



ANNUAL REPORT 2016



TRR

Telecommunication &
Radiocommunication
Regulator



VISION:
A COMMUNICATIONS ENVIRONMENT
THAT ENRICHES THE SOCIAL,
CULTURAL, CUSTOMS AND
COMMERCIAL FABRIC OF VANUATU



In accordance with section 11 of the Telecommunications and Radiocommunications Regulation Act No. 30 of 2009 (hereinafter referred to as “the Act”) the Regulator must provide the Minister with an Annual Report as follows:

11 Annual report

- (1) The Regulator must provide to the Minister an annual report including, but not limited to:
 - (a) a summary of the activities of the Regulator, and
 - (b) such financial statements and auditor’s reports as are required by this Act or other law; and
 - (c) a list of all entries and deletions to the Register in the preceding year; and
 - (d) a summary of material litigation involving the Regulator; and
 - (e) a list of consultants and advisors retained by the Regulator and a description of the matters in relation to which they have consulted or advised.
- (2) A contravention of subsection (1) is deemed to be a serious breach of duty by the Regulator.
- (3) The annual report provided to the Minister pursuant to subsection (1) must be made available to the public on the website.

This Annual Report for 2016 is provided to fulfil this obligation.

31 March 2017

Honourable Prime Minister
Honourable Charlot Salwai Tabimasmās,
Minister Responsible for Telecommunications/ICT
PMB 9057 Port Vila

Dear Honourable Prime Minister,

Re: Telecommunications and Radiocommunications Regulator (TRR) 2016 Annual Report

It gives me great pleasure to provide you, as Prime Minister and Minister responsible for Telecommunications/ICT, with TRR’s 2016 Annual Report; my second as its Regulator.

Under section 11 of the Telecommunications and Radiocommunications Regulation Act 2009 (the Act), TRR is obliged to provide an Annual Report, for each calendar year, to the Honourable Minister. The Report is to include, but is not limited to, a summary of the activities of TRR, audited financial statements including an auditor’s report, a list of entries and deletions in the Register in the preceding year, a summary of material litigation involving TRR, and a list of consultants and advisors retained by TRR. The attached report fulfils that objective and legal requirement on TRR.

Under section 7 (12) of the Act, ‘The Regulator must act independently and impartially in performing the responsibilities, functions, duties and powers set out in the said Act and other laws’ of Vanuatu. I wish to assure you, Prime Minister, that I have acted independently and impartially in performing my functions and am strongly of the view that the ongoing independence of TRR is critical for enabling a successful, sustainable and fully competitive telecommunications sector in Vanuatu.

This year we have continued to uphold and build on Vanuatu’s standing in the region as an exemplary regulator and I could not be more proud of my capable, new-look, TRR team.

The 2016 Annual Report provides detailed information of the activities TRR has engaged in and financial statement during the year. A soft copy of the Report is available from TRR’s website at: www.trr.vu for our stakeholders and interested parties/persons; particularly those who may not have received, or be able to have access to, a hard copy of the Report.

2016 has been both a challenging and fulfilling year for TRR; particularly given it was the first full year since I was appointed, by your Honourable self, as the first ni-Vanuatu Regulator in line with Government’s localization policy. TRR has (not surprisingly to TRR) experienced substantial external challenges, pressures and demands from its key stakeholders - such as the Licensed Operators, Consumers, Aid Donors, the Government, and others in this vital sector - in fulfilling its role of regulating and facilitating the development of telecommunications services.

2016 was also a year where TRR faced substantial internal pressures, challenges and demands given the majority of its current staff are essentially new to telecommunications regulatory functions. However, they have handled and addressed those pressures and challenges, and have performed at their best to deliver at the expected and required level, and have and achieve desired outcomes; so I thank them sincerely for that.

I am happy and proud to inform you that TRR has met and well managed all of the challenges we have faced, and we have a range of successes and achieved, significant outcomes and deliverables; – some of which were expected and others which were not. These are detailed in the attached Report.

A highlight was: the positive news for the Government and people of Vanuatu is that the 22 Computer Laboratory & Internet Community Centres (CLICC), the Tablet for Students (TFS) and Internet Community Sentas (ICS), including their communities who also have access to the internet services, are all up and operational. The exciting Government’s Universal access Policy (UAP) “Pay” or “Play” approach is also progressing extremely well. It is

important to note that in the main centres of all provinces in Vanuatu, there are 3G and 3G+ networks supplying broadband services, and there will be a total of 22 new 3G+ sites up and operational by 1 January 2018, TRR is pleased to report to you that 5 of these are now up and operational. Works are progressing well and by December 2017 all sites will be up and running. Given these sites are 3G+ they are ready for further upgrade (to LTE, etc,) whenever required.

Another highlight was in July 2016 which marked history for Vanuatu when a Telemedicine facility was launched in one of the remote communities in Vanuatu. TRR was delighted to have you and your delegation attended, and we thank you for making yourselves available to launch this exciting project. I am pleased to report to you that the project has proven to have saved a number of lives in that village during the last months of the year 2016.

I am pleased to inform you that the mobile penetration rate in Vanuatu is now 80.7%. This provides an estimation of the percentage of the population with a mobile phone subscription. This rate continues the steep penetration growth that largely commenced in 2013.

Industry has played its significant part towards this and we thank them for that; and for the continued support rendered to TRR by our stakeholders. Together we work co-operatively towards achieving the requirements of the objectives of the Government's telecommunications policies and the objective of the Act.

TRR continues to play its part and fulfil its role in ensuring appropriate legislative instruments are developed, licences are granted or revoked, and effective and appropriate monitoring of the industry occurs, to ensure a fair and competitive environment for our consumers is maintained.

TRR will continue to regularly keep you abreast of telecommunications market developments, and will provide you with its support in achievement of Government ICT objectives.

Yours Faithfully,



Dalsie Baniala
Telecommunications and Radiocommunications Regulator

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Message from the Regulator



This is TRR's 2016 Annual Report and my second as its Regulator. I am pleased to outline, in it, some of the challenges that TRR faced and, particularly, the multitude of activities that TRR undertook and successfully delivered on during the year 2016.

Under section 11 of the Telecommunications and Radiocommunications Regulation Act 2009 (the Act), TRR is obliged to provide an Annual Report for each calendar year to the Honourable Minister. The Report must include, but is not limited to, a summary of the activities of TRR, audited financial statements including an auditor's report, a list of entries and deletions in the Register in the preceding year, a summary of material litigation involving TRR, and a list of consultants and advisors retained by TRR. This report fulfils that objective and legal requirement on TRR for its work in 2016 and also transparently informs our many stakeholders of TRR's recent activities.

2016 has been both a challenging and fulfilling year for TRR; particularly given it was the first full year since I was appointed as the first ni-Vanuatu Regulator in line with Government's localization policy. TRR has, but not surprisingly to us, experienced substantial *external* challenges, pressures and demands from its key stakeholders - such as the Licensed Operators, Consumers, Aid Donors, the Government, and others in this vital sector in fulfilling its role of regulating and facilitating the development of telecommunications services.

2016 was also a year where TRR faced substantial *internal* pressures, challenges and demands; given the majority of its current staff are essentially new to telecommunications regulatory functions. However, they have successfully handled and addressed those pressures and challenges, and have performed at their best to deliver at the expected and required level to achieve desired outcomes; so I thank them sincerely for that.

A highlight was the positive news for the Government and people of Vanuatu that the 22 Computer Laboratory & Internet Community Centres (CLICC), the Tablet for Students (TFS) and Internet Community Sentas (ICS), including their communities who also have access to the internet services, are all up and operational. The exciting Government's Universal access Policy (UAP) "Pay" or "Play" approach is also progressing extremely well. It is important to note that in the main centres of all provinces in Vanuatu, there are currently 3G and 3G+ networks supplying broadband services, and there will be a total of 22 new 3G+ sites up and operational by 1 January 2018, TRR can report that 5 of these are now up and operational. Works are progressing well and by December 2017 all sites will be up and running. Given these sites are 3G+ they are ready for further upgrade (to LTE, etc.) whenever required.

It is also pleasing to see that Digicel, in January 2016 has begun offering customers, in and around Port Vila and in Luganville Central Business District (CBD), access to new high speed 4G/LTE mobile data services through their network. 4G services provide a significantly improved service offering for mobile customers, with faster data speeds. They are also a truly viable substitute, and competitive service offering, to existing home internet services such as fixed wireless or wired internet products.

Another highlight was in July 2016 which marked history for Vanuatu when a Telemedicine facility was launched in one of the remote communities in Vanuatu. TRR, along with the Honourable Minister and his delegation attended and launched this exciting project. This project has already proven to have saved a number of lives in that village during the last months of the year 2016.

On the 15th of March 2016, TRR partnered with Ministry of Trades and Health to celebrate and promote the international theme: "Antibiotic off the menu" to commemorate International Consumer Rights Day. Our main objective for this event was to promote the importance of consumer protection; given consumers are key drivers for the economy.

It is pleasing to see that this year we have also seen more promotional offers and new services offered by telecommunication service providers. Importantly, the price of internet services continues to reduce significantly; particularly with promotional offers.

I am very pleased to see that the mobile penetration rate in Vanuatu is now 80.7%. This provides an estimation of the percentage of the population with a mobile phone subscription. This rate continues the steep penetration growth that largely commenced in 2013.

Given that the quality of service consumers currently experience is still not at TRR's desired level, it is an area where TRR has focussed as a priority to deliver on. TRR is working closely with all operators so that the services they provide and offer are of an expected quality and one that consumers are satisfied with. Further work is required and TRR expects to conclude this exercise in 2017; in advance of the required (at least) 98% network coverage by 1 January, 2018.

Building on, and as a result of, TRR's release of its Final Determination and findings, as Order No 3 of 2016, related to the Wholesale International Internet Services Market and Speedcast's Complaint against Interchange, TRR was filed to Court by Interchange for Judicial Review. The case has yet to be heard. Another claim was also filed against TRR to Court in respect of the voluntarily self-termination by 10 ex TRR personnel in 2015. The hearing date for this has yet to be confirmed.

Despite the pressures and challenges on TRR in 2016, TRR continued to maintain a positive working relationship with its key stakeholders; including to achieve common goals such as the implementation of the UAP and UAP projects.

TRR put in considerable time and effort in 2016 in promoting the uptake and usage of telecommunications /ICT services as an enabler and tool to assist users in their daily operation and use of those services and technologies. However, a key concern raised during this promotional and awareness process was of the security of a consumers' personal information. Through our consumer protection and awareness activities, TRR is consulting with Internet Service providers and stakeholders on appropriate approaches to tackle the issue.

Another main consumer focussed activity that took place during the year was interview and live panel discussions and a talk back show program. Building on from that event, the TRR team continue to promote consumer rights and responsibilities across Vanuatu, to assist consumers to understand telecommunications services and promotional advertisements, as well as promoting safe internet use and child online protection programs.

Vanuatu, for the first time, now has an established legal and regulatory instrument to appropriately manage the state's resource .vu ccTLD. This is a resource that is scarce and must be appropriately and carefully administered. Although TVL is currently the "Registry" for this resource, consultations are underway to ensure the Registries and or Registrars are approved entities in accordance with the Act and market and competition

principles. 2016 marked the achievement of the project where the Regulation was officially gazetted.

Under section 7 (12) of the Act, *'The Regulator must act independently and impartially in performing the responsibilities, functions, duties and powers set out in the said Act and other laws'* of Vanuatu. I am strongly of the view that the ongoing independence of TRR is critical for enabling a successful, sustainable and fully competitive telecommunications sector in Vanuatu.

This year we have continued to uphold and build on Vanuatu's standing in the region as an exemplary regulator.

As we journey through the technology evolvement, for me as the TRR Regulator, I understand that it is very important to plan ahead on working strategies, including policies and or regulations, to cater for technological advancement. TRR will require enhanced regulatory understanding and awareness, particularly the sharing of practical experiences and a full understanding of ICT and the effects of social media; including Next Generation Network (NGN) drivers and their effects on competition and consumer needs. In doing so, I believe one has to take a balcony view, step back and ask questions on what can and needs to be done to address arising matters. That is by seeing beyond TRR's vision, seeing beyond TRR's blind spots, seeing for myself as the Regulator within those challenges and considering practical ideas and solutions, catering for all, in respect of the ever widening ICT applications. Hence, training and experience will play a vital, ongoing role for me and TRR staff.

I recognize and acknowledge the valuable contribution of TRR's staff and technical experts who have assisted TRR in its 2016 achievements and for TRR to be well placed to continue its role of being a firm and fair, independent regulatory body, recognised by peer Regulators in the Pacific region as benchmark.

We see 2017 as an important year leading towards TRR becoming a self-sustainable Office, in strengthening TRR and maintaining its vital independence, delivering on our work plan and continuing to facilitate and support a strong, sustainable and competitive industry that serves the people of Vanuatu, in the manner they deserve for the years ahead. Our efforts in and experience from 2016, provide a strong platform for us in meeting our objectives.

2016 Highlights

SUCCESSFUL COMPLETION OF UAP CLICC AND TFS COMMUNITY INTERNET SITES

The first phase of the UAP Computer Laboratory and Internet Community Centre (CLICC) and Tablet for Student (TFS) Program and Internet Café Senta (ICS), including their communities who also have access to the internet services, have been successfully completed. 19 schools and 3 internet Café's in the country were awarded the project, in which the successful implementation of the project ended towards end of 2016. All 22 schools and Internet Senta are now in operation. As of November, the overall total usage of internet bandwidth is more than 5 terabytes.

(Refer to page 32 for further detail)



Opening of Lambubu CLICC Centre in Malekula – students for the first time to experience what is being displayed on the computer screen)



JTEC technician installing the Camera

IMPLEMENTATION OF THE GOVERNMENT'S UNIVERSAL ACCESS POLICY

The exciting Government's Universal access Policy (UAP) "PAY" or "PLAY" approach is also progressing extremely well. It is important to note that in the main centres of all provinces in Vanuatu, there are currently 3G and 3G+ networks supplying broadband services, and there will be a total of 22 new 3G+ sites up and operational by 1 January 2018, TRR can report that 5 of these are now up and operational. Works are progressing well and by December 2017 all sites will be up and running. Given these sites are 3G+ they are ready for further upgrade (to LTE, etc.) whenever required.

APT-J3 Tanna Volcano Monitoring Project

TRR recently completed its project management for the installation of the Asia Pacific Telecommunity (APT)-J3 Volcano Monitoring network, established by the Japan Telecommunications and Engineering Consultancy Service (JTEC).

This network now provides for 2 cameras to monitor the activity of Mt Yasur on a 24 hour basis with the video transmitted back to the Vanuatu Meteorological and Geohazards Department (VMGD) in Port Vila.

With the project now operational, the VMDG has been receiving images from the Volcano activities in Mount Yasur Volcano. The Volcano monitoring equipment is now under the Vanuatu Meteorological and Department of Geohazard (VMDG) management.

Importantly in respect of UAP implementation, included into this network is internet connectivity to Whitesands Health Clinic, Laneula School, Whitegrass Meteo Office, Lenakel Hospital, Meteo at Isangel and Isangel Government offices. The connectivity provides internet to sites currently without, as well as a screen to show the images from the volcano monitoring cameras.

VANUATU GOVERNMENT COMMITMENT TO HOST GLOBAL SYMPOSIUM FOR REGULATORS (GSR) IN 2019

The Hon. Prime Minister, and Minister responsible for Telecommunications/ICT and his delegation attended and participated in the high level Ministerial Roundtable discussions at the International Telecommunications Union (ITU) World Telecommunications event held in Bangkok, Thailand, in November, 2016. During this ITU meeting, the Prime Minister and his delegation met with the ITU Secretary General, Mr. Houlin Zhao, and the Director for ITU Development Sector, Mr. Brahima Sanou. As a result of these discussions a greater understanding of Vanuatu's telecommunications and regulatory environment was obtained and, importantly, a commitment was given to the ITU for Vanuatu to host the GSR in 2019 (GSR19).



The Hon. Prime Minister, Minister responsible for Telecommunications/ICT presenting during the ITU Ministerial High Level Meeting in Bangkok, Thailand



COUNTRY CODE TOP LEVEL DOMAIN DOT VU (.VU CC TLD) REGULATION FINALIZED AND SUCCESSFULLY GAZETTED

Vanuatu, for the first time, now has an established legal and regulatory instrument to appropriately manage the state's resource .vu ccTLD. This is a resource that is scarce and must be

appropriately and carefully administered. Although TVL is currently the "Registry" for this resource, consultations are underway to ensure the Registries and or Registrars are approved entities in accordance with the Act and market and competition principles. 2016 marked the achievement of the project where the Regulation was officially gazetted. (Refer to page 45 for further detail).

INTERNATIONAL CONSUMER RIGHTS DAY – 15TH MARCH EACH YEAR – PROMOTES CONSUMER RIGHTS AND RESPONSIBILITIES

The 15th of March each year is commemorated throughout the World as International Consumer Rights Day. Vanuatu through TRR has, for some time now, been joining other countries in the World to celebrate this important day by promoting *Consumer Rights and Responsibilities* focusing on Telecommunications/ICT as an enabler to best use of telecommunications services.

The theme for 2016 was "Antibiotics off the menu". A series of activities including talkback shows leading up to the day where a live panel, discussions and interviews took place between the Ministry of Health, the Ministry of Trades and TRR. The main message passed to concern authorities, restaurants and takeaway vendors and citizens across the country concerned the welfare of general communities taking into consideration their eating habits and diets and the use of Telecommunications/ICT services to assist them to manage their diets. (Refer to page 29 for further detail).



TRR staff (Operations Coordinator) receiving certificate of partnership and appreciation from CIO, Mr. Fred Samuel

ITU WORLD TELECOMMUNICATIONS INFORMATION SOCIETY (WTSIS) / NATIONAL/PACIFIC ICT DAY

TRR continues to remain a supporting partner of the Government in the coordination and the celebration of the ITU's World ICT Day. The ITU's WTSIS/National/Pacific ICT Day 2016 was celebrated at the National Convention Centre in Port Vila for two days, 17th – 18th of May, with the theme; "ICT entrepreneurship for social impact".



ICT day 2016 provided the platform for delegates, technology providers, specialists, stakeholders and citizens to come together to share experiences, discuss the latest technology advances, address key issues and challenges, and explore new business opportunities within the telecommunications industry. The Honourable Prime Minister and Minister responsible for Telecommunications and ICT, Mr. Salwai Charlot Tabimasmas, in his opening remarks acknowledged and recognised the effort all participating stakeholders, including TRR, have contributed to in making the event a successful one. In recognition of the time and effort committed by TRR to this event, TRR was awarded a 'Certificate of Partnership' by Mr Fred Samuel, CIO of Office of the Government Chief Information Officer, on behalf of the Government. (Refer to page 28 for further details).

TRR'S SUPPORT FOR AND PROMOTION OF WOMEN AND GIRLS IN ICT PROGRAMS IN VANUATU

The last Thursday of the month of April each year is commemorated as the day where members of the ITU, at a national level undertake an activity to promote Women and Girls in ICT.

TRR with the support of the Committee for SMART SISTAS program arranged specific training for a group of girls, including the Mothers, who sell tourist products at the Port Vila Main Market. The launching for SMART SISTAS also took place that time. SMART SISTAS program is a training targeting to the selected SMART SISTAS from the age of 9 – 14 who have successfully met the criteria to be selected and attend this basic computer programming.

Also as part of the celebration of the National ICT Day, these 10 girls were selected from over 60 applicants for the SMART SISTAS ICT camp in May, 2016. 10 girls aged between 9 and 14 were provided with a one week basic training on use of computer and internet during the eve of ICT day. The girls were also able to meet with Mr Sameer Sharma, Senior Advisor, of the ITU. (Refer to page 53 for detail information).



SMART SISTAS with the Telecommunications Regulator during the launching of the Basic Computer Programming Training

TRR'S PARTICIPATION IN THE ALLIANCE FRANCAISE 2016 CAREER TALK DAY

TRR continues to make sure the users, particularly students of telecommunications/ICT services are fully aware of their protection, rights and responsibilities. For the 4th time, TRR, this year, participated in the Career Talk Day 2016 to promote to students potential telecommunications career paths; not only in Vanuatu but also in the Pacific region. A key focus was on telecommunications Regulatory career paths. It was an eye opener for many students who were unaware of TRR and its regulatory functions with students indicating a desire to pursue a career in a regulatory regime. The Career Talk Day was held at the Pacific Farea, Hotel Le Lagoon on the 18th and 19th of April, 2016.



Students listening to the TRR team presenting and assisting students to understand further what TRR role is all about and the opportunities they will get in the Regulatory functions

SECOND TRR REGULATORY INTERNET GOVERNANCE FORUM

On 20th October 2016 TRR organized its second Regulatory Internet Symposium at the Havanah Resort in Vanuatu. The Forum promoted the theme 'Embracing Internet Security' in line with the Vanuatu National Cyber Security Policy and the National ICT Policy where priority action plans have been placed on the OGCIO and TRR has a range of responsibilities. The objective of this Forum is to provide an avenue for the internet community to come together to discuss common issues and find ways on how to address internet matters such as online hacking of personal information and illegal transfer of money from one account to another.



OGCIO Officer presenting on the Government's platform on managing cybercrime in Vanuatu

A major outcome of Symposium was the establishment of a Vanuatu National Computer Emergency Response Team. The meeting agreed to have 12 stakeholder organizations form part of the Vanuatu Computer Emergency Response Team (CERT) Working Group; while the Vanuatu Government, through the OGCIO will take the lead role in the Working Group. TRR was also identified to be the key stakeholder for this working group. The prime focus of this Working Group is the setting up of national CERT body for Vanuatu. (Refer to page 50 for further detail).

ITU AND ICANN'S VISIT TO THE TRR OFFICE

TRR had the opportunity, this year, to learn from both the ITU and the Internet Corporation for Assigned Names and Numbers (ICANN) representatives in respect of how these two important international bodies function and give effect to and impact on development of telecommunications/ICT services; both globally and nationally. Mr. Savenaca Vocea, Regional Vice President-Australasia/Pacific Islands, from ICANN presented on Internet Protocols and Domain Names (IP addresses and Domain names) and TRR discussed its progress with the management of the country code Top Level Domain (ccTLD) .vu Regulation and transition processes that is taking place. Mr. Sameer Sharma, Senior Advisor to ITU outlined current ITU developments and its association to Vanuatu; particularly in terms of the development of the national ICT policies and other associated e-services that are linked to National ICT strategies and priority areas for implementation in Vanuatu. It has been a valuable session given, the presentations have contributed to the development of the draft regulation for .vu and drafting of TRR national projects for the coming years but more importantly learning on areas for improvement in TRR's performances.



Mr. Savenaca from ICANN presenting and Mr. Sharma with TRR and its staff

RELEASE OF TRR'S DETERMINATION AND FINDINGS RELATING TO THE WHOLESALE INTERNATIONAL INTERNET SERVICE MARKET AND SPEEDCAST COMPLAINT AGAINST INTERCHANGE LIMITED

TELECOMMUNICATIONS AND RADIOCOMMUNICATIONS REGULATION ACT NO. 30 OF 2009

- ORDER 3 OF 2016 - ORDERS RELATING TO THE WHOLESALE INTERNATIONAL INTERNET MARKET AND SPEEDCAST'S COMPLAINT AGAINST ICL NOTICE NO. 80 OF 2016

TRR released Determination and Findings relating to the wholesale international internet services market and Speedcast complaint against Interchange Limited. The findings led to actions where specific Exception Licensees were ordered to provide more required information to TRR. The findings have also led to the related Orders (orders 3, 4 and 5) released and ordered FCC and ICL to comply with mandatory Regulatory requirements required by the TRR. (Refer to page 43 & 44 for further details).

TRR'S INTERNATIONAL AND REGIONAL REGULATORY INTERVIEWS

During 2016, TRR was involved in several interviews, at different levels, on telecommunications/ICT development in Vanuatu; particularly focusing on Vanuatu's regulatory regime. Follow this link to one of her interviews <http://devpolicy.org/telecommunications-regulation-in-vanuatu-in-conversation-with-dalsie-baniala-20160809/>.

TRR was also chosen by the Hon. Prime Minister, Hon. Charlot S. Tabimamas to be one of the local executive's to be interviewed by the World Investment News for Harvard Business Review which, for the first time, the Pacific Region was part of this Magazine. The Harvard Business Review Magazine has over 600,000 subscribers around the world. It is anticipated that the outcome of this review and interview will be published in first quarter of the 2017 edition of the Magazine.

TRR has taken telecommunication regulation in Vanuatu to another level, and remains as the benchmark regulator in our Region. TRR recognizes and appreciates the support it gets from its Expert Advisors, the World Bank and the Government of Australia for some financial support and the Government of Vanuatu for the early recognition of the benefit of establishing an independent body to supervise telecommunications development in Vanuatu.

TRR'S WORKING RELATIONSHIP WITH REGIONAL AND INTERNATIONAL STAKEHOLDERS

TRR continues to maintain its positive and effective working relationship with its regional and international stakeholders, primarily as a member to these organizations including: the Pacific Institute Regulatory Resource Centre (PIRRC), the APT, the ITU the Pacific Islands Telecommunications Association (PITA), Asia Pacific Top Level Domain Association (apTLD), as well as having a positive working relationship with ICANN –Asia Pacific region (ICANN – Asia Pacific). TRR has also worked closely with the .NZ Domain Name Commission particularly on .Vu related matters. TRR also recognizes the work of the Pacific Islands Chapter of the Internet Society (PICISOC) and has been contributing to the body with views and perspectives on Internet activities in the Pacific region.



Vanuatu Regulator (Ms. Dalsie Baniala), the Secretary General for ITU (Mr. Houlin Zhao) and the Deputy Minister responsible for Telecommunications/ICT in Tonga – Hon. Siaosi Sovaleni at the Pacific Telecommunity Conference

About TRR

1.1 OUR ROLE AND FUNCTION

TRR has been operational since 2008. TRR is a statutory body operating independently from the Government and maintains its independence whilst reporting to the Minister responsible for telecommunications/ICT; currently the Hon. Prime Minister for the Country.

The Vanuatu Government through the Telecommunications and Radiocommunications Regulations Act No. 30 of 2009 (the Act) mandates the TRR and granted its general powers and functions to regulate the telecommunications and radiocommunications services in Vanuatu. The Regulator reports to and advises the Minister responsible for telecommunications/ICT on related policy matters and making of regulations; and any other matter as requested by the Minister.

TRR's core function is to ensure that the Act is implemented, facilitated and enforced. The Act also gives power to the Regulator to facilitate the development of the telecommunications sector and manage radio-frequency spectrum in order to promote national, social and economic development.

TRR has also undertaken mandates from the Council of Ministers (COM) decisions and or the Minister responsible for the telecommunications/ICT. In this respect TRR has been implementing the UAP and relevant responsibilities under the Government's National ICT Policy and its Cybercrime Policy which links with TRR's consumer protection activities.

While TRR is delivering on its core functions, responsibilities, duties and powers as set out in the Act and other laws of Vanuatu, it is critically essential for TRR to act independently and impartially. Its decisions and actions must be free of political influence to ensure that TRR's credibility, reliability, sustainability, integrity and effective ongoing positive working relationship with all its stakeholders is established and maintained. This also is highly important to TRR, in maintaining the recognition it has among its peers as the leading Regulator in the Pacific Region. TRR's wish is to build on that towards being an exemplar Regulator and to continue to hold its status of performance at that level.

Our Annual Work Plan and information on completed projects, ongoing and current projects, achievements and associated activities is also available from our website on www.trr.vu.

1.2 OUR VISION, MISSION AND VALUES

TRR's vision, mission and values are as follows:

VISION

A communications environment that enriches the social, cultural, customs and commercial fabric of Vanuatu.

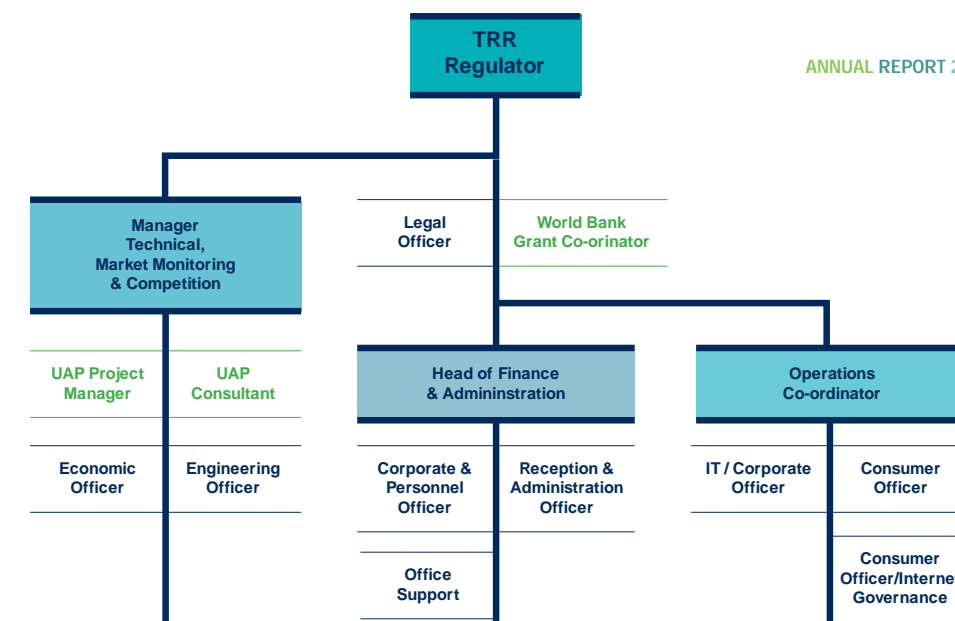
MISSION

To develop a competition led market for the provision of innovative information and communications services, available to all, which: **encourages** sustainable and economically efficient investment; **respects** the interests of consumers; **fosters** ecologically friendly initiatives; and **supports** the social, cultural, customs and commercial welfare of the Vanuatu.

To continue to build as an exemplar regulator within the region through thought leadership and to be the employer of choice by: **investing** in our people to develop a professional, passionate team; **transparency** and **fairness** in operations; and **adherence to quality assurance**.

VALUES

Inspiring	Our imagination, clarity of thought and clear leadership stimulates innovative thinking that meets the needs of tomorrow.
Commitment	Our drive and determination to achieve excellence, our discipline in the execution of our duties, our focus on the development of our team, and our sense of responsibility instil passion for the development of Vanuatu.
Respect	Our respect for each other is ensured by listening, collaborating and having consideration for each other, the public and licensees we work for, the rule of law, confidentiality, intellectual property, customs, environment, and future generations.
Balanced	Our evidence based approach to decision making and our adaptability ensure that we remain proportionate, consistent, fair and just.
Transparency	Our open and inclusive approach to regulation ensures that we are held responsible and our actions and decisions are understood.



1.3 OUR TEAM

TRR staffs were guided by TRR Team Norms and Pledges during their performance throughout the year. These Norms and Pledges are established by the team members at the beginning of the year.

TRR 2016 Team Norms:

1. We will respect all members of our team.
2. We will be trusting of others and loyal to our team.
3. We will be responsive in a timely manner.
4. We will have fun.
5. We will be open and honest about our own weaknesses and failures.
6. We will compromise and be open to other people's views.
7. We will be honest.
8. We will communicate clearly, concisely, accurately and on time.
9. We will be committed in our achievement of TRR's goals and objectives.

TRR Team Pledges:

We pledge to:

1. Be considerate and trust each other;
2. Be a committed and active team player;
3. Support our Leaders and each other in achieving outcomes;
4. Be loyal and respectful; and
5. Have open, honest dialogue.

As a team, TRR has done its best towards these Team Norms and Team Pledges and has delivered as reported on in this Annual Report.

1.4 TRR'S 2016 AND ONWARDS WORK PLAN AND PRIORITY DELIVERABLES

TRR develops an annual Work Plan. The TRR 2016 and Onwards Work Plan (see http://www.trr.vu/attachments/article/550/2016_and_onwards_workplan_final_revised_22_july_2016.pdf) sets out TRR's priorities and work focus for the year. For 2016, TRR had twenty three priority projects and twenty three other lower priorities that set the direction and guidance of our performance throughout the year.

Some of the key priority projects are ongoing projects which will be carried out in 2017.

Key activities for 2016 are reported below; see pages 28 to 55.

1.5 TRR'S KEY ACTIVITIES

a) The key projects identified for the year 2016 were:

Market & Competition

- Implementation of the Government's UAP undertaking with operators concerned.
- Implementation of the Government's ICT initiatives for schools under the CLICC and TFS programs.
- Implementation of the Government's ICT initiatives for community internet cafes.
- Monitoring and Evaluation of the Government's ICT initiatives for Schools under the CLICC and TFS Programs.
- Investigate and implement projects for the Health Sector under the UAP Policy.
- Conclude the review and determine relevant telecommunications markets; including wholesale services.
- Improving the affordability of internet access in accordance with the Government's UAP Initiatives.

Legal

- Harmonization of the TRR Telecommunications Act No. 30 of 2009 with relevant National Legislation and Rules.
- Support the Government in the development of a Cybercrime Act and its implementation.

Engineering and Technical Compliance

- Develop a Quality of Service (QoS) legal instrument.
- Develop a Quality of Service monitoring framework.
- Undertake a Mobile Network Signal and Internet Coverage Audit.
- Undertake a second Mobile Network Signal and Internet Coverage Audit.
- Develop and Implement a new Spectrum Fees Schedule.

Internet Governance

- Finalize and implement a .vu ccTLD Management and Administration Regulation.
- Develop Rules in conjunction with the implementation of a .vu ccTLD Management and Administration Regulation.

Consumer Affairs

Monitor the implementation and the effectiveness of TRR's consumer Protection Regulation:

- Build on the effectiveness of TRR's Community Consumer Champions program.
- Widen representation of TRR's regulatory Business and Consumer Advisory Groups (BAG and CAG).
- Conduct regulatory Telecommunications/ICT Consumer surveys.
- Establish National recognition and celebration of World Consumer Day, March 15.
- Support and promote Vanuatu's National ICT day Celebration, May 17, of the ITU's World Telecommunications and Information Society Day.
- Continue to increase consumer education and awareness.

These projects are in line with the enforcement of the TRR Act, the Government's UAP, its National ICT Policy and its Cybersecurity Policy.

1.6 TRAINING & CAPACITY BUILDING

TRR recognizes that training and capacity building is essential for it to develop a strong, experienced and committed team, able to face the ever-increasing pressures and challenges placed on the organization through telecommunications/ICT provision and take-up.

TRR's commitment to enhancing the capacity of all TRR staff remained a key focus and high priority in 2016; particularly given the majority of its current staff are essentially new to telecommunications regulatory functions.

This year saw a number of new TRR staff receiving training organised by various stakeholders. Some of the training is listed below.

TRR thanks the Government of Australia, through the World Bank, for funding a significant amount of this training, which is essential to enhance the capacity of TRR's staff towards its self-sustainability, upgrade their skills and competencies and, importantly, expose TRR staff to the wider regulatory environment to enhance their attributes and ability to deliver on assigned projects.

Secondment with the .NZ Domain Name Commission (DNC)

TRR's Internet Governance Officer had a short secondment with the .NZ Domain Name Commission (.nz DNC) in New Zealand. The attachment assisted TRR's understanding and finalization of its consultation on the .vu ccTLD Management and Administration Regulation. The objective of the training was to enhance the Officer's capacity on the development and review of the .vu regulation and its rules. A good working relationship has now been established between TRR .nz DNC, and the establishment of an MOU between the two parties to support and assist each other on specific regulatory internet related activities is being developed. The MOU is anticipated to be finalized and signed off in early 2017.

Consumer Protection Training and Secondments

TRR's Consumer Affairs Officer participated in consumer protection training in New Delhi, India. The training was an in-depth training of how current consumer issues are being addressed. Case Studies, such as a study in Pakistan where the Telecommunication Regulator is working in collaboration with the Banking Regulator to address banking fraud issue is being presented. Another Case Study from Sri Lanka outlined working in collaboration with the Police Department to address issues, such as Social Media challenges, and unidentified threatening calls. This training and experience has assisted TRR in undertaking a review of TRR Consumer Awareness Protection Plan. A short secondment program was also arranged with the Consumer Council of Fiji (CCoF). This provided the opportunity for TRR's Consumer officer to experience a broad range of consumer activities that the Council is undertaking. It also provided an avenue for the Officer to work alongside the CCoF's Alternative Dispute Resolution team, Champaign Information, and its Media and Research Analysis teams. The training has strengthened TRR's key officer's understanding and experience with regional consumer protection and awareness matters; all of which will assist TRR to address consumer issues that are brought to the TRR's attention for redress or for refining its consumer awareness programs.

ICT & IT Training

TRR's IT Officer attended training on Microsoft Exchange Server 2013. Given that TRR staff are all using Microsoft Exchange program, the training provided capacity building and experience to best utilize and manage TRR's exchange server.

A 2016 forum was held in Bangkok, Thailand, on Digital Societies Policy, at which TRR's IT Officer attended. Presentations included: Policies and Regulatory mechanisms around cyber security, digital financial services, technology trends, 5G developments, innovation and tech-start-ups. TRR's attendance has assisted in gaining a broad understanding of the current regulatory mechanism that will assist us to work out the appropriate mechanism(s) to cater for the ever-evolving digital society and social media applications, such as the Internet of Things (IoT) and appropriate frameworks to manage its evolution; given the impact it will have on the lives of the citizens of Vanuatu.

APT Meetings

TRR, as a member of the APT, participated in APT capacity building and training programs, conference and forums during 2016. The Regulator and two of its staff attended the important APT Policy and Regulation Forum for the Pacific which was held in the PNG. The forum brought together telecommunications and ICT policy makers and regulators from the Pacific region and provided a forum for dialogue on current regulatory issues faced by member countries. This year's forum focused on (1) policy and regulatory trends in the Pacific, (2) international connectivity for the Pacific, (3) Issues in reducing mobile roaming charges in the Pacific, (4) policy and regulation of Over the Top Services (OTT), (5) cybersecurity and internet policy issues, (6) emergency communications and ICT for disaster risk reduction, (7) regional cooperation and shared infrastructure in the Pacific, and (8) a business dialogue on the competitiveness of the telecommunications market in the Pacific. This was a high-level meeting from which TRR Officers have gained significant experienced and understanding and has assisted them to broaden their knowledge on areas that are related to their functions and role at the TRR.

At the forum the Regulator was involved in chairing a session on regional cooperation and shared infrastructure in the Pacific Islands. It was also broadened the exposure and experience of the Regulator at an international/ regional level.



International Training Programs on Telecommunications Regulations and Strategy at the Public Utilities Regulatory Centre (PURC)

TRR staff attended international training with the PURC directly relevant to and to suiting TRR's regulatory understanding and needs.

The Market Monitoring, Competition and Economic Officer attended training on International Training Program on Utility Regulation and Strategy.

The training broadened his cost analysis knowledge with a focus on interconnection frameworks and approaches, the analysis of financial accounts of licenced operators, cost accounting frameworks and methods to determine the weighted average cost of capital (WACC), and how important this is to drive investments into the country.

The Regulator attended training on "Advance Topics in Telecom Policy and Regulations. The training enhanced her regulatory understanding, particularly sharing of practical experiences. A key focus was on Next Generation Network (NGN) Drivers and Competition in the Advance Networks

Telecommunications Law and Regulation

The TRR Legal Officer attended training on Telecommunications Law and Regulation in London, England, hosted by the London Training for Excellence. The training covered telecommunications law and regulations, and has enhanced and built on her legal skills and understanding of telecommunications law and regulations related market competitions.

Spectrum Management and Monitoring training

The Engineering Officer and the Market Monitoring, Competition and Technical Manager attended the training on Spectrum Management and Monitoring in Chengdu, China. The training focused on problem solving techniques to spectrum management and monitoring holdbacks, interference and type approval; covering radio equipment, regulatory certification and radio transmission testing. The training was beneficial because it provided an understanding of options and different techniques in respect of spectrum management and monitoring issues; including supporting material from the ITU. An outcome of the training is adaptability and flexibility for TRR in the process of updating its National Frequency Allocation Table and General User Radio Licence. TRR is now also in the process of purchasing ITU spectrum software -called the SMS4DC - an important tool that will be used to manage the Spectrum for Vanuatu.

Training on Advances in Office Administration and Advance Executive Assistant/PA's, including Protocol and Diplomacy

The Head of Administration and Finance Officer and the Administrative Assistant/Personal Assistant, attended training on Advances in Office Administration and Advance Executive Assistant/PA's, including Protocol and Diplomacy in Sydney, Australia. The training focused on Stress and Emotional Intelligence, Building Human Relations, Handling of Confidential Information, Planning and Scheduling, Project Management, Protocol, Public Relations, Problem Solving and Decision Making, Risk Management, Organisational Structure and Working in an Executive Office. The training enhanced their understanding of Office management and their performance skills well placing them to deliver quality outcomes, whilst facing and coping with greater responsibilities and organisational challenges, whilst maintaining TRR's integrity, transparency and effectiveness.

On the job training and Regulatory internship program within TRR

TRR holds a program of hosting intern students and secondment activities. The internship program is an annual activity where a law students for the University of the South Pacific was offered a placement in TRR to learn and gain experience of the work and functions the TRR and its staff are performing. Mr. Jonathan Auga from the Solomon Islands was offered that training opportunity, once a week. He was trained in the functions of technical, consumer protection, legal, internet governance, and market competition and monitoring in the telecommunications/ICT industry.

In 2016, TRR also hosted Mrs. Neiran Areta, Regulatory Manager of the Communications Commission of Kiribati, from 11 to 29 July 2016. This exercise has proven valuable to TRR and Ms Areta for experience exchange, relationship building and an understanding of telecommunications regulation in both countries; particularly now that the Communications Commissions of Kiribati is advancing its Telecommunications Regulatory functions work.

World Bank

Financial Support and Donor Funds through the Government of Australian

2.1 WORLD BANK TECHNICAL ASSISTANCE TO THE TRR INSTITUTION AND STAFF

World Bank and Donor funds through Australian Government Partnerships greatly assist TRR in undertaking its regulatory functions. Importantly, they also provide enhancement, expansion, and strong support to and promotion of telecommunications development in Vanuatu.

Without the financial Support of the World Bank (WB) Grant and Aid donor funds from the Australian Government (through DFAT/Australian Aid), the current regulatory regime for Vanuatu would not have come this far in terms of the level of its performance and recognition by stakeholders in Vanuatu and across the region. This vital support has also led to expanded roll out of telecommunications networks and services into unserved and underserved areas.

TRR continues to maintain its financial review rating as “Satisfactory” – this is the best possible rating by the WB - and continues to maintain its status as the leading telecommunications/ICT Regulator in the Pacific region. This has been led by TRR’s enforcement and application of good governance practices within TRR’s operations and the application of a fair, but firm, level-playing field regulatory regime for the industry.

The Vanuatu Government through the TRR thanks the World Bank for granting the extension of the current grant until June 2017. The objective of the extension was to provide continued assistance and support through Technical Advisors to the recently appointed (late 2015) and first ni-Vanuatu Regulator, as well as providing ongoing support to TRR staff; many of whom employed in the final quarter of 2015; gaining experience and undertaking telecommunications Regulatory functions for the first time.

There is no doubt that the Government of Vanuatu and the Office of the Telecommunications Regulator has benefited greatly from this Grant extension.

The World Bank Grant funding concept has the objective of facilitating the transfer of legal, regulatory and technical expertise to support the establishment of fully-functional oversight institution for Telecommunications/ICT in Vanuatu. It is anticipated that by end of the Grant TRR will be able to be financially self-sustainable.

TRR regularly reports to the World Bank on the activities it has undertaken throughout the year, as well having as bi-annual face-to-face meetings with the World Bank.

With the assistance of the World Bank Grant, TRR has moved closer to developing the required experience, necessary and required regulatory tools and skills towards becoming experienced, self-motivating and financially self-sustainable Authority.

2.2 AUSTRALIAN AID FUNDS THROUGH GOVERNANCE FOR GROWTH PROGRAM

TRR recognizes and is appreciative of the continuation of the strong partnership TRR has with Australia’s Governance for Growth (GfG Team); particularly in the rolling out of UAP programs and the administration of the UAP Fund for which Australia has made a significant donation to.

The Government of Australia continued its support by facilitating the provision of UAP funds in order that services are rolled out to under-served and un-served areas under the Government’s UAP requirements.

UAP funding, the World Bank Grant funding and budget from TRR are instrumental in ensuring that communities gain access to good telecommunications services, while enhancing the regulatory and service capacity of both TRR and the Office of Government Chief Information Officer (OGCIO).

TRR acknowledges this partnership with the Government through the OGCI, the World Bank and the GfG program, and appreciates their support and confidence in TRR in administering this Grant.

TRR provides regular reports to the Government and the GfG as well as having regular face-to-face meetings with the GfG.

The Grant Review Committee (GRC) is a committee made up of the GfG, the Office of the Prime Minister through the OGCI, the Ministry of Education (MOE) and the TRR. The GRC meets once a month to discuss and deliberate on UAP issues, make decisions and be updated on the progress of the implementation of the Government’s UAP and UAP related projects that TRR has been implementing. It is also the avenue where TRR presents its budget proposal in order to obtain approval before UAP funds are utilized.

2016 has been an outstanding year for the Government and TRR in UAP implementation in that all Computer Labs and Internet Community Centres became operational. Australian funds and arrangements made for supervision of the utilization of the funds are managed through the GRC. It is anticipated that by June 2017, all funds for this purpose will be utilized.

TRR's Effective Working Relationship with the Government

3.1 GENERAL SUPPORT AND UPDATE REPORTING

TRR has continued to maintain its collaborative and effective working approach and relationship with the Government, its Ministries and Departments and the OGCI, providing technical advice and guidance on regulatory and policy issues. Importantly, however, TRR continues to work independently of these entities and makes its own, independent decisions.

In 2016, TRR has contributed and participated in a number of specific Government events. TRR recognises the importance of working in close collaboration with key Government stakeholders to achieve common goals and deliver required outcomes. TRR was invited to a number of meetings organised by respective Ministries and Departments; including TRR making a presentation to the Parliament on the status of UAP at the Parliamentary Chamber. Meetings were also held with the Ministry of Education, the Ministry of Agriculture, the Ministry of Health, and others, which are linked to the implementation of the UAP project.

3.2 NATIONAL TRADE DEVELOPMENT COMMITTEE

TRR continues to attend the Government's National Trade Development Committee (NTDC) meetings, with the objective of constructively contributing to the development of market competition in Vanuatu. As an outcome of its participation in these meetings, TRR was appointed as a member of the Advisory Committee to the NTDC. The Advisory Committee's focus is to provide guidance and appropriate advice on general market competition and consumer rights activities. TRR welcomes being part of that Committee and will continue to support such developments to facilitate appropriate market competition across all sectors in Vanuatu.

3.3 NATIONAL INFORMATION COMMUNICATIONS TECHNOLOGY (ICT) DEVELOPMENT COMMITTEE

The Government's National ICT Policy outlines the priority areas for specific stakeholder to address. TRR has been assigned significant number of Priority areas to deliver on. Such activities include: Access to ICTs in Education, Access to ICT Infrastructure and Devices, Integration of ICTs into Sectorial Policies, Building Trust (Mitigating Risks and Threats) related to ICT Development, Local Relevant Content, Capacity Building, Platform for Multi-stakeholders Coordination, Collaboration and Operationalizing Policy Implementation. TRR has responsibility for some Priority areas. Further, whilst the responsibility for the majority of these priority areas lie with respective Government Ministries and Departments, TRR has been tasked with providing support to many assigned deliverables.

TRR and its team have committed their time and support to each required and specific deliverable expected from the Government in line with the National ICT Policy.

3.4 CONSUMER RIGHTS DAY – 15 MARCH EACH YEAR

Consumer Rights Day is a key event that TRR taps into in order to promote Consumer Rights and Responsibilities in the Digital World.

The 15th of March each year is commemorated throughout the World as International Consumer Rights Day. Vanuatu through TRR has, for some time now, been joining other countries in the World to celebrate this important day by promoting Consumer Rights and Responsibilities focusing on Telecommunications/ICT as an enabler to best use of telecommunications services.

The theme for 2016 was "Antibiotics off the menu". In partnership with the Ministry of Trade and the Ministry of Health, the Consumer Rights Day was commemorated on 15 March 2016 through arranged activities including a talk Back show program for a number of days, and live Panel discussions between the three partners that day. The live panel discussion focussed on each parties involvement in communities, based their experience and real life issues that have contributed to affect or have negatively impacted the health of the people of Vanuatu; including as a result of excessive use of antibiotics or incorrectly using the antibiotics supplied.

The aim of that exercise was to inform and reach out to all stakeholders that consumers are important stakeholders and that they have the right to be protected and have their voices heard and their issues considered.

TRR saw the event as a mechanism to promote the use of telecommunications/ICT devices as an enabler and to contribute to the "Antibiotic off the menu" theme.

We recognize that more needs to be done towards such an event, but are pleased to observe that the message has been passed to participating consumers on the importance of their "Rights and Responsibilities" in their daily activities. TRR wishes to thank the Ministry of Health and Ministry for Trades for committing to such partnership arrangements which has provided guidance towards the next level of commitment to the importance of Consumer Protection and Awareness for the nation.

3.5 PROGRESS OF AND REPORT ON UNIVERSAL ACCESS POLICY (UAP) IMPLEMENTATION TO THE GOVERNMENT

TRR continues to deliver on its UAP implementation. Progress and update reports are provided to the Minister responsible for Telecommunications/ICT, twice annually. The latest update report provided in 2016 was the 6th of the past reports provided and highlighted the significant progress that was been made during the year in respect of the UAP implementation; in particular, the completion of all CLICC and TFS sites under the community grant programs.. The reports to the Hon. Minister responsible for Telecommunications/ICT are in confidence to the Minister only, however, TRR develops public UAP Update reports which are available on TRR's website. (Refer to page 32 for detail).

3.6 LAUNCHING OF THE MAEWO PILOT TELEMEDICINE CENTRE

TRR, through its UAP team efforts and time on the implementation of the UAP, technically contributed to and supported the establishment of the Maevo Telemedicine project; through a formal request to TRR to technically assist to deliver on this pilot project from the Ministry concerned. The support provided by TRR team was appreciated, and by working closely with the Chief Information Officer of the OGCI, TRR was able to deliver with an on-time deadline. The Pilot project is now up and operational.

The inaugural opening of this first telemedicine system in Vanuatu was conducted by the Prime Minister and

Minister responsible for Telecommunications and ICT, Hon. Charlot Salwai Tabimasmass, at the village of Naviso on the Island of Maewo. TRR assisted in this ceremony.

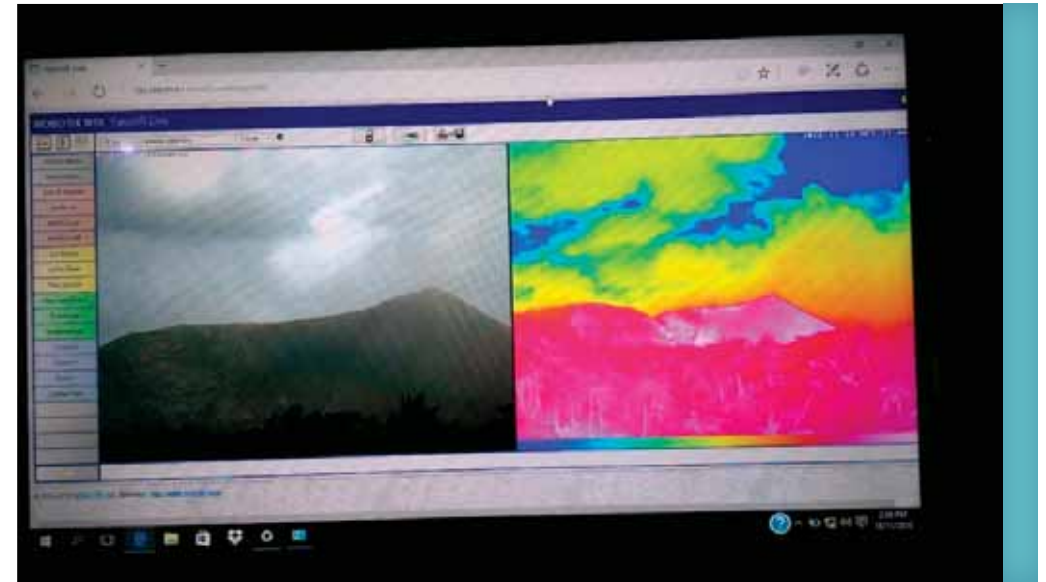
With the remoteness of the Naviso community, people of that village had to carry sick patients on stretchers - made of copra sacks - up a steep, 500 metres hill, and across the island to get medical help at Kerebei Health Centre on the west of the Island. Now with the Telemedicine facility operational, both Naviso and Kerebei have access to Doctors in Luganville and Port Vila.

The Prime Minister's delegation to the opening of the facility included the Minister of Health Hon. Toara Daniel, DG for Health, Mr. George Taleo, the CIO of OGCI, Mr. Gerard Metsan, and the Telecommunication and Radiocommunication Regulator, Ms. Dalsie Baniala.

The project will be monitored and evaluated by respective organisations to confirm whether the model is considered suitable for replication in other parts of Vanuatu.



3.7 APT-J3 TANNA VOLCANO MONITORING PROJECT AND SUPPLY OF INTERNET ACCESS



Linking to the implementation of UAP projects and as supplementation to the roll out of CLICC centers, TRR recently completed the project management of the installation of the APT-J3 Volcano Monitoring network, established by the Japan Telecommunications and Engineering Consultancy Service (JTEC). This network provides for 2 cameras to monitor the activity of Mt Yasur on a 24 hour basis with the video transmitted back to the Vanuatu Meteorological and Geohazards Department (VMGD) in Port Vila. The Volcano monitoring equipment is now under the VMDG management.

Importantly in respect of UAP implementation, included into this network is internet connectivity to Whitesands Health Clinic, Laneula School, Whitegrass Meteo Office, Lenakel Hospital, Meteo at Isangel and Isangel Government offices. The connectivity will provide internet to sites currently without, as well as a screen to show the images from the volcano monitoring cameras.

3.8 TRR'S MEETING WITH MEMBERS OF THE PARLIAMENT

On the 3rd of December, 2016, TRR with the support of the OGCI met with 14 Members of Parliament (MPs). The MPs represented their respective constituency where a UAP site is located; particularly those sites where there is an undertaking agreement with the Operators. As an outcome of the meeting, the MPs have given their support to TRR to ensure that the UAP sites in their respective constituency are completed successfully and will assist in confirming verification of and the impact on the 98% total population coverage.

Universal Access to Serve the Unserved and Underserved Communities of Vanuatu

4.1 GENERAL

TRR continued to actively manage and deliver on the implementation of the Government's UAP; particularly under the Pay or Play approach and the CLICC and TFS programs. TRR develops and provides regular update reporting on UAP implementation progress.

TRR provided its Fifth and Sixth update Reports to the Government through the Minister responsible for Telecommunications, during 2016, highlighting the significant progress that was made during the year in respect of the UAP implementation; in particular, the completion of all CLICC and TFS sites under the community grant programs. The final Internet Cafe Senta (ICS) on Ambrym has been completed with internet services installed and there are now three such sites in operation across Vanuatu.

Although the reports to Minister are in confidence to the Government only, TRR develops a six-monthly public UAP Update report that is distributed to key stakeholders and is made available on the TRR's website.

The reports outline the significant milestones that have occurred and enabled TRR and the Government to make some very important progressive steps towards meeting the UAP objectives. Key outcomes include:

- Continued progression of the UAP Undertaking of new sites by the industry players with 5 of 5 sites expected to be operational by January 2017.
- Continued monitoring and evaluation of the UAP Undertakings program.
- Completion of rollout of all TRR responsible CLICC sites.
- Completion of rollout of alternative service delivery mechanisms (High Throughput Satellite supplied by Kacific Broadband Satellites) for remote and difficult locations.
- Development and submission of a grant request for monitoring and evaluation of the CLICC and TFS programs from a pedagogy, curriculum and community development perspective.
- Completion of the APT J3 project on Tanna.
- Initiation of coverage modelling both predictive and physical to confirm coverage obligations under the UAP undertaking agreements.
- Assistance to various Ministries such as the Ministry of Education, Health, Agriculture, and NDMO providing expert advice and support to enable more effective use of the CLICC.

These are significant milestones of the multitude of steps required in the development and implementation of the UAP and the facilitation of ICT across Vanuatu towards its full implementation.

4.2 UAP TELECOMMUNICATION SERVICE UNDERTAKINGS (PLAY OR PAY APPROACH)

TRR acknowledges the commitment and dedication of all Players through their UAP Undertaking Agreements (Undertakings) towards upgrading all existing sites to at least 3G+ and extending their services to the people of Vanuatu to meet the Government's UAP directive of at least 98% population coverage by 1 January 2018. TRR and the Government see this as a clear indication of the Player's support and commitment towards the Government's UAP and its implementation. The rollout of UAP is gaining considerable momentum now, and it complements the UAP's ICT school programs that were implemented, and have now been completed, in parallel with the Player's Undertakings.

With the Undertakings now well in force, TRR is regularly undertaking a monitoring and evaluation (M&E) activity. The M&E activity is essential to ensure that the signed Undertakings agreed to by the Players are delivered in accordance with their schedule, and that they are fully achieved.

TRR has the power and ability to apply penalties to the Players under the Undertakings if the obligations agreed to are not met; in all respects. Players have commenced, and are continuing, the rollout of their obligations under their Undertakings, with milestone being completed and 5 of the 25 new sites are now up and operational.

The prime UAP requirement is to ensure provision of coverage for voice, narrowband and broadband to 98% of the population of Vanuatu. In order to confirm that this coverage obligation has been met, TRR must measure the coverage in an industry standard scientific basis using appropriate infrastructure information supplied by the Players, using recognized industry software modelling tools, undertaking physical coverage analysis, considering population data provided by the Vanuatu National Statistics Office and updated geographical information from Department of Lands. The analysis includes the UAP Undertakings, the now completed UAP CLICC programs, the ITU Emergency center project and the now completed APT-J3 Tanna project.

The current hypothesis from the modelling is that the UAP objective will be able to be fully met and is highly likely to be exceeded.

By end of 2016, there were five sites out of twenty-two were up and operational. All headquarters of the six provinces were covered with a (at least) 3G network. From Efate to the Tafea province is now covered with broadband services supplied by TVL.

4.3 UAP SCHOOL AND COMMUNITY PROGRAMS

During 2016 significant progress was been made to complete of all activities associated with these programs. The CLICC program was completed, with service provision of internet for remote schools completed and implementation by our partner Agence Universitaire Francophonie (AuF) substantially complete. The TFS program which slowed, somewhat, due to technical issues and has now been completed with all schools receiving their complement of tablets. The ICS program was completed with the final site in Ambae receiving internet connectivity and now providing commercial services to the community.

Monitoring of the data volume has been ongoing since the implementation of the CLICC sites, and is shown in Figure 1 below:

4.4 COMPUTER LABORATORIES AND INTERNET COMMUNITY CENTRES (CLICC)

The CLICC centres are a significant part of the UAP program with 15 schools, being provided with computer labs, for general educational purposes and for use by the community during and after school hours. The primary objective of the CLICC sites is to increase the knowledge and use of ICT within the school environment, integrate ICT into the curriculum and utilize educational materials for learning. The infrastructure has also facilitated the use of the OpenVMIS school and student management application. Additionally, the CLICC sites are open to the general community for their use to again increase and improve knowledge of ICT, increase the development of local content and provide a central hub for the delivery of e-Government services, such as health and agriculture, into the future.

The CLICC sites have been well received by the student body and the community in general. Teachers have quickly integrated the CLICC into the school curriculum, at appropriate levels according to the age of the students involved. The level of demand and desire of the student body to engage and use the CLICC has been exceptional with, in some cases, students moving quickly to the CLICC room or asking teachers if they can access the room. Likewise, the interest and engagement of the community has seen many people come to the CLICC site and start to use the infrastructure. The current take away is that there is a need for basic ICT skills training on the use of computers, application training on word, excel and the like. Lastly basic skills for using the internet are required in order to ensure safe use as well as inclusion in the digital society.



Computer Lab at the Loukutai Secondary School in Tanna

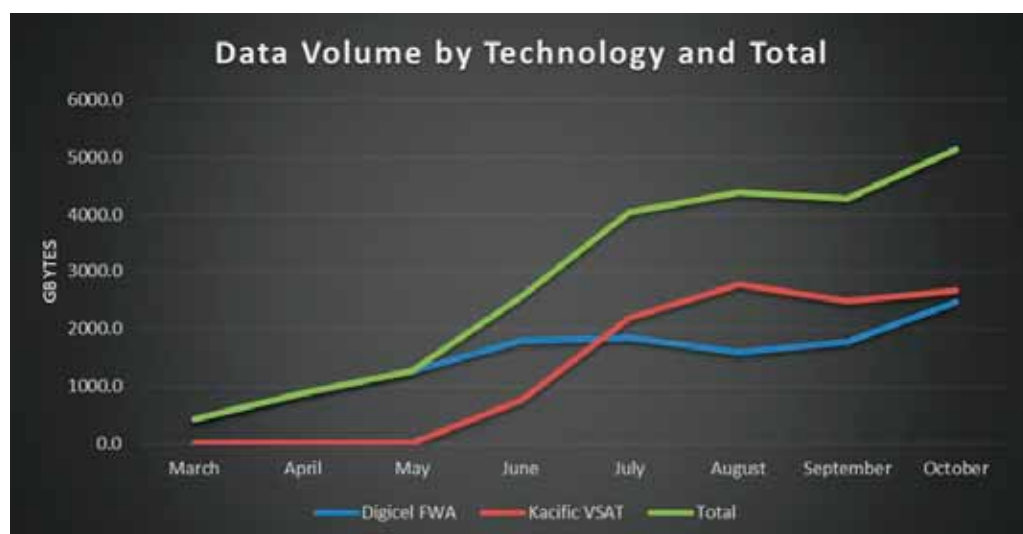


Figure 1 : showing CLICC/TFS Data Volumes from March-October, 2016

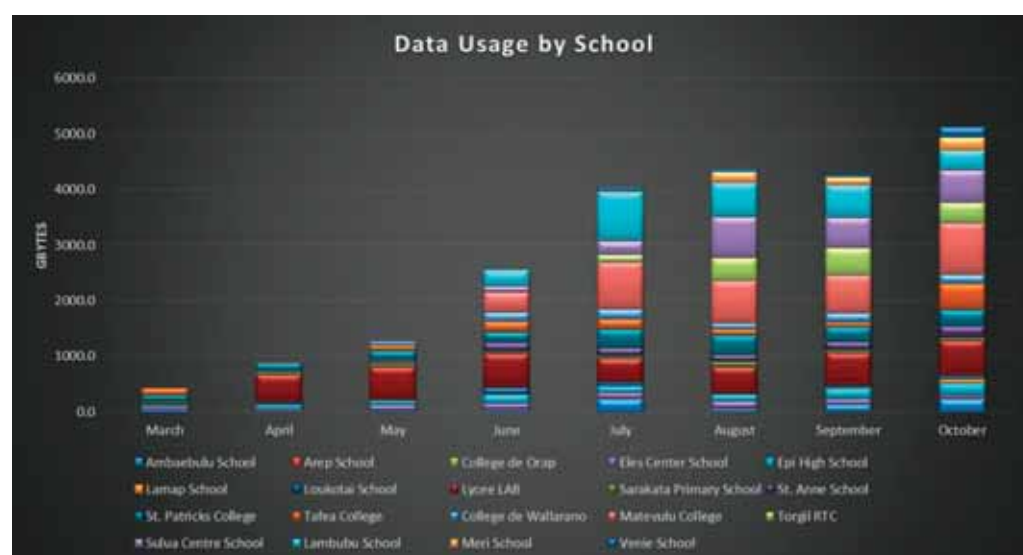
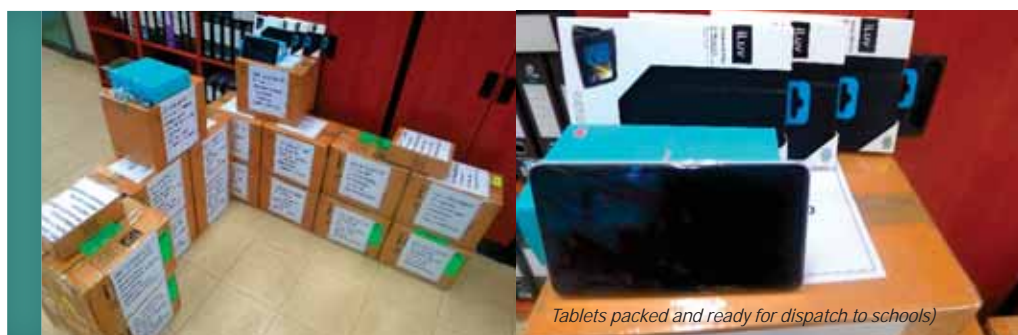


Figure 2: Showing Data Usage by schools from March-October, 2016

4.5 TABLETS FOR STUDENTS

The TFS program was placed on hold due to a technical issue impacting the charging of the tablets via the provided charge cart. Digicel were prompt in the investigation of the issue and the subsequent resolution saw all tablets replaced by a newer Huawei tablet. All TF program schools have had delivered their complement of fifty (tablets with appropriate educational applications for evaluation. It is anticipated for TRR to receive report on whether the uses of these tablets have positively impacted the students' performances.



4.6 INTERNET CAFÉ' SENTA

The final Internet Café' Senta (ICS) on Ambrym has been completed with internet services installed. This completes the ICS program apart from general monitoring of the operations. Of the three sites in operation, Ituani Informesen & Communikesen Senta, Malo has progressed the furthest being proactive in engaging the community in training and provision of services to the community. It has been reported that the surrounding communities have benefited considerably from using the Senta.

4.7 MONITORING AND EVALUATION

M&E is now a critical and essential step in the UAP rollout. Whilst it is embedded into the UAP Agreements and is currently being undertaken by TRR on a monthly basis, further M&E associated with the CLICC and TFS sites is required. Whilst the technology can be simply evaluated, the importance of the infrastructure to the educational environment and community is more difficult and required specialist advice. In particular there is a need to understand how ICT infrastructure helps in the pedagogy (the 'how' of teaching) and the curriculum (the 'what' is being taught). By understanding the benefits in this way more effective integration of technologies can be achieved.

Telecommunications

Market Competition and Monitoring

5.1 TELECOMMUNICATIONS MARKET DEVELOPMENT

The market for telecommunications and ICT services continues to demonstrate signs of positive growth in Vanuatu during 2016, with new product offerings and improved pricing in core markets; such as those for mobile and home internet services. These indicate continued robust competition in these markets.

The growth in internet usage has been particularly stimulated by the continuing decline in the price of mobile data with both TVL and Digicel releasing new and cheaper mobile data tariffs in 2016, as well as increasing the range of bundles available. The average advertised market price per Megabyte (MB) for a bundle of prepaid mobile data fell below 1VT/MB for the first time in 2016, continuing the dramatic fall in data prices since the landing of the submarine cable in Vanuatu in 2014. In line with world-wide trends, mobile data services provide the most cost effective way for users to access the internet and the continued expansion of mobile network coverage and the conversion of existing mobile towers to support 3G data services (and in some cases 3G+) is likely to have contributed significantly to the significant growth in traffic and revenues in the mobile data market.

With the completion of the 98% UAP rollout coverage by 1 January 2018 and the UAP Undertakings that all sites will be (at least) 3G+ by then, this trend can expect to continue.

The intense competition between mobile providers has also led to new innovations and services being provided to consumers. In January 2016 Digicel began offering customers in and around Port Vila access to new high speed 4G LTE mobile data services through their network. These services, which were later, rolled out to cover Luganville CBD in August 2016. 4G services provide a significantly improved service offering for mobile customers, with faster data speeds. They are also a truly viable substitute, and competitive service offering, to existing home internet services such as fixed wireless or wired internet products.

One factor likely to limit, to some degree at present, the roll-out of the 4G to other areas is the higher cost of 4G enabled handsets making them unaffordable to many customers in Vanuatu. However, such costs are dropping globally and prices in Vanuatu have also reduced dramatically with the price of the cheapest available 4G handset about 8900VT in August 2016 from over 16,000VT when the 4G network was first rolled out.

In 2016 Telecom Vanuatu Limited (TVL) began offering Facebooks 'Free Basics' service to its mobile customers. This service allows customers with a TVL SIM card to have access through an Application on their phone to a basket of websites, including a limited version of Facebook, without being charged for the data consumed to use these sites. These websites are designed with lower functionality and are optimized to be less data hungry than the standard versions to allow for them to be easily accessed by users with low end handsets that may only be accessing GPRS/EDGE networks rather than dedicated 3G data networks. A majority of internet users in Vanuatu also tend to be active users of Facebook, with over 90% of respondents saying, in a recent TRR consumer survey¹, that they have a Facebook account, and the ability to access such services on lower end handsets allows for greater access to users in remote and rural areas who may not own a smartphone or be located in areas with good 3G data coverage. Through this initiative, users are able to experience internet functionality without requiring full access to the internet giving them a taste of the benefits of internet access.

1. TRR 2016 Consumer Survey: http://www.trr.vu/attachments/article/610/trr_consumer_ict_survey_report_2016.pdf

In 2016 there was also increased availability of "taster" offers for mobile data as mobile service providers tried to encourage the uptake of mobile data services. Examples of such offers included providing a free monthly bundle of data for the first few months with a smartphone purchase or when purchasing a new SIM card.

5.2 MARKET STATISTICS, MONITORING & DEVELOPMENTS

5.2.1 Mobile Subscriptions

The number of Vanuatu mobile subscribers continued to grow in 2016 to 218,600 in December. The number of subscriptions provides a useful benchmark of the number of mobile users in the country and allows TRR to calculate a penetration rate for mobile telephony in the country. The mobile penetration rate in Vanuatu is now 80.7%² and gives an estimation of the percentage of the population with a mobile phone subscription, as shown in Figure 1. This continues the steep penetration growth that largely commenced in 2013. It is important to note, however, that there can be occasions, in some countries, where the penetration rate exceeds 100% which means that there are more mobile subscriptions than people in the country. This is due to some users having more than one SIM card, e.g. owning a work mobile as well as a personal one or, as is more common in Vanuatu, that users have SIM cards from more than one mobile network to take advantage of cheaper on-network promotional rates from each network.

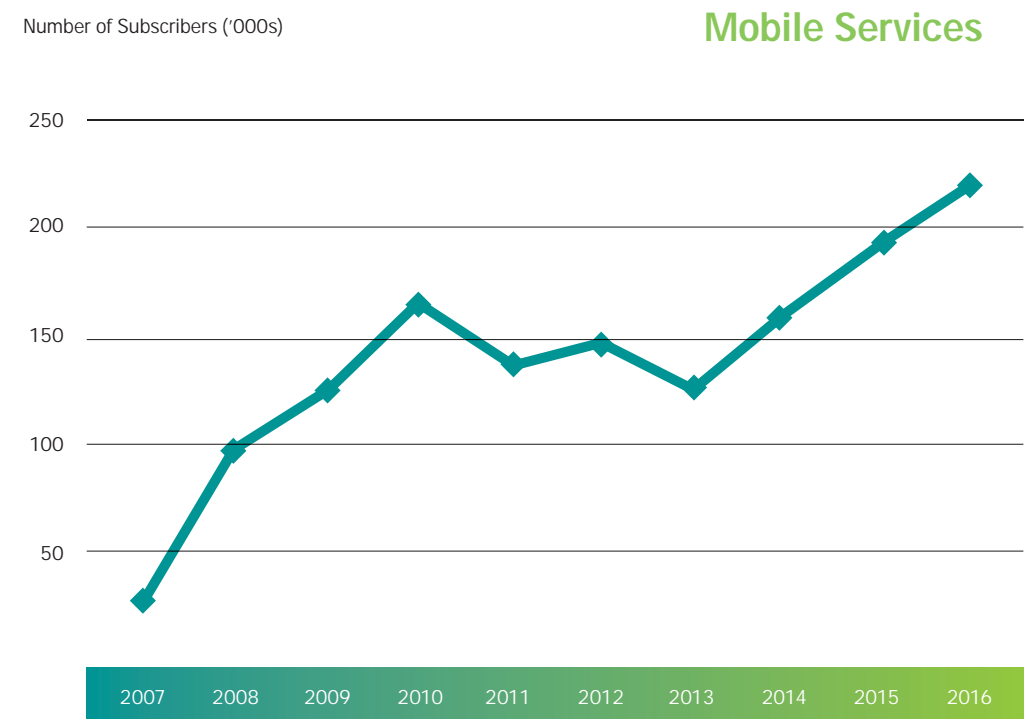


Figure 1: Trend in Mobile Subscription from 2007 – 2016.

2. Calculated using estimated population of 271,000 (<http://data.un.org/CountryProfile.aspx?crName=vanuatu>)

5.2.2 Internet Subscriptions

Reflecting the global trend, demand for data grew in 2016 with the total bandwidth capacity utilized on the submarine cable increasing by around 22% on 2015 levels. This growth in demand for internet bandwidth is driven predominantly by the significant growth of mobile data usage with total megabytes (MB) of mobile data downloaded growing from a combined total of 85,440,000 MB for 2015 to 272,690,000 MB for 2016. By comparing monthly usage patterns it shows there was an increase of 158% in monthly downloads from December 2015, 13,381,137 MB, to December 2016, 34,521,414 MB.

Historically, TRR has reported on internet subscribers as a combined group. However, given current growth trends and the increasing diversity of methods to access the internet, TRR will seek to differentiate mobile data subscribers from those accessing the internet through fixed wireless or cabled technologies in future reports. Although the total number of internet subscribers continued to increase in 2016 it is clear that the majority of this growth was due to mobile data subscribers with fixed subscriber numbers only experiencing limited growth³.

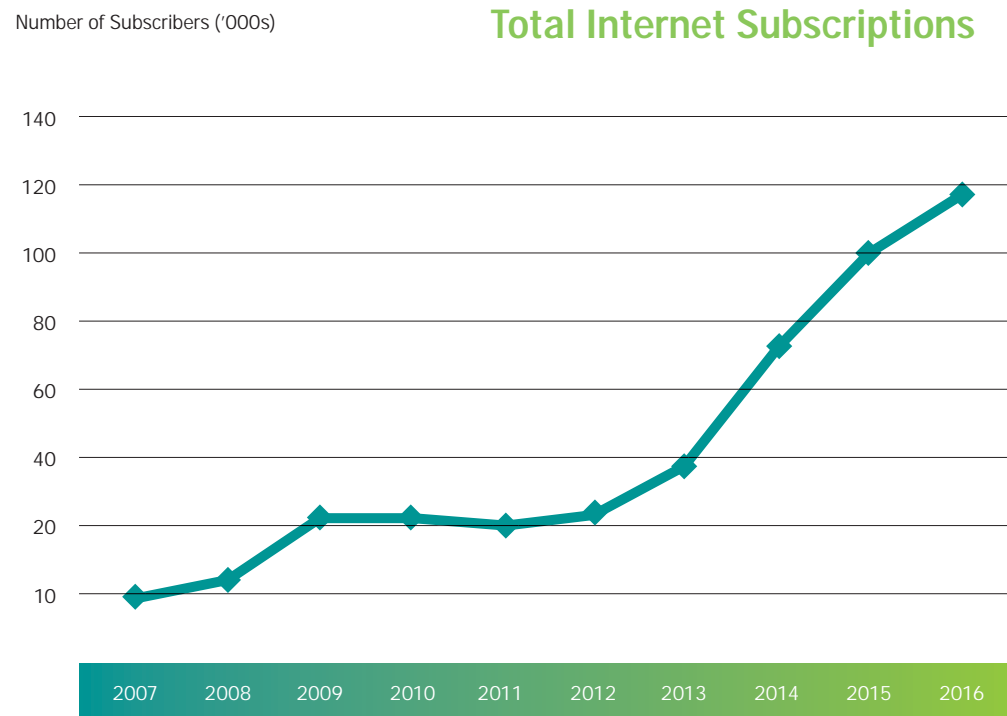


Figure2: Trend in Internet Subscriptions from 2007 - 2016

3. TRR has collected segregated internet subscription information from Service Providers based on the specific types of internet services (such as mobile, fixed wireless or cabled) however it has some concerns with regards to the accuracy and consistency of the reporting of this information and has not included them within this report.

5.2.3 Fixed Phone-line Subscriptions

The number of fixed phone-line subscriptions continued to decline; but only marginally in 2016. This decline over time is reflective of the global trend as subscribers tend to substitute their fixed line for mobile which provides greater portability and functionality as well as not requiring any installation or line-rental costs. Although numbers have declined in Vanuatu it is likely that the decline may have slowed due to a number of factors. During 2016 there was increased promotion of fixed line services which included sign-up discounts, such as a reduced monthly rates for specified periods, which may have led to a surge in uptake. Other factors that may be contributing to a slowing decline may be from fixed-line internet customers, using a fibre or ADSL service, given they are required to pay installation for their internet service and may obtain cost benefits from bundling this with a fixed phone-line service.

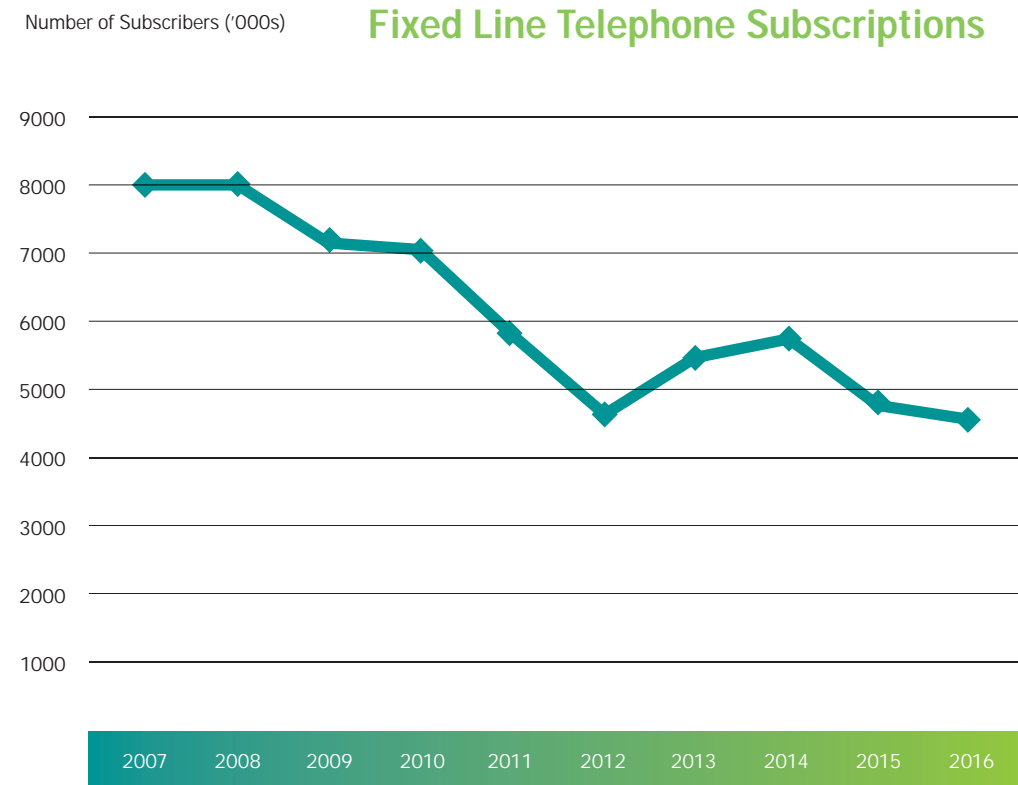


Figure 3: Trend in fixed-line subscriptions from 2007-2016

2. Calculated using estimated population of 271,000 (<http://data.un.org/CountryProfile.aspx?crName=vanuatu>)

5.2.4 Gross Revenues

TRR's collection of telecommunications Licence Fees provides us with a value of the Gross Revenues for telecommunications services collected by each of the Licenced Service Providers during the year. In 2016 the total market gross revenues increased significantly from 2015 levels from VUV 4,198,421,335 to VUV 4,479,794,173. In 2016 this represents a 13% increase on the gross revenues declared for 2015 and appears to be predominantly driven by mobile services with significant growth in mobile data revenues as well as more limited growth in domestic call revenues and fixed internet services.

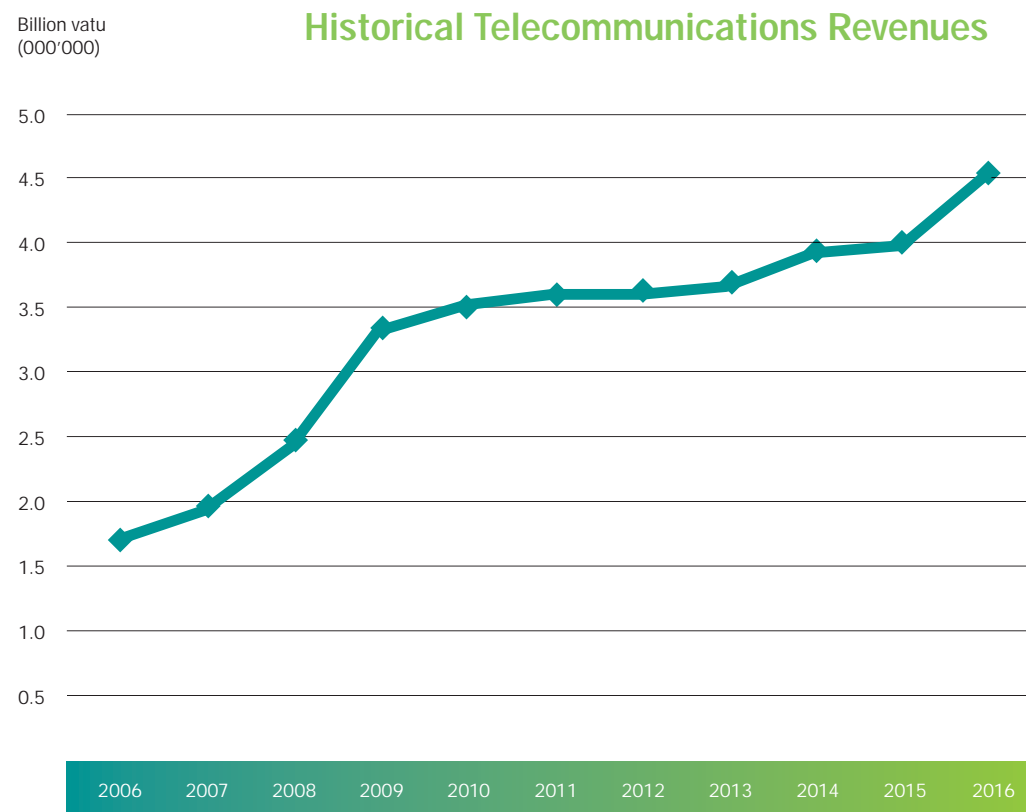


Figure 4: Trend in Gross Revenue from 2007-2016

5.2.5 TRR Determination and Findings on the Wholesale International Internet Services Market

On 1 June 2016 TRR released its 'Determination and Findings Relating To the Wholesale International Internet Services Market and Speedcast's Complaint Against Interchange Limited' (Determination). In these findings, amongst other adverse findings, TRR designated Interchange Limited (ICL) as a dominant provider in the Wholesale International Internet Services Market. This is the market in Vanuatu for the supply of wholesale international internet capacity services and includes wholesale international internet capacity services whether supplied using satellite infrastructure, or using the ICL submarine cable or another submarine cable landing in Vanuatu.

In its findings TRR also determined that the ICN1 submarine cable between Port Vila and Suva (Fiji) can be considered a "bottle-neck" facility as defined in the TRR Act^[1]. Such a declaration places additional requirements on ICL and provides greater oversight powers to TRR to ensure that access to such a facility is provided in a timely and transparent manner and on commercially reasonable terms.

TRR received requests for Internal Review from ICL and Fidelity Communications Corporation of its findings in its Determination and Order No.3 of 2016. The claims made by the operators in their requests for Internal Review were considered by TRR however they did not provide sufficient contrary evidence to merit any amendment to TRR's original Order or Determination.

Interchange Limited later filed a claim for Judicial Review of TRR's Determination and Order No.3 of 2016 and the case is expected to be heard in 2017.

5.2.6 Review and Determination of Relevant Telecommunications Markets

Having received comments from interested parties, including a number of licensed operators; to its October 2015 "Consultation Paper on Market Determination in Vanuatu for Regulatory Purposes" TRR released, in April 2016, its response report to this consultation.

This market review was undertaken to ensure that the existing markets, as determined in 2008 and then expanded in 2009, remain relevant and discrete markets, given the significant changes in the market in Vanuatu since that time, and to determine a new set of current applicable market definitions to either replace or supplement those markets defined in 2008 and 2009.

5.2.7 Interconnection

On the 5th of May 2016 TVL and Digicel agreed on an amended schedule of prices of their 2014 interconnection agreement. These rates are now in effect until 1 April 2018 when the existing agreement expires and new one will be re-negotiated.

The new Agreement reached between the two parties determined that Mobile Termination Rates be maintained at 5.9vt per minute until 1 April 2018 and that Fixed Termination Rates be increased from the existing 3.3vt per minute to 5vt vatu per minute, for the period from 26 June 2016 until 27 June 2017, with this rate due to increase further to 5.9vt per minute in-line with the Mobile Termination Rate up to 1 April 2018.

[1] S.2 and S.21(1)(b)(i) of the Telecommunications and Radiocommunications Regulation Act No.30 of 2009

Regulatory Legal Activities

6.1 MATERIAL LITIGATION

6.1.1 *Interchange vs. Telecommunications & Radiocommunications Regulator Judicial Review No. 2941 of 2016*

As described in Section 5.2.5, Interchange Limited challenged TRR's findings in its June 2016 Determination and Findings Relating to the Wholesale International Internet Services Market and Speedcast's Complaint Against Interchange Limited and Order No.3 of 2016. The case will be heard in 2017.

6.1.2 *Former TRR Staff vs. Telecommunications & Radiocommunications Regulator Civil Case No. 3053 of 2016*

A civil claim was filed by a local Lawyer on 7 September 2016 on behalf of the TRR former (2015) staff who self terminated their employment with the TRR pursuant to section 53 of the Employment Act. That action followed a petition which was lodged to the Office of the Prime Minister against their employer (TRR). The decision of the Office of the Prime Minister through a report by the Commission of Enquiry was finalised and ruled in favour of the Employer. The Claimants are now claiming for severance payments and annual leave entitlements. The hearing has yet to happen and is pending a Court required submission by the legal representative for the claimants.

6.2 TRR 2016 DETERMINATIONS

On 1 June 2016 TRR released its 'Determination and Findings relating To the Wholesale International Internet Services Market and Speedcast's Complaint Against Interchange Limited'. Further details of this Determination are contained in Section 5.2.5.

6.3 TRR ORDERS

TRR released a total of five orders in 2016 pursuant to its general functions and powers under the Telecommunications and Radiocommunications Regulation Act 2009, all of which relate generally to TRR's investigation into the function of the wholesale international internet services market which was the subject of its 1 June 2016 Determination. The Orders released are detailed below.

6.3.1 *Order 1 of 2016*

The order was made on 29 January 2016, requiring specific documents and information from Interchange Limited (ICL).

6.3.2 *Order 2 of 2016*

This order was made on 29 January 2016 requiring specific documents and information Fidelity Communications Limited (FCC).

6.3.3 *Order 3 of 2016*

This order was made on 1 June 2016 and gazetted as gazettal No. 41. This Order was made in conjunction with and relating to findings made by TRR in its 1 June 2016 Determination and Findings Relating to the Wholesale International Internet Services Market and Speedcast's Complaint Against Interchange Limited.

6.3.4 *Order 4 of 2016*

The order was made on 11 October 2016. TRR released Order 4 of 2016 requiring specific documents and information from Interchange Limited (ICL).

6.3.5 *Order 5 of 2016*

The order was made on 14 November 2016 requiring specific information from ICL.

6.4 TRR DECISIONS

Decision 1 of 2016 on Radio Spectrum fees for the Republic of Vanuatu was a Decision made pursuant to the power and function of the Regulator under Paragraph 7 (2) (e) and Paragraphs 7 (4) a-c of the Act. The Decision was made to require Service Providers to pay for spectrum which were assigned or will be assigned to them based on their requests. The focus of the fee schedule was on certain spectrum bands which are of high value and spectrum licences for mobile telecommunications, wireless broadband spectrum, broadcasting spectrum including the 700 MHz Band.

6.5 TRR REGULATORY INSTRUMENTS

6.5.1 *Vanuatu Domain Name Management and Administration Regulation Order No. 206 of 2016*

On 13 December 2016, the first Vanuatu Domain Name Management and Administration Regulation Order No. 206 of 2016 (Regulation) of the Government of Vanuatu was successfully gazetted. The Regulation was made pursuant to section 7 and paragraph (7) (4) (e) of the Act.

This regulation is now in force. Collaboratively and independently, TRR is consulting with TVL on the next steps and the appropriate way(s) forward to ensure there is no disruptive transition of registries and registrars.

6.5.2 *Draft TRR Type Approval and Conformity to Standard Regulation*

A draft TRR Type Approval and Conformity to Standard Regulation was released in Quarter 4 of 2016 for public consultation. A face to face consultation has commenced with the anticipation that the consultation will be completed by the first quarter of 2017. The objective of this Regulation is to ensure all telecommunication and radiocommunication devices imported into Vanuatu are suitable and safe for technical application and use in Vanuatu, as well as ensure all these types of equipment comply with international approved standards to mitigate associated technical and safety risks. The Regulation is expected to be finalized in mid 2017 for implementation in early 2018.

6.6 HARMONIZATION OF THE TRR TELECOMMUNICATIONS ACT NO. 30 OF 2009

In implementing and undertaking TRR's regulatory functions, TRR has observed that there may, potentially, be inconsistencies between the TRR Act and other related legislation. TRR wishes to ensure that there is no duplication of effort and/or responsibility on the same or a similar function or role. As such, TRR has undertaken a review of its Act and consult with other related legislations as part of its harmonisation project.

6.7 REVIEW OF THE TRR ACT

TRR has undertaken a review of its Act and is consulting with stakeholders on the need for review of the Act. This is a required deliverable for 2017 and TRR believes that some change is necessary given the market sector is evolving where the industry and the consumers are experiencing convergence, the changing arrangements and applications in Vanuatu's liberalized telecommunications market. Also, the Act is now approaching its 8th year since it being made.

Telecommunications and Radiocommunications

Technical and Engineering

7.1 NATIONAL NUMBERING MANAGEMENT PLAN AND PROCEDURES

TRR's National Numbering Management Plan and Procedures (NNMPP) is an important legal instrument to ensure the appropriate and effective management of telephone numbers that are held by TRR as a national resource, and are allocated to licensed operators.

Review and updating of the NNMPP, to make it appropriate for both current and future technologies, and provide effective guidance and industry compliance, is a 2016 TRR Work Plan; and will also be a 2017 Work Plan priority. Whilst TRR recognizes that this is an important matter, TRR has, appropriately, set it at a lesser level than other high priority projects in 2016 given the Plan is, overall, understood and being implemented and utilised appropriately; with some exceptions.

A new Internet Protocol (IP) Service number range 9000-9009 was allocated to WanTok Networks Limited (WanTok). The allocation of this number range is intended to facilitate Wantok's planned IP service to be offered in the market. The service will provide IP voice services to WanTok's customers.

TRR continues to closely monitor compliance with the NNMPP and the effectiveness of the rules that are currently in place.

7.2 MOBILE SIGNAL AND INTERNET COVERAGE AND QUALITY OF SERVICE (QOS) REGULATION AND QOS AUDIT

Mobile coverage and Quality of Service (QoS) activities are Priority One projects as identified in TRR's 2016 and Beyond Work Plan; and will also be in TRR's 2017 and Beyond Work Plan.

During 2016 TRR developed a draft QoS regulatory instrument, inclusive of parameters to be measured by operators. The QoS draft regulation and parameters are scheduled for public consultation during 2017.

Mobile coverage analysis is critical. TRR work due for completion in early 2017. This activity will provide TRR with predictive coverage analysis for each major operator as well as a combined coverage analysis. This coverage analysis will identify areas that are either unserved or underserved and establish the actual coverage of UAP to determine if the UAP goal of 98% coverage of the Vanuatu population has been achieved. Our analysis is that this target will be met, and likely exceeded.

7.3 RADIO SPECTRUM MANAGEMENT

7.3.1 General

Radio Spectrum is a natural and highly valuable national resource, and is vital for provision and widening of the range of telecommunications services in Vanuatu; particularly in reaching all segments of its population over vast and difficult terrain and topography. It has always been and now is an ever-increasing essential element for communications. As such, it is a key function for TRR to manage effectively and efficiently.

7.3.2 Allocation of the 700MHz

The 700MHz frequency band was released, by TRR, for allocation on 1st of June 2016. An Expression of Interest (EOI) was called to determine industry interest for this frequency from current operators and licensees. A key driver of TRR's release of the EOI was to determine the most appropriate method of allocation of the band. The EOI results identified that the entire allocation of spectrum could be allocated to existing operators, with no duplication or need to go to auction.

In December 2016 TRR allocated 700 MHz (35MHz in the upper band and 35MHz in the lower band) to operators such as Wantok and Telecom Vanuatu Limited.

TRR, in ensuring adequate bandwidth is available and for efficient allocation, has made the remaining, and available, allocation on a first come first serve basis. TRR sees that the implementation and utilisation of this spectrum will provide benefit and enhanced services to the people of Vanuatu.

7.3.3 National Frequency Allocation Table (NFAT)

The NFAT was (again) reviewed and updated this year, 2016, to include new frequencies; and will be available and can be viewed via the TRR website.

7.3.4 Spectrum Monitoring and Interference Resolution

TRR completed its Vanuatu-wide spectrum audit in March 2016. TRR's Spectrum Auditor worked onsite with the TRR team to conduct the spectrum audit of over 40 tower sites to validate spectrum signal strength and usage. This was correlated against data provided by the licensees. The audit findings and data collected from the operators collated and added to TRR's Technical Internet Market Information Database (TIMID) to ensure its integrity and assist in the determination of any instance of deviation between operators published spectrum coverage and the actual spectrum signal.

This audit task was conducted in Efate, Santo, Malekula, Tanna and Pentecost; due to the density of spectrum use and the large number of subscribers. An important result of TRR's audit activity is that it has enhanced closer working and cooperation with operators on resolution of interference issues. In that respect, this year TRR has been required to respond to a number of complaints on instances of interference; mainly from operators and on both Santo and Efate. In all cases these interference issues were resolved amicably due to TRR's intervention.

7.4 RADIO SPECTRUM AND RADIO APPARATUS LICENSING

7.4.1 General

TRR continued to receive a number of enquiries and applications for additional spectrum from licensed operators in 2016. In total four spectrum licences were issued. One licence was issued for additional 3G frequency, two licences were issued for 700 MHz and another licence was issued for Digital TV to an operator transmitting Digital TV services.

7.4.2 Spectrum Fees

In recognition of the importance of radio spectrum management and monitoring of spectrum in Vanuatu, and following TRR's public consultation on the allocation of this band and of the application of Spectrum Fees, TRR published Decision 1 of 2016 relating to the introduction of Spectrum Fees for the Republic of Vanuatu. The final Decision is based on fees being levied on high value spectrum ranges such as:

- Bands used for mobile telecommunications (900 MHz, 1800 MHz)
- Other wireless broadband spectrum (2.3 GHz, 2.5 GHz, 3.5 GHz)
- Broadcasting spectrum used for pay TV (510-550 MHz, 560-608MHz, 610-660 MHz)
- 700 MHz band for 4G services (703-748 MHz, 758-803 MHz).

Enforcement of Decision 1 of 2016 will commence on the 1st of January 2017. During 2017 TRR will monitor and review the use of spectrum.

7.4.3 Radio Apparatus Licences

It is mandatory in Vanuatu for all radio apparatus operators to hold a valid apparatus licence to operate their radio apparatus equipment; as required in the Act and TRR's legislative instruments. In this respect, to obtain an apparatus Licence for each year under the Act, an administrative fee must be paid to TRR to assess and approve an appropriate licence.

Forty one new radio apparatus licences were issued in 2016. Such licenses were issued in the following categories; Marine (17), Aircraft (5), VSAT (3), Broadcasting (6), HF (4) and amateur (6).

TRR continues to work on fixed link apparatus licensing which comes into force as of Decision 2 2014. Fixed links are essentially point to point or point to multipoint network connections supplied via radio technologies. These links provide additional network reach for operators and generally operate within either licensed or high value spectrum bands. Historically, information on these links has been scant; however, with the spectrum audit and recent testing of mobile networks information collected by TRR on these links our information increased significantly. TRR intention is to ensure compliance in this band and will actively monitor this band now, and into the future.

7.4.4 Revised Radio Apparatus Licence Fees Schedule Status

TRR made Decision 1 of 2015 reflecting changes of Apparatus Licence fees. TRR, working collaboratively with the Civil Aviation Authority of Vanuatu (CAAV) has formalized a revised agreement for TRR to issue a radio licence to aircraft and for CAAV to issue a respective call sign. An MOU was drafted for this purpose.

7.5 COMPLIANCE AND ENFORCEMENT

TRR actively monitors and enforces, in accordance with its Regulatory framework and the Act that the objectives of the specific frameworks are enabled and able to be achieved. In doing so, TRR's assigned team, as an example, staff travelled around the main provinces to obtain records of all users who are, and who are not registered in TRR's radio apparatus database.

7.5.1 Maritime Radio Apparatus Compliance

TRR stepped up its monitoring and inspection efforts in respect of marine vessels, ships yacht owners, and agents to identify use of the radio equipment apparatus that have not been registered for licences. TRR's compliance activities identified a number of vessels operating without licences, and TRR is taking further steps, working with the Ports and Harbour to make sure they comply with the obligations as specified in the Act.

7.5.2 Radio Apparatus License Exemptions

TRR continued to maintain its effective and satisfactory working relationship with the Department of Foreign Affairs, and the Government of Vanuatu, in exercising its powers under the Act to ensure that all radio infrastructure operated by diplomatic, humanitarian and governmental entities are registered and provided for by an exemption (as required) to operate without a licence. A TRR driver, in this respect, is appropriateness and to ensure that spectrum is managed efficiently and effectively, interference is minimised and equipment in operation complies with standards.

Internet Governance

Under Section 7(4) (e) of the Act TRR oversees and facilitates appropriate management and administration arrangements of Vanuatu's Top Level Domain names and domain name registration for Vanuatu. Building on its 2015 work on internet governance, a major TRR deliverable is that Vanuatu, for the first time, now has an established legal and regulatory instrument to appropriately manage the state's resource .vu ccTLD. This is a resource that is scarce and must be appropriately and carefully administered. Although

TVL is currently the "Registry" for this resource, consultations are underway to ensure the Registries and or Registrars are approved entities in accordance with the Act and market and competition principles. 2016 marked the achievement of the project where the Regulation was officially gazetted.

TRR is proceeding with developing an appropriate framework to enable fair and efficient competition in the supply of .vu domain names and that the Act is fully complied with. This work will continue in 2017.

8.1 TRR'S 2ND REGULATORY INTERNET SYMPOSIUM

On the 20th of October 2016, TRR organized its second Regulatory Internet Symposium at the Havanah Resort in Vanuatu. The meeting promoted the theme 'Embracing Internet Security' which is in line with the current Vanuatu National Cyber Security Policy and the National ICT Policy; where priority action plans and responsibilities were placed on the OGCI TRR. Presenters included international representatives Mr. Barry Brailey, Manager responsible for Cybersecurity at the .NZ Domain Name Commission and Mr. Klee Aiken, the External Relations Manager at the Asia Pacific Network Information Centre (APNIC). Stakeholders included the internet community in Vanuatu. The international representatives shared their experience and offered best practices for Internet market development; with a focus on internet security.

The primary objective of the Symposium was to raise the awareness to the internet stakeholders in Vanuatu on the importance of internet security so that relevant steps can be taken to address the ever emerging and increasing cybersecurity threats.

A major outcome of Symposium was the establishment of a Vanuatu National Computer Emergency Response Team. The meeting agreed to have 12 stakeholder organizations form part of the Vanuatu Computer Emergency Response Team (CERT) Working Group; while the Vanuatu Government, through the OGCI will take the lead role in the Working Group. TRR is also part of this working group. The prime focus of this Working Group is the setting up national CERT body for Vanuatu.



Some of the attendees of the 2016 Regulatory Internet Governance Forum

8.2 ESTABLISHMENT OF EMERGENCY RESPONSE TEAM (CERT)

The major outcome of the 2016 Regulatory Internet Symposium has seen the establishment of the CERT. The CERT is now considering some of the key issues raised during the Symposium including: Social Media and Facebook impacts in Vanuatu, Online fraud through phishing, hacking, ransomware and other security breaches which is on the rise in Vanuatu and the need for a national initiative to tackle cybercrime.

This initiative was supported by both international representatives Mr. Klee Aiken External Relations Manager at the Asia Pacific Network Information Centre (APNIC) and Mr. Barry Bailey, Manager responsible for Cybersecurity at the .NZ Domain Name Commission.

It was agreed by the Government representative, the OGCI to chair the interim CERT Working Group and TRR will support in facilitating the coordination of the meeting with all 12 stakeholder organizations that are represented on the CERT.

8.3 ONLINE CHILD PROTECTION ACTIVITIES

Ongoing Child Online Protection (COP) awareness was conducted by TRR in Vanuatu this year, and more than 26 schools were reached - from Torba to Tafea - where teachers and students had the opportunity to listen,

discuss and ask questions of TRR Officers. A COP Fact Sheet (TRR Fact Sheet No 8 of 2016) was also developed and distributed around the country. It is also available on TRR's website.

8.4 TRR'S PARTICIPATION AT THE ICANN 56

TRR through its internet Governance Officer attended the 56th meeting of the Internet Corporation for Assigned Names and Numbering (ICANN) - ICANN 56. It was a high-level policy forum held in Helsinki Finland. An update report on the progress of the .vu ccTLD Regulation in Vanuatu was presented during the ccNSO News Update session and the feedback obtained was really good as it has contributed to broader understanding of the ccTLD matters, particularly for Vanuatu - .vu ccTLD. TRR was given an opportunity to contribute with views on the Vanuatu experience at the ccNSO meetings. TRR gains benefit from attending ICANN meetings through being able to network, share experiences and be aware of latest developments in internet/internet governance activities.

The meeting has also contributed to understanding on the network security and domain name security and abuses.

Importantly, the feedback obtained from these experts for .vu ccTLD is key take home message for TRR at that time.

At a personal level the Officer was able to participate as a fellow during first day in reviewing fellowship draft documents whereby we were working in different groupings made up of different nationalities to review different documents. TRR thanks the ICANN for providing such fellowship to the TRR as its support of its institutional development.

8.5 APRIGF

The Asia Pacific Regional Internet Governance Forum (APRIGF) was held in Taiwan in 2016. TRR attended the forum, along with hundreds of participants from over the Asia Pacific region. The theme of the forum was "A New Internet Era – Merging Physical Space with Cyberspace". The forum was based on a wide range of topics from cyber security, cyber connectivity, Privacy to

Multi-stakeholder model". TRR's attendance enabled the opportunity for face to face discussions with a multitude of social media persons and discussion on current social media issues and challenges that are affecting Vanuatu. An important outcome of the meeting is that Vanuatu has been listed as host of the next APRIGF meeting in 2018. This will enable a widened Vanuatu stakeholder base to participate and learn.

Enhancing and Awareness of Consumer Rights Responsibilities and Protection in Telecommunications Industry is TRR's focus

9.1 GENERAL

As a key focus of our 2016 Work Plan, and TRR places a high priority on its Consumer Awareness and Protection programs focusing on communities and schools outside Port Vila. We see this as an integral part of the Government's mission of educating for a just, wealthy and healthy citizen.

TRR had significant progression with its planned program across Vanuatu. We utilized as many avenues as possible and available for us to disseminate information to the public, including:

- I. Organized Mobile Units around Port Vila;
- II. Effectively used TRR's Consumer Champions initiative around the islands and provinces;
- III. TRR was involved in national and provincial events, including Churches, Youth, Cultural, Schools media and other significant occasions or days organized around Vanuatu; such as ICT Day, Consumer Rights Day, World Media Freedom Day, and others.

This year, TRR developed topics suitable for different targets and different categories of users. For example, when speaking with young children we placed an emphasis more on child on line protection also provide advice to teachers and parents for their guidance to their children. We targeted teenage groups with impact and use of social media in the community and societies; noting it has been identified that teenagers are the most vulnerable and show a high commitment to using social media. In all, we placed an emphasis on the importance of using ICT tools in a more efficient, productive and useful way.

In 2016, TRR also extended its general consumer awareness initiatives and programs to provinces other than the two main municipalities of Port Vila and Luganville. We covered all 6 provinces in Vanuatu including, and particularly, UAP sites. Also, to provide awareness and basic hands-on training to consumers to assist them (learning through experiences) which will contribute to them being better informed on their rights

for a better as well as being able to make more informed decisions and choice. Further, TRR also educated consumers on the new Consumer Protection Regulation ensuring that consumers are able to understand their obligations in respect of whatever decision they make. As part of the visit TRR staff and consumers openly discussed issues that people in rural communities face, in order to identify them and bring forward such issues to the Regulator's attention for redress as required.

During TRR's educational awareness activities, we learnt that the major issues faced by the consumers and or customers of the specific Operators were:

- Only a few people out of the hundreds in the community fully understand the promotional activities offered in the telecommunications market;
- The lack of network coverage is common in many remote areas of our provinces. Consumers need to move to a spot or location to make a call or access the internet. Often there is frustration; especially during emergency situations.
- Although there are many benefits to have, children are becoming vulnerable the negative impacts of as mobile devices become more accessible to them. Many children receive these devices as gifts from their parents and their parents do not necessarily fully understand the negative impact of these devices on their children. TRR noted that one problem is that many children are accessing gaming applications that are available on the mobile devices although they may not have the network connection. This behavior is a risk to their learning education and general learning process.
- Many people still do not know about TRR's role(s) and its existence; nor of the Consumer Protection Regulation. TRR feels community Leaders need to be involved in its awareness programs in order to guide and place an emphasis on some of the issues around and abuses of face book and other on line

activities. Community Leaders need to be fully aware of the impacts of telecommunication.

- Pornography is a challenge in rural communities and, to some of them, access to the internet means access to pornography. Currently the UAP sites visited, like other access sites in Vanuatu, have open internet into a network without any specific filters on their routers.

TRR will look more closely at these issues to consider potential solutions in 2017.



(L-R) Community Educational Awareness on Telecommunication at Venei Matapavu, Santo in August, 2016 and Consumer Awareness in Motalava – Banks Island during Anglican Youth Congress in September, 2016.



9.2 CONSUMER RIGHTS DAY

Each year the 15th of March is commemorated as World Consumer Rights Day. TRR, as an advocate of the need for consumer rights utilized World Consumer Rights Day for the telecommunications industry to provide awareness and education programs on telecommunications/ICT consumer issues. This year

the theme was on health and we emphasised how ICT can be used to disseminate information to save people's life. TRR worked in collaboration with its important stakeholders, the Ministry of Trades and Ministry of Health to deliver and meet the goals of the event.

9.3 WOMEN AND GIRLS IN ICT LAST THURSDAY OF APRIL EACH YEAR

The last Thursday of the month of April each year is commemorated as the day where members of the ITU, at a national level undertake an activity to promote Women and Girls in ICT.

The training focused on the basics of browsing and surfing internet. There was an excellent turnout and attendance with 30 women and 20 young girls having the opportunity to create their own email addresses and develop their specific business websites.

The opportunity was also extended to Eles School in North of Efate, where 18 mothers and 5 girls participated in similar training. These mothers and the girls gained practical knowledge on creating email address and Facebook accounts. Eles School is one of the schools in the country that had been awarded with a CLICC under the Government's UAP Projects.

Also as part of the celebration of the National ICT Day, 10 girls were selected from over 60 applicants for the SMART SISTAS ICT camp in May, 2016. SMART SISTAS ICT camp is a program organised by a group of local ITs in Vanuatu based in Port Vila. The program targeted young girls' age range from 9 to 14. 10 girls aged between 9 and 14 were provided with a one week basic training on use of computer and internet during the eve of ICT day. The girls were also able to meet with Mr Sameer Sharma, Senior Advisor, from the ITU.

TRR with the support of the Committee for SMART SISTAS program arranged specific training for a group of girls, including the mothers, who sell tourist products at the Port Vila Main Market. The launching for SMART SISTAS also took place that time.



Women and Girls in ICT Day –April 28, 2016



Launching of SMART SISTAS in 2016



Mothers and girls learn to use email and Facebook for the first time at Eles School lab

9.4 CONSUMER BEHAVIOUR SURVEY

With the market growing in terms of subscriptions of mobile and internet uptake, TRR undertook a nationwide online Survey to identify some of the common challenges and issues that users are generally facing, including the satisfaction that consumers have obtained from the offers and a customer's overall level of satisfaction. This Survey was one of the important ways that assisted TRR in 2016 to be statistically aware of the outcome of the broad accessibility of telecommunications services in Vanuatu; particularly consumers on the islands and, importantly, towards

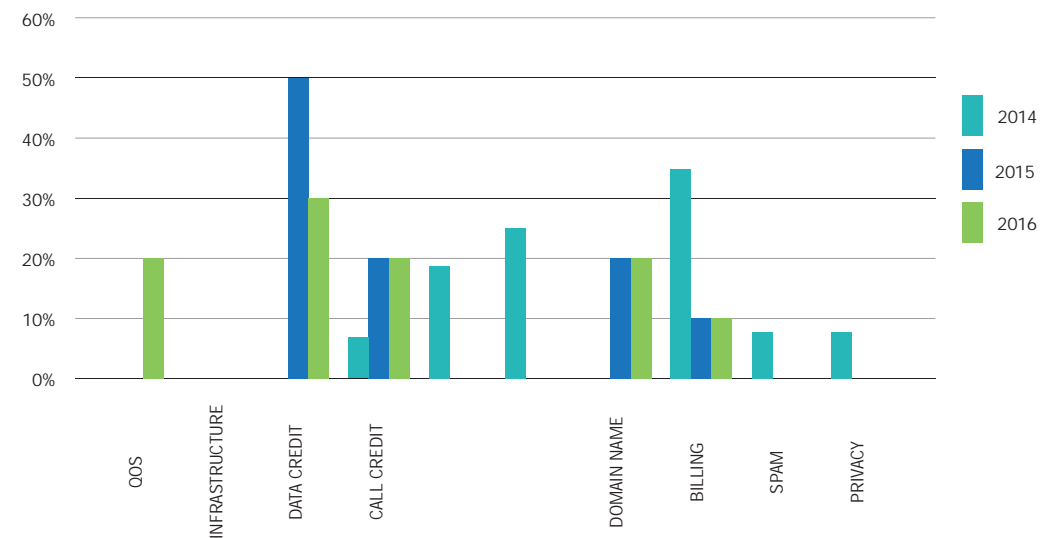
meeting the target and objective of the UAP rollout that, by January 2018, 98% of population must have access to broadband and voice services.

The outcome of the Survey has revealed and clearly indicates that the most common consumer issue is to do with network coverage. Pricing of available services is a secondary, but highly important after coverage issues, especially related to internet services. The Survey also confirmed that majority users use internet for personal communications and social media.

9.5 CONSUMER COMPLAINTS

TRR notes that there was no increase in some specific complaints received over the year compared to those in 2014 and 2015. The call credit, domain name and billing are issues TRR is currently working with operators concerned to educate their customers on what is expected from them. TRR sees that its capacity development and consumer awareness initiatives, tailored through its awareness programs to educate users and consumers of their rights and responsibility, becoming a smart user and also be aware of necessary steps when as a consumer should consider taking when facing difficulties or issues, is a key reason for this trend.

The Chart below shows the trend of complaint analysis between 2014 -2016.



These results indicate that TRR's education and safeguard campaign is currently working well, that licensees are more consumer focused, and that enhanced awareness of and by TRR's Community Consumer Champions and public media programs are providing successful outcomes.

9.6 COMMUNITY CONSUMER CHAMPIONS

As an ongoing project from its worthwhile and becoming even more valuable 2015 initiative to establish its Community Consumer Champions (CCCs) program, TRR engaged with and successfully utilized the CCC's to reach with the community through its awareness programs that we run. TRR also established a monitoring system to ensure a greater return in the investment on these particular projects and with the CCCs. TRR's Consumer team liaised with and involved, wherever possible, its CCC's with all consumer related events, to assess their development and productivity; particularly to establish whether this initiative is working successfully in practice and whether it should be sustained. Some CCCs were also utilized in the high-level events, such as National Youth Congress, the Vanuatu Anglican Youth Meeting, and others were utilized in school career talks. To date, TRR is very satisfied with the CCCs contributions in their respective communities and the results they are producing towards assisting TRR in its consumer awareness and protection programs.

2016 Financial Statement & Auditor's Report

Income Statement

For the year ended 31 December 2016

Expressed in Vatu

	2016	2015
Operating Revenue	173,626,702	247,273,108
Operating Expenses	(175,038,060)	(213,939,488)
Operating Surplus before payment to Universal Access Fund	(1,411,358)	33,333,660
Universal Access Fund	(10,000,000)	(15,000,000)
Operating Surplus / (deficit) after payment to Universal Access Fund	(11,411,358)	18,333,660

Statement of Financial Position

As at 31 December 2016

Expressed in Vatu

	2016	2015
Current Assets		
Cash and Cash Equivalents	48,659,332	56,284,228
Receivables	39,927,084	24,330,609
Other Assets	1,754,171	2,028,821
Non current assets		
Plant and Equipment	22,399,944	27,295,270
Total Assets	112,740,531	109,938,928
Current Liabilities		
Creditors and Accruals	23,192,387	23,408,928
Provisions	1,144,613	75,215
	24,337,000	23,484,143
Non Current Liabilities		
Provisions	5,723,019	2,693,782
Revolving Funds	30,924,242	20,593,375
	36,647,261	23,287,157
Total Liabilities	60,984,261	46,771,300
Net Assets	51,756,270	63,167,628
Accumulated Surplus / (deficit)	51,756,270	63,167,628

Annex 1 Register of Consultants 2016

In accordance with section 11 of the Act, the list below provides the name, position held, and area of expertise of each of the consultants and advisors engaged with TRR, and the work they have performed for, and on behalf of, TRR as at 31 December 2016.

Name	Position Held	Area of expertise or project responsibilities
Ronald Box	Advisor to the Regulator	Former Regulator from 2013 – 2015. His role is to provide high level advice and guidance to the Ni-Vanuatu Regulator.
Jeanette Yiu Hing	World Bank Coordinator	Coordination of the World Bank Grant and ensuring the objectives of the Grant Agreement are delivered. Coordination with OGCI0 and Government Ministries in respect of the Grant. This contracted position ceased in December 2016.
Eric Braun	Legal Specialist	Legal and specialist assistance and guidance to TRR on legal, regulatory and economic policy matters. Eric works closely with the Regulator and TRR's Managers and staff; in particular TRR's legal and Market Competition Officers.
Alan Short	Interconnection Specialist	Alan works with and provides advice, analysis and guidance to TRR, particularly its technical and competition staff, on interconnection matters.
Incyte Consulting	Telecoms. Competition & Economic Regulatory Expert	Incyte Consulting focusses on the provision of general expert telecommunication regulation guidance, including analysis and determination of relevant markets, strategic measures for addressing anti-competitive actions, and relevant economic and competition assistance to the TRR team.
Geoff Luther	Spectrum Expert (TRR)	Geoff Luther's engagement with TRR commenced in February 2014, focusing on the provision of expert guidance and analysis of appropriate spectrum management practices; including planning, pricing, monitoring, allocation, and economics of spectrum.
Dale Stacey	Spectrum Audit Expert	Expert high-level spectrum audit support and guidance to TRR in carrying out all aspects of the spectrum audit work, including audit techniques, detecting unauthorised spectrum usage. Dale Stacey brings wide experience in the application of analytical audit tools. Dale commenced work with TRR on February 2015.
Sat Pty Ltd	Coverage Audit Expert	The Consultant a conducting mobile coverage and internet coverage, as well as testing for fixed and mobile services across Vanuatu; as a means of verification of current and existing telecommunications coverage. In addition, it assists TRR in conducting quality of service measurements.

