Research Article

Broadcasting in Developing Countries: Elements of a Conceptual Framework for Reform

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Abstract

Broadcasting has an important role in fostering development and alleviating poverty. It is an important industry in its own right and can contribute to growth elsewhere in the creative community. In addition, it can complement other development initiatives, serving as a vector for conveying information, for example, for health, training, and commercial markets. This article builds on the work of the World Bank and other sources on the role of broadcasting in development and reform in the sector. It examines four rationales that can serve as the basis for reform: "telecoms plus," digital TV, comprehensive media reform, and convergence. For example, "telecoms plus" would extend liberalized rules on telecommunications to broadcast infrastructures. The digital TV rationale would allow a state to account for the advent of new broadcast technologies. The particular rationale adopted within a developing country would depend on its local circumstances. On the basis of these rationales, the article reviews the elements of a conceptual framework that could serve at the core of sector transformation: object of reform; content; infrastructure; ownership; regulator; and other elements for an environment that fosters broadcasting. The article concludes that any step for reform in broadcasting, as in other ICT sectors, should be linked to the overall development of the emerging economy.

Introduction

Broadcasting has been relatively overlooked as an economic sector that can advance development and alleviate poverty throughout the world. It can serve as a widespread tool of information transfer and as a method to improve transparency and other elements of governance. Moreover, broadcasting—whether radio or television—is a significant economic sector in its own right, offering a potential access point to new information and communications technologies. As an important knock-on effect, a vibrant broadcast sector in a country can help foster the growth of its creative community and of consumer markets.

Nevertheless, broadcasting faces serious problems in many developing countries. Although the structure and regulation of other key economic sectors have been transformed since the early 1990s, in many states there is comparatively little evolution in broadcasting with respect to critical is-

1. Some elements of this article are based in part on Eltzroth and Kenny (2003). I am grateful for the comments offered by colleagues and by the editors and anonymous referees of Information Technologies and International Development. The views expressed in this article are my own.

sues on content, advertising, relationship with content creators, cross-border transmissions, treatment of infrastructure and new infrastructure elements, competition rules, independence of regulators, licensing, independence of the press and news gathering, rules on defamation, and intellectual property rights.

The difficulties of the current state of broadcasting are numerous. For example, ownership and control often remains highly concentrated: in 75% of the world the state dominates radio broadcasting. New entrants are actively discouraged from providing services. National terrestrial broadcasters are increasingly challenged by satellite transmissions offering nonindigenous content and skimming off viewers from local advertisers. Broadcast signals are retransmitted without authorization and authors' rights are violated. The Internet—perceived to be outside national regulation and providing a range of enticing content—further undercuts traditional local broadcasting. The state of regulation—often very opaque—discourages investment in the sector; without distribution channels (and purchasers of their works) the local creative community stagnates.

The experience of the World Bank and other multilateral institutions has demonstrated that reform in telecommunications, a sector closely related to broadcasting, can have a significant development impact. The work over the past decade in telecommunications reform presents a potential model for broadcasting. Telecommunications reform offers both a strong theoretical baseline and the tools to spark necessary reforms in developing countries. This foundational work—well known to readers of this journal—is touched on in this article; there is little need to recite here the extensive scholarly and industry sources for this reform.[2]

The work in the broadcast sector is not merely theoretical but has also had very practical results. Over the past decade a number of states have included broadcasting reform as a key element in their process of transformation from centrally planned economies. Many of these states, in Central and Eastern Europe, now have institutions and rules governing broadcasting that conform to the *acquis communautaire* (the standing body of law) of the European Union and have a thriving broadcasting sector and a growing creative community.

It is time to turn to the reform of broadcasting in states where the unmet need for economic development and poverty alleviation is greatest. In this article, I briefly discuss the traditional reticence of multilateral institutions to address broadcasting ("Traditional Reluctance 'to meddle in content industries'"). In "Factors for Change," I highlight several factors which favor a more active participation in the sector by these institutions. "Rationales for Broadcast Reform" sets out a series of alternative bases for providing "technical assistance" (legal advice, consulting), which are available as starting points for reform in the broadcast sector. The most important are media reform, "telecoms plus" and convergence. In "Comprehensive Media Reform," I sketch out some elements of an agenda of reform in the media sector, which could serve as a "toolkit" of principles, policies and rules by states and their advisors. I present several conclusions in "Convergence," noting that broadcast reform (and other forms of sector assistance) can only be undertaken within a framework of coordination of work in other sectors.

This article had as its genesis the author's long-term observation within a developing country responsible for adopting and commercializing digital broadcasting technology for services covering southern Africa. This experience resulted in my conviction that it was increasingly anomalous to exclude broadcasting as a leading instrument for delivery of information society services in developing countries. The conviction was shared within the multilateral community and, drawing upon prior work within that community such as World Bank (2001), resulted in the World Bank's working paper (Eltzroth and Kenny 2003). The present article takes that working paper a step further by offering elements of a conceptual framework for media reform. It does not propose to duplicate the work, with which the readers of this journal are familiar, on the application of ICTs to poverty development and poverty alleviation.[3] Rather based in part on the conclusions emerging from that work it identifies issues which a reformer

2. See, for example, Schartz and Satola (2002) and, across the telecommunications and other industries, Guislain (1997).

3. See, for example, Lewis (2005).

would consider when scrutinizing the broadcasting sector.

The article also benefits from the author's participation in recent technological developments in broadcasting, such as DVB's Multimedia Home Platform and, more latterly, mobile broadcasting through use of DVB-H standard.[4] These developments underlie the offer, through the same device, to consumers and citizens, of a mix of broadcasting and interactive services. The line between the two sectors is increasingly murky in the developed world; this is true also in emerging economies. This article is also based on work undertaken to promote technical broadcast standards and related new technologies in a number of states, notably Brazil, China, and southern Africa. In offering elements of a conceptual framework, the article cannot pretend to be definitive on each of areas that a state should address to bring reform to its broadcast sector. Such a more comprehensive analysis should await the results of ongoing research and a forthcoming book.

Broadcasting as a Subject of Reform

Multilateral institutions have been traditionally reluctant to offer advice or other guidance for the transformation of the broadcast sector in developing countries. This has resulted from the difficulty of such institutions addressing creation, acquisition, and distribution of content and from the view that it would be inappropriate to intervene with broadcasters and other actors in media markets who are bound up in the political fabric within their respective countries. Although these views may have been compelling in the past, there are several factors that argue for a different approach: first, technological advances increasingly make it difficult to differentiate telecommunications (an area where the international community has actively intervened) and broadcasting. In addition, the place of broadcasting as a leading sector for development has been confirmed, in own right as an economic activity, for the cumulative effects in an emerging economy and as a platform for distributing information society services.

Traditional Reluctance "to meddle in content industries"

A leading activity of multilateral institutions has been the promotion of reform in the telecommunications sector. The importance of telecoms is twofold: it is an important sector of the economic activity and an underlying transport means for other economic activities. The liberalizing message has consisted of a number of elements, including privatizing the telecommunications incumbent, fostering competition, unbundling services, and independence of the telecommunications regulatory authority. The work has paralleled the international acceptance, through a treaty instrument, of the need for reform.[5]

Although manifestly another means of communications, broadcasting—radio and television—has generally remained outside the scope of this reform. This is the result of several factors. First, in the analogue environment, broadcasting and telecommunications were arguably distinct industries: broadcasting generally used radio frequencies "over the air," transmitting from one to many, without a return channel, and with scheduled programming. In contrast, telecommunications offered one-to-one communications over dedicated connections. For some, the launch of the Internet was perceived to be an outgrowth solely of telecommunications; the personal computer was a device to be connected to the public switched telephone network. Recent treaty instruments continued to follow this bright-line distinction between telecommunications and broadcasting. For example, the Annex on Telecommunications of the General Agreement on Trade on Goods explicitly states that it does "not apply to measures affecting the cable or broadcast distribution of radio or television programming."[6]

This distinction is also based in part on the reluctance to appear to influence—by treaty or through institutions—content produced, acquired, and distributed in countries. The debate is linked to the

4. The DVB Project is a consortium of some 280 companies setting technical standards for digital video broadcasting. Some of its core technologies, including transmission standards such as DVB-T, have been adopted in over 100 countries. DVB-H is a recently adopted standard for terrestrial broadcasting, suitable for handheld devices, such as the cell phone, with small screen, short battery life, and minimal antenna.

5. See, for example, the Annex on Telecommunications of the General Agreement on Trade on Services in WTO (1994).

6. Id at s 2(b).

place of "cultural goods" in the disciplines imposed by the framework of the treaties administered by the World Trade Organization. Similarly, although there has been substantial work at international and regional levels on protection of intellectual property rights in the digital environment, there has been comparatively less attention to the protection of broadcast works and the place of broadcasters in protecting these and their own rights.[7] To the extent that broadcasting is perceived to be an element of content industries, international institutions have generally chosen not to attempt to intervene in the conduct of its activities.

Similarly, broadcasting like other media (but unlike the traditional understanding of telecommunications) is bound up in the fabric of government within a state. Intervention by multilateral institutions in broadcasting would arguably impinge on government institutions and processes—in other words, in the way the freedom of expression is exercised in a state. Countries are sensitive to the impact changes in media could have elsewhere in their political organs.[8]

For these and other reasons, broadcasting was generally not included in the liberalizing trends in telecommunications during the 1990s. Nor did it find a place easily in the discussions on "convergence." For example, the initial work of the European Commission on convergence did not include broadcasters.[9]

Factors for Change

In the face of this long-standing reluctance to address broadcast reform, there have been a number of developments—in part through technological advances, the success of telecom liberalization, and the central role of broadcasters in fostering creativity—that suggest that the position should be reconsidered, if not abandoned all together.

It is incontestable that the past decade has confirmed that technology is blurring the bright-line distinction between telecommunications and broadcasting. The examples of these advances are numerous. The Multimedia Home Platform (the open middleware system designed by the DVB Project) offers the provision, through the television receiver, of digital services to the household, including Internet connectivity, e-commerce, and e-government services. MHP is now widely commercially available for terrestrial (over-the-air) television in Europe.[10] MHP has been adopted as the core technology for devices with similar functionalities in the United States (as OCAP by CableLabs and in June 2005 as ACAP by the American digital TV standards body ATSC) and in Japan (as B23 by the standards body ARIB).

The DVB Project has recently completed its standards work on DVB-H, a technology allowing reception of digital television signals by portable devices (such as cell phones and personal digital assistants) with smaller screens and limited battery life. Technology trials are underway in Berlin, Oxford, Pittsburgh, Johannesburg, and elsewhere and it was demonstrated during the winter Olympic games in Turin in February 2006 and the 2006 soccer World Cup.[11] In the developed world, the market for commercial satellite radio services such as XM and Sirius is growing rapidly. A similar formula for the developing world, Worldspace, has found broad credibility; during 2005 Worldspace completed an initial public offering of its shares.[12] Compression technologies

7. For example, under TRIPS, while "broadcasting organisations shall have the right to prohibit . . . the fixation [and other acts] of broadcasts . . .", the agreement recognizes that in many cases "Members do not grant such rights to broadcasting organisations [in which case] they shall provide the owners of copyright" with similar rights (Agreement on Trade-Related Aspects of Intellectual Property in WTO [1994]). The members of the World Intellectual Property Organization are considering the suitability of a further instrument protecting broadcasters' rights. See, for example, WIPO (2005).

8. This link between media and government institutions is not unique to developing countries. In the developed world, there are broadcasters owned by the state (e.g., the United Kingdom); the membership of their governing bodies can be subject to political decision (e.g., France and Italy); there can be quarrels over levels of state funding of public service broadcasters (e.g., the United States).

9. Broadcasters were present at the final stages of the Bangemann report (1994), only after representations from the Association of Commercial Television, a trade association of European commercial broadcasters.

10. For example, MHP devices are widely available in Italy thanks in part to a subsidy program offered by the government that recognizes their value for e-government services. This program is described at http://decoder.comunicazaioni.it.

11. Alternative technologies for mobile broadcasting have been developed, notably DMB and Media Flo (Qualcomm).

12. Worldspace (2005).

have progressed; a new standard AVC (MPEG 4 [10]) allows a number of services, greater than under the older MPEG2 technology, to be distributed to receivers. AVC will be used for some terrestrial services in Europe in 2006. As a result, the distribution costs for a service can continue to decline.[13]

These and other technological advances in digital television confirm that broadcast is a viable medium for distribution of information society services alongside traditional TV programming. Moreover, the take-up of MHP and its progeny across a number of broadcast environments will drive down its cost. Thus, the PC (and its associated wire-line-based infrastructure) cannot be considered the sole means for Internet access. As a result, a regulatory model that splits telecommunications and broadcast is no longer able to account for technologies and devices that can offer both TV programming and voice/Internet connectivity.[14] And technology and its commercialization will not wait for the regulator: the number of services made available by advanced video compression, such as AVC, will increase, making digital TV more attractive, including to viewers in intended territories and in overspill countries.

A second factor is becoming increasingly evident: the central role of broadcasters in fostering, directly or indirectly, the funding of the creation of local content.[15] A common misconception is that, because of Hollywood dominance in world markets for cinema and broadcast works, it is not viable to create such works locally.[16] The corollary argument is that broadcasters, especially commercial broadcasters, are little more than vehicles for Hollywood content.[17]

The experience in several newer broadcast markets, notably for commercial television in Europe, indicates that the conjecture set out above (and in the accompanying notes) should be far more nuanced. Western Europe had a long tradition of public service broadcasting, and commercial, advertising-based services were generally launched in the late 1980s. At first, there was a high percentage of non-European works in recently introduced broadcasters. During the course of the 1990s, however, there was a sharp increase in locally produced works. This could be in part the result of European rules encouraging broadcasters to devote a majority proportion of transmission time to European works.[18] Equally

13. AVC can also be used for higher definition television. Microsoft Windows Media 9 and a Chinese standard are alternative technologies.

14. In Korea, a conflict between broadcast and telecoms regulators delayed in April 2005 the launch of pilot project for television services delivered, using Internet protocol, over telephone lines. Korean Ministry of Information and Communication (2005).

15. Another key aspect is the ability of broadcasting to spur other aspects of the economy, especially in consumer markets, through advertising. Growth in broadcast advertising, in addition to bringing local goods and services to the attention of target audiences, adds also to the demand for capabilities in production of audio and video content.

16. The argument is that marketable content, suitable for cinema release or for television distribution, can only be created by large corporate organizations, concentrating large amounts of capital, talent, specialized skills, and marketing and distribution expertise with sophisticated structures for rights acquisition and management. Such organizations, it is asserted, can only be found in Hollywood (and in selected large states, such as India). The conclusion of this argument is that the resulting dominance of such companies in cinema and broadcast markets assures the failure of any attempt to create a local source of works. This explains, for example, the comparative difficulty of finding distribution for works produced outside of Hollywood, for example for auteur-based works, and the inability within Europe to create a studio on the Hollywood model.

17. The related contention is that broadcasters, especially commercial operators, necessarily devote a large proportion of their programming to content produced by this limited number of large companies in the United States. Under this argument, broadcasting in the developing world (and indeed in many territories within the developed world) serves only as a conduit for distribution of Hollywood product. Several undesirable consequences are drawn from this argument: First, broadcasters are considered to be a funnel for payment of royalties payable for copyright licenses of these works, funds that add to trade imbalances and are then lost for local development. In addition, because of the dynamics of international markets, these works, especially older content, are often far cheaper to acquire by local broadcasters than locally created products. As a result, any attempt to assist in the growth and development of broadcasting would be, it is asserted, nothing more than the creation of vehicle to assure the dominance of cheap Hollywood product and the squeezing out of locally produced content. This result is all the more troubling because, it is claimed, Hollywood works project a style of life, a view of actions and their consequences, and expectations which may be highly objectionable to some in the targeted broadcast market.

18. European Union (1989), article 4(1).

important, however, is the commercial decision by broadcasters to differentiate their services from competitors by locally produced works. Statistics published during the mid-1990s are revealing: the proportion of European works broadcast in a quota territory such as France was already, less than a decade after the adoption of the 1989 Broadcast Directive, roughly equivalent to that in a territory driven mostly by commercial considerations, such as Germany.[19] This trend has continued within the EU 15: both of these national markets continue to satisfy the objective that broadcasters exceed the objective of devoting more than 50% of their qualifying broadcast time to European works.[20]

The implication is that, even in the absence of a local studio system on the Hollywood model, broadcasters produced for their own account or acquired locally developed content. Indeed, within Europe broadcasters have become the leading financiers of new cinematographic productions.[21] In other words, broadcasters have been able to foster, directly or indirectly, a creative community that creates, directs, produces and distributes (at least for television) high-quality content.

Moreover, broadcasters in emerging economies outside Europe have also been a leading source for the development of the local creative community. For example, in South Africa a local broadcaster launched a soap opera in 1991. Here the commercial incentive was undoubtedly comparable to the European experience: the desire to set the broadcaster's programming apart from its competitors by offering locally produced content. The broadcaster's successful soap opera generates revenues that in turn can be used for investment in additional local works. In addition to its commercial success, the production company responsible for the programming has also served as a training ground for scriptwriters, actors, composers, and others making creative inputs and for numerous skilled technicians. Many of these have now joined other production companies or formed their own. These companies sell to the broadcaster or to other broadcasters in the South African market.[22] Overall in South Africa, the creative industries (film, television, music, broadcasting, theater, and interactive media) accounted as much as 3% of South African's GDP in 2000. In 1998, South Africa's film and television industry employed 20,000 people.[23]

Rationales for Broadcast Reform

The balance of this section offers different (but complementary) approaches to laying the groundwork for broadcast reform: first, broadcasting as an element of telecoms infrastructure; second, the inevitability of digital TV technologies offering an opportunity for readdressing broadcast regulation; third, comprehensive media reform to be taken on board as key to growth; and fourth, the notion of convergence as triggering a more general reassessment of telecoms reform. Some factors for a choice among—or a suitable mixture of—these approaches are set out in the section "Conceptual Framework: Other Preliminary Considerations."

Broadcasting as Telecommunications Extension ("Telecoms Plus")

As noted above, the traditional view requiring restraint in addressing broadcast reform should be reexamined in the light of developments during the 1990s. Some of the reasons for this shift—new technologies, broadcasting's knock-on effect elsewhere in the economy—are set out in the section "Factors for Change." There are some additional related elements: first, it is now commonly accepted

19. Association of Commercial Television in Europe (1995).

20. David Graham and Associates Limited (2004). The study's conclusion (at the time of the workshop) across a number of member states of the EU 15 was that attaining the 50% objective was not based on whether the mode of implementation of the directive was flexible or strict. Throughout the EU 15, both advertising supported and publicly funded services had overall reached the objective. On compliance with the European quota within the EU 15, see also European Commission (2004) and accompanying annexes. The EU 15 refers to the members of the European Union, generally in Western Europe, before the accession of 10 new states from Central and Eastern Europe in May 2004.

21. In addition to films and other commissioned work, broadcasting also requires production of advertising, channel on-screen indents and promotions (and similar interstitial material for radio) and, over time, various forms of interactive audiovisual content and material. In an emerging economy, the entities producing these forms of content can have a distinct place in the overall broadcasting environment; they will not necessarily call for the same skills, capital, or customers as the companies producing longer works.

22. On the experience of the Egoli soap opera, see http://egoli.mnet.co.za/About/History.asp.

23. Eltzroth and Kenny (2003), p. 11.

that the broadcasting infrastructures can be suitable for conveying classic telecom services and that continuing to exclude these infrastructure could work against an overall deregulatory agenda. Voice telephony is now offered by cable operators in a number of countries. Indeed this service (and not television entertainment) is at times the leading reason for a new subscription. This competition has put pressure on the incumbent telecoms operator, for example in the United Kingdom, to reduce its pricing and offer other innovative tariffing. These networks are also commonly used to offer high-speed Internet connectivity and related Internet services to households and businesses in competition with other services. Moreover, television infrastructure has become more complex, adding, for example in the case of European pay broadcasters during the 1990s, an installed base of set-top boxes, conditional access technology, and subscriber management systems, allowing the viewer the possibility of a range of responses beyond "couch potato" passivity.

These technological and market developments have shaped the policies of leading regulators. For example, in the European Union, recent communications reform has merged the rules governing telecommunications infrastructure and cable networks and other elements of the broadcast infrastructure.[24] Thus, the overlap in infrastructures has chipped away at the formalistic distinction between telecoms and broadcasting, and evolving best practices in states and regions now include broadcasting infrastructures in the reform package.

Moreover, silence on these issues will lead to regulatory muddle or regulatory arbitrage. As operators roll out 3G networks offering content (including broadcast programming) to subscribers' screens, they are uncertain on how these services are regulated. Uncertainty may lead to a poorer offering to consumers and delay investment.

An approach to reform based on this *telecoms plus* rationale could include encouraging regulators to consider placing the infrastructure elements of broadcasting under the same liberalizing regime as telecommunications, initially, for example, by folding broadcasting into a single communications regulator or by splitting the infrastructure from program packaging. At the very least, a telecoms plus regime should discourage the regulation under media rules of new infrastructure elements (cable and satellite networks), new technologies (such as application programming interfaces [APIs] and electronic programming guides [EPGs]) and new content players (ISPs and other intermediaries).

Such a telecoms plus approach could be considered by states that have successfully implemented liberalization in the telecoms sector and whose regulator has the appetite to extend its remit. Here, as in other rationales, the initiative may run against other interested parties, who may find the effort as aggrandizing the powers of the telecoms industry and regulator.

Advent of Digital TV

Digital television is being introduced commercially in a number of markets in the industrialized world. For some years, digital satellite transmissions have been available from BSkyB and Canal+ in Europe, from Echostar and DirecTV in the Americas, and from Multichoice in southern Africa. Over the past 5 years, digital terrestrial services have begun in several European territories and in the United States. These market introductions have brought regulators to address a number of issues, ranging from the treatment of new broadcast-like services (such as EPGs), anticompetitive practices through the use of proprietary technology,[25] to application of content rules to a bouquet of services, copyright and copy protection, regulation of e-commerce alongside classic audiovisual programming, and, at times, market failure and relaunch of services.[26]

The arrival of these technologies is inevitable in many developing countries. Several emerging economies have adopted and are considering standards for digital terrestrial television (Argentina, China, Iran, South Africa) and common household platforms, such as the Multimedia Home Platform (Brazil, Singapore). Others are in overspill territories, along the periphery of developed states, for exam-

24. See the series of measures adopted in 2002 comprising the "Telecoms Package" (European Union 2002).
25. In some circumstances, a public/private partnership has helped to diffuse concern over dominance in new digital markets. For the resolution of issues as concerns the DVB common scrambling algorithm and the use of java technologies in the Multimedia Home Platform, see www.etsi.org.
26. For example in Spain, Quiero was not successful and in the UK the ITV Digital service (now replaced by Freeview).

ple north Africa and the CIS states; digital reception equipment is "bleeding" into these territories allowing reception of overspill signals without official sanction (from either national authorities or the program rights holders).

There is a further reason why digital TV can be attractive to the developing countries: the digital television is an alternative to the personal computer (PC) as a platform for Internet connectivity. Heavily promoted by the computer and telecoms industry, the PC model for Internet is reaching a natural saturation level, even in developed markets. The television receiver can bring the information society to households otherwise excluded; it can help bridge the digital divide. Developing states have recognized this potential. In Brazil, the association of broadcast engineers SET and the SBT network, have, as part of their work selecting a national terrestrial technology, identified as objectives the promotion of social inclusion and cultural diversity; the democratization of information; and the creation of a universal network for distance learning.[27]

The European Commission, in an e-Europe strategy paper, has indicated,

> Digital television shows great potential to bring broadband access to a large number of potentially excluded households. By allowing broadband access via a familiar terminal which is already present in 97% of EU households, it enables those who may be reluctant to buy a computer to become part of the network, through a significantly cheaper investment. Member States should cooperate to facilitate the introduction of digital television services with Internet capabilities and promote interoperability within the framework of voluntary, industry-led standardisation.[28]

The rationale for looking to the TV as a vehicle for information society services is more compelling for emerging economies: the comparative absence of broadband wireline connections; cost of introducing, and maintaining, widely dispersed PCs; existing penetration of television receivers; ease of use; and the comparatively low cost of television and its infrastructure. (And given the worldwide rollout of digital consumer equipment, a developing country can benefit from the prospect of profiting from the manufacture of set-top boxes, converters, integrated digital TV sets, and other products.[29])

This revolution in television requires, in middle-tier and more prosperous states, long-term planning for the introduction of digital TV (and eventually the transition out of analogue) and creating the right regulatory framework, at the national or regional level, to encourage digital investment and content creation. Alongside a coherent plan for television infrastructure development, it would be a suitable peg for a review of the existing media legislation in developing countries and the adoption of new initiatives.

This second rationale for broadcast reform—a "digital TV package"—has both regulatory and investment-incentivizing components. Because of the compelling innovation it represents, digital TV is certain to attract the attention of all players in technology and infrastructure markets. For this reason the media (and telecoms) regulators will be receptive to consider the suitable regulatory framework. This second rationale would comprise several areas for reform activity. For example, multilateral institutions could recommend suitable digital TV standards and reception equipment; this form of intervention may lower equipment and other costs. In addition, a reform effort could be launched with feasibility studies in target countries, identifying for example, the right mixture of (commercial) broadcast services and (state-supported) education and training services with an information society marketplace. Further studies could specify the buildout of the infrastructure for digital TV. In states, a package of regulatory issues could be brought together, drawing together best practices developed to date for digital services (some issue areas are set out above), coupled with reform of existing media rules. Moreover, regional associations and multilateral institutions could en-

27. Franco (2006).These objectives are consistent with the goals of the Brazilian regulator who in 2001 refers to the television offering "new telecommunications applications made possible by digital technology [including] interactivity" (Brazilian ANATEL 2001).

28. European Commission (2001), paragraph 3.2. See also the comments of then Commissioner Liikanen (2003): "In Europe, we will exploit all terminals, from the TV to the mobile phone, to bring the promise of Information Society services to our citizens."

29. For example, there have been reports that Laotian manufacturers are supplying equipment for digital television in Vietnam.

courage a critical mass of services across a platform common to a region, to foster the eventual success—commercial, penetration, ethnic, and niche audiences—of digital television. A state could adopt this rationale if it was likely to be a (comparatively) early adopter of digital technology, had already identified overspill services as a competitive threat, or had concluded that it would prefer to deliver information society services through the television receiver.

Comprehensive Media Reform

An effort to trigger a wide-ranging review of media rules is not necessarily tied to the launch of new digital technologies. There are other well-founded bases for launching such an effort. It has been argued that there is a correlation between competitive media markets and other measures of development.[30] World Bank (2001) concludes,

> The media can play an important role in development by affecting the incentives of market participants—businesses, individuals, or politicians—and by influencing the demand for institutional reform. Information flows through the media can . . . create constituencies for change and institutional reform[,] promote[] competition in economic and political markets[,] empower people. . . .
>
> Control of the media by any single or concentrated interest can hinder [achieving these outcomes] . . . Privatization and relaxation of controls on the media (such as by allowing new private entrants) can, in many cases, enable the media to support markets better.

The evidence collected in the preparation of the World Bank (2001) indicates, for example, that state ownership of the media "translates into more corruption, inferior economic governance, less-developed financial markets, fewer political rights for citizens, and poorer social outcomes in education and health." World Bank (2001) suggests that policy reform over media should include regulations on concentration, encouraging competition among media firms, eliminating restrictive media regulations and financing arrangements, ensuring open access to information, and building journalistic capacity and an effective judiciary and regulatory agencies. This approach would argue that the question of media reform should be directly confronted, without the need for a justification based on "telecoms extension" or convergence.[31] It would also go beyond broadcast media to include, for example, the written press.

Media reform is not free from controversy.[32] But reform can be achieved without delving into content and politics. It can focus on brightline targets—improving the commercial environment, increasing consumer demand, creating conditions for entrepreneurship in media, reconfiguring ownership, and the other goals identified in World Bank (2001)—on which there is little controversy.

A policy encouraging comprehensive media reform is consistent with the overall development objectives, at the core of the work of multilateral institutions, of fostering economic growth and improving social and political outcomes within less-developed countries. For this reason, media reform could well be treated as a separate task, not necessarily linked to telecoms, not limited to broadcast, and reaching beyond states likely to be candidates for digital TV. To advance comprehensive media reform, technical assistance (legal advice, consulting) could select those elements of media that could be the targets for reform—for example, television, radio, written press, and advertising. At the same

30. Chapter 10, "The Media," in World Bank (2001).

31. For example, the European Parliament has fostered a long-running debate on media plurality and the EU merger regulation has allowed a separate track for concentrations impacting on the media. In the United States, there is controversy whether the U.S. equivalent doctrine for a separate noneconomic basis for reviewing media concentration, as represented by the Red Lion case, is still viable.

32. See for example, Yew (2000), in which the senior minister of Singapore argues, in his chapter "Managing the Media," that the "US model is not universally valid. . . . A partisan press [can help] politicians to flood the marketplace of ideas with junk, and confus[e] and befuddl[e] the people so that they could not see what their vital interests were in a developing country." See also the conclusions of the International Criminal Tribunal for on Rwanda (2003), linking the transmissions of RTV Mille Collines with the genocidal acts within that country during the mid-1990s. Freedom of expression and comparable rights are defined and exercised differently across states. As noted above, industrial states, as well as developing countries, often have struck a fine balance between political organs and media and may not welcome meddling. The tension over cultural goods, and their place in the current trade agenda, must be kept in mind. On these and related issues, see World Bank (2002).

time, the overall approach for comprehensive media reform is probably directed differently than for telecoms: media plurality and ownership rules, for example, may follow models outside of competition rules applied to telecoms markets. For this reason, brightline best practices could be identified at this stage, but detailed rules are probably not necessary or indeed could be counterproductive. Over time, and once the comprehensive reform package has been proven successful in selected states, further best practices could be collected and serve as a keystone for advancing a global understanding on media regulation.

Convergence

Convergence has made the telecom/TV distinction murkier still. Digital and compression technologies have opened up the well-defined borders of the formerly discrete industries of telecoms, media, equipment manufacturing, and content. These technologies offer more content in bandwidth and more distribution paths for services. Moore's law drives down the cost for consumer equipment. Other technologies allow more cross-border services.

This murkiness is encouraging a renewed look at telecom regulation and the process of reform. The pressure for scrutiny is coming in part from telecom operators that, because of converging technologies and services, find that their offer of novel services on mobile handsets could bring them within media regulation. The screens on third-generation cellular telephones are capable of receiving broadcast content and as noted above[33] operators are trialling the new DVB-H specification. The telecom operator may well prefer a review now of the impact of convergence on its activities and the rules under which it operates.

Now there is general recognition that stovepipe regulation—a regulatory regime covering a single industrial sector—is no longer feasible. This is now reflected in the evolution of the telecom policies of the European Union, for example bringing television infrastructure within the scope of the EU Telecoms Package. If there is an element that is separately regulated, it generally relates to the production and packaging of broadcast content.

Convergence offers the twin prospects of taking telecom reform to the next step and to include within its agenda other forms of communication, including broadcasting. This would continue the dialogue between multilateral institutions and their principal interlocutors—the telecom regulator and the broader telecom community—building on more than a decade of contacts and progressive liberalization. On the basis of this dialogue, a new convergence reform package could be developed, adapting regulatory innovation to developing countries. Such a package would for example replace telecom-specific rules with broader competition policies (with obligations imposed on those exercising significant market power). In addition, the ability of the competition regulator to assess telecom markets would need to be reinforced. Apart from competition/antitrust measures, the package could include other components of the information society agenda: e-commerce and e-government; protection of intellectual property rights; consumer confidence issues (alternate dispute resolution, trust mark, data privacy); security of networks; treatment of harmful content, and so forth. Convergence calls for action from not only the state regulator, but also industry and civil society. To advance this cooperation, a forum could be established for all players within a state or region, assisting, for example, entrepreneurs to prepare to enter convergent markets. As a result, the role of the media regulator could be folded into a single communications regulator or repurposed: its competence would not include broadcast transmission, now part of the broader communications infrastructure, but it arguably could address licensing of channels, program production, and content protection. Here a state could adopt such a rationale in the light of its (favorable) experience with telecom liberalization. (Alternatively, further reform to follow the recent liberalization in the sector may be judged to be premature.)

The rationale adopted for broadcast reform, selected from the four possibilities described above or a hybrid, will differ among states according to local conditions. The rationale will help direct the scope of reform and the choice of tools to be applied.

Elements of a Framework for Reform

The method proposed for broadcast reform is by a identifying elements of a framework for reform—a "toolkit" approach—which has been successfully

33. This is described in note 11, previously, and the accompanying text.

used for the reform of the telecommunications sector and in other industries. A toolkit offers a number of reform elements—to be applied in isolation or linked to others—to address the issues unique to a particular developing country. Countries are often in different stages of development. There can be varying conclusions on the lessons learned from telecom reform and the conceptual framework available for media reform. Moreover, the toolkit is more suited than a "cookie-cutter" approach because the tools selected can be adapted with sensitivity to content, differing traditions of media liberties and patterns of ownership, and other issues beyond the scope of direct concern of development bodies. In addition, offering an array of reform elements would also give recognition to the varied conditions within developing countries for the use of media, for example, in terms of geography (e.g., conditions of terrain, concentration of populations), institutional structures (balancing different interests within state), and relative importance of different interests within media (e.g., a legacy of supporting content industries).

Conceptual Framework: Other Preliminary Considerations

The "Rationales for Broadcast Reform" section presents a series of alternative theoretical bases—characterized as telecoms plus, digital TV, comprehensive media reform, and convergence—as the starting point for the work within a developing country for broadcast reform. These bases are also important in shaping the decision on the tools to be adopted for reform.

For example, a state subject to significant digital overspill, and at the same time likely to be an early adapter of digital terrestrial technology to participate in next wave of policy reform, may choose to adopt the convergence model. Alternatively, a country that has experienced the successful implementation of telecoms reform may choose to extend the policies, rules, and practices it has developed to other platforms for telecoms services under the telecoms plus model. Of course, a state could follow a pragmatic approach and address issues as they arise, on an ex post approach, but it may find that there are drawbacks in not adopting a coherent methodology to regulation.

Private and Public Service Broadcasting

A further key consideration is to have a firm sense of the environment the state intends to promote through broadcast reform. The broadcast sector is different than others because it often acknowledges two types of leading participants in broadcast markets: public service broadcasters and commercial broadcasters. There are, of course, many similarities: both offer entertainment delivered to a device commonly placed in the household; and both compete for viewers or listeners; both may compete against each other for advertising revenues and content. But there can be marked differences. A further participant is the small operator, notably the radio broadcaster, which can be indispensable for low-cost services in a developing country. The broadcast environment should cater to all three participants.

The public service broadcaster is generally capitalized by the state and a large proportion of its budget is funded by subsidy or license fee. It often has explicit duties, set out in a charter or other form of remit, on offering certain forms of content (news, sports, local works); in providing services to a high percentage of the national territory; and in presenting diverse viewpoints and other content representative of the national population.[34] The public service broadcaster is governed by a board whose members are named by state authorities, or from public interest groups, or are otherwise representative of the audience it serves. The environment suitable for such a broadcaster will allow it, most notably, to take decisions independent of its owner (the state); to fulfill its public service remit for which it must have adequate sources of funding; and to allow it the flexibility to take up new technologies to meet its mission. Because of competitive concerns, the environment must, at the same time, ensure that it does not abuse its access to dual funding (in many cases) to undercut other broadcasters for example by distorting advertising markets or using its state-supplied resources to offer services in commercial markets.

34. The European Broadcasting Union, an association of public service broadcasters, sets out criteria for membership which are representative of the characteristics of such broadcasters: A member offers "a broadcasting service and character" accessible to "virtually all national radio or television households," that is at least 98% coverage, providing "varied and balanced programming" and "produc[ing] or commission[ing] a substantial proportion of the programmes broadcast" (European Broadcasting Union 2006, article 3[3]).

The public service broadcaster has been a leading model for broadcasters in developing countries generally because the state can be the obvious source for capital, ongoing revenues, its remit, and exercise of editorial control. The broadcast environment, however, should also foster the success of the commercial broadcaster. Such a broadcaster is generally formed as a limited liability company, with ownership and control as permitted by local law (see the section "Ownership," below) and its license, with its owners expecting a return on their investment. Its principal source of revenues arises from advertising. The broadcast environment then should enable the company to select content for its programming that will attract viewers and advertisers. It should also offer trading terms that will not undercut the broadcaster when it faces satellite broadcasters and other competitive threats.

The regulatory regime should be sufficiently flexible to accommodate both the public service broadcaster and the commercial operator. It should also accommodate the small operator, which, despite limited resources, can provide a local broadcast service in outlying areas. The low-power radio station, operating in conditions where for example there is little risk of frequency interference, should not be burdened by regulation suited to operators offering services intended for the national territory.

The sections that follow build on a checklist based in part on the experience in developed countries of highly competitive markets, exploiting a variety of platforms and technologies.[35] In many emerging economies broadcast development may not be sufficiently mature or present the same regulatory concerns. Regulators may have to address issues—such as liberalizing the market from the dominance of an entrenched incumbent broadcaster—that developed countries (believe they have) resolved some time ago. For this reason, at the initial stage, a "light touch" or "ex post" regime may be more suitable, where authorities react to problems rather than anticipate every regulatory concern. At the same time, authorities should be vigilant to ensure that an operator is not permitted to build an anticompetitive position by unfairly exploiting a regulatory vacuum.

Tools of Regulation

Object(s) of Regulation

In the developed and developing world, broadcasting has been subject to comprehensive regulation that governed both content and distribution and allowed state intervention greater than for most commercial activities. This departure is based notably on the theory that broadcasters are licensed to exploit a scarce resource (radio frequencies) and so should be compelled to meet certain public service obligations. In developing countries, a second element of scarcity is the relative paucity of funds, whether from the state or through advertising, available to support multiple terrestrial channels. The impact of the few authorized broadcasters would therefore be all the greater on national audiences, thus justifying a greater level of regulation. For example, a national television service would have only a limited number of hours available for fictional works. For this reason, a preference, or quota, would be given to local works that would be otherwise be squeezed out by often cheaper nonnational productions. Similarly the licensing authority could expect that each service to be adequately diverse and pluralistic, rather than look for diversity across a wide range of operators.

For the reasons indicated elsewhere in this article, new media are not subject to the same constraints based on spectrum scarcity and audience scarcity. Indeed, the continued application of rules based on such constraints could significantly impede the launch of new services and the fostering of competition of existing media markets. The initial step for new reform is to separate those elements remaining with the traditional regulatory structure and those capable of flourishing within a reformed "lighter-touch" structure.

As a starting point for regulation and its reform, consideration must be given to the proper object of regulation. This will depend in part on the conceptual framework adopted by the state for broadcasting. A classic decision is to divide regulation into components covering infrastructure and content.

35. Moreover, the toolkit that follows is generally limited to the elements directly related to broadcasting. Some solutions, for example telecom plus or convergence, would necessarily implicate other sectors and a state would use a richer array of tools perhaps not immediately relevant to broadcasting. Reformers should not lose sight of the need to tie work in broadcasting with promotion of development in other sectors. See the "Ownership" section.

This is not a bright-line distinction, because, though a state may wish to continue to supervise its broadcasters (quotas for local works, rules on advertising, and so forth are discussed in the "Content" section below), it may be unclear whether these measures should be extended to new services and associated content, such as e-commerce over broadcast frequencies or broadcasting content distributed over the Internet. If a key objective is to foster the launch and development of competitive broadcast services, in part as a vector for economic growth, a state may conclude that it would be useful strictly to limit the extent of discrete rules on content.

The choice of object(s) of regulation can have two consequences. First, there may be separate regulators (and this is dealt more extensively in the paragraphs which follow). Second, a split between regulatory regimes—separately governing infrastructure and content—may affect existing broadcasters. If broadcasters are not only responsible for the programming content but also own and operate the transmission network, they may find themselves subject to two different legal frameworks, perhaps with inconsistent obligations. One solution is to compel structural separation of these activities, in other words placing the program provider and the transmission network under separate ownership. A second solution is to subject the broadcaster that remains integrated to behavioral constraints, for example, to allow access on reasonable terms to third party program providers. This solution could require greater vigilance by the regulator.

The need for separation—whether structurally or, perhaps more impracticably, by rules on its behavior—is not an idle issue. One of the objectives of broadcast reform is to lower barriers to market entry by new media players, including by easier access to broadcast towers and other transmission means. If the incumbent broadcasters control these means and refuse reasonable access, the new players may well be blocked from entering the market. Or it may choose a satellite platform for distribution, thus depriving the terrestrial broadcast market of viewership and advertising revenues and stripping the country of the prospect for national control and for a viable local audiovisual market.

Content

As stated above, the scope of regulation addressing broadcast content should arguably be highly explicit, reducing, for example, the risks of an overlap with infrastructure regulation. Thus, as discussed below in the section "Infrastructure," the competences allocated to the media regulator should similarly be limited. The list of areas falling within content regulation may include allocation of broadcast time for categories of programming, for example for children, national minorities, political campaigns, and other public interest content. Moreover, a state may impose limitations on content based on national standards of decency and against racial and other forms of hatred. Further limitations could be based on the audience targeted (e.g., children). Content rules may also limit the time and content of advertising and the industries permitted to advertise and set terms for redress for deceptive adverting by broadcast means. Rules could also be adopted against broadcast defamation and allowing a right of reply, provide for arrangements governing preferences given to local content, and give recognition to nonnational services and/or content. Content regulation could also mandate the mission and other guidelines governing state-owned broadcasters and the distribution of license fees or other state support for broadcasting. In some cases, these rules would apply only to traditional, terrestrial broadcasting and not to new forms of transmission—satellite, Internet, etc.—where the concerns of frequency, scarcity, and crowding out would not be present.

Infrastructure

The liberalization of the telecom infrastructure has been proceeding apace during the past 20 years, resulting from government action in some states[36] or spurred by international conventions.[37] The list of steps leading to a liberalized telecom market is now familiar; indeed, many of the elements are adopted here.

For states that chose to follow an independent path of media reform, these steps, borrowed from

36. For the United States, see, for example, modified final judgment leading to the break-up of AT&T (United States v American Tel. & Tel. Co., 1982) and the EU's telecommunications green paper (European Commission 1987). One great impetus for liberalization in the developed world was the privatization of BT, launched in 1984 (British Telecommunications, plc., 1984).

37. Telecoms Annex in WTO (1994).

the telecom sector, include ensuring the independence from the state of the entities engaged in broadcasting, placing them under the same status as a limited liability company, ultimately leading to their privatization.[38] Coupled with this are rules creating the conditions for entry into the market by private companies offering broadcasting services in competition with incumbents.[39] As discussed above, a state may think best to require separation of the content and infrastructure components of a broadcaster's activities[40] and apply the principles of competition law (or similar rules applied to the telecom and broadcasting sectors) for access to the broadcasting infrastructure. [41] A state may form a regulator, independent of the state, governing the broadcasting infrastructure.[42] Alternatively, it may mandate the competition regulator to apply competition rules to such infrastructure. In the case of statues following other frameworks for broadcasting reform—for example "Telecoms plus"—the items discussed above can be folded into an existing regime of telecoms regulation.

An infrastructure regime may arguably[43] have to account for special competition factors in the broadcasting sectors. These factors may bring a state to impose rules on gatekeepers controlling "essential facilities" such as new technological components for content access, electronic programming guides, application programming interfaces, and digital rights management technologies. In addition it may be vigilant with regard to to access to infrastructure elements for transmission, such as elevated sites for transmission towers and, for reception, such as an installed base of set-top boxes in households, creating arguably a monopolizing effect. The infrastructure regime may also provide a priority to certain broadcasters, for example, nationally licensed services, on cable networks and other infrastructures ("must carry"),[44] impose service obligations for example assuring a certain percentage of national coverage[45] and require adoption of technical standards for transmission and for reception equipment.[46] There could be tests applied to ownership and control different than in other industries, to ensure plurality and diversity in the media.[47] Under some circumstances, the state may offers subsidy, or other incentives for the launch of broadcasting, and new technologies.[48]

Many of these items are controversial in developed countries. A developing state may well consider that the rules governing some areas are premature and that, without proof of manifest abuse, general principles of antitrust law should apply. Alternatively, in the absence of resources for a comprehensive regulatory structure, a country may consider a regime formed within a public/private

38. See, for example, in France the privatization of TF1 and "channel 4" (Canal+).
39. Compare in the U.K. the different mandates on market participation (access to advertising revenues) by Channel 4 (sharing with ITV) and Channel 5.
40. See, for example, in the U.K. the spin-off and sale of the BBC and ITV transmission networks.
41. See European Union (2002).
42. See discussion above, in "Factors for Change" section.
43. For some, competition rules of general application alone should be sufficient; there is no need for sector specific rules.
44. A cable network often does not extend beyond a municipality, which in some states (e.g., the Netherlands) is given the task to decide the mix of channels carried in its local network.
45. Some states impose costly obligations on their national broadcasters to extend their reach to, for example, more than 95% of the national territory, over at times difficult terrain. See, for example European Broadcast Union (2006, article 3[3]). Now these obligations to outlying areas can arguably be met by satellite transmission.
46. In the past, broadcast standards were often made mandatory by law to ensure compatibility of service and consumer equipment ("TV sets") over a national territory. For such an approach within the European Union, compare European Union (1995) (requiring use of a digital standard adopted by a recognized standards body) and now European Union (2002) states are called upon to "encourage" use of an open API for a digital set-top box for households with the goal of achieving interoperability and freedom of choice.
47. See the "Ownership" section below.
48. Such support may be inevitable in countries where the state remains a leading actor in the economy. Within the European Union, the Italian state provides to householders a subsidy for purchase of a terrestrial digital set-top box. See note 10 previous. Some states, including the United States, are considering incentives to encourage the last households receiving analogue television to make the transition to digital services in order to complete "analogue switch-off" (and make available for other uses the frequencies dedicated to analogue television). Incentives are also used to foster universal service and to bridge the "digital divide."

partnership setting codes of conduct, resolving disputes, and so forth.

Ownership

Many states adopt rules unique to broadcasting governing ownership of broadcasters and their affiliation with companies engaged in related activities, such as content producers or distributors, or newspaper publishing. Within antitrust rules, a state may, as noted, decide to sever the link between content and infrastructure and thereafter forbid an entity from owing both a content provider and its means of transmission. States approach this issue of vertical integration in broadcasting with special sensitivity.[49] Other rules limiting ownership are designed to ensure plurality and diversity—that is, with the objective of blocking concentration in media and promotion—ensuring thereby a plurality of sources of political and other information to audiences. These principles, applied frequently as caps on ownership and limits on cross-media ownership, have not been universally accepted.[50]

In addition to these rules on cross-media interests, vertical integration, and diversity, states often adopt other limits on ownership in the form of rules governing the structure of control of public service broadcasters; and funding and limits on the extent of ownership of a broadcaster by nonnationals. In addition, states may impose requirements on broadcasters to allocate a percentage of program budgets to content produced by nonaffiliated, independent producers, or for limiting exploitation rights of a commissioned work ("finsyn rules").

Regulatory: Independence, Structure, Licensing

One of the cornerstones in reform in broadcasting is the regime governing the regulator. There is a rich fund of experience—from the broadcasting sector, telecommunications, and, indeed, from other utilities—from which a developing state can draw. A number of issues are common to utility regulators, though some may be particularly sensitive in the broadcast environment in a developing country. These include independence of the regulator from state and industry control; its funding; power of granting licences and transparency of process; verification of compliance and powers to suspend and to revoke; adjudication of disputes and recourse to review regulator's decisions; and powers of investigation.[51]

As noted above, some threshold questions are of particular importance to the broadcast regulator relating to the extent of its competence and whether it should be responsible for all the activities of broadcasting or limited to content-related matters.[52] Linked to this is the issue of the regulator's relationship with other instances of media control—for example, the tribunals resolving disputes on defamation and other forms of objectionable content—and claims based on misrepresentation of advertising. Moreover, some broadcast activities, and some operators, should fall outside normal scrutiny of the regulator. For example, the low-powered radio operator should not be burdened with comprehensive filing and other duties that could represent a significant barrier to its launch of services in rural, outlying areas. In addition, providers of new services outside the traditional definition of broadcaster, for example providers of e-health, e-commerce, training, and other services, could suitably not fall within the scope of comprehensive regulation by the broadcast regulator.

Other Elements of the Legal Environment

In addition to the several key areas outlined above on content, infrastructure, ownership, and regulation, the reformer should address other issues with the objective of offering a stable legal environment to the broadcaster, the creative community and its other suppliers, its target audiences ("viewers" and "consumers"), and other media and economic actors generally. Much has been written on the value of fostering a framework of laws and institutions conducive to economic growth, bolstered by secure investment and protections for consumers, and for

49. For example, in the European Union there are a number of decisions by the European Commission blocking mergers or concentrations in pay television and other media markets, where it found that the transactions would create or strengthen a dominant position, inter alia, by vertical integration. See, for example, European Commission (1994).
50. In the United States, traditional caps on ownership are now being challenged by the US Federal Communications Commission and by courts. Within Europe, the European Parliament has consistently shown interest in limits on media ownership. See note 31 above and accompanying text.
51. See Guislain (1997, 271).
52. And, if broadcast infrastructure is subject to separate treatment, whether this falls within the scope of the telecommunications regulator, or the general competition authority.

poverty alleviation. This section highlights several areas of particular importance to broadcasters.

The protection of the rights of authors to authorize (or refuse) exploitation of their works and to obtain remuneration is a foundation stone for broadcasting, the creative community generally, and all media. This is true for locally created works and for works produced outside the national territory. Commercial infringement of copyright (piracy) distorts markets and removes incentives to invest in broadcasting and related industries. The various forms of piracy (copying and distribution of pirate CDs and DVDs, unauthorized broadcast of films and other programming, hacking decoder boxes, etc.) offer to the public products below market rates that undercut locally produced products. For this reason, states should complete their implementation of the treaties adopted by the WIPO diplomatic conference in 1996[53] and TRIPS. They should consider as an additional measure of protection, for their own broadcasting sector, adoption of a further instrument of the World Intellectual Property Organization protecting broadcast organizations.[54]

Another area of particular importance to broadcasters comprises rules defining forms of harmful content. This content can include defamation and libel; hate speech and other expression capable of inciting violence based on race, religion and nationality; deceptive advertising; and the like. The rules adopted by the state should also provide remedies, and a readily available means for seeking redress, available to an offended party. A growing body of law has been developed to limit the risk of liability of intermediaries. Although initially designed for Internet service providers,[55] other intermediaries such as broadcasters should be in a position to benefit from these "safe harbor" provisions.

Bilateral and regional coordination in broadcasting is often needed among states, including developing countries. The national broadcaster, whether television or radio, may operate in an environment where nonnational broadcasters overspill into its target markets. Overspill may reflect poor technical planning. Alternatively, it may well be intentional: for example, a state may attempt to reach members of its ethnic community located in a neighboring country by offering broadcasts with content (and in a language) attractive to that community.[56] A state may seek to coordinate with its neighbor to ensure proper allocation of frequencies with the goal of limiting interference along frontier areas. Moreover, states may wish to encourage cross-border provision of broadcast services. One arrangement would allow mutual recognition of broadcast licensing so that a broadcaster authorized in one state would not be obliged to seek additional licensing for retransmission in the neighbor.[57] There are many arguments in favor of such bilateral and regional agreements. Among these is the enhancement in the overall attractiveness of broadcasting by the increase in the number of services offered.

Conclusion

This article has set out some elements of a conceptual framework for reform of the broadcasting in developing countries. It is based on the conviction that reform can foster development of a sector that can promote economic growth and poverty alleviation, as an industry in its own right and as a spur to related activities, notably in the creative community. In addition, broadcasting, both radio and television, can serve as a platform for the promotion of other economic sectors, in concert with the achievement

53. See WIPO 1996.

54. See WIPO (2005). Some regional instruments already prohibit certain forms of broadcast piracy. See, for example, European Union (1998).

55. See, for example, Global Business Dialogue (2002).

56. This is not surprising. Shortwave radio has been traditionally used by states to reach their immigrant populations. A satellite service provider, Globecast, offers carriage to television content intended for such populations (www.globecast.com); the service is economically viable because the reach of satellite permits the aggregation of widely dispersed paying viewers.

57. For the regional arrangements within the 25 member states of the European Union, this is at the core of the 1989 Broadcast Directive (European Union 1989). Within the EU copyright issues for overspill transmissions are also addressed. European Union (1993). A practice in some states, for example Belgium, is to allow, within cable networks, priority status to national broadcasters from neighboring states provided these states offer reciprocal arrangements. Minstère de la [Belgian] Communauté française (2003) (permitting distribution for example of a non-Belgian service originating in EU member state without need for prior approval from authorities). Such a retransmission scheme could be suitable for countries where the terrestrial frequencies are underused.

of other objectives—health, training, provision of e-government services—advanced by the World Bank and other multilateral institutions, and arguably promote greater transparency and participation in government. The choice of specific tools for reform can be based on the rationale selected for transformation of the sector, telecoms plus, digital TV, comprehensive media reform, convergence, or, depending on local circumstances, a hybrid bringing together one or more of these rationales.

Already there is strong evidence that some developing countries are weighing these and other factors. For example, Brazil appears to have chosen the Japanese ISDB standard, entering into a memorandum of cooperation which has favorable terms for technical assistance, local production of components, and royalty free licensing.[58] In Mexico broadcasters are preparing the launch of digital terrestrial television services in Mexico City, Guadalajara, and Monterey on the basis of the ATSC standard adopted 2004; the services will be rolled out progressively in the national territory through 2021. Several Latin American states are waiting for Brazil's choice of a standard.[59] In China, the decisions for standards for digital transmission and household receiving equipment are driven by a strong national interest in consolidating an approach to licensing of intellectual property rights and local interests in forcing the pace of technological development. In South Africa, a commercial player, Multichoice, has been at the forefront of DVB and has been able to determine the pace of introduction of services in southern Africa and across demographic audiences. It is conducting a trial of DVB-H mobile broadcasting, offering in Johannesburg and Pretoria some 13 broadcast services, with the intention of commercializing the services to South Africa's 25 million active cellphone users. For digital terrestrial television, Namibia may be the first country to achieve analogue switchoff, converting to an all-digital terrestrial network in April 2004. In South Africa digital terrestrial services are scheduled to be available across 80% of the population in time for the FIFA World Cup in 2010. Multichoice has used these experiences to address other developing economies, notably in Asia.[60]

Broadcasting is particularly attractive as a tool for development because it has many of the attributes of ICTs. The experience of the recent past has shown that the use within emerging economies of these technologies should be undertaken in concert with broader, more comprehensive goals for economic development and poverty alleviation.[61] As a form of ICT, broadcasting—radio and television—is arguably more suited to achieving these goals. As opposed to PC-based solutions, broadcasting offers off-the-shelf technology already familiar to a wide public capable of wide use, including to outlying rural areas, with less onerous infrastructure costs. Reform in the broadcast sector will help developing countries fully to exploit these possibilities.

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58. "Memorando de cooperação [dated 13 April 2006 between the Governments of Brazil and Japan] para implementação do sistema brasileiro de televisão digital, baseado no padrão japonês." For an early statement on the ambitions of Brazil, see note 27 and accompanying text.

59. See Franco (2006).

60. Fyffe (2006).

61. Grace, Kenny, and Qiang (2003) address the funding and other measures of assistance that an institution can provide to a developing country in support of information and communications technologies in isolation or, more appropriately, as part of a general program favoring development. On the place of ICTs within development generally, see McNamara (2003) and OECD (2003).

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