On 31 December 2012, Tanzania became the first country in mainland Sub-Saharan Africa to switch off its analogue television signal. In this case study, we examine Tanzania’s approach to digital switchover (DSO).

The case study is based around a narrative of Tanzania’s experiences. We begin by examining the size and nature of the challenge faced by Tanzania, in terms of the number of TV viewers, and how, where and when they watch TV. We then consider the policy-led approach taken by the regulator and the government to achieve a transition to digital TV and the timelines for implementing the switchover. The activities during 2011–2012, when the digital platform was switched on and marketed to viewers, are then reviewed, including a look at costs for consumers and channel providers, and some of the non-cost challenges that arose. The final part of the narrative reviews the outcome of analogue switch-off (ASO) as it proceeded in phases during the first half of 2013.

We conclude by outlining a number of lessons that other countries can learn from Tanzania’s experience. On the positive side, the government and the regulator have been clear and firm about the process, and stakeholders were involved from an early stage. This encouraged investment by the private sector and avoided an excessive burden on public finances. The relative size of the challenge was, however, lower than in some other countries, due to the limited geographical coverage of terrestrial broadcast (24% of population) and the widespread use of free-to-air satellite TV. Tanzania’s pioneering switch-off of analogue TV was, however, achieved at the expense of an appreciable number of viewers who lost access to TV for at least some time – estimated at around 20% in one city. Although politically undesirable, this loss of viewers may be necessary in other African countries if they are to meet the June 2015 deadline for analogue switch-off; mitigation strategies such as starting in regions with fewer viewers may be more effective than avoidance strategies such as delaying ASO.

The analogue broadcasting era

Broadcasting came late to Tanzania. The first broadcaster was a private firm, Independent Television (ITV), which launched in 1994. The first state-run channel, TBC1, launched in 2000, although in many parts of Tanzania it only became available by 2004. By 2010 around 30 terrestrial TV channels were available, of which about half were local channels.

Official estimates put the number of TV sets in Tanzania at 6.4 million, out of around 10.3 million households. A survey in 2010 suggested that 41% of Tanzania’s population of 46 million watch TV on a weekly basis, although this is sharply divided between urban and rural populations (as shown in Figure 1). This urban/rural divide is not surprising given that analogue TV signals only reach an estimated 24% of the population, with challenging terrain and unreliable power hindering coverage in rural areas. Radio remains the most reliable mass medium, reaching around 85% of people in both urban and rural areas.
South Africa-based satellite TV operator Multichoice launched in Tanzania in 2002, and now offers 80 TV channels via digital satellite, reaching around 100 000 homes. Satellite TV rival Zuku entered the market in 2010 and achieved 35 000 subscribers across East Africa by March 2012. The Tanzania Communications Regulatory Authority (TCRA) believes that, on top of subscribers to these pay-TV satellite services, there are around 2.3 million households watching free-to-air satellite, many of whom are likely to be receiving the digital satellite distribution feeds (intended to be re-broadcast from terrestrial transmitters) of local channel providers. In addition to the terrestrial and satellite platforms, a number of local cable operators are believed to reach several thousand households in Tanzania.

The DSO process was therefore anticipated to affect just over half of all TV households in the country: the 2.7 million TV sets receiving analogue terrestrial signal, clustered in and around 19 towns.

### Preparation for digital broadcasting

TCRA began preparations for DSO shortly after the ITU Regional Radio Conference 2004 (RRC-04), at which digital terrestrial broadcasting was planned for Europe and Africa. In August 2005, TCRA published its first consultation document, addressing changes to the policy, legislative and licensing framework required to prepare for DSO. TCRA’s proposed approach to licensing included:

- licensing of multiplex operators, separate from channel providers
- regulation and licensing of set-top boxes (STBs) and TV sets
- no requirement for mobile or high-definition services
- designation of existing free-to-air channels (ITV, TBC1 Star TV, Channel Ten, East Africa TV) as ‘must-carry’ channels.

The consultation also proposed a roadmap for DSO; this is shown in Figure 2, along with key milestones actually achieved in the switchover.
Figure 2: Roadmap for digital switchover as planned in 2005, and the actual implemented plan [Source: Analysys Mason, 2013 from TCRA]

Note: The dual illumination period was planned to be up to six years, but actually lasted around 18 months.

A second consultation paper in 2006 addressed multiplex licensing, proposing that:

- there would be three multiplex licences: one public and two commercial
- each multiplex licence would be a standard Network Facilities licence, under the existing converged licensing framework (initial fee of USD400,000, annual fee of 0.8% of revenue, 25-year duration)
- the state broadcaster TUT (now TBC) should be divided into a signal distributor and a content provider.

A new DSO timetable was proposed, involving consumer awareness campaigns starting in 2007 and roll-out of multiplexes starting in 2008.

The multiplex award process began with an invitation for expressions of interest in April 2008. All five expressions of interest were rejected, and a relaunched tender in July attracted seven applicants.¹ The licences were finally formally awarded during 2010 to Star Media Tanzania, Agape Media and Basic Transmissions. The latter two companies are Tanzanian-owned and related to existing TV channels, while Star Media is a joint venture between China’s StarTimes (which owns 65%) and TBC.

¹ Source: Daily News, 6 March 2013, “Dar es Salaam exemplary in digital broadcasting”.

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Digital switch-on

TCRA began a public education roadshow in April 2011, and the country’s president launched the Digital Tanzania campaign in August 2011. The following month, StarTimes (the brand name of Star Media) held its grand launch – although its service had been available earlier in the year – and by November 2011 had acquired 130 000 subscribers. The other two multiplex operators launched only after analogue switch-off. In the first half of 2013 Agape launched in six localities, while Basic Transmissions launched in three.

The initial price of an STB in 2010 was TSH95 000 (USD60). By early 2012, STBs were priced at between TZS70 000 and TZS100 000 (USD40 to USD60);² this high price, in a country with annual GDP per capita of around USD500, was cited as a cause for concern by various parties. The lowest headline price for an STB in Tanzania is currently TSH39 000 (USD25), although this is a security deposit rather than the purchase price: the viewer is required to ‘rent’ the decoder by subscribing to StarTimes’s Basic package (see Figure 3). TCRA indicated that it would develop a scheme to help low-income users, but this had not happened by the time the analogue signal was switched off.

Figure 3: DTT packages from StarTimes [Source: StarTimes Tanzania, 2013]

<table>
<thead>
<tr>
<th>StarTimes package</th>
<th>Monthly price</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>TZS</td>
</tr>
<tr>
<td>Basic</td>
<td>9000</td>
</tr>
<tr>
<td>Uhuru</td>
<td>18 000</td>
</tr>
<tr>
<td>Kili</td>
<td>36 000</td>
</tr>
</tbody>
</table>

The government contributed to a reduction in the cost of STBs by exempting terrestrial STBs from VAT and import duty up to the end of 2012 – although this only benefited StarTimes, as the other multiplexes had not yet launched. These taxes were restored in 2013, but a recent decision has re-introduced the exemption from both taxes from July 2013.

The cost for channel providers to access the multiplexes has also become an issue. In a 2012 consultation document the regulator found that StarTimes, Agape and Basic Transmission were charging USD6000, USD17 000 and USD3700 respectively to carry a single standard-definition channel on a single transmitter per month. The regulator’s own cost calculation suggested a price of USD3800, which was imposed as the maximum carriage fee in early 2013. At this price, coverage of Dar es Salaam would cost around USD50 000 per month (14 transmitters) while smaller regions would cost around USD22 000 (6 transmitters each in Dodoma, Tanga, Mwanza, Arusha and Moshi).

Concerns were raised by consumers and the press during the final few months before ASO about the competence of the STB supply chain.³ Viewers we have spoken to reported that suppliers in Dar es Salaam ran out of STBs during the final month before switch-off, and there were reports of unscrupulous vendors selling fake STBs. Consumers reportedly felt uncertain about which STB to purchase, and there was a perception that vendors were incorrectly advising consumers to buy analogue equipment, and that distributors were slow in getting STBs into stores.

² One source suggests that STBs were available at USD25–30 before the end of 2012 (when a tax exemption was in place), but that prices have risen again in 2013 to upwards of USD50. We have not seen wider reports of STBs selling for USD30.


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Consumer uncertainty was unlikely to have been helped by confusing messaging about whether analogue equipment would become obsolete after switchover. Although TCRA and the government provided regular information to the effect that existing TV sets could continue to be used (with digital STBs), there were also statements in the press about the imminent obsolescence of analogue equipment. Indeed, experience in other countries suggests that STBs are likely to continue to be a part of television, and analogue TV sets are likely to continue to play a role in Africa for the foreseeable future.

Consumers in Tanzania also experienced difficulties once they had purchased STBs: it was reported that 80% of decoders were returned to outlets, only for 70% of the problems to be diagnosed as user error due to customers ignoring instructions from customer care, or not getting instructions in the first place due to the long queues at distribution centres. In some of the remaining cases reception problems could only be addressed through the purchase of a new antenna, incurring additional cost for viewers. Concerns about STB quality persist, echoing the experience of digital switchover in Mauritius.

Analogue switch-off

The analogue TV signal in Dar es Salaam – Tanzania’s financial hub and most populous city – was switched off on 31 December 2012. The result was massive demand for STBs at distribution centres during the first five days of the new year. In early January, TCRA estimated that 2 million STBs had been sold across the country, compared with its estimate that 2.6 million TV sets would require STBs. Some commentators estimated that half of TV owners in Dar es Salaam were no longer able to watch TV, although TCRA data suggests that 450,000 had been sold there by the time of switch-off, equating to 80% of the city’s TV households.

A positive result of the swirl of publicity around switch-off in Tanzania’s largest city was that viewers in other cities became aware of the ASO, leading to increased STB sales in those areas prior to their switch-off. The analogue signal was turned off in Dodoma and Tanga on 31 January, Mwanza on 28 February, Arusha and Moshi on 31 March, and Mbeya on 30 April 2013.

Tanzania’s ASO is still underway, but the bulk of the process is now complete. This is in no small part because of the government and regulator’s steadfast refusal to consider postponing ASO. Despite complaints from non-governmental organisations and the Media Owners Association of Tanzania (MOAT), and an appeal from these and other parties to restore the analogue signal, the process was not halted or reversed.

However, new challenges have emerged in recent months. In April, a parliamentary committee urged the suspension of Phase 2 of the project (which involves 13 sites covering smaller towns), asking for further

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4 “Zanzibar has more than 300,000 analog television sets for disposal in the near future” (Daily News, 18 February 2012); a member of parliament complained that “some businessmen were importing large numbers of analogue TV sets despite being unusable by the end of the year” (IPP Media, 10 May 2012); a deputy communication minister said “analogue [TVs ...] are scheduled to be phased-out in the near future” and that consumers should only purchase digital TV sets; a TCRA spokesperson said: “if we extend the [DSO] deadline, we would subject our country to dumping of TV sets that are not compatible with digital broadcasting” (Daily News, 25 November 2012).

5 Source: IPP Media, 31 December 2012, “Dar’s digital confusion ...”; IPP Media, 10 January 2013, “Many Dar homes not watching TV as digital gadgets too expensive”.

6 For example, Ubungo residents complained to their member of parliament about quality problems (Daily News, 17 March 2013).

7 The chair of the Mauritian regulator pointed to low-cost STBs – which suffered from impulsive noise, frozen pictures, compatibility issues and asynchronous audio/video – as the single most important lesson from his country’s switchover (Africa Review, 27 March 2013, “The Great Digital Migration: A switch too far for Africa?”).

8 Source: TCRA Director of Broadcasting, presentation to Digital Broadcasting Switchover Forum, February 2013.

9 Source: The East African, 13 March 2013, “Tanzania media owners demand switch back to analogue as TV screens go blank.”
investigation into the cost to TV stations, the availability of must-carry channels without subscription charges, and public complaints. Another committee has also recently asked for a review of the StarTimes/TBC joint venture agreement, suggesting that government interests had not been safeguarded. Further, a dispute has arisen between local must-carry channel Star TV and StarTimes, which led to the channel being removed from the multiplex, requiring the regulator’s intervention.

The current plan is for a further 13 transmitters to begin operating in September 2013, with full ASO scheduled for mid-2014.

Conclusion

Tanzania has clearly achieved a lot in its digital transition programme. Countries across the continent – and indeed further afield – have much to learn from the challenges the country has faced. Above all, Tanzania serves as a reminder that DSO is primarily an exercise in changing consumer behaviour, rather than being a purely technical, regulatory or policymaking exercise. Consumer education must be a key focus of any DSO.

One key feature of Tanzania’s market is the late arrival of TV (first broadcast in 1994), and the consequent limited terrestrial broadcast coverage (24% of population). Lessons from Tanzania’s tailored approach should therefore be applied with care to geographically and economically larger broadcast markets.

It is clear that some viewers lost access to TV after ASO – estimates range from 20% to 50% in Dar es Salaam, and probably smaller proportions in areas where switch-off occurred later. If it is judged more likely that viewers will buy an STB at some stage, rather than move to another platform, this may be a pragmatic approach. Mitigation strategies to reduce the impact on viewers may be more practical and economical than trying to ensure 100% adoption prior to switch-off. For example, switching off analogue signal in smaller towns first, rather than in an area where more viewers are affected, may be one strategy; temporarily restoring analogue signal after switch-off may be another.

Numerous other tactical lessons may be drawn from Tanzania’s experience, relating to communication, managing the supply chain and the all-important aspect of STB pricing. In addition, it remains to be seen whether, and if so how, the two smaller multiplex operators in Tanzania can develop a sustainable business against the StarTimes-supported public multiplex.

Of particular note, however, is Tanzania’s clear success: it has managed to switch off its analogue signal in most regions more than two years ahead of the ITU-agreed deadline of 17 June 2015. The digital terrestrial signal, first deployed in late 2010, now achieves almost the same population coverage as the earlier analogue signal. The country has also avoided the cost of extended dual illumination (where analogue and digital broadcasts are run in parallel, carrying the same content). A key factor in all of these successes has been the clarity and firmness of the TCRA and the government, which set a positive precedent for future initiatives in the ICT sector. This encouraged investment by the private sector and avoided an excessive burden on public finances; the only publicly-borne costs were the STB tax exemptions and the public awareness campaign.

Tanzania’s experience will give policymakers across Africa further insight into the practical challenges involved in DSO – and indeed in practising clear and firm policymaking and regulation.

Source: IPP Media, 4 April 2013, “Some agreement reached on digital migration”.

Source: The Citizen, 10 June 2013, “TCRA orders TV to air programmes or face legal action”.

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