



# SADC not bridging digital divide

- ❖ **Despite a regional infrastructure policy aimed at establishing affordable , always-on Internet availability in the region, low levels of internet access persist across SADC countries.**
- ❖ **The Seychelles leads internet penetration in the region at 56.5% while Madagascar trails at 4.2% according to ITU statistics.**
- ❖ **Seychelles, together with Zimbabwe and Swaziland are the most expensive countries for 1GB of prepaid mobile data in the region.**
- ❖ **Demand-side challenges such as literacy, affordability, and poor coverage are some of the obstacles to internet uptake.**
- ❖ **There is a need for demand- and supply-side evidence to determine the best response to challenges faced in the region.**

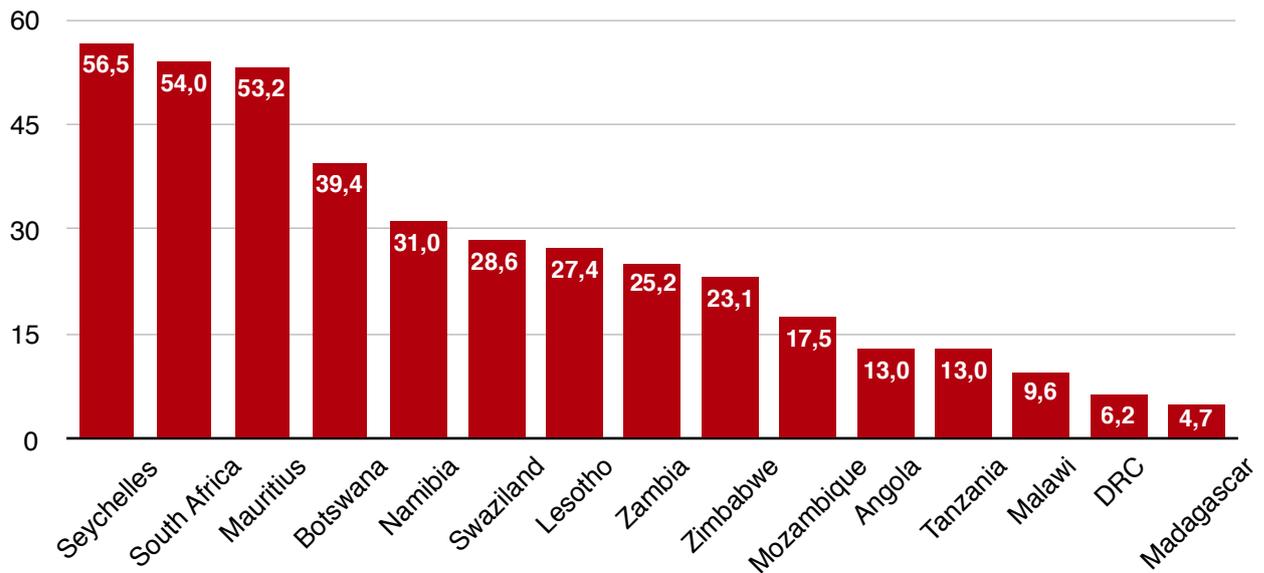
## Introduction

Information and communication technologies (ICTs) are recognised by the Southern African Development Community (SADC) member states as enablers of stronger economic development. Yet, these countries are still grappling with slow and unreliable broadband access even after the deployment of undersea fibre cables. The SADC Declaration on Information and Communication Technologies (2001) evokes member states prioritise rural and remote areas, underprivileged urban areas, institutions of learning and other communities of special benefit, as a way of bridging the digital divide. The majority of rural area residents remain unconnected nonetheless.

According to the ITU statistical dataset (2017), Internet penetration in Africa is very low compared to other continents. As of 2017, only 21.8% of African residents have used the Internet compared to 43.7% in the Arab States, 43.9% in the Asia/Pacific region, 67.7% in the CIS, 79.6% in Europe and 65.9% in the Americas. While the Declaration sets out clear strategies to bridge the digital divide between member states and the rest of the world, this has yet to be achieved at the regional level. Though the average Internet penetration rate in the region of 26% is higher than that of Africa, it is lower than other regions.

At the country level, the to Internet penetration rates are found in Mauritius, the Seychelles and South Africa at 56.51%, 54% and 53.23%. On the other hand, Internet penetration has remained very low in Madagascar (4.71%), the Democratic Republic of the Congo (DRC) (6.21%) and Malawi (9.61%). Out of the 15 SADC member states, six have not reached the critical mass of 20% (see Figure 1).

Only 21.8% of African residents used the Internet according to ITU 2017 statistics.



**Figure 1: Percentage of individuals using the Internet in SADC countries**

**Source: ITU statistics (2017)**

While the ITU (2016) reports the percentage of individuals using the Internet in Lesotho to be 27.36% and Tanzania 13%, the regulatory authorities of these countries report higher percentages. According to the Lesotho Communication Authority (LCA), about 44% of individuals use the Internet, 13% higher than the ITU statistics. The Tanzania Communication Regulatory Authority (TCRA), on the other hand, reports a 40% Internet penetration level; much higher than the 13% reported by ITU. Recent nationally representative ICT access and use surveys by Research ICT Africa find that 32.45% of citizens in Lesotho use the Internet compared to only 30% of Tanzanians.

The inconsistency between these estimates can be attributed to the method used to collect data as well as the different times when the data was collected. It also explained by the number of duplicate SIM cards in many countries which are treated in ITU and GSMA indicators as unique subscribers. To respond to this challenge of data inconsistency and to understand the regional challenges in context, Research ICT Africa (RIA) analyses ICT demand-and supply-side data in the region.

## RIA's Beyond Access Surveys

The only way to get accurate and reliable Internet penetration figures in a prepaid mobile environment is through nationally representative demand-side survey. RIA is currently conducting Beyond Access Surveys in eight African countries: Ghana, Kenya, Lesotho, Mozambique, Nigeria, Rwanda, Tanzania and South Africa. Four of these countries are SADC member states: Lesotho, Tanzania, Mozambique and South Africa. The Survey assesses ICT access and use among individuals, households and business to map the issues and trends in each ICT sector.

Among the four SADC countries, three countries have been completed: Lesotho, Tanzania and South Africa. When data is disaggregated by sex, the findings show that slightly more men (36%) than women (31.0%) use the Internet in Lesotho and Tanzania (27.8% of women compared to 31% of men.)

RIA's Beyond Access Surveys found that 32.45% of people in Lesotho have used the Internet.

<b>Table 1: Internet use in Lesotho and Tanzania</b>					
	<b>Internet use</b>	<b>Male</b>	<b>Female</b>	<b>Urban</b>	<b>Rural</b>
<b>Lesotho</b>	32,45%	36%	31%	50%	17%
<b>Tanzania</b>	30%	31%	27,8%	55,4%	13,6%

**Source: RIA's Beyond Access Survey (2017)**

The Internet access gap is even larger in rural than in urban areas. With operators targeting urban markets and universal service funds apparently ineffectual in several countries, arguably other than Lesotho, about 83% of rural dwellers are not connected to the Internet, while about half of the urban areas are connected in Lesotho. In Tanzania, 86% of rural dwellers remain unconnected to the Internet compared to 44.6% in urban areas.

The low Internet penetration in the SADC region is not only surprising given the investment made in the undersea cables, but is also evidence of failed policy. In 2012, the SADC region set out a regional infrastructure development plan with the vision of establishing affordable, always-on connectivity for the SADC region. To improve access and use in the region, an action plan to ensure the availability of broadband connections with open access fibre exists for all SADC member states and their major cities, along with at least one international exchange point in each member state. The strategy advocated for affordable high-speed Internet access potentially through terrestrial wireless or satellite technology in remote areas.

Unfortunately, most of these objectives have not been achieved. A gap which probably exists due to poor coverage, un-affordability of services and devices, and illiteracy and lack of digital literacy in some parts of some of the countries.

RIA's ICT Access and Use Survey conducted across 12 African countries in 2012 found that most people in African countries were accessing the Internet through their mobile phones (Stork, Calandro & Gillwald, 2013). The study revealed that the first point of access to the Internet by most Internet users is the mobile phone. At the national level as well as across sexes, more than 80% of individuals indicated that they used their mobile phones first to gain access to the Internet.

The reasons for the continued digital divide between those able to access the Internet and those unable to can be explained by the un-affordability of services and Internet-enabled devices. RIA's Beyond Access Surveys assessed demand-side trends in Lesotho's ICT sector this year, and the results show that 46% of phone-owners have a smartphone, yet penetration rates are considerably lower than this. A much smaller number of users in rural areas own a smartphone. In Tanzania, only 30% of individuals own a smartphone, but the majority of mobile phone owners claim that smartphones are expensive — indicating that the costs of device is a barrier to Internet access.

Digital inequality is increasing as an urban elite benefit from being online while most of the population are left offline, or are only able to be online intermittently and for short periods of time due to the relatively high cost of communications for them.

The digital divide in internet access may be attributed to the un-affordability of services and Internet-enabled devices.

These issues show the nuanced challenges to connectivity picked up through the demand-side survey. The next section looks at how market structure and trends.

## Market competition

The mobile and wireless market in SADC tends to have dominant players with more than 50% market share and some as high as 80%

The telecommunications industry is oligopolistic in nature. Due to early entry, switching costs, and the absence of mobile number portability in some markets (Botswana, Lesotho, Namibia, Zambia and Zimbabwe), the mobile and wireless sectors in SADC tend to have players with more than 50% market share. Airtel, MTN and Vodacom are the most dominant players in SADC. Key segments of the sector continue to exhibit monopolistic structures, making the industry more prone to market concentration which leads to anti-competitive practices.

For example, in Lesotho, the market is structured around two vertically-integrated operators, the former incumbent Echonet Telecom Lesotho as well as Vodacom. The market is highly concentrated with a Herfindahl-Hirschman Index of 0.63. Negative duopoly effects are seen in the market with Vodacom's dominance in the mobile market is reflected in a market share of around 76%. ETL is dominant in the fixed market with geographic dominance in many areas.

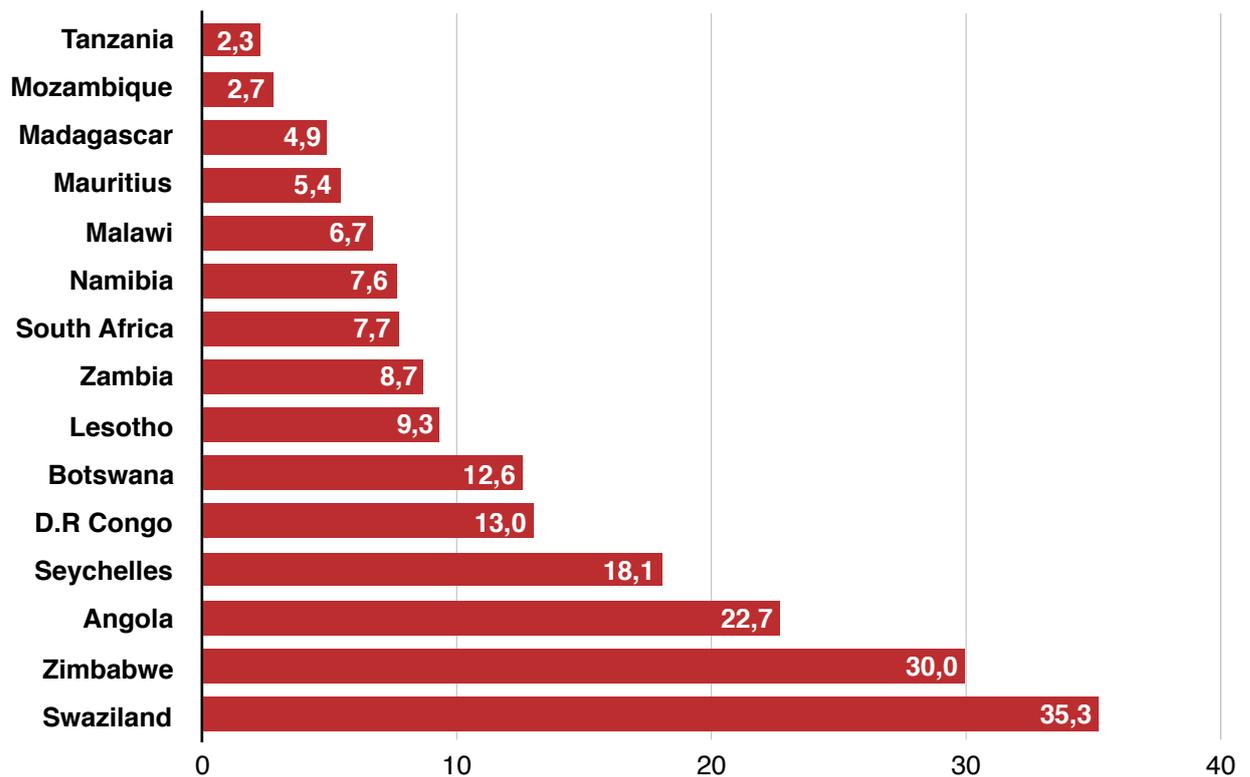
The lack of competition in Swaziland's market has had dire consequences on the development of the sector as indicated by the high prices from the only operator on the market. A vibrant, innovative and competitive telecommunications market has the potential to contribute largely to employment and economic growth. Further, the mobile sector has the potential to bridge the digital divide and provide those who were left behind with communication services they could not access in the past. This potential nonetheless lies in *effective* competition and ought to be realised in all SADC states.

Competition brings about rivalry amongst operators, which results in a more efficient allocation of resources and enables lower prices. In competitive markets, operators use a variety of strategies to increase profits, market share, and sales volumes: pricing, product innovation, distribution as well as promotions. For instance, in 2010, the mobile telecommunications sector in one of the best-performing countries in SADC, Tanzania, observed a tariff-based competition initiated by the smaller operator Tigo and later followed by Zantel. Tigo moved to undercut the largest competitors in a bid to increase its client base. This strategy enabled smaller players among the seven operators to exert further pricing pressure on the dominant players. The continued price war in Tanzania was a consequence of the termination rate glide paths initiated by the regulator.

## Mobile pricing in SADC

RIA measures the cost of communication by mapping African mobile prepaid pricing trends with a voice/SMS basket, a 1GB prepaid data basket and the Bundled Value for Money Index (VMI). All of these are calculate and represented in RIA's African Mobile Pricing (RAMP) Index. Both the voice/SMS basket and the 1GB basket methodologies calculate the minimal price for consumers.

Using the RIA 1GB data basket, Tanzania is found to be among the best-performing countries. It is ranked fourth in Africa behind Egypt, Tunisia and Guinea. The competitive 1GB data basket in Tanzania is attributed to the pricing competition among operators in the market. This has made Tanzania the best-performing country in the SADC region, with 1GB of prepaid mobile data costing USD 2.27. The second-best performing country in SADC is Mozambique (USD 2.71) as a result of the pricing pressures from the late entrant Movitel placed on duopoly operators Vodacom and MCell and effective regulation of their entry.



**Figure 2: Cheapest 1GB prepaid mobile data prices in SADC countries (USD)**  
 Source: RAMP Index (2017)

**Methodology:**

**Voice/SMS basket (OECD basket):** 30 voice calls for a total of 50 minutes and 100 SMSs per basket per month.  
**1 GB basket:** monthly cost of 1GB of data based on prepaid data top-ups or bundled top-ups. (Both baskets are converted to USD for comparison across African markets.)

The Seychelles, Zimbabwe and Swaziland are among the worst-performing countries in the 1GB data basket.

The Seychelles, Zimbabwe and Swaziland are among the worst-performing countries regarding 1GB of prepaid data. Swaziland, which has been running a monopoly in both the fixed and mobile markets, is ranked 48th out of 50 African countries in the 1GB data basket. As a means of improving competition in the market, the Swaziland Communication Commission (SCCOM) introduced a services neutral licensing (SNL) framework under section 50 of the Electronic Communications Act, which finally licensed Swaziland Post and

Telecommunications Corporation (SPTC) to operate and revive its mobile network services in 2016. SPTC, however, is yet to enter the market as the Government is still preparing legislation that would see them unpack their operations into three entities — mobile, fixed and wholesale services. The company is simultaneously battling to sell its 41% stake in Swazi MTN. A third operator, Swazi Mobile was granted a licence in 2016 but it too has yet to become operational.

While there have been a number of calls by the governments of South Africa, Zimbabwe and Botswana for data prices to go down in mobile broadband services, they remain stubbornly expensive for low-income earners. The high prices in these countries have ignited the intervention of the respective governments. The Independent Communication Authority of South Africa (ICASA) and the Competition Commission are set to probe the country's high data costs — cost of 1GB of data in South Africa is three times that of Tanzania and it is ranked 7th out of 15 SADC countries. In Zimbabwe, a set minimum price was reversed by the Ministry after the regulator introduced a minimum floor price of 2cents per megabyte for data, which would have priced services out of the range of most users<sup>1</sup>. The public outrage that followed the announcement and implementation by the largest operator, Econet, of the prices influenced a quick reversal on the policy. The regulator, POTRAZ<sup>2</sup>, is currently in the process of reviewing internet charges following its continued poor performance on the RAMP index.

Despite the policy changes in Botswana's telecommunications sector, the country's telecommunications network competitiveness seems to be slipping. The cost of Internet connection is high relative to other African countries and, as such, is a constraint to the majority. Following a pricing comparison study conducted by RIA, the Government of Botswana, through the Ministry of Transport and Communication and the Botswana Communication Regulatory Authority (BOCRA), engaged with operators in a bid to reduce the cost of data in Botswana. This led to the dominant operator, MTN/Mascom Wireless bringing its prices down and pushing Botswana's ranking from 43rd position (in Africa) in Q4 2016 to 38th position in Q2 2017. The price of 1GB data in Botswana declined from USD18.02 in Q4 2016 to USD12.60 in Q2 2017, however, Internet prices are still high in Botswana with the cost of 1GB being six times the cost of the same basket in Tanzania.

## Price trends in the SADC region

Using the same mobile pricing data, RIA mapped the price trends for the SADC region in the period Q1 2016 to Q2 2017. The stand-out price reductions appear in Tanzania and Mozambique, more than in other SADC countries, where the cheapest 1GB of data dropped by 61% from a high of USD5.97 in Q1 2016 to USD2.27 in

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<sup>1</sup> See: MISA ZIMBABWE's statement on the setting of floor prices by POTRAZ <http://zimbabwe.misa.org/2017/01/10/misa-zimbabwe-statement-on-the-setting-of-floor-prices-by-potraz/>

<sup>2</sup> See: Zimbabwe regulator reviewing internet data charges <http://www.techzim.co.zw/2017/06/zimbabwe-regulator-reviewing-internet-data-charges/>

Q2 2017 thereby pushing Tanzania into the top-five cheapest countries in Africa and position number one in SADC.

Mozambique was ranked first in Q1 2016 with a 1GB cost of USD3.34. Even though data prices fell in Mozambique, they did not fall faster than in Tanzania over the period of analysis. Prices only came down by 19% to reach USD2.70, making it the second-cheapest country for 1GB data in SADC.

<b>Table 2: 1GB Price trends in the SADC region</b>						
	<b>Q3 2016</b>	<b>Q2 2016</b>	<b>Q3 2016</b>	<b>Q4 2016</b>	<b>Q1 2017</b>	<b>Q2 2017</b>
<b>Tanzania</b>	5,98	0,89	2,39	2,99	2,29	2,27
<b>Mozambique</b>	3,35	2,87	2,27	2,12	2,27	2,71
<b>Madagascar</b>	7,13	7,11	7,47	4,67	4,75	4,86
<b>Mauritius</b>	6,51	6,63	6,61	6,52	5,25	5,37
<b>Malawi</b>	5,56	5,80	6,73	6,71	6,68	6,67
<b>Namibia</b>	5,19	5,47	5,83	5,89	10,45	7,58
<b>South Africa</b>	6,26	6,60	7,04	7,12	7,49	7,67
<b>Zambia</b>	9,27	11,85	12,11	13,25	12,62	8,71
<b>Lesotho</b>	7,59	8,00	7,11	7,19	7,57	9,30
<b>Botswana</b>	16,94	17,51	18,02	18,13	18,28	12,60
<b>D.R Congo</b>	13,00	13,00	13,00	13,00	13,00	13,00
<b>Mauritania</b>	25,71	23,93	33,60	11,71	11,69	16,59
<b>Seychelles</b>	46,25	18,38	18,45	18,33	18,24	18,09
<b>Angola</b>	16,16	15,20	15,15	19,99	19,99	22,72
<b>Zimbabwe</b>	20,00	30,00	30,00	30,00	30,00	30,00
<b>Swaziland</b>	28,78	30,33	32,33	32,70	34,43	35,26

**Source: RAMP index (2017)<sup>3</sup>**

While prices for data have been declining in other SADC member states, Swaziland and Angola are on an increasing trend. This is due to an absence of competition in these markets. MTN has an effective monopoly in Swaziland, and in Angola there are only two operators with the dominant operator Unitel owning 87% of market – a scenario likely to lead to an abuse of market power and, ultimately, high prices as evidenced by high data prices in the market.

Among the smaller nations (Botswana, Lesotho and Swaziland), Lesotho performs very well over the entire period. Though data prices in Lesotho have been increasing, the cost of 1GB data in Lesotho is much lower than in Botswana and Swaziland. This is surprising given the mountainous topography of Lesotho as

<sup>3</sup> The best-performing countries are coloured in red in each quarter.

compared to Botswana, which has a 50% stake in the EASSy cables in Namibia. Interestingly, 1GB of data is cheaper in Malawi and Namibia than it is in South Africa and from the above data one can conclude that the strength of the regulator plays a significant role in data pricing. Lower prices are to be found in more competitive or effective regulated markets.

## Conclusion

Mobile broadband has the potential to extend economic opportunities and key services to both urban and rural populations. The Southern Africa region, like the world over, acknowledges the potential for ICTs to contribute to economic integration and development in the region. Recognising this impact, SADC member states passed a Declaration on ICTs in 2001 to develop the sector. The Declaration sought to establish a coherent policy environment to bridge the digital divide between Southern Africa and the rest of the world as well as between the haves and have-nots within the region.

Despite this regional infrastructure policy aimed at establishing affordable, always-on Internet availability in the region, a large portion of SADC residents still do not have access to the Internet. Even with the presence of mobile broadband having the potential to connect the majority to the Internet, about 74% of the SADC population does not have such access. The majority of these people who are not connected to the Internet reside in the rural areas.

Of greater concern than this low Internet access percentage is that fewer women than men access and use the Internet, according to RIA's Beyond Access Surveys. Initial results also find that in Tanzania, 86% of rural dwellers remain unconnected to the Internet compared to 44.6% in urban areas. The study finds a greater Internet divide in Lesotho: about 83% of the rural population cannot connect to the Internet, while only 50% of the urban population uses the Internet.

The digital gap can be explained by unaffordable services and Internet-enabled devices. The pricing information from RIA shows that the cost of 1GB of prepaid mobile data in the SADC region is higher than in the best-performing countries with only two countries, Mozambique and Tanzania, being among the best-performing countries. The cost of 1GB of data in Malawi, Namibia and South Africa costs six times more than the cost of the same amount of data in the best-performing country: Egypt (USD1.24). Swaziland is the worst-performing country in the region, with 1GB of data being 25 times the price of 1GB in Egypt, and 15 times that in Tanzania. The high cost of data in the SADC region is one of the main contributors to digital inequality in the SADC region.

The survey results further show that a large portion of the SADC population does not have access to Internet-enabled devices such as smartphones. While smartphones have the potential to connect the poor, these devices remain unaffordable to the ordinary citizen. The majority of those who do not use the Internet in individual user survey conducted stated that smartphones are too expensive for them.

Affordability is clearly an inhibiting factor to Internet penetration in the SADC region. The high prices are the result of minimal competition in the market as well as high taxes on Internet-enabled devices. Policy interventions to reduce the cost of Internet connectivity include:

- devising regulatory mechanisms that ensure service-based competition through access to wholesale networks, such as better enforced infrastructure sharing and facility-leasing arrangements;
- Undertaking necessary market reviews or any other legal preconditions to conduct conducting studies into market dominance and anti-competitive practices, including their impact on prices;
- relieving rollout bottlenecks that affect pricing ,such as spectrum assignment; and
- prioritising the rolling out of public Wi-Fi in all public buildings especially in the rural areas to connecting the unconnected and to provide complementary access to high cost paid services.

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