilateral relations, and furthermore the regulator gives similar priority to EARPTO and CRASA. Nevertheless, because of the smaller size and the higher level of integration of EAC in general than SADC, a high level of commitment to EARPTO has been generated at all stakeholders in the communications sector. EAC's recent expansion will make it interesting to observe if indeed, and if so, how the number of member states affects the pace of integration.

Particularly from a service providers' perspective EAC and EARPTO have more to offer than SADC and CRASA. Operators are significantly more involved in EAC telecom regionalization efforts than in SADC. Furthermore, operators could be argued to be a partial driver for regional regulatory integration, as illustrated for example by the case of Celtel's One Network that showed the need for regulators to act upon such endeavors, and coordinate. However, at the same time it was found that a few managers at the regulator perceive 'better focus' at CRASA than at EARPTO because it is a convention of regulators only. At the same time, the existence of SATA seemingly has been very fruitful to Tanzania's incumbent telecom operator TTCL, as topics of particular interest to incumbent telecom operators are being discussed, which was perceived as useful by managers at TTCL due to the difficulties fixed line operators throughout the continent are facing since the introduction of mobile telephony.

Even though from a regulator's perspective a positive attitude towards regionalization exists, it must also be noted that the regulatory challenges faced by both service providers and regulator are not reflected in CRASA's current focus areas. In addition, none of the interviewees has mentioned these issues to be discussed within EARPTO, which however was also not specifically asked for. This again provides evidence for both RRAs to provide value in the sharing of knowledge and increasing relationships among regulators, over the direct usefulness or applicability of regional guidelines at the national level.

6.6. Conclusions

This chapter has shown that Tanzania's introduction of a fully converged, technology and service neutral licensing framework has led to an increase in market development. While the full effects still remain to be seen, barriers to entry have already decreased and new network providers have been licensed. This market entry has furthermore increased the choices of technologies available, ranging from GSM to UMTS and CDMA2000, as well as WiMAX and other wireless broadband technologies.

Tanzania was the first sub-Saharan country to introduce such a fully converged licensing framework. To this extent, people throughout southern Africa have referred to TCRA as a model regulator. TCRA's strong focus on human resource development, which includes a significant budgetary allocation of the human resource department for training and workshops, in addition to TCRA's role as convenor in the Human Development and Empowerment committee of CRASA, provide evidence of a strong focus on capacity building, which arguably drove TCRA's organizational development, and consequently enabled the development of progressive regulation within TCRA.

Furthermore, through the role as convenor at CRASA's Human Resource Development committee, TCRA has the potential to disseminate best practices about human resource development and capacity building among southern African regulators. At the same time, membership in RRAs in both EAC and SADC enabled TCRA's learning as well. While the focus on capacity building within TCRA has arguably influenced TCRA's progressive attitude towards regulation development, TCRA's own relative 'abundance' of resources vs. the Ministry's lack of resources due to understaffing have enabled the regulator to exert a significant influence on regulation as they have taken up part of the responsibilities of the Ministry.

These findings show the importance of administrative capabilities within both regulator and policy maker for positively stimulating regulatory governance and regulatory incentives at the national level. Administrative capabilities include capacity building practices as well as roles and responsibilities of the regulator vs. Ministry. Finally, the case study has shown that resources, an under-researched and under-theorized element of regulatory governance, play a significant role in determining the relationship and roles of both regulator and policy maker.

Finally, these factors at the national level have been shown to influence regional governance, and furthermore, even though TCRA might be a model regulator in the

continent, regional governance also has been shown to influence national regulatory governance and perhaps incentives, albeit in a rather indirect way. While no evidence is found for RRAs to directly have influenced Tanzanian regulation, Tanzania has in some instances used regulation from member states in the EAC as a basis for its own regulation. It was found that the RRAs' impacts on Tanzania are perceived to exist, but yet in a more indirect way: Tanzania's regulator and service providers find value in participation in both CRASA and EARPTO, particularly through knowledge sharing and their role in enhancing bilateral relations among regulators and service providers of different member states. Overall, likely due to the relatively high level of integration in general as well size and proximity of other member states, Tanzania seems to be impacted by EARPTO more than by CRASA.

7. The case of Botswana: The role of the CRASA's Host Country in Regional Governance

7.1. Introduction

This chapter discusses the case of Botswana. A landlocked country, Botswana borders Namibia on the west and on the north, Zimbabwe on the north-east and South Africa on the south and south-east (see also figure 7.1). Botswana is a southern African country with one of the higher GDPs per capita in sub-Saharan Africa, at USD $10.900 in 2006[42]. Botswana is a medium developed country, ranking 131st out of 177 on the UN Human Development Index[43]. While Botswana's GDP per capita is a little lower than sub-Saharan Africa's major economic power South Africa, its currency is stronger than South Africa's, thus indicating the country's relative wealth. Nevertheless, with only about 1.8 million inhabitants, its GDP (purchasing power parity (PPP)) is a meager USD $17.94 billion as compared to neighbor South Africa's GDP PPP of USD $587.5 billion.

Figure 7.1: Map of Botswana
Source: CIA Factbook

Botswana's wealth is primarily generated in the diamond mining industry that accounts for approximately 70 or 80% of export earnings[44], and which has spurred Botswana's high economic growth rates for many years after the former British protectorate Bechuanaland gained independence in 1966. Furthermore, a prime income generating activity besides subsistence farming is cattle raising as only 0.65% of the country is

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[42] See https://www.cia.gov/library/publications/the-world-factbook/geos/bc.html Accessed September 10, 2007. The number is an estimate for 2006.

[43] See (UNDP, 2006) Downloaded from http://hdr.undp.org/hdr2006/pdfs/report/HDR06-complete.pdf , September 10, 2007.

[44] See https://www.cia.gov/library/publications/the-world-factbook/geos/bc.html Accessed September 10, 2007.

arable[45], which is due to the Kalahari Desert that spreads over much of the country (about 75%) as well as desertification taking place elsewhere.

As a developing country, Botswana faces problems as well. The HIV/AIDS infection rate is among the highest in the world, towards 40%. However, many say the official number is higher than in other countries because widespread awareness and testing facilities actually have led to a rather accurate estimate of the infection rate. Fortunately, extensive treatment programs are in place as well.

Botswana's sound political leadership, its rapid economic development, and its independent status as it has never been colonized, make Botswana highly regarded throughout the rest of sub-Saharan Africa. As a result, Botswana hosts a number of international organizations in its capital city Gaborone, including the Secretariat of the Southern African Development Community (SADC), and the Communications Regulatory Association of Southern Africa (CRASA).

Along with Botswana's rapid economic development arose a well developed communications sector. To this extent, this chapter will examine: (1) Botswana's telecommunications market development throughout the years; (2) the role of national regulatory governance and incentives in this development; and (3) the role of CRASA in stimulating Botswana's regulation and market development, as well as Botswana's role in, and benefits to, the former.

Next, first an overview of the development of the Botswana market over the years is provided, as well as Botswana's liberalization strategy and recent implementation of new regulations, followed by a discussion of Botswana's regulatory governance. This is followed by a discussion of the role of Botswana in, and effects of, SADC and its RRA CRASA. The chapter finisheS with a discussion and conclusions.

7.2. Botswana's Telecommunications Market Liberalization Strategy

7.2.1. The Early Telecommunications Market: The Establishment of a Commercial Telephony Provider and the Origins of Regulation

In 1980 a 100% state-owned (parastatal) telephony provider was established in Botswana; the Botswana Telecommunications Corporation (BTC). Established as a monopolist, until today BTC remains the only fixed line telephony provider, even though since then the landscape has changed and other communications services providers have entered the market. These changes were initiated in 1995 with the introduction of a liberalization strategy for the telecommunications market.

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[45] See https://www.cia.gov/library/publications/the-world-factbook/geos/bc.html Accessed September 10, 2007.

In December 1995 the then Ministry of Works, Transport and Communications (currently known as the Ministry of Communications, Science and Technology (MCST)) published a 31-paged document "Telecommunications Policy for Botswana". Focusing on the division of roles and functions of an (envisioned) increased variety of actors in the industry, the document discusses intended means to achieve the three interrelated goals of universal service and efficient services provision. In order to achieve liberalization and increased competition three key recommendations of legislative nature were put forward, namely (1) the amendment of the BTC Act of 1980 to abolish BTC's monopoly position over telephony provision; (2) to implement a Botswana Telecommunications Act to establish a regulatory authority; and (3) to implement a licensing system for the provision and operation of networks and services, of which conditions were to be determined by the regulatory authority.

Following up on this Policy, in 1996 the Telecommunications Act (No. 15 of 1996 plus amendment No. 16 of 1996) was published and enacted by the Parliament of Botswana. The Act primarily contains provisions regarding the organization of the new regulator, including the functions and powers of the regulator as a whole and of board and staff members. Additionally, the Act contains clauses regarding more 'technical' aspects regarding the telecommunications market, including radio communication and licensing (e.g. license types and application procedures)[46]. Thus, as a result, in 1997 the Botswana Telecommunications Authority (BTA) became operational as regulator for Botswana.

Further, in 1996 the Botswana Telecommunications Corporation (Amendment) Act was enacted, where BTC is stated, among others, to have the duty to conduct business on "sound commercial lines", and that it may establish subsidiaries, enter into joint ventures, partnerships and the like for its business in order to operate telecommunications networks and to provide telecommunications services (BotswanaNationalAssembly, 1996). These Acts enabled value added services to be provided by a variety of players in the market as well as allowed for mobile operators to be licensed, which also meant the monopoly position of BTC for telephony provision was officially repealed.

Finally, after BTA was operational for a few years, and again taking the Telecommunications Policy and Telecommunications Act as a basis, more detailed regulation was introduced in order to deal with an increasing number of players in the market. Consequently, in 1999 the "Botswana Telecommunications Regulations" were published, which lay out rules regarding (1) Telecommunications networks and services; (2) Radio Stations, Radio Communication Equipment, Licenses; and (3) Type approval.

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[46] In more detail, the Act contains articles regarding (1) the establishment, constitution and membership of a telecommunications authority; (2) meetings and proceedings of the board; (3) officers, employees and agents of the authority; (4) functions, powers and duties of the authority; (5) licenses (i.e. license types, application procedures); (6) radio communication (frequency management issues and licenses); and (7) other provisions including issues such as, but not limited to, emergency conditions, network interconnections, competition rules etc.

7.2.2. The Growth of Mobile Telephony

BTC's monopoly on telephony provision effectively ended in 1998, when two mobile operators were licensed; Mascom Wireless and Vista Cellular (now Orange Botswana). A former BTA employee that was involved in the licensing process explains that the decision to license two operators was a contentious one, for two reasons. First, at the time it was "the norm in the region" to just have one mobile operator[47]. Second, given Botswana's small population of about 1.5 million people that are spread out over a vast area of land, "many people thought BTA was crazy that it was trying to license two operators". Hence, due to the concerns about potential for competition, it was decided that the two operators would be licensed for two different (internally adjacent) areas. The new mobile operators were thus essentially to have a monopoly position for mobile provision in their respective areas. Nevertheless, an incentive for competition was introduced as well: it was agreed that after a mobile operator provides full coverage of its own assigned area, it could enter the other operator's assigned area as well.

The licensing procedure entailed a beauty contest, with one of the criteria being the more towns the applicants indicated to serve, the greater the actual chance was to obtain a license. Five consortia responded to the tender, of which Mascom Wireless obtained the first license in February 1998, and Vista Cellular, now Orange Botswana, three to four months later. The incentive for competition had its intended effect: Mascom Wireless, which is owned for 40% by MTN from South Africa, was the first to fully cover its assigned area (the eastern block of the country) and to come to BTA to announce it wanted to start operating in the other area. Thus, as of then, competition in telephony provision really started.

7.2.3. Botswana's Further Liberalization Strategy

While since the introduction of mobile telephony the numbers of telephony, data, and Internet users grew significantly more than in the previous years, competition in the Botswana telecommunications sector developed "unevenly across different regions of the country and at different levels" (Pheko, 2007, p. 3), as outside of the cities and major districts, provision of any telecommunications service often still lacks. A new service neutral licensing framework was developed in hopes of "this imbalance [to] be corrected" (Pheko, 2007, p. 4). Stakeholder consultations were used to gather input in the license development process and to discuss license allocation renegotiations.

On June 20, 2006 a press statement was made by the Minister of Communications, Science and Technology to announce the intent to further liberalize the telecommunications sector. This press statement is based on, and further clarifies, the Telecommunications Act in 2005 which discussed broad liberalization measures. Measures to achieve further liberalization that were announced in the same press statement entail: (1) lifting the restriction on provision of VoIP (Voice over Internet Protocol) by value added network service providers (e.g. ISPs); (2) allowing mobile

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[47] As the same former BTA employee recalls, at the time of licensing in Botswana only South Africa had more than one mobile operator, and for example Botswana's neighbor Namibia only very recently licensed a second mobile operator.

operators to self provide; (3) allowing fixed line and mobile operators to apply for a service neutral license; (4) allow new entrants to tender for service neutral rural or district level licenses; (5) liberalize the international gateway; (6) having BTC rebalance tariffs; and (7) allowing new entrants to tender for service neutral national licenses (Venson-Moitoi, 2006). Whereas the first five measures were to be introduced between August and October 2006, and BTC is to rebalance tariffs by December 2007. The final measure (number 7) will be introduced in July 2009 only.

The first five measures are officially dealt with primarily through changes in licenses. To this extent, on March 13, 2007 the new "Service Neutral Licensing Framework in the Era of Convergence" was announced (BTA, 2007). These aim "at removing policy and regulatory barriers in the telecommunications market in order to facilitate and promote effective competition" (BTA, 2007, p. 2). The new framework furthermore deals with technical innovations. As stated in a press release regarding the introduction of the new licensing framework: "As a result of ever evolving technological changes it is no longer easy to make a distinction between fixed and mobile telephony let alone separating data services from voice services" (BTA, 2007). To this extent: "The new licensing framework will not only address problems associated with blurring distinction between services and technologies but will also facilitate introduction of new services which were otherwise not catered for under the current licensing structure" (BTA, 2007). Thus, the new framework is introduced because of the envisioned "converged telecommunications environment" (BTA, 2007, p. 3). In this envisioned environment, "it is foreseen that integrated network platforms, deploying the most efficient advanced technologies, will carry all forms of communication, including fixed and mobile voice, data and moving pictures, originating from many different providers. The service and technology neutral approach that is now required necessitates a revised structure that will not constrain the efficient development of converged telecommunications services." (BTA, 2007, p. 3).

Prior to the change in the licensing framework, the market was categorized into the "Fixed, Cellular, Internet Service Providers (ISP), Satellite and Data etc." Market segments determined as "non-competitive" were restricted in terms of the number of players within the segment. In Botswana these were Fixed and Cellular, whereas ISPs, data service providers and paging services have been determined to be competitive[48]. Hence, a restricted number of fixed and cellular providers were granted licenses (respectively one and two), while a larger number of ISPs and Data Providers were granted licenses since the second half of the 1990s.

The new service neutral licensing framework proposed the following changes. First, the existing fixed and mobile operators were to get a so-called "public telecommunications operators" (PTO) license, which thus regards BTC, Mascom Wireless and Orange Botswana. Under this license, any one of these players is eligible to provide any national public telecommunications service through the use of any technology, be it cellular or fixed. In addition, all PTO licensees are eligible to operate the international gateways and to self provide, while until then the mobile operators were required to use BTC's backbone. While this license change provided new opportunities for all three operators,

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[48] See http://www.bta.org.bw/licensing.html Last accessed September 1, 2007.

they are still not allowed to provide value-added Internet services. According to two managers at BTC, Internet services provision still remains an exception, and hence BTC will have to continue to use its subsidiary Botsnet for Internet services provision.

The introduction of a service neutral license nevertheless was a surprise to some market players. As explained by regulatory managers at BTC, it was expected that a third mobile operator was to be licensed instead of a whole different licensing framework to be introduced. For BTC this was a positive change, as managers explain, because they were "not sure" if they could have applied for a mobile license otherwise. According to a Director and two managers at BTA, BTA recommended to the Minister to have a 2nd fixed and 3rd mobile operator. Stakeholders were consulted during this process and were asked for input. Nevertheless, the Minister had the authority to either accept or refuse BTA's recommendations. Further, as a manager at regulator BTA explains, incumbent BTC lobbied with the government. As the main worry was that BTC could not have a mobile license, the Minister wanted to convert the three major operators' licenses into one service neutral license.

A second new license type is the so-called Value-Added Network Services (VANS) license. The existing licenses for internet and data services will be replaced with the VANS license. All value added services are included under this license, including VoIP which has been legalized as of August 2006. Nevertheless, while per the Minister's press statement in June 2006 VoIP theoretically was legalized as the 1st of August, 2006, those who intended to offer it had to wait until their licenses are converged. As of September 2007, still many ISPs are awaiting their license conversion (or may have opted for their license to remain the same). To that extent, they can still only offer VoIP services within their own network. This change in the licensing framework for ISPs however is not a significant one. As a director/manager at an ISP explains: "The issue with the changing of the licensing for VoIP is that basically one sentence needs to be removed". Further, a consultant in the Botswana market as well as in the southern African region explains that even though VoIP was legalized in the market as of the 1st of August in 2006, "BTA denies this and says it was indicative. Now the new licensing frameworks are being developed and until then operators have to operate under the current license which doesn't include VoIP yet".

BTA started a renegotiation process with all network and service providers. All network and service providers were allowed to keep their old license, and remain operating under the old conditions, or could choose to switch to the new license as determined under the new framework, which BTA stimulated them to do. The three telephony providers (BTC, Mascom, and Orange) chose the latter, and decided to convert. The new 15-year licenses were signed on 21 March 2007 for BTC, 11 April 2007 for Orange Botswana, and 13 June 2007 for Mascom Wireless. By 2007, a number of VANS licenses have been awarded, while other ISPs and data providers are still operating under the old license and its conditions.

With regard to national network provision, only the existing three players were eligible to obtain the Public Telecommunications Operator's (PTO) license. The market segment

shall only in 2009 be considered for further liberalization, when potentially extra national network operators will be allowed to enter the market (BTA, 2007). However, as explained at the Ministry, "The current regime means there is no intent to get more than three main voice operators". While BTA by law is allowed to license anybody, the Minister has to approve it. Thus, the future licensing of new national network providers will depend on the Minister.

A last step undertaken by the government to further liberalize the Botswana telecommunications market is the privatization of BTC. This is a currently ongoing process. By the end of August 2006 a transaction advisor, appointed and mandated by PEEPA (the Public Enterprise and Evaluation Privatization Agency) finished a first round of work by September 2007, at the time that the appointment (via tender) of a financial and strategic advisor was awaiting. The original intent was to have BTC privatized by April 2007, but this timeline was changed by the summer of 2006 already. BTA is not involved in the privatization process.

7.2.4. The Current Botswana Telecommunications Market: Numbers of Subscribers and Technologies Deployed

As in many other African countries, Botswana's market growth took unexpected forms. Within five years after mobile operators started operating in Botswana 120.000 mobile subscribers were reached, at a time that is was expected that 150.000 subscribers would be the absolute top. Currently the number of mobile users has even reached 750.000-850.000 (most of whom are pre-paid customers) as estimated by a few managers in the communications industry. As a BTA manager indicates, rural coverage for mobile telephony turns out to pay off in places previously thought impossible. To this extent, according to a manager at a mobile operator, that currently serves over 400.000 customers, a policy was set within the company to cover any village with over 2500 people. All such villages are covered by now, but still some 10.000 villages remain uncovered, which is due to issues such as lack of power availability, and problems with BTC that would sometimes delay delivering connectivity to the backbone, which mobile operators were required to use until the recent introduction of the new licensing framework.

Both Mascom and Orange provide GSM based mobile telephony services. Mascom has introduced GPRS mid-2006 in a few major cities, and Orange is looking into starting to provide GPRS (General Packet Radio Service) based services as of 2007. There are rumors in the market that Mascom and Orange might go into 3G as well, whereas BTC, that is now allowed to also provide mobile services, might opt for CDMA technology for cellular coverage. It seems unlikely that mobile operators will start to provide fixed line services. As a policy maker at the Ministry of Communications, Science & Technology (MCST) explains, perhaps they might start providing services to business campuses such as through cable, DSL (Digital Subscriber Line) or leased line. But regular retail fixed line telephony provision is not expected by anybody.

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Meanwhile, as in the majority of African countries, fixed line telephony rollout remains at low levels and stands in sharp contrast to the number of mobile users; currently BTC, which employs about 1080 staff, has 140.000 fixed line telephony customers, and has seen its customer base decline since the introduction of mobile telephony. BTC intends to expand the variety of access technologies offerings as well. As one manager indicates, "ever since the introduction of mobile we have been wanting to go into mobile". It remains unclear whether BTC will use CDMA or GSM technology, which will depend on frequency availability among other factors. Besides mobile through GSM or CDMA, WiMAX also has potential for increasing the access technology base according to two managers at BTC, and particularly might be a solution for the rural environment, according to another manager. Right now the 3.5GHz band (the main band for WiMAX provision) has been fully allocated to BTC, but is used for purposes other than WiMAX provision. As a manager at BTC explains, it is generally believed at BTC that the band will be renegotiated.

Further, since the 1996 Act that enables the provision of value-added services, Internet Service Providers (ISPs) and Data Providers have entered the market. The exact numbers of Internet usage are unknown, particularly as ISPs do not reveal the number of customers. One manager at an ISP estimates that the number of ISP subscribers in Botswana is near 10.000. Overall, Botswana has a small number of ISPs and data providers. About 26 ISPs have been licensed, but likely only about 8-10, or perhaps even as few as five, are operational. The three major ISPs in Botswana are likely BTG (the Bytes Technology Group), Botsnet, and Verizon Botswana. Botsnet is a BTC subsidiary. ISPs so far have been dependent on BTC for bandwidth, except when they use VSAT, which some do provide. BISPA is the Botswana ISP Association which has most operational ISPs as members. BISPA, on behalf of all its members, sometimes interacts with BTA. This has also been the case for requesting spectrum allocation for offering WiMAX. A few ISPs are interested in offering WiMAX. BTA had indicated it would be allocated in 2006. Further, one ISP manager indicates that he believes about 50% of operational ISPs plus the mobile operators and BTC are interested in offering WiMAX.

WiFi is not used on a large scale in Botswana yet. One manager at an ISP indicates that Botsnet did a trial in 2005 with a hotspot at a conference venue, but it failed to reach a critical mass. Further, as a Director at BTA explains, the 2.4GHz band, the most commonly used band for Wi-Fi, is at all times licensed. Technologies used by ISPs range from regular analog dial-up to ISDN (Integrated Services Digital Network), ADSL (Asymmetric Digital Subscriber Line), and leased lines, but the primary service offering remains Internet access provision through dial-up.

Overall, the growth in ICT connectivity in Botswana has been greater than expected. Yet, the introduction of the new licensing framework has not generated a significant new impulse like it has done in Tanzania. While a variety of advanced access technologies are slowly starting to be deployed, no heavy competition is taking place yet in that regard. The introduction of 3G mobile services is still being contemplated; interest in WiMAX has been expressed as well. Yet, as of October 2007 BTC is not yet offering mobile

services, and ISPs remain dependent on infrastructure provision by third parties; primarily BTC.

7.3. Botswana's Regulatory Governance

Next the history and background of Botswana's regulator BTA and Ministry of Communications, Science & Technology (MCST) are discussed. Both of these organizations together, yet in autonomous ways, shape the rules of the market that private sector players have to abide by. Their rules in terms of regulation, policy, and legislation, are shaped by the interaction between the two. Hence, the background and relationship between the two organizations are discussed below in order to gain more insight into Botswana's system of regulatory governance, which underlies the development of regulations and policies.

7.3.1. History and Background of the Botswana Telecommunications Authority

The Botswana regulator – the Botswana Telecommunications Authority (BTA) – was founded in 1996 under the Telecommunications Act (No. 15 of 1996). BTA's main responsibilities are to: 1. Promote the provision of telecommunications services throughout Botswana (including universal access); 2. Provide licenses and type approval; 3. Protect consumers and users; 4. Manage the frequency spectrum; 5. Control prices/tariffs; 6. Promote and maintain competition; and 7. Settle disputes among operators and between operator and users[49]. Even though BTA officially started in June 1997, it already started operating in December 1996 for licensing purposes. This was before major recruitment for BTA took off.

In 2006 BTA had about 70 staff members employed in both technical and support departments. The 'technical' departments are: 1. engineering services (which includes spectrum management, type approval, numbering, and licensing), 2. market development & analysis, 3. broadcasting regulation, and 4. compliance and consumer affairs (which includes compliance of operators with license conditions, consumer complaints, and monitoring illegal operations). In addition, the departments for communications and public affairs, finance, corporate services, and legal services/ general counsel support the organization and technical departments such as through legal advice, human resource development, etc[50].

The departments are headed by a director (there are 8 in total), and additionally include (senior) managers and (senior) officers. BTA is headed by the Chief Executive and has a board that makes decisions. The board consists five non-executive (non-fulltime) directors with a variety of backgrounds, such as two academics from the University of Botswana, the chairman of the national broadcasting board, the CEO of the Local Enterprise Authority (a parastatal), and a director from the Ministry of Finance who is the permanent Secretary. The Chief Executive is the chair of the board. The board meets four times every year or more frequently if special meetings are called. The board votes on

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[49] See http://www.bta.org.bw/about.html Last accessed August 28, 2007.
[50] See http://www.bta.org.bw/departments.html Last accessed September 1, 2007.

matters of importance. Further, even though BTA has a broadcasting regulation department, the National Broadcasting Board, which is separate from BTA's general board, makes broadcasting related decisions. While from a board perspective the regulator is not converged, there is "convergence recognition" as the existence of a broadcasting department reveals. BTA is not responsible for postal however, like the regulators in Tanzania and South Africa.

7.3.2. History and Background of the Ministry of Communications, Science & Technology

The Ministry of Communications, Science & Technology (MCST) has a number of departments, including the department of IT that deals with issues such as e-participation, and departments dealing with broadcasting, research science & technology, and public relations. The department of Telecommunications and Postal Services is responsible for telecommunications related policy issues. MCST is led by the Minister, followed by the Permanent Secretary (PS) and Deputy PS, after which departmental Director and Deputy Directors plus managers follow. MCST, and particularly its Department of Telecommunications and Postal Services, oversees three agencies, one being postal, and the other two being BTA for regulation and BTC for implementation of telecommunications systems (the incumbent operator).

MCST was founded in 2002 when departments were reorganized. The convergence of IT and telecommunications led to IT needing to be incorporated under the same department as telecommunications, as IT formerly was part of the Ministry of Finance Development and Planning, and telecommunications was under the Ministry of Works, Transport and Communications.

Within the department for Telecommunications and Postal Services, legislation and policy are formulated, and national strategies for connectivity are developed. To this extent, the department is divided into two areas: one on the policy side and one on the development side, which focuses on implementation. There are 5 professionals on each side.

At the time of data collection, MCST was primarily working on further liberalization of the market, and in particular the introduction of a new licensing framework and privatization of BTC. In addition it has worked on universal service policy. Finally, a National Information and Communications Technology Policy is in the making, of which a draft has been published in January 2005, but has not yet been approved in 2006[51].

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[51] See http://www.maitlamo.gov.bw/docs/draft-policies/ict_policy_draft_jan_2005.pdf Last accessed September 20, 2007. The focus of this policy is primarily on issues like e-commerce and e-business, e-government, and e.g. computers for schools, and less so on telecommunications issues. The policy draft has been developed in cooperation with a number of ICT experts in the country. A stakeholder conference regarding the policy was held in May 2005.

7.3.3. The National Policy and Regulation Making Process & the Relation between BTA and the Ministry

MCST is responsible for policy making and initiating legislation, and as such provides a framework within which BTA develops, monitors and enforces regulations. Telecommunications policies are commonly drafted by the Department of Telecommunications and Postal Services at MCST, after which they are reviewed by the Cabinet that can make amendments. Finally, the policy is sent to Parliament for approval. MCST also initiates the drafting of legislation which needs to be approved by Parliament before it is enacted. BTA provides input in both the policy and legislation making processes. While for example the Telecommunications Act is a law, policy is broader, and basically expresses an intent, upon which legislation is based. Hence, as explained at MCST, "generally from policy clauses are implemented"; i.e. parts of the policy are taken up and legislation and regulations regarding those parts are developed. The significant role of policy in Botswana can be observed already in 1995, as the then published "telecommunications Policy for Botswana" clearly underlies the 1996 Telecommunications Act as well as Botswana Telecommunications Corporation Act, and which in turn underlies the development and implementation of the 1999 regulations by BTA.

Regulations are drafted within the various 'technical' departments at BTA, after which they are forwarded to BTA's management, including first the Directors and the Chief Executive, and finally the board. During the process of drafting regulation, BTA invites input from stakeholders in the communications sector. Particularly when a first draft of a regulation is ready, BTA holds a stakeholder forum or workshop in order to obtain official comments from the public. Before these workshops, a draft document is circulated among participants and is discussed during the meeting.

Given the ties between legislation, policy and regulation, and the primary responsibilities for the regulator and Ministry, BTA and MCST interact in a number of ways. First, because BTA, like any regulator, is a government agency, the Chief Executive of BTA officially reports to MCST on operational matters. Additionally, even though MCST is responsible for initiating policy and legislation, BTA takes an advising role to government on general telecommunications policy.

Even though BTA is an autonomous agency, the extent to which BTA is independent has become a point of debate since the 2005 amendments to the Telecommunications Act. Especially in its early days, BTA was perceived as a 'model regulator', as expressed by a former employee of ICASA – the South African regulator. BTA's exemplary regulatory governance and independence is furthermore reported on in a 2001 report by the ITU which states that "the Botswana experience also offers a number of world models. Among these are that BTA has achieved a high level of independence as measured by the lack of influence from the government in implementing its mandate. Its virtually unfettered authority to license operators and self-financing operation may also develop as a world model. BTA further provides good models of strong legal processes in carrying out its regulatory mandate." (ITU, 2001). With regard to licensing, the ITU report even states that "BTA is one of the rare regulatory bodies that has been given almost complete

freedom to decide which services are to be licensed, how many licenses should be granted for each service and which operators are to be awarded a license" (ITU, 2001, p. 27). Botswana's impressive regulatory governance is furthermore acknowledged by McCormick (2001), who suggests in her article with the revealing title "Telecommunications reform in Botswana: a policy model for African states" that Botswana has been able to develop a model of policy and regulatory governance known by significant transparency in decision making.

Nevertheless, since the recent 2005 amendment of the Telecommunications Act BTA's level of independence has seemingly decreased. A number of people in the industry as well as the regulator mention that the Minister of Communications, Science & Technology recently has taken back power that was previously with the regulator. The Telecommunications (Amendment) Act substitutes a number of sections of the 1997 Telecommunications Act that give more 'power' to the Minister, specifically in the following clauses that used to be responsibilities of the regulator: clause 4 – "by giving the Minister the power to determine the use of surplus funds and properties that accrue to the Authority"; clause 5, "by giving the Minister the power to make regulations, on the recommendation of the Board"; clause 6, "by giving the Minister the power to set licensing fees, which are currently prescribed by the Authority"; and clause 7, "by providing for all decisions on the licensing of fixed line and cellular telephone service to be approved by the Minister" (GovernmentGazette, 2004a). Thus, a number of decision making powers formerly under the authority of the BTA Board have been transferred back to the Minister, including the decision on who to license and to make regulations. Additionally, the government can now take part of the profits of BTA. A manager at BTA suggests that the Minister taking back power is a trend observed in more southern African countries, including Lesotho, South Africa, and Namibia.

However, while theoretically the Minister does have more power, reality might be slightly different due to underlying resource issues. As one of the Directors at BTA states, "even though the Minister legally has more power […] at present that is not an issue". Further, another Director at BTA indicates, "there is a lot of consultation between the ministry and BTA – BTA has a lot to say. Liberalization was initiated by BTA. The ministry relies a lot on BTA because it is better resourced". The Director furthermore continues: "The Ministry is really under-resourced. Most work is carried out by BTA. A policy direction should come out, which BTA would then have to implement." This clearly does not always happen. As the Director continues, "a problem […] is that BTA basically made the national plan. This is not desirable for checks and balances."

Nevertheless, regardless of these issues, generally speaking Botswana is still perceived by many people, including those directly involved in Botswana's private sector, as having a very good regulator. BTA's Chief Executive particularly is mentioned as having been very valuable for BTA's development. As a manager of an ISP explained, "regulation is typically driven by passion of individuals, and the leader of the regulator is important." This manager, along with many others, indicates the strong leadership of BTA's founding Chief Executive of BTA, who has recently retired in December 2006.

The next section will discuss how Botswana's national regulatory governance, as described in this section, is influenced, or by itself impacts, international forums. A particular focus is given to BTA's role in the SADC region, in CRASA, in addition to service providers' and MCST's role in the region and their perceptions on the influence of CRASA on BTA and vice versa.

7.4. Botswana's International Involvement

Botswana's national regulation making efforts are influenced by the knowledge gained and best practices shared in international forums, as will be discussed next.

7.4.1. Membership of International Bodies

From the early days on, BTA has been involved in the international telecommunications community. It started first with the establishment of BTA in 1997. As a former Director explains, "We had no idea what regulation was about, and so we had to get to grips with the issues […]. Both the City University of London and Westminster University offered telecommunications policy courses". Taking this as a basis added to the "knowledge of the market" at hand, BTA started regulating the Botswana market.

Further, in its everyday regulation making endeavors, Botswana takes advantage of the experiences in other countries. As another manager at BTA puts it, "When developing regulation we look at international best practices. We then adapt it to the situation of the country". Experiences both from far and closer to home are used. A BTA manager explains that BTA does a lot of benchmarking, and for example checks on service charges in other places, in order to stay competitive in the region. Further, when regulation is made, "we can check which country has particular regulation in place. When we were tendering to monitor for Quality of Service, we visited those countries that already did it: Kenya, Singapore, Uganda, and Malaysia."

Besides the more bilaterally oriented international sharing of experiences, BTA takes part in multilateral international and regional organizations. BTA attends all meetings of ITU. Additionally, BTA is active in the Commonwealth Telecommunications Organization which it has (vice-)chaired from 2000-2004. Finally, BTA has been, and continues to be, a very active member of CRASA. BTA has chaired CRASA, as well as has been treasurer since CRASA's inception. Furthermore, BTA has hosted the Secretariat as well as had one of its own employees serve as Executive Secretary for a significant period of time. Finally, there is cooperation with the African Telecommunications Union and international aid organizations like USAID. Besides participating in forums that target regulators per se, BTA in some instances also represents the Botswana government in regional and international bodies that deal with telecommunication or telecommunications regulation[52].

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[52] See http://www.bta.org.bw/about.html Last accessed August 28, 2007.

7.4.2. BTA Involvement in CRASA

As already discussed in Chapter 5, Botswana has been one of the initiators of the establishment of CRASA in 1997. To this extent, BTA's Chief Executive served the role of chair of the Executive Committee in the year 1999-2000, the second chair of CRASA (after South Africa). Furthermore, BTA has always been the treasurer in the Executive committee, except during the year that BTA served as Executive Chair. Additionally, one of BTA's employees served as Executive Secretary for three years; over the years 2001-2002, 2002-2003, and 2004-2005. Finally, BTA has hosted the CRASA Secretariat from 2000-2005.

Besides BTA's administrative involvement in CRASA and its financial injections through hosting the Secretariat and providing an Executive Secretary, BTA has been strongly involved as a member through participating in meetings and committees. BTA is the convenor for the Universal Service committee, and co-convenor of the Consumer Issues committee. BTA staff members have furthermore been involved in the drafting of the Model Tariffs and Interconnection Guidelines in 2000, as well as the Policy Guidelines on Licensing for Telecommunications in SADC in 2002. As indicated in Chapter 5, Botswana brings an average of five delegates to AGMs, which together with South Africa is the highest average number of delegates. To this extent, a departmental Director at BTA explains that BTA AGM attendees usually include the Chief Executive, someone from the Finances offices, a lawyer, the former Executive Secretary that came from BTA, and a few others. The exact people to attend are primarily determined by the agenda of the meeting, according to a BTA manager, whereas the number of people to attend also depend on BTA's workload. As a manager explains,. "if too many pending things are going on at BTA, then CRASA activities will suffer".

BTA's strong commitment to CRASA can furthermore be observed through the extent of knowledge that BTA employees have about CRASA: whether talking to employees at the officer level, (senior) manager level or director level, all are very knowledgeable about the activities employed at CRASA, which stands in contrast with BTA's counterparts in South Africa and Tanzania (respectively ICASA and TCRA), where knowledge among employees about CRASA seemingly remains more tied to those employees who have actually participated in CRASA meetings or committees. It is therefore not surprising that BTA staff comment on their involvement in the following ways: "We have a lot of commitment", or, "CRASA models are developed with active participation of BTA in subcommittees, for example the licensing and universal service committee".

7.4.3. The Role of CRASA in Botswana's National Regulation Making

CRASA's guidelines are well known among BTA employees and in some instances have been used as a guidance to national regulation. However, as managers at BTA agree upon, "we both adopt and change, we just see what is applicable […] Regional models are very general. We need to make that country specific". Some staff members at BTA make a comparison of CRASA with what happens in the EU. As explained by a manager: "The EU has directives, whereas our models state at the last paragraph that 'member states are urged to adopt', thus according to the circumstances". Furthermore, one

manager from the Engineering Services department mentions: "You find that we're so active in the development of documents within CRASA, that most of it is the same with what we're doing". Another manager indicates that much of the CRASA guidelines touches on legislative provisions. While this might be a hurdle if regulators want to implement such guidelines, as it would mean a national legislative process would have to be initiated and ministerial and parliamentary involvement and approval is needed, for BTA this has not been a problem. As the manager believes, most of CRASA's guidelines are already in consonance with Botswana's legislation, and "therefore" BTA often already has the developed guidelines in place.

A couple of guidelines are specifically mentioned to have been used by BTA, including the Guidelines on Interconnection for SADC Countries and the SADC Regional Frequency Allocation Plan. For example, two directors and two managers agree on the use of the interconnection guidelines: "We also implemented some provisions for interconnection. We also worked on producing those guidelines. […] But CRASA doesn't say which one to use". With regard to the SADC Regional Frequency Allocation Plan, managers indicate to have used them. However, one Director explains that the SADC band plan was aligned with the ITU band plan, with which the Botswana national plan already aligned. Therefore, not many adjustments were needed. There was an issue however with regard to a particular band (about sharing the 800 MHz broadcasting band with fixed links), but, because "the band plan is not binding" there was "no problem". Further, a BTA employee explains that Botswana was "fortunate" because the SADC band plan was based on that of Botswana, and adhered strictly to the radio regulations. Hence, Botswana was not affected. Finally, even though some guidelines have become rather old by now (e.g. those developed in early 2000), some managers explain and agree: "We still can use the universal service guidelines of CRASA, even though they are already old. Current proposals are similar to those of 2001, just more detailed".

While these are specific examples, but yet indicate the broad nature of 'adoption' of guidelines, all of BTA's interviewed staff believe that BTA has used many of CRASA's guidelines. However, as is also explained, "It also depends on priority, whether we use CRASA models. What we do depends on what is topical". Furthermore, an interesting observation lies in the fact that while BTA was involved in the development of the "Policy Guidelines on Universal Access/Service for telecommunications Services in SADC" that were published in 2002, only currently BTA is working on developing its own national universal service regulation. This also goes for tariffs. While in 2002 the Policy Guidelines on Tariffs for Telecommunications Services were developed, a Director at BTA indicates that "tariffs here are still not done". Finally, while BTA does have interconnection regulation, calling from fixed to mobile remains extremely expensive, which is why BTA is reviewing the regulation. Thus, even though the interconnection guidelines have been used, national regulation today is ineffective.

The use of CRASA guidelines also depends on priority: even though there are examples of where CRASA has influenced BTA, one departmental director at BTA does mention the following: "I can't remember CRASA making [particular] issues a priority for us", which is acknowledged by another director and manager.

Botswana, as an active member in CRASA, has a perceived influence on the outcomes of the design (content) of regional guidelines as well. As already indicated above, one BTA employee indicated that he believes that the Botswana national frequency band plan was used as a model to the SADC Regional Frequency Allocation Plan. Another manager indicates that currently CRASA is "copying" the idea of service neutral licenses, and is looking at what Botswana has done. Of course, likely this is not pure copying of Botswana as for example in Chapter 6 it was already shown that Tanzania has introduced a technology and service neutral license as well, and furthermore has been referred to by people in other countries as having very progressive regulation. Nevertheless, within CRASA no new licensing guidelines have been finalized yet, but does stress the idea of technology neutral regulation in its Wireless Technologies Policy and Regulations guidelines, which another manager indicates has been used by BTA in its new licensing framework. Nevertheless, this is similarity in regulatory principles, but does not imply any causal relation between CRASA's guidelines and BTA's regulation. Further, as a manager indicates, while sometimes BTA's regulation is used in CRASA, at other times CRASA just develops guidelines over time and does not necessarily use any of its member states' regulation: "Sometimes we share regulation with SADC, but sometimes we [CRASA] also develop over time".

While there is a feeling that BTA has been used as an example to CRASA due to its long time status of 'model regulator' in the region, two managers at BTC actually indicate that they believe this might be so because BTA has "less interference from government than many other countries do".

7.4.4. CRASA Membership: Benefits and Challenges

Within BTA the perceived benefits of membership in CRASA are diverse, and range from capacity building, networking, resource pooling and the use of model guidelines towards the more future oriented ideal and belief of the positive effects that harmonization will bring. As an overarching goal, harmonization is perceived as important by a number of people. Two managers and a Director agree that "CRASA is important because of harmonization. This is deemed very important, as it will stimulate investment in the region." To this extent, they explain that SADC is envisioned as one market. Another manager indicates that harmonization is beneficial as "any of the countries of SADC to have the same set of policies and same set of model legislation is good". Finally, two managers and a Director agree that "as member state we think we are achieving this". In terms of a specific example, one manager refers to the benefits a common band plan will bring; for example in terms of economies of scale for suppliers. Further, common principles across the region will enhance the influence on a broader, international level: as a BTA manager indicates, CRASA has been beneficial through enabling the region to put forward a common position at ITU meetings, which increases the chances to be heard.

Three BTA staff members also refer to CRASA as providing value through capacity building such as through training, workshops, and committee meetings, where the

different members share different views. Another manager also agrees but sees this in relation to the model guidelines developed by CRASA, as well as the opportunity to enhance bilateral relations: "We share ideas with other regulators through CRASA as part of the SADC region. Policies or guidelines may be of some use. If you have any issue you are free to consult other regulators. Of course the relationship comes from CRASA meetings. So it is a networking mechanism." Another Director at CRASA indicates that CRASA "has a lot to offer" – even though BTA does not necessarily strictly follow regulatory models from CRASA, as BTA also looks at examples from other places -- "it does help to be at CRASA, to discuss issues with others". Additionally, the Director believes that it is also a good forum to discuss practical intra-regional issues like interference and cross-over of signals. Additionally, another manager says "To us the benefit of being part of CRASA is to be able to influence decisions, and to engage each other. We see ourselves as part of the region. And we also want other countries to develop. We are committed to SADC." Thus, even though perhaps not the primary benefit of CRASA membership, the usefulness of guidelines furthermore comes to the fore as it is deemed important to influence what happens in the region. Finally, and of another type, is the benefit through resource pooling. One BTA Director finds great value in this: "It is expensive to have a consultant, which you often need from the first world, and they charge in pounds or USD. Usually we get assistance with USAID, CTO, or some other donor agency. [Therefore,] as a country it becomes cheaper to adopt something through the region".

Even though there are many positive aspects to membership of CRASA, BTA staff members also found challenges in the operation of CRASA. First, the member countries' varying levels of development have an impact on their interests and priorities, as two managers and a Director explain, which also leads to differences in adoption of model guidelines, as "some countries are very slow, and others are very fast". Clearly, particularly countries that were in economic hardship or in war have had trouble participating, such as the Democratic Republic of Congo (DRC). The differences among countries also play out in terms of the national structure and responsibilities of the regulator vs. government: one BTA manager indicates that some governments still have functionalities that should be with the regulator, of which he believes South Africa serves as an example.

Given the inclusion of a number of relatively poor countries in the community, it is not surprising that budget constraints are also mentioned as a challenge by a number of BTA employees. This plays out in a number of ways. First, it impedes committee and AGM attendance, as travel costs cannot easily be incurred by all member states. Second, under-resourced regulators that are very small cannot easily have employees attend meetings and be out of the office for a couple of days, as they will not have enough people left in the office to take care of daily business. Namibia has been mentioned by a few BTA staff as having this problem.

Beyond mere attendance of meetings, budgetary constraints at regulators also lead to problems of committee participation. Two managers and a Director at BTA explain that if a regulator wants to be convenor or co-convenor of a committee, it needs to have budget

available for hosting meetings and workshops, and paying for administrative matters like phone costs etc.

Finally, a staff member at BTA indicated that CRASA sometimes faces issues for some members to pay their membership dues. A Director at CRASA believes that there are two or three countries that have failed to pay their dues. The budgetary constraints of course also play out in the administration of CRASA itself, and in the long run the amount of work carried out by CRASA. Referring to the rather understaffed Secretariat, a Director mentions: "They should be involved in a lot of research, which can be quite involving, and needs legal, engineering skills etc."

7.4.5. Member States' Participation in CRASA

The challenges described above have an impact on participation of the various members of CRASA. Nevertheless, two Directors and a manager at BTA specifically indicate their belief that participation within CRASA is equal, and that all member states have equal opportunity to give input. As one Director puts it: "Everybody is free to raise issues, and committees work with volunteers that is open to everybody". Another Director at BTA finds that there is typically 100% attendance at AGMs. However, another manager expresses that he believes everyone at CRASA participates equally. The manager also observed that "Sometimes a country has a good level of expertise; sometimes participation needs to be based on experience". This is acknowledged by a BTA Director as well, who explains that when CRASA looks for volunteers to serve in a committee, expertise is specifically sought. Finally, another Director indicates that there is perhaps a problem in terms of member states' representatives in committees. He experienced that the representatives of regulators that attend CRASA AGMs as well as committee meetings are typically not the people that do the day-to-day work, but are Directors and upper level managers, who do not know about the nitty-gritty details.

Overall, participation, according to one manager, depends on national priorities, which vary a lot. To this extent, BTA staff members have observed differences in member states with regard to the degree of involvement in CRASA and attendance of meetings.

According to a Director at BTA, DRC sometimes does not attend CRASA meetings. However, he mentions that "even" Namibia sends representatives, even though this is a very small regulator. Countries that are more active than others he perceives to be Lesotho, Botswana, South Africa, Zambia, Tanzania and Malawi. Another manager also indicates that Angola sometimes participates less due to its language barrier, and that Zimbabwe does not participate much due to the economic problems in the country. He believes that South Africa, Botswana and Tanzania are actively participating. Yet another manager also explains that DRC, Mozambique, Namibia and Angola participate less than others, whereas South Africa, Botswana, Tanzania, Zambia, and Lesotho are the more active ones. Finally, a BTA Director perceives particularly Botswana, South Africa, Tanzania, and Malawi to be very active. He believes that most countries are "fairly active"; however, Mauritius he mentions is "on and off", and Angola and DRC have been a problem because of language issues. He furthermore believes that Lesotho has actually

used CRASA guidelines "quite extensively". Mozambique, Lesotho, and even Swaziland that is represented by the Ministry, always participate in his opinion. Furthermore, he also believes that "invariably South Africa always pushes the agenda more than anybody else". Overall, there are some different opinions on the extent to which South Africa, the economic power of the region, has influence on CRASA. For example, another Director at BTA believes that CRASA "is not so much under the influence of South Africa. Botswana is often more advanced. South Africa looks at BTA, not otherwise".

Thus, overall, while there are slightly different perceptions on which are the more and less active countries, South Africa, Botswana, and Tanzania are among the most active (all of those cited agree on these countries). Malawi, Zambia, and Lesotho are also mentioned a few times as more active countries, whereas particularly Angola and DRC due to language issues, as well as Zimbabwe due to its current economic and political crisis, are unable to participate much. Namibia and Mauritius are mentioned as sometimes participating, where Namibia's limited participation is perceived to be related to its internal structure or small number of employees (less than 10).

7.4.6. CRASA vs. the Commonwealth Telecommunications Organization

Given the benefits that BTA finds in its membership in CRASA, which particularly seem to lie in the networking and knowledge sharing aspects, it remains a question how a regional organization like CRASA differs from other international, multi-lateral organizations. To this extent some BTA staff members reflected on their membership in the Commonwealth Telecommunications Organization (CTO), an international development organization that focuses on bridging the digital divide and achieving social and economic development, "by delivering to developing countries unique knowledge-sharing programmes in the use of Information and Communication Technologies (ICT) in the specific areas of Telecommunications, IT, Broadcasting and the Internet"[53]. CTO constitutes a partnership between both Commonwealth and non-Commonwealth governments, and "is in charge of communications for the Commonwealth" as one BTA employee states, bringing together many members, including not only regulators but private sector and civil society organizations as well. Many SADC members are CTO members, including Mozambique, Zambia, Malawi, South Africa, Tanzania, Mauritius, Lesotho, and Swaziland. While a member before, Zimbabwe was suspended from the Councils of the Commonwealth since March 2002, and left the Commonwealth at the end of 2003 when the suspension was not lifted.

One BTA employee comments that "CTO is kind of similar to TRASA and to ITU". CTO has many countries as members, but also private sector members. Another manager indicates that "the value of CTO is like CRASA"; "CTO is a networking mechanism", but he also finds that "the difference however is that in CTO so many countries are involved. So there are many viewpoints, compared to the fewer in CRASA." The manager also mentions that BTA does about the same amount of travel for attending CTO meetings as it does for attending CRASA meetings. As one Director explains, "CTO has a lot of value through their website. We sometimes pose a question through

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[53] See http://www.cto.int/AboutUs/WhatisCTO/tabid/54/Default.aspx Retrieved September 17, 2007.

their website, and then others who have experiences with it give answers." He furthermore continues to discuss the main difference between CTO and CRASA: "CRASA is nearer than CTO. So there are similarities with countries. The proximity helps, and we can see how relevant their situations are to ours. We often have the same problems". This is more or less acknowledged by two other managers and a Director, who agree that "CTO also looks into ICT development, but the value of CRASA is of being region specific". Another manager poses this as "Within CRASA the majority is developing countries. CTO is both developing and developed countries, or what we call emerging markets." Therefore, "the different organizations therefore complement each other", because, "In the region the issues we all face are basically the same", whereas in CTO there is more variety. Furthermore, "CTO doesn't deal with focusing on harmonizing policies".

While CTO has members from the private sector, CRASA until recently (2006) did not allow private sector membership. Nevertheless, some service providers do stay up to date with what happens at CRASA, or have even participated on invitation basis in workshops or other meetings. To this extent, the next section discusses Botswana's service providers' perceptions on CRASA, their involvement in CRASA, as well as their involvement in other regional and international organizations.

7.4.7. Service Providers International Involvement

Like in Tanzania, Botswana service providers are involved in a number of international forums as well, with particularly ITU being of importance to all types of service providers (from ISPs to network operators). ISPs furthermore see themselves represented through the Botswana ISP Association BISPA in AfrISPa, the pan-African ISP association. Service providers' involvement in regional association varies. Particularly as CRASA's associate membership for other organizations in the communications sector besides regulators has opened up only very recently, industry players from Botswana have not been involved extensively in CRASA to date. Therefore, to date service providers' involvement in regional associations ranges from no specific involvement at all, to just trying to follow what happens at CRASA, to ad-hoc involvement in CRASA workshops, and in the case of BTC, active membership in SADC's operators' association SATA.

7.4.7.1. Service Providers Perceptions on CRASA
Among managers at different ISPs the involvement in CRASA, as well as perceived impact and benefits of CRASA on Botswana vary. A manager of one ISP indicates that he does not follow at all what happens at CRASA, because he believes that "nothing comes from CRASA". A manager at another ISP however mentions he has spoken with members of CRASA in the past and believes it is a "very worthy" organization, as "you need to find a common approach to common problems.

Yet another manager at another ISP also indicates to have been following CRASA, and specifically indicates the belief that CRASA has had influence on ISPs in general due to CRASA's work on number portability and renumbering. As the manager explains, "these

are issues that impact how we are going to provide our services". However, the manager also indicates: "I wish I could know more about what is going on at TRASA". The manager has never had any official involvement in CRASA, but mentions to have met some CRASA people in the past during ITU workshops.

At BTC the perceptions on CRASA vary, perhaps due to its involvement in SATA. Two managers at BTC indicate that even though BTC does not have any direct association with CRASA, BTC has been involved in the development of the Guidelines for Wireless Technologies Policy and Regulations. The CRASA committee responsible for the guideline invited industry players to provide comments during a workshop in Johannesburg, which BTC attended. Therefore, these managers also believe that CRASA does enough consultation with the private sector. Overall, the managers interviewed at BTC view the regionalization endeavors in the SADC region through CRASA and SADC as an important matter. As a manager explains, "We are part of globalization. So the influence is going much further. The issue of standardization is important." Further, as a manager indicates "CRASA has a lot of influence on the country", which he sees in discussions about issues like licensing or frequency spillover between Botswana and South Africa. Besides the impact on the country's telecommunications sector, two managers also feel CRASA membership itself has benefits for BTA, primarily for its consultative role on a variety of issues where members advice each other on "how to best do things". They furthermore see an important role in CRASA due to its regional focus, whereas they feel that international organizations like "IMF [International Monetary Fund] and the WorldBank impose stuff that doesn't work". Nevertheless, they also think that it is difficult to implement regional ideas due to differences in legislation among the member states. Finally, even though the general positive attitude towards CRASA, one manager at BTC also indicates that he believes that BTA, CRASA and BTC need to interact more often: "Sometimes we are not aware of it".

7.4.7.2. SATA
BTC has been, and continues to be, involved in SATA. It always sends representatives to SATA meetings (the annual conferences), and is particularly active in SATA's backhaul working group. According to three managers at BTC, SATA brings much benefit through providing a networking platform. As two regulatory affairs managers agree upon, SATA tries to "maintain operators' constant dealing with each other". Another manager adds: "We had an arrangement under SATA, a multiparty bilateral meeting. We had the opportunity to schedule meetings with all operators, for operational and commercial issues." Thus, through SATA relations with other operators across the region are established, enhanced, and/or maintained. According to a manager at BTC, most incumbent telecom operators are equally involved in SATA, except perhaps for the incumbent operator from DRC. Even the meeting locations rotate across countries. According to one manager, only Namibia and Angola have not yet hosted. One of SATA's main projects currently is the EASSy project. SATA faces some challenges as well according to the BTC managers. According to a network manager at BTC this primarily relates to budgetary constraints at operators. Funding of activities remains a constraint, and while some of the SATA members come to meetings with large delegations, others can only afford to bring one or two delegates. As Telkom from South Africa is known to be the one operator bringing the most delegates, one could imagine it

is able to exert more influence during meetings than other delegates. However, two managers at BTC express that Telkom does not have more influence than others, even though they do joke about Telkom trying to keep Sentech (another South African government-owned communications company) from speaking up at a SATA meeting before.

With SATA being an official SADC association established under the 'SADC Protocol on Transport, Communications and Meteorology in the Southern African Development Community region' (SADC, 1996), just like CRASA, as well as the two associations having signed a Memorandum of Understanding, the extent of cooperation between the two seems to remain at a low level. One of the managers at BTC indicates that during SATA conferences CRASA sends a delegate, as well as thinks that SATA contributes to CRASA for harmonization purposes. However, the managers do not know how exactly SATA and CRASA relate. Moreover, they find the relationship between CRASA and operators to be via national regulators, who will discuss issues with operators in case they want to change or introduce particular regulations, and they do not see this type of discussion coming forth through SATA. Further, even though a manager at BTA explains, "there is a lot of cooperation between SATA and CRASA", he does not know exactly how SATA is developing, which is indicative of limited coordination between the two beyond the Secretariat levels.

Next the case analysis finalizes with a discussion of the role of MCST in SADC itself, and the ministerial and officials' meetings, as well as the interaction between CRASA and SADC from MCST and BTA's point of view.

7.4.8. MCST and the SADC Region

While for regionalization purposes BTA is involved in CRASA, the Botswana government is involved in SADC as well as African forums, where ministries aim to come up with a policy and regulatory framework. Participation in SADC also relates to the bigger ITU, and therefore, sometimes SADC moves per ITU timetables according to an MCST manager.

MCST is involved in SADC's telecommunications policy regionalization efforts via ministers' and officials' meetings. As explained by a manager within MCST, a broad variety of issues are discussed within SADC, ranging from harmonization of licensing fees to the issue of which country is to represent SADC in the African IT ministers' Council/Forum. However, lately particularly the EASSy project has gained significant attention.

Within SADC, the ministers "meet when they need to discuss". There is no specific frequency with which meetings take place. Nevertheless, an MCST manager who has frequently been engaged in SADC meetings mentions that usually 4 or 5 times a year a meeting takes place. The SADC Ministers' meetings are usually preceded by officials' meetings, who make recommendations to the Ministers. Botswana usually brings the

(Deputy) Permanent Secretary plus some 2-4 other delegates. The SADC meetings rotate across different locations.

Similar to CRASA, in SADC ministerial meetings differences in country participation are observed. An MCST manager indicates that South Africa and Botswana are among the regular attendants at SADC meetings, whereas for example Angola and DRC do not often attend due to translation issues. Yet, he believes that "there is equal engagement to some extent". He furthermore indicates that some countries are careful with South Africa, but Botswana itself is used to working with South Africa and therefore has no problems. Another high level MCST representative for SADC meetings feels that Botswana, Malawi, Tanzania, Lesotho and Mozambique are very active, but also believes like the other manager that Angola has a language impediment, and furthermore that Swaziland participates less actively. The reason for different degrees in participation according to this person is due to the following reason: "In the region, own country priorities come in first at any time. But there is also the regional needs."

SADC is perceived by the MCST managers as facing some challenges. One person exemplifies this in the observation of the failure of SADC to spend European Union funding of Euro €16 million in time, which therefore had to be returned. SADC's structure is seen as a major bottleneck, but however improvements are being made as "people are beginning to talk more in SADC". To this extent, another manager indicates that reporting structures within SADC are a problem. Finally, a manager at MCST explains that there are some challenges with the alignment of SADC's ambitions and the varying economies. Nevertheless, he believes that if SADC Ministers agree that "things will boil down to the countries" and the "implementers will follow suit".

Interaction between SADC and CRASA is perceived to have some impact. According to a manager at BTA "CRASA can take up the models to the ministers, and they approve, that gives it more credibility. But there is no necessity. It is very good for investors however". Further, a BTA manager believes that the ICT Ministers have an impact on CRASA, as issues discussed during their meeting that are of importance come down to CRASA and set priorities. CRASA then in turn comes up with guidelines or regulations in the identified areas of concern. At the same time however, as an MCST manager explains, SADC's Executive Secretariat, the national regulators and officials make recommendations to SADC, and thus influence to some extent what happens within SADC. Nevertheless, the degree of interaction between CRASA and SADC seemingly remains low. A manager at MCST is aware of CRASA's name change without having this approved at SADC, even though this is a matter set out in the SADC protocol, and thus officially should be amended by SADC. Further, even though the SADC Ministers have met since CRASA's name change, they did not discuss the matter at all. At the same time, a high level MCST representative that has attended SADC meetings indicates not to 'hear much' from CRASA other than via BTA.

Thus, compared to CRASA, SADC itself seems to encounter some similar challenges as related to member participation. Nevertheless, it seems from both MCST and BTA's points of view that interaction between SADC and CRASA is limited.

The next section continues with an analysis of institutional endowments, regulatory governance, and regulatory incentives across national and regional level as highlighted in this case study and their mutual influences across national and regional levels.

7.5. Intra-Case Analysis

7.5.1. National Level Endowments, Regulatory Governance, and Regulatory Incentives

This case has found some clear relations between national institutional endowments, national regulatory governance, and national regulatory incentives. Furthermore, as these are known to influence market performance, this case also identified market characteristics that have influenced national regulation. First, Botswana's regulatory governance is referred to by many as being of exemplary status. BTA was perceived by many particularly in its early days as being very independent from the Ministry. Yet, as of 2005 when amendments in the Telecommunications Act were enacted, the Minister took back more powers that were previously with the regulator with the 2005 amendments to the Telecommunications Act.

This change has particularly influenced Botswana's further telecommunications market liberalization strategy. While previously BTA had a remarkable freedom in deciding on who to license, setting criteria for licensing processes etc., the 2005 Act has repealed parts of BTA's decision making power, of which that with regard to national licensing is a significant one. While some say that the Minister having taken back power has not really influenced BTA yet, it was found however that BTA recommended a third national mobile operator to be licensed for Botswana's further liberalization strategy, but the Minister put aside BTA's recommendation and decided that licenses of fixed and mobile operators had to be changed to make one where they were all 'free' to choose whether to offer mobile or fixed services.

One underlying reason for the Minister's decision might very well have been a fear that BTC would not have been able to acquire BTA's proposed third mobile license through a competitive beauty contest. Since BTC is not doing very well, as can be observed in its low number of subscribers, it is questionable whether BTC would be able to make the best offer in a licensing contest. And, given the process of privatization of BTC that is currently going on, for BTC to be able to provide mobile services as well will undoubtedly bring it in a better position, and likely result in BTC being bought at a higher price, which is to the advantage of the Ministry.

Besides the division of powers or responsibilities and functions between Ministry and regulator, the case of Botswana also clearly brings in the role of the market in the development of policy and regulation. Given its very small size (i.e. a population of 1.8 million), since early on there have been doubts as to the extent to which competition might be possible; much more so than in other countries. To this extent, many people in Botswana did not expect that it would be possible for two mobile operators to co-exist in

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a profitable manner. While it turned out that this was very well possible, similar considerations may have influenced the decision and preference by both MCST and BTA for now to allow only a third player to provide mobile services (even though they disagreed whether this should be through a converged license for the three existing telephony providers or through tendering for a third mobile operator through a beauty contest), and to have the further opening of the market wait until 2009.

The decision to wait for further opening of the market with regard to national level network licensing until 2009 gives some interesting further insights into the issue of introducing converged licensing frameworks across countries. Even though in Botswana the new licensing framework is called a service neutral licensing framework, just like in Tanzania, in Botswana the old market segmentation of competitive vs. non-competitive still remains; i.e. national network provision licenses are not open for anyone to apply for. Likely for this reason, to date no significant change in market entrance or increased growth in the number of subscribers or the variety of access technologies is observed. This stands in sharp contrast to the situation in Tanzania that saw a significant response to its introduction of a service and technology neutral licensing framework.

Yet, despite this relative strong control over market entrance, Botswana remains known as a stable country with good regulatory governance. There is a clear and succinct division between policy, legislation, and regulation, and at the regulator it is felt that the regulator does have a significant role in advising the ministry. Finally, in particular the regulator's strong leadership and transparent decision making processes make Botswana one of the more predictable countries in the region regulatory-wise.

7.5.2. Cross Level Influences

Across the national and regional levels a few bidirectional influences can be discerned. Three mechanisms in particular can be observed: (1) national endowments and governance influencing regional governance; (2) regional governance influencing national endowments; and (3) national incentives to influence regional governance.

Botswana's role in the region is extensive. BTA is one of the very active CRASA members, and participates in a number of committees. Employees ranging from officer level to director are well aware of what CRASA is doing and express commitment to CRASA. Particularly BTA's role as treasurer and chair of the Executive Committee of CRASA, as well as BTA hosting the Secretariat and providing the Executive Secretary for a significant period of time clearly have influenced CRASA's internal governance. Moreover, due to BTA's status of very independent regulator in the early days, might have influenced BTA's pushing for the Secretariat to become independent of any regulator, in terms of the Secretariat being located separate from any regulator as well as the Secretariat staff, and particularly the Executive Secretary, to be independent from any regulator. Thus, it can be argued that BTA's internal national governance has influenced regional governance.

Further, due to its active participation in the development of a number of guidelines, BTA has influenced CRASA's regional regulatory governance (i.e. the policy making process) and regulatory incentives (the outcomes of the regional guidelines). The extent to which however is unclear. The guidelines that BTA worked on were on topics for which BTA itself had not implemented regulation yet (i.e. universal service and tariffs). Yet, some BTA employees do believe that CRASA is currently using some of the ideas from Botswana's service neutral licensing framework, and that in the past Botswana's national frequency band plan was used for the development of the SADC Regional Frequency Allocation Plan. Thus, even though unclear exactly to what extent, Botswana's national regulatory governance and regulatory incentives have influenced regional governance and incentives.

At the same time, regional regulatory incentives themselves (i.e. CRASA model guidelines) have had an impact on BTA. During BTA's process of developing national regulation (national regulatory governance), it has taken into account the content of guidelines during discussions, and as such, some managers and directors at BTA indicated that parts of the guidelines were used in the national regulation (national regulatory incentives). Examples include CRASA's Guidelines on Interconnection for SADC Countries and Policy Guidelines on Universal Access/Service for Telecommunications Services in SADC.

While overall Botswana likely has not exerted significant influence on the particular design outcomes (content wise) of regional model guidelines, BTA's active participation as well as leadership within CRASA itself likely has impacted CRASA's organizational design and thus regional governance.

7.5.3. Discussion

The influences identified above constitute primary mechanisms of the influences of CRASA on Botswana and vice versa. Interesting finding was that BTA employees do indicate a perceived significant influence of regional guidelines on national regulation. This stands in sharp contrast to Tanzania, as described in the previous case. Overall, discussions with BTA employees gave the impression of BTA to 'live and breathe' CRASA. Not only do they indicate to gain significant benefit from membership through being able to use guidelines as input for national regulation; capacity building, resource sharing, and networking are perceived as very valuable. Nevertheless, a strong commitment to the region came to the fore, not only because of the perceived value of harmonization within the region, and being able to collectively be heard at larger scale international forums such as the ITU, but development of fellow member states within the region as well. Further, from people's discussions about benefits of CTO membership, which also brings significant value in terms of networking and capacity building, the regional endeavor is of primary importance due to the 'similarities' of member countries who share similar problems.

Service providers' perceptions on the influence of CRASA on the sector vary significantly, from believing that CRASA is 'very worthy', to thinking that CRASA has

no impact at all. Yet, overall, there are some indicators that some managers in the private sector feel they cannot really learn about what is going on in CRASA. Further, while BTC is engaged in SATA through which potentially more involvement with CRASA could be established, due to the MoU between SATA and CRASA and the former officially being allowed to make recommendations to the latter, little information from CRASA comes through to BTA via SATA. While BTC managers perceive SATA as valuable to their own organization, regional regulatory endeavors are not clearly felt at BTC.

Finally, observations in Botswana about regionalization efforts in the regulatory, policy making, and operators' realms brings to the fore the constraints of resources and language. BTA representatives in CRASA and MCST representatives in SADC ministers' and officials' meetings indicate the significant language problems of DRC and Angola, which they believe is the reason for their limited participation. South Africa on the other hand in SADC, CRASA and SATA is known among the Botswana representatives in all three organizations as being among the very active and typically bringing most representatives, that particularly stands out in SATA meetings.

7.6. Conclusions

This chapter has shown that Botswana has a forward looking regulator that has implemented rather progressive regulation. During the upcoming of mobile telephony BTA stood out in the licensing of two mobile operators which was uncommon at the time, and became a particularly contested issue due to Botswana's very small population size. However, while BTA was known as a model regulator regarding its governance that was partially due to a high level of independence, since 2005 the Minister has taken back some of BTA's power including BTA's freedom for setting licensing criteria and selecting licensees. Therefore, the licensing framework did not change significantly from its predecessor, with the main adjustment BTC now also being allowed to provide mobile telephony services. MCST basically took this decision, and neglected BTA's proposal to put out a tender for a third mobile license that would be open to any interested party. The resulting licensing framework has not (yet) led to significant growth in the telecommunications market.

BTA arguably has had a significant influence particularly on CRASA's regulatory governance, through participation in the Executive Committee, providing a BTA officer as Executive Secretary, hosting the Secretariat, as well as involvement in a number of committees. Additionally, BTA has had influence, but perhaps to a lesser extent, on CRASA's regional regulatory incentives. BTA was involved in the development of model guidelines in areas that BTA did not have experience in, but at the same time it is felt in Botswana that CRASA has used some of its regulation as input for model guideline development in other areas.

Nevertheless, while CRASA arguably has been able to take advantage of BTA through disseminating the experience gained within BTA about regulatory governance particularly in the early days of CRASA, recently CRASA has not been engaged in, or

been able to influence, the decisions made in Botswana to decrease the powers of the regulator and give back some power to the Minister. Yet, Botswana remains to be known across the region as a forward looking regulator under strong leadership, and as having been a great driver for developing regulatory frameworks in the region.

8. The case of South Africa: The role of SADC's largest economic power in regional ICT policy making

8.1. Introduction

The last national case of this study constitutes the case of South Africa. South Africa is sub-Saharan Africa largest economic power as well as the wealthiest country in the region. Located on the southern tip of the continent, on the north South Africa borders Namibia, Botswana, Zimbabwe, Mozambique and Swaziland from west to east. Additionally, South Africa completely surrounds the small mountainous country of Lesotho. See also figure 8.1.

Figure 8.1: Map of South Africa
Source: CIA Factbook

South Africa's wealth is largely dependent on the discovery of gold and diamonds which led to a large influx of European immigrants. South Africa is ranked in the category of 'medium human development' in the Human Development Index, as 121st out of 177 countries.

While on an aggregate level a relatively wealthy country, South Africa is known for its large divide between rich and poor. Due to the recent ending of apartheid and foundation of a democracy in 1994, South Africa is still struggling with overcoming the racial divide. While a large number of black empowerment initiatives have been implemented, crime rates in South Africa are still on the rise.

Nevertheless, as compared to most other sub-Saharan African countries South Africa has a relatively well developed telecommunications and ICT sector. It is home to two large multi-national mobile operators, and some even believe that mobile phone penetration is nearing saturation in South Africa.

South Africa's position as major economic power in the region asks for further insights into the factors that have driven its telecommunications market development, and moreover, how its role as economic power affects its position in SADC and CRASA. To this extent, this chapter will examine: (1) South Africa's telecommunications market development throughout the years; (2) the role of national regulatory governance and incentives in this development; and (3) the role of South Africa in CRASA as well as CRASA's influence on South Africa's regulation and policy.

Next, first an overview of the development of the South African market over the years is provided, with a focus on South Africa's liberalization strategies. This is followed by a discussion of South Africa's regulatory governance, including the division of roles and responsibilities between regulator and Ministry. Next the role of South Africa in CRASA is discussed, as well as the influence of CRASA on South Africa. The chapter finishes with an intra-case analysis which discusses the role of national regulatory governance and incentives in regional level regulatory governance and incentives.

8.2. South Africa's Telecommunications Market Liberalization Strategy

8.2.1. The Early Telecommunication Market: The Establishment of a Commercial Telephony Provider and the Origins of Regulation

South Africa's history of telecommunications for a long time went hand in hand with postal service. Originating from the governmental Department of Posts and Telecommunications, in 1991 Telkom SA Ltd. was established as an entity separate from government, yet remained 100% state-owned. By that time Telkom had connected its 5th million phone[54], making South Africa one of the better connected countries in the continent (as it had a teledensity of about 10%). Founded as a monopolist, Telkom has been able to retain this position for a long time.

In the early 1990s the market was still regulated by the ministry responsible for telecommunications; by that time called the Department of Communication. In 1993 mobile operators Vodacom and MTN were granted a license to operate and provide mobile services, which created significant competition in the market.

A March 1996 white paper on Telecommunications Policy set out the policy framework to guide liberalization of the telecommunications sector. Following this White Paper, in November of the same year the Telecommunications Act was introduced. Yet, the full liberalization strategy as set out in the white paper, including the three major objectives of (1) privatizing Telkom, (2) stimulating market entry, and (3) establishing a regulator, did not all become fully recognized in the Act. The liberalization time table as proposed in the White Paper was not included, and hence remained up to the discretion of the Minister to announce (W. Melody *et al.*, 2003). Nevertheless, as a result of the Telecommunications Act Telkom was partially privatized in 1997 and 30% shares are

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[54] http://www.telkom.co.za/common/aboutus/history/history1990.html Last accessed October 8, 2007.

sold[55], to Strategic Equity Partner Thintana, consortium of SBC from the USA and Telekom Malaysia Berhad. Additionally, in early 1997 a regulator was established, based on the Telecommunications Authority Act No. 103 of 1996, known as the South African Telecommunications Regulatory Authority (SATRA). In 2000, based on the ICASA Amendment Bill of 2000, SATRA merged with the Independent Broadcasting Authority (IBA) to form the converged Independent Communications Authority of South Africa (ICASA).

During the five year exclusivity period that was granted to Telkom at the time of privatization, Telkom not only had a monopoly over intra-country fixed line telephony provision, but also controlled the international gateway, in particular access to the SAT-3/WASC/SAFE cable which stretches along the west coast of Africa and constitutes the major backbone for traffic to Europe and further. This enabled Telkom to set high prices which affected not only South African mobile operators and Internet Service Providers, but also other African countries that need to have their traffic routed via South Africa due to lack of alternative routes.

Further, while a second national fixed line operator was to be licensed in 2002 immediately following the end of Telkom's exclusivity period and as set out in the Telecommunications Amendment Act of 2001, the launch of the SNO (Second Network Operator) was delayed and consequently became operational in 2006. Meanwhile, in 2003 Telkom had its IPO and became listed on both the Johannesburg Stock Exchange as well as became listed as a private company on the New York Stock Exchange[56]. Currently, the South African government retains 38% shares in Telkom.

8.2.2. The Growth of Mobile Telephony

Telkom's monopoly position on telephony in general ended in 1994. After obtaining licenses in 1993, on April 1st of 1994 both MTN and Vodacom started operating in South Africa. The licenses were awarded at the time that the country was in transition from its apartheid rule to democracy. The numbers of subscribers increased significantly from 1994 onwards.

In the mobile market, Vodacom and MTN retained their duopoly position until 2001, when the third mobile operator, Cell C, was licensed. On the 19th of February, 2001, the Minister of Communications announced that Cell C was to be awarded the third mobile license, as the winning bidder in a beauty contest. The Cell C consortium had been recommended to the Minister as the preferable third operator by the regulator, at the time still SATRA[57]. The third mobile operator was already foreseen in the Telecommunications Act of 1996, based on sections 35 and 36.

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[55] http://www.telkom.co.za/common/aboutus/history/history1990.html Last accessed October 8, 2007.

[56] See http://www.telkom.co.za/common/aboutus/history/history2000.html Last accessed October 8, 2007.

[57] See http://www.cellular.co.za/news_2001/02242001-cell_c_provisonally_given_third_license.htm Last accessed October 9, 2007.

The opening of the market with regard to mobile telephony nevertheless has seen some delays. As explained by a former ICASA employee, the licensing for Cell C saw "incredible delay and legal problems". According to the former ICASA employee this was due to ICASA's dependence on government, which overall has "directly stifled the development of telecoms policy and investment in the telecoms sector in South Africa". Finally, in June 2006 a virtual mobile network operators was launched – Virgin mobile, which is a joint venture between the Virgin Group and Cell C.

8.2.3. South Africa's Further Liberalization Strategy: The Electronic Communications Act

8.2.3.1. Post-2001 Liberalization Based on the Telecommunications Amendment Act
After the merger of the two regulators and the foundation of ICASA in 2000, steps to further liberalize the market were taken with an eye on the ending of Telkom's period of exclusivity in 2002. To this extent, the Telecommunications Amendment Act of 2001 was published. Key points in the Amendment Act are the provision for radio frequency access in the 1800 MHz band, which is used for GSM based mobile services provision besides the 900 MHz band, that to date was the only band used for GSM based mobile services. Further, the Act provides for changes in the licensing framework. In particular, it provides for provision of new licenses, makes changes in the application for licenses and consideration of license applications, and very importantly, allows for further provision of PSTN and PSTS (public switched telecommunications networks and services respectively), in addition to further regulation of private telecommunication networks, mobile cellular telecommunications services, and interconnection provisions.

Thus, the Amendment Act made way for the licensing of a Second Network Operator (SNO). In particular, the 2001 Amendment Act determines that the State-Owned Enterprises Transnet and Eskom (respectively a power and railway enterprise) were to be shareholders in the SNO. These shareholders, that own large national private telecom networks to be used as backbone by the SNO, began work on bringing in other shareholders via a public bidding process as well as of 2002. Nevertheless, after the first bidding process the Minister was not satisfied and revised the bidding process after which two consortiums were awarded a 12.5% stake, followed by another public bidding process in 2004 initiated by the Minister that finalized the process. The final agreement was signed in August 2005, after which the license was granted on 9 December 2005, and the SNO could really start its business. Today, Transnet and Eskom together own 30% of the shares[58].

Meanwhile some other potentially liberalizing actions were taken, even though their legal status remained vague. This particularly regarded the need for all operators and service providers to connect to Telkom; i.e. to lease facilities from Telkom. In the 2001 Telecommunications Amendment Act it was determined that the Minister would

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[58] See http://www.neotel.co.za/neotel/view/neotel/en/page127 Last accessed October 9, 2007.

announce the date to end this, yet some confusion arose, as she made the announcement and retracted it the next day.

In the Government Gazette of 3 September 2004 the Minister of Communications finally made the announcement, stating: "In terms of section 40(2) of the Act, 1 February 2005 shall be the date from when a person who provides a value added network service shall be entitled to cede or assign the right to use, or to sublet or part with control or otherwise dispose of the telecommunications facilities used for the provision of the value added network service" (GovernmentGazette, 2004b). The Minister thus gave way for VANS (Value Added Network Services) to self-provide infrastructure, use facilities from any market player, as well as resell infrastructure to others. However, about 24 hours before the changes would take effect, the Minister of Communications released a press statement, saying that it was never her intention to allow VANS to provide their own facilities[59]. While this statement is not legal since it was not published in the Government Gazette, it has never been officially challenged. Self provision therefore now constitutes a grey area as ICASA cannot develop regulation that states or implies that self provision is allowed, since the Minister has to sign off on regulation. However, nowhere is it stated otherwise that it is *not* allowed. It could therefore be concluded that self provision is informally allowed.

8.2.3.2. The Electronic Communications Act of 2006

Due to technological convergence taking place and broadcasting and telecommunications becoming more and more interrelated, as already acknowledged through the merger of SATRA and IBA into ICASA, more significant changes were introduced by two new Acts in 2006 to deal with convergence as well as further liberalization of the market. These two Acts are the ICASA Amendment Act and the Electronic Communications Act, both of which commenced in 2006.

The ICASA Amendment Act of 2006 amends the ICASA Act of 2000 first to increase the regulator's focus area in terms of convergence to also include postal regulation. Additionally, and a contentious issue leading to delay of commencement of the Act, was the procedure for appointing councilors for ICASA (ICASA councilors constitute the regulator's decision making board). The Amendment Act furthermore regulates the financing of ICASA and consolidates certain powers and duties of ICASA.

The ECA is directly linked to the ICASA amendment bill, and because the ICASA Amendment Bill was sent back because the constitutionality of the proposed appointment of ICASA councilors was questioned, delays occurred in the signing and commencement of the Acts. As per the old ICASA Act, anyone could nominate people to serve on the council. Through a transparent process a shortlist was drawn that went through the (multiparty) parliamentary portfolio committee, that would conduct public hearings and interviews. Parliament would finally make recommendations as to who to appoint, and the President was to approve. In the ICASA Amendment Bill however it was approved that the Minister would be responsible for appointing councilors. After the Act was sent

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[59] See http://www.itweb.co.za/sections/telecoms/2005/0501311147.asp?S=Internet&A=INT&O=FRGN . Accessed August 1, 2007.

back and changed, the approval process returned to be largely similar to the way it was set out in the original ICASA Act, with parliament taking the lead in the appointment process.

The Electronic Communications Act (ECA) that was signed on April 18th of 2006 (yet went into operation on 19 July, 2006), in turn deals with a number of more technical issues. One of its spear points as felt throughout the telecommunications industry regards the introduction of a new (converged) licensing framework. Other topics regard the use and control of radio frequency spectrum, technical equipment and standards, interconnection, network facilities leasing, broadcasting services, numbering, and universal service. The ECA largely repeals the old (amended) Telecommunications Act of 1996. The ECA calls for a complete restructuring of the licensing framework which is set out to be completed (i.e. all licenses should be converted) within two years from this date (GovernmentGazette, 2006). Before the introduction of the ECA the major license categories were for mobile cellular telecommunications service (MCTS), PSTS (fixed line), USAL (Under Serviced Area License), Sentech Carrier of Carriers, VANS (Value Added Network Service; i.e. Internet services), and PTN (Private Telecommunications Network), besides broadcasting licenses. These are vertically integrated licenses: for example, the mobile license includes the provision of a network as well as services provision over the network.

The new licensing regime is set out in the Act to have separate licenses for network provision (electronic communications network service licenses), broadcasting, and services provision (electronic communications service licenses), and will all be categorized as either individual or class licenses, meaning that the service provision has respectively a national/provincial or district/local municipal scope (GovernmentGazette, 2007). While the minister still is to approve on individual license applications (i.e. for service provision with national scope), the class licenses are to be awarded by ICASA, and additionally for the former licenses ICASA administers the process of applications, evaluates applications, and makes recommendations to the Minister. Thus, even though the licenses will be service neutral, meaning that for example Telkom could start providing mobile services as long as they are able to obtain spectrum, or mobile operators could start providing fixed line services, infrastructure provision will remain limited to a number of players as determined by the minister.

While as set out in the ECA all licenses have to be converted within two years of the commencement of the Act, in October 2006 all operators were required to provide ICASA with information about their old license, aiming to have all licenses converted by June 2007. Nevertheless, a manager of a mobile operator indicates that the last time that the license was converted it took six years to complete, and hence it is expected that the conversion process might take a while.

As felt by a manager at a mobile operator, the ECA will significantly change competition and "will improve it quite a lot", making the sector "a more horizontal market structure". Yet, the manager also acknowledges that the result of this change in licensing will "depend on the play. The new law nevertheless gives more opportunities to get into

different business". A manager at another mobile operator however says: "ECA is a step ahead. It doesn't necessarily provide for much more competition. This all depends on whether other players will get numbers, spectrum, and whether they will have the capacity to operate in the market". The managing director of another telecom firm also indicates that he believes that "The ECA […] is a lot more open, and basically almost [says] that ICASA has to make sure that there are no monopolies, that there is free market competition". Yet, the managing director also indicates that "it still seems to contemplate the fact that the minister would decide on certain categories of licenses. It is quite uncertain there". To this extent, consensus seems to exist among all market players that for a while to come the major competitors in the sector will remain those already in the market; i.e. Telkom, MTN, Vodacom, Cell C, Sentech, and Neotel (the SNO), in addition to iBurst which owns infrastructure, but yet does not have a very large market share.

8.2.4. The Current South African Telecommunications Market: Numbers of Subscribers and Technologies Deployed

As of 2006, South Africa has about 45 million subscribers. Vodacom is the market leader with almost 23 million users by the end of 2006 (58%), followed by MTN which has about 13 million users (34%), whereas the newest mobile operator Cell C has the smallest market share with 3.4 million active users (8%)[60]. The exact number of users is unclear however, due to the use of prepaid and different counting mechanisms employed by the different mobile operators. Currently, some people in the telecom industry indicate that there is likely about 50-60%, or perhaps even as much as 70%, mobile phone penetration in South Africa. Some believe that South Africa's market is almost saturated. In addition to mobile phone users, as of March 2007, Telkom has 4.64 million fixed lines rolled out, which indicates a slight decrease in fixed line connectivity.

Government still owns shares in many telecommunications companies. Telkom has 50% shares in Vodacom, while the other 50% is held by Vodafone. Vodacom nevertheless has its own board, and as such is an independent operator. Further, as government holds 38% of shares in Telkom, it thus indirectly has 19% of shares in Vodacom as well. Additionally, government agency Transnet has 8% shares in MTN.

All three mobile operators use both the 900 MHz and 1800 MHz frequency bands, providing GSM based service. Cell C was the first one assigned to the 1800 MHz band, and while in the 900 MHz band as well, it operators on a slightly higher frequency than MTN and Vodacom. In 2004, the three operators together covered already over 71% of the population. Due to the universal service obligations, mobile operators have stimulated voice service use in previously underserviced areas. Already by 2004 community phone shops by Vodacom alone accounted for 35 million calls, or 65 million minutes, from its 2135 shops[61].

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[60] See http://www.cellc.co.za/common/includes/news_headlines_detail.asp?cl_pkiArticleNo=133 and http://point-topic.com/content/operatorSource/profiles2/south-africa-broadband-overview.htm Last accessed October 15, 2007.
[61] See http://www.cellular.co.za/stats/statistics_south_africa.htm Last accessed October 8, 2007.

After Telkom's privatization, its targets were increased. At the time of privatization in 1997 Telkom had about 89 lines rolled out per employee, which increased to 115 or 120 lines per employee in 2006. Nevertheless, the target was 200 lines per employee. In order to increase efficiency, Telkom laid off many staff, going down from 61.000 in 1997 to about 25.000 in 2006. In sharp contrast stand the mobile operators: Vodacom employs less than 4000 people, whereas MTN has even less staff.

Vodacom bases its services on GSM and UMTS. Vodacom has rolled out 3G services already in 2004, and even 3.5G (based on HSDPA - High-Speed Downlink Packet Access). Further, Vodacom is considering 3G at the group level (i.e. at Vodacom in other countries), and to this extent has already started rolling out 3G services in for example Tanzania. Vodacom South Africa furthermore has applied for WiMAX spectrum in the 3.5GHz band, which it has been refused, and is aiming for 2.6GHz band next, to which ICASA has not yet responded. WiMAX would initially be used to target corporate connectivity through high speed data provision, but in the longer run would likely also target the consumer segment of the market.

MTN has about 75-80% geographic coverage. According to one manager, this covers about 96% of the population, based on calculations using the 2002/2003 census. Originally MTN provided service in the 900MHz range only. It took years to get 1800 MHz coverage as well. MTN is testing WiMAX now as well. MTN has explored WiFi hotspot provision, but Vodacom's offerings of 3G at a highly competitive price made WiFi hotspot provision obsolete.

At Cell C it is indicated that Cell C has about 80% geographic coverage, which reaches about 70% of the population. About 85% of its customers are said to be prepaid users while 15% is postpaid. Cell C is ahead of targets set at the time of licensing, which was to cover about 60% of the population. Cell C offers not only GSM voice services but data services as well through GPRS and EDGE technology. Cell C furthermore examines new technologies like WiFi, WiMAX and 3G, even though the latter has not "proven to be compelling yet". Cell C has already tested WiMAX in the 3.5GHz band, but not yet in the 2.6GHz band, which will be more likely the band that will be allocated given that the 3.5GHz range has already been allocated to the (partially) state owned operators, e.g. Sentech, Telkom, and NeoTel, and there is no sign yet that government will revisit the allocations of the 3.5GHz band. Yet, Cell C remains primarily focused on the GSM network, focusing on "simple and easy to understand services […] the major service is voice, voice and voice. Complexity has many costs." Technologies like WiMAX and WiFi are perceived as being "extremely urban", for serving airports and malls.

A variety of other technologies are deployed in the South African market as well. For example, iBurst is a service that is not widely known but has been implemented in a number of countries including Australia. iBurst is primarily a wireless data network provider, and operates on a license that was provided before the Telecommunications Act of 1996, which is why it does not have a VANS license. iBurst operates in the 1800MHz frequency, but does not have interference with mobile signals. Currently iBurst has 30.000 customers. It provides data speeds up to 1Mbps. iBurst's major competitors are

high speed data providers, such as the mobile 3G providers, ADSL from Telkom, and Sentech. iBurst has coverage in the major cities (60% coverage), and country wide has about 20-25% coverage. iBurst is furthermore looking into potentially enhancing its technology base through using CDMA2000, 3G mobile instead of using the UMTS standard. WiMAX technology is also being looked at, for the 2.6 GHz band, which has already been allocated.

Another national provider for high speed data services constitutes Sentech. Sentech is 100% state owned. It started as a signal distributor for the SABC, the South African Broadcasting Corporation, and currently is also a communications provider focusing on broadband. MyWireless to this extent is one of its primary services, which provides an alternative for broadband such as ADSL from Telkom or 3G services from mobile operators.

Finally, a last (potentially) national voice and data services providers is the second national operator (SNO), which was already envisioned in the Telecommunications Amendment Act (of 2001) to be operational as of 2002, right after Telkom's exclusivity period ended. Nevertheless, due to significant delays the SNO, under the name NeoTel, became operational in 2006 only. The SNO is owned for 30% by the state owned enterprises Eskom and Transtel, respectively an energy and railway agency, and as such the South African government thus owns 30% of the SNO. NeoTel will provide a number of corporate and consumer targeted services and as such has the potential to become a significant competitor of all the other operators in the market.

Overall, this overview reveals that South Africa has a large communications market as compared to Tanzania and Botswana, which offers a great variety of access technologies, and where high speed data communication has penetrated the market significantly. Innovative new solutions can be expected as well, as communications providers in South Africa are starting to take advantage of the converged broadcasting and telecoms market. For example, at Vodacom it is indicated that Vodacom intends to start providing broadcasting services to handheld devices, especially with an eye on the WorldCup in 2010, which will enable people to watch SABC, Skynews etc. It is unsure however how soon this will further evolve, as there are still policy related questions regarding such offerings.

Finally, South Africa also has a relatively mature Internet Service Providers (ISP) market. Its ISP Association counts 148 members[62]. Even though a large market as compared to other African countries, ISPs are struggling with Telkom as self provision for long has not been allowed, and for example Wi-Fi provision is only allowed when signals do not cross public streets.

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[62] See http://ispa.org.za/about/memberlist.shtml Last accessed October 15, 2007.

8.3. South Africa's Regulatory Governance

Even though South Africa has SADC's most developed telecom and ICT sector, liberalization strategies throughout the years have not always led to increased competition and in a number of instances were implemented rather slowly. This can be argued to be due to an inefficient regulatory regime, with the Minister interfering with the regulator. To this extent, this section will discuss the roles and responsibilities, as well as the relation between, the Department of Communication (DoC) and ICASA. First, a brief history of both organizations is provided.

8.3.1. History and Background of the South African Regulator

As already mentioned above, ICASA as it is currently known is a converged regulator in charge of telecommunications, broadcasting, and postal regulation. In 2000 IBA (the independent broadcasting association) and SATRA merged. ICASA's duties and responsibilities are documented in the ICASA Act of 2000, which was amended in 2005, when postal regulation was incorporated as well.

ICASA is southern Africa's largest regulator, and employs about 300 staff. Its main decision making organ constitutes the executive Council which has a chair and ideally 8 members that frequently have meetings (every week). ICASA has a Chief Executive Officer that is appointed by the Council and is in charge of financial, administrative and clerical functions that come forth from the ECA, IBA Act, Broadcasting Act and ICASA (Amendment Act), where the IBA and Broadcasting Acts have largely been repealed by the ECA. The council makes decisions and can establish specialized committees with staff members for particular topics. However, these committees have to be headed by at least one councilor, as is required by legislation.

Currently ICASA has five main departments, including the office of the Chief Financial Officer, Broadcasting Services (including policy development and licensing & monitoring), Engineering Services (including frequency management), Telecom Services (including Telecom Policy Analysis & Development and Licensing, Enforcement & Numbering), and Legal, Consumer Protection and Secretariat. The latter includes a sub-department for International Relations as well.

8.3.2. History and Background of the Department of Communications

The Department of Communications (DoC)'s main objective is "To create a favourable ICT environment that ensures South Africa has capacity to advance its socio-economic development goals, support the renewal of Africa and build a better world. "[63] To this extent, the DoC engages in the development of ICT policy and legislation, in addition to keeping oversight over State Owned Enterprises (SOEs).

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[63] http://www.doc.gov.za/index.php?option=com_content&task=category&sectionid=4&id=13&Itemid=26
Last accessed October 12, 2007.

These SOEs are also referred to as 'portfolio organizations'. There are eight in total, of which four relate to the telecommunications sector, and include ICASA, as well as Sentech (in which it still has 100% shares) and Telkom (in which it currently has 37% shares). The Universal Service Agency which administers the Universal Service Fund and puts out tenders for subsidized telecom provision in underserviced areas is also one of the DoC's portfolio organizations. The DoC's mentioning of Telkom as one of its portfolio organizations could be interpreted as indicative of the level of control and perhaps also explains the DoC's protective behavior towards Telkom, even though overall the government has shares in other telecom organizations as well, including Vodacom (via Telkom) (19%), MTN (8%), and the second network operator NeoTel as well as discussed above (30%).

The DoC consists of a number of branches, including the Governance & Administration branch (general administration and support to the other branches), the Finance & ICT Enterprise Development branch, the ICT Infrastructure Development branch, the ICT International Affairs & Trade branch, the ICT Policy Development branch, and the Presidential National Commission on the Information Society and Development branch.

8.3.3. The National Policy and Regulation Making Process

While the DoC is responsible for policy making and drafting legislation, ICASA develops, monitors and enforces regulation, and thus implements policy through developing regulation. Legislation has to be approved by Parliament which is seated in Cape Town, and has a portfolio committee for communications. There is ample opportunity for industry players to have their opinions heard in the policy and regulation making processes. Public inquiry and procedures must be used by the regulator per the Telecommunications Act in 1996. And, as a manager of a mobile operator explains, "we make a lot of use of this." A lot of lobbying takes place. This happens through one on one discussions, and open forums such as public hearing processes, where industry has a voice through written submissions and oral presentations. Operators do not always single handedly try to influence the policy and regulation making process, but also frequently cooperate by making joint submissions for hearings. With South Africa's large (multi-national) operators, it is not surprising that the power of lobbying is significant, and even often underestimated.

Nevertheless, even though legislation seems to make a clear division between the roles of the DoC and ICASA, in practice ICASA is said by many industry players as well as ICASA employees themselves to have a very limited role in regulation development; due to problems of being "dependent" on DoC. In the day to day work of ICASA, its dependence is perceived by many be largely due to the lack of funding of ICASA, which it furthermore has to negotiate with the DoC.

As an independent consultant explains, "They [ICASA] do not have a proper budget. It is managed by DoC, which kills their independence". Further, he says, "ICASA shouldn't be called ICASA. It is not independent and doesn't have authority". Currently, licensing fees directly go to the Treasury, instead of these fees providing ICASA's funding. Hence,

ICASA has to negotiate its budget with DoC. Yet, one manager from industry indicates that ICASA is still reasonably well funded if compared to some other countries.

Additionally, one independent consultant mentions the problem of know-how at ICASA. As a former ICASA employee indicates, a major problem of ICASA is its inability to attract technocratic experts at the Council level. As a former ICASA employee indicates, "Their skills-set is important. They should have a proven track record in management, or otherwise possibly in the legal sphere, or engineering. Sometimes you can observe councilors having zero understanding of what is going on in the market". Another manager at an ISP indicates that "Councilors come from different backgrounds, and there are very few technical people. [...] they are certainly not experts in the field." The workload of councilors is also mentioned to be problematic: "For example there are interconnection hearings. They are waiting because of the unavailability of councils. Their mandate is incorrect. Councilors should focus on high level important decisions. ICASA staff should be running with such processes."

Nevertheless, the skill problem does not only go for councilors, but for staff members as well. A manager at a mobile operator indicates: "The major challenge is the incapacity of ICASA. We don't need more councilors, but more managers and ICASA also needs to become more independent from government and operators. The people at ICASA are fairly exposed to both, and the regulator doesn't get space to operate". A manager at another mobile operator indicates the same, i.e. the problem of ICASA being lack of funding and lack of skills. Yet he also believes that the regulator in South Africa is better than in some other countries.

Another example of the limited role of ICASA in national policy and regulation making regards South Africa's negotiations with the WTO (World Trade Organization). An ICASA staff member indicates that while in such negotiations for example Telkom has been consulted by government, "we've never been formally consulted on what kind of offer we should be making."

While for telecommunications related matters ICASA is mentioned by all interviewees as being scrutinized by the DoC and ICASA being very dependent on DoC, for broadcasting related matters this is very different. As indicated by a few former and current ICASA employees, ICASA is able to make its own decisions regarding broadcasting, can license without needing approval from the Minister, and therefore has been able to significantly open the sector to competition.

According to some people, the ECA might bring some change to ICASA's problems regarding its dependence on the DoC. While all regulation made in the past had to be signed off by the Minister, a former ICASA employee believes that with the ECA coming into effect it might be "the first time that ICASA can make its own regulations". The manager further explains, "Regulation should be the Council's final decision; not the Minister's. In the past regulation proposals would often wait for three years at the Minister's." He furthermore suggests that there are problems at DoC: "Draft regulation goes to DoC and then to the Minister, or sometimes directly to the minister. But there is

turmoil at DoC. Things disappear. In addition, with regard to policy making: people who make policy should have hands on experience and have feeling for the market. Therefore the regulator should be the first to do so. Before it was said that DoC was going to be scaled down, and that ICASA would do everything, but it didn't happen". To this extent, ICASA has not had a lot of influence on licensing. "ICASA couldn't license unless the Minister approves. They can only provide VANs, PTN and spectrum licenses. They cannot give bigger licenses. They couldn't do it without the Minister asking for organizations to apply for licenses. So there's a gray area of contention. Certain licenses still need the Minister's approval and authorization". Nevertheless, even though both from industry and the regulator itself come statements such as "[t]he Executive is involved in implementation, there is executive interference", one manager also indicated that "there are […] checks and balances, and we have a way to test", as operators on numerous occasions have taken DoC to court, and as this same manager indicates, "judiciaries seem independent".

8.4. South Africa's International Involvement

The level of autonomy of regulators was hypothesized to influence regulators' adoption of regional guidelines at the national level. To this extent, the next section discusses South Africa's role in international forums and SADC and CRASA in particular, after which it will be assessed whether, and if so, to what extent, issues of dependence of ICASA on the DoC affect the adoption of CRASA guidelines.

8.4.1. ICASA's Membership in International Bodies

In South Africa, national regulation making happens with an eye on what happens around the globe. As one manager indicates: "[w]e do a lot of benchmarking with other countries, for example with ITU. We then come up with advice as to what we think ICASA should do." Another former ICASA employee says, "national regulation is influenced by the international environment. Rules often come from ITU. What happens at the international level takes a particular route."

While ICASA first of all tries to align its policies and regulation with ITU, and does attend ITU meetings together with the DoC, it is also member of other international associations, such as the International Institute of Communications (IIC) and Reseau des Instances Africaines de Regulation de la Communications (RIARC), as well as CRASA. RIARC is primarily a broadcasting and media organization. ICASA has chaired it for a while, just like CRASA. One manager at ICASA even says that "CRASA is the most important international organization we affiliate with".

In addition, ICASA deals a lot with other regulators on a bilateral basis. An ICASA manager however explains that within the SADC region other regulators mostly initiate contact and request to visit ICASA. ICASA itself is more interested in for example the Australian regulator, as "we rather go to other countries that have the same kind of economy as South Africa to learn from".

8.4.2. ICASA in CRASA

CRASA is one of the international organizations that ICASA deals with. Moreover, ICASA has been a very active member of CRASA since its inception in 1997. ICASA has been very active at the executive level: South Africa served as the first Chair of the Executive Committee of CRASA (1998-1999), and hosted the CRASA Secretariat for one year from October 1999-2000. More recently, in the year 2004-2005, ICASA again was represented in the Executive Committee, but this time as vice-chairperson.

Besides its executive involvement in CRASA, South Africa has been engaged in a number of committees. It is convenor of the standards and numbering committee, and co-convenor of the Human Resources and Empowerment Committee. To this extent South Africa has been involved in the development of for example the numbering plan. Besides its involvement in standing committees, the South African regulator has been involved in a number of ad-hoc committees and consequently has been involved in the development of a number of guidelines. A recent example constitutes ICASA's involvement in the development of the Wireless Technologies Policy and Regulations. Additionally, South Africa has been the best represented country at AGMs. On average, ICASA brings most delegates to AGMs, with an average of five.

8.4.3. ICASA's Influence on CRASA and Vice Versa

While one manager who has been engaged in CRASA expresses his belief that for the development of guidelines sometimes documents are taken from the EU, South Africa's regulatory frameworks seem to have had a significant impact CRASA's guidelines. Through its high level of participation as well as its relatively well developed market and accordingly complex legislation and regulation, South Africa seems to have had a significant influence on the development of model guidelines at CRASA, while at the same time there are not many instances where CRASA seems to have had an influence on South African regulation.

As a manager at ICASA explains: "Most of the policies that we [CRASA] adopt are South Africa's. South Africa is sort of well developed." A manager from industry who has been engaged in CRASA exemplifies this with an example of the development of the SADC Regional Frequency Allocation Plan for 20-3100 MHz. As he explains, "a lot of the regional band plan was already in the South African band plan. The South African band plan was already produced two years before with the help of an overseas consultant. It really served as the basis for the regional band plan. It was a natural thing to do, as South Africa has the latest technologies, and the plan was also well in line with the EU, which is also in ITU region 1. South Africa was thus very comfortable with the regional band plan, but so were others".

Another former ICASA employee who has been involved with CRASA mentions that "in [C]RASA it is most of the South African regulation becoming regional regulation. So mostly with [C]RASA, it is already in South Africa." According to this manager, the interconnection guidelines adopted by [C]RASA originally came from South Africa. Additionally, "if you look at universal service and access ones [guidelines], it is it is

almost word for word the South African framework". The consumer guidelines are the only ones the former ICASA employee can think of that was not South African in origin.

Another example of South Africa's influence on CRASA constitutes the change from TRASA to CRASA, i.e. the reflection of convergence at CRASA. As a councilor at ICASA explains: "If I'm not mistaken that is because of South Africa, because in terms of convergence we are at the forefront. So most of the policies in the regions are influenced by what South Africa is doing."

For this reason, it might be that in South Africa there are no clear instances when ICASA actually specifically used CRASA guidelines. As explained by an ICASA councilor, "I'm not sure how much output [from CRASA] we consider at the regulator. So when they put out model guidelines. So usually it got our input […] You often hear about not complying with the WTO guidelines - I've never heard 'it doesn't comply with TRASA tradition'. I would imagine that it could be because of South Africa's input, but I am also wondering if it might be that we're doing what we're doing anyway."

8.4.4. Other Member States' and Consultants' Involvement in CRASA

Nevertheless, it is not only South Africa that influences CRASA guidelines. First, consultants have a role in driving the outcome of guideline development processes. To this extent, an ICASA employee indicates that the development of guidelines depends significantly on who is funding the exercise. "What usually happens is depending on who is funding. If it is the U.S., then the consultant will turn to draw the experience from his own country. But then TRASA members will also input their own experiences. So the final document will take into account all these issues. Maybe there are other countries that don't have anything in place, so they will turn to rely on the other countries. So you will find that South Africa and Botswana normally are the ones that have a lot of frameworks on different issues. But they've got a collective way of developing issues for the region, so that the regulatory issues that come up then fit every country situation".

The ICASA employee furthermore continues discussing the influence on CRASA in its early days right after its inception: "[…]it was very much informed by USAID money and U.S. consultants. So in the early days the model was very much U.S. But I think it has changed over the years that countries have developed their own traditions." Currently, there is a small number of countries that according to South African stakeholders have a relatively large influence on CRASA guidelines.

An independent consultant who has been involved in CRASA indicates that Botswana and South Africa "probably" are more active than other countries, "because they have regulators with more capacity". A former ICASA staff member and currently a manager in the telecom industry also indicates that "…[i]n CRASA mainly South Africa and Botswana shape model regulation, as they have moved ahead from the rest of the region in terms of regulatory issues. Thus, typically they already have regulation in place before the model regulation comes out, and they thus already comply". Another manager at ICASA adds Tanzania to the list as well, indicating that "others look up to them".

Mozambique is mentioned to also be very active now (but was less so earlier on). Finally, a manager at a mobile operator who has been engaged in CRASA also indicates the significant influence of a few countries on CRASA's model guidelines: "If you look at the TRASA policies in the last five years. Most of the policies started possibly in South Africa, maybe Tanzania, probably Mauritius, and then those policies begin to be dumped also in other countries. South Africa would lead a task team […] So, those power dynamics portray themselves at that level, and then others copy and paste those policies at the SADC level."

Observing that there are a few leading countries in CRASA, an industry manager expresses his belief that there are significant differences among the capacity, or capabilities, of the regulators. During the development of the SADC Regional Band Plan, he found that "the level of understanding of some of the countries however was very low. They implemented in good faith, rather than on a rational basis." To this extent, it is not surprising that there are also some countries that do not participate a lot, and which also has an implication for the type of guidelines to be developed. A manager at ICASA indicates that "there is some non-attendance by some countries. The countries are at different levels. They are not at the same development level. Therefore there have to be very high level guidelines." Countries who have been mentioned to participate little, among others, include Angola, which even led one ICASA employee to contemplate "possibly Angola is not part of TRASA".

Nevertheless, while many think South Africa often takes the lead, a manager at a mobile operator indicates that "We say to our regulator that they need to go look at Tanzania, for example with cost based interconnection – they understood the market. For the regulatory framework, we say go look at Tanzania".

8.4.5. Exertion of Power in CRASA

While many see differences in the level of participation, there is no indication of particular countries dominating discussions and negotiations at meetings or during guideline development processes. For example, a manager from industry expresses, "I have never had the sense that any country tried to dominate in CRASA. Approval goes by consensus, and they rather have an issue stand over to a next meeting than to vote over it. […] How well the organization works is also a function on how confident people feel they can speak, and so it is also very much a personal thing. But I believe it is all very balanced, and opinions are respected".

Nevertheless, of course the different levels of participation across regulators has an effect on the extent to which different countries are able to influence decisions taken and thus at the content of guidelines that are developed. It is in this regard that South Africa, at least according to a number of South Africans, seems to have an influential position, even though perhaps it is not always for the right reason. For example, an independent consultant indicates that lack of know-how at ICASA is a problem for the region: "Most countries consider South Africa as an example; the band plan was an example. While we sometimes have more experience, we are not leaders […] The issue is you need people

with personality and leadership capabilities. Also knowledge, that is the crack of the matter".

To this extent, a manager at a mobile operator who has been involved in CRASA in its earlier days, indicates that "South Africa has more influence for example on what direction TRASA needs to take. They have access to knowledge", which is acknowledged by a manager at Telkom, who perceives that "many of the countries here in the region look up to South Africa. They look for us for guidance and expertise, because they lack the resources themselves." Yet, he also believes this has a downside: "We have to watch out not to be seen as the Big Brother, because sometimes that is how we are seen. […] We thus have to play the game very careful. We shouldn't intimidate the other countries, and we should not seem to be pushing anybody". Furthermore, South Africa, perhaps due to its resources and strategic location (as most intra-regional flights between countries stop in Johannesburg, South Africa), also is mentioned to host a majority of meetings, which according to an ICASA employee means that mostly South Africans attend.

Nevertheless, due to South Africa's prominent position in the region, it also gets strong critique. An ICASA employee indicates that "I've been going to some of the TRASA meetings. I think sometimes one can be a bit shamed at how much more with the regional regulation is moving on issues ahead of us. We have the best malls, and people like to come here to shop, but they are actually moving ahead, or beyond. One guy once said to me: 'we look at ICASA and the South African situation and then we do different'."

8.4.6. Service Providers' Involvement in International Organizations
Just like ICASA, South Africa's telecom industry is represented in a number of international organizations, including in regional, SADC, agencies. While generally speaking all types of service providers are represented at the international level in ITU, within the SADC region or beyond the SADC region in Africa there are some sector specific organizations that South African service providers participate in.

All three mobile operators indicate that the GSM Association constitutes an important international organization to them; both the global GSM Association and the continental GSM Africa. One of the benefits to membership is GSMA to lobby on behalf of operators at larger international forums such as ITU and CTO. As a manager at a mobile operator explains, "GSMA is a so-called unified voice. We use that as our vehicle to influence policies within regulatory frameworks within many other countries. For example if there is a CRASA policy that speaks to certain issues, GSM Africa will have a view and that view protects most of the mobile operators. Because there are common industry issues." An MTN manager indicates that all national MTNs from Africa are part of it, and a manager at Vodacom believes that some 80% of all mobile operators belong to it. The importance of GSMA to mobile operators can be observed in some statements of managers at mobile operators. For example, a manager at one mobile operator indicates that "GSMA is the best example of an international organization we are involved in". At yet another mobile operator, a manager explains, "[t]his is a very effective body,

worldwide. It plays key to international roaming, which is an integral part of GSMA.[…] They do lobbying, together with ETSI and ITU, and so are very effective. For example, they push for low costs of handsets. They work on reducing the cost of telephony, as it has a strong effect on GDP."

For mobile operators there is no sector specific organization in the SADC region. To this extent, a manager at a mobile operator mentions that because SATA is out there for primarily fixed line incumbent operators, that "ideally" there would be a GSM Africa SADC sub-group. Of course, incumbent South African fixed line provider Telkom is member of SATA, through which it engages in a number of regional multilateral and bilateral meetings. It also takes part in ITU meetings.

Finally, ISPs through the national ISP Association in South Africa are represented at the international level through AfrISPa, the African ISP Association. About 11-13 countries are part of AfrISPa. ISPs do not have a SADC specific organization.

8.4.6.1. Service Providers' Involvement in CRASA

Besides involvement in international organizations beyond the SADC region per se, all large operators from South Africa have had some experience in CRASA, albeit at a rather ad-hoc basis. These operators include Telkom, Vodacom South Africa, MTN South Africa, and Cell C. ISPs have had some representation through AfrISPa, the African ISP Association. Telkom and Vodacom of all operators seem to be the ones that have been involved most frequently.

Vodacom used to try to go to CRASA meetings whenever they were open to private sector involvement, and would discuss issues that were of interest to operators, such as numbering and tariffs. Nevertheless, a manager at Vodacom mentions that usually CRASA meetings are restricted to attendance by regulators only. Another manager at Vodacom indicates that Vodacom has attended a workshop on numbering in Johannesburg, where most operators for both fixed and mobile were invited. The manager also indicates that if such a meeting for example would take place in Dar Es Salaam, Vodacom would likely be represented through Vodacom Tanzania, so counterparts of Vodacom South Africa would be contacted. Another manager at Vodacom indicates that "it is rare that they [CRASA] invite industry". Another manager indicates that SATA was invited more to CRASA than the GSM Association. While CRASA recently opened associate membership for operators to become engaged formally, he says "[a]ssociate membership is limited. If you can't go to the AGM – if you pay for membership they need to be hold accountable. We told this to TRASA, and we haven't joined".

A manager at MTN indicates that at MTN there is not much engagement with CRASA. Due to cost cutting at the operator, there is no budget or time available to do so, as priorities lie in other areas. Nevertheless, an MTN manager for example has attended a 2004 CRASA meeting. The manager furthermore mentions that CRASA is being followed passively, "but not in a way a government will look at those policies". The manager mentions "I don't know if TRASA is successful. It has a bigger role to play; that is, it should do more". Further, he mentions: "When TRASA works at model legislation,

we tried to be proactive before. But your voice is alone as one operator. TRASA/SADC is organized, and we are not likely to be heard if you go there as one company. We tried at some point. It is a challenge to go through these structures. And, people from TRASA have busy schedules, and then we are of secondary concern. So we don't see the crowd over there we want to see. That is because often people at TRASA are not full time. So it is very difficult to assess the effectiveness, unlike for example the ITU. At TRASA most are on voluntary basis".

At Cell C it is explained that Cell C often gets to see CRASA guidelines. Nevertheless, "we cannot go to meetings since CRASA meetings are closed to members, but we keep an eye on it through people who have an interest in it." Further, a manager indicates that to "[f]ollow up on TRASA is very important. Especially now that we are starting to look at expansion abroad, we must know the roles everybody is playing." Nevertheless, Cell C has been engaged at some point, and has tried to put two issues on the agenda. This however was not successful.

iBurst, a relatively small network operator, due to its relatively young regulatory department, is just starting to follow international organizations. It is mentioned that iBurst is just following up on what CRASA is doing and furthermore looks at the ITU, as well as perhaps ATU.

ISPs have been represented at CRASA through AfrISPa before. AfrISPa had a representative working on the Wireless Technologies Policy and Regulations, and has been invited to workshops.

One manager at Telkom, who has been significantly engaged in SATA, indicates not to have had much interaction with CRASA: "The only association that I have had with TRASA was to get countries more lenient on satellite through VSAT. It is a growing market. But because of the terrain there is lack of infrastructure. There is a lot of resistance with countries to allow it". Yet, "I absolutely think we need to stay up to date on what TRASA does." He indicates one of Telkom's employees goes there. Another manager at Telkom indicates: "As an operator I don't attend CRASA meetings. I know that when you ask them when the next AGM will be, they never know. It always seems very loose." Yet, he mentions with regard to the newly established associate membership for operators, "it is interesting so you can influence, and they need it for funds".

8.4.6.2. Operators' Perceived Influence of CRASA on South Africa and the wider Region
Managers from industry have different perspectives on the influence of CRASA on the region. Some believe that CRASA does influence regulation in the region, whereas others find CRASA merely to be a "talkshop". Nevertheless, overall there are some success stories as explained by managers in the South African telecommunications sector. For example, one manager indicates that people from around the world positively commented on SADC's cooperative effort to develop the SADC Regional Frequency Allocation Plan for 20-3100 MHz, to which extent one of the managers involved in the development of the Band Plan was approached by someone from another region who wanted guidelines on how to approach the development of a regional band plan. Further, another manager

from industry indicated that the CRASA Wireless Technology Policy Guideline was requested by the global WiMAX forum.

Another manager at a mobile operator highlights the example of CRASA's approach to harmonized numbering. While not fully successful, CRASA aimed to harmonize numbering so that all countries would have a 10 digit numbering system. Yet, because of the different stages of development of the SADC countries, it was impossible to make a common plan, particularly as some countries just shortly before already made changes to their numbering systems. Nevertheless, according to the manager, a 2 step recommendation was agreed upon where countries that would not need 10 digits, would use 7. He believes that some countries are now using 7 digits even though they had 5 before, and thus believes that CRASA has been successful in that instance.

Overall, many managers express their positive attitude towards CRASA. For example, a manager at another operator believes that CRASA has influence: "TRASA does trigger some change. Most countries participate in meetings". Additionally, a manager at another mobile operator indicates that "SADC and CRASA do very important things […] SADC and CRASA have a big role to play in for example spectrum efficiency, to provide for a common platform". Yet, the manager also believes that for spectrum harmonization CRASA and SADC could do better, as they believe that it is largely driven by the needs of manufacturers (which perhaps might be due to Motorola having been involved in the drafting of the regional band plan).

A manager at another mobile operator in turn indicates that he believes that regulators in CRASA have a lot of influence. "Because they participate amongst themselves, they start to understand what is the policy on universal access, so they start to implement that at the national level. There are benefits for the regulators because they share the global perspective. The downside is because the regulators get those policies they start to implement them at the local level and it becomes a problem if they want to come up with a one size fits all policy -- of which policy should be adopted to local conditions, it becomes confused. So that is the negative side of it". Finally, an independent consultant who has been involved in the region indicates that he believes CRASA to be a "very effective knowledge sharing experience. For example, not all countries had regulators, but so the established members could share their experiences, and in that way do capacity building and networking". He furthermore indicates that he thinks that "CRASA shapes some urgency in the opening of markets". He gives an example that for universal service obligations things are working: "I believe one or two have implemented this, and this could provide benefits to others". Yet, he remains critical and says that "I don't think harmonization is happening enough right now. […] Regulation is still very much nationally driven. But again, this is part of the CRASA problem; harmonization should happen at a higher level – government".

Nevertheless, not all managers are as positive as these. A manager of a mobile operator who has been engaged in CRASA indicates that the various guidelines that were developed "didn't really say anything. Technology changes so quickly". Additionally, another manager at this mobile operator says that "I think that regulatory bodies are more

like talkshops". A managing director from another South African telecom company expresses a similar opinion: "unfortunately TRASA tends to be more than a talk shop than a real body with teeth." He believes this depends significantly on the underlying governance structure of the region (SADC) itself: "Europe has an advantage, because Europe, the EU, if you join the EU, you agree to abide by all the rules and so you have a European regulator laying down rules. And as a member state you have to comply. I think that's what is totally missing in the SADC environment. So I don't think TRASA is gonna resolve this issue, but it is gonna have to be resolved at the national level." Finally, an independent consultant says that regional efforts are "sometimes very frustrating: countries just do what they want", yet does not believe CRASA is a mere "talkshop".

8.4.6.3. SATA

Just like the different perspectives on CRASA's impact, the role of SATA is perceived differently by South African service providers. SATA has been a particularly important regional organization for South Africa's incumbent operator Telkom. However, even though SATA recently opened up membership for operators and service providers other than purely the incumbent fixed line operators, among mobile operators there does not seem to be a lot of enthusiasm yet to join. Sentech has been engaged in SATA as well.

For Telkom SATA membership has been fruitful, particularly because it has played a significant role in connecting the region, and making operators across the region talk to each other. According to a Telkom manager, "SATA was very instrumental in trying to get African countries to improve their infrastructure. It has a mandate from the CEOs of the different companies. It is like a catalyst." The manager continues to explain that SATA has changed its focus over the last couple of years. Whereas it used to be focused purely on getting infrastructure rolled out in the region, it has started to look more into emerging technologies such as WiMAX, WiFi, etc. As such, SATA and the SADC region have made steps forward. An independent consultant agrees on SATA's progress: "SATA is an industry body. It has a standard structure and is well organized. I have been quite impressed with their focus". Furthermore, recently SATA has started to organize a forum for having bilateral meetings among operators over a couple of days, to give them the opportunity to conclude deals in a very short time with different operators and thus to save operators time having to travel to the different countries.

Even though membership has been opened to include any ICT service providers in the region, South Africa's major mobile operators particularly are not interested in joining. Nevertheless, it is mentioned that besides incumbent operators, equipment suppliers also participate in SATA, as they help with the infrastructure. They often provide presentations and are invited by SATA so that it can get some funds. However, currently not many mobile operators or other service providers seem to take advantage of the extended membership possibilities.

Managers at one South African mobile operator indicate clearly they do not wish to join. At another mobile operator in turn a manager explains: "I am familiar with SATA. SATA was established specifically to focus on the fixed line operators. So we are not taking place in it." Another manager at the same mobile operator also indicates that SATA

invited the company to join, but that it was felt that SATA's focus is very different from mobile operators' focus.

Nevertheless, one mobile operator seems more open to the idea, also because of SATA's relation to CRASA. A manager at this operator indicates that "SATA would actually help to talk about common issues. It is actually good to have a framework where operators and regulators come together".

As in CRASA, at SATA there are also differences found in attendance by the different members. A manager from Telkom indicates that from the 14 incumbent operators in SADC only 8-10 participate regularly. For example, DRC and Madagascar do not often participate, whereas Tanzania and Malawi have just started to participate regularly. Another Telkom employee indicates that active participating countries are Mozambique, Namibia, Zambia, Malawi, Botswana, and Lesotho only seldomly. South Africa participates all the time, and DRC does not really participate, nor does Angola. Swaziland sometimes participates. Yet, this manager also indicates that he believes that during meetings all organizations are equal, but that the level of participation just varies. Nevertheless, according to a former Telkom employee, "South Africa tries to impose things on others. They call people together to get a unified idea, to benefit the majority. But you see that Telkom has much more to say in SATA meetings than others". Besides the attendance problems, according to a Telkom manager there is also a challenge for the Secretariat itself. "I think the Secretariat should get much bigger."

While many of the benefits of membership are rather similar to those mentioned in the other cases, also in South Africa at Telkom it is felt that SATA does not have a strong relationship with CRASA. One manager at Telkom indicates that while the operators' association in the EU does very strategic work on influencing the regulators, in SADC it is very different. The manager indicates "here is it not that easy because of different influences. It is not transparent who becomes engaged when, and for example why Telkom often has been engaged and not other operators. So when I was engaged with SATA, they were basically working on getting fiber into the ground, and not so much about influencing regulation or policy.

8.4.7. Benefits from CRASA Membership and Challenges Ahead
Going back to CRASA, both regulator and industry players identify a number of benefits of CRASA membership but also challenges to CRASA's effectiveness or ability to influence national policy and regulation. Next, the identified benefits and challenges will be discussed in turn.

8.4.7.1. Benefits
At ICASA a number of benefits to membership at CRASA are mentioned. These range from the perceived benefits from the high level goal of harmonization, development of the region, resource sharing, knowledge sharing, increasing bilateral relations, and getting a greater (unified) voice at global level forums such as ITU.

With regard to harmonization, two managers at ICASA indicate that CRASA's "overall goal" is to stimulate investment in the region, and therefore "[w]e need a homogenous policy framework as that makes it easier for the investor to come, instead of when there are different policies everywhere". This furthermore also enables the member states to get to develop better regulation and policy through resource pooling among regulators. As an ICASA manager indicates, "it's certainly good, because we can bring even the smallest regulators up to the same level. Even if they are not there yet. It's been good in that sense. And it's also good to have CRASA, because we share resources." Furthermore, another ICASA employee who is generally speaking critical of the effectiveness of CRASA, and particularly ICASA's benefits from CRASA membership, indicates that CRASA does a lot of capacity building in the region: "There's a lot of sharing and there's a lot of engagement. If you look at a guy like X [anonymized], he has really driven our involvement with an enormous amount of passion. He has really invested in it."

Another ICASA staff member mentions that, through having been involved the drafting of CRASA guidelines, ICASA is also able to enhance bilateral relations: "most important for me and ICASA of being part of the TRASA committee was interacting with different regulators in SADC, and learning what is happening in other countries. It provides for quick and easy benchmarking. So it helped me to develop knowledge and I then passed the experience into the organization [ICASA]. Also through developing relationships I can now easily for example pick up the phone and call someone in Botswana to see what they are doing".

Finally, one ICASA manager indicates that CRASA is important to South Africa, because, "CRASA is also important for going to ITU. We need a regional voice instead of an individual voice. Then we have a greater voice".

Among managers at operators largely similar benefits are mentioned. This is particularly true when they talk about benefits for regulators, by saying such things as "CRASA seems an information sharing forum", or by referring to CRASA as enabling "informal consulting" between regulators. One manager says: "I definitely feel we have to work together as SADC. We need it to be stronger than just one vote." However, when managers from industry speak about benefits coming forth from CRASA that specifically relate to their own gains, a number of practical issues are mentioned that relate to investing abroad.

First, it is indicated by a number of managers from the telecommunications sector that harmonization is a major benefit to regionalization, as it provides economies of scale and scope. To this extent, one manager explains that for example in the area of Type Approval, CRASA could play a vital role. If equipment could be type approved in any country or if there would be one single point within the region for Type Approval, companies that operate in a number of SADC countries could make collaborative purchases and have their equipment type approved at once. In addition, a number of managers indicates the role that CRASA could play in frequency alignment, particularly in the area of cross border frequency alignment. Of course, the SADC Regional

Frequency Allocation Plan for 20-3100 MHz plays into these goals. However, as one manager at a mobile operator comments: "… I haven't seen any matters of real significance with for example spillover. Then there is some debate. Within the GSM Africa forum we debated this. But it is not really significant here". Thus, while some believe that CRASA serves as an important forum to discuss technical issues like signal spillover, mobile operators deal with these issues amongst themselves at GSMA as well.

8.4.7.2. Challenges
Besides the benefits coming from CRASA membership, CRASA faces a number of challenges as well. These challenges range from the more direct and practical issues such as lack of funding of CRASA and some national regulators, the different levels of development across the region, internal (intra-regulator) dissemination of CRASA guidelines, to issues such as national sovereignty and private sector involvement. These will be discussed in more detail next.

Among ICASA employees the major challenge of CRASA is said to be the lack of resources. For example, the Secretariat works with only three people, who have their hands full on basic administrative activities and therefore have little time left to engage in extra work as related to the development of CRASA. Furthermore, the development of CRASA to date has relied heavily on its leadership, where a few very engaged people have pulled CRASA to where it is today. Since this is such a personal issue, the question is how this will continue in the future.

Another challenge regards internal dissemination of CRASA guidelines and other documents within ICASA itself. As an ICASA manager explains, within ICASA itself sometimes workshops and seminars are held, perhaps once every quarter, which provides a way to disseminate what has been done at the CRASA level. More direct dissemination occurs among managers within ICASA during meetings. Yet, the people within the various groups/departments within ICASA do not always directly get this information. It is up to the managers of the department to share CRASA information within their groups. Yet, people within the groups who engage at a more technical level as opposed to higher level managerial issues that the managers engage in, often provide the support for work in CRASA committees, and therefore they sometimes also go to meetings. The problems of dissemination within regulators are acknowledged by an industry manager who has been involved in CRASA a number of times as well. With regard to the SADC regional band plan he indicates that "[w]hile all people involved in the process have a copy, I often notice that CRASA documents are not well shared within organizations. Often when managers are involved they do not provide the documents to people at the lower level. They should distribute this".

A large number of other challenges are observed by South African managers from the telecom industry as well, ranging from lack of capacity, different levels of development across the region, lack of resources, type of delegates attending meetings, language problems, operator involvement, the role of consultants, lack of power of CRASA in general, and internal dissemination of CRASA documents within member regulators.

First, as related to the lack of capacity of regulators as identified by ICASA employees, managers in industry also find a challenge with regard to capacity building. A manager at a telecom company finds that generally speaking, it is a "challenge as to how regulators could produce their own guidelines without outside help. People have good ideas, but their capability is just sometimes lacking. […] Even the EU's regulators would not always be capable to do that. But with assistance of consultants they can do it. But the capacity problem is more prevalent in Africa than in other regions".

Capacity building is furthermore difficult according to one manager from industry, because committees typically meet on an infrequent basis. Having just attended a committee meeting, he also finds that particularly the social events were valuable. Because many people did not know each other prior to the meeting, during the social events they got to know each other and started sharing experiences. Therefore, the manager indicates he would like there to be more meetings. Yet, the manager does believe that CRASA is "getting closer to harmonization. But it comes back to having something on paper, which is shared by all".

Of course, the problem of having few meetings depends largely on money problems. This issue is mentioned by a number of people, who have seen the consequences of some regulators being unable to attend all meetings. The different levels of involvement of countries within CRASA have an impact on CRASA's effectiveness according to an independent consultant. Further, according to a manager at a mobile operator "[c]ertain regulators in Africa are not well resourced. They are likely to follow. They should have the ability to evaluate."

Additionally, and partially as a result of the lack of money, two managers from two different telecom companies who have been involved in CRASA a number of times believe that often not the right people come to international meetings and conferences. According to one of the managers, this has to do with hierarchical structures, where the 'highest ranked' people should be the ones to travel abroad. So often not the people directly responsible for whatever the issue of a meeting is, come to meetings.

Finally, due to the lack of resources, consultants cannot be freely picked, and often CRASA needs to take advantage on whatever consultant a donor agency pushes forward, or if someone from the private sector within the region with knowledge about a particular issue offers free consulting it needs to take advantage of this. Of course, while the use of consultants was mentioned to be a benefit, particularly when someone from the telecommunications sector is used there is potential for challenges. For example, Motorola South Africa has been engaged in the drafting of the SADC Band Plan and thereby has acted as a consultant to CRASA, where Motorola was bearing much of the costs. Yet, some CRASA members felt particularly early on in the process that Motorola might just be pushing its own agenda. While most people at the end actually seemed to like the outcomes, and not as just Motorola having put forward its own agenda, two managers at a mobile operator still express that they believes Motorola might have had a hidden agenda to push its own technology. Further, as member fees to CRASA do not allow hiring of top notch consultants, there is also strong reliance on donor funding.

On top of these problems come language problems for some of the countries. While the majority of the region speaks English, Angola, DRC and Mozambique's official languages are Portuguese and French. To this extent, one manager had suggested documents to be translated into French and Portuguese, as particularly DRC and Angola have significant language problems. Some feel that these language problems have led to a lower level of participation by some countries.

8.4.7.2.1. CRASA Power & National Sovereignty

Besides some practical issues coming forth mainly from the limited resources available and the different levels of development of the various member states, some problems with CRASA's structure are observed. Many of these problems however are inherent to countries' sovereignty. As a manager at an operator explains, "TRASA just needs to be much more instrumental […] They can advice, but not change policies. Even TRASA, they do lots of good things but cannot change". To this extent, managers emphasize the greater role that CRASA could play, particularly in areas of Type Approval and Frequency Management. For example, a common Type Approval system where one could go to any country to have equipment type approved that would be valid in all SADC countries, would provide benefits to multinational operators as it enables collaborative purchasing of equipment. However, there are many issues standing in the way of this deeper type of integration, such as for example which country would be able to make profits of such coordinated services. Further, for example, fears could include manufacturers avoiding actual equipment testing by bribing people in a country where there is limited enforcement. Thus, there are many issues of trust, national sovereignty, and profit making involved, that impede deeper integration.

A manager at a mobile operator, and a former employee at the South African regulator, furthermore believes that the structure of CRASA is inefficient. He believes that other international organizations have clear reporting structures and for example have libraries where documents can be found. This manager also feels that there is no significant evaluation of what countries do with guidelines. A manager at another mobile operator to this extent also feels that CRASA does things "privately"; i.e. it is not at all times open about what it is pursuing, and often times does not make documents publicly available. He seems to indicate that this used to be different in the past: "the TRASA Secretariat is not longer open or transparent as we used to know."

Further, because there is no clear follow up to guidelines that have been developed, countries are not greatly stimulated to adopt them. Moreover, one independent consultant admits that when one of the regulators from the region inquired about adjusting its band plan to align it with the SADC regional band plan, the country was advised not to make changes yet, because would be very expensive and other countries might not follow.

8.4.7.2.2. Private Sector Involvement

Finally, as already came to the fore in the discussion about private sector involvement in CRASA, there are problems as usually the private sector is invited on an ad-hoc basis. Hence, not always a cross-section of the private sector is invited. As one manager indicates: "There is no structure to coordinate with the private sector". A manager at a

mobile operator indicates that while normally at the national level there is first consultation with stakeholders on new regulation and policies, at the regional level there is no such consultation. "They just put the policies to the region. So they only consult amongst themselves. So operators are not allowed to provide input and stuff, only once a year, which is unfair". Two managers at another mobile operator also find this problematic because they are not clear on how they could participate. Therefore, a manager at yet another telecom company indicates that he believes that more industry participation is needed: "A formal approach with a good cross section of industry players would be good. But they [CRASA] would have to make their own conclusions and guidelines. That means they have to do it all by themselves." Yet, he also acknowledges that a disadvantage to having more industry players involved would mean more time delays, more disagreements etc. Finally, as he also believes that meetings are not held frequently enough, which also means more sources of money are needed, membership fees of industry could therefore be a solution to both private sector participation and the resource problem.

Now that a large number of benefits of CRASA membership as well as challenges that CRASA faces have been discussed, it is time to discuss the role of SADC itself and South Africa's engagement in this higher level policy making organization, with a particular focus on the role of the DoC.

8.4.8. The Department of Communications in the SADC Region and Beyond

Apart from operators' and ICASA's involvement at the international and regional level, the Department of Communication (DoC) is also involved at these levels, through both similar and different organizations, in order to "fulfill South Africa's continental and international responsibilities in the ICT field"[64]. Within DoC, the Africa Desk is responsible for managing international relations within Africa. This involves the African Union (AU), NEPAD, and regional integration. International relations in general entail bilateral relations (at a global level) and multilateral relations, through organizations like the UN, ITU, OECD (Organization for Economic Cooperation and Development), and events like WSIS (World Summit on the Information Society), etc.

According to a manager at the DoC, within SADC the major focus or objective is to harmonize policies and implement projects for socio-economic development. As indicated, not only policy is driven at the Ministers' level in SADC, but project initiation as well. Nevertheless, the manager indicates that since SATCC was dissolved in 2001 'not much' has happened. This is acknowledged by managers at a mobile operator. One manager indicates he has "not seen any harmonization going on" at SADC. Another Vodacom manager believes this might be due to the void that arose in SADC, which in his opinion also had an effect on TRASA, as policies were not implemented.

Perhaps for this reason SADC initiatives are taken without involvement by the SADC secretariat. To this extent in order to prepare for the World Radio Conference in 2007 (an

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[64] See
http://www.doc.gov.za/index.php?option=com_content&task=category&sectionid=4&id=13&Itemid=26
Last accessed October 12, 2007.

ITU initiative aimed at harmonizing frequency alignment across countries in the world), DoC organized a SADC meeting where regulators and operators from the different member states came together, even at a time when Lesotho was the chair of SADC. While the official SADC organization was not involved, these type of SADC meetings face other problems as well. As indicated by a manager at DoC, for a recent WRC COM preparation meeting in 2006 invitations to attend a meeting were send out only one week prior to the meeting. With such a late notice, first of all of course agendas may already be full, and additionally, for some countries there are only a few flights a week to particular other countries (such as e.g. Angola – South Africa), and does thus become difficult to schedule a flight on such a short notice.

Another practical problem, as was also mentioned to be the case for CRASA, is language. While Mozambique does not have a big problem with the English language, Angola and DRC do.

Finally, a manager at DoC indicates that at SADC, like CRASA, there is a problem because the mobile sector does not participate. The manager however believes that is because the mobile operators do not want to cooperate, because it might not make 'a business case'.

Thus, generally similar to observations in Tanzania and Botswana, South Africa's regional involvement primarily takes place through CRASA and SATA, while policy makers have relatively limited involvement with SADC.

Having discussed the various ways in which South Africa is involved in the region and gains benefits from this, as well as influences regional policy and regulation, it is now time to summarize the main findings of the role of South Africa in SADC regional policy and regulation making.

8.5. Intra-Case Analysis

This case has identified a number of factors at both the national and regional levels relating to regulatory governance and regulatory incentives that drive the effect of CRASA on South Africa and vice versa. Next, first a discussion of the influence of national level regulatory governance on national regulatory incentives is provided, followed by a discussion of influences across the national and regional levels.

8.5.1. National Level Regulatory Governance and Regulatory Incentives

South Africa has a large ICT and telecommunications sector. Already in 1994 mobile telephony was introduced in the country, and its two major mobile operators, Vodacom and MTN, are among the largest multinational mobile operators in the African continent. However, even though South Africa has seen its ICT and telecommunications sector grow at such a fast pace, its legal and regulatory framework has not been favorable for further liberalization and increasing competition.

As aptly described by a former ICASA employee, "you know, everything looks good on paper sometimes. You look at law, and it looks great. But ultimately laws need people to make it work". And, as a current ICASA employee reflects on the division of roles and functions of the regulator and DoC, "throughout the policy and regulation making process and the licensing process [there is] a weaving of roles and responsibilities". This constitutes the story of South Africa's regulatory governance mechanism. ICASA is perceived as highly dependent on the DoC, and as such has not much flexibility to develop regulation. By law the Minister has a lot of power, and steps in leaving little space for the regulator to make regulation. Thus, the formal regulatory governance mechanism has significantly affected the regulatory incentives introduced.

This regulatory 'dependence' has a number of reasons. First, ICASA has to negotiate its budget with the DoC instead of ICASA obtaining its budget directly through operators' license fees. Second, the legal framework is highly specific and in that regard leaves little room for ICASA to make regulation. ICASA for example never had the authority to license national operators, as this power was with the Minister. The Minister from early on has been able to significantly delay the licensing of new national operators in order to protect Telkom, in which it still has 38% stakes. For example, while the Telecommunications Act from 1997 already provided the legal basis for entry of a third mobile operator into the market, South Africa's third mobile operator Cell C was only licensed in 2001. Additionally, the 2001 Telecommunications Amendment Act provided the legal basis for market entry of a second national operator that would be allowed to provide PSTS (public switched telephone service), but through interference by the Minister the licensing was delayed until 2005. The role of formal regulatory governance (i.e. formal legislation, policy and regulation) thus has played a significant role in constraining the flexibility of the regulator.

Furthermore, informal regulatory governance plays a role as well, and is partially influenced by formal regulatory governance. Due to ICASA's limited budget, many have indicated the overall of ICASA staff members in many instances to be insufficient. This is added to the so-called revolving door effect (see e.g. DalBo, 2006), that heavily affects the South African regulator. South Africa's very well resourced multinational operators are able to offer much higher salaries than ICASA and therefore are often able to recruit many of ICASA's best employees. For the same reason, it has been challenging for ICASA to appoint well-educated and highly experienced councilors. In 2006 at some point ICASA's council had 4 instead of 8 members.

Institutional endowments at the national level have been important as well, and fortunately do provide some checks and balances on the power of the Minister. To this extent for example the ICASA Amendment Act was sent back to Parliament because of the proposed extension of power of the Minister to appoint councilors. Within the private sector institutional endowments are found to be important as well, where the 'checks and balances' through the perceived independent judicial system have been used extensively.

The recently introduced ECA is seen as a step forward however, even though the minister is still to approve of national licenses and to decide when national level operators are to

be licensed. Hence, the market is not likely to see expansion through market entry of national network providers soon. Nevertheless, as one interviewee indicated, the ECA might, "for the first time" enable the regulator to make regulation itself.

8.5.2. Cross Level Influences

Even though ICASA's reliance on the DoC could imply a difficulty in implementing CRASA's model guidelines at the national level, problems of this kind have not come to the fore. Moreover, even though the regulator in South Africa does not have a lot of flexibility or discretion to make regulation, due to the advanced status of the market in many instances it does have more advanced regulations in place than other SADC countries. For example, the SADC Regional Band Plan and the Interconnection Guidelines have been indicated to be based on South Africa's regulation. This implies first of all that emulation is one mechanism for developing regional guidelines. Further, it shows that national regulatory incentives influence regional regulatory incentives.

Additionally, even though ICASA is relatively under-resourced in South Africa's large telecom market with some very well-resourced operators, compared to some other SADC regulators it does have many resources. For example, ICASA has about 300 staff members, which stands in sharp contrast to for example the regulator in Namibia that has little over 10 staff members. Thus, it is able to have more people involved in CRASA than many other members. This has enabled South Africa to be very active within CRASA, through membership in the Executive Committee, by bringing the largest number of delegates to AGMs on average, by hosting the CRASA Secretariat in the early days of CRASA, and through a high level of participation in CRASA standing and sub-committees. This first of all implies that resources are an important means for regional participation, and thus also regional regulatory governance. But also, because of ICASA's experience with a number of relatively advanced regulations it is asked to participate in committees. Thus, a link exists between national regulatory governance and regional regulatory governance.

Finally, a link was found between the degree of market development external stakeholder influence on CRASA. South Africa's private sector, as opposed to the other case countries' private sectors, has been relatively well engaged in CRASA. They have participated in meetings, workshops, and even in committees, which enabled them to influence regional guideline development. There are three possible reasons for South Africa's high level of engagement. First, as participation of the private sector is based on invitation, CRASA sees an opportunity in building on the experience gained by South Africa's very advanced and large operators. Second, many of CRASA's meetings and workshops take place in South Africa which makes it convenient for the South Africans to participate. Third, as can be inferred from the perceived benefits of South Africa's membership in CRASA by managers from the private sector, they see CRASA as potentially useful in enhancing the investment climate in the SADC region, which for a number of multinational corporations in South Africa could provide opportunities. Hence, there is significant interest by South African operators in observing and trying to influence CRASA.

8.6. Conclusions

This chapter has shown that South Africa has a complex national regulatory governance mechanism where the regulator does not have much flexibility to make regulation itself. However, even though under-resourced for South African standards, it is relatively well positioned resource-wise if compared to a number of other regulators in the region. To this extent, ICASA is among the most participating members of CRASA, and has been able to influence regional regulatory governance. Further, due to its experience with relatively well advanced regulation for its advanced telecommunications sector, ICASA has often times served as an example to CRASA. A number of CRASA models have been based on South Africa's regulation. Thus, due to its experience, South Africa's national regulatory incentives have significantly influenced regional regulatory incentives.

Furthermore, due to South Africa's relatively advanced status of the market and accordingly its complex legal and regulatory frameworks, it is often times ahead of issues discussed at CRASA. Therefore, CRASA has not been able to exert a significant influence on South Africa's national regulation. This also means that ICASA's low level of regulatory flexibility has not had a chance to impede regional guideline adoption at the national level. However, it is acknowledged in South Africa that participation in CRASA does have benefits through knowledge sharing and enhancing bilateral relations which provides opportunity to contact other regulators when ICASA seeks to work on topics that other countries have more experience with. To this extent, Tanzania has been mentioned as a country that ICASA could learn from with regard to its experience in introducing a fully converged licensing framework.

Finally, an interesting observation was made that South African operators have been able to participate rather extensively in CRASA, particularly when compared to their Tanzanian and Botswana counterparts. Due to the relatively large number of committee meetings and workshops taking place in South Africa, South African representatives from the private sector have been invited to provide input as well as even have been directly engaged in a CRASA sub-committee for the drafting of regional guidelines. While there is a clear benefit for CRASA as many South African regulators are on the front lines of implementation of advanced communication and Internet access technologies, of course there is also a downside in that operators from other countries have fewer opportunities to have their voices heard.

9. Comparative Case Analysis

The country cases as presented in chapters six through eight have provided insights into factors that have driven national regulatory governance, regulatory incentives and market performance, as well as the role these countries play in CRASA and the impact CRASA in turn has on these countries. The three chapters have also brought to bear a number of similarities as well as differences with regard to these countries' national regulatory frameworks and sector performances, and their roles in CRASA and the benefits they perceive to gain from CRASA membership. This chapter will highlight these similarities and differences, and as such, this chapter constitutes the comparative case analysis of the three national country cases; Tanzania, Botswana, and South Africa. Taking into account the regional case analysis from chapter 5 and the national case analyses from chapter 6-8, this chapter reports on the major similarities and differences among the national cases as encountered throughout those chapters. The chapter starts with an overview of the different mechanisms of regional influence on the national level, which includes a discussion of benefits of CRASA membership and challenges that constrain CRASA's ability to influence national regulation making. Next, an overview of similarities and differences of the influence of national regulatory governance and incentives on the regional level is provided, followed by the influence of regional regulatory governance and incentives on the national level. The chapter closes with a summary of highlights of influences on, and impacts of CRASA.

9.1. CRASA's Mechanisms of Influence

This section discusses the different mechanisms of influence that CRASA has on the national level. It is started by an overview of similarities and differences found among the case countries in terms of the benefits they find in CRASA membership, followed by the challenges that CRASA faces. These challenges provide more insight into the factors underlying the way in which CRASA can influence its members. This is followed by a short discussion about the role of SADC, which through the official relationship with CRASA has an impact on the role of CRASA in the region and the way it can influence member states. The section finishes with a discussion of EARPTO in the East African Community, which through differences in membership and organizational structure provides some insights into factors of organizational nature of regional organizations that may influence the ways in which RRAs can influence their members. Table 9.1 provides a brief overview of the factors underlying CRASA's mechanisms of influence on its member states.

Mechanisms of Influence CRASA			
	Tanzania	**Botswana**	**South Africa**
Benefits membership: regulator	Knowledge Sharing (includes process of guideline development); Resource pooling for workshops; Enhancing bilateral relations (e.g.	Knowledge Sharing; Networking; Resource pooling; Use of model guidelines; Harmonization; Development of the	Harmonization (long term); development of the region; resource sharing; knowledge sharing; enhancing bilateral relations; getting a greater (unified) voice at global

	peering program)	region	forums
Benefits membership: service providers			Generally there is interest of what CRASA *could* do specifically with regard to internationalization opportunities through harmonization; knowledge sharing; getting a greater (unified) voice at global forums.
Challenges CRASA	Ambiguous service providers' involvement; Lack of funding preventing some regulators from participation; Getting members on one line due to various backgrounds	Budget constraints CRASA: problems for some to come to meetings, participate in committees – convenors need to host meetings (and pay); paying membership dues; understaffed secretariat Language: problem for Angola	Lack of capacity regulators across the region; lack of resources; potentially continuity leadership; internal dissemination at regulators of CRASA guidelines; often lack of technical people at meetings (only managers come); different levels of development across the region; language problems; lack of power of CRASA in general; limited frequency meetings; limited private sector involvement
Role of SADC	Participation unknown	Knowledgeable about SADC, involved	Involved, low level of SADC activity perceived by DoC
Other international regulators' associations	EARPTO ▪ Similar objectives as CRASA ▪ Small number of member states (3 at time of data collection, 5 since June 2007) ▪ Perceived higher level of political integration (also due to cultural proximity) ▪ TCRA to use Ugandan and Kenyan regulatory models for its own regulation frequently: Perceived high level of impact EARPTO on TCRA ▪ One regulator mentions CRASA is more serious about its mission ▪ High level of involvement operators through general Assembly meetings ▪ 100+ attendance General Assembly	CTO ▪ Many SADC members part of CTO ▪ CTO like CRASA as it is a networking mechanism ▪ CTO brings value through website which enables knowledge sharing ▪ CRASA value is cultural/geographical proximity -> similar problems among regulators ▪ CRASA all developing countries; CTO both developed and developing countries ▪ CTO has members from the private sector ▪ CTO not to focus on harmonizing policies	N/A

Table 9.1: Factors Underlying CRASA's Mechanisms of Influence on Member States

9.1.1. General benefits from membership

Regulators have indicated to find a number of benefits in CRASA membership, including resource sharing, knowledge sharing, enhancing bilateral relations, achieving a better (unified) voice at the global level, and development of the region. Furthermore, at all regulators it is believed that CRASA will ultimately lead to greater harmonization of policies across the region, which is firmly believed by all to stimulate market development. While all of these benefits to a greater or lesser extent are mentioned by regulators in the three case countries, particularly staff at Botswana and Tanzanian regulators indicate to have gained a lot from the knowledge sharing at CRASA, whereas at ICASA the benefits remain less straightforward. Further, particularly at the Botswana regulator and those who have been highly involved in CRASA seem to have a strong commitment to development of the region in general, trying to help other countries who do not have very advanced regulatory frameworks in place yet.

An interesting finding across the case studies was that even though the major activity of CRASA is indicated to be the development of model guidelines, the primary benefit of CRASA membership as perceived by regulatory staff in the three countries is not necessarily the use of these guidelines. In South Africa the use of guidelines is not mentioned at all, and within TCRA membership benefits are predominantly perceived to be those of knowledge sharing and enhancing bilateral relations. Nevertheless, while within BTA the knowledge sharing aspect is perceived as very important, the model guidelines themselves seem to be appreciated as well. As such, it can be inferred that capacity building through knowledge sharing is an important mechanism of influence for CRASA.

9.1.2. Perceived Challenges for CRASA

While the benefits discussed imply CRASA to impact its regulators, numerous challenges have come to the fore as well, which constrain the effectiveness of CRASA's mechanisms of influence. Key challenges include lack of funding of CRASA as well as some low-resourced regulators, having to deal with countries at various levels of development, ad-hoc private sector involvement in CRASA, language problems, and political and economic problems in some member states. These challenges have an impact on the role that member states play in driving CRASA and the level of activity of members in CRASA, the level of detail of regional guidelines and their usefulness to members, and the influence on guideline design, as the following discussion will show.

In all three countries regulators as well as the private sector agree on many of the challenges that CRASA faces. Many of the problems boil down to the limited funding of CRASA. This is observed in the small number of staff at the Secretariat, which therefore has its hands full on general administrative tasks, and has limited time to focus on facilitating or providing support to CRASA's key activities such as regional guideline development. Because of this understaffing, CRASA is very dependent on its members to initiate activities. Yet, limited availability of resources at some regulators prohibits some members to participate actively which will have an impact on their input into regional guideline design. Participation is also a problem for some countries that are facing

economic and political problems at home (e.g. the Democratic Republic of Congo (DRC) and Zimbabwe). Language problems have in some instances been found to be an issue as well, and has mostly affected Angola (as well as likely DRC but since the latter has hardly ever participated this is not observed). However, recently Angola has started to participate more in meetings.

Another problem is the involvement of the private sector. To date, the private sector has primarily been involved in an ad-hoc and on invitation-only basis. This has led to an uneven representation of operators, where the South African private sector has had significantly more involvement than any other country's service providers. This runs the risk of model guidelines being tailored towards the needs of South Africa's large multinational operators, which might not be representative of the needs of SADC's private sector as a whole. The high level of participation by the South African private sector might be due to committee meetings and workshops taking place significantly more often in South Africa than in any other country, which in turn is due first to logistical advantages as Johannesburg airport in South Africa is the major hub that routes a significant amount of intra-regional travel. Secondly, it might be due to these meetings being hosted by the very active regulator ICASA from South Africa that has the resources to do so.

Another challenge directly related to CRASA's primary activity of guideline development is how to account for all member states with different levels of development. This first of all has led to (1) regional guidelines being very abstract, as well as to (2) regional guidelines often being based on member states regulatory frameworks that are ahead in the region, as section 10.2 will show; and (3) guidelines being of limited use to some member states depending on their levels of development, as section 10.3 will show.

9.1.3. The Role of SADC

The role of SADC in the region is found to also have an impact on CRASA's mechanisms of influence. In all three case countries it was found that the influence of SADC on national Ministries is limited. The void created during the restructuring of SADC in 2001 has had a negative effect. While in all three countries it is indicated that Ministries do participate in SADC meetings, everywhere it is indicated that currently there is a low level of activity in SADC. In Botswana there seemed to be more knowledge about SADC at the Ministry as well as more engagement as compared to its counterparts in South Africa and Tanzania, which is likely due to the SADC headquarters being located in Botswana. However, recently no clear impacts seem to have recently come from SADC membership.

The limited role of SADC however also means that CRASA, even though based on a SADC protocol, operates very independently. This might be one reason why CRASA's guidelines often focus on both policy and regulatory issues, as opposed to regulatory issues alone. Further, while in the early days CRASA used to cooperate with SADC's SATCC on for example the Model Telecommunications Bill and Telecommunications

Policies, as well as lobbied for the establishment of autonomous regulators, this lobbying role is limited today. Nevertheless, it still remains a purpose of CRASA for regulators to go to their ministries to discuss policy issued based on CRASA guidelines, and as such entails a primary objective of CRASA.

9.1.4. EARPTO

Finally, while perceptions about differences between the East African Community (EAC) and SADC cannot be compared across countries, the Tanzanian case has provided a number of important insights into EAC that concern organizational design of regional bodies. Within EAC, the East African Regulatory, Postal and Telecommunications Organization (EARPTO) is responsible for telecommunications regulatory issues, and as such constitutes CRASA's counterpart. Generally speaking CRASA and EARPTO have similar objectives, including the harmonization of regulation and stimulating the development of telecommunications services.

EARPTO consists of an Assembly of Telecommunications Operators, an Assembly of regulators, and an Assembly of Postal Operators. The Assemblies have meetings together, an as such regulators are provided with extensive input from the private sector. Within TCRA this is on the one hand found to be an advantage, but at the same time some regulatory staff at TCRA indicated that CRASA provides benefits as it is more directly focused on regulatory issues.

Overall, within TCRA similar benefits are found in EARPTO and CRASA membership, including knowledge sharing, enhancing bilateral relations and developing best practices. However, EARPTO seems to have had more influence on TCRA. Or that is, at TCRA it was indicated that Kenyan and Ugandan regulations have been used as examples for their own national regulation. The Tanzanian private sector in particular finds significant benefit in Tanzania's membership of EARPTO as opposed to that in CRASA.

Potential factors influencing this comparably high level of influence of EARPTO on Tanzania could be the level of integration, which also might be due to the small number of member states (which in June 2007 increased from 3 to 5), the history of deep regional integration until 1977 that was resumed in 1995, and the cultural and geographic proximity of the member states.

9.2. The Influence of National Regulatory Governance on the Regional Level

Now that some general regional impacts have been discussed, the discussion continues to assess the case countries' similarities and differences in their roles in CRASA. Tanzania, Botswana and South Africa have affected regional regulatory governance and regional regulatory incentives in various ways. Differences in the market structure and regulatory frameworks as well as the differences in roles and responsibilities between Ministry and regulator are shown to have driven regional level regulatory governance and incentives, through their impact on the level of activity of both regulators and private sector in CRASA and the different roles taken at CRASA through specialization.

9.2.1. Level of activity of regulators in CRASA

Tanzania, Botswana and South Africa have been among the most active regulators in CRASA. This follows from their role as founding members of CRASA, their participation at AGMs, membership of the executive committee as well as leadership of standing committees, through overall organ leadership, and through staff awareness, as discussed next. This high level of activity is first of all enabled by the relatively high level of resources that the three regulators have as compared to the rest of the region. This is observed in the high number of staff that the regulators of South Africa, Botswana and Tanzania have, which is around 300, 70, and 100 respectively. This stands in sharp contrast with for example the Namibian regulator that has about 10 staff members. The high level of resources together with commitment has enabled them to be among the most involved CRASA members.

Of all members, ICASA from South Africa brings on average the most delegates to AGMs (6.0), followed by BTA from Botswana (5.4). TCRA of Tanzania brings the fourth most delegates, with an average of 3.4 delegates, after Lesotho with 4.4 delegates. The three countries' high activity level in CRASA is also observed through their membership of the Executive Committee throughout the years. In the Executive Committee, Botswana arguably has been most active, as it has been part of the Executive Committee for 9 years. Botswana's regulator BTA was member of the Executive Committee mostly as Treasurer, but was also once chair and twice vice-chair. South Africa was also once chair, and three times vice-chair. Tanzania was also once chair, and one time vice-chair.

Within standing committees South Africa and Botswana are seemingly equally active. They are both convenor and co-convenor of two committees. Tanzania is once convenor, but in the very active Human Resources & Empowerment committee, which seems to meet more often than other committees: in annual reports it was reported to have met nine times as compared to the other committees meeting that convened on average five times over 6 years.

South Africa and Botswana have also been instrumental in CRASA through hosting the Secretariat for a period of time. South Africa was the first one to host the Secretariat when it became independent of SATCC (the Southern African Transport and Communication Commission – the official SADC organ responsible for communications that helped in setting up CRASA). South Africa hosted the CRASA Secretariat for about one year. Botswana's strong commitment to CRASA however can be observed through its hosting of the Secretariat for about five years, after South Africa until it became located separately from any regulator in 2005. Further, Zambia and Botswana both had a staff member take up the function of Executive Secretary/Program Manager of CRASA. While Zambia took this responsibility for about one year, Botswana again stands out as it provided a Program Manager/Executive Secretary for a total of 3-4 years.

Finally, overall, Botswana stands out in terms of the general level of awareness among the regulator's employees about CRASA. Regardless of the employees' level in the hierarchy, everybody has a high level of knowledge of CRASA: whether talking to employees at the officer level, (senior) manager level or director level, all are very knowledgeable about the activities employed at CRASA. This stands in contrast with BTA's counterparts in South Africa and Tanzania (respectively ICASA and TCRA), where knowledge among employees about CRASA seemingly remains mostly tied to those employees who have actually participated in CRASA meetings or committees. This also brings to the fore that the internal (intra-regulator) dissemination of CRASA documents and best practices within BTA is very well arranged. At ICASA on the other hand internal dissemination has specifically been mentioned as a problem.

9.2.2. Countries' Influences on Regional Guideline Development

Even though as discussed in the former section, Tanzania, Botswana and South Africa's high level of participation in CRASA is enabled by their high level of resources, other national level factors have led to increased participation as well. Because Tanzania, Botswana and South Africa have frequently been on the fore front of regulation and market development within the region, they have regularly been invited to participate in committees. Through this participation, their regulatory frameworks have served as input to regional guidelines, and national regulatory governance experiences have been leveraged in regional regulatory governance.

To gain more insight into how these countries stand out in national level issues that made CRASA take advantage of their experiences, next first a discussion of similarities and differences of national aspects as related to the status of market performance, national regulatory frameworks (regulatory incentives) regarding liberalization strategies, and national regulation making as related to the level of autonomy of regulators is discussed.

9.2.2.1. National Experiences: The Status of Market Performance
Particularly South Africa has gained significant attention by other members in CRASA due to its high level of market performance. Nevertheless, all three case countries provide interesting examples of market growth, even though all three countries have very different market structures, as will be discussed next. See also table 9.2 for a comparative overview of the status of market performance.

South Africa has the most advanced telecommunications and ICT market in the region. With a population of about 44 million, South Africa's mobile and fixed line operators likely already provide about 50-70% of the population with telephony services. South Africa is furthermore home to two multinational mobile operators that have footprint in numerous other African countries as well – Vodacom and MTN. Additionally South Africa has a relatively small third mobile operator since 2001 and in 2006, with 5 years delay, a Second Network Operator, NeoTel, was licensed, which was meant to compete with incumbent Telkom after the latter's period of exclusivity ended in 2001. Additionally, perhaps more than 150 ISPs provide Internet related services.

Status of Market Development			
	Tanzania	**Botswana**	**South Africa**
GDP/capita	USD $800	USD $10.900	USD $13,300
Ranking Human Development Index (out of 177)	162	131	121
# Inhabitants country	39M	1.8M	44M
# of mobile telephony users ('active' sim-cards)	>6.3M	>750.000	~39M
# of network operators	4 recent entrants; 4 traditional mobile operators since 1994 (Zantel, Mobitel, Celtel, Vodacom Tanzania); incumbent - TTCL	2 traditional mobile operators since 1998 (Mascom, Orange Botswana); incumbent operator - BTC	Incumbent Telkom; SNO NeoTel since 2006; Traditional mobile operators MTN, Vodacom since 1993; Cell C since 2001; Other network providers: e.g. Sentech (government owned), iBurst
# of ISPs	14-20 (operational)	8-10 (operational)	>150 (members ISP Association)
Access technologies in the market	2G: GSM, CDMA; 3G: CDMA2000, UMTS; ADSL, SDSL; wireless broadband in 450MHz, WiMAX plans (frequency allocated in a few instances), etc.	2G based on GSM, BTC likely to start offering mobile with either GSM or CDMA. 2.5G: GPRS by Mascom; Orange planning for GPRS. Plans for WiMAX still very open – 3.5GHz band might be reassigned	2G, 2.5G, 3G, 3.5G based on GSM family (e.g. GPRS, EDGE, UMTS, HSDPA) ADSL Plans for WiMAX (awaiting frequency licenses – likely has to be 2.6GHz)
Other interesting facts	One Network introduced by Celtel, providing local calling in Tanzania, Uganda and Kenya (09/2006), plus expansion in 2007 to DRC, Gabon, Congo B. Reaction by Safaricom Kenya, MTN Uganda and Vodacom Tanzania in February 2007 for similar regional local calling services.		Market entry in South Africa has been characterized by big delays due to governmental interference. The Telecommunications Act of 1996 enabled the launch of a third operator, which however was licensed in 2001 only. Additionally, the launch of the Second Network Operator (SNO), as foreseen in the Telecommunications Amendment Act of 2001 was licensed in 2006 only.

Table 9.2: Overview of Status of Market Performance in Tanzania, Botswana and South Africa

In sharp contrast with South Africa stands Botswana. First, partially due to the number of inhabitants, the size of the markets varies greatly. With its less than 2 million inhabitants, yet with more than 750.000 mobile telephony users and therefore a relatively high teledensity as compared with many other African countries, Botswana's market is very small as compared to Tanzania and South Africa. It has two operators providing mobile

telephony services, an incumbent fixed line provider that is expected to start offering mobile telephony services soon as well, and has about 8-10 operational ISPs. Nevertheless, Botswana took progressive steps in 1998 when it licensed two mobile operators for its small market; at a time that many African countries had not yet licensed multiple operators in their markets.

Of the three case countries, Tanzania currently has the smallest teledensity of 17%, even though it doubled its teledensity from 2005-2006. At the end of 2006 it had over 6 million telephony users in a population of 39 million. Nevertheless, the recent influx of new service providers in the country indicates a great likelihood for continued rapid growth. Currently, in Tanzania there are nine network operators of which 4 have recently entered the market. Additionally, there are about 20 ISPs.

The varying developments in these three markets have also led to differences in the range of communications and Internet access technologies provided to the public. For example, South Africa, the economic power of the region, by far outnumbers the other countries in the offerings of high-speed data services. It already deploys 3G UMTS based mobile data service on a wide scale as compared to the other two case countries, and was one of the first countries in the world to introduce 3.5G mobile services with HSDPA. Additionally, a wide variety of other advanced technologies is available, such as ADSL, and other broadband access services. Interestingly, Tanzania - while on average much poorer than South Africa - has due to its recent influx of new service providers and thus increased competition quickly expanded the range of access technologies. For example, 3G mobile services based on UMTS and CDMA have recently been introduced, along with a number of other broadband services. In Botswana in turn still 2 and 2.5G mobile telephony services are provided, and in general, a smaller diversity of technologies is found. High speed data services have gained little ground to date.

9.2.2.2. National Experiences: Market Liberalization
The developments in the Tanzanian, Botswana, and South African markets do not stand on themselves. Much of these developments are the result of liberalization strategies introduced since the 1990s. This section discusses the similarities and differences in liberalization strategies, and shows how Tanzania's efforts stand out as compared to the other two countries. Table 9.3 provides an overview of the key factors of these liberalization strategies as introduced by Tanzania, Botswana and South Africa.

Since the 1990s all three countries have worked on liberalizing their telecommunications sectors. To this extent South Africa and Tanzania partially privatized their incumbent fixed line operators, while Botswana is currently in the process of doing so. In addition, market entry by new players was allowed including mobile operators and ISPs. In South Africa two mobile operators were already licensed in 1993. Tanzania followed closely after in 1994, while Botswana licensed two mobile operators in 1998. Of course, the specific rules regulating these markets varied.

Recently however in all three countries a new wave of liberalization measures has been introduced, of which the key aspect concerns the introduction of technology and service neutral licensing frameworks. These new licensing frameworks were introduced in

Tanzania in 2005, and in Botswana and South Africa in 2006. The latter two are still working on the implementation: in Botswana the licenses for national operators have already been converted, but in South Africa they are still working on this.

Liberalization Strategies			
	Tanzania	**Botswana**	**South Africa**
License Types	Network Facility License Network Service License Application Service License Content Applications Service License	Public Telecommunications Operators License; Value Added Network Service (VANS) license; Private Network License	Electronic Communications Network Service License; Electronic communications service License; Broadcasting License => Class vs. Individual licenses
License awarded by:	Regulator	PTO: Ministerial approval needed	Class license: Regulator Individual License: Minister
Introduction year	2005	2006	2006
Legal basis new licensing framework	The Communications (Licensing) Regulations 2005	"Service-Neutral Licensing Framework in the Era of Convergence", basis in Telecommunications Amendment Act 2005	Electronic Communications Act
Phase implementation	Completed (main conversions during 2006)	Mobile operators and incumbent converted	In progress
Market entry national operators since introduction year	Yes – 4 network operators licensed as well as ISPs	No – as of 2009	No – whenever the Minister announces

Table 9.3: Overview of Liberalization Strategies in Tanzania, Botswana and South Africa

In all three countries the licenses now are more or less horizontally constructed, along lines of facilities/network provision, service/application provision, and content provision. Frequency spectrum licenses are to be obtained separately. However, while these converged licensing frameworks are said to fall under liberalization strategies, which would imply the stimulating of market entrance, this is not in all cases the result. While in Tanzania the new licensing framework indeed totally opened the market for new entry, and thus any organization can enter the market as long as it has a frequency license (in case wireless services provision is desired), in Botswana the market will be opened to further market entry in 2009 only. And, perhaps even worse, in South Africa until today it remains up in the air if and when the market will be opened for further entry. It is therefore not surprising that in Botswana and South Africa the market has remained status quo since the introduction of the new licensing frameworks, while in Tanzania a number of new network providers have entered the market which also stimulated the deployment of a greater variety of (advanced) communication and Internet access technologies.

The reasons for the introducing converged licensing frameworks differ among countries as well. Clearly in Tanzania the objective was to stimulate competition and market entry,

and the resulting recent market entry is indicative of a successful start of their further liberalization. In Botswana the situation is significantly different. The regulator recommended the Minister to put out a tender so as to license a third mobile operator. This however was rejected by the Minister who decided to converge licenses of the existing mobile operators and the incumbent fixed line operator so that the latter could start offering mobile services as well – something the incumbent operator indeed had lobbied for since years. This decision clearly is to the advantage of the incumbent fixed line operator BTC and as such could be to protect the government stakes in BTC which is currently in the process of privatization.

Another difference among the three countries is the regulator's role with regard to licensing. In Tanzania TCRA has full responsibility in deciding who to award licenses. In South Africa on the other hand the Minister is still responsible for putting out a tender for national facilities licenses as well as makes the final decision on who to license, while regulator ICASA administers the application process and can make recommendations to the Minister. Nevertheless, in South Africa ICASA is now allowed to provide licenses for smaller - regional or district level - network providers, which is perceived by many as a step forward.

9.2.2.3. National Experiences: National Regulation Making

The three case studies show different trends in factors underlying regulation making. Particularly the role of the level of autonomy of the regulator was found to influence the extent to which competition and market liberalization are stimulated. This section reports on these issues, finding that Tanzania has a very flexible regulator due to the understaffed Ministry of Infrastructure and Development. Botswana in turn has been known as a model regulator in the region for a while, yet lately the level of autonomy has decreased, which has had its impact on the decision to introduce the new licensing framework. The South African regulator on the other hand is seen as a negative example of regulatory dependence on the Minister. These issues have had a significant impact of the countries' roles in CRASA, and the expertise other members perceive these three countries to have. Table 9.4 provides a brief overview of some indicators of the national regulation making structure and processes.

Tanzania, South Africa and Botswana were among the first countries in the region to establish regulators. Tanzania was the second country in the SADC region to establish a regulator, in 1993, while Botswana and South Africa founded their regulators in 1996 and 1997 respectively. The sizes of the regulators vary significantly. ICASA of South Africa has about 300 employees, while BTA from Botswana has about 70 employees and TCRA from Tanzania has about 100 staff members. Within the SADC region these are all large regulators, but South Africa obviously stands out with 300 employees. On the other end is for example Namibia with about 10 employees. All the regulators have well developed departments, including human resources departments, and frequency management, licensing, broadcasting, consumer affairs departments, etc. Of the three regulators, TCRA and ICASA are fully converged regulators, and as such are responsible for telecommunications, broadcasting, and postal. In Botswana the regulator has departments for both broadcasting and telecommunications, but there is a board separate from the general BTA board that takes decisions regarding broadcasting. It is not responsible for

postal regulation. The regulators have different structures with regard to their boards. In South Africa the decision making board, known as the council, employs 9 full time councilors. BTA from Botswana on the other hand has non-executive board of 5 members that convene less frequently.

National Regulation and Policy Making			
	Tanzania	**Botswana**	**South Africa**
Year foundation regulator	1993	1996	1997
Converged	Yes: postal, telecommunications, broadcasting (since 2003)	No: telecom & broadcasting only. Separate boards for broadcasting and telecommunications	Yes: postal, telecommunications, broadcasting (since 2000)
# Employees	100	70	300
# ICT/Telecom employees Ministry	6	10	Exact number unknown
Perceived (In)dependence	Low	Medium (Low until 2005 Telecommunications Amendment Act)	High
Funding	Direct via licensing fees	Direct via licensing fees	Negotiated with the Ministry (DoC)
Notes Relation Ministry-regulator	TCRA to compensate for lack of policy by MoID; therefore significant flexibility – hence many refer to TCRA as very 'independent'.	BTA used to be "model regulator" due to independence. Minister has recently taken back powers setting licensing criteria and selection of licensees	ICASA does not have many regulation making powers; many rules are determined by complex legislation
Key acts, policies and regulations	National Telecommunications Policy 1997; National ICT Policy 2003; TCRA Act 2003; The Communications Regulations 2005	Telecommunications Policy for Botswana 1995; Telecommunications Act 1996; Botswana Telecommunications Regulations 1999; Telecommunications Amendment Act 2005	White paper on Telecommunications Policy 1996; Telecommunications Act 1996; ICASA Act 2000; Telecommunications Amendment Act 2001; ICASA Amendment Act 2006; Electronic Communications Act 2006
Other interesting Facts	▪ Due to large interest in market entry after the new licensing framework need for frequency assignment revision arose. Periodic stop for frequencies in common bands for GSM, CDMA, and WiMAX; ▪ Significant budgetary allocation on capacity building within TCRA		

Table 9.4: Overview of Factors Underlying National Regulation and Policy Making in Tanzania, Botswana and South Africa

South Africa and Tanzania arguably have had an important role to play in the change from TRASA to CRASA. Due to these regulators establishing converged regulators as the first in the region, this focus on convergence of broadcasting, telecommunications and postal has become reflected at the regional level.

Further, as the sizes of the regulators already reveal, all three regulators are among the better resourced regulators in the region. As already mentioned, this enabled them to be among the most participating members of CRASA. Further, Tanzania stands out in the amount of money spent on human resources. South Africa, while as compared to other regulators in the region very resourceful, however has a relatively small budget for South African standards, as it has to act in a resource abundant sector with the largest operators in the continent and interacts with a very resource-rich ministry.

While the regulators of the three case countries are relatively resourceful, the ministries responsible for ICT and telecommunications reveal a different pattern. In South Africa, the Department of Communications is very well resourced and employs a large number of people in sub-departments that take an integrated approach to ICT and (tele-) communications. This stands in sharp contrast with both Tanzania and Botswana. In Tanzania the Ministry of Infrastructure Development is heavily under-resourced, with only 10 people involved in the communications department, where 4 staff work for postal and 6 for ICT and telecommunications. In Botswana the Ministry of Communications, Science & Technology is slightly better resourced and employs 10 people for (tele-) communications. While both small ministries, the few extra staff members at the Botswana ministry seems to have made a significant difference in the level of expertise at the ministry, perhaps also because the Botswana ministry has a separate IT department alongside the Telecommunications department as well.

In the case studies it was found that the regulators are perceived to be constrained by varying levels of dependence on the ministries. South Africa is the worst case. In South Africa, the DoC is a large organization which is able to exert significant influence on legislation that it drafts. In South Africa legislation is so extensive and complex that it even contains many regulatory issues that the regulator should put out itself. As a Director at BTA explained, "a major difference between Botswana and South Africa is that the Telecom Act here has a few pages, and South Africa is huge: it is too detailed and too cumbersome, and makes it illegal to do anything outside. Our Act is very broad, and we have more detail in regulation". In this regard it is also interesting to note that in Tanzania and Botswana the new licensing frameworks were introduced based on broad guidelines laid out in legislation, and were further published as regulations, while in South Africa the converged licensing framework was fully laid out in the new Electronic Communications Act (ECA).

Many interviewees (both from South Africa and abroad) commented on the strong dependence of ICASA on the DoC. In Tanzania on the other hand this did not seem to be a major issue. Botswana actually used to be known as a "model regulator" in its early days due to its 'independent' status. Recently however in the 2005 amendment of the

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Telecommunications Act, The Minister has taken back some power including BTA's freedom for setting licensing criteria and selecting licensees. The Minister's power furthermore comes to the fore in it neglecting BTA's recommendation to put out a tender to select a third mobile operator and instead to enable incumbent BTC to start providing mobile services. Nevertheless, generally speaking in Botswana the regulator has many responsibilities and powers, and as such, dependence on the Ministry is not perceived to be such a big issue as in South Africa.

This independence to some extent also depends on the funding of the regulator. While both Botswana and Tanzania's funding directly comes from income from licensing fees, in South Africa licensing fees go to the Treasury and ICASA has to negotiate its budget with the DoC.

These national experiences in sector performance, regulation, and regulatory governance have had significant implications for these countries' roles in CRASA as will be discussed next. However, at the country level these factors have been important as well. The level of resources of the regulator vs. ministry in the national cases was also found to some extent to be related to the level of independence: in Tanzania where the MoID is severely under-resourced enabled TCRA to have to make up for the lack of capacity at the Ministry. As TCRA had so much freedom and flexibility, it was able to introduce the progressive fully converged licensing framework it did.

9.2.2.4. The Role of Tanzania's, Botswana's and South Africa's National Regulatory Frameworks in the Region
All three countries have experiences that stand out in the region. Particularly Botswana's, and perhaps even more so South Africa's, national regulations have been highly influential in the development of guidelines at CRASA. Outstanding examples from South Africa are first the role of the South African Band Plan in the making of the SADC Regional Band Plan. The person drafting the document was from South Africa and, because South Africa's Band Plan at the time was recently developed in line with ITU standards, at a time that many other SADC member states did not have a plan in place, the South African plan was used as the primary input for the SADC Regional Band Plan. Another example constitutes the Interconnection Guidelines. A consultant that was involved in drafting the guidelines for CRASA had just recently before drafted interconnection regulation for South Africa as well. Hence, the two became very similar. Finally, the Universal Access/Service Guidelines from CRASA also drew heavily upon the South African experience, as South Africa was among the first in the region to have extensive Universal Service regulation in place. In contrast, Botswana is currently working on Universal Access/Service regulations, while Tanzania just recently in 2006 introduced it.

At both the Botswana and South African regulators it is also believed that Botswana's experiences and regulations have been used extensively as input to CRASA. At the Botswana regulator BTA it is believed that the SADC Band Plan relied not only on South Africa but on Botswana as well, as Botswana at the time also had a plan in place which complied largely with ITU standards. It is also indicated at BTA that its new service neutral licensing framework is being looked at by CRASA. While CRASA indeed likely

will examine multiple models, in South Africa interviewees indicate that CRASA will likely particularly want to draw on Tanzania's new technology and service neutral licensing framework.

Overall, in general it is believed that particularly South Africa itself, but also Botswana, and to a lesser extent Tanzania have been the key influential countries whose regulations have served as models to CRASA. An interesting final note is that while currently CRASA often draws on experiences within the region, in the early days U.S. and U.K. regulation through consultants from those countries have been very influential in developing CRASA models. However, since within the SADC region by now there is more internal experience with regulation making, CRASA can draw more and more on experience from within the region.

The next sections provide more background on national level factors have driven interest by CRASA, and the extent to which the three case countries show similar patterns. These factors are the status of market development, national regulation making (regulatory governance), and market liberalization strategies (regulator incentives as well as the role of regulatory governance in influencing the former).

9.2.3. Service Providers' activity in CRASA

Among service providers a very different picture comes to the fore in terms of their engagement with CRASA. Tanzania's service providers are hardly engaged with CRASA. Many managers from the private sector hardly know CRASA, and often indicate that if they would be to hear anything about CRASA it would come via the regulator. In Botswana there is a little more involvement by service providers in CRASA. The levels of involvement vary considerably however. While some express that they feel they should follow CRASA, and some indeed do, only few indicate to have had direct interaction with CRASA. In fact only at BTC, the incumbent operator, it is mentioned that once a CRASA workshop in Johannesburg was attended to give input on the Wireless Technologies Policy and Regulations.

In sharp contrast to the Tanzanian and Botswana service providers stands the South African private sector. There are numerous examples of private sector representatives having attended workshops and CRASA meetings, and additionally a few have taken part in the CRASA sub-committee on the development of the Wireless Technologies Policy Guidelines. Even though on behalf of regional/continental sector organizations (SATA and AfrISPa respectively), a manager from Telkom and a manager from an ISP have been engaged. Managers from mobile operators have been engaged a number of times in workshops and meetings as well, and Motorola South Africa has consulted on the development of the SADC Regional Band Plan.

9.2.4. The Role of SATA

In all three case countries SATA has been indicated by the incumbent operators to be beneficial, as it provides a discussion forum among companies that face similar issues, in

addition to it enhancing bilateral relations. Particularly at TTCL SATA is greatly appreciated for the knowledge sharing taking place. This might be due to TTCL being in a difficult situation as it has a market share of only 3% in Tanzania, which is significantly worse than both Telkom and BTC. At Telkom in turn the role of SATA is emphasized with regard to the platform is entails where bilateral and multilateral deals can be made more easily.

Further, even though SATA has opened membership to mobile operators and other ICT service providers, not much interest has been expressed by these types of operators and service providers. While in Tanzania and Botswana the level of knowledge about SATA at mobile operators and ISPs is generally low, and therefore they do not have a strong opinion about SATA, in South Africa this is different. South African mobile operators indicate to have been approached by SATA to join. However, particularly at the large mobile operators concerns about joining are expressed as they believe that SATA's focus does not fit with the issues that mobile operators face.

Finally, a surprising finding across all case countries is that at none of the operators emphasize the role of SATA in making policy recommendations to CRASA. As such, they do not perceive any benefits in SATA as a lobbying mechanism for policy and regulation making. While there is widespread knowledge about a Memorandum of Understanding between SATA and CRASA, it seems to have had little effect as perceived by managers at incumbent operators.

9.2.5. Specialization in CRASA: Country Roles

Tanzania has gained an important role in CRASA. Through its role as convenor in the CRASA Human Development Committee, it has been able to drive human resource development in the region. As a very active committee within CRASA, it has organized many workshops to the benefit of all regulators. Tanzania's role as convenor in the Human Development Committee reflects internal management within TCRA, where a strong focus and significantly large budget allocation for human resource development purposes exists.

Botswana in turn has been particularly pivotal in driving CRASA's regulatory governance model. Through its involvement in the Executive Committee it has significantly shaped CRASA as the organization where it is today. This also reflects BTA's own strengths, as particularly in its early days BTA was known as a strong – model – regulator with a high level of independence.

South Africa arguably has been most pivotal in shaping 'technical' regulation throughout the region. Of the three case countries, South Africa is a resourceful country to CRASA due to its advanced ICT and telecom sector where a lot of knowledge and experience with advanced technologies resides. As such, South Africa's relatively advanced and complex regulations have numerous times served as examples for CRASA model guidelines. While this is not to say that Botswana and Tanzania have not – as, of course, some examples have been described where Botswana and Tanzania's regulations have

provided input into model guidelines as well. Nevertheless, in the case of South Africa the most pervasive examples have come to the fore.

9.2.6. Exertion of Power

Even though South Africa's regulator is perhaps most involved in CRASA with regard to committee and AGM participation, and furthermore the South African private sector is significantly more involved in CRASA than its counterparts in Tanzania and Botswana, the extent of influence on the region by South Africa is not straightforward. Regulators in Tanzania and Botswana do not unambiguously acknowledge this to be the case. While with regard to SATA a few examples were given where South Africa actually dominated meetings, in CRASA generally the influence of South Africa is not perceived as problematic, as more often South Africa proves a resource due to its experience with a very advanced telecommunications market. At the same time, it is also acknowledged that South Africa does not always constitute an example, as ICASA's dependence on the Department of Communications is well known and seen as a big constraint on ICASA's role in national regulation making.

9.3. The influence of Regional Regulatory Governance and Incentives on the National Level

While Tanzania, Botswana, and South Africa have had a significant influence on CRASA regulatory governance and incentives, a question remains to what extent CRASA in turn has influenced the three case countries. In this section this issue is discussed through a comparison of the use of CRASA guidelines at national regulators, reflecting the perceived impact by regulators, as well as through a more outsider perspective, namely through the perceived impact of CRASA on national regulation by service providers.

9.3.1. The Use of CRASA Guidelines: Regulator Perspectives

There is no indication that in South Africa any guidelines from CRASA have been considered during the development of national regulation. In both Botswana and Tanzania the regulatory staff indicate to look at the documents when working on national regulation making. Yet, in Tanzania the use of model guidelines is not indicated to be one of the primary benefits from membership of CRASA. It is more the learning that has taken place, and the knowledge gained, that are beneficial for national regulation making. In Botswana however some specific guidelines have been indicated to have been used – even though it is acknowledged that the guidelines are broad and therefore much has to be filled in according to the Botswana situation. These include the Policy Guidelines on Interconnection for SADC Countries and Policy Guidelines on Universal Access/Service for Telecommunications Services in SADC.

It has been indicated however by a number of interviewees that the model guidelines are more beneficial to the less developed countries who do not have extensive national regulatory frameworks in place yet. To this extent for example Lesotho has been

mentioned a couple of times of being one of the countries that has actually specifically used a number of model guidelines.

9.3.2. Service Providers' perceived impact of CRASA on national regulation

Even though South Africa's private sector involvement in CRASA is high, it does not identify any specific effects of CRASA on South Africa's national regulation. Yet, they do indicate to believe that CRASA is beneficial, even though this is based more on ideals of what CRASA *could* be than what it is right now. The South Africans in this respect are very much focused on internationalization of their operators. To this extent, they emphasize how more convergence in policies and regulation across the region could lead to economies of scale and scope, which would benefit investments across borders.

In Botswana the private sector mainly refers to the benefits of CRASA as relating to the regulator. They generally have a positive attitude towards CRASA, and believe it will be to the benefit of BTA's regulation making. They furthermore see it is a means for standardization as well as believe in the importance of regional activity that will account for the situation in the region better than the involvement of international organizations like IMF and the WorldBank.

Finally, in Tanzania no great impact of CRASA on national regulation is perceived. The Tanzanian private sector is more engaged in EARPTO, and as already indicated above, many hardly know of CRASA. Nevertheless, there is a general belief that regional integration is beneficial to the country. See also table 9.5 for a brief overview of perceptions on countries' use of guidelines and their perceived impacts.

Regional Regulatory Governance and Influences on the National Level: Use & Impact of Guidelines			
	Tanzania	**Botswana**	**South Africa**
Use of CRASA Guidelines	No specific examples; general use indicated however. Issues learnt during guideline development process are indicated as useful	Often CRASA guidelines are used. Specific examples: Guidelines on Interconnection, SADC Regional Frequency Allocation Plan . Universal Service Guidelines.	None indicated
Service Providers' Perceived Impact of CRASA on national regulation	None/Very limited. Focus on EARPTO instead.	Varies. No specific examples. Majority believe that CRASA will help national regulation making.	Varies. Some find CRASA a 'talkshop', others do believe in some influence. Some successes of CRASA are mentioned: the SADC regional band plan, numbering (7 and 10 digits numbering).

Table 9.5: Regional Regulatory Governance and National Level Influences – Use of Guidelines and Impacts

9.4. Summary

While Botswana, Tanzania and South Africa have been, and continue to be, very active members of CRASA, some differences among the countries with regard to their membership in CRASA have been observed. First, as all three countries are on the forefront of regulation in the region, they likely provide more input to regional guidelines through their experiences and national regulatory frameworks in place, than that they actually can take advantage of model guidelines. Of the three case countries, Botswana is the only one to specifically indicate the use of regional guidelines in its own national regulation development process.

Furthermore, the three countries seem to have taken up distinctive roles within CRASA. While South Africa likely provides most input on the technical regulatory level, Botswana has been pivotal in shaping the organization CRASA as it is today, influencing regulatory governance through its role as model regulator in the region. Tanzania in turn has been pivotal in capacity building. Sharing its internal experiences in human resource development, TCRA as convenor of the Human Development and Empowerment committee of CRASA has organized a number of workshops and training for the CRASA members, and as such has played an important role in capacity building of regulators in the region.

Overall, many of the benefits of CRASA membership are equal to all case countries: knowledge sharing, resource sharing, enhancing bilateral relations and hopefully in the future seeing more convergence in regulatory frameworks across the region are seen as important benefits stemming from CRASA membership. Nevertheless, CRASA must overcome some challenges as well. Again, all countries have observed similar challenges, with lack of funding being the major one, besides the difficulty of working with countries at significantly different stages of development.

The involvement of the private sector in CRASA also remains a challenge. To date input from the private sector has been invited through workshops and even committee meetings. Nevertheless, service providers have been welcomed purely on invitational basis, and hence, there is no clear cross-section of service providers form the region involved. Mostly South African regulators have been involved. Further, while SATA is the SADC region specific association for the private sector, it is not highly involved in making recommendations for CRASA, and moreover, it remains predominantly an association for incumbent, fixed line operators in the region, with little involvement of other type of service providers. Nevertheless, as such it is believed by many to provide many benefits to its members.

10. Discussion

Through the comparative analysis of three country case studies and a regional case study this study aims to answer the overarching research question:

How do regional economic communities (RECs) and their Regional Regulatory Associations (RRAs) influence national ICT policy and regulation in member states?

This research question is answered through detailed answers to three sub-questions and associated propositions. The first three sections below provide answers to each of these three sub-questions and discuss their related propositions in the context of SADC and CRASA. In section 10.4 the theoretical framework as developed in chapter 3 is re-assessed. A new, or enhanced, theoretical model is provided and is discussed in relation to how insights from this study contribute to the existing literature, which to date primarily draws on the situation in the European Union (EU). Implications for organizational and institutional theory are discussed as well.

10.1. Mechanisms of Influence: The Role of the RRA

This study aims to develop a broader picture of the different activities employed by RRAs and the extent to which these influence, or are beneficial to, their member states. This section aims to answer the first research question:

RQ$_1$: *What different mechanisms of influence do RECs/RRAs employ to influence member states' regulatory governance and regulatory incentives?*

The answer to this question is provided in two parts. First, the different mechanisms employed by RECs vs. RRAs in light of their roles in regionalization of policy and regulation are discussed in section 10.1.1. Second, the discussion zooms in on the particular role of the RRA, to examine the activities undertaken by the RRA and the various ways in which it provides value to, and has influence on, its member states in section 10.1.2.

10.1.1. Mechanisms of Influence: The Role of the REC vs. RRA

Since the 1990s across the globe countries have introduced three tiered systems that separate functions of policy, regulation, and operation across different entities, at the ministry, regulatory authority and in the private sector respectively. At the regional level a similar process can be observed in the formation of REC administrative bodies, RRAs and Regional Telecommunications Operators Associations (RTOAs). However, the extent to which functions of, and relations between these regional associations are similar to the national level is unclear. Therefore, this research first aims to assess the extent to which this three tiered model from the national level is mirrored at the regional level in terms of functions and relations.

Proposition 1A: The structure of separation of policy, regulation and operation in terms of functions and relations at the national level will be mimicked at the regional level.

It is found that while in the SADC region the regional protocol indeed prescribes the focus on model policy, model regulation, and intra-regional connectivity by respectively REC, RRA and RTOA, CRASA actually finds itself in both the policy and regulation making spaces. Particularly through policy lobbying with Ministers and policy makers at both the SADC level and national level, CRASA has a role to play in stimulating a favorable regulatory environment in the SADC member states. Next this is discussed in more detail.

At the regional level in SADC indeed a tiered system of separation of (model) policy making, (model) regulation making, and operations can be observed, facilitated and executed through SADC's Directorate for Infrastructure and Services (I&S), CRASA, and SATA respectively. However, while at the national level this tiered system is determined through specific legislation which provides enforcement power to policy maker (Ministry) and regulator, at the regional level – partially due to the lack of a regional judiciary and thus limited enforcement power - the functions and powers of regional policy making body (REC) and RRA are more informal. As such, both at the REC and RRA models are developed that member states can use as guidelines for national policy and regulation. Further, the SADC I&S and CRASA are mainly associations; the former of Ministers and Ministerial representatives and the latter of regulators.

Nevertheless, while SADC I&S intends to facilitate the development of model policies, it is significantly restrained by a lack of resources. The understaffed Directorate of I&S currently has only one program manager responsible for all communications (and meteorology) issues. Further, with SADC I&S having priorities in other areas, and due to a previous void in the telecommunications realm, CRASA has been largely working independently. Consequently, since the restructuring of SADC, CRASA has not sent its model guidelines to SADC for official endorsement, and moreover has changed its constitution and name without official endorsement by SADC, which according to the SADC protocol is necessary given that CRASA is based on the former.

Further, even though CRASA focuses on regulators, it does find itself making guidelines that, if they were to be implemented in the member states, sometimes touch upon legislative or policy issues. This is first of all the case because the specificity of legislation varies significantly among countries and as a result regulators have different degrees of flexibility in terms of the boundaries within which they develop regulation. Additionally, CRASA finds itself more or less in the policy space because it was set up as a lobbying mechanism towards ministers; i.e. in the early days one of CRASA's main foci was to establish autonomous regulators which had to be carried out through a change in policy, and thus Minister and policy makers had to be lobbied. To this extent, in the early days CRASA cooperated with SATCC of SADC to have autonomous regulators established in all SADC member states. In cooperation with SATCC from SADC,

CRASA developed a Model Telecommunications Bill and Model Telecommunications Policy that would help policy makers in the SADC member states to establish regulators.

After this initial push for the establishment of autonomous regulators CRASA still focuses on policy change and thus lobbying of policy makers in order to achieve this. While cooperation with SADC has been largely halted due to the limited focus on telecommunications in SADC I&S since the restructuring of SADC, the lobbying of national regulators themselves with Ministers and policy makers at the national level is still a purpose, as Ministers in a number of countries still significantly interfere with regulators and continue to have policies that are not conducive for further market liberalization. Hence, one of the purposes of CRASA models is to serve as negotiating points for national regulators and their Ministers/ministries. It must be noted however that in the three case countries this has not been clearly observed, most likely as the three case countries are on the forefront of regulation in the region. Nevertheless, at the CRASA Secretariat this is mentioned as one of the primary goals of CRASA.

Thus, it can be observed that regulator-Ministry lobbying is one mechanism of influence of CRASA. This is attempted through: 1. interaction between CRASA and SADC directly; and 2. by having regulators lobby for policy change with their Ministers on a one on one relationship based on regional guidelines. While achieving policy change through lobbying is a well known phenomenon, it is best known as being done by the private sector. Regulators in turn are often perceived as rather passive organizations that implement policy as set out by the Ministry. However, this study finds active engagement of regulators in policy debates, and that lobbying is an important means for inducing change to enhance national regulatory governance.

Finally, in the SADC region the regional telecommunications operators' association SATA works on intra-regional connectivity issues. As such, it has been pivotal in stimulating projects to increase connectivity between countries that are executed by its members. While officially besides this work SATA may make recommendations of policy and regulation nature to SADC and CRASA, there is particularly little evidence of SATA lobbying at CRASA. Nevertheless, SATA has been represented during the development of the most recently developed CRASA guidelines.

Thus, while the regional institutional endowment as determined in the SADC protocol on Transport, Telecommunications and Meteorology, foresaw a clear distinction between the role of SADC, CRASA and SATA, in terms of (model) policy making, (model) regulation making and operation, issues of funding at SADC I&S as well as the struggle for autonomous regulators to be established and maintained have led CRASA to work very independent of SADC and to enter into the realm of (model) policy making and policy lobbying as well.

10.1.2. Mechanisms of Influence: Influence of the RRA on the National Level

With CRASA being more active than SADC in terms of model policy and regulation development, next the discussion turns to the way in which it influences national policy and regulation. The following proposition is tested:

Proposition 1B: RRAs' primary means to influence national regulation is through the development and subsequent adoption of model policies/regulations/guidelines at the national level.

While indeed the development of model guidelines is generally referred to as CRASA's main activity or purpose, CRASA was found by its members to add value in a number of ways, namely through: knowledge sharing, resource sharing, enhancing bilateral relations, availability of model regulation/guidelines, getting a unified voice at the global level (such as in the ITU), and overall development of the region. Through these means, CRASA's most profound influence on regulators is through capacity building. Finally, while not everyone agrees whether it is already happening, members do believe in the long term benefit of harmonization, which they believe will stimulate market development. Moreover, model guidelines are strongly believed to be the primary means for stimulating harmonization.

CRASA's most crucial role is found to be in providing a platform for knowledge sharing and consequently capacity building. Not only is knowledge sharing literally cited by the vast majority of regulators to be (most) beneficial to their membership, the enhancement of bilateral relations/networking and resource sharing in the end are beneficial through their role in knowledge sharing and capacity building as well. Capacity building remains problematic in a developing region like SADC, where the role of regulators is relatively new and stimulating competition in the market is still a relatively new phenomenon. As such, staff at the regulator need to learn about business, economic, law and engineering issues that affect the telecommunications sector. The new phenomenon of regulation as separate from policy as developed at the Ministry requires significant learning about the role that this new type of agency can play alongside keeping up with changes in the changing telecommunications and ICT landscape. Further, in SADC like in many other developing regions, attracting well educated staff is difficult, and hence staff needs to be educated in organizations that are often not well resourced. Capacity building for national regulators is of great importance in order to enhance regulatory governance, and thus relates to individual and organizational learning.

At CRASA knowledge sharing among the member regulators occurs through different types of meeting, but particularly during committee meetings, often in relation to the development of model guidelines, and in workshops and training. Further, as through meetings and workshops regulators get to know one another. This has led to regulators now feeling more comfortable to contact others to seek for their expertise. In addition CRASA enabled exchange programs between regulators to be set up where regulators visit each other to learn more about the work of their peers. Thus, CRASA has served as a platform to enhance relations among regulators which consequently has led to bilateral knowledge sharing. Finally, resource sharing, another significant benefit of CRASA

membership, also relates to knowledge sharing and capacity building. At CRASA regulators pool resources to attract consultants, which they often cannot afford to hire by themselves. These consultants provide training, organize workshops, or help to draft guidelines. In this capacity consultants thus share their expertise, which leads to capacity building.

Interesting, however, is that while CRASA's main activity is typically referred to as the development of model guidelines, in the three national case studies limited value in model guidelines per se was found. Only in Botswana it was indicated that some guidelines were used. Yet, even though Botswana had been heavily engaged in for example the drafting of the Universal Access/Service Guidelines in 2001, it is only currently engaged in the drafting of national regulation regarding universal service. Nevertheless, the reason for the three case countries not to perceive model guidelines per se as highly valuable could be because they are all countries on the forefront of regulation in the SADC region. Regulatory staff and other experts in these countries do believe that in other countries guidelines are used more specifically for national regulation, particularly in those countries that are not as far ahead with national regulation. Nevertheless, even though in Tanzania, Botswana and South Africa guidelines have hardly been used for national regulation, participation in the guideline development *process* was found to be very valuable, because of the learning that takes place about technical regulation and as different countries' experiences with them.

From this, it follows that in the case of CRASA, proposition 1B cannot easily be corroborated nor falsified. CRASA members' reference to the development of model guidelines as CRASA's main activity, or perhaps even objective, indeed does imply the importance of model guideline development. However, it turns out that the benefit of guidelines does not so much lie in the adoption or domestication of model guidelines in national regulatory frameworks, as it lies in learning processes that take place during the process of developing them. During these processes learning about regulatory basics, or regulatory principles, takes place that subsequently will provide an input to the national regulation making process and as such these principles are likely to be reflected in national regulation. Thus, the role of regional guidelines is better assessed when taking a process based perspective as related to the development process than an outcome based perspective.

Given the role of model guidelines, and following from the benefits coming from enhanced bilateral relations, resource sharing and finally the straightforward comments made that the main value of CRASA membership lies in knowledge sharing, it can thus be said that internally CRASA's most crucial role is in capacity building of regulators in the region. However, it must be noted that findings might be distorted due to the case countries having arguably the most well developed national regulatory frameworks in place as compared to the rest of the region. This in itself raises an interesting finding as it was shown that the best developed regulatory frameworks are not necessarily found in those countries with the highest incomes. The case of Tanzania, which in part was chosen due to its low income characteristic, actually turned out to have one of the most active and very resourceful regulators in CRASA and to have very well developed

telecommunications regulations and policies in place. Thus, these three countries' perceived benefit from participating in the process of guideline development is indicative of the importance of process. While there are indications of other countries using guidelines more specifically, the extent to which this is indeed the case needs further research.

10.1.3. Summary: The Role of the RRA in the Region

Summarizing the findings as related to propositions 1A and 1B, it is found first that internally CRASA's key mechanism of influence was found to be in capacity building. Second, externally, in relation to SADC, CRASA has an important role to play in policy lobbying, which will be to the benefit of national regulatory governance. Even though lately

Figure 10.1 represents the findings from both proposition 1A and 1B. Through CRASA's influence internally on its member-regulators through capacity building, and externally on policy makers and Ministers through policy lobbying, learning processes that take place can potentially lead to converging perspectives about regulatory principles, such as on basic principles like the importance of regulatory autonomy, transparency of regulation, etc. These principles may in turn be used in national regulation and policy making processes. Thus, instead of clear-cut regional regulatory incentives (i.e. guidelines) to be implemented at the national level, through learning processes regulatory principles might find their way to national regulatory governance and ultimately national regulation.
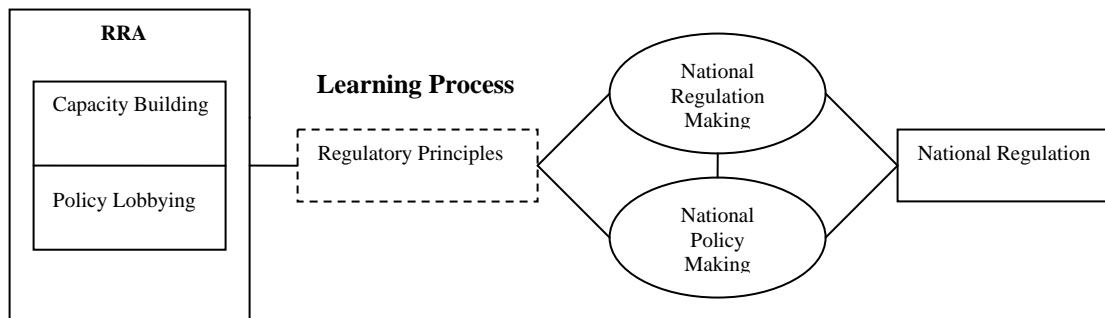
Figure 10.1: The RRA's Mechanisms of Influence on the National Level

10.2. Members' Influence on Regional Regulatory Governance & Incentives

As CRASA was set up by and for regulators, this section focuses on the various roles that members play in CRASA and the factors that have influenced CRASA's regulatory governance. Given CRASA's emphasis on the development of guidelines, the section focuses largely on the role of member regulators in the process of development (regional

regulatory governance) and outcomes of regional guidelines (regional regulatory incentives). The following research question is answered:

RQ₂: *How do institutions and contexts of member states influence regional regulatory governance and incentives?*

Due to the low number of staff members at the CRASA Secretariat, CRASA is primarily driven by its members. Through the Executive Committee they are responsible for a vast part of the overall management of CRASA, and through AGMs and committees regulators are responsible for the output of CRASA. Yet, with regulators from countries that vary extensively in the level of development, it could be expected some countries are more powerful in CRASA than others. To this extent, proposition 2 is tested:

Proposition 2: Stakeholder power derived from national sector performance leads to increased involvement in the regional guideline development process and consequently outcomes.

Here stakeholders are considered to be both national regulators and operators. While primarily the level of national sector performance was expected to increase stakeholder power (i.e. the ability of a stakeholder "to influence the decisions or actions of others" (Thorelli, 1986, p. 38)), which was expected to subsequently lead to increased participation, a number of factors were found to lead to members' increased participation and influence on regional regulatory governance, including not only the role in guideline development but other activities as well. These factors include (1) the mediating factor of resource-richness of regulators; and (2) regulators' experiences in their home countries with national regulatory governance; (3) regulators' experiences in their home countries with national regulatory incentives; and finally (4) the level of national market performance. These factors will be discussed in more detail next.

First, it was found that there are significantly different levels of participation among members at CRASA. Countries such as South Africa, Botswana, Lesotho, and Tanzania are among the most participating, whereas countries like the Democratic Republic of Congo (DRC), Zimbabwe, Swaziland and Angola are among the least participating. Factors that have led to limited participation are regulators' lack of resources that inhibit them to participate in meetings, problems of economic and political nature within the home country (e.g. DRC, Zimbabwe, and Angola until recently), as well as English language problems (particularly DRC and Angola).

Conversely, the high level of participation by South Africa, Botswana and Tanzania, is partially a result of the availability of resources. As revealed by the sizes of these countries' regulators, they are among the better-resourced regulators in the region. Over time, South Africa arguably has been most pivotal in shaping technical regulatory oriented guidelines at CRASA. South Africa is often sought for its experiences with the largest ICT and telecom sector in the region and therefore with complex and advanced regulation in place on a variety of topics where many other member states have nothing

in place yet. This has led to emulation of South African regulations taking place in regional guidelines more than for other member states.

Botswana in turn has been pivotal in driving CRASA's regulatory governance model. Through its remarkably high level of involvement in the Executive Committee it has significantly shaped CRASA as an organization where it is today. This also reflects BTA's own strengths, as particularly in its early days the regulator BTA was known as a strong – model – regulator with a high level of independence. Furthermore, Botswana itself is known as one of the politically and economically most stable countries in Africa, which has had an impact on regulatory governance as well.

Last but not least, Tanzania has been pivotal in shaping capacity building efforts in CRASA. Through leveraging its internal experiences with human resource development, Tanzania has played an important role as convenor in the active CRASA Human Resources and Empowerment Committee, and was responsible for the organization of a number of workshops. Finally, through its role in the Human Resources and Empowerment committee Tanzania has been a driving force in the launch of the NetTel@Africa program.

Thus, due to the three countries' experiences and expertise they have been influential in CRASA's regulatory governance. It is found that in the cases of Tanzania and Botswana particularly national regulatory governance has shaped regional regulatory governance whereas in the case of South Africa national sector performance and regulatory incentives have been pivotal in shaping regional regulatory incentives. Nevertheless, while emulation of South African regulation has taken place in a number of instances, other countries' regulations have played a role for the development of regional regulatory incentives as well, and for example as observed by South African participants particularly Tanzania's converged licensing framework as introduced in 2005 is likely to be looked at by CRASA and used for future guideline or best practices development.

At the same time, while South Africa arguably has had more influence on regional regulatory incentives than on regional regulatory governance, South Africa's establishment of a converged regulator in 2002, as well as additionally Tanzania's establishment of a converged regulator in 2003 have most likely been the trigger for the constitutional change of CRASA in 2006, where TRASA changed from purely focusing on telecommunications to communications in a broader sense (telecommunications, broadcasting and postal). The related change in membership eligibility will likely lead to different focus areas of CRASA and an extended number of stakeholders involved which ultimately will lead to different patterns of identification of problems, agenda setting, and new perspectives during guideline development processes.

Beyond the differences among the most influential regulators in CRASA, general differences across the region have a significant impact on regional regulatory governance as well. While also a result of the regional institutional endowment where SADC and CRASA have no legal enforcement power and are thus required to stimulate voluntary adoption of regional models across member states, the generally high differences in the

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levels of development among SADC countries and therefore also the varying regulatory frameworks in place, have led CRASA to focus on the development of very abstract guidelines that provide room for countries to adjust to their own specificities.

By testing proposition 2, it is thus found that a total of four factors influence stakeholder involvement. While national sector performance leads to more involvement and influence on guideline outcomes, there are more factors to it. First, the status of market development is inherently tied to national regulatory frameworks. The role of national regulatory governance furthermore was shown to be important. The case of Botswana, with a very small market with a relatively low variety of communication and Internet access technologies provided by a small number of operators, showed that the role of national regulatory governance is a driver for increased involvement in, and influence on CRASA. While Botswana particularly stands out in its role in driving CRASA as an organization itself through shaping regional regulatory governance (for example through membership in the Executive Committee and hosting the Secretary as well as providing an Executive Secretary for a number of years), it has also been extensively involved in committees responsible for developing guidelines.

Yet, the role of national sector performance is very important. For example, it is known among all regulators that the South African regulator ICASA has little room to develop regulations itself due to the interference of the Minister in regulatory development. While ICASA's high level of dependence due to the high level of specificity of telecommunications related legislation is not perceived by other SADC regulators as exemplary, the experiences of ICASA are highly regarded by many. Hence, even though regulators from outside South Africa express mixed feelings about whether South Africa's regulatory experiences should be extensively used by CRASA, ICASA's knowledge about issues in its advanced telecommunications market are often welcomed. This perhaps has also led to the high level of involvement of particularly the large operators in South Africa (e.g. Telkom, MTN and Vodacom) during CRASA workshops and even committee meetings or membership. Figure 10.2 provides a schematic overview of national level factors influencing the development of regional guidelines.
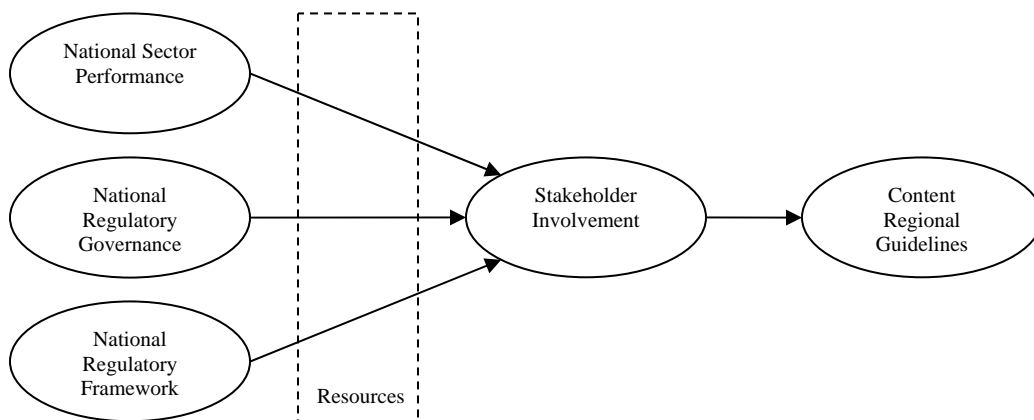

Figure 10.2: Country Level Factors Influencing Regional Guideline Development

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10.3. The Influence of the Region on Member's National Regulatory Governance & Incentives

Now that the role of institutional differences among countries and their influence on regional guideline development and regional regulatory governance has been discussed, here the discussion turns to the opposite influences; namely the influence of CRASA on its member states and the way institutional differences among countries affect the influence that CRASA can exert on these countries. To this extent, the following research question was posed:

RQ₃: *How do institutions and contexts of member states affect the influence of CRASA on national regulatory governance and incentives?*

The following propositions were posed:

> *Proposition 3A*: Countries with stakeholders that show the greatest involvement in developing model policies and guidelines are most likely to comply with regional model policies and guidelines.
> *Proposition 3B:* Adoption of regional policies depends on the compatibility of the content with existing national policies and regulations.
> *Proposition 3C:* National implementation of regional model policies will be constrained by a national regulator's level of autonomy.

Proposition 3A to some extent is corroborated, even though it has to be framed in a broader picture. As it was found that emulation plays an important role in developing regional guidelines, for those countries whose regulation was emulated, compliance with guidelines follows automatically. And indeed, those were found to be the regulators showing the greatest involvement in CRASA. Further, due to the abstract nature of guidelines, those countries with regulation already in place did not find problems with compliance. For these reasons, the countries of Tanzania, Botswana and South Africa have never specifically 'adopted' regional guidelines, even though in Botswana regional guidelines have been used for national regulation making. These findings are in line with interviewees mentioning on a number of occasions that regional guidelines mostly target countries that have no regulation in place yet regarding the topic of focus. As such, the model guideline can be used during national regulation making and provides some useful principles that can be applied in the specific national context. People from South Africa, Botswana and Tanzania indeed indicated that they believe that some countries have adopted guidelines that had no regulation in place yet. Hence, there is no clear evidence to either corroborate or falsify proposition 3B, as compatibility issues do not strictly apply; it is more an issue of absence/presence of any regulation.

Finally, while particularly in South Africa complex legislation is in place and a significant level of interference by the Minister in regulatory affairs was found, which were found to create barriers for ICASA to develop regulations, one could expect this to come in the way for regulators to actually implement guidelines developed at the regional

level. Nevertheless, in line with the above discussion, this issue turned out not to be applicable because South Africa is known to be on the forefront of regulation in the region. Additionally, due to emulation often taking place with South Africa's regulation as a model for the regional guideline, South Africa automatically complied with regional guidelines. The latter applies to the other two case countries researched as well, and even in the case of Tanzania due to the severely under-resourced Ministry of Infrastructure Development, regulator TCRA actually has been compensating for lack of policy and therefore has been granted with significant flexibility. Thus, while a regulator's level of autonomy might indeed be a constraint for domestication of regional guidelines in national regulatory frameworks, no evidence was found in this study that directly corroborates the proposition.

Related to this relation between Ministry and regulator, and having found that policy lobbying is another aspect of CRASA's (original) activity, it must be noted that in the case countries policy makers indicated that they have not experienced regulators to have come to them to make recommendations for policy by basing arguments specifically on CRASA guidelines or best practices. But again, this might be different in other countries and hence needs further research. Further, when going back to the discussion in section 10.1.2. that found CRASA's primary mechanism of influence on its members to be capacity building through knowledge sharing, it must be noted that the propositions as stated above regarding the adoption of guidelines thus do not do justice to the value that CRASA brings to its members and the potential ways in which it influences its members. While the direct effect on national regulatory incentives thus likely is greater in those countries that do not have extensive regulation in place, even those countries on the forefront of regulation do indicate that CRASA has an effect on their regulatory governance through this knowledge sharing.

10.4. Theoretical Contribution: A Revised Model

Having discussed the research questions and their related propositions in the context of CRASA, next the discussion turns to the insights generated through the use of Levy and Spiller's (1994) framework in a regional context, as well as how this research extends the framework. Finally, the chapter ends by framing the findings of this research into a broader picture of regionalization, discussing how the findings of the SADC region relate to prior research on regionalization in the telecommunications realm, which to date has predominantly focused on the European Union.

10.4.1. Framing Findings According to Levy & Spiller's Framework

As the discussion above reveals, many cross level influences regarding institutional endowments, regulatory governance, regulatory incentives and sector performance come into play that drive the development and adoption of, or countries' compliance with, model guidelines. As such, Levy & Spiller's extended framework including both the regional and national level has provided a useful guiding framework for analyzing how RECs and RRAs together influence national ICT policy and regulation.

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In particular, it was found that the regional institutional endowment has an influence on regional regulatory governance. First, it partially determines the mechanisms of influence by REC and RRA. Yet, the understaffing at the REC due to limited resources and priority in other fields, as well as observed problems in member states with the level of autonomy of the regulator, have led the RRA to focus to some extent on policy aspects as well. Thus, in this respect both national regulatory governance and regional institutional endowments influence the regional regulatory governance in terms of the focus or scope of outputs of the RRA. Further, due to the regional endowment that prohibits legal enforcement, the RRA needs to focus on voluntary coordination of policies or best practices. This is another factor leading to the limited role of guidelines or model policies or regulations, and as such is one of the underlying factors that actually led to knowledge sharing and capacity building to be the RRA's key value-adding role to its members.

Regional regulatory governance furthermore was found to be deeply influenced by the participation of its members in guideline development processes and committees. National level characteristics such as the level of autonomy (national regulatory governance), national regulatory frameworks in place (national regulatory incentives) and national sector performance are factors driving members' participation and influence on the RRA, both in terms of regional regulatory governance and regulatory incentives. Conversely, the RRA was able to influence its member states through positive side effects from the regional regulatory governance processes and to a lesser extent through its regional regulatory incentives, but again depending on aspects of the member state's regulatory governance structure and incentives.

10.4.2. Theoretical Contribution to Levy & Spiller's Framework

The discussion so far brings to the fore three extensions to Levy & Spiller's original framework. First, it is found that indeed the use of the concepts of institutional endowment, regulatory governance, and regulatory incentives have demonstrated to be appropriate to frame telecommunications regionalization efforts at the regional level. Second, the study has shown that an extended conceptualization of (regional) regulatory governance through including more traditional governance factors as related to governance process and structure as extensively researched by public policy and organization science scholars enables the identification of insights into a broader spectrum of interrelated factors. The factors underlie regulatory incentives as well as enable the identification of other, more informal outputs such as capacity building. Finally, while Levy and Spiller's study was conducted at a time that few autonomous regulators existed, and was concerned with problems of regulatory commitment to prohibit administrative expropriation, this study has extended the focus of regulatory commitment to include the roles of and relation between Ministry and regulator. Next these latter two theoretical contributions are discussed in more detail.

10.4.2.1. Regional Regulatory Governance: Process, Structure and Formal Constraints

As the previous discussion highlighted, this study brought to the fore the multi-faceted nature of regulatory governance. Levy & Spiller indeed already acknowledged the existence of both formal and informal aspects that underlie a nation's institutional

endowment and regulatory governance. However, while Levy & Spiller's study primarily focused on the formal aspects of the institutional endowment and regulatory governance, this study – while focusing less so on the institutional endowment - emphasized the many informal aspects that drive regulatory governance. It highlighted a number of key factors whose interplay drive regulatory governance that besides influencing regulatory incentives also were found to give rise to positive side effects in terms of capacity building and policy lobbying.

Levy & Spiller (1994) defined regulatory governance as the "mechanisms that societies use to constraint regulatory discretion and to resolve conflicts that arise in relation to these constraints". In the operationalization of regulatory governance however the factors making up regulatory governance consist of very formal constraints with a legalistic basis. This study however provided evidence of a profound role of factors such as stakeholder power (influence) and participation in regional regulatory governance, as well as structural factors such as the roles and responsibilities by different actors in the regional setting.

These factors driving regulatory governance can broadly be categorized into three primary governance related aspects, namely governance structure, governance process, and telecommunications sector specific formal constraints on regulatory governance. These aspects are interrelated, and through their interaction drive the outcome of regulatory governance. Public policy and organization science scholars have referred to governance structure in policy or inter-organizational networks as the inter-organizational framework within which exchange takes place, while governance process refers to the "activities that accompany exchange within the framework of the governance structure" (Zaheer & Venkatraman, 1995, p. 375). And indeed, as Zaheer and Venkatraman (1995) argued, insights into the combination of structure and process is key to understanding non-traditional governance modes such as the networked governance mode, which defines regional regulatory governance with its many stakeholders involved. See tables 10.1 and 10.2 for an overview of factors identified in this study that underlie governance process, governance structure and formal constraints on regulatory governance at the regional and national levels respectively.

Regional Regulatory Governance	
Governance Aspect	Factors Identified
Process	- Actual regulators' involvement: AGM, committee attendance/participation - Actual private sector involvement - Stakeholder power
Structure	- RRA staff responsibilities - Regulators' responsibilities - Committee structure - Executive Committee structure - Consultant responsibility - Formal allowance private sector involvement
Formal Regulatory Governance Constraints	- SADC Protocol on Transport, Communications and Meteorology - SADC, CRASA Constitution

Table 10.1: Regional Factors Identified to Influence Governance Process, Structure and Formal Regulatory Constraints

These governance as related to process and structure factors have already been well researched in different settings, yet predominantly in the realm of public policy and organization science. Findings have largely remained out of the scope of telecommunications research. As such, one theoretical contribution of this study is to integrate these formerly separate strands of research.

National Regulatory Governance	
Governance Aspect	**Factors Identified**
Process	- [largely out of scope: processes of policy and regulation making]
Structure	- Level of autonomy regulator: - Roles, responsibilities Ministry, Regulator
Formal Regulatory Governance Constraints	- Telecommunications Acts - Independent Regulatory Authority Acts - Other regulation/legislation

Table 10.2: National Factors Identified to Influence Governance Process, Structure and Formal Regulatory Constraints

Figure 10.3 provides an overview of cross- and within-level influences that have been found in this study, between institutional endowment, regulatory governance, and regulatory incentives. In more detail, at the regional level it is found that the SADC protocol on Transport, Communications and Meteorology partially influences the structure of regulatory governance. It largely defined the scope of CRASA's early work, and through the constitution which is based on the protocol, the basic structure of CRASA is determined (with the change from TRASA to CRASA being an exception); i.e. responsibilities of Executive Committee, membership structure etc. Other structure-related issues that are not determined by the constitution are for example committee membership. While there is thus a very formal part that determines broadly the scope of CRASA and part of the CRASA structure, parts of the structure are also determined by process such as which members become part of the committee. Further, while the official structure determines how the private sector may become involved (i.e. through associate membership), process factors have led to a structure where some private sector organizations are invited on an ad-hoc basis to meetings. While this is not an exhaustive description, it becomes clear that process, structure and formal constraints interact and together make up regional regulatory governance.

In turn, these aspects of regional regulatory governance are driven by a number of national level factors. Governance structure for example is driven by national governance structure (e.g. the level of autonomy of the regulator), national regulatory incentives, and national sector performance. As was shown, those countries that stand out in these respects become part of committees (regional governance structure) more than others, and furthermore stakeholder power is derived from outstanding experiences of national regulatory governance, incentives, and sector performance. Through these national level inputs the regulatory governance process is thus largely determined as well as its outcomes; i.e. regional governance processes lead to externalities of the regulatory governance process like capacity building and policy lobbying, that provide input to the national governance process (i.e. national policy and regulation making), along with

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regional regulatory incentives (model guidelines). Thus, mutual influences drive regional and national regulatory governance and design.
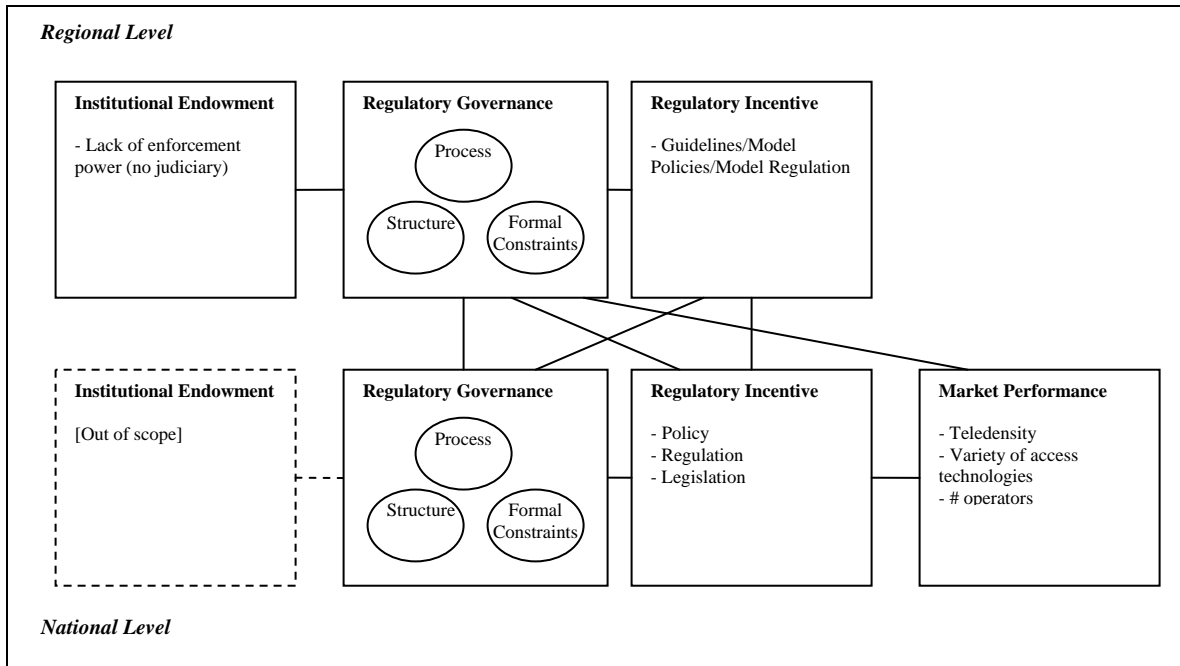
Figure 10.3: Cross- and Within-Level Influences Between Institutional Endowment, Regulatory Governance and Regulatory Incentives

By specifying these three aspects of governance –even though they show overlap – more emphasis is placed on the interaction between the three, and as such brings together the traditionally rather separate realms of public policy research that tends to focus on governance processes and structure, and telecommunications policy research that tends to predominantly focus on formal regulatory constraints à la Levy and Spiller and their effects on structure. Using these three aspects of governance brings more clarity to the various ways in which regional regulatory governance is influenced, and how, through the interaction of these three aspects, regulatory design is impacted. Finally, by specifying the primary factors underlying regulatory governance structure, process and formal regulatory constraints, the differences of regional vs. national regulatory governance come to the fore as well. The specification and combination of these three categories furthermore provides a starting point for further research into the interaction between the three categories in telecommunications policy research in general and to expand on factors in regional telecommunications policy studies in particular.

10.4.2.2. Regulatory Commitment: The Relation between Regulator and Ministry
Finally, this study contributes to Levy & Spiller's framework by focusing on the roles of, and relationship between, the regulator and Ministry. While Levy & Spiller focus on the need for constraints on the discretion of the regulator and the ability to change the regulatory system, this study has emphasized the need for flexibility. First, for an RRA to be effective regulators need some level of discretion and an ability to change regulation. This emphasizes the balance between regulatory commitment and discretion as pointed out by Levy & Spiller (1994).

While Levy & Spiller's research was conducted at a time that few autonomous regulators were established, this study provides insights into the often restraining role that policy makers and Ministers have on the flexibility of the regulator, and their power in some instances to interfere with the regulator. To this extent, this study has emphasized the significance of the effects of the role of the relation between minister and regulator on the region. As such, the framework has also demonstrated to be applicable in contexts that do not necessarily focus on the regulatory hold-up problem as originally posed by Levy & Spiller (1994), but in a broader context relating to governmental inefficiencies due to incumbent protection.

10.4.3. A Revised Model of the Influence of Regional Regulatory Governance on REC Member States

Now that the theoretical contribution to Levy & Spiller's framework has been discussed, it is time to summarize the direct findings of this study. This study aimed to answer the following overarching research question:

How do regional economic communities (RECs) and their regional regulatory associations (RRAs) influence national ICT policy and regulation in member states?

Summarizing the above discussion, this study has shown that in the case of SADC and CRASA national ICT policy and regulation in member states is influenced primarily through their effects on capacity building. As one of CRASA's key activities, the development of guidelines which provide models for national regulation and policy provides value for its members. While they have only in a few instances been used at the national level, learning processes taking place during the development of these guidelines have been beneficial to regulators. As such, the learning points provide input in national regulation making processes. Thus, the RRA has the potential to both generate and disseminate best regulatory principles.

In the case of SADC, the RRA furthermore was shown to influence the national regulatory governance structure in a broader sense. Through policy lobbying that takes place, and even though currently only to a limited extent, the RRA has the potential to influence national policy makers and Ministers through the REC. The foundation of CRASA exemplifies this goal and mechanisms: it was established first to lobby all countries in the SADC region to establish autonomous regulators, and additionally, to coordinate learning about the role of the regulator in their own national contexts.

Hence, while at the outset of this study the focus was on formal aspects of regulatory models, it is found that influence of the RRA occurs through more informal mechanisms. This is an important finding in the debate about effectiveness of RRAs and RECs, as due to their official goal to 'harmonize' policies in the region, their effectiveness tends to be assessed in terms of similarity of policies and regulations across member states. This study shows that when assessing the RRA's role informal processes of knowledge sharing and capacity building need to be examined in terms of their value to the RRA's

members. Figure 10.4 depicts these major mechanisms of influence of the RRA on the national level, with the wider arrows indicating the more significant the mechanism, is in adding value to the role of the RRA.
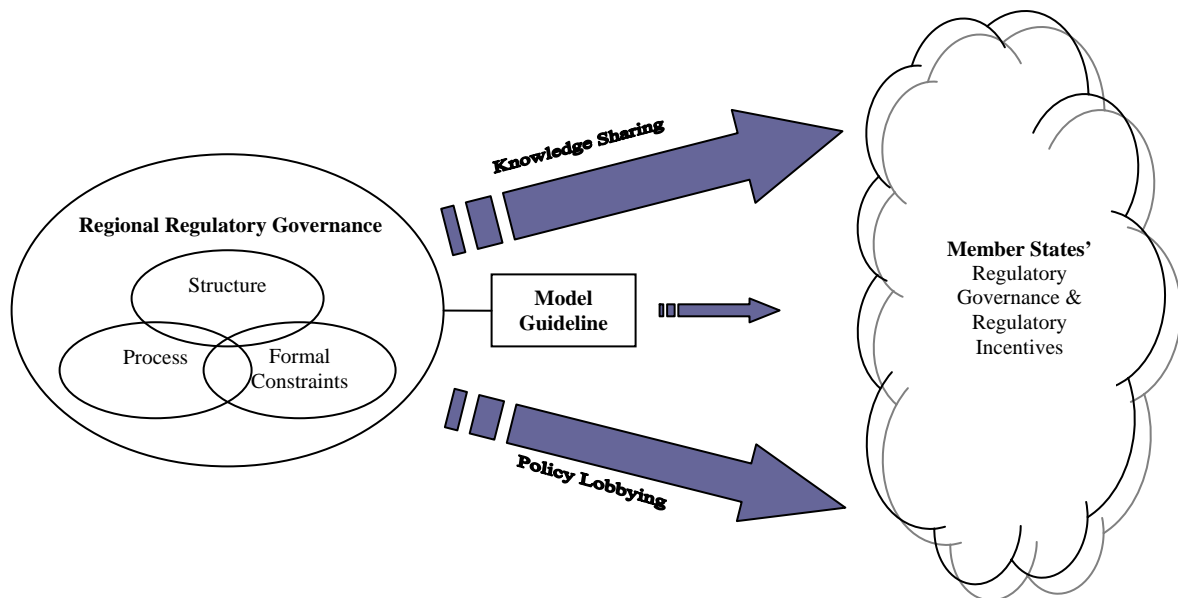
Figure 10.4: Mechanisms of Influence of the RRA on its Member States

The next section provides further detail on the role of RRAs in the region and how the findings from this study add to the nascent literature on regionalization of ICT policy and regulation.

10.4.4. Contribution to the Broader Regionalization Literature

Now that the various factors of influence within and across levels have been discussed, it is time to step back and frame this research in a broader context; in particular to see how the findings from this research fit into the broader debate about the role of regions in national ICT policy and regulation making. To date the vast majority of research on the role of regions in national ICT policy making has been framed in the context of the European Union (EU). Yet, the high number of regions that exist – for example, already in 2000 it was estimated that 50 regional entities exist (Hooghe & Marks, 2001a) - and the observed trend of increased regional level policy making, ask for insights generated in regions other than the deeply integrated EU. Moreover, an over-emphasis on one region brings the danger of reliance on theories and concepts generated in one region that might not be applicable in other regions (Acharya, 2006; Farrell, 2005; Hettne, 2005).

In particular, regions' different characteristics may lead to different effects of the region on national ICT policy making and regulation as the result of varying regional structures and as well as the influence of member states with different levels of development on the region. Indeed, the findings of this study, with its focus on SADC which has a very high income disparity among its member states, have been found to differ in some aspects from the EU which has implications for the effects of regions, and to this extent makes a

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number of contributions to the literature on the role of regions in national ICT policy and regulation making.

10.4.4.1. The Increasing Role of Voluntary Policy Coordination
First, this research contributes to the debate about policy coordination and particularly the role of voluntary policy coordination methods. Voluntary policy coordination has been found to play an increasingly important role in the EU as well, even though the EU is often referred as being more 'effective' than other regions that lack enforcement power such as SADC, by inducing policy transfer through the use of direct or coercive measures. Particularly the EU's relatively new Open Method of Coordination, which entails increased flexibility, nonbinding coordination, bench marking and policy learning (Majone, 2005; Peterson & Shackleton, 2006) has led to differentiated paths of integration where member states are free to either opt-in or opt-out (Majone, 2005). As such, the EU is coming closer to a region like SADC.

Policy transfer has been found to be the result of two processes. One is that of policy emulation; the other is that of policy learning, which can be facilitated by epistemic communities (Jordana, 2002). Further, Bennett (1991b) found four mechanisms of policy transfer that explain why common policies are adopted across countries (i.e. mechanisms for policy convergence to occur). The first one he explains is emulation, i.e. drawing on experience from elsewhere (C.J. Bennett, 1991a; Colin J. Bennett, 1991b). Second, policy convergence results from elite networking and the growth of policy communities, where shared ideas in a relatively coherent network of elites engage in regular interaction at the transnational/multilateral level – or thus policy learning in the words of Jordana (2002). A third mechanism according to Bennett (1991b) is that of 'convergence through penetration', which he describes as states being forced to abide by requirements set by others – which in terms of Thatcher (2001) refers to coercive effects. And, interestingly, Bennett (Colin J. Bennett, 1991b) identifies a fourth separate mechanism; that of harmonization, which he coins as 'an international regime' dealing with a common issue among its interdependent states, which can be either voluntary or coercive.

Thus, as Bennett's categorization implies, a region may either have a direct/coercive or indirect effect on its member states. Thatcher (2001) furthermore finds a third category of effects, which is that of legitimization. Direct or coercive effects refer to member states being required to comply with regional legislation. Indirect impacts as posed by Thatcher (2001a) arise through powerful actors generating institutional changes in member states that do not have a legal basis/requirement. Yet, in terms of Bennett (1991) and Jordana (2002) this could be the result of policy learning and elite networking as well as non-coercive emulation. Thirdly, as discussed by Thatcher (2001), the legitimizing effect occurs when the region provides a reason to introduce particular change that the member state was already interested in but neglected to act on for other reasons. As such, the member state legitimizes its change referring to the region.

This study finds that in SADC indeed emulation and elite-networking, or policy learning, occur, with the latter being the most pervasive. This implies that both direct and non-direct effects occur that are both non-coercive, and as such extend Thatcher's (2001) categorization of effects. Furthermore, findings from this study as well as compared with

findings on previous research on the EU indicate that Bennett's (1991) fourth mechanism of harmonization is actually seemingly made up of the other three mechanisms of networking, policy learning/elite networking, and potentially coercive influences in those regions whose regional institutional endowments allow this.

10.4.4.2. The Role of Capacity Building and Policy Lobbying
Building further on the concept of policy learning, this study's finding of the key role of the RRA in capacity building has additional implications for the study of regions. Capacity building indeed occurs through elite-networking and policy learning, but however in developing regions implies more than policy learning as it is posed by Bennett (1991) and Jordana (2002). While in the EU context policy learning may refer to the mere learning of countries about regulatory experiences in other member states, in a developing region like SADC this relates to the very basic capacity building of regulators as well as policy makers. In a resource-constrained region like SADC such a mechanism is thus key to the very development of the sector where little experience of regulation of any sort exists. Hence, this study brings to light the mediating variable of resources in the role of the region in national ICT policy and regulation making. As such, findings from this study might be of interest to a region like ASEAN that is resource-constrained as well, but might also increasingly be of interest to the expanding EU that with its latest expansions has seen the intra-regional average income disparity ratio significantly increase as well.

Finally, by focusing on the role of the RRA in the region as opposed to the limited focus of previous research on the role of the REC itself, and in particular the European Commission, the mechanism identified in this study of policy lobbying by RRA and regulators constitutes a contribution to the literature on policy transfer, as regulators are frequently portrayed as neutral implementers and enforcers of policy with little emphasis on their active engagement in the shaping of policy. Given the problems that many, particularly developing countries, experience with ministers protecting incumbent operators at the expense of introducing liberalization measures and enabling a conducive regulatory environment, RRAs could have an important role to play to lobby with the SADC Ministers for deregulation.

Thus, the insights that this research has provided into regional regulatory governance at SADC and the mechanisms of influence contribute to the nascent body of literature that connects the ICT policy community to the political science community where debates concerning regionalization have taken place for longer, and expands the discourse of regions beyond the commonly discussed region of the EU.

11. Conclusions

Since the 1990s regional economic communities such as the European Union (EU), Asia Pacific Economic Cooperation (APEC), and the Southern African Development Community (SADC) are increasingly developing model ICT policies and regulations. Through semi-independent regional regulators' associations (RRAs), these communities aim to harmonize policy and regulation across member states in hopes of stimulating cross-border investments and market development. The interaction between regional and national telecommunications policy making is a complex, yet increasingly important, phenomenon. As the capabilities of regional authorities continue to grow and national representatives ostensibly gain increased benefits from their participation, the level of mutual influence is likely to increase. However, to date the limited research on regional administrative bodies neglects the role of RRAs and is concerned primarily with the highly integrated and comparatively wealthy EU. To fully understand the role and effects of administrative bodies and RRAs, analyses are needed within and between a variety of regions.

11.1. Telecommunications Regulatory Policy Regionalization: The Case of SADC

This study has taken up this challenge by developing a model grounded in New Institutional Economics, based specifically on the framework of regulatory governance as developed by Levy & Spiller (1994) to research the role of the Communications Regulatory Association of Southern Africa (CRASA) in influencing national ICT policy and regulation. The following research questions were answered in this research:

RQ$_1$: What different mechanisms of influence do RECs/RRAs employ to influence national policy and regulation in their member states?

RQ$_2$: How do institutions and contexts of member states influence regional regulatory governance and incentives?

RQ$_3$: How do institutions and contexts of member states affect the influence of CRASA on national regulatory governance and incentives?

While this study particularly focuses on the role of the RRA in national ICT policy and regulation making, the first research question aimed to provide further insight into the relation between the REC and RRA, as well as how this relation affects the influence of the RRA on its member regulators (mechanisms of influence).

Two primary mechanisms of influence of the RRA on its member states were found, namely influence on national ICT policy and regulation making through capacity building and policy lobbying. Capacity building among regulators takes place through knowledge sharing in meetings at CRASA, as well as through specific capacity building workshops. Policy lobbying takes places at both regional and national levels; respectively through (1) CRASA lobbying with SADC ministers, and (2) national regulators lobbying for policy change at the national level with ministers and ministerial representatives.

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The learning processes that take place as a result of these mechanisms can potentially lead to converging perspectives across the region about regulatory principles that in turn will be used in national regulation and policy making processes. Thus, instead of clear-cut regional regulatory incentives to be implemented at the national level, through learning processes regulatory principles might find their way to national regulatory governance and ultimately national regulation.

Because of the small regional staff at CRASA, member regulators have a significant role to play in driving the association. To this extent, research question two aimed to assess the various roles that countries take up in CRASA, and how these different countries, due to their various backgrounds, influence the activities of CRASA. It was found that the level of resources of regulators was an important underlying factor that drove involvement of regulators in CRASA. Regulators with few resources cannot always participate. Further, due to economic and political challenges a few countries in SADC have not been able to participate as much as would be desirable, including Zimbabwe and the Democratic Republic of Congo (DRC), as well as Angola until recently. South Africa, Botswana and Tanzania on the other hand are among the most resource-rich regulators in the region, which enabled their extensive participation.

Further, along with their commitment to CRASA, Botswana, Tanzania and South Africa's specific expertise gained from experiences in their home countries led them to take up specialized roles in CRASA: South Africa due to its experiences in the most developed ICT and telecommunications market in the region; Botswana due to its well developed regulatory governance; and Tanzania due to its experiences in human resource development. Hence, these countries they have had significant influence on the content of regional guidelines through emulation of national regulation (South Africa), CRASA's internal management and organizational design (Botswana), and regional capacity building through the development of workshops and training as well as the telecommunications policy degree program in the NetTel@Africa program (Tanzania). These findings imply that national regulatory governance, national regulatory incentives and national market performance are important factors in shaping regional regulatory governance and incentives.

Besides the influence of member states on regional regulatory governance and incentives, the institutional and contextual differences among SADC member states in turn were also found to have an impact on the extent of influence of CRASA on member states' national ICT policy and regulation making. The third research question aimed to assess the different ways in which member states are influenced by CRASA. First, it was found that seemingly all regulators are influenced by CRASA through its effect on capacity building. In line with the answer to research question 1 that provided insight into CRASA's key role in providing a platform for capacity building across regulators, it was found that knowledge sharing was the most important influence of CRASA on its members. This is accomplished in a variety of ways, such as through workshops and training specifically targeted towards capacity building, but also to a significant extent through the process of model guideline development.

Interestingly, it was found that even though most regulators refer to CRASA's main activity as regional guideline development, the case countries of South Africa, Tanzania and Botswana hardly made use of these guidelines. However, regulatory staff within these three countries did indicate to find value in the process of the development of regional guidelines, as policy learning takes place and more insight is gained into the regulatory experiences of other regulators within SADC. Nevertheless, a number of staff members of regulators from South Africa, Botswana and Tanzania also expressed their belief that other countries do in fact make use of these guidelines. Particularly Lesotho has been mentioned in this respect. It came to the fore that guidelines mostly target those countries that do not have regulation in place yet. Further, as oftentimes regional guidelines are based on national regulation from the most active countries, it automatically follows that these countries automatically comply.

Finally, it was expected that the level of autonomy of regulators would impact the extent to which CRASA would influence its member regulators, as lack of flexibility on the regulator's side could inhibit regulators to take action on regional guidelines. And while it was found that particularly the South African regulator ICASA is heavily constrained in this regard, the issue turned out not to be applicable because South Africa is known to be on the forefront of regulation in the region, which has in a number of instances led to South African regulation to be emulated in regional guidelines. This eliminated the need for South Africa take action. The latter applies to the other two case countries as well, as they have all been mostly ahead of the rest of the region. Even in the case of relatively impoverished Tanzania it was found that due to the severely under-resourced Ministry of Infrastructure Development, regulator TCRA actually has been compensating for lack of policy coming forth from the Ministry, and therefore has been granted with significant flexibility.

11.2. Theoretical Implications

11.2.1. Implications for Telecommunications Policy Research and NIE

Levy & Spiller's framework of regulatory governance has shown to be a suitable framework for analyzing processes of regional ICT policy making. This study has demonstrated that indeed the use of the concepts of institutional endowment, regulatory governance, and regulatory incentives provide an appropriate way to frame regional telecommunications regulatory efforts and provides a way to systematically assess mutual influences between these concepts across the regional and national levels.

The study makes a theoretical contribution to Levy & Spiller's (1994) regulatory governance framework through the extended conceptualization of (regional) regulatory governance by including governance factors as related to process and structure as traditionally used by public policy and organization science scholars. This extended conceptualization of regulatory governance provides greater insights into the various factors that drive regulatory incentives and moreover, enable identification of other

positive side effects that regulatory governance gives rise to; which in this study were found to be capacity building and policy lobbying.

Thus, by integrating governance process, governance structure and telecommunications sector specific formal regulatory governance constraints, positive side effects to the regulatory process come to the fore that by taking a more formally oriented approach would remain unnoticed. This is a particularly valuable approach for the regional level, which as compared to the national level is characterized by few formal constraints. Thus the inclusion of process oriented aspects expands the scope and provides a fuller picture of the factors at play. As such, this study brings together telecommunications policy studies based on NIE that typically tend to focus on the formal regulatory constraints, with the traditionally relatively separate realms of public policy and organization science research that emphasize governance process aspects.

It must be noted however that even though the study finds that particularly process turns out to be important in assessing the role of the region and its influence on member states, that is not to say that formal institutions do not matter. This study shows that institutions and process go hand-in-hand. Because the RRA emphasizes the development of institutions -the most important ones being regional model policies and guidelines- the RRA has a specific focus around which meetings are convened and training takes place. The learning and knowledge sharing processes taking place in turn lead to capacity building. This also means that the variety of meetings and gatherings taking place should not be reduced to for example only an online messaging forum where regulators can share experiences and ask questions, or that the RRA should reduce its meetings to for example one annual cocktail party. The goal of these meetings to at the end come up with model guidelines provides a clear focus around which discussions arise, that in more loosely arranged settings would likely not occur.

Finally, this study extends the use of Levy & Spiller's framework by taking a different perspective on the role of regulatory commitment. Levy and Spiller's study was conducted at a time that few autonomous regulators existed, and was concerned with problems of regulatory commitment to prohibit administrative expropriation. This study has shed a contemporary light on the contentious issue of regulatory commitment as found in the relation between Ministry and regulator, and the way this may impact the role the REC and RRA may play in national policy and regulation making.

11.2.2. Contribution to Regionalization Studies

Besides the theoretical contribution to the telecommunications policy and NIE field, this research contributes to a better understanding of ICT regulatory policy regionalization which previously has been studied primarily by European political scientists and public policy scholars. This study's findings of capacity building and policy lobbying to constitute CRASA's primary mechanisms of influence contribute to the literature on policy transfer, and in particular the conceptualizations or mechanisms of policy transfer.

The study found that in the case of SADC indeed emulation and elite-networking mechanisms are primary means of policy transfer as proposed by Bennett, and that 'policy transfer by penetration' could play a role in some regions as well, even though literature reveals that even in the deeply integrated EU this coercive mechanism is becoming less used. Further, findings suggest that harmonization in itself is unlikely to constitute a separate mechanism leading to convergence as proposed by Bennett (1991). Instead, international regimes like RECs and their RRAs employ a hybrid of the first two or three mentioned mechanisms; i.e. emulation, elite networking and in some instances, depending on the legal enforcement power of the REC, policy transfer by penetration.

These findings furthermore suggest an extension of Thatcher's categorization of effects of regions. Where Thatcher suggested effects to be direct/coercive, indirect, and legitimizing, this study finds that direct, yet non-coercive effects take place through emulation and policy learning. Further, even though the EU is often referred to as being more 'effective' in inducing policy transfer through the use of direct or coercive measures, voluntary methods of policy coordination increasingly play an important role in the EU as well. The findings of this study therefore suggest that the resulting differentiated path of integration therefore makes the EU more similar to a region like SADC where enforcement power lacks.

In addition, while indeed one of the RRA's primary mechanisms of influence among its member regulators was found to be capacity building through knowledge sharing or as coined by Jordana (2002) and Bennett (1991) as policy learning and elite networking, the term capacity building implies more than policy learning as used by the former two. While policy learning in the case of the EU could merely imply learning about experiences of other countries, in the developing region context, capacity building adds significant value to this policy learning as many regulators have little experience with regulation of any sort, and have little means to get formal education and training. Thus, the RRA besides policy learning regarding experiences of peers in a developing country context implies more basic training and learning. In resource-constrained developing regions this mechanism is thus key to the very development of the sector where little experience of regulation of any sort exists. Hence, this study brings to light the mediating variable of resources in the role of the region in national ICT policy and regulation making.

Finally, an important theoretical contribution of this study lies in the findings about the role of RRAs in telecommunications regulatory policy regionalization. Previous research on telecommunications regulatory policy regionalization has predominantly focused on the role of the REC itself, and has left the role of RRAs largely out of scope. Through the focus on the RRA in particular it was found that another important mechanism of influence of the region on national ICT policy and regulation making lies in policy lobbying of the RRA with the REC as a whole as well as indirectly through regulators with member states' policy makers. While currently in CRASA it is not a strong mechanism, it could potentially be very powerful. As such, the difference in roles of REC and RRA comes to the fore and emphasizes the need to better assess the roles of RRAs in general, as in the EU little research has focused on the RRA.

Thus, the insights that this research has provided into regional regulatory governance at SADC and the mechanisms of influence contribute to the nascent body of literature that connects the ICT policy community to the political science community where debates concerning regionalization have taken place for longer, and expands the discourse of regions beyond the commonly discussed region of the EU.

11.3. Practical Implications and Recommendations

Following from the discussion about the role of CRASA in the SADC region and the benefits of membership to the regulators, three recommendations specific to the SADC region, and in particular to CRASA, have come to the fore, from which subsequently recommendations to other regions can be inferred. Recommendations for the SADC region will be discussed first, followed by a discussion of recommendations to other regions.

11.3.1. Recommendations to CRASA

As one of CRASA's primary mechanisms of influence is to lobby Ministers and policy makers to enhance regulatory governance at the national level, the first recommendation is for CRASA to increase its level of interaction with SADC. The appointment of a program manager for communications in 2006 has increased SADC's level of activity in the telecommunications realm. And indeed, CRASA staff have attended SADC meetings again as well as have invited the program manager to CRASA meetings. It is therefore recommended for CRASA to try to increase this interaction as much as possible, by updating SADC I&S regularly on the activities it employs.

Related to CRASA's need to increase knowledge sharing externally towards SADC I&S, is the need to increase its internal knowledge sharing as well as external knowledge sharing with stakeholders from the private sector. First, external stakeholders from the private sector have often complained about the limited information provision from CRASA, while their input is important in order for the regulators to be able to address current problems as signaled within the market. Second, within regulatory authorities knowledge about CRASA often remains with those managers that have been directly engaged with CRASA through attending CRASA meetings. CRASA could help this internal and external dissemination by regularly updating its website, and by including more documents like meeting minutes and documents in progress. This enables CRASA to further increase the knowledge sharing aspect and could decrease internal dissemination problems at regulators, as it provides an opportunity for people not directly engaged in CRASA to directly look up information themselves.

Furthermore, adding an interactive part to the CRASA website could be of help. The interactive forum site of the Commonwealth Telecommunications Organization has been mentioned to be helpful as regulators are able to pose questions and hence share experiences online. Such an addition to the CRASA website would further support CRASA's goal of knowledge sharing.

Finally, from experiences at the East African Community's RRA EARPTO a lesson can be drawn with regard to private sector participation. At the Tanzanian regulator a number of comments were made regarding the high level of private sector involvement in EARPTO as compared to CRASA. While typically very well appreciated, particularly as in CRASA private sector involvement so far has been limited due to the ad-hoc nature of private sector involvement, it was also mentioned that CRASA has advantages to it being purely focused on regulators. From this it follows that in CRASA indeed more private sector input is needed. Yet, while private sector involvement may increase with the recently introduced associate membership, this however might not necessarily happen as operators seem to want to attend particular meetings to share their insights and problems, but do not strive for official membership. Therefore, it is imperative that CRASA finds a way to include a greater cross-section of private sector organizations during workshops and meetings, and yet at the same time makes sure to also stay focused on having regulator-only meetings.

11.3.2. Recommendations to Other Developing Regions

The findings of this research have implications for other, primarily developing, regions as well. Given that capacity building constitutes one of CRASA's primary mechanisms of influence, one can expect this to be true for other developing regions as well. Even though regions emphasize their focus on developing model policies and guidelines for member states to adopt, findings of this study suggest that the very important role of the *process* of model policy development leading to capacity building needs greater acknowledgement and emphasis. While the current focus on harmonization of regulation provides focus to meetings and joint work, an overemphasis on the outcomes of harmonized regulation across the region has the danger of funding agencies relying too much on the extent to which harmonization has already occurred. Given the currently limited extent of harmonization in the SADC region, this has the danger of a negative evaluation of the role of the RRA. Greater acknowledgement of the role of capacity building could therefore enable RRAs to attract more funding, which in developing regions remains a problem.

In a similar vein, having found the important role that RRAs may play in regulator-Ministry or RRA-REC policy lobbying, it is advised that all RRAs take great effort in building relationships with Ministers and policy makers, particularly those in developing countries. Inefficient regulatory regimes are not limited to Southern Africa, but are all too common in numerous developing countries. RRAs thus potentially have a significant role to play in not only building capacity in national regulators, but to educate policy makers (ministerial representatives) as well, through policy lobbying, in order to stimulate a change of mindset to improve regulatory regimes.

11.4. Future Research

The broad nature of this research provides many avenues for further research. Future research on the SADC region itself will be valuable to extend the scope as well as depth

of findings from this study. Additionally, the model developed in this study could be tested in other regions as well as through inter-regional comparative case studies.

First, within the SADC region ample avenues for further research exists. Since this research involved case countries that are among the most active in CRASA as well as have relatively well developed regulatory frameworks in place at the national level, this study provides limited insights into the role of countries with less developed regulatory frameworks. Additional case studies might also shed more light onto the role of the level of autonomy of regulators as a constraining factor on the extent to which the RRA is able to influence the national regulator.

When selecting case countries it is important that new knowledge is added. As little knowledge will be gained from countries that simply cannot afford to participate, caution must be exercised in selecting subsequent cases. Suggestions of countries that may lead to interesting new insights include Lesotho and Swaziland. Lesotho is of particular interest as it was mentioned a few times to have explicitly used CRASA's guidelines in its national regulatory framework. Further, Lesotho, while a poor country, is very active within CRASA – on average it brings the third most delegates to AGMs. Research into Lesotho's use of CRASA guidelines as well as the factors that enabled Lesotho to participate extensively in CRASA are likely to shed more light onto the role of CRASA in the region. In addition, a case study of Swaziland will shed more light onto the role of the Minister in driving regulatory governance and the extent to which policy lobbying by CRASA has taken place. Swaziland, as the last country in the region that has not yet established an autonomous regulator, was mentioned at some point to have actually come close to establishing a regulator, which due to changes in the political landscape was not pursued any further.

Finally, the country of Angola could provide interesting insights into the role that regions can play in post-conflict situations, and the extent to which regional involvement may speed up a country's development processes. Angola is a country that until recently was involved at the regional level in a limited fashion, due to internal political problems. Interestingly, Angola has been seeking extensive regional involvement lately: During the last CRASA AGM in Namibia Angola brought most delegates (7), and furthermore, one of its mobile operators, Movicel, is among the first two associate members of CRASA, and is one of the four new, non-incumbent, members of SATA. Hence, a case study on the role of membership in international bodies and the extent to which it helps post-disaster development would be valuable.

Additionally, intra-regional studies in other regions to test the model developed in this study could provide insights into the potentially different ways in which regional governance and incentives influence national governance and incentives and vice versa. The model presented in this study provides a basis for future investigations in this realm. By integrating concepts from New Institutional Economics that have demonstrated applicability in diverse economic contexts, this study has provided a flexible yet robust model that can facilitate intra-regional studies in different regions. Of particular interest is ASEAN, which constitutes a developing region as well, yet recently has extended to

ASEAN+3, by including China, Japan and South Korea. A study on ASEAN+3 will generate more insights into the influence of economic super powers in regional ICT policy making. Finally, extension of intra-regional case studies will enable comparative analyses, which could identify more specifically the role of different regional configurations on effectiveness of regional regulatory governance.

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Appendix A: Interview Guide per Stakeholder Type

This appendix contains the interview guides categorized per stakeholder type, including SADC Secretariat managers, CRASA Secretariat managers, SATA Secretariat managers, managers at regulators, managers at ministries, managers at operators, and managers at ISPs. Similar questions might be used for different stakeholder types. The different stakeholder types that a question targets is therefore indicated between brackets after each question. "[Operator]" in this regard may refer to both cellular and fixed line operators, as well as ISPs.

Interview Guide SADC Secretariat Managers

General
0.1. Could you briefly explain your function?
0.2. Could you briefly describe your background/career in the telecom industry?
0.3. How long have you worked in this organization?
0.4. Could you briefly describe your involvement/experience with SADC (SADC I&S, CRASA, SATA)?

SADC Governance Structure
1. What is the function of SADC I&S regarding the telecommunications sector? [SADC I&S]
2. What is the role of SADC I&S in model policy development? [SADC I&S, CRASA, SATA]
3. How are SADC I&S, CRASA and SATA related? [CRASA, SATA, SADC I&S]
4. Are there any other important stakeholders involved in regional model policy and guidelines development? [CRASA, SATA, SADC I&S]
5. What is the specific role of SATA in model policy development for SADC? How does it 'consult' to SADC I&S? [SADC I&S, CRASA, SATA]
6. What is the specific role of CRASA in model policy development for SADC? How does it 'consult' to SADC I&S? [SADC I&S, CRASA, SATA]
7. Could you briefly explain the organizational structure of SADC I&S? [SADC I&S]
8. What types of meetings occur within SADC I&S? [SADC I&S]
9. What types of representatives are involved these meetings? [SADC I&S]
10. What issues are discussed at general body meetings at SADC I&S? [SADC I&S]
11. What is the role of committees in SADC I&S? [SADC I&S]
12. Who can be on these committees and how are they formed? Are there any official documents that specify the rules for the formation of committees? [SADC I&S]
13. Do other organizations lobby with your organization regarding model policy and guidelines development/adoption? [SATA, CRASA, SADC I&S]
14. Are most member(s) (states) represented at all general body meetings? Could you give some examples? [SADC I&S, CRASA, SATA]
15. Do all representatives participate equally in meetings? Why yes/no? Could you give some examples? [SADC I&S, CRASA, SATA]

16. Do all member(s) (states)' representatives participate equally in committees? Why yes/no? Could you give some examples? [SADC I&S, CRASA, SATA]
17. Do all representatives have equal say in meetings? Why yes/no? [SADC I&S, CRASA, SATA]
18. Are decisions made based on consensus, majority vote or through some other means? Who can cast votes? [SADC I&S, CRASA, SATA]
19. Are there particular stakeholders that have greater influence than others on decisions being made? Could you give any examples? [SADC I&S, CRASA, SATA]

Model Policy/Guideline Adoption
20. What meetings have taken place regarding wireless market policy development, and what committees have been formed in this regard? Could you give some examples? [SADC I&S, SATA, CRASA]
21. What were the results of these meetings? Were any recommendations/guidelines developed? [SADC I&S, CRASA]
22. Were there differences in opinion on what recommendations to put forward? [SADC I&S, CRASA, SATA]
23. If any, how were these differences resolved? [SADC I&S, CRASA, SATA]
24. Were there particular people taking the lead in developing these recommendations? Could you discuss the process? [SADC I&S, CRASA, SATA]
25. Do you know which SADC member states adopted model policy/ guideline X, and which did not? [Ministry, Regulator, Operator, SADC I&S, CRASA, SATA]
26. Were representatives from these member states involved in the policy/guideline development process (e.g. attended meetings or took place in committees)? [SADC I&S, CRASA]
27. Who has been involved in the development of wireless market guidelines, resulting in the document (CRASA. (2004). *CRASA Guidelines on Wireless Technologies Policy and Regulation*. Gaborone: CRASA).[SADC I&S, CRASA]
28. Do you know of any telecommunications policy recommendations and requirements put forward by for example WTO, ITU and the WorldBank (or others)? [SADC I&S, CRASA, Ministry, Regulator]
29. Are these recommendations and requirements taken into account when developing (recommendations for) model policies/guidelines? Could you give an example of when this has played a role? [SADC I&S, CRASA, SATA]
30. Are the model policies and guidelines complementary to WTO requirements? [SADC I&S, CRASA]
31. Are the model policies and guidelines complementary to ITU and WorldBank recommendations? [SADC I&S, CRASA]
32. Did you find recommendations/requirements by these international organizations that were perceived inappropriate for the SADC region? Could you explain why this was perceived? [SADC I&S, CRASA, Ministry, Regulator]
33. Do you know of any telecommunications model policies that significantly differ from recommendations by international organizations such as WTO, ITU, or WorldBank? If so, could you explain why they are so different? [SADC I&S, CRASA, Ministry, Regulator]

Interview Guide CRASA Secretariat Managers

General
0.1. Could you briefly explain your function?
0.2. Could you briefly describe your background/career in the telecom industry?
0.3. How long have you worked in this organization?
0.4. Could you briefly describe your involvement/experience with SADC (SADC I&S, CRASA, SATA)?

CRASA/ SADC Governance Structure
1. What is the function of CRASA? [CRASA]
2. What is the specific role of CRASA in model policy development for SADC? How does it 'consult' to SADC I&S? [SADC I&S, CRASA, SATA]
3. How are SADC I&S, CRASA and SATA related? [CRASA, SATA, SADC I&S]
4. Are there any other important stakeholders involved in regional model policy and guidelines development? [CRASA, SATA, SADC I&S]
5. Could you briefly explain the organizational structure of CRASA? [CRASA]
6. What types of meetings occur within CRASA? [CRASA]
7. Who attends CRASA meetings? What types of representatives are involved? [CRASA]
8. What issues are discussed at general body meetings at CRASA? [CRASA]
9. What types of decisions are being made in CRASA meetings? [CRASA]
10. What is the role of committees in CRASA? [CRASA]
11. Who can be on these committees? [CRASA]
12. Are most member(s) (states) represented at all general body meetings? Could you give some examples? [SADC I&S, CRASA, SATA]
13. Do all representatives participate equally in meetings? Why yes/no? Could you give some examples? [SADC I&S, CRASA, SATA]
14. Do all member(s) (states)' representatives participate equally in committees? Why yes/no? Could you give some examples? [SADC I&S, CRASA, SATA]
15. Do all representatives have equal say in meetings? Why yes/no? [SADC I&S, CRASA, SATA]
16. Are decisions made based on consensus, majority vote or through some other means? Who can cast votes? [SADC I&S, CRASA, SATA]
17. Are there particular stakeholders that have greater influence than others on decisions being made? Could you give any examples? [SADC I&S, CRASA, SATA]

Model Policy/Guideline Adoption
18. What meetings have taken place regarding wireless market policy development, and what committees have been formed in this regard? Could you give some examples? [SADC I&S, SATA, CRASA]
19. What were the results of these meetings? Were any recommendations/guidelines developed? [SADC I&S, CRASA]
20. Were there differences in opinion on what recommendations to put forward? [SADC I&S, CRASA, SATA]

21. If any, how were these differences resolved? [SADC I&S, CRASA, SATA]
22. Were there particular people taking the lead in developing these recommendations? Could you discuss the process? [SADC I&S, CRASA, SATA]
23. Does your organization lobby with other organizations regarding model policy and guidelines development/adoption? [SATA, CRASA, Operators]
24. Do other organizations lobby with your organization regarding model policy and guidelines development/adoption? [SATA, CRASA, SADC I&S, ministry]
25. Do you know which SADC member states adopted model policy/ guideline X, and which did not? [Ministry, Regulator, Operator, SADC I&S, CRASA, SATA]
26. Who has been involved in the development of wireless market guidelines, resulting in the document (CRASA. (2004). *CRASA Guidelines on Wireless Technologies Policy and Regulation*. Gaborone: CRASA).[SADC I&S, CRASA]
27. Have you been involved in the development of guidelines on wireless technologies, as found in (CRASA. (2004). *CRASA Guidelines on Wireless Technologies Policy and Regulation*. Gaborone: CRASA). [CRASA, SATA]
28. What was your role in this process? [CRASA, SATA]
29. Who else was involved? Was a committee formed? If yes, who was on the committee, and how was it formed? [CRASA, SATA]
30. What topics were most difficult to decide on? [CRASA, SATA]
31. Were results discussed in general body meetings? [CRASA, SATA]
32. How did member states agree on following up on the recommendations? [CRASA, SATA]
33. Do you know if these guidelines served as a basis for policy changes within SADC member states? [CRASA, SATA]
34. Do you know of any telecommunications policy recommendations and requirements put forward by for example WTO, ITU and the WorldBank (or others)? [SADC I&S, CRASA, Ministry, Regulator]
35. Are these recommendations and requirements taken into account when developing (recommendations for) model policies/guidelines? Could you give an example of when this has played a role? [SADC I&S, CRASA, SATA]
36. Are the model policies and guidelines complementary to WTO requirements? [SADC I&S, CRASA]
37. Are the model policies and guidelines complementary to ITU and WorldBank recommendations? [SADC I&S, CRASA]
38. Did you find recommendations/requirements by these international organizations that were perceived inappropriate for the SADC region? Could you explain why this was perceived? [SADC I&S, CRASA, Ministry, Regulator]
39. Do you know of any telecommunications model policies that significantly differ from recommendations by international organizations such as WTO, ITU, or WorldBank? If so, could you explain why they are so different? [SADC I&S, CRASA, Ministry, Regulator]

Interview Guide SATA Secretariat Managers

General
0.1. Could you briefly explain your function?
0.2. Could you briefly describe your background/career in the telecom industry?
0.3. How long have you worked in this organization?
0.4. Could you briefly describe your involvement/experience with SADC (SADC I&S, CRASA, SATA)?

SADC/ SATA Governance Structure
1. What is the function of SATA? [SATA]
2. What is the specific role of SATA in model policy development? How does it 'consult' to SADC I&S? [SADC I&S, CRASA, SATA]
3. How are SADC I&S, CRASA and SATA related? [CRASA, SATA, SADC I&S]
4. Are there any other important stakeholders involved in regional model policy and guidelines development? [CRASA, SATA, SADC I&S]
5. Could you briefly explain the organizational structure of SATA? [SATA]
6. What types of meetings occur within SATA? [SATA]
7. Who attends SATA meetings? What types of representatives are involved? [SATA]
8. What issues are discussed at general body meetings at SATA? [SATA]
9. What types of decisions are being made in SATA meetings? [SATA]
10. What is the role of committees in SATA? [SATA]
11. Who can be on these committees? [SATA]
12. Do all representatives have equal say in meetings? Why yes/no? [SADC I&S, CRASA, SATA]
13. Are decisions made based on consensus, majority vote or through some other means? Who can cast votes? [SADC I&S, CRASA, SATA]
14. Are there particular stakeholders that have greater influence than others on decisions being made? Could you give any examples? [SADC I&S, CRASA, SATA]
15. Are most member(s) (states) represented at all general body meetings? Could you give some examples? [SADC I&S, CRASA, SATA]
16. Do all representatives participate equally in meetings? Why yes/no? Could you give some examples? [SADC I&S, CRASA, SATA]
17. Do all member(s) (states)' representatives participate equally in committees? Why yes/no? Could you give some examples? [SADC I&S, CRASA, SATA]

Model Policy/Guideline Adoption
18. What meetings have taken place regarding wireless market policy development, and what committees have been formed in this regard? Could you give some examples? [SADC I&S, SATA, CRASA]
19. What were the results of these meetings? Did you come up with any recommendations for CRASA/SADC I&S? [SATA]

20. Were there differences in opinion on what recommendations to put forward? [SADC I&S, CRASA, SATA]
21. If any, how were these differences resolved? [SADC I&S, CRASA, SATA]
22. Were there particular people taking the lead in developing these recommendations? Could you discuss the process? [SADC I&S, CRASA, SATA]
23. Does your organization lobby with other organizations regarding model policy and guidelines development/adoption? [SATA, CRASA, Operators]
24. Do other organizations lobby with your organization regarding model policy and guidelines development/adoption? [SATA, CRASA, SADC I&S, ministry]
25. Have you been involved in the development of guidelines on wireless technologies, as found in (CRASA. (2004). *CRASA Guidelines on Wireless Technologies Policy and Regulation*. Gaborone: CRASA). [CRASA, SATA]
26. What was your role in this process? [CRASA, SATA]
27. Who else was involved? Was a committee formed? If yes, who was on the committee, and how was it formed? [CRASA, SATA]
28. What topics were most difficult to decide on? [CRASA, SATA]
29. Were results discussed in general body meetings? [CRASA, SATA]
30. How did member states agree on following up on the recommendations? [CRASA, SATA]
31. Do you know if these guidelines served as a basis for policy changes within SADC member states? [CRASA, SATA]
32. Do you know which SADC member states adopted model policy/ guideline X, and which did not? [Ministry, Regulator, Operator, SADC I&S, CRASA, SATA]

Interview Guide Ministerial Representatives

General

0.1. Could you briefly explain your function?

0.2. Could you briefly describe your background/career in the telecom industry?

0.3. How long have you worked in this organization?

0.4. Could you briefly describe your involvement/experience with SADC (SADC I&S, CRASA, SATA)?

National Policy Making

1. How are policies implemented in your country, i.e. what channels does a proposed policy have to pass through before it can be implemented? [Ministry, Regulator]
2. How are regulatory changes proposed and prepared for? [Ministry]
3. How would you characterize your relationship with the regulator? Do you often meet, and what type of information is exchanged? [Ministry]
4. What relations other than with the regulator do you have regarding telecommunications regulation? [Ministry]
5. Could you indicate particular aspects of the wireless industry in your country, that are possibly different from other SADC member states, that have influenced your preference for particular policies over others as adopted in other SADC member states? [Ministry, Regulator]
6. Generally speaking, what are the most important factors in your opinion that have driven overall wireless market growth? [Regulator, Ministry, Operators]

Policy Making in a Global Context

7. Do you know of any telecommunications policy recommendations and requirements put forward by for example WTO, ITU and the WorldBank (or others)? [SADC I&S, CRASA, Ministry, Regulator]
8. Are these recommendations and requirements taken into account when developing national policies/guidelines? Could you give an example of when this has played a role? [Ministry, Regulator]
9. Are the national policies and guidelines complementary to WTO requirements? [Ministry, Regulator]
10. Are the national policies and guidelines complementary to ITU and WorldBank recommendations? [Ministry, Regulator]
11. Did you find recommendations/requirements by these international organizations that were perceived inappropriate for your country? Could you explain why this was perceived? [Ministry, Regulator]
12. Do you know of any national telecommunications policies that significantly differ from recommendations by international organizations such as WTO, ITU, or WorldBank? If so, could you explain why they are so different? [Ministry, Regulator]

13. Did you find recommendations/requirements by these international organizations that were perceived inappropriate for the SADC region? Could you explain why this was perceived? [SADC I&S, CRASA, Ministry, Regulator]
14. Do you know of any telecommunications model policies that significantly differ from recommendations by international organizations such as WTO, ITU, or WorldBank? If so, could you explain why they are so different? [SADC I&S, CRASA, Ministry, Regulator]

SADC Regional Model Policies and Guidelines
15. Could you briefly discuss which regional model policies and guidelines have been adopted at the national level? [Ministry, Regulator]
16. Could you briefly discuss which regional model policies and guidelines have NOT been adopted at the national level, and why? [Ministry, Regulator]
17. What were the reasons for particular model policies to be taken up, while others were not? [Ministry, Regulator]
18. What are the various factors that influence the decision to adopt particular model policies/guidelines? [Ministry, Regulator]
19. Did it ever happen that you already had another policy in place, which would have demanded significant adjustment for adoption of the regional model policy? [Ministry, Regulator]
20. Which model policies and guidelines *regarding the wireless industry* did your country adopt, and which were not adopted? Why? (ask for particular guidelines/model policies) [Ministry, Regulator]
21. Do you know which SADC member states adopted model policy/ guideline X, and which did not? [Ministry, Regulator, Operator, SADC I&S, CRASA, SATA]
22. Who represented your country in the development of model policy/ guideline X[65]? Have they been involved in any committees? [Ministry]

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[65] Related to frequency assignment, methods of granting licenses, types of licenses, duration of license, license application procedure, license fees, and enforcement of wireless policies.

Interview Guide Managers at Regulators

General
0.1. Could you briefly explain your function?
0.2. Could you briefly describe your background/career in the telecom industry?
0.3. How long have you worked in this organization?
0.4. Could you briefly describe your involvement/experience with SADC (SADC I&S, CRASA, SATA)?

National Policies
1. Could you briefly explain the history of your organization? When was it established, and what have been the major points of focus throughout the years? [Regulator]
2. What type of influence, if any, does government have on your organization; i.e. how is it involved in the policy development process? [Regulator]
3. What types of policies could you implement yourself, and what type of regulation has to pass parliament? [Regulator]
4. How are policies implemented in your country, i.e. what channels does a proposed policy have to pass through before it can be implemented? [ministry, Regulator]
5. What are the most important policies you have in place regarding the wireless industry? [Regulator]
6. Could you explain the rationale for the policy regarding licensing of operators? [Regulator]
7. What was the reason for this particular licensing model instead of e.g. X? [Regulator]
8. Could you explain the rationale for frequency management policy? [Regulator]
9. Do you get complaints about spectrum management and licensing procedures/decisions for wireless operators? [Regulator]
10. Are there any official ways through which telecom stakeholders can consult with you on proposed policies? [Regulator]
11. How does lobbying, if at all, occur at your organization? Who are the major lobbyists? [Regulator]

Policy making in a global context
12. Do you know of any telecommunications policy recommendations and requirements put forward by for example WTO, ITU and the WorldBank (or others)? [SADC I&S, CRASA, Ministry, Regulator]
13. Are these recommendations and requirements taken into account when developing national policies/guidelines? Could you give an example of when this has played a role? [Ministry, Regulator]
14. Are the national policies and guidelines complementary to WTO requirements? [Ministry, Regulator]
15. Are the national policies and guidelines complementary to ITU and WorldBank recommendations? [Ministry, Regulator]

16. Did you find recommendations/requirements by these international organizations that were perceived inappropriate for your country? Could you explain why this was perceived? [Ministry, Regulator]
17. Do you know of any national telecommunications policies that significantly differ from recommendations by international organizations such as WTO, ITU, or WorldBank? If so, could you explain why they are so different? [Ministry, Regulator]

SADC Regional Model Policies and Guidelines
18. Did you find recommendations/requirements by these international organizations that were perceived inappropriate for the SADC region? Could you explain why this was perceived? [SADC I&S, CRASA, Ministry, Regulator]
19. Do you know of any telecommunications model policies that significantly differ from recommendations by international organizations such as WTO, ITU, or WorldBank? If so, could you explain why they are so different? [SADC I&S, CRASA, Ministry, Regulator]
20. Could you briefly discuss which regional model policies and guidelines have been adopted at the national level? [Ministry, Regulator]
21. Could you briefly discuss which regional model policies and guidelines have NOT been adopted at the national level, and why? [Ministry, Regulator]
22. What were the reasons for particular model policies to be taken up, while others were not? [Ministry, Regulator]
23. What are the various factors that influence the decision to adopt particular model policies/guidelines? [Ministry, Regulator]
24. Did it ever happen that you already had another policy in place, which would have demanded significant adjustment for adoption of the regional model policy? [Ministry, Regulator]

SADC and the Wireless Industry
25. Which model policies and guidelines *regarding the wireless industry* did your country adopt, and which were not adopted? Why? (ask for particular guidelines/model policies) [Ministry, Regulator]
26. Do you know which SADC member states adopted model policy/ guideline X, and which did not? [Ministry, Regulator, operator, SADC I&S, CRASA, SATA]
27. Could you indicate particular aspects of the wireless industry in your country, that are possibly different from other SADC member states, that have influenced your preference for particular policies over others as adopted in other SADC member states? [Ministry, Regulator]
28. Generally speaking, what are the most important factors in your opinion that have driven overall wireless market growth? [Ministry, Regulator, Operators]

Interview Guide Cellular & Incumbent Fixed Line Operator Managers

General
0.1. Could you briefly explain your function?
0.2. Could you briefly describe your background/career in the telecom industry?
0.3. How long have you worked in this organization?
0.4. Could you briefly describe your involvement/experience with SADC (SADC I&S, CRASA, SATA)?

Wireless Market Development
1. Could you briefly discuss the history of your organization and the major changes that have taken place in your business model since your market entry? [Operators]
2. What were the most important external factors triggering these changes in your opinion? [Operators]
3. What policies provided important opportunities for your firm to introduce new (wireless) services and expand business geographically? [Operators]
4. What constraints does the current policy framework pose to further growth of your company (in terms of attracting more subscribers/providing greater coverage)? [Operators]
5. What particular policies would you like to see changed/introduced? [Operators]
6. How many subscribers does your firm currently have? [Operators]
7. What is the geographic coverage of your network? [Operators]
8. Could you indicate why you chose those geographic areas? [Operators]
9. Do you plan to expand to other areas? [Operators]
10. What are the problems for providing rural access? [Operators]
11. Do you provide different services/pricing schemes across geographic areas? [Operators]
12. What is the market share of your organization? [Cellular Operators]
13. Generally speaking, what are the most important factors in your opinion that have driven overall wireless market growth? [Regulator, Ministry, Operators]
14. Are you involved in national policy making; i.e. do you try to make recommendations to the regulator, parliament, or government? [Operators]
15. If so, how do you try to influence these stakeholders: do you lobby with them, or are there other mechanisms for letting your voice heard? [Operators]

SADC/SATA Regionalization
16. Do you perceive SADC as an important influence on national policy making? [Operators]
17. Are you engaged in SATA as a (associate) member? Please explain your involvement [Operators]
18. What is your reason for (not) participating in SATA? [Operators]
19. What are in your opinion SATA's main goals and function? [Operators]
20. Do you believe SATA has influence on decisions made through SADC I&S on regional telecom harmonization? [Operators]
21. How frequently do you go meetings? Why? [Operators]

22. Could you briefly describe the types of topics discussed in SATA? [Operators]
23. Have you ever participated in committees in SATA? If so, which ones? [Operators]
24. How are these committees formed? Who else participated? [Operators]
25. Do you believe all members of SATA are equally involved in the development of recommendations to SADC I&S/CRASA (SADC more general)? [Operators]
26. Have you ever been engaged in meetings/activities from SADC I&S/CRASA (SADC more general)? If yes, please explain how. [Operators]
27. Beyond SATA, are there any means through which you can provide recommendations or have your opinion heard, to SADC I&S/CRASA (SADC more general)? [Operators]
28. Are you involved in any other international organizations? [Operators]
29. If so, what benefits does membership provide and how does this compare to membership of SATA? [Operators]
30. Does your organization lobby with other organizations regarding model policy and guidelines development/adoption? [SATA, CRASA, Operators]

Interview Guide ISP Managers

General
0.1. Could you briefly explain your function?
0.2. Could you briefly describe your background/career in the telecom industry?
0.3. How long have you worked in this organization?
0.4. Could you briefly describe your involvement/experience with SADC (SADC I&S, CRASA, SATA)?

Wireless Market Development
1. Could you briefly discuss the history of your organization and the major changes that have taken place in your business model since your market entry? [Operators]
2. What were the most important external factors triggering these changes in your opinion? [Operators]
3. Are many wireless community networks deployed across the country? [Operators]
4. Could you name some other organizations who are involved in Wi-fi community network rollout? [Operators]
5. Do they generally operate in disparate geographic regions? [Operators]
6. What are the challenges for scaling these networks up to larger geographic coverage? [Operators]
7. What policies provided important opportunities for your firm to introduce new wireless services and expand business geographically? [Operators]
8. What constraints does the current policy framework pose to further growth of your company (in terms of attracting more subscribers/providing greater coverage) [Operators]
9. What particular policies would you like to see changed/introduced? [Operators]
10. How many subscribers does your firm currently have? [Operators]
11. What is the geographic coverage of your network? [Operators]
12. Could you indicate why you chose those geographic areas? [Operators]
13. Do you plan to expand to other areas? [Operators]
14. What are the problems for providing rural access? [Operators]
15. Do you provide different services/pricing schemes across geographic areas? [Operators]
16. Generally speaking, what are the most important factors in your opinion that have driven overall wireless market growth? [Regulator, Ministry, Operators]
17. Are you involved in national policy making; i.e. do you try to make recommendations to the regulator, parliament, or government? [Operators]
18. If so, how do you try to influence these stakeholders: do you lobby with them, or are there other mechanisms for letting your voice heard? [Operators]

SADC/SATA Regionalization
19. Do you perceive SADC as an important influence on national policy making? [Operators]
20. Are you engaged in SATA as a (associate) member? Please explain your involvement [Operators]

21. What is your reason for (not) participating in SATA? [Operators]
22. What are in your opinion SATA's main goals and function? [Operators]
23. Do you believe SATA has influence on decisions made through SADC I&S on regional telecom harmonization? [Operators]
24. How frequently do you go meetings? Why? [Operators]
25. Could you briefly describe the types of topics discussed in SATA? [Operators]
26. Have you ever participated in committees in SATA? If so, which ones? [Operators]
27. How are these committees formed? Who else participated? [Operators]
28. Do you believe all members of SATA are equally involved in the development of recommendations to SADC I&S/CRASA (SADC more general)? [Operators]
29. Have you ever been engaged in meetings/activities from SADC I&S/CRASA (SADC more general)? If yes, please explain how. [Operators]
30. Beyond SATA, are there any means through which you can provide recommendations or have your opinion heard, to SADC I&S/CRASA (SADC more general)? [Operators]
31. Does your organization lobby with other organizations regarding model policy and guidelines development/adoption? [SATA, CRASA, Operators]

Appendix B: Documents Collected in the Field for Document Analysis

SATCC-TU (1998). SADC Protocol on Transport, Communications and Meteorology. South Africa.

SATCC-TU (1997). Guidelines for Restructuring of State-Owned Transport and Communications Enterprises. Maputo, Mozambique.

SATCC-TU (1999). SADC Telecommunication Policies & Model Telecommunication Bill.

SATCC-TU (2000). SADC Policy Guidelines on Tariffs for Telecommunications Services & Model Telecommunications Regulations on Tariffs.

SATCC-TU (2000). Policy Guidelines on Interconnection for SADC Countries & Model Telecommunication Regulations on Interconnections.

SADC (2001). Declaration on Information and Communications Technology. Blantyre.

The Tanzania Communication Regulatory Authority Act, 2003.
Tanzania Communications Regulations, 2005 (No. 18 of 1993).
Operator's Sensitization on Consumer Issues, TCRA Board Room, Mawasiliano House, Dar Es Salaam, July 2006

Communications Workers Union. Information Communication & Technology Sector Summit Education Booklet.

ICASA (2005). ICASA Annual Report.

TRASA 2005 Annual Report.
TRASA 2004 Annual Report.
TRASA 2003 Annual Report.
TRASA 2002 Annual Report.
TRASA 2001 Annual Report.
TRASA Brochure

TRASA (2002). Policy Guidelines on Universal Access/ Service for Telecommunications Services in SADC.

TRASA (2002). Policy Guidelines on Licensing for Telecommunications in SADC.

Draft Report of TRASA, ITU and CTO – Model Universal Service Fund – Regional Workshop for Southern and Eastern Africa

TRASA AGM Participation Lists:

9th AGM List of Participants
8th AGM List of Participants (10-11 February 2005)
7th AGM List of Participants (19-20 August 2004)
Special General Meeting, Feb 28-27, 2004 => to discuss conditions of service for independent TRASA Secretariat employees
6th AGM List of Participants (2-3 October 2003)
5th AGM List of Participants (21-23 August 2002)
4th AGM List of Participants

Annex Wireless Guidelines (in progress…)
Annexure 7.4D: A Business Plan for a TRASA One Stop Shop, April 24, 2005

TRASA Country Reports for the 9th AGM, by:
- Zambia
- South Africa
- Tanzania
- Namibia
- Botswana
- Malawi
- Angola (in Portuguese)

Revised version of the "Constitution of the Communications Regulators Association of Southern Africa (CRASA)", 21 February 2006.

WRC 2007 (World Radiocommunication Conference) Agenda Item Details
WRC-2003 (World Radiocommunication Conference) Initial Post Conference Report, July 10, 2003

SADC ICT Resolution on the Incorporation of the Specialised Technical Agencies under the African Union (November 2006)

NEPAD EASSy Cable Plan

SADC Countries Telecommunications Data and Sector Reforms. Annex 4/ Telecom, by the SATA Secretariat.

ICT Declaration Synopsis by the SADC Heads of State.

Vita Annemijn van Gorp

Annemijn van Gorp was born in Vlijmen, the Netherlands. After graduating from high school she attended Delft University of Technology. In November 2002 she graduated with a Master's Degree in Systems Engineering, Policy Analysis and Management. The following summer, in August 2003, she moved to the U.S. to start her Ph.D. studies at the College of Information Sciences & Technology at Penn State University. Annemijn has defended her Ph.D. dissertation in November 2007.

While at Penn State, Annemijn served as a research and teaching assistant for a number of years. Additionally, during the period abroad to collect data for her dissertation research from May-December 2006, Annemijn worked as a researcher at the Meraka Institute, also known as the African Advanced Institute for Information and Communication Technology, in Pretoria, South Africa.

Annemijn is currently a Post-Doctoral Fellow at the Ted Rogers School of Management at Ryerson University in Toronto, Canada. Her research interests include international and inter-organizational governance aspects of information and communication technology (ICT) policy and ICT for development and humanitarian relief, and in these realms focuses primarily on factors that stimulate the provision of advanced (wireless) communication and Internet access technologies. Annemijn's work has been published in *Telecommunications Policy* and *Info: The Journal of Policy, Regulation and Strategy for Telecommunications, Information and Media*. She has also presented papers at a variety of international conferences, including the International Telecommunications Society (ITS) conference, the annual conference of the International Communication Association (ICA), the Research Conference on Communication, Information and Internet Policy (TPRC), the International Conference on Information & Communication Technologies for Development (ICT4D), and the International Federation for Information Processing, Working Group 8.2 on Information Systems and Organizations (IFIP 8.2), among others.