School of Digital Transformation and Innovation in the Caribbean

12-15 August

2024

Port of Spain, Trinidad and Tobago

Connecting the Unconnected

By: Annie Baldeo

Telecommunications Authority of Trinidad and Tobago

"What is not measured, quickly becomes invisible.

What is invisible is lost.

And what is lost, cannot

Outline

- The Telecommunications Authority of Trinidad and Tobago (TATT) – about us
- The Concept of Universal Service and the Digital Divide
- Digital Inclusion Survey – outcome and findings
- Universal Service Initiatives to Connect the Unconnected
- Recommendations

The Telecommunications Authority of Trinidad and Tobago - About Us

The Telecommunications Authority of Trinidad and Tobago

The Telecommunications Authority of Trinidad and Tobago (TATT) was established in July 2004 by the enactment of the Telecommunications Act 2001 Amended by 17 of 2004 (the Act) as the independent regulatory body responsible for the transformation and regulation of the telecommunications and broadcasting sectors in Trinidad and Tobago.

TATT is responsible for managing spectrum and number resources, establishing equipment and service quality standards, setting guidelines to prevent anti-competitive practices and encouraging investment in order to facilitate the uptake of telecommunications and broadcasting services to all.

TATT is also responsible for resolving customer complaints, consumer advocacy, and implementing the relevant and most appropriate universal service initiatives to ensure ICTs are available, affordable and accessible.

Objects of the Act (Section 3)

Creating an Open Telecommunications Market

With Conditions for Fair Competition

Ensuring the Orderly Development of Telecommunications

To safeguard, enrich and strengthen society's social, cultural and economic well being

Protecting and Promoting the Public Interest

Accessibility | Affordability | Quality of Service

Facilitating Universal Access to Telecommunications

Encouraging Investment in Telecommunications

Regulating Broadcasting Services

The Concept of Universal Service

The Concept of Universal Service

Universal service is achieved when ICTs are available, accessible and affordable and are delivered on either a household or individual basis.

Universal Service is therefore based on three fundamental principles:

1. **ICT Availability:** the service is available to all inhabited parts of the country;
2. **ICT Accessibility:** all citizens can use the service, regardless of their location, gender, disabilities and other personal characteristics; and
3. **ICT Affordability:** the service is affordable to all citizens.

As it relates to universal service, TATT is guided by

Achieving Universal Connectivity and Accessibility

What needs to be overcome to get people connected?

One of the most important factors affecting connectivity is the digital divide.

The digital divide is the gap that exists between those who have access to ICTs and those who do not. This gap occurs between and within:

- **Population groups** e.g., PWDs, age groups, socioeconomic status (income level, employment)

- **Geographic areas** e.g., municipalities, communities, urban/rural classification

- **Regions and Countries**

TATT conducted digital divide surveys in 2007 and 2013 and

Digital Inclusion Survey

1. TATT designed and conducted national Digital Divide surveys in 2007 and 2013; and a national Digital inclusion survey (DIS) in 2021.
2. The DIS survey was commissioned to:
   i. measure the number of ICT users in Trinidad and Tobago;
   ii. determine the extent of the digital divide within Trinidad and Tobago;
   iii. benchmark the progress of Trinidad and Tobago's ICT development against other countries using the ICT Development Index (IDI);
   iv. identify population groups and geographic areas most at risk of being digitally excluded within Trinidad and Tobago;
   v. inform the choice of universal service and digital transformation initiatives at TATT;
   vi. support the country's Vision 2030 macro-economic goals and the National ICT Plan;

Survey Methodology – Sampling Design

1. DIS 2021 was a cross-sectional survey, using a multi-stage, stratified random probability sample methodology designed to produce estimates at the national, municipal and community levels.

2. Questionnaire based on indicators prescribed by the International Telecommunications Union.

   Administered the survey to over 6000+ households or approx. 17,000 persons throughout Trinidad and Tobago over 3mths.

3. To measure the digital divide, we used the internationally recognised ICT Development Index (IDI) created by the ITU. The IDI ranges from 1 to 10 with 10 signifying that no digital divide exists.

Measuring the Digital Divide

The primary methodology for measuring the digital divide is the: **ICT Development Index (IDI)**

The IDI is a composite index that combines 11 indicators into one measure.

It is used to monitor ICT developments over time.

Developed by the International Telecommuniations Union (ITU) - the United Nations' specialized agency for ICTs

List of IDI Indicators

ICT Access Sub-index
1. Fixed-telephone subscriptions/100 inhabitants
2. Households with a computer (%)
3. Households with Internet access (%)
4. International Internet bandwidth (bit/s) per Internet user
5. Mobile cellular subscriptions/100 inhabitants

ICT Usage Sub-index
6. Individuals using the Internet (%)
7. Fixed (wired) broadband subscriptions per 100 inhabitants
8. Wireless broadband subscriptions per 100 inhabitants

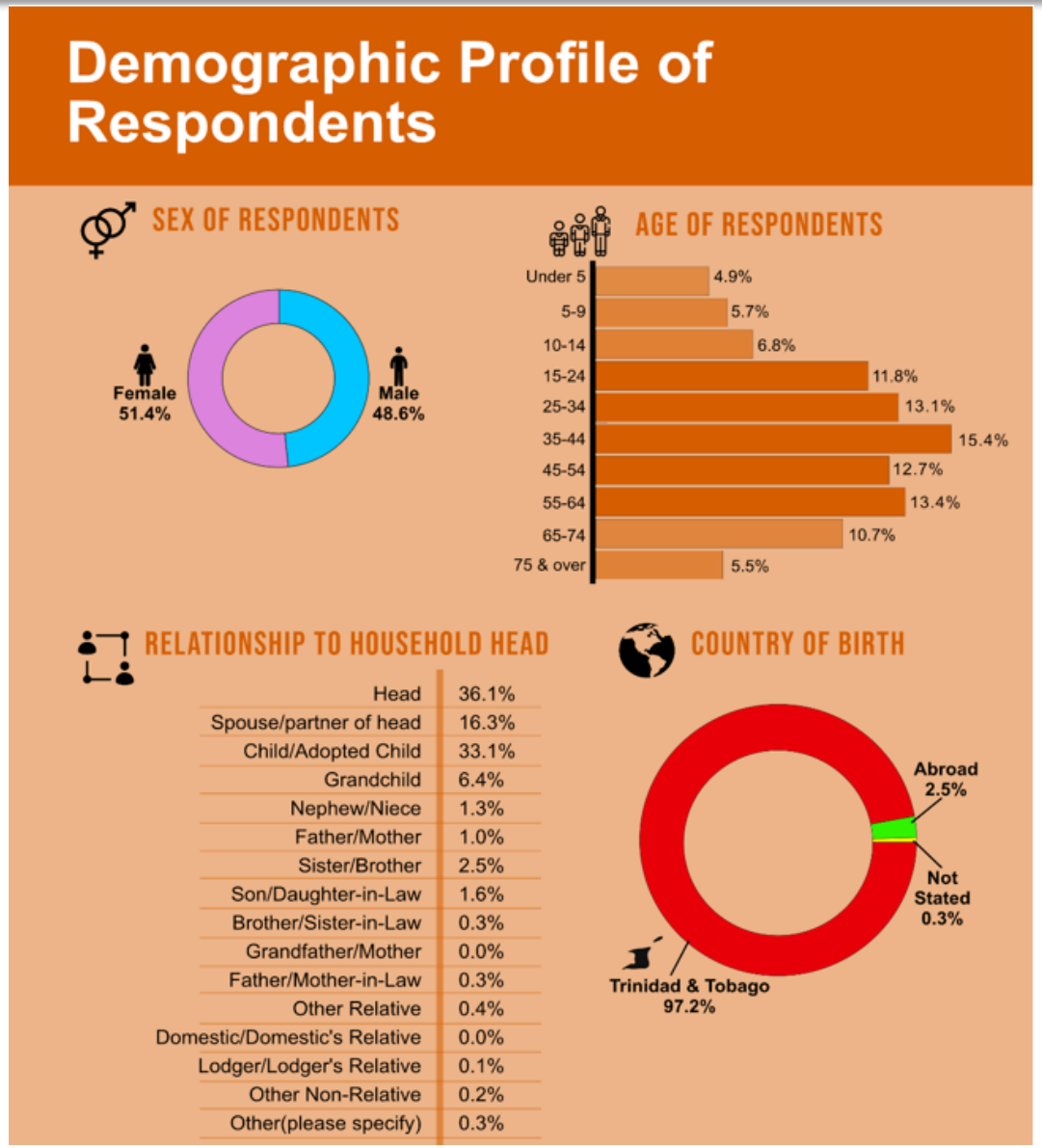
ICT Skills Sub-index
9. Mean years of schooling
10. Secondary gross enrolment ratio (%)

IDI Weightings

IDI Index	Weights (indicators)	Weights (sub-indices)
ICT Access		
Fixed-telephone subscriptions per 100 inhabitants	0.20	**0.40**
Mobile-cellular telephone subscriptions per 100 inhabitants	0.20	
International Internet bandwidth per Internet user	0.20	
Proportion of households with a computer (%)	0.20	
Proportion of households with Internet access (%)	0.20	
ICT Use		
Proportion of individuals using the Internet (%)	0.33	**0.40**
Fixed-broadband Internet subscriptions per 100 inhabitants	0.33	
Active mobile-broadband subscriptions per 100 inhabitants	0.33	
ICT Skills		
Mean years of schooling	0.33	**0.20**
Secondary gross enrolment ratio	0.33	

Results of the DIS

DIS 2021 Findings – Demographic profile

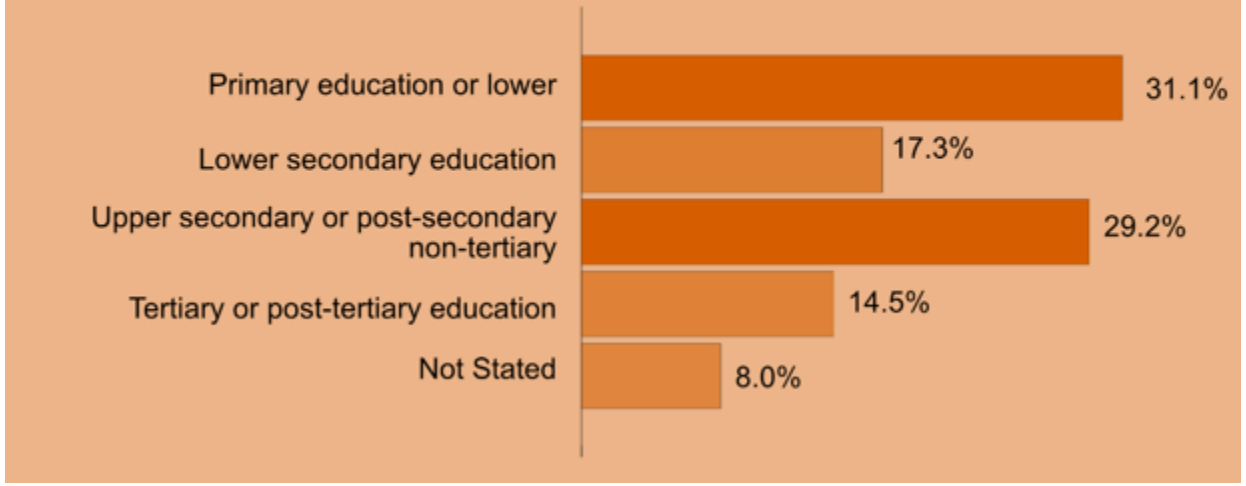


Findings – Demographic profile

ETHNICITY OF RESPONDENTS

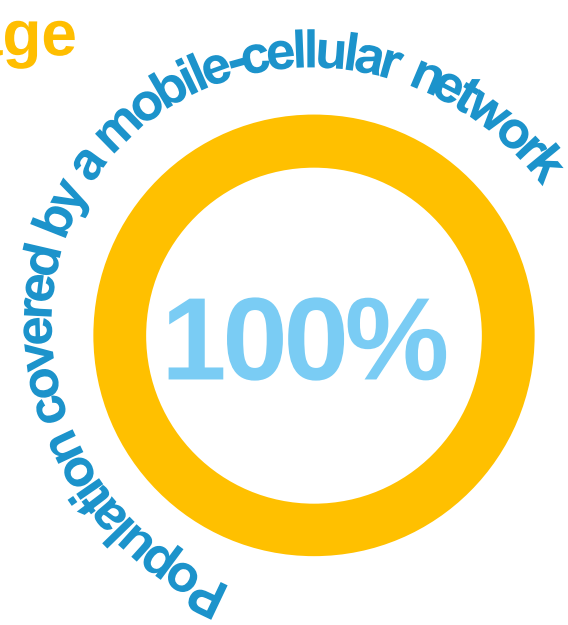
African	40.0%
East Indian	36.2%
Chinese	0.2%
Syrian/Lebanese	0.1%
Caucasian	0.7%
Mixed	21.2%
Indigenous	0.2%
Other	0.8%
Not stated	0.5%

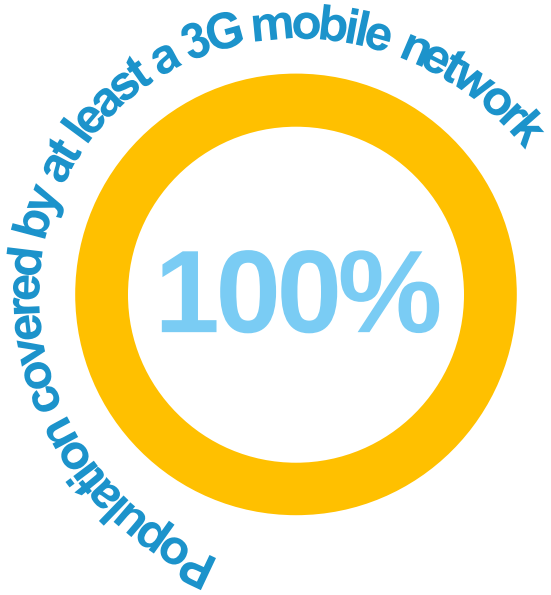
HIGHEST EDUCATION LEVEL

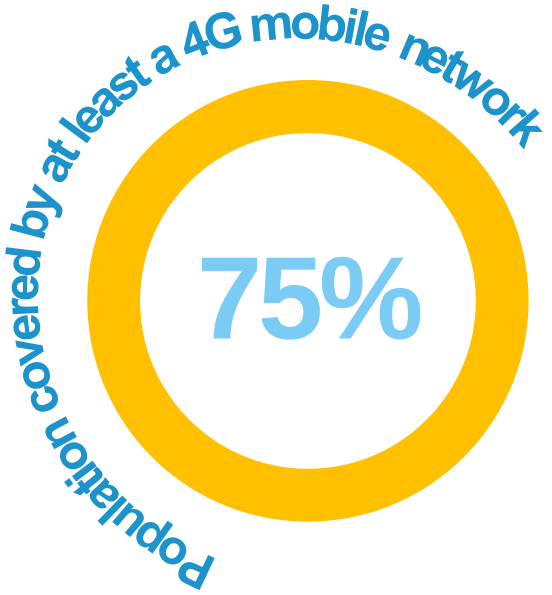


INFRASTRUCTURE & ACCESS

Network Coverage

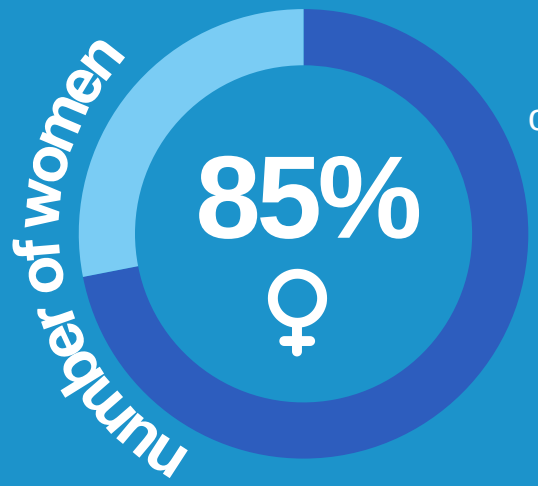




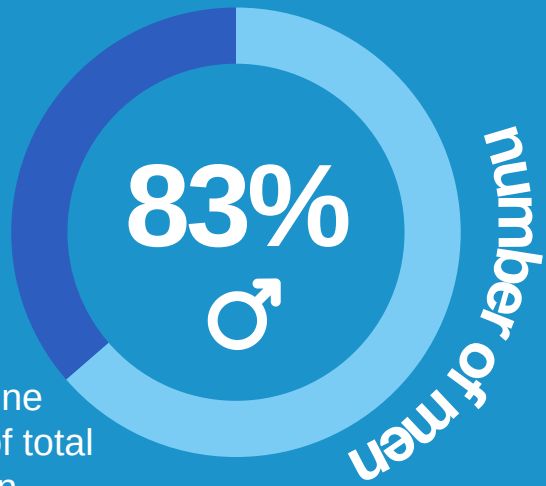


Mobile Phone Ownership

Individuals owning a mobile phone **83.9%**



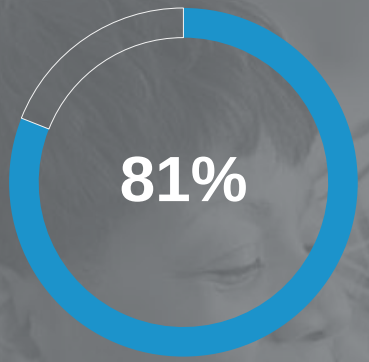
Female mobile phone ownership as a % of total female population



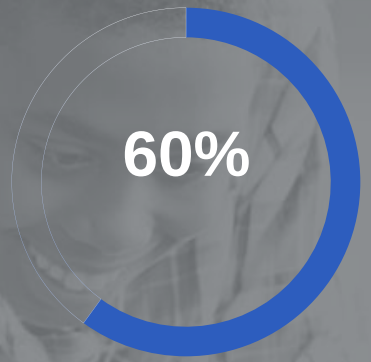
Male mobile phone ownership as a % of total male population

INFRASTRUCTURE & ACCESS

ICT Access at Home



Households with Internet access at home



Households with computer access at home

Households with Internet access at home, rural (2021)

Households with Internet access at home, urban (2021)

TRINIDAD AND TOBAGO
INTERNET USE

PERCENTAGE OF POPULATION USING INTERNET

Individuals using the Internet total **79%**

Female Internet use as a % of total female population **82%**

Male Internet use as a % of total male population **76%**

<15 years as a % of all <15 years **67%**

15-24 years as a % of all 15-24 years **94%**

25-74 years as a % of all 25-74 years **83%**

75+ years as a % of all 75+ years **37%**

BROADBAND TRAFFIC

Average monthly fixed broadband Internet traffic per fixed broadband subscription (MB) (2020) **234,074**

Average monthly mobile broadband Internet traffic per mobile broadband subscription (MB) (2020) **9039**

ENABLERS & BARRIERS

ICT Prices

Mobile data and voice basket (low consumption) as a % of GNI p.c. (2020)	2.3%
Mobile data and voice basket (high consumption) as a % of GNI p.c. (2020)	2.3%
Mobile broadband basket as a % of GNI p.c. (2020)	2.3%
Fixed broadband basket as a % of GNI p.c. (2020)	1.5%
Mobile cellular basket as a % of GNI p.c. (2020)	1.0%

ICT Skills

Individual with basic skills	73%
Individual with standard skills	30%
Individual with advanced skills	4%

Findings – ICT Usage

Category		Used Computer				Used Internet	Used Mobile Phone
		Any Device	Desktop	Laptop	Tablet		
		%					
	5-9	92.2	3.9	21.9	71.1	93.4	51.9
	10-14	89.5	5.8	39.3	54.8	94.3	70.9
	15-24	71.1	8.7	42.9	25.2	94.2	95.0
	25-34	69.0	11.0	35.7	21.2	94.5	97.6
	35-44	69.0	11.2	32.9	18.9	92.0	96.3
	45-54	56.1	9.9	29.9	14.9	86.5	96.4
	55-64	45.5	6.0	17.3	10.9	74.0	93.9
	65-74	40.8	4.0	12.9	11.2	62.2	89.7
	75 and over	29.6	1.7	5.6	6.8	36.9	71.8
Sex of Respondent	Male	58.8	7.4	25.9	19.1	75.9	84.2
	Female	65.0	8.2	29.8	25.6	81.9	85.7
Highest Education Level	Primary education or lower	52.0	2.7	15.2	25.5	68.6	77.9
	Lower secondary education	53.6	6.0	21.9	14.7	88.1	95.2
	Upper secondary or post-secondary non-tertiary	63.4	7.5	27.0	18.0	90.9	98.0
	Tertiary or post-tertiary education	87.4	22.2	66.7	31.1	97.4	99.0
	Not Stated	67.6	3.1	15.8	37.1	22.9	17.8

Findings – ICT Skill Indicators

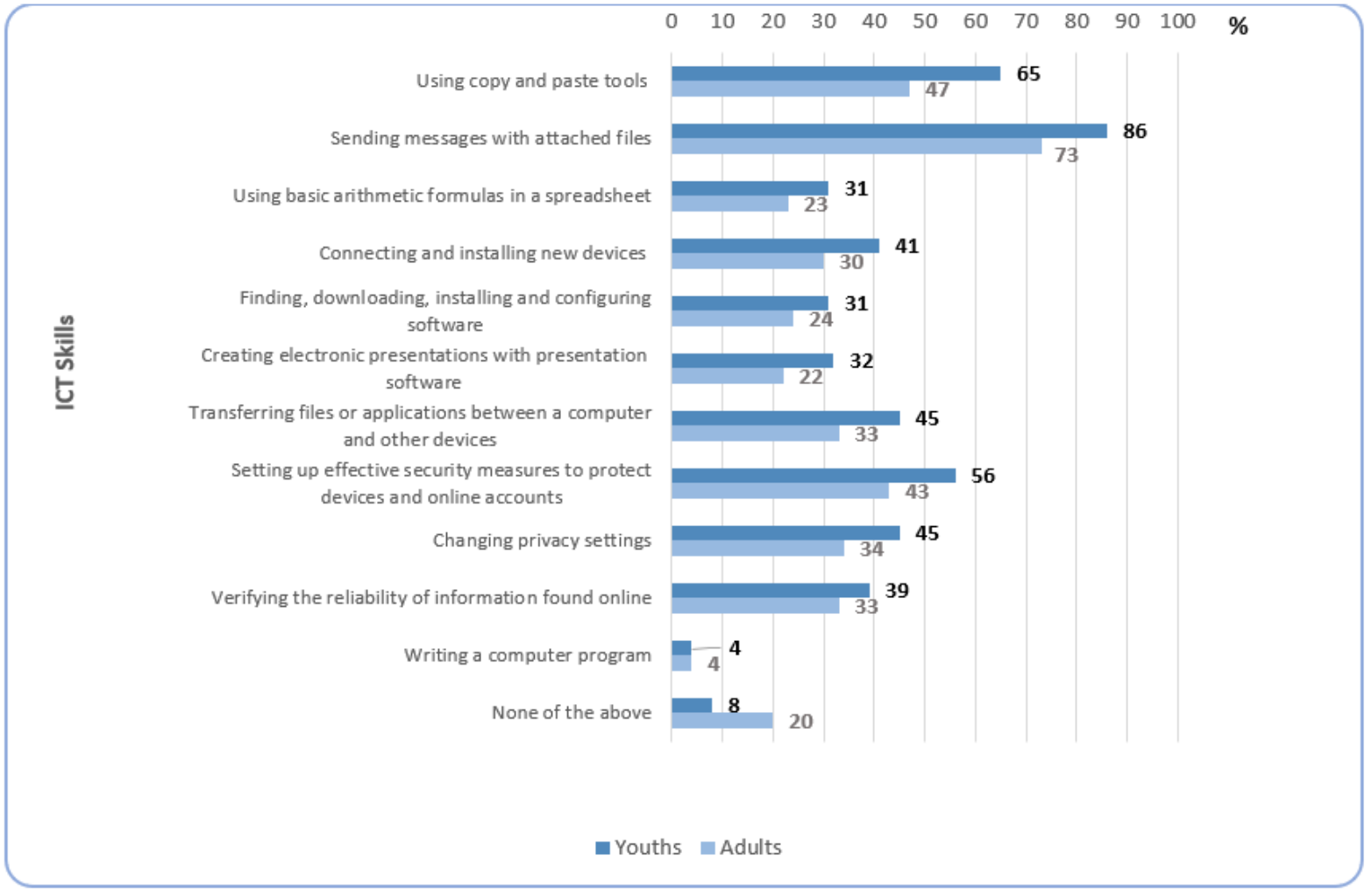
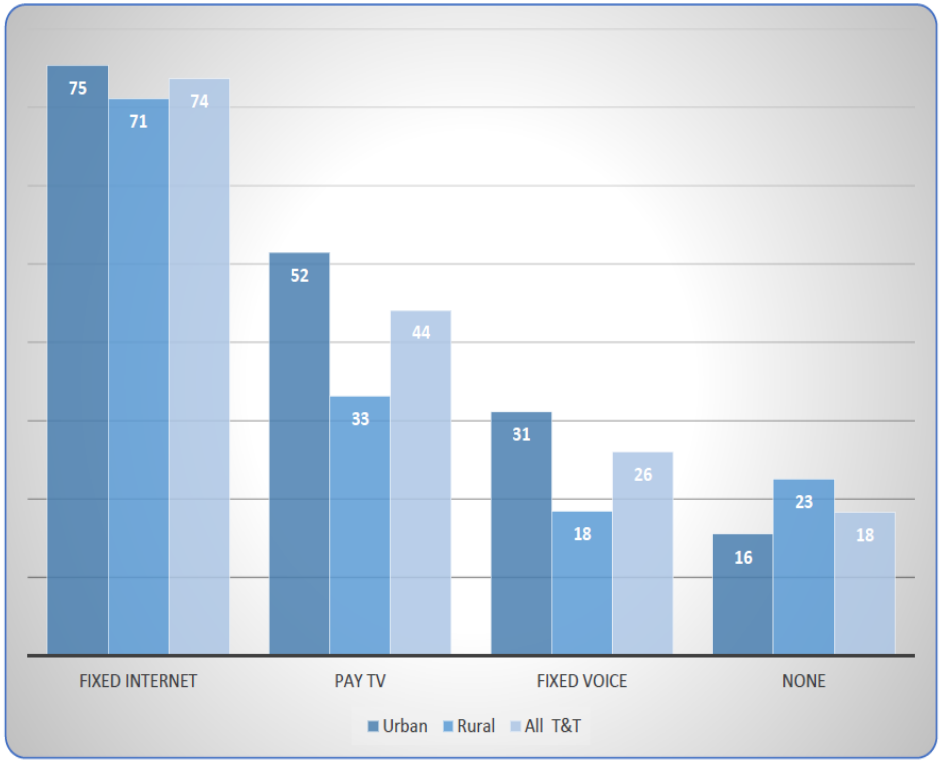


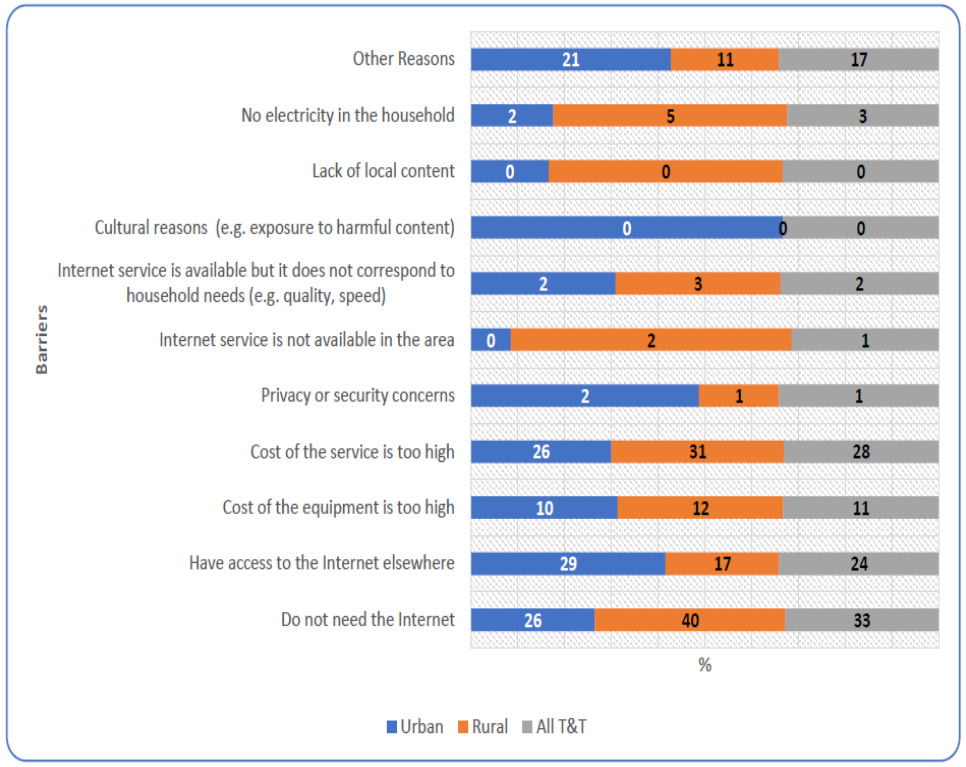
Figure 4.47: Proportion of youths and adults with ICT skills, by type of skills

Working subscription services by urban/rural locality



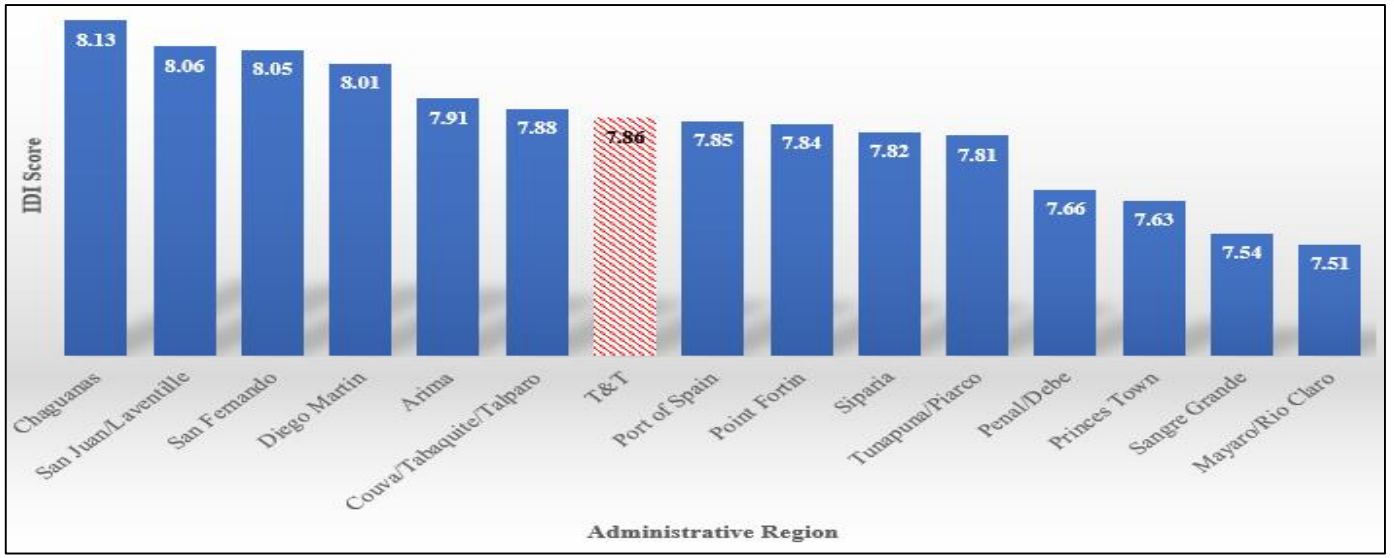
- 75% of households had fixed Internet services in urban locations compared to 71% for rural locations
- Greater rural and urban disparity for Pay TV and Fixed Voice Services.
- Higher percentage of households in rural areas (23%) reported having no working

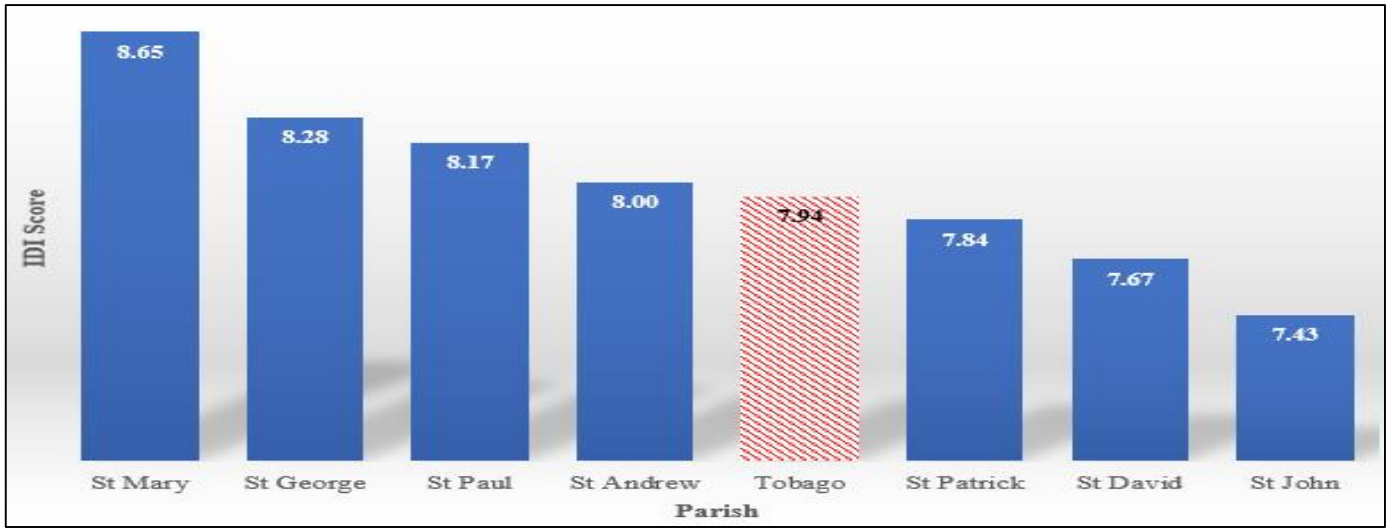
Reasons for households not having Internet, by urban/rural locality



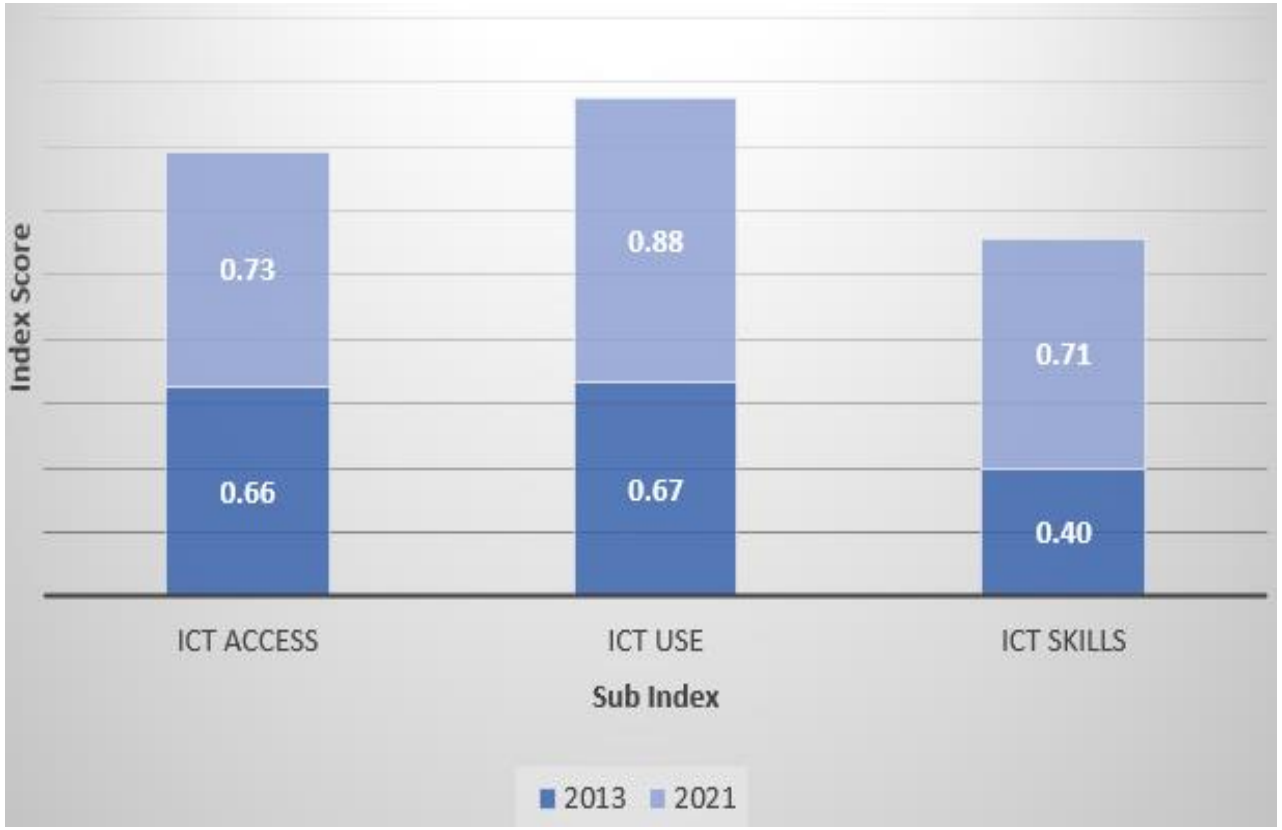
- The three most common reasons for households not having Internet access were:
  1) not having any need for the Internet (33%)
  2) the cost of Internet service (28%)
  3) households having access to the Internet elsewhere (24%)
- Higher rural/urban disparity observed for the following reasons:
  1) not having any need for the Internet - Rural (40%) vs Urban (26%)
  2) the cost of Internet service - Rural (31%) vs Urban (26%)

Findings – IDI National Readings

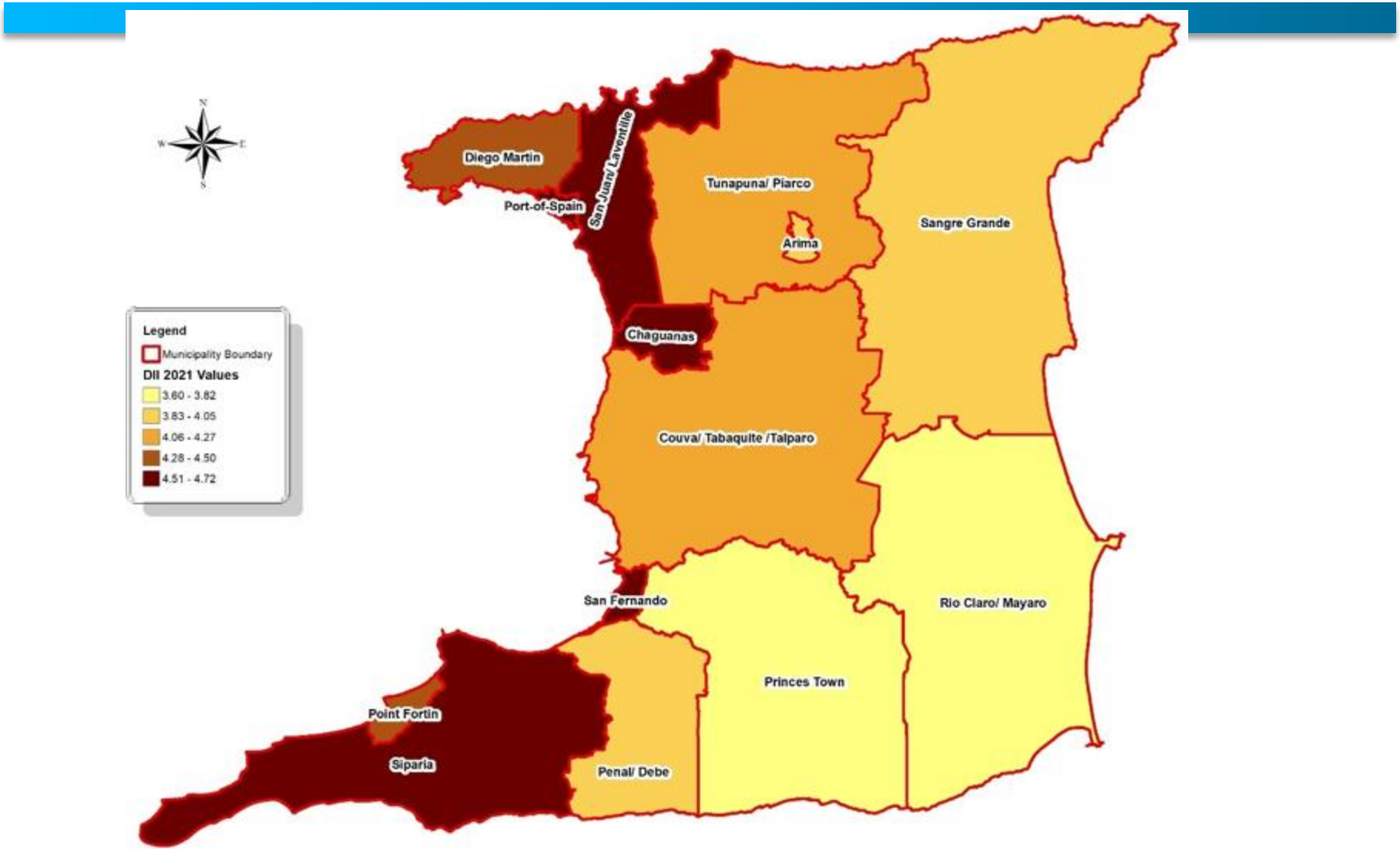




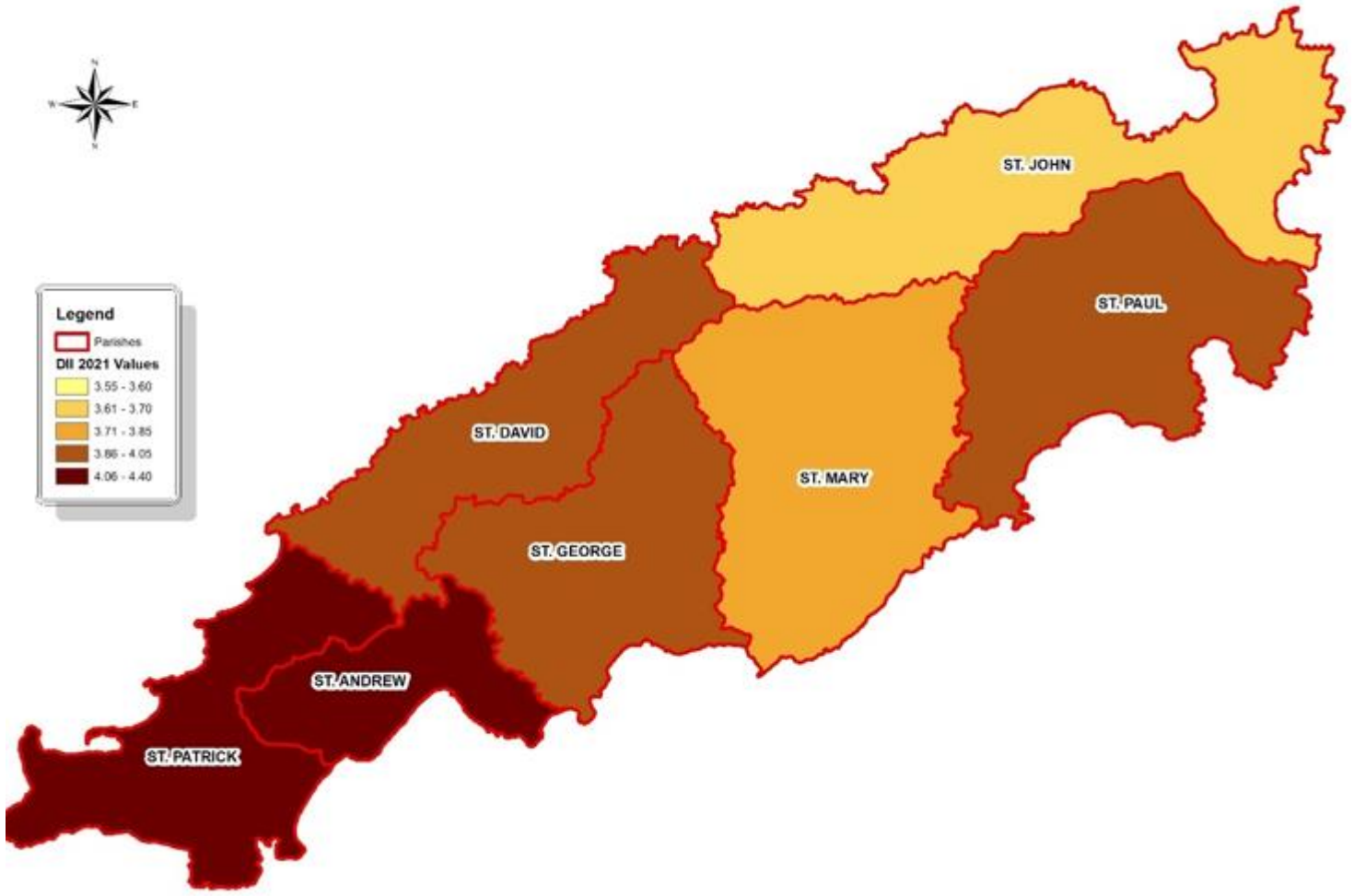
Findings – IDI (2013 and 2021)



Findings – Digital Inclusion Index by Municipality



Findings – Digital Inclusion Index by Parish



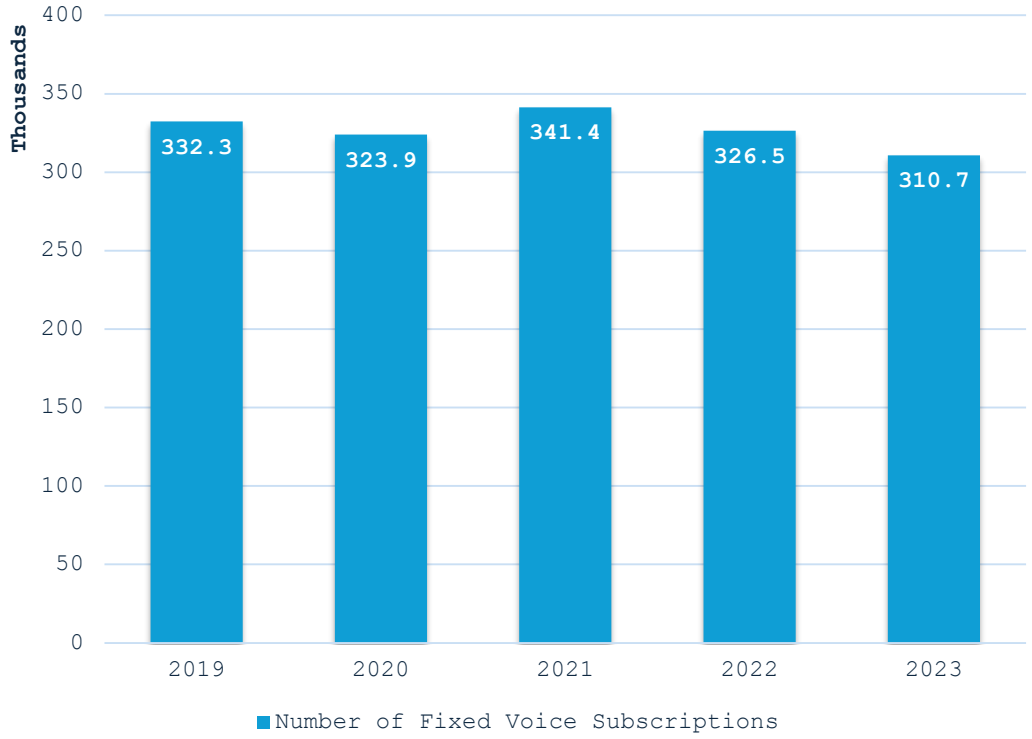
Statistics on T&T's Telecommunications and Broadcasting Markets

1. The Authority collects quarterly data from authorised service providers in the telecommunications and broadcasting markets

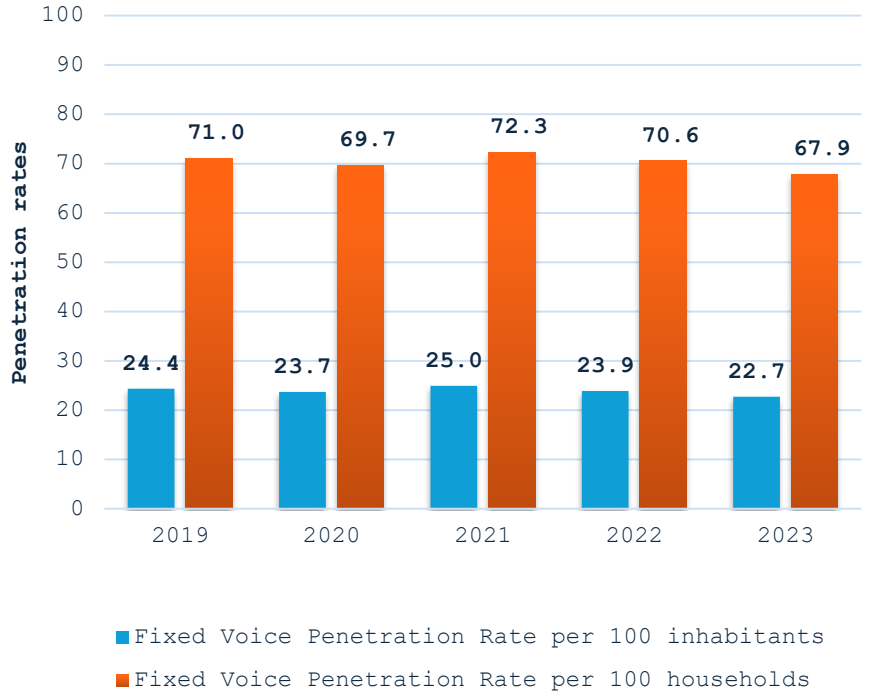
2. The collated data is published in:
   i. Annual Market Reports
   ii. Quarterly Market Updates
   https://tatt.org.tt/ReportsPrices/

Fixed Voice Market Statistics as at December 2023

Fixed Voice Subscriptions

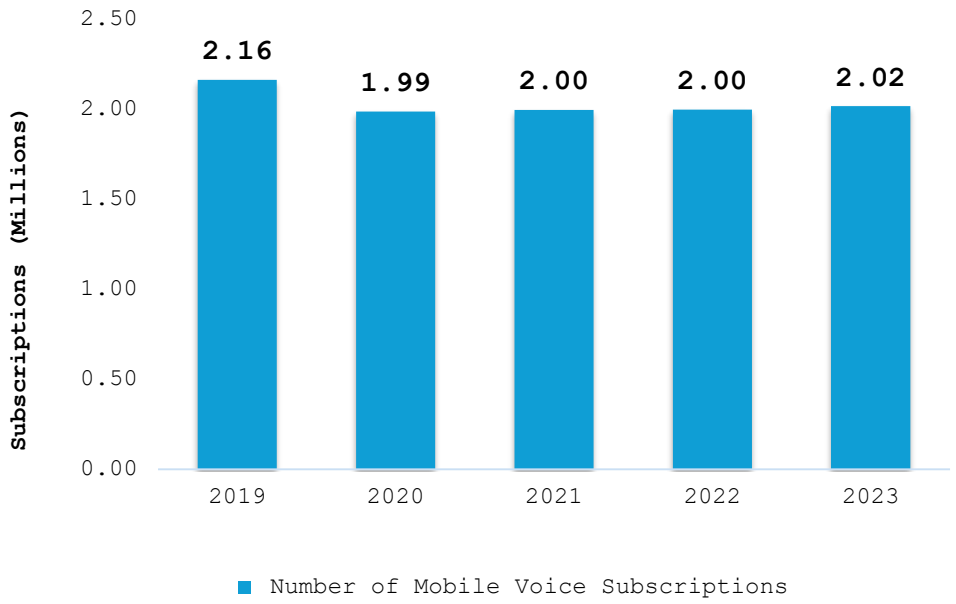


Fixed Voice Penetration

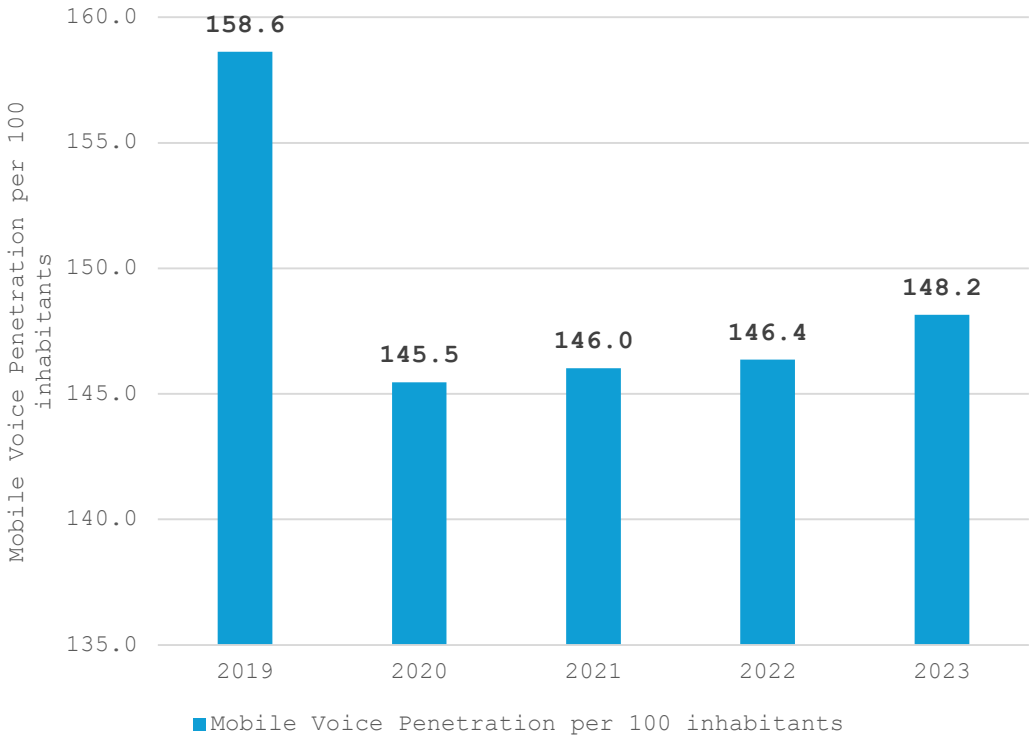


Mobile Voice Market Statistics as at December 2023

Mobile Voice Subscriptions

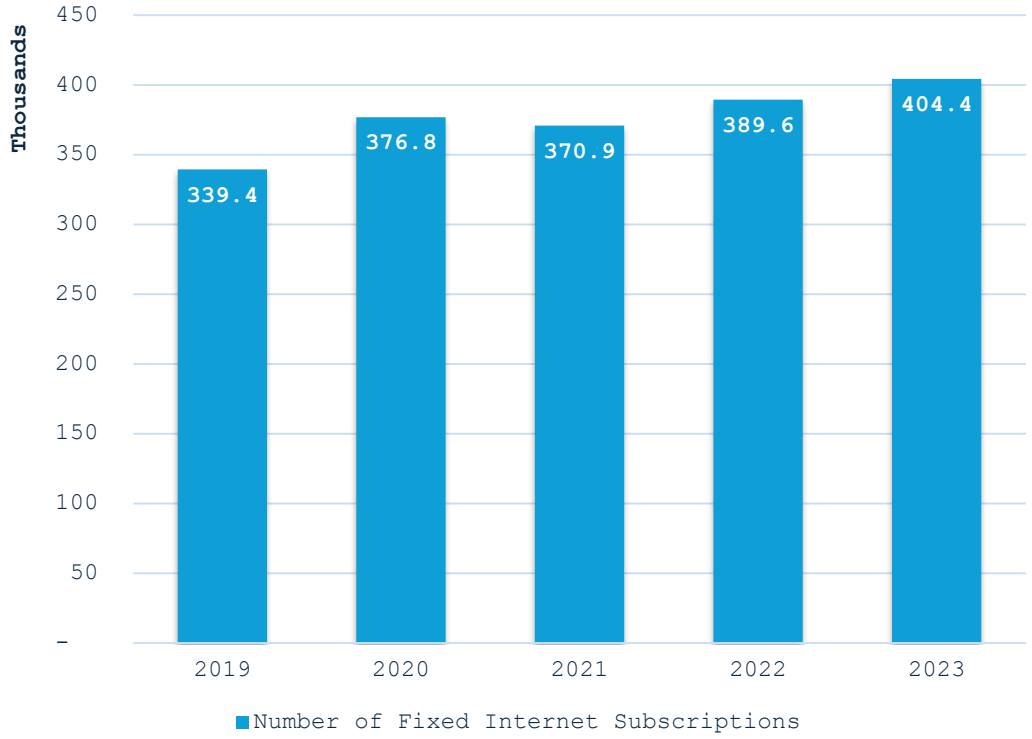


Mobile Voice Penetration

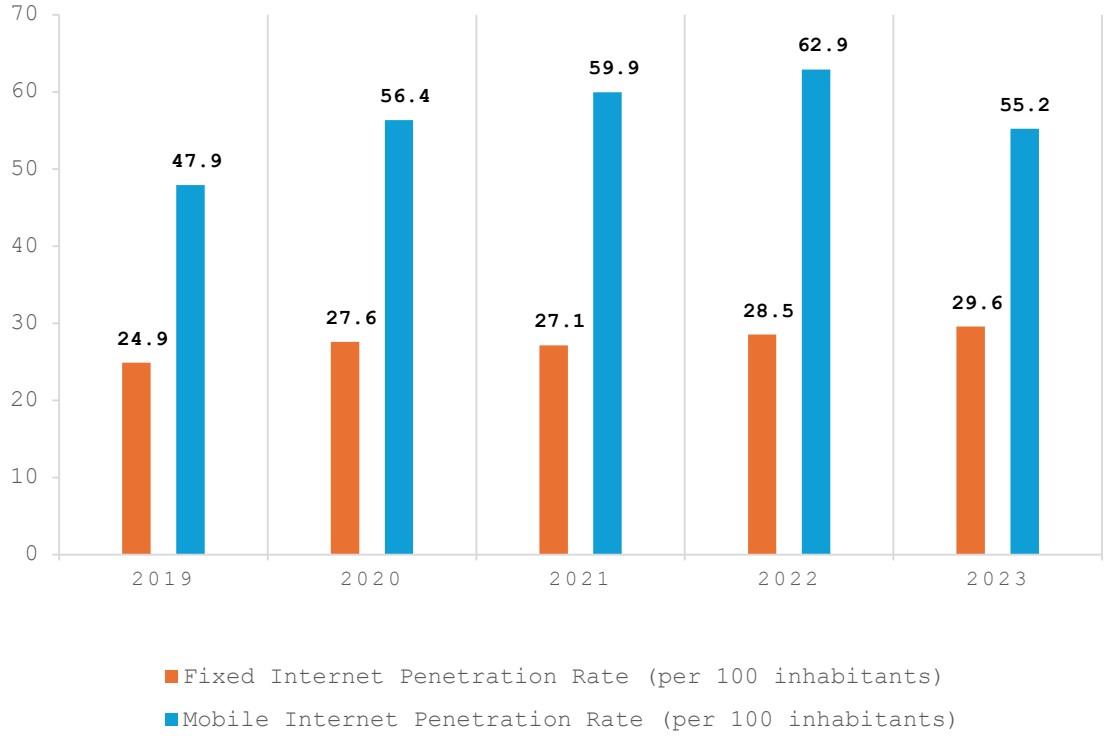


Fixed Internet Market Statistics as at December 2023

Fixed Internet Subscriptions

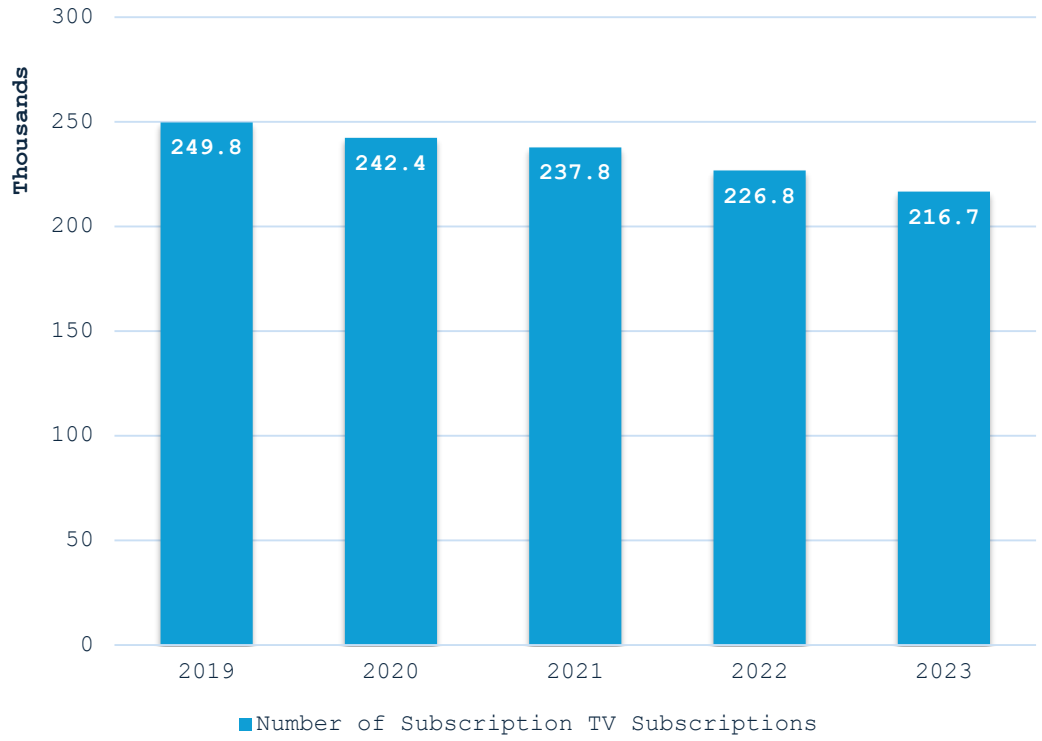


Fixed Internet Penetration

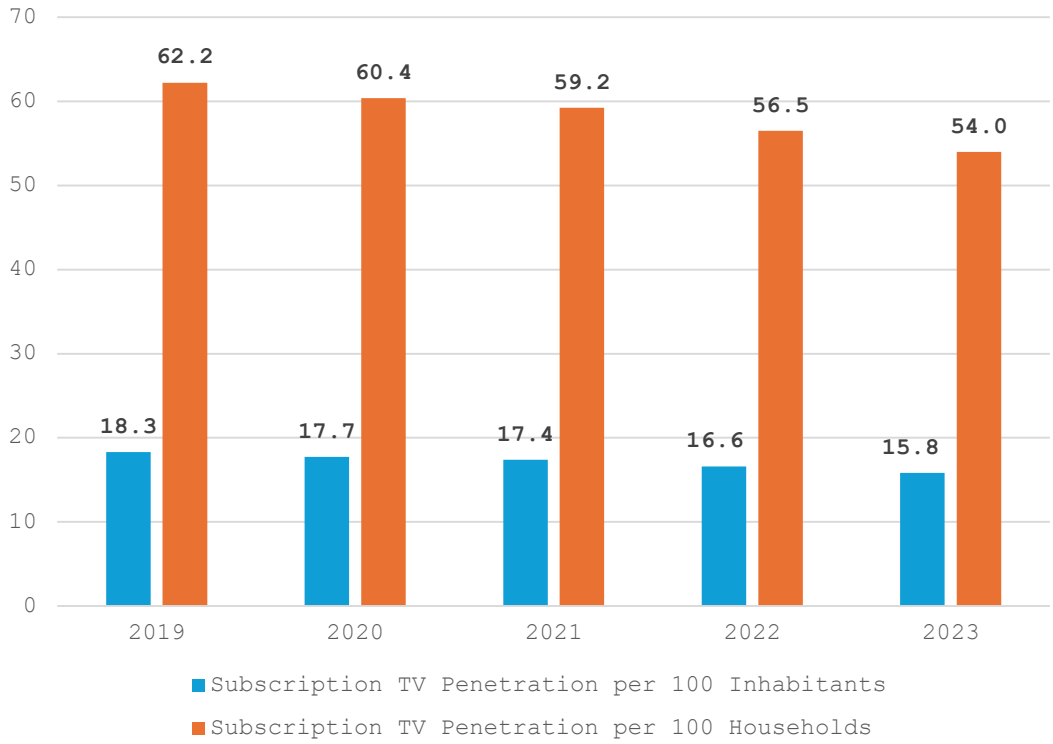


Subscription TV Market Statistics as at December 2023

Subscription TV Subscription



Subscription TV Penetration



TATT's Universal Initiatives to Connected the Unconnected

INITIATIVES TO CONNECT THE UNCONNECTED: TTWIFI

- Expand broadband connectivity to public areas lacking reliable high speed broadband service
- A GORTT initiative to allow the general public to access quality broadband Internet to be productive, whilst they wait for service at a public location.

TATT is responsible for the roll out of TTWiFi at:

- public libraries
- public transport hubs
- schools without connectivity
- public waiting areas in health institutions (hospitals, health centres)

Initiatives to Connect the Unconnected

Rollout of TTWiFi services to date:

	Transport Hubs	Libraries	Schools	Health Institutions	Total
Live/Completed	12	23	61	77	173

INITIATIVES TO CONNECT THE UNCONNECTED: PERSONS WITH DISABILITIES

This initiative seeks to promote digital inclusion for persons with disabilities in Trinidad and Tobago. It was launched in September 2020.

The goal of this initiative is to provide subsidised mobile phones containing assistive features to persons who are visually and/or hearing impaired or have a disability and in receipt of a disability assistance grant from the Ministry of Social Development and Family Services.

TATT provides a subsidy of TT$600.

1,400 PwD participants to date. Planned rollout to 22,000 PwDs within 2 years

INITIATIVES TO CONNECT THE UNCONNECTED: ICT DEVICES FOR STUDENTS

This initiative provides ICT-Enabled Devices and Internet Connectivity Access Service to students in Trinidad and Tobago

During the Covid-19 pandemic period, TATT in collaboration with the Ministry of Education, provided 10,000 ICT (tablets) devices and Internet connectivity to assist students who experienced challenges due to the online learning environment.

TATT collaborated with the Ministry of Education on this relay initiative.

INITIATIVES TO CONNECT THE UNCONNECTED: INCREASED BROADBAND CAPACITY

This initiative provided additional spectrum to mobile operators to increase their mobile data plans at no additional cost to subscribers

With the increased demand for broadband network capacity by the population during the Covid-19 pandemic period, TATT provided mobile operators with a temporary assignment of additional spectrum in the 850 MHz, 1900 MHz and Advanced Wireless Services (AWS) bands at no charge.

Post pandemic, mobile operators were afforded to keep the spectrum for an additional 3 years and also offered additional 700 MHz spectrum until 2025 for the full licence fee.

ICT Access Centres

1. Establishing public access technology centres in underserved communities to facilitate access to ICTs.

2. TATT is seeking to implement ICT access centres as part of the GORTT initiative throughout Trinidad and Tobago – L'Anse Noire, Roxborough, Lopinot, Moruga, Fifth Company.

3. The initiative is geared towards improving the existing modes of Internet access in targeted rural communities through access to the internet and ICT equipment via a community-centred facilities.

INITIATIVES TO CONNECT THE UNCONNECTED: INFRASTRUCTURE PROJECTS

This initiative targets municipalities and communities with limited access (lowest IDI access scores from DIS 2021) for the deployment of broadband infrastructure through contractual universal service initiatives.

The launched project deployed telecommunications access infrastructure to facilitate the provision of broadband Internet access service via a fibre-to-the-home network in the St. John's Parish, Tobago. The communities included are Parlatuvier, Bloody Bay and L'Anse Fourmi. Upon completion, residents were able to subscribe to affordable broadband Internet access service commonly available in well-served areas.

INITIATIVES TO CONNECT THE UNCONNECTED: DIGITAL SKILLS PROGRAMME

This initiative launches the Digital Skills Development Programme "WeLearnTT" aimed at bridging the digital divide and providing individuals with the requisite digital skills needed to secure employment.

The project collaborates with Microsoft platform and content providers to design a programme for 10,000 individuals' capacity to utilize the digital tools, platforms, products and services required to navigate the shift to online and remote work resulting from the Covid-19 pandemic.

TATT is collaborating with the GoRTT, Microsoft and ITU on this initiative.

INITIATIVES TO CONNECT THE UNCONNECTED: SCHOOL BANDWIDTH UPGRADE STUDY

To determine the interventions that might be needed to improve school connectivity, a pilot study will be conducted to examine (i) how the existing bandwidth capacity being delivered to schools is being utilised, and (ii) the potential impact of an upgrade in bandwidth to schools.

The project collaborates with Microsoft platform and content providers to design a programme for 10,000 individuals' capacity to utilize the digital tools, platforms, products and services required to navigate the shift to online and remote work resulting from the Covid-19 pandemic.

TATT is collaborating with the GoRTT, Microsoft and ITU on this initiative.

CONNECTING THE UNCONNECTED: HIGH-LEVEL RECOMMENDATIONS

1. Continued development and deployment of a modern, resilient and sustainable broadband telecommunications/ICT infrastructure, with focus on underserved areas at the community level.

2. Promotion of digital literacy and competence to ensure inclusive and trusted use and implementation of new and emerging technologies, applications and services, especially among vulnerable populations.

3. Enhancement of the digital transformation ecosystem through connectivity projects, promoting active engagement of service providers, industry partners and other relevant stakeholders

4. Contribute to the development of a modern and enabling policy and regulatory environment to connect the underserved through available, affordable and accessible ICTs that support the achievement of the SDGs, the ITU Connect 2030 agenda, and Trinidad and Tobago's Vision 2030.

More detailed recommendations are outlined within the report

School of Digital Transformation and Innovation in the Caribbean 2024

Thank You