



**ENSURE THAT ALL  
OF THE WORLD'S POPULATION  
HAS ACCESS TO TELEVISION AND  
RADIO SERVICES**

## Target 8: Ensure that all of the world's population has access to television and radio services

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### Executive summary

Target 8 reflects the importance of providing the world's population with television and radio access. While analogue TV and radio are usually described as older media, they nevertheless remain very important for providing information to people in both developed and developing countries. Access to these traditional ICT services is still relevant in the information society as they can enhance the achievement of development goals such as education, preserving local heritage and the promotion of cultural diversity. In developed countries, television and radio broadcasters are using newer technologies, such as digital TV, to create better audience experiences. Developing countries are also adopting these technologies, although analogue TV and radio continue to play important roles in development – especially in remote and rural areas where access to new ICT services is limited. For citizens who lack literacy skills, TV and radio serve as important sources of news and information. For these and other reasons, tracking access to all radio and TV services remains an important task, especially for developing countries.

Target 8 is tracked using three indicators. The first two indicators – proportion of households with access to radio and television (respectively) – show that, while the target has not been universally achieved, access levels are reasonably high in developing countries and can be considered as achieved in developed countries (that is, households that want these services have access to them). Of developing countries with available data, most have at least 50 per cent of households with access to radio. About 72 per cent of households in developing countries had a television at the end of 2012, though this target remains largely unmet in Africa, with only 42 per cent of households having television. The target for television access is also unmet in least developed countries (LDCs), with only 35 per cent of households having a TV in 2012.

The third indicator for Target 8 tracks access to multichannel television services. Adoption of multichannel television has been growing rapidly and a little over half of the world's households (or 71 per cent of households with television) had access to one or more multichannel services by the end of 2012. The switch-over to digital television is the most far-reaching development in multichannel television in recent years. Given the increasing demand for limited radio-frequency resources, digital transition is a critical issue for policy-makers, regulators, broadcasters and other stakeholders (ITU, 2010a). Most developed countries have completed, or are on track to complete, the transition to digital television, while developing countries have begun, or are committed to, the transition (ITU, 2013a). As the digital switch-over will be of major policy concern in developing countries in the near future, an additional indicator tracking digital transition could be considered.

The benefits of other multichannel television technologies are more likely to be gained by developed countries and affluent households in developing countries. However, multichannel television does

offer opportunities for the less affluent. Compared to terrestrial broadcasting, satellite TV is a cost-effective way to improve coverage for communities currently without television access.

Should there be a post-WSIS target related to broadcasting, it is recommended that indicators 8.1 and 8.2 be retained,<sup>1</sup> as developing countries still have considerable room for progress towards Target 8. Monitoring Indicator 8.3 should also be continued in order to provide insights into the role of different TV-distribution technologies in providing TV services to the world's population. New areas of measurement are suggested to move from the demand focus of the current indicators to the supply of radio and TV services (in terms of the availability and quality of content). The *Media development indicators framework* (UNESCO, 2010) and pilot study could serve as the groundwork for such new indicators.

Finally, this report offers some recommendations for increasing access to TV services:

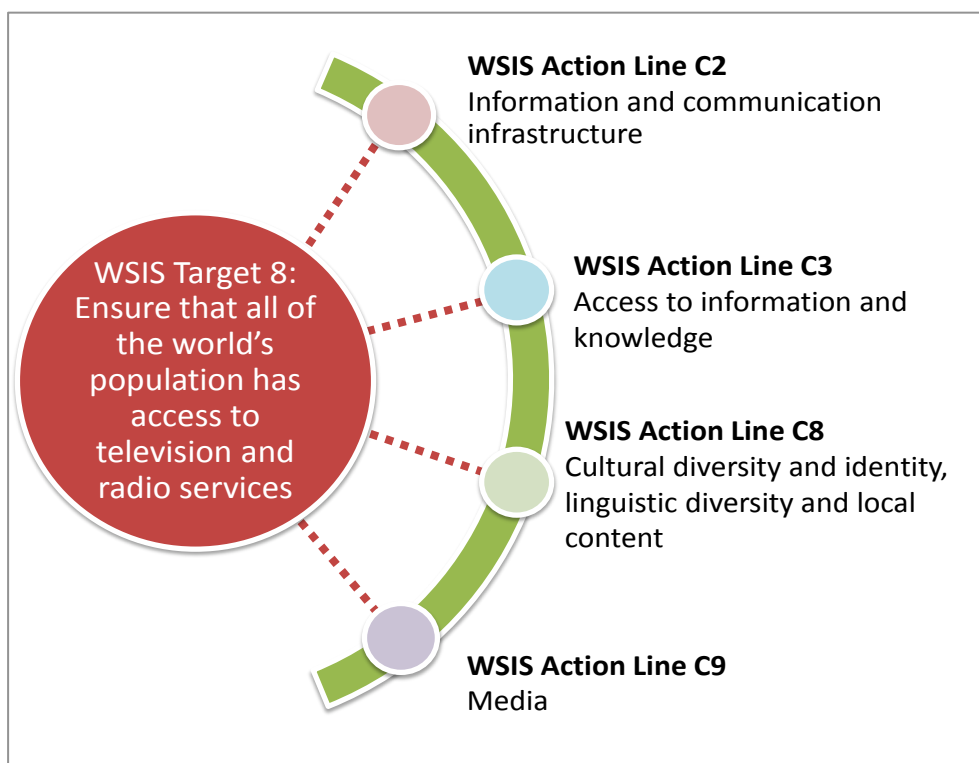
- Provide state assistance for low-income households in order to make TV sets and decoders more affordable and thus help increase household TV penetration.
- Increase the availability of relevant local content as this could also help boost household TV uptake. Appropriate tracking of the availability of content should be an important focus of Target 8 post-2015.
- Encourage more broadcasting stations and multichannel TV operators to offer services in order to increase content variety and competition.
- Countries with a low proportion of households with multichannel television could consider satellite technology as a cost-effective way of increasing coverage to remote and other unserved areas.
- Developing countries in the early stages of digital transition could learn from developed countries that have completed the digital transition.
- Countries with too small a market to justify a national multichannel TV system could take advantage of existing regional systems.

## Introduction

Target 8 reflects the importance of providing television and radio access to the world's population. Television and radio, along with fixed telephony, have formed the trifecta of traditional ICT services in the home for several decades. While TV and radio are older media, they nevertheless remain very important for providing information to people in both developed and developing countries. Even with the rapid adoption of new ICTs, such as the Internet, TV and radio have stayed relevant to their audiences. Programmes can now be delivered via a range of devices and platforms, in addition to traditional analogue stand-alone radio and TV sets. In developing countries, TV and radio continue to play important roles in development – especially in remote and rural areas, where access to new ICT services may be limited. In times of crises and emergencies, TV and radio play the critical role of conveying vital information to citizens. They also provide information, allow citizens to express national identity, act as vehicles for domestic content and fulfil educational purposes (*Partnership*, 2011). For citizens who lack literacy skills, TV and radio serve as important sources of news and information.

Target 8 is related to WSIS action lines C2, C3, C8 and C9 (see Figure 8.1). Given that Target 8 focuses on television and radio services, its relation to WSIS action lines primarily concerns broadcast infrastructure, media and content.

**Figure 8.1: Relevance of Target 8 to WSIS action lines**



Target 8 is relevant to Action Line C2 (Information and communication infrastructure), since broadcasting constitutes an important part of ICT infrastructure and widespread access to broadcasting services is fundamental for reducing the digital divide. Broadcasting is also related to aspects of this action line that concern the availability of adequate and affordable ICT equipment, given that radio and TV sets are needed in order to use broadcasting services. Action Line C2 calls, moreover, for encouraging and promoting traditional media.

Target 8 is also relevant to Action Line C3 (Access to information and knowledge). This action line explicitly mentions the Internet, but newer TV transmission technologies such as digital terrestrial TV (DTT) can also significantly increase access to information and knowledge. DTT is not yet deployed in most developing countries, but there is little doubt that it will play a central role in fulfilling some of the public services related to communications. Indeed, broadcasting technologies, both traditional and new, are important for disseminating information and knowledge almost instantaneously – especially for people who are illiterate or have limited access to new media.

Broadcasting can provide content relevant to local cultures and languages, thus linking Target 8 to Action Line C8 (Cultural diversity and identity, linguistic diversity and local content), one element of which is also to “Give support to media based in local communities and support projects combining the use of traditional media and new technologies for their role in facilitating the use of local languages, for documenting and preserving local heritage ... and as a means to reach rural and isolated and nomadic communities ... Enhance the capacity of indigenous peoples to develop content in their own languages.” (ITU, 2010b). Broadcasting is arguably better placed than newer media to fulfil these roles, in view of the still wider availability of broadcast devices in developing countries compared to devices required for Internet access.

Broadcasting is referred to in WSIS Action Line C9 (Media). This action line recognizes that the media have an essential role in the development of the information society and are important contributors to freedom of expression and plurality of information. One of the elements of Action Line C9 is to “Encourage traditional media to bridge the knowledge divide and to facilitate the flow of cultural content, particularly in rural areas.” (ITU, 2010b). Traditional media are essential for promoting linguistic diversity and cultural identity, given their relatively high prevalence. In order to take full advantage of the media, it is important to “Encourage the development of domestic legislation that guarantees the independence and diversity of the media” and “Reduce international imbalances affecting the media, particularly as regards infrastructure, technical resources and the development of human skills ...” (*Geneva Plan of Action*, ITU, 2005).

TV and radio are particularly important where other information sources, such as newspapers and the Internet, are not widely accessible. For some rural and remote communities, broadcasts by community radio stations are sometimes their only means of accessing news and locally-relevant content. Community radio also has a special place in programmes of the Communication and Information Sector at UNESCO<sup>2</sup> and is often set up to address crucial social issues at a community level (such as poverty and social exclusion), to empower marginalized rural groups and to catalyse democratic processes and development efforts. Box 8.1 looks at community radio and its role in development for marginalized communities.

### Box 8.1: Community radio and development

Community radio has played an important development role for vulnerable communities in the past two decades. Involvement with community radio can occur in two directions: (1) pushing information to the community and (2) bringing together residents. In the first function, community radio delivers locally-relevant content to its listeners. In rural and remote regions, community radio can share timely and relevant information on development issues, opportunities, experiences, life skills and public interests (Da Costa, 2013). In the second function, community leaders use the platform to engage other locals in communal activities. Community radio gives citizens the means to make their views known on decisions that concern them and allows them to express and enrich their identities (Myers, 2011). Consequently, some advocates of community radio have attributed the medium with the ability to democratize and empower the marginalized (Conrad, 2011). The following list illustrates the role that community radio plays in four different areas – new technology, public services, food security and human rights:

**Introducing new technology.** In the early 2000s, community radio was recognized as an important catalyst for rural communities to be introduced to the Internet. UNESCO's *Radio browsing the Internet* program allowed community broadcasters to discuss website information in the local language and adapt the information to local interests.<sup>3</sup> Listeners can request information on specific topics, such as market trends, agriculture, health or life skills for poverty alleviation. The broadcasters search the web for the requested information and put the results on air. They can also arrange for online discussions between health workers, agricultural extension workers or other individuals with technical experts to discuss a particular problem and broadcast the results.

**Improving public services.** Community radio can act as a rallying point for community projects to improve public services, such as the provision of electricity, building of a community school or neighbourhood clean-up efforts. For example, in Budikote, India, broken pipes for the village water supply were promptly mended by the local authorities when Namma Dhwani Community Media Centre radio recorded and aired the complaints of local women.<sup>4</sup>

**Enhancing food security.** Community radio can enhance food security in farming communities by disseminating information about new agricultural practices. Research conducted by the African Farm Radio Research Initiative (AFRRI) in five African countries found that farmers who listened more frequently to radio programs had better knowledge of agricultural improvement practices and were more likely to adopt the promoted practices.

**Campaigning for human rights.** Another impact of community radio is its ability to campaign for human rights in its various forms. For instance, in South Africa, Soweto's Jozi FM has been involved with the Gay and Lesbian Organisation (GLO) over the years to put gay and lesbian rights issues in the public domain. The collaboration has helped GLO to dispel some of the homophobic stereotypes and myths prevalent in society at large and has provided a platform for gays and lesbians to discuss their own rights. In Nepal, the Supreme Court of Nepal ruled in 2003 that the state should provide free education to people with disabilities, but many disabled people did not know their rights. Radio Swargadwari raised the issue frequently, informing and educating the disabled about these rights and also campaigning for local districts that were neglecting their responsibility.

While community radio can give local voices access to media and provide an alternative to mainstream broadcasters, the medium has developed at different paces in different countries. Political considerations, it seems, are major factors governing the development of community radio. Some governments have a more open attitude towards community radio, while others have been more restrictive. New ICTs also challenge community radio stations to stay relevant and rethink how to run programming in the new media landscape.

Source: ITU research.

## Availability of data and scope

The purpose of Target 8 is to track access to television and radio services. The term "access" can be interpreted in a number of ways – from signal coverage, to device availability to actual use. Current satellite technology provides coverage to the whole world so theoretically, access to TV and radio signals is complete. However, it is more useful to know the extent to which the world's population

makes use of devices to receive the broadcasting signal. In service to this goal, the Partnership on Measuring ICT for Development (*Partnership*, 2011) proposed three indicators for Target 8:

Indicator 8.1: Proportion of households with a radio

Indicator 8.2: Proportion of households with a television

Indicator 8.3: Proportion of households with multichannel television service, by type of service.

The indicators focus on households as the unit of measurement. This focus acknowledges that broadcasting is often a shared experience among family and friends. Furthermore, the existence of a broadcast receiver in a household suggests that different family members have access to it. The three indicators refer to household access to the relevant ICT equipment or service, not to use of those products by individual household members. Household data for indicators 8.1 to 8.3 are available through censuses and household surveys containing questions on access to TV and radio. Increasingly, the patterns of ICT ownership are shifting from shared access at home to individual access by various devices. The next section discusses the impact of these trends in terms of measuring Target 8.

### Evolving definitions for Target 8

The current review of Target 8 was undertaken in a time of flux when the indicators were being updated to reflect changes in the ICT landscape. More than a decade has passed since 2003, when the WSIS targets were first established and ten years is a very long time in the ICT domain; just consider the phenomenal diffusion of mobile telephony between then and now. In terms of evaluating Target 8, Internet-enabled devices are redefining traditional notions of TV and radio and add complexity to measurement. At the first meeting<sup>5</sup> of the ITU Expert Group on ICT Household Indicators (EGH)<sup>6</sup> at São Paulo, Brazil in 2013, the EGH reviewed, among others, two core indicators on ICT household access pertaining to Target 8. The purpose of the revision is to keep up to date with the evolution of technologies and services.<sup>7</sup> The substantive revisions proposed to the relevant indicators are underlined:

HH1 – Proportion of households with a radio. A radio is defined as a device capable of receiving broadcast radio signals, using common frequencies, such as FM, AM, LW and SW. A radio may be a stand-alone device, or it may be integrated with another device, such as an alarm clock, an audio player, a mobile telephone or a computer.

HH2 – Proportion of households with a TV. A TV (television) is defined as a device capable of receiving broadcast television signals, using popular access means such as over-the-air, cable and satellite. A television set is typically a standalone device, but it may also be integrated with another device, such as a computer or a mobile telephone.

The revisions were endorsed at the 11th World Telecommunication/ICT Indicators Symposium (WTIS)<sup>8</sup> and the final definitions were released in the 2014 *Manual for Measuring ICT Access and Use by Households and Individuals* (ITU, 2014). The definitions of radio and television generally applying for the current review are from *Partnership* (2010) and are:

A radio is a device capable of receiving broadcast radio signals, using popular frequencies, such as FM, AM, LW and SW. It includes a radio set integrated in a car or an alarm clock and digital audio player (MP3 player) but excludes radios integrated with a mobile phone or in a computer.

A TV (television) is a stand-alone device capable of receiving broadcast television signals, using popular access means such as over-the-air, cable and satellite. It excludes TV functionality integrated with another device, such as a computer or a mobile phone.

Some countries do not comply with the *Partnership* definitions and may, for instance, apply a narrower definition of radio (for example, excluding radios integrated with all other devices). Consequently, data reported on households with a radio are not always comparable and penetration rates will depend on the definitions applied.

Although the definitions used in the current report exclude radio and TV functionality in computers and mobile phones, it is unlikely that the separation will be maintained post-2015. Many mobile phones now have a FM antenna that makes it possible to listen to radio. This is probably the most common case today of radio usage through mobile phones in developing countries. In developed countries, Internet-enabled electronic devices are allowing more audiences to stream radio and TV programs, but this use has yet to gain traction in developing countries, where mobile broadband uptake is limited. Radio and TV streaming through the Internet (for long periods) may consume considerable data (about 1 Mb per minute for medium quality voice), and are likely to be costly for audiences in both developed and developing countries. Given the trends in convergence of consumer devices, the 2013 revisions to HH1 and HH2 were necessary for measurement to keep pace with technological advances.

Ensuring that ICT definitions are updated is important for clarifying the objective of measurement. The 2010 definitions generally applying for this report focus more on stand-alone devices than the updated definitions. However, Target 8 does not cover the quality and availability of radio and TV programmes, which will be important considerations for the post-2015 agenda (this is discussed in greater detail in *Conclusions and recommendations*).

In addition to the basic TV and radio indicators, HH1 and HH2, in 2013, EGH discussed and agreed on a new indicator HH13 to measure the 'proportion of households with multichannel television, by type'.

Data on multichannel TV subscriptions are also collected from administrative sources by ITU. The World Telecommunication/ICT Indicators Symposium 2013, held in Mexico in December 2013, endorsed the proposal of the Expert Group on Telecommunication/ICT Indicators (EGTI) to review the definitions of the indicators on TV broadcasting, and to add the indicator 'TV broadcasting subscriptions' to the list of core indicators on ICT infrastructure and access of the *Partnership*.<sup>9</sup> The inclusion of HH13 in the *Partnership's* core indicators will encourage countries to collect data on household access to multichannel TV from household surveys. Data should be broken down by the type of multichannel technology: cable TV, satellite (direct-to-home) TV, Internet-protocol TV and digital terrestrial TV. This information will contribute to better monitoring of access to multichannel TV services and thus complement the indicator on TV access.

Table 8.1 presents the data sources for measuring Target 8. Data for indicators 8.1 and 8.2 are collected by ITU annually. Radio and TV data are becoming scarcer because many developed countries have stopped tracking these indicators. Data for Indicator 8.3 were estimated based on administrative data collected by ITU on the number of multichannel TV subscriptions. The addition of the indicator 'proportion of households with multichannel television' to the *Partnership's* list of core ICT indicators should make it possible to provide more accurate figures for Indicator 8.3 in the future.



Table 8.1: Data sources for indicators for measuring Target 8

Indicator		Partnership core indicator or data source		Data availability <sup>10</sup>
8.1	Proportion of households with a radio	HH1	Proportion of households with a radio	Country data are available for 24 countries for at least one year in the period 2008 to 2012
8.2	Proportion of households with a TV	HH2	Proportion of households with a TV	Country data are available for 78 countries for at least one year in the period 2008 to 2012. ITU estimates are available for an additional 24 countries.*
8.3	Proportion of households with multichannel television service, by type of service	Administrative data sources		Data are estimated for 140 countries based on ITU administrative indicators 'Terrestrial multichannel TV subscriptions' and 'Direct-to-home (DTH) satellite antenna subscriptions', as well as other administrative data sources.

Source: ITU.

Note: \* Available data series show that the proportion of households with a TV changes very slowly over time, even in those regions with low TV penetration levels. It is therefore possible to estimate the current proportion of households with a TV without the need for complete country data for each year.

## Achievements against Target 8

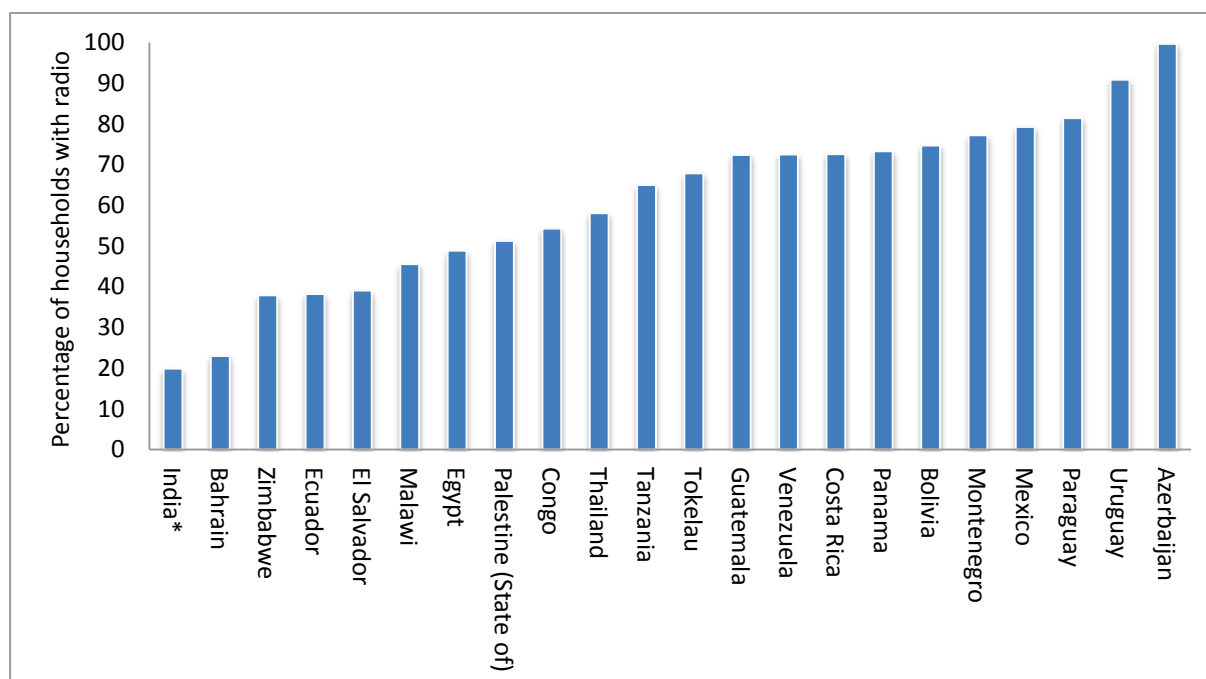
Current satellite technologies enable TV and radio signals to be received all around the globe and thus coverage of the world's population is complete. At the end of 2012, almost 80 per cent of households worldwide had a TV (ITU, 2013c), making the medium still one of the most pervasive ICTs among the world's population. Penetration across regions is not uniformly high; only two in five households in Africa had a TV at the end of 2012. Globally, household radio access has seen a decline in recent years that has coincided with the diffusion of new media. However, it remains relevant as a source of entertainment and as a means of disseminating information to mass audiences.

### Households with a radio

This is measured by Indicator 8.1 and is *Partnership* core indicator HH1. It refers to radio access at home by in-scope households.

Household penetration levels are generally high but the target of "all of the world's population" has not been achieved. Data availability was low for this indicator, with only 22 countries having recent (and reasonably comparable) data. Of the countries with available data, 15 had household penetration rates of over 50 per cent (Chart 8.1). The majority of developed countries have either never compiled this statistic or have stopped compiling it because penetration levels are very high.

Chart 8.1: Households with radio, 2012 or 2011



Source: ITU World Telecommunication/ICT Indicators Database.

Note: \* Refers to transistor radios only.

Table 8.2 shows the proportion of households with a radio from 2009–2012 for the small number of countries that provided multi-year data. In nearly all countries for which data are available, the proportion of households with a radio has decreased or remained about the same. The largest decline was in Egypt (a 28 percentage point decrease from 2009 to 2012), while Montenegro bucked the trend and reported an increase of 32 percentage points from 2009 to 2011. Overall, the data indicate a global trend of decreasing radio access.

In the 1990s, it was said that radio was the medium of the developing world: “In the developing world, radio is a conveniently cheap and portable medium ... It is also a conveniently oral medium wherever literacy is low” (Hendy, 2013). Radio “remains the world’s most ubiquitous medium, certainly the one with the widest reach and greatest penetration” (Pease and Dennis, 1993). Just two decades later, one would only have to replace the instances where “radio” appeared above with “mobile phones” for a fairly accurate assessment of the state of ICT ownership in the world today. Mobile phones are the technology of the times but even though the radio has diminished in importance, it remains relevant to the achievement of developmental goals. As an example, in Benin, households with greater radio access understood the hazards of malaria better, and were more likely to invest their own resources on bed nets (Keefer and Khemani, 2012) and the education of their children (Keefer and Khemani, (2011).

The statistics that reflect the decline of radio in households need to be reconciled with the development potential of community radio programmes (discussed in boxes 8.1 and 8.2). While radio access may be declining in importance in developed and developing countries with higher GNI per capita, in other developing countries, the radio is still relevant to many countries because it is affordable and can be battery-operated. In the absence of electricity and the ability to afford more costly ICTs, radios remain the most accessible ICT medium for many rural populations. In fact, new ways of engaging rural radio audiences have been created with the increasing penetration of basic

mobile phones. For instance, in rural Zambia and Malawi, the Centre for Development Informatics and the International Development Research Centre are combining local radio and basic mobile phones to promote engagement in climate change issues.<sup>11</sup> The project helps community radio stations to deliver accurate and relevant information on topics such as deforestation, clean cook stoves and climate change. To enhance engagement and create a participatory media environment, text messages (SMS) are used to facilitate interaction between radio stations and listeners about the climate change programmes. Early results include pledges from local leaders to begin reforestation depleted forests. Box 8.2 describes how another community radio station in Zambia is helping to preserve traditions and create a sense of inclusion among the elderly.

**Table 8.2: Households with a radio, 2009–2012**

Country	2009	2010	2011	2012
Percentage of households with a radio				
Azerbaijan	100	99	100	100
Bahrain	..	..	23	23
Bolivia	77	..	..	75
Brazil	86	86	..	..
Congo	62	58	54	..
Costa Rica	78	77	76	73
Ecuador	40	38	38	..
Egypt	77	69	55	49
El Salvador	43	43	42	39
Jamaica	86	85	..	..
Malawi	..	53	46	..
Mexico	83	83	81	79
Montenegro	45	..	77	..
Paraguay	83	82	85	81
Senegal	80	79	..	..
Thailand	58	66	58	..
United Arab Emirates	..	49	..	53
Uruguay	93	92	92	91

Source: ITU World Telecommunication/ICT Indicators Database.

Note: .. not available.

### Box 8.2: Community radio and the preservation of culture

Macha is a rural chiefdom, based in Zambia's Southern Province. The environment is a typical resource-limited rural setting. Members live in scattered homesteads, with very little infrastructure and have a subsistence lifestyle. The local culture is governed through traditional structures, involving community leaders as chiefs, (senior) head men and others.

The idea for a community radio station in Macha was first conceived in 2003. The Government of the Republic of Zambia later granted a permit in 2005 and Vision Community Radio Macha received an official broadcast license in 2011. The radio signal currently reaches an area with a diameter of about 140 kilometres, covering at least four chiefdoms and reaching a potential 150 000 people.

One of the most popular programmes on Radio Macha is "Butonga Tutabusowi", which means "We do not have to forget Tonga traditions". The program is put together by village elders, who organized themselves to produce weekly broadcasts that last about half an hour each. Content focuses on culture and heritage in the local community. Aired programmes feature topics such as courting, marriage, funerals, bathing, rituals and clothing. Interactivity is achieved using very basic technology: one of the radio presenters would give his/her mobile phone number and read received SMS text messages on the air. The messages contain inquiries or additional information and sometimes initiate debate.

The elderly people who are involved in the programmes mention that without the radio station it would not be possible to have their voices widely heard. They add that the radio programme "makes them feel included, part of the community, and part of the modern world". The radio has provided them with a unique and complementary platform to be able to share the rich knowledge that they possess. Their involvement in the community radio station has made them feel included in education and modern culture.

Source: van Stam and Mweetwa (2012).

Available household level data suggest that broad access to radio has not been achieved, especially for developing countries. Developed countries have achieved the target and most do not track this indicator. Looking ahead, the definition of radio applying to Indicator 8.1 will become broader following the 2013 revision of HH1, with the inclusion of radios integrated with mobile telephones and computers. Monitoring access to radio services (as opposed to devices) is more complex. While household penetration of radio receivers is generally decreasing, this decline does not necessarily result in people being cut off from radio programmes. Radio content can be accessed from different devices and information can be acquired in alternative ways using mobile phones or web-browsing in Internet cafes. Given the relevance of radio in the development context, it is recommended that monitoring of access to radio services be continued post-2015 with the updated definitions. The scope of the indicator could be broadened to include the quality and availability of radio programmes in addition to tracking of radio equipment.

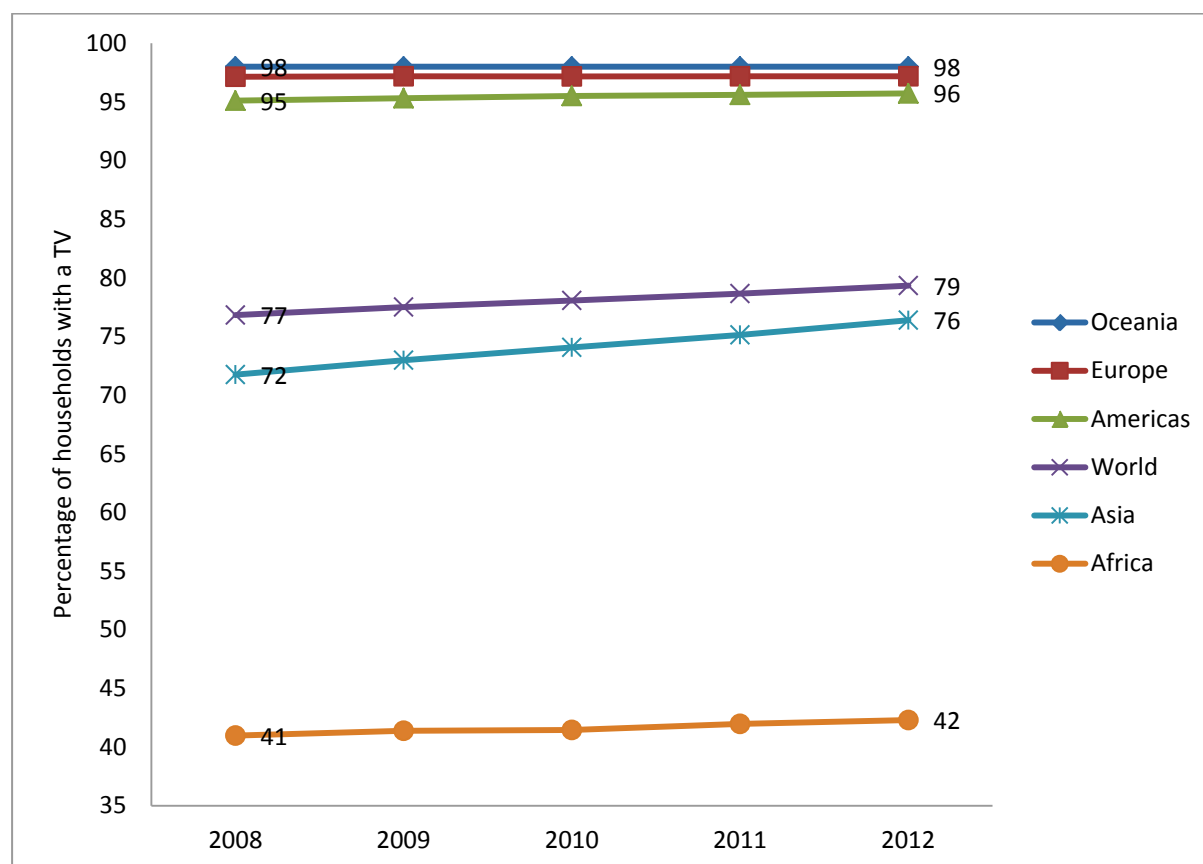
### Households with a TV

This is measured by Indicator 8.2 and is *Partnership* core indicator HH2. It refers to television access at home by in-scope households. Data were estimated by ITU using survey data, with additional information provided by Digital TV Research.

Compared to radio data, TV data are more widely available. At the end of 2012, ITU estimated that there were 1.4 billion households with at least one TV set globally, corresponding to 79 per cent of all households. Household penetration rates are generally high, though there are few countries with 100 per cent access. While this target has not quite been achieved, steady progress has been made, with around 95 million new households acquiring a TV between 2008 and 2012 – outpacing global growth in the number of households during the same period (66 million). In contrast to the decline in the reach of radio reported for Indicator 8.1, TV reach is increasing. Chart 8.2 shows the proportion

of households with a TV by region. Asia and Africa both trail the global average in household penetration of TV. At the end of 2012, Asia had a penetration rate of 76 per cent and in Africa, only 42 per cent of households had access to a TV.

**Chart 8.2: Households with a TV, by region, 2008–2012**



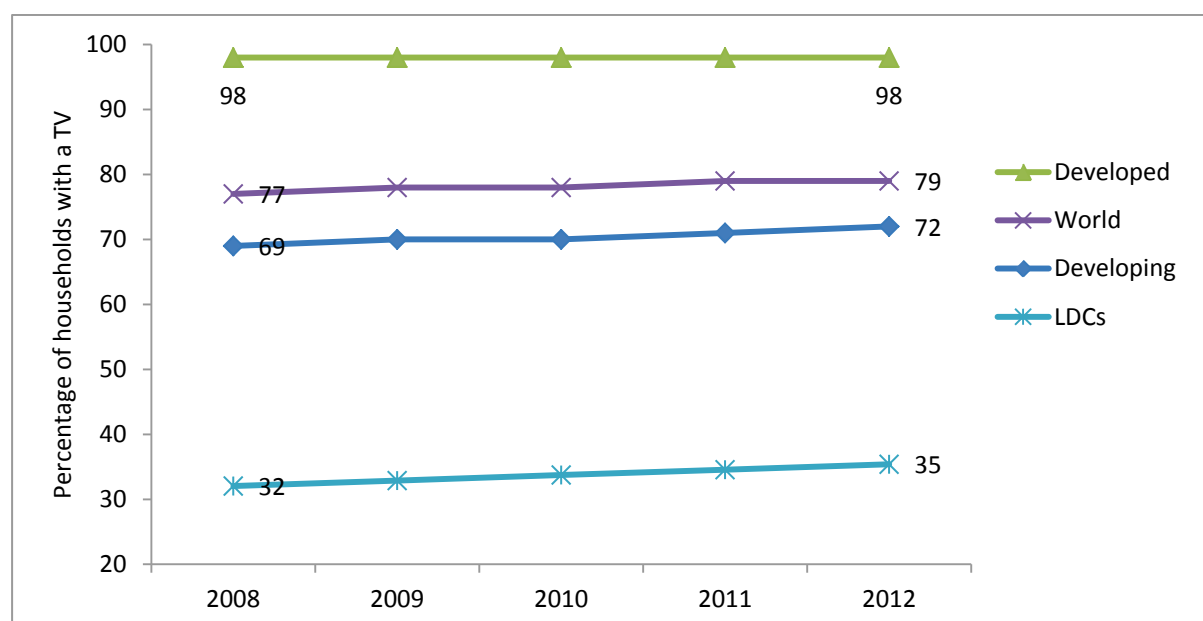
Source: Estimated based on Digital TV Research<sup>12</sup> and ITU World Telecommunication/ICT Indicators Database.

Notes:

1. Data cover 140 countries, accounting for 98 per cent of all households in the world.
2. Data for Oceania include only Australia and New Zealand.

Chart 8.3 shows the proportion of households with a TV, by level of development, from 2008 to 2012. The data show that developing countries are catching up with developed ones in terms of household access to TV. In developing countries, 69 per cent of households had a TV in 2008 and this increased to 72 per cent in 2012, representing an addition of 87 million households with a TV in the developing world. In the developed world, nearly all households had a TV by 2008 (98 per cent). This figure remained constant during the four-year period 2008 to 2012. However, a much lower proportion of households in least developed countries (LDCs) have access to TV, with 32 per cent of households having a TV in 2008 and 35 per cent in 2012.

Chart 8.3: Households with a TV, by level of development, 2008–2012



Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world.

The stable TV reach in developed countries and growth in developing countries suggest that television remains an integral part of the information lives of people around the world. Alternative modes of accessing TV programmes are still not widespread. In 2013, only four per cent of households in European countries received their television programmes over the Internet (European Commission<sup>13</sup>). In France (13 per cent) and Sweden (11 per cent), at least one in ten households accessed television programmes over the Internet. These relatively low numbers suggest that accessing television programmes via the Internet has yet to gain traction, even in countries with a high penetration of both TV and broadband Internet. At least in the immediate future, the standalone TV will remain relevant in today's information society. Access to television opens up opportunities for information, entertainment and education. Box 8.3 describes Same Language Subtitling (SLS), a television-based innovation that is improving literacy in India. The innovation is the winner of the International Prize for Literacy (2013) from the Library of Congress (LOC, 2013).

**Box 8.3: How television is improving literacy through same-language-subtitling**

Same Language Subtitling (SLS) is the idea of subtitling the lyrics of television and video in the same language, providing viewers with both auditory and visual recognition of words to increase reading comprehension. SLS has been implemented on several popular Bollywood films' songs on Indian television in ten languages. The subtitles are designed to change the colour of every word in time with the song to provide reading practice to weak readers (USAID, 2013).

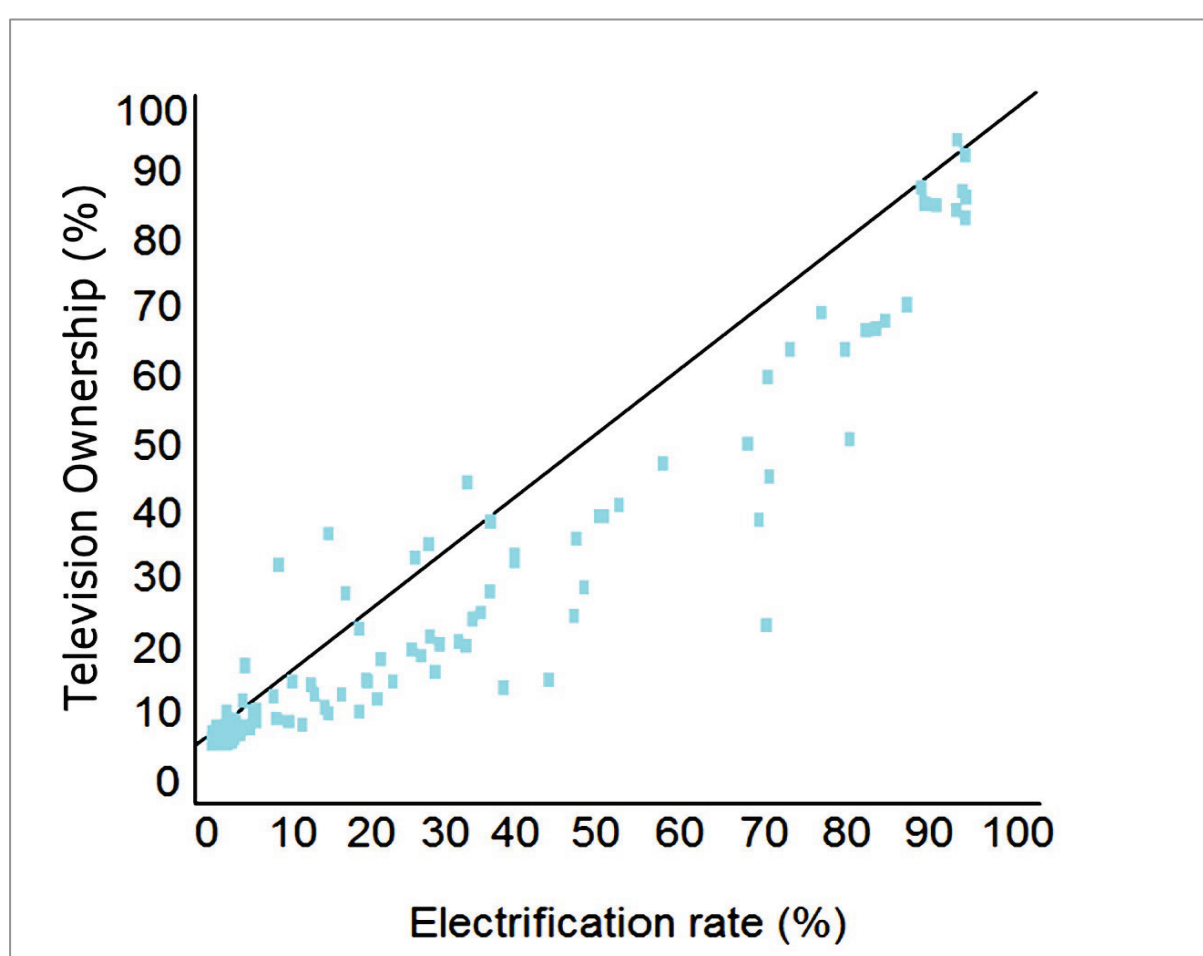
The innovation was first implemented on Indian national television in 1999 and reaches more than 200 million weak readers every week, in a country with 300 million weak readers. In a country that produces more than 1 000 movies and more than 5 000 music videos every year, SLS has great potential to improve literacy in a way that fits into peoples' media routines. In 2009, former US President Bill Clinton said "Same Language Subtitling doubles the number of functional readers among primary school children. A small thing that has a staggering impact on people's lives."

Source: Planet Read.

Despite television's potential to help achieve developmental goals, it is still out of reach of many households in developing countries. Around 349 million households in developing countries did not

have a TV by the end of 2012 and therefore the total number of people who cannot watch TV at home is still fairly significant in the developing world (ITU, 2013c). In Africa, only 42 per cent of households had a TV by the end of 2012,<sup>14</sup> compared with 84 per cent in the rest of the world. Low household electrification is one of the main reasons for the relatively weak TV penetration in Africa. Fewer than 25 per cent of households in Sub-Saharan Africa have access to electricity (AFREA, 2012). Indeed, research from the World Bank indicates that lighting and TV account for at least 80 per cent of rural electricity consumption and thus the bulk of the benefits delivered by electrification (World Bank, 2011). Between 2008 and 2012, the African region experienced a one percentage point increase in households with TV but household penetration is expected to further increase as national electrification plans improve access to electricity. The relationship between TV ownership and the extent of household electrification is shown in Figure 8.2.

**Figure 8.2: Electrification and television ownership in rural areas<sup>15</sup>**



Source: World Bank.

### Households with multichannel TV access

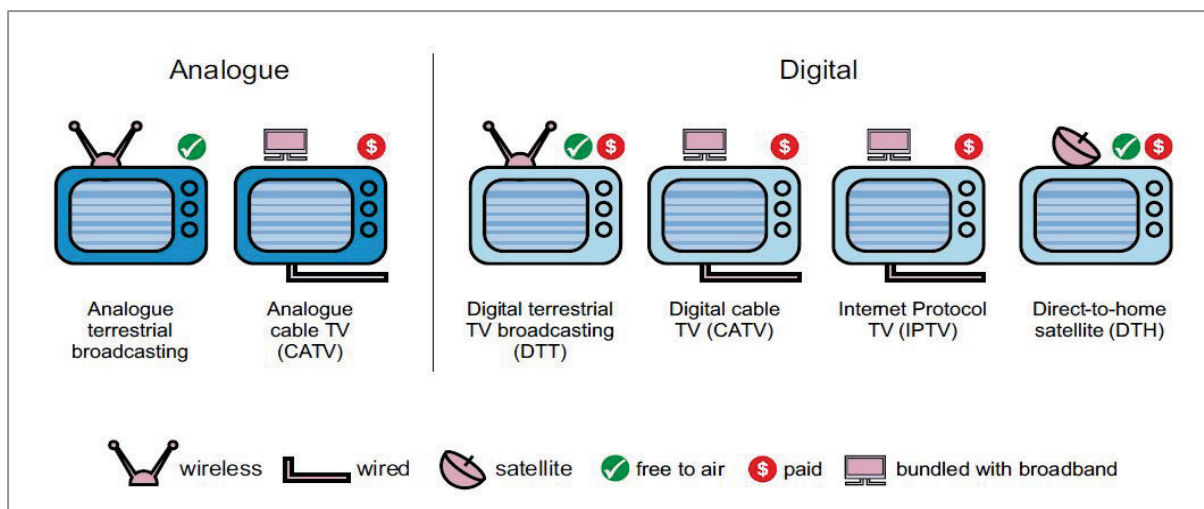
This is measured by Indicator 8.3 and refers to multichannel television access at home by in-scope households. It excludes analogue terrestrial broadcasting. Data were estimated by ITU using subscription data. Additional information was provided by Digital TV Research. Multichannel television refers to services that provide additional TV programming beyond the free-to-air analogue terrestrial channels. Multichannel TV services include cable TV, direct-to-home satellite services, Internet-protocol TV and digital terrestrial TV. They may or may not be subscription-based, and may

be analogue or digital. Multichannel television services are defined as follows in the 2011 WSIS statistical framework (*Partnership, 2011*):

- cable television (CATV) – multichannel programming delivered over a coaxial cable for viewing on television sets
- direct-to-home (DTH) satellite – received via a satellite dish capable of receiving satellite television broadcasts
- Internet-protocol (IPTV) – multimedia services such as television/video/audio/text/graphics/data delivered over an IP-based network managed to support the required level of quality of service, quality of experience, security, interactivity and reliability, it does not include video accessed over the public Internet, for example, by streaming. IPTV services are also generally aimed at viewing over a television set rather than a personal computer
- digital terrestrial television (DTT) – the technological evolution from analogue terrestrial television, which broadcasts land-based (terrestrial) signals.

Figure 8.3 shows the main TV-distribution technologies described above (ITU, 2013c). As shown in the figure, CATV can be analogue or digital. Terrestrial TV is transmitted with radio waves and does not involve extensive cabling or satellites. Terrestrial TV signals can also be analogue or digital. Indicator 8.3 focuses on multichannel television, which includes all the different TV-distribution technologies below except for analogue terrestrial broadcasting.

**Figure 8.3: Main TV-distribution technologies**



Source: ITU (2013c).

Indicator 8.3 is split into two parts:

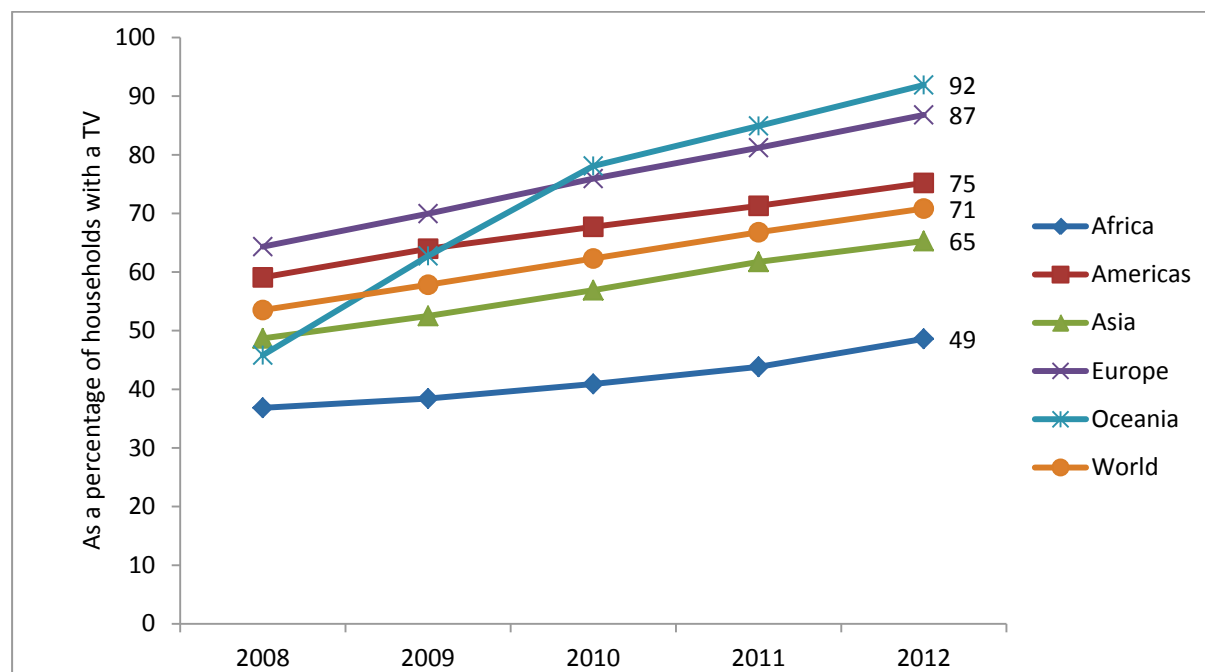
- Proportion of households with access to any multichannel television service
- Proportion of households with access to multichannel television, by type of service/s.

Data for Indicator 8.3 are adapted from *Measuring the Information Society 2013* (ITU, 2013c). Estimates were based on Digital TV Research and ITU data. Data cover 140 countries, accounting for 98 per cent of all households in the world. Of total households in the world, 56 per cent had access to multichannel television service by the end of 2012. Of households with a TV, 71 per cent had access to multichannel television by the end of 2012. Chart 8.4 shows households with multichannel television service by region from 2008 to 2012.<sup>16</sup> The total proportion of households with TV that also had access to multichannel TV increased from 54 per cent to 71 per cent between 2008 and



2012. The increase was most significant in Oceania (Australia and New Zealand, for the purposes of this report). The number of households in Oceania with access to multichannel TV doubled from 2008 to 2012, mostly due to the DTT transition. By 2012, nearly half of households in Africa that had a TV set also had access to multichannel TV.

**Chart 8.4: Households with multichannel television, by region, 2008–2012**

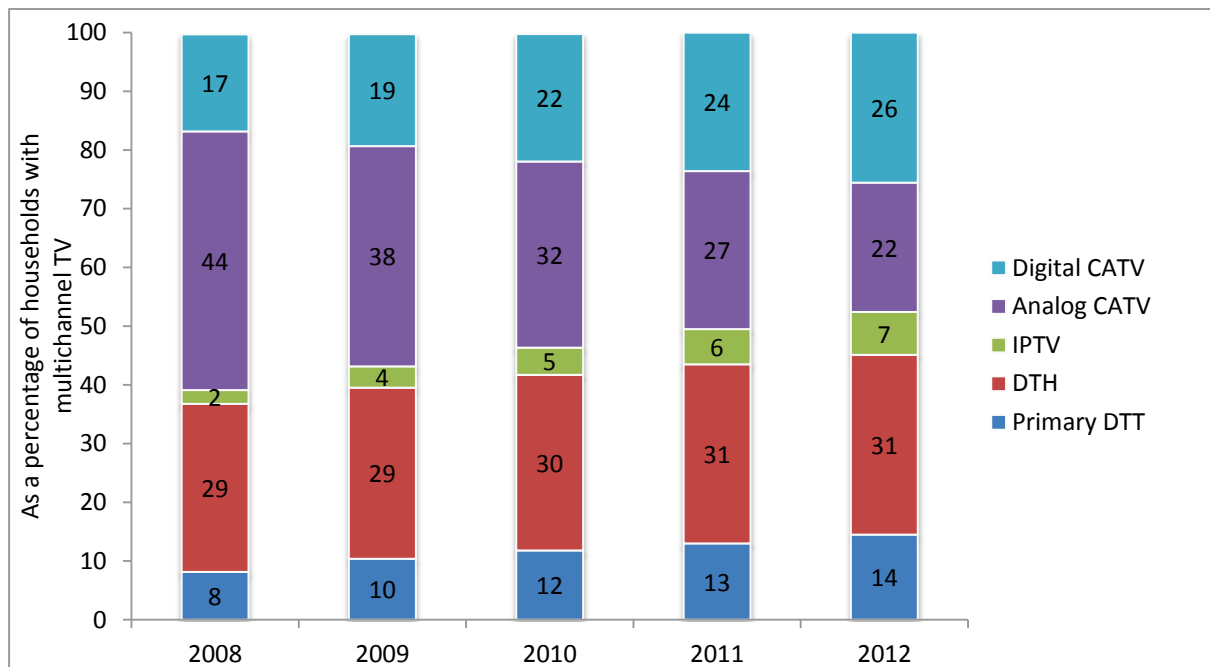


Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world.

In terms of access to multichannel television by type of service,<sup>17</sup> 48 per cent of households with multichannel TV had CATV (26 per cent had digital CATV), 31 per cent had DTH, 7 per cent had IPTV and 14 per cent received DTT as their primary means of television access.<sup>16</sup> Chart 8.5 shows the proportion of households with multichannel TV, by technology from 2008 to 2012. Globally, the number of households with analogue CATV declined by 89 million (from 305 million in 2008 to 216 million in 2012), while the number of households with digital CATV increased by 137 million (from 114 million to 251 million in the same period). The numbers suggest that growth comes from households switching over from analogue to digital CATV as well as new households subscribing to digital CATV.

Chart 8.5: Households with multichannel TV, by technology, 2008–2012



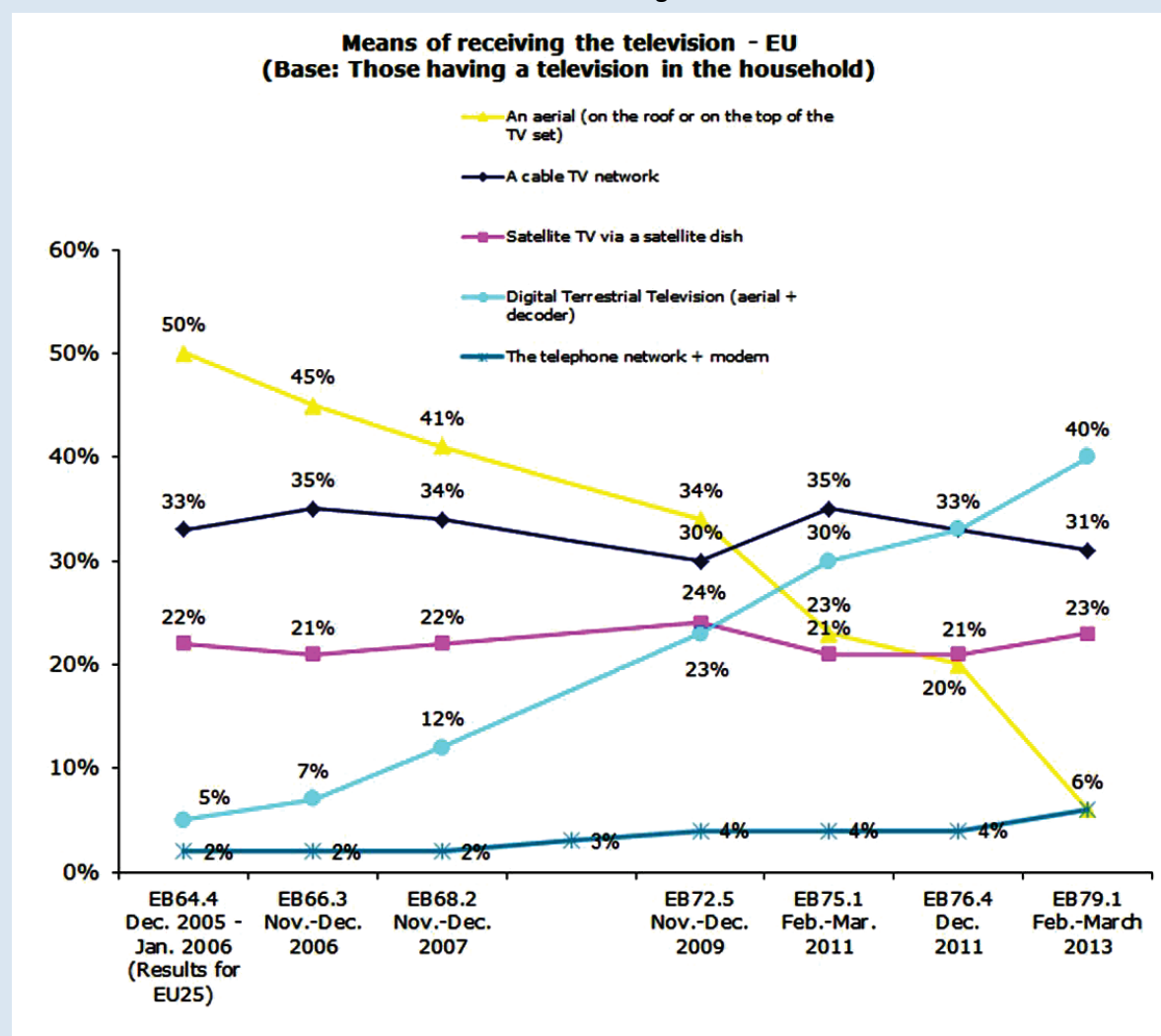
Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world

Box 8.4 shows the means of receiving TV for countries in Europe from 2006 to 2013, based on *Eurobarometer* (European Commission, 2013). In these more mature markets, subscriptions for CATV and DTH are reasonably stable. The growth reported earlier is mainly fuelled by developing countries, as discussed later in this chapter.

**Box 8.4: Means of receiving TV in the European Union, 2006–2013**

Chart Box 8.4 shows the means of receiving television in the EU based on data from Eurobarometer from 2006 to 2013. Over this period, Cable TV's household penetration<sup>18</sup> has been relatively stable and ranged from 30–35 per cent. Satellite TV's household penetration has also been stable at an average of 20 per cent. In addition, the statistics clearly show the inverse relationship between analogue and digital TV penetration. As household penetration of analogue TV ("aerial" in the figure) fell from 50 to 6 per cent, the household penetration of digital TV increased from 5 to 40 per cent. The trend is a direct consequence of the switch over from analogue to digital TV signals in recent years. Nearly all European countries have switched over to digital TV signals and stopped transmitting analogue terrestrial signals by 2013. Bulgaria terminated its signal on September 30, 2013 and Hungary terminated its signal on October 31, 2013.

**Chart Box 8.4: Means of receiving television in the EU**

Source: Eurobarometer.

Note: "telephone network + modem" refers to television services that are delivered through the telephone network and decoders. TV via the Internet is monitored separately.

**Cable television (CATV)**

Of total households with multichannel TV, nearly half (48 per cent) had a CATV subscription at the end of 2012. This translates to 467 million households, up from 420 million at the end of 2008. Since the mid-term review in 2010 (ITU, 2010b), CATV has remained the leading multichannel service around the world. China is currently the largest CATV market, with 175 million households and India

is second, with 62 million households. By the end of 2012, 45 per cent of all households in China received cable TV and 27 per cent in India. CATV penetration was higher in several developed countries, such as Belgium (68 per cent), Canada (59 per cent), Luxembourg (68 per cent), Netherlands (65 per cent) and Switzerland (65 per cent). In general, CATV has remained strong in these developed countries, where CATV services are often included as part of household rent.

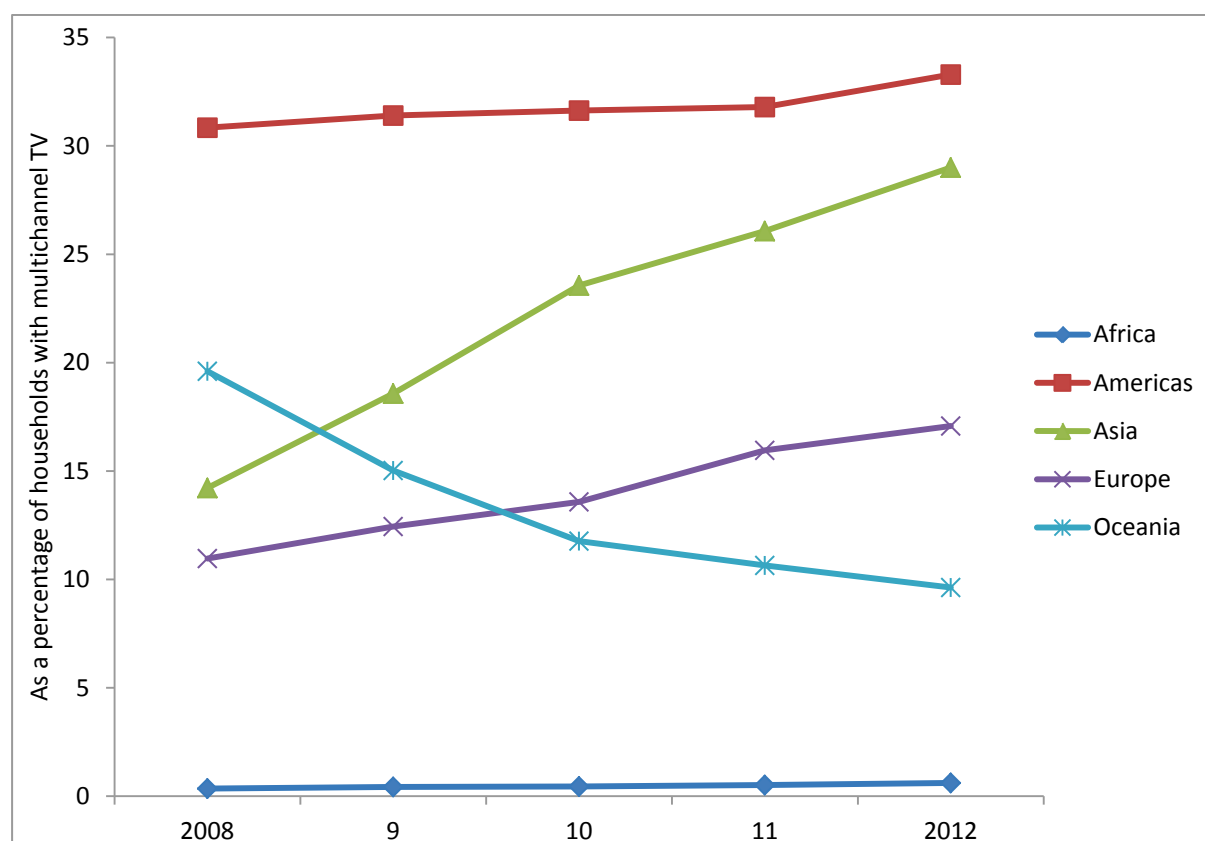
One caveat to the high penetration of CATV is that in some countries, the technology is used to retransmit terrestrial channels without adding new programming. In India, most cable subscribers are still on basic analogue cable networks that carry less programming. In countries such as the United States, CATV providers are required to retransmit public-service broadcasters under *must-carry* schemes (FCC, 2013) for reasons such as avoiding signal interference.

CATV is well developed in the Americas, Asia and Europe regions, but virtually non-existent in Western Asia (Arab States) and Africa. There is scarce incentive to invest in new cable television networks in Western Asia and Africa, given the high cost and the success of DTH satellite TV in those regions.

### **Digital cable TV**

Of households with CATV, over half globally (251 million) had digital cable (26 per cent of households with multichannel TV). This was an increase from 114 million households in 2008 (17 per cent of households with multichannel TV). The most dynamic region in terms of digital cable uptake was Asia, where the percentage of households with multichannel TV that subscribed to digital cable doubled between 2008 and 2012 (see Chart 8.6). Europe also experienced strong growth, while the Americas retained first position as the region with the highest share of digital cable subscriptions in households with multichannel TV. The level of digital cable as a share of multichannel TV was negligible in the Africa region. A decline in Oceania (Australia and New Zealand) was most likely due to subscribers opting for other TV distribution technologies.

Chart 8.6: Households with digital CATV, by region, 2008–2012



Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world.

In terms of countries leading in digital cable TV subscriptions, China had an estimated 113 million digital cable TV subscriptions by the end of 2012, up by 18 million on the previous year and up by 77 million since 2008. China accounted for 45 per cent of the world's digital cable TV subscriptions by the end of 2012. In relative terms, more than half of all households received digital cable TV in Denmark (51 per cent), Finland (54 per cent), Luxembourg (51 per cent) and Malta (53 per cent).

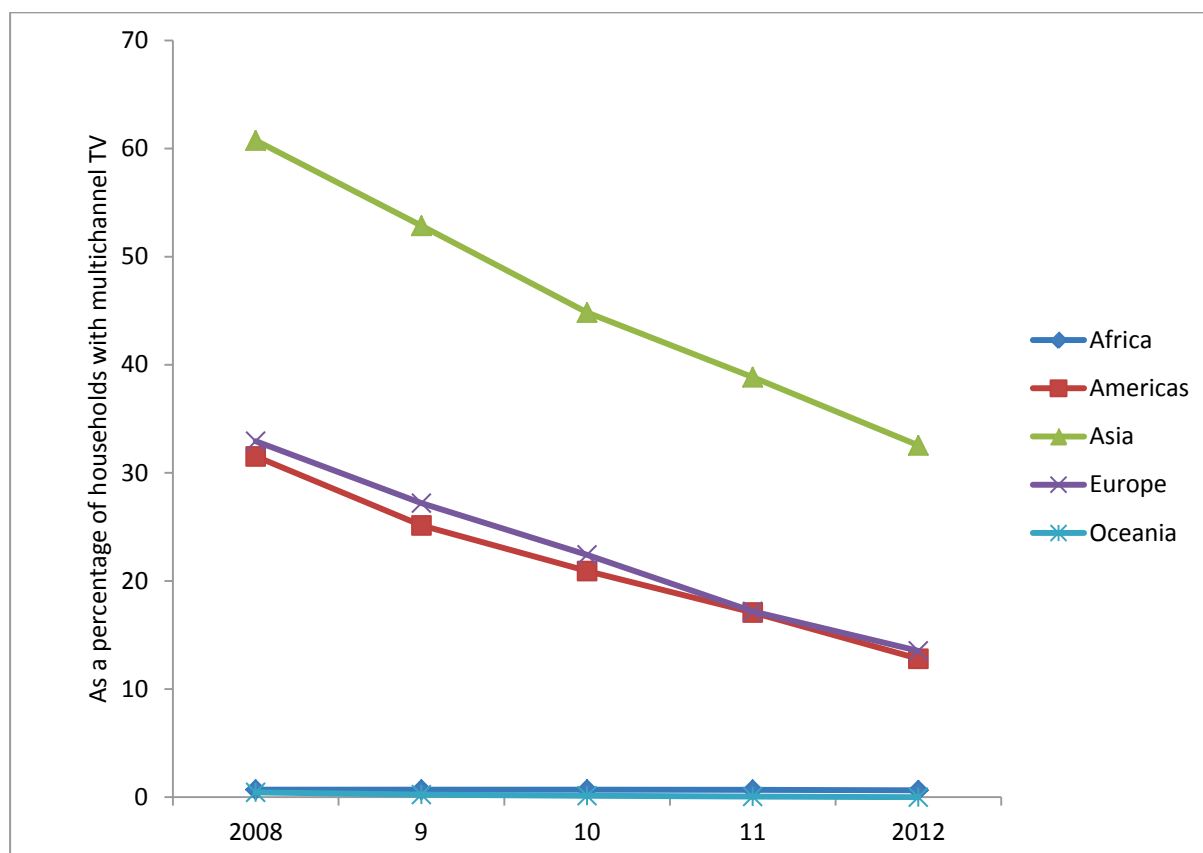
In 2012, the global number of digital cable subscriptions overtook analogue cable total due to the strong digital CATV growth in Asian countries such as China and India, and a decline in analogue CATV subscriptions in developed countries (ITU, 2013c). The number of subscriptions to digital cable TV in developing countries overtook the developed countries' total in 2010. By the end of 2012, developing countries accounted for 57 per cent of the world total. Countries in the Asia region accounted for more than half the global CATV subscriptions by 2012.

### *Analogue cable TV*

The number of analogue cable (CATV) subscriptions fell by 89 million between 2008 and 2012, because of the conversion of subscriptions to digital CATV. This translates to a 50 per cent decrease of household subscriptions to analogue CATV from 2008 to 2012 (from 44 per cent of households with multichannel TV in 2008 to 22 per cent in 2012). Chart 8.7 shows the proportion of multichannel TV households with analogue CATV, by region from 2008 to 2012. Although Asia advanced considerably in the conversion, there were still more analogue than digital CATV subscriptions in the region at the end of 2012 and Asia accounted for almost three-quarters of all analogue cable subscriptions. In China and India, cable switch-over to digital CATV remains a challenge and there

were still 62 and 54 million homes (respectively) receiving analogue cable TV at the end of 2012 (ITU, 2013c).<sup>19</sup>

**Chart 8.7: Households with analogue CATV, by region, 2008–2012**



Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world.

Monitoring the conversion from analogue to digital CATV is an important step in making sure that people have access to high quality TV services. Importantly, digital CATV networks can deliver broadband Internet and fixed telephony as well as TV services; operators can therefore compete directly with telecommunication operators. In countries where public policy permits such inter-modal competition, the availability of digital CATV should result in lower prices for consumers – as service providers will have to compete both within and between modes of TV distribution. For these reasons, monitoring of digital conversion, especially for developing countries, is recommended as a new indicator for Target 8 (this is also discussed in the later section on DTT).

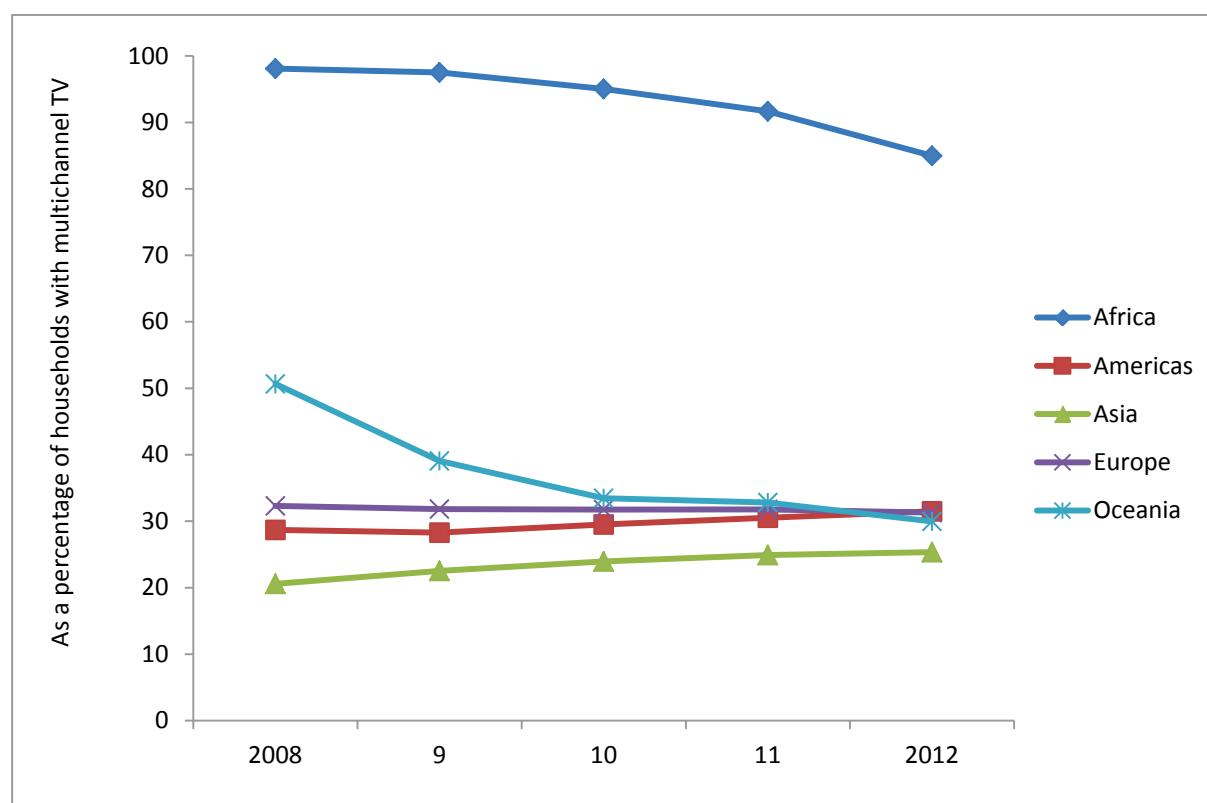
### *Direct-to-home (DTH) satellite*

Digital satellite broadcasting offers more channels, better quality and increased functionality compared to analogue cable. A major advantage of satellite TV over cable and IPTV is its low initial infrastructure costs relative to the large coverage it can achieve as soon as it starts operations. DTH satellite TV thus offers the possibility for both developing and developed countries to provide nationwide high-quality broadcasting. DTH can be used to reach remote areas that tend to have lower population densities, because it is faster to deploy DTH to cover a large area than to build a wired network. Pan-regional satellite services are developing across the world and may help to achieve economies of scale as well as channels for local content. DTH subscribers only need a

satellite dish and a set-top box (the latter costing an estimated USD 50 for basic equipment to USD 300 for a box that can record HDTV signals) (Digital Landing, 2012).

DTH satellite broadcasting covers the world and is growing rapidly in popularity. By the end of 2012, 301 million homes (31 per cent of households with multichannel TV) watched TV via a satellite dish, up from 198 million at the end of 2008. The developing country total climbed to 164 million by the end of 2012, 80 million up on the total at the end of 2008. Chart 8.8 shows households with DTH satellite TV, by region, from 2008 to 2012. In Africa, the share of multichannel TV households with DTH fell from 98 per cent in 2008 to 85 per cent in 2012. This decrease was mainly due to the increase in the share of DTT-only households. In absolute terms, this was an increase of nearly 8 million (from just under 27 million households in 2008 to just over 34 million households in 2012).

**Chart 8.8: Households with DTH satellite TV, by region, 2008–2012**



Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world.

The overall increasing importance of DTH satellite TV is noteworthy: in all regions the number of households subscribing to DTH satellite TV grew between 2008 and 2012. Growth was most significant in the Americas, where the total number of households with DTH satellite TV grew from 44 million to 65 million (31 per cent of households with multichannel TV). Satellite TV is playing a pivotal role in delivering TV services in Africa and will continue to fill the TV coverage gap in Africa. In South Africa, for instance, 50 of the 55 television channels were transmitted by satellite only in 2011 (UIS, 2013). When satellite-TV platforms were first launched, many observers believed that uptake would be restricted to rural areas outside the coverage of the fixed terrestrial networks. However, because it often provides hundreds of channels, satellite TV appealed to city dwellers too, especially because cable networks were slow to convert to digital. Free-to-air satellite television (such as Freesat in the United Kingdom and Tivusat in Italy) has been utilized by several governments to

ensure that every home (including those in remote areas not covered by the digital terrestrial TV network) can receive digital television signals (ITU, 2013c). This is one strategy that could be pursued by countries in Africa to provide access to TV services for their population.

The technology is particularly important in India, the satellite-TV world leader at the end of 2012, with 42 million homes receiving satellite-TV signals (or 40 per cent households with multichannel TV). The United States followed with 37 million, corresponding to 30 per cent of all households with multichannel TV. In the Western Asia and Northern Africa sub-regions (Algeria, Bahrain,<sup>20</sup> Jordan, Kuwait, Morocco, Saudi Arabia and Tunisia), penetration of DTH satellite TV was more than 80 per cent of households with multichannel TV by the end of 2012. This is likely to be a result of the relatively low coverage of alternative multichannel platforms (DTT, CATV and IPTV) and the large number of channels offered through free-to air satellite transmissions (ITU, 2012). The high penetration contrasts with 31 per cent of households with multichannel TV in both Europe and the Americas. In Asia, analogue terrestrial broadcasting still has the highest household penetration followed by CATV. In India, DTH services were introduced in 2003 and operators were able to attract household subscriptions by adding value added services (VAS) and interactive services, including movies on demand, gaming and shopping.<sup>21</sup>

In terms of level of development, the most rapid growth of DTH has been in developing nations, where terrestrial channels are limited and cable TV is non-existent, or where cable systems are antiquated, with limited channels and features. In developing countries, the share of DTH among households with multichannel TV increased from 23 per cent in 2008 to 29 per cent in 2012. In developed countries, the share remained fairly stable from 35 per cent in 2008 to 33 per cent in 2012.

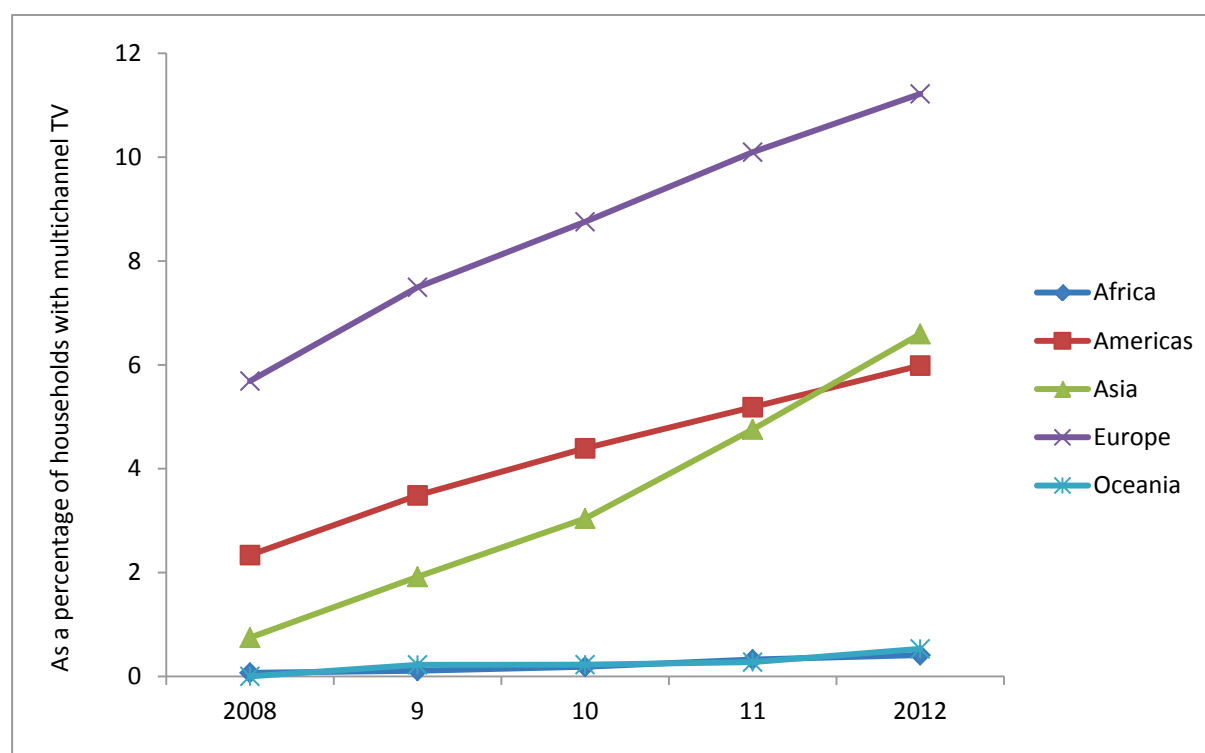
### *Internet-protocol TV*

Internet-protocol TV (IPTV) is typically delivered over a high-speed fixed ADSL or fibre-optic connection and is provided by broadband operators, directly to consumers. IPTV is a managed service and is generally aimed at viewing over a television set, making the quality of experience comparable with that of other TV platforms (ITU, 2013c). Thus, IPTV is considered as a substitute for cable, satellite or terrestrial broadcasting TV. IPTV should not be confused with over-the-top (OTT) or online TV and video, which is delivered via the Internet.

Compared to the other TV distribution technologies, IPTV has the lowest share of households, only 5 per cent of total households with TV and 7 per cent of households with multichannel TV at the end of 2012. Global IPTV subscriptions reached 72 million by the end of 2012, up by 17 million from the previous year and more than four times the total recorded in 2008. IPTV penetration (as a percentage of total households with multichannel TV) in developed countries stood at 10 per cent by the end of 2012, compared with 4 per cent in 2008. In developing countries, 5 per cent of households with multichannel TV received IPTV by the end of 2012, up from 1 per cent at the end of 2008. Chart 8.9 shows households with IPTV, by region, from 2008 to 2012.



Chart 8.9: Households with IPTV, by region, 2008–2012



Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world.

At the end of 2012, most IPTV subscriptions were in Europe (28 million), China (19 million) and the United States (11 million), altogether accounting for over three-quarters of the world's IPTV subscriptions. The percentage of households with a TV that subscribed to IPTV was almost 10 per cent in Europe in 2012. France was the leading country in Europe, with 12 million IPTV subscribers by the end of 2012. In relative terms, China, Hong Kong was the world leader by the end of 2012 in terms of IPTV subscriptions as a percentage of households with TV (48 per cent), ahead of France (47 per cent), Singapore (35 per cent), Slovenia (32 per cent) and the United Arab Emirates (30 per cent).

As noted in *Measuring the Information Society 2013* (ITU, 2013c), IPTV penetration has been limited thus far because of three factors: low broadband infrastructure, affordability of communication service packages and restrictive telecommunication policy. IPTV has had low penetration in countries that typically have low broadband infrastructure and a low number of fixed broadband subscriptions. In the European Union, high rates of fixed high-speed broadband penetration and the popularity of bundled ICT services are enabling factors for IPTV reception at home. In terms of affordability, many operators only provide IPTV services as part of a bundle, which requires a substantial economic commitment on the part of the subscriber and is thus beyond the means of a large proportion of the population in the developing world. In contrast, an estimated 45 per cent of households in Europe purchased a bundle of communication services from the same provider at the end of 2012, a two percentage point increase over December 2011. Households from Luxembourg (68 per cent), the Netherlands (66 per cent) and Slovenia (63 per cent) were most likely to have purchased a communication service bundle (European Commission, 2013). The third factor for the limited penetration of IPTV is that some countries do not allow telecommunication operators to enter the TV market through IPTV. This is changing with convergence, as the regulatory trend is to foster cross-

competition between TV and telecommunication operators, including the authorization of IPTV services where they are still prohibited (ITU, 2013c).

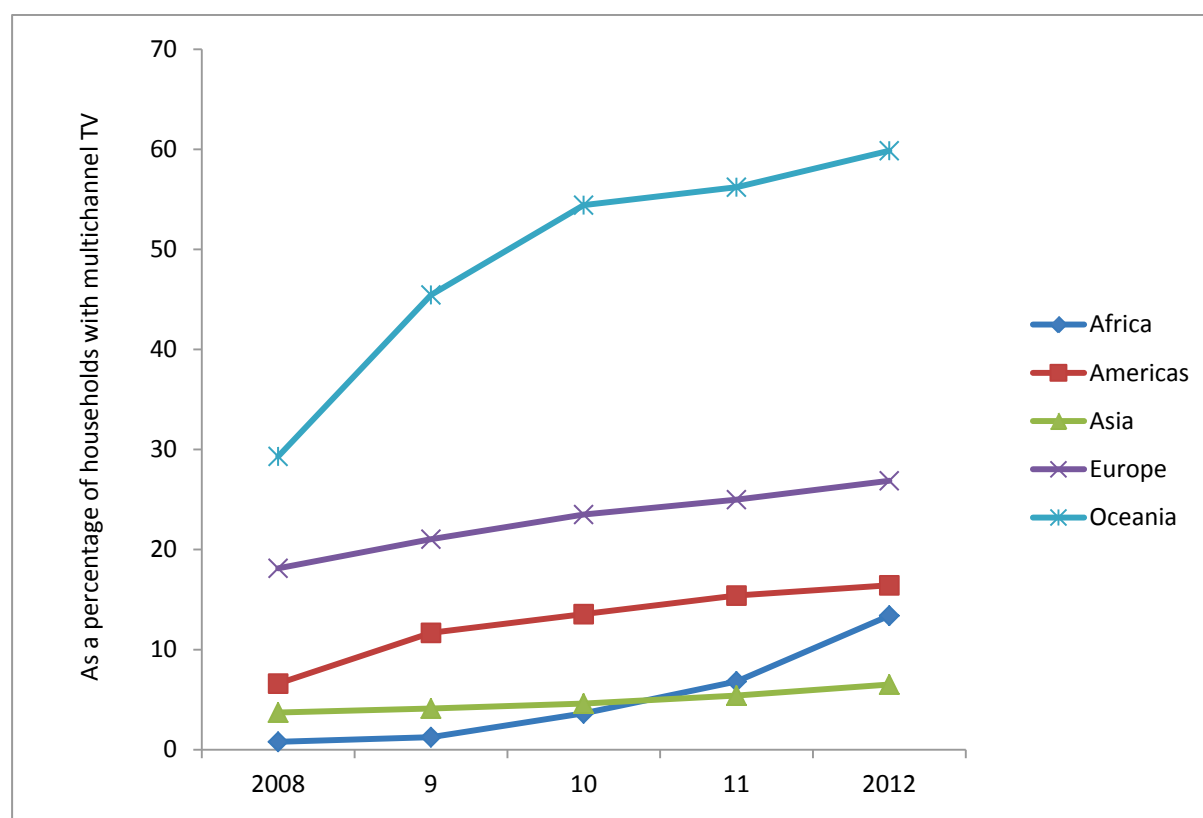
### *Digital terrestrial television*

There are many advantages that digital terrestrial television (DTT) offers over analogue terrestrial television. DTT offers:

- a wider choice of programmes from a greater number of TV channels and radio stations
- improved flexibility of use due to better portable and mobile reception
- services that are more interactive
- the potential to contribute to serving the specific needs of the elderly or disabled by providing them with services such as better subtitling, audio commentaries or signing (Europa, 2006).

For many households, DTT is a low-cost investment, as the set-top boxes are relatively cheap and most of the channels on offer are free-to-air. Depending on the technology involved, most boxes retail at USD 15 to USD 60. Many governments have subsidized or given away set-top boxes for lower-income homes. In addition, most new sets are built with integrated DTT receivers, and in several developed countries this has become a legal requirement for authorized product manufacturers (DigiTAG, 2013). As a result, digital TV tuners are becoming more commonplace on all TV sets within a household – not just the main set.

DTT has experienced substantial growth over the last five years, as governments aim to meet the targets set nationally and internationally for the digital switch-over. Globally, there were 142 million households with only DTT<sup>22</sup> (10 per cent of households with TV; 14 per cent of households with multichannel TV) by the end of 2012, up by 24 million from a year earlier and 86 million from 2008. In contrast, the proportion of households with a TV receiving only analogue terrestrial TV broadcasts (not multichannel by definition) fell from 46 per cent in 2008 to 29 per cent in 2012. Chart 8.10 shows households with only DTT, by region, from 2008 to 2012.

**Chart 8.10: Households with only DTT, by region, 2008–2012**

Source: Estimated based on Digital TV Research and ITU World Telecommunication/ICT Indicators Database.

Note: Data cover 140 countries, accounting for 98 per cent of all households in the world.

As expected, growth in households with only DTT was strongest in regions with the highest rate of switch-over and modest in Africa and Asia where many countries have yet to make the switch. At the 2006 ITU Regional Radiocommunication Conference (RRC-06), 107 countries from Europe, Africa, Central Asia and the Middle East, as well as Iran (Islamic Republic of), adopted the GE06 Agreement<sup>23</sup> with a view to phase-in digital broadcasting. The switch-off began in 2006, with the Netherlands the first country to switch to digital-only broadcasting on December 11, 2006.<sup>24</sup> Another point of agreement was that analogue signals would no longer be protected from interference by digital signals in 2015. Table 8.3 shows analogue switch-off dates of selected countries that have completed the DTT transition.

**Table 8.3: Analogue switch-off dates, selected countries that have completed the DTT transition**

Country	Date	Country	Date	Country	Date
Australia	2013	Korea, Rep. of	2012	Sweden	2007
Czech Republic	2011	Latvia	2010	Tanzania	2012
Estonia	2010	Netherlands	2006	Uganda	2012
Finland	2007	New Zealand	2013	United Kingdom	2012
Germany	2008	Norway	2009	United States	2009
Ireland	2012	Poland	2013		
Italy	2012	South Africa	2013		
Japan	2012	Spain	2010		

Source: DigiTag, 2013.

To date, the digital switch-over is most advanced in Europe, where at least 13 countries have switched off analogue terrestrial broadcasting. The region has the highest DTT household penetration, being home to 47 per cent of global primary DTT households by the end of 2012. In the Americas, the first DTT switch-over milestone was in 2009, with the analogue switch-off in the United States. Other large countries in the region, such as Brazil, are in the process of switching over. The Africa and Asia regions started to make some progress in the transition to DTT in 2012, while Australia and New Zealand (in Oceania) made the switch in 2013. As Chart 8.10 shows, the share of DTT-only households in Africa surpassed that of Asia in 2011. In terms of the absolute number of households, Italy had 17 million primary DTT households at the end of 2012, followed by the United States (16 million) and China (14 million). In relative terms, the proportion of primary DTT homes to households with a TV was highest in Spain (76 per cent), followed by Italy (73 per cent) and Australia (62 per cent).

Digital switch-over is likely to be complex – and costly – in countries where the analogue network is most developed. Therefore, some African countries have found digital switch-over to be a relatively easy task, since it is a simple matter of replacing a single analogue transmitter with a more powerful and efficient digital one, even though this may also imply that further efforts are necessary to extend terrestrial broadcasting network coverage (ITU, 2013c). Given that the DTT switch-over is still pending in most developing countries, it is one of the main areas of policy attention in the near future. Since it is a relevant challenge in terms of delivering radio and television services to the world's population, the switch-over could be added as an indicator for Target 8.

## Conclusions and recommendations

The objective of Target 8 is to ensure that all of the world's population has access to television and radio services. Access to the traditional ICT services of radio and TV is still relevant in the information society. They are critical for reaching out to remote or displaced communities and can enhance the achievement of development goals such as education, preserving local heritage and fostering the promotion of cultural diversity. Widespread adoption of these basic ICT services could spur demand for more high-end content and services, and ultimately give rise to more competitive telecommunications markets. Several constraints pose challenges to a more complete achievement of Target 8. Economic constraints remain significant for some households in developing countries – for instance, many rural households in these countries can hardly afford proper nutrition, let alone pay for a radio or TV set. Even if the poor could afford and are willing to pay for the devices, infrastructure constraints such as the lack of electricity and terrestrial coverage in rural areas still limit household access to radio and TV services.

Target 8 is tracked by three indicators and all three are focused on equipment. The first two indicators for measuring Target 8 — household access to radio and household access to TV — provide a picture of fairly widespread access. In developed countries, most households are able to access radio and TV. In most developing countries for which data are available, at least 50 per cent of households had access to radio by the end of 2012. About 80 per cent of households globally had at least one television set by the end of 2012. However, the target for television access remains largely unmet in Africa, with only 42 per cent of households in Africa having a television set by the end of 2012. The target for television access is also unmet in least developed countries, with only 35 per cent of households having a TV in 2012.

Although an overall decline in households with radio sets was observed, other evidence suggests that there is considerable value in pursuing Target 8 in respect of radio. For least developed countries and many countries in the African region, traditional mass media are still important tools for accessing information and opportunities that ICTs can provide. For example, the World Health Organization disseminates health information to refugees and displaced persons through 'low cost, low-technology' communication systems such as community radio and battery-operated public address systems (WHO, 2009). Even as households around the world switch over to digital transmission and adopt multichannel television, it bears remembering that there are significant numbers of poor or displaced communities that still have inadequate or no access to basic radio and television services. For them, access to these services could be their only means of accessing public services and receiving essential relief items.

Turning to Indicator 8.3, adoption of multichannel television has been growing rapidly and slightly more than half of all households (or 71 per cent of households with television) had access to multichannel services by 2012, compared to two in five in 2008. The impact of multichannel television is technology- and region-specific. The switch-over to digital television is the most far-reaching development in multichannel television in recent years. Most developed countries have completed, or are on track to complete, the transition to digital television, while developing countries have begun or are committed to the transition. However, the transition does not guarantee an improvement in coverage, which is still a challenge – especially in developing countries. In most cases, service providers would just be switching over to digital transmission without building new infrastructure to improve coverage (ITU, 2010b).

The benefits of other multichannel technologies (CATV, DTH satellite and IPTV) are more likely to be felt by developed countries and affluent households in developing countries. According to commercial research conducted by CASBAA (2014), the growth of multichannel (non-terrestrial) television is greatest in the Asia-Pacific region, which has about 468 million households with multichannel TV (489 million in total for Asia and Oceania in this report).<sup>25</sup> The CASBAA report highlights the rise of the middle class in the region that is fuelling the growth of multichannel TV. In particular, higher-than-average penetration rates were reported among affluent households. For households that can afford these services, multichannel television offers more varied content and value-added services like time-shifts and programmes on-demand.

Should there be a post-WSIS target related to broadcasting, it is recommended that indicators 8.1 and 8.2 be retained (and updated with the 2013 definitions) since most developing countries still have considerable room for progress towards these targets. A more thorough evaluation of Target 8 could be made if data collection efforts in the least developed countries were intensified.

Monitoring Indicator 8.3 by technology should be continued in order to provide insights into the role of different TV-distribution technologies in providing TV services to the world's population.

Future indicators could address the missing supply-side of radio and television services by measuring media regulation aspects that help understand the global environment in which media operate and the availability and quality of domestic broadcast services. Broadcast content is often of interest to populations when it is available in a language they understand or there is local content. The *Media development indicators framework* first published by UNESCO in 2008 could serve as a basis and groundwork for future indicators on availability and quality of radio and television content. The framework has been endorsed by member states of the International Programme for Development

of Communication (IPDC). The UIS has also developed and pilot-tested a questionnaire on media statistics in 2012; a guidebook of indicators was published in 2013.<sup>26</sup> Data from the survey will substantially fill the gap for Target 8 indicators.

Since digital switch-over will be of major policy concern in developing countries in the near future, an additional indicator tracking digital transition is recommended.

New indicators on multichannel TV could focus on demand-side data such as distribution of television channels by transmission signals, ownership and geographic coverage. The pilot study conducted by UIS collected some of these data from 60 countries in 2012.

In service to making further progress towards Target 8, several recommendations specific to increasing access to TV services are offered. Countries with low household penetration of TV can consider initiatives that increase both demand and supply. In terms of increasing demand, state assistance for low-income households in order to make TV sets and decoders more affordable could help increase household TV penetration.

Initiatives to increase the availability of relevant local content should be promoted and could also help boost household TV uptake. Appropriate monitoring of access to local and relevant content should also be implemented (the aforementioned UIS questionnaire collected data on community radio and television). To achieve these ends, countries could consider allowing more broadcasting stations to operate in order to increase content variety and encourage more competition among operators. The principles of plurality and media diversity are also endorsed in the UNESCO framework (UNESCO, 2010).

With regard to increasing supply, the digital switch-over presents an opportunity to expand the reach of free-to-air multichannel TV, and satellite technology could be a complementary cost-effective way of extending coverage to remote and unconnected areas. Countries could allow more providers to operate to increase competition and lower the costs of existing multichannel services for consumers. The current digital switch-over offers an unprecedented opportunity for developing countries to provide TV services to previously underserved communities.<sup>27</sup> Lessons learned by developed countries that have completed the transition could help developing countries in the early stages of the transition to make significant progress towards achieving Target 8.

It should be noted that multichannel television offers opportunities for the less affluent. Satellite TV is a cost-effective infrastructure to build for remote areas compared to terrestrial broadcasting and is thus a viable means of implementing nationwide broadcasting. Countries with too small a market to justify a national system could take advantage of existing regional systems, or national broadcasters could arrange to have their channels made free-to-air via DTH (*Partnership*, 2010).

## List of references

- AFREA (Africa Renewable Energy Access Program) (2012), *Institutional Approaches to Electrification. The Experience of Rural Energy Agencies/Rural Energy Funds in Sub-Saharan Africa*, The World Bank Group, [http://siteresources.worldbank.org/EXTAFRREGTOPENERGY/Resources/717305-1327690230600/8397692-1327690360341/AEI\\_Dakar\\_Workshop\\_Proceedings\\_As\\_of\\_7-30-12.pdf](http://siteresources.worldbank.org/EXTAFRREGTOPENERGY/Resources/717305-1327690230600/8397692-1327690360341/AEI_Dakar_Workshop_Proceedings_As_of_7-30-12.pdf).
- CASBAA (2014), *Asia Pacific Multichannel TV Advertising 2014*, [http://issuu.com/casbaahk/docs/casbaa\\_asia\\_pacific\\_multichannel\\_tv](http://issuu.com/casbaahk/docs/casbaa_asia_pacific_multichannel_tv).
- Conrad, D. (2011), *Lost in the Shadows of the Radio Tower: A Return to the Roots of Community Radio Ownership in Kenya, Uganda and Tanzania* (Doctoral dissertation, Ohio University).
- Da Costa, P. (2013), *The growing pains of community radio in Africa. Emerging lessons towards sustainability*, Nordicom Review, 33 (Special Issue), 135-147. DOI: 10.2478/nor-2013-0031.
- DigiTAG (2013), *DigiTAG guide to digital switchover*, Digital Terrestrial Television Action Group, [http://www.digitag.org/Guide\\_to\\_Digital\\_Switchover\\_v1.0.pdf](http://www.digitag.org/Guide_to_Digital_Switchover_v1.0.pdf).
- Digital Landing (2012), *20 Questions and 20 Answers: Cable vs Satellite TV*, <http://www.digitallanding.com/20-questions-cable-vs-satellite-tv/>.
- Europa (2006), *Switchover from analogue to digital broadcasting*, [http://europa.eu/legislation\\_summaries/audiovisual\\_and\\_media/l24223a\\_en.htm](http://europa.eu/legislation_summaries/audiovisual_and_media/l24223a_en.htm).
- European Commission (2013), *Special Eurobarometer 396 - e-Communications Household Survey*, <http://ec.europa.eu/digital-agenda/en/news/special-eurobarometer-396-e-communications-household-survey>.
- Farm Radio International (2011), *The new age of radio. How ICTs are changing rural radio in Africa*, <http://solutionscenter.nethope.org/assets/collaterals/farmradio-ictreport2011.pdf>.
- Federal Communications Commission (2013), *Cable Carriage of Broadcast Stations*, <http://www.fcc.gov/guides/cable-carriage-broadcast-stations>.
- Girard, B. (2007), *Empowering Radio - Good practices in development and operation of community radio: issues important to its effectiveness*, report prepared for the Programme on Civil Engagement, Empowerment and Respect for Diversity, World Bank Institute (WBI), <http://comunica.org/pubs/cr5cs.pdf>.
- Hendy, D. (2013), *Radio in the global age*, John Wiley and Sons.
- ITU (International Telecommunication Union) (2005), *World Summit on the Information Society Outcome Documents: Geneva 2003 - Tunis 2005*, <http://www.itu.int/wsis/outcome/booklet.pdf>.
- ITU (2010a), *World Telecommunication Development Conference (WTDC-10): Final Report*, <http://www.itu.int/pub/D-TDC-WTDC-2010>.
- ITU (2010b), *World Telecommunication/ICT Development Report 2010: Monitoring the WSIS Targets, A mid-term review*, <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wtdr2010.aspx>.
- ITU (2012), *ICT adoption and prospects in the Arab region*, <http://www.itu.int/ITU-D/ict/publications/arab/2012/index.html>.
- ITU (2013a), *Trends in Broadcasting*, <http://www.itu.int/en/ITU-D/Technology/Documents/Broadcasting/TrendsinBroadcasting.pdf>.
- ITU (2013b), *1st Meeting of the ITU Expert Group on ICT Household Indicators (EGH) - Final Report*, [http://www.itu.int/en/ITU-D/Statistics/Documents/events/brazil2013/Final\\_report\\_EGH.pdf](http://www.itu.int/en/ITU-D/Statistics/Documents/events/brazil2013/Final_report_EGH.pdf).



ITU (2013c), *Measuring the Information Society 2013*, <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2013.aspx>.

ITU (2013d), *World Telecommunication/ICT Indicators database 2013, 17th edition*, <http://www.itu.int/ITU-D/ict/publications/world/world.html>.

ITU (2014), *Manual for Measuring ICT Access and Use by Households and Individuals, 2014 edition*, <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/manual2014.aspx>.

Jones, R. and Simering, B. (2012), *Combining local radio and mobile phones to promote climate stewardship*, [http://www.niccd.org/sites/default/files/NICCD\\_Mitigation\\_Case\\_Study\\_Cookstoves.pdf](http://www.niccd.org/sites/default/files/NICCD_Mitigation_Case_Study_Cookstoves.pdf).

Keefer, P. and Khemani, S. (2011), *Mass Media and Public Services: The Effects of Radio Access on Public Education in Benin*, World Bank, <https://openknowledge.worldbank.org/handle/10986/3697>.

Keefer, P. and Khemani, S. (2012), *Do Informed Citizens Receive More...or Pay More? The Impact of Radio on the Government Distribution of Public Health Benefits*, World Bank, <https://openknowledge.worldbank.org/handle/10986/3236>.

Library of Congress (September 22, 2013), *First Winners of Library of Congress Literacy Awards Announced*, <http://www.loc.gov/today/pr/2013/13-168.html>.

Magpanthong, C. and McDaniel, D. (2011), *Media Democratization at the Crossroads: Community Radio in Thailand and Malaysia*, *Journal of Radio & Audio Media*, 18(1).

Myers, M. (2011) *Voices from Villages: Community Radio in the Developing World. A report to the Center for International Media Assistance*, <http://www.marysophiamyers.org/pdfs%20of%20my%20publications/1%20Voices.pdf>.

OECD (Organisation for Economic Co-operation and Development) (2013), *Global Forum on Competition - Competition issues in television and broadcasting. Contribution from India*, DAF/COMP/GF/WD(2013)43, <http://search.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/GF/WD%282013%2943&docLanguage=En>.

Partnership on Measuring ICT for Development (2010), *Core ICT Indicators*, <http://www.itu.int/en/ITU-D/Statistics/Pages/coreindicators/default.aspx>.

Partnership on Measuring ICT for Development (2011), *Measuring the WSIS Targets: A statistical framework*, <http://www.itu.int/en/ITU-D/Statistics/Pages/publications/wsistargets2011.aspx>.

Pease, E. and Dennis, E. (1993), *Radio: The Forgotten Medium*, *Media Studies Journal*, 7(3).

Tabing, L. (2002), *How to do community radio. A primer for community radio operators*, UNESCO, [http://portal.unesco.org/ci/en/files/17593/11014593681Com\\_radio.pdf/Com\\_radio.pdf](http://portal.unesco.org/ci/en/files/17593/11014593681Com_radio.pdf/Com_radio.pdf).

UNESCO (United Nations Educational, Scientific and Cultural Organization) (2001), *Namma Dhwani community radio*, <http://www.unesco-ci.org/ipdcprojects/content/namma-dhwani-community-radio>.

UNESCO (2010), *Media development indicators: a framework for assessing media development*, <http://www.unesco.org/new/en/communication-and-information/resources/publications-and-communication-materials/publications/full-list/media-development-indicators-a-framework-for-assessing-media-development/>.

UNESCO-UIS (UNESCO Institute for Statistics) (2013), *The media landscape in 54 countries - Country profiles from the 2011 and 2012 UIS pilot surveys*, <http://www.uis.unesco.org/Communication/Documents/Media-statistics-pilot-survey-country-profiles.pdf>.



USAID (2013), *The Catalog version 1.0*,  
[http://www.planetread.org/pdf/USAID\\_The\\_Catalog\\_Version\\_EDITED.pdf](http://www.planetread.org/pdf/USAID_The_Catalog_Version_EDITED.pdf).

van Stam, G. and Mweetwa, F. (2012), *Community Radio Provides Elderly a Platform to Have Their Voices Heard in rural Macha, Zambia*, *The Journal Of Community Informatics*, 8(1), <http://www.ci-journal.net/index.php/ciej/article/view/870/832>.

World Bank (2011), *The Welfare Impact of Rural Electrification*,  
<http://go.worldbank.org/CBT6X32PL0>.

World Health Organization (2009), *Are we reaching refugees and internally displaced persons?*, *Bulletin of the World Health Organization*, <http://www.who.int/bulletin/volumes/87/8/08-060806/en/>.

## Endnotes

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<sup>1</sup> And updated with the definitions revised by ITU in 2013 (ITU, 2014).

<sup>2</sup> See <http://www.unesco.org/new/en/communication-and-information>.

<sup>3</sup> See [http://portal.unesco.org/ci/en/files/17593/11014593681Com\\_radio.pdf/Com\\_radio.pdf](http://portal.unesco.org/ci/en/files/17593/11014593681Com_radio.pdf/Com_radio.pdf).

<sup>4</sup> See <http://www.unesco.org/new/en/communication-and-information/intergovernmental-programmes/ipdc/priorities/developing-community-media/namma-dhwani-community-media-centre/>.

<sup>5</sup> See <http://www.itu.int/en/ITU-D/Statistics/Pages/events/brazil2013/default.aspx>.

<sup>6</sup> EGH is ITU's expert group to review the statistical indicators for measuring ICT access and use by households and individuals. ITU's Expert Group on Telecommunication/ICT Indicators (EGTI) has the mandate to revise the list of ITU supply-side indicators (that is, data collected from operators), as well as to discuss outstanding methodological issues and new indicators. For more information on the ITU expert groups on ICT indicators, see <http://www.itu.int/en/ITU-D/Statistics/Pages/definitions/default.aspx>.

<sup>7</sup> See [http://www.itu.int/en/ITU-D/Statistics/Documents/events/brazil2013/Final\\_report\\_EGH.pdf](http://www.itu.int/en/ITU-D/Statistics/Documents/events/brazil2013/Final_report_EGH.pdf).

<sup>8</sup> See [http://www.itu.int/en/ITU-D/Statistics/Documents/events/wtis2013/WTIS13\\_final\\_report.pdf](http://www.itu.int/en/ITU-D/Statistics/Documents/events/wtis2013/WTIS13_final_report.pdf).

<sup>9</sup> For more information on the Partnership on Measuring ICT for Development, see <http://www.itu.int/en/ITU-D/Statistics/Pages/intlcoop/partnership/default.aspx>.

<sup>10</sup> Includes ITU member states with available data for the years 2011 or 2012. Estimations are either done by countries or ITU.

<sup>11</sup> See [http://www.niccd.org/sites/default/files/NICCD\\_Mitigation\\_Case\\_Study\\_Cookstoves.pdf](http://www.niccd.org/sites/default/files/NICCD_Mitigation_Case_Study_Cookstoves.pdf).

<sup>12</sup> See <http://www.digitaltvresearch.com/>.

<sup>13</sup> See [http://ec.europa.eu/public\\_opinion/archives/ebs/ebs\\_396\\_en.pdf](http://ec.europa.eu/public_opinion/archives/ebs/ebs_396_en.pdf).

<sup>14</sup> MIS 2013 (ITU, 2013c) reported that only about one-third of households in Africa had access to TV. The figures in the current report are not identical as different regional classifications were used. In this report, the UN M49 classification was used.

<sup>15</sup> Figure 8.2. The World Bank used data for 53 countries, several with data from more than one survey, giving a sample of 113 observations. The graph plots the percentage of people in rural areas owning television against the rural electrification rate.

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<sup>16</sup> Estimates presented in this section refer to TV distribution technology on the primary TV set in order to avoid double counting.

<sup>17</sup> The proportion of households with access to multichannel television, by type of service is calculated by dividing the number of in-scope households with each type of multichannel television service by the number of households with any multichannel television service. The results are then multiplied by 100 to be expressed as a percentage. Since these estimates only refer to TV-distribution technology on the primary TV set, the sum of percentages is 100.

<sup>18</sup> The Eurobarometer reports different types of TV distribution technology for households and percentages add up to more than 100 per cent. ITU reports TV distribution technology on the primary TV set in order to avoid double counting towards the overall household penetration.

<sup>19</sup> Chapter 5 of MIS 2013 (ITU, 2013c) provides a detailed description of public policy aimed at the conversion and how the industry has reacted.

<sup>20</sup> The dominance of DTH satellite TV in Jordan is consistent with data from the Media Statistics Survey conducted by the UNESCO Institute for Statistics.<sup>25</sup> In Jordan, 45 out of the 47 television channels were offered only via satellite in 2011.

<sup>21</sup> See

<http://search.oecd.org/officialdocuments/publicdisplaydocumentpdf/?cote=DAF/COMP/GF/WD%282013%2943&docLanguage=En>.

<sup>22</sup> "households with only DTT" means that the household has digital TV but does not have a pay-TV subscription. It is assumed that the household watches only DTT.

<sup>23</sup> For more information on GE06, see [http://www.itu.int/ITU-D/asp/CMS/Events/2011/ITU-ANFR/ITU\\_GE06.pdf](http://www.itu.int/ITU-D/asp/CMS/Events/2011/ITU-ANFR/ITU_GE06.pdf).

<sup>24</sup> See [http://radio-tv-nederland.nl/historie/analogetv/kranten\\_artikelen.html](http://radio-tv-nederland.nl/historie/analogetv/kranten_artikelen.html).

<sup>25</sup> The difference in the numbers is due to different regional classification for countries.

<sup>26</sup> See <http://stats.uis.unesco.org/unesco/ReportFolders/ReportFolders.aspx>

<sup>27</sup> Chapter 5 in MIS 2013 (ITU, 2013c) offers detailed recommendations for countries that are still in the early stages of the transition to DTT.