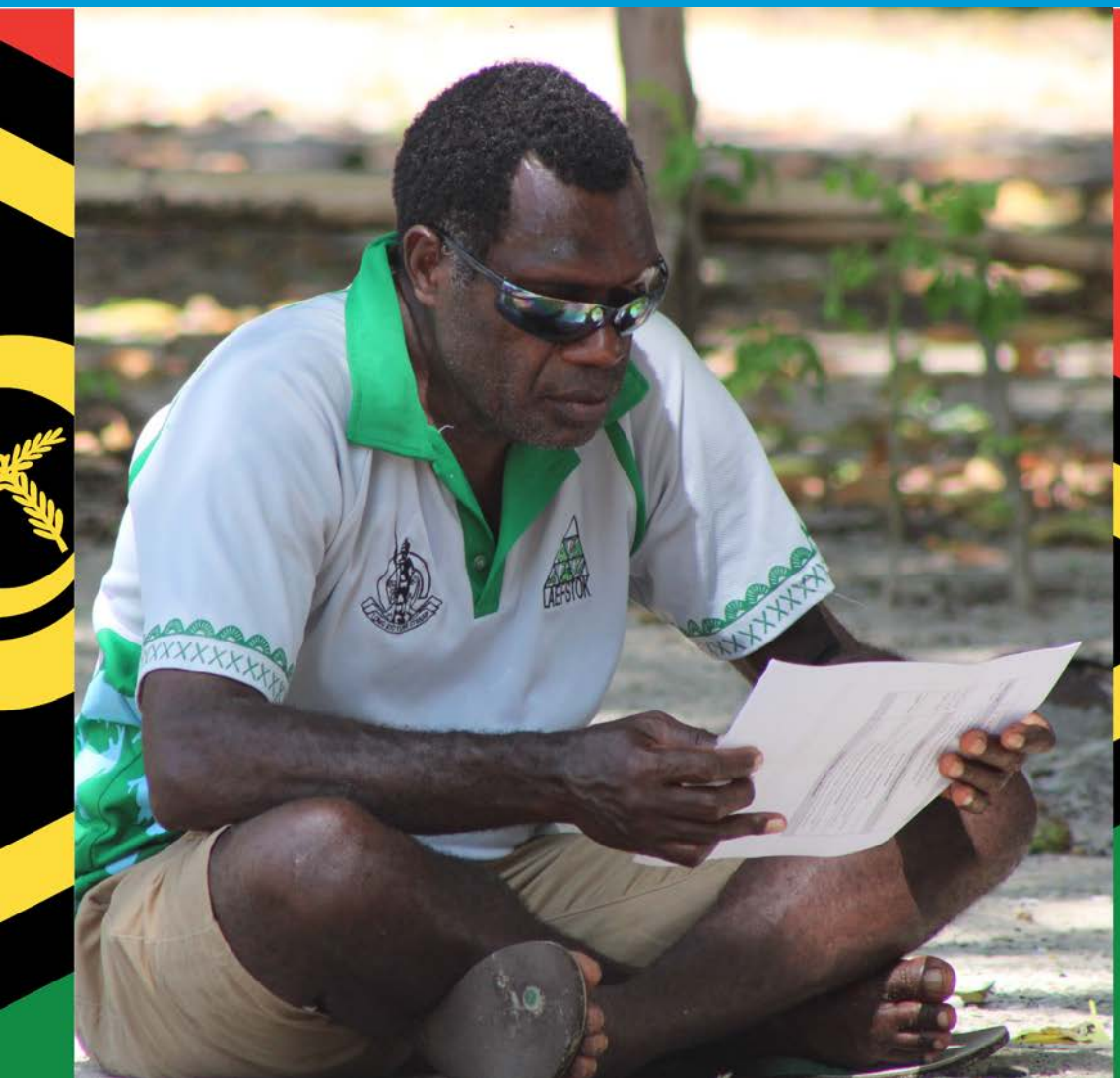
ITUPublications

International Telecommunication Union
Development Sector

South Malekula: A smart island of Vanuatu

Preliminary study of needs and priorities

2021



In partnership with:

South Malekula: A smart island of Vanuatu

Preliminary study of needs and priorities

2021

In partnership with:

DISCLAIMER

The designations employed and the presentation of the material in this publication do not imply the expression of any opinion whatsoever on the part of ITU concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or of certain manufacturers' products does not imply that they are endorsed or recommended by ITU in preference to others of a similar nature that are not mentioned. Errors and omissions excepted, the names of proprietary products are distinguished by initial capital letters.

All reasonable precautions have been taken by ITU to verify the information contained in this publication. However, the published material is being distributed without warranty of any kind, either expressed or implied. The responsibility for the interpretation and use of the material lies with the reader.

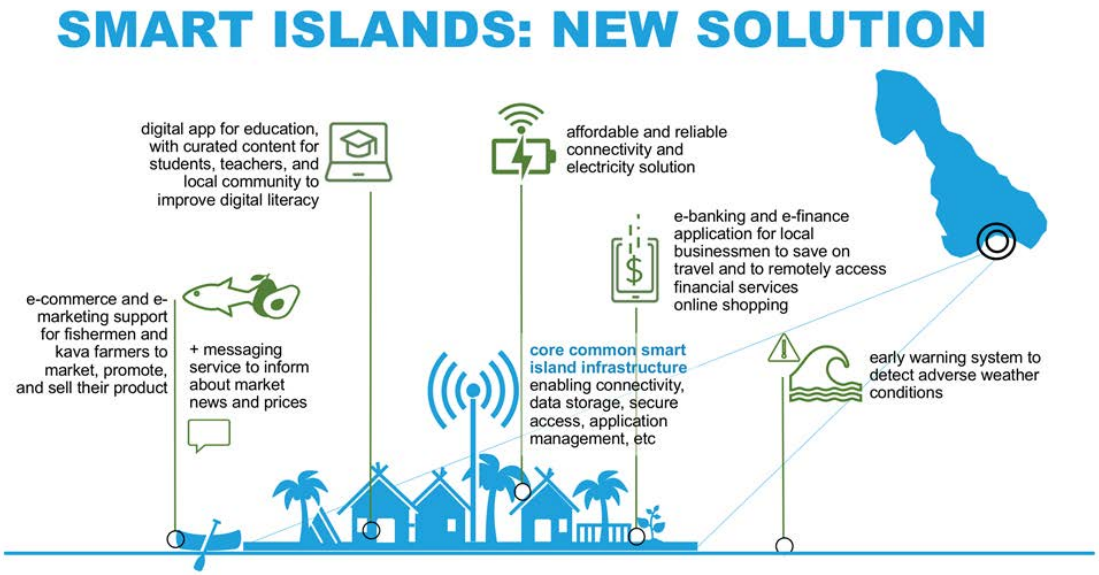
The opinions, findings and conclusions expressed in this publication do not necessarily reflect the views of ITU or its membership.

ISBN

978-92-61-35181-6 (Electronic version)
978-92-61-35191-5 (EPUB version)
978-92-61-35201-1 (Mobi version)

Please consider the environment before printing this report.

Executive summary



Smart Islands is an innovative approach to delivering connectivity and an integrated suite of scalable and sustainable services to disadvantaged island communities. It leverages interoperability, multi-functionality and existing ICT infrastructure to provide island communities with affordable and sustainable access to digital services. The Smart Islands Vanuatu Programme aims to minimize some of the critical challenges currently facing more than 2 000 people from the South Malekula area and to open the door to new digital opportunities for them.

This preliminary study presents an overview of the analysis, planning, design and development phases of the Smart Islands Vanuatu Programme, based on consultations with stakeholders and citizens carried out in seven sites as part of awareness-raising and workshop exercises (7–10 December 2020). It describes peoples' on-the-ground experiences of essential services and the daily challenges they face, such as high transportation costs, the inability to harness agriculture and tourism potential, lack of skills, an unreliable power supply, and insufficient access to education, health, justice, governance and financial services. It also outlines the outcome of the stakeholder consultations, the priority areas that require immediate attention and the potential business activities that could be resurrected or built through the programme.

Community engagement with South Malekula citizens (photo © Dalsie Baniala)

The study identified resource gaps relating to broadband connectivity, affordability, digital literacy and skills, and priority digital services. It identified the need for reliable and quality telecommunication network coverage; digital literacy and skills training (sales and marketing resources and skills); a reliable power/energy supply; banking services; an improved education environment with reliable Internet services; an improved health environment with digitally literate health workers; clean water and sanitation; adaptation to the effects of natural disasters; and, importantly, climate change mitigation and adaptation. It also identified the need to promote South Malekula as an attractive domestic and international tourist destination.

The National ICT Development Committee of Vanuatu recently (2021) agreed to pursue the Smart Islands Vanuatu Programme, in which government stakeholders and citizens have indicated keen interest. Partners such as the Vanuatu Rural Electrification Project have also expressed interest in how the programme could stimulate demand for a local solar power grid.

Table of contents

List of figures and tables

List of figures

List of table

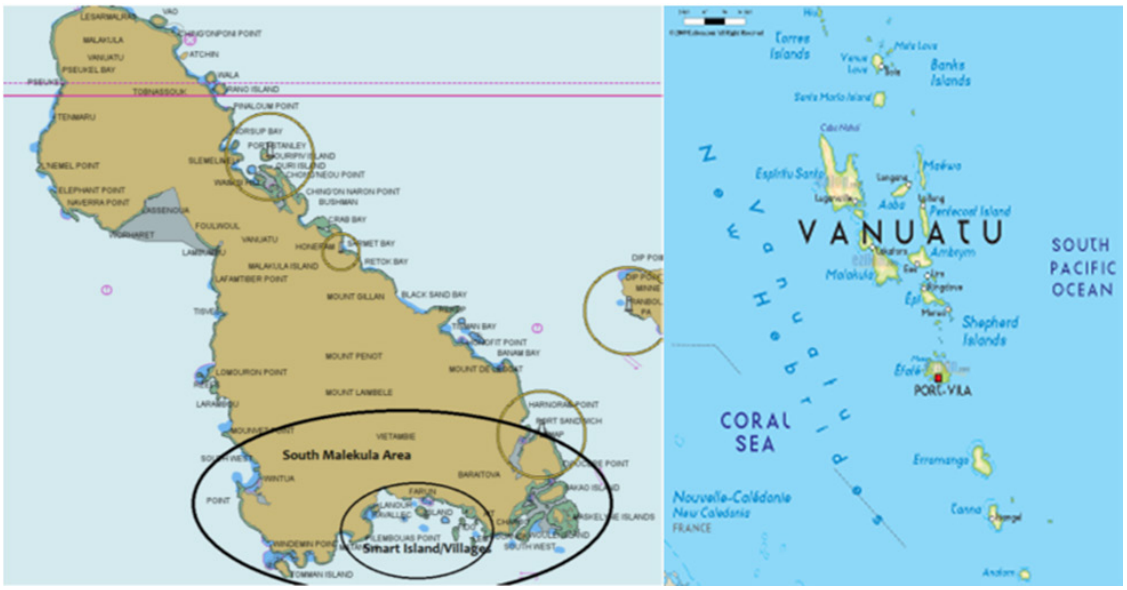
1 About the Smart South Malekula area

Malekula is the second largest island in Vanuatu after Espiritu Santo. It is rich in natural resources, traditions and culture, the land and surrounding waters teem with wildlife, and the people are known for their friendliness.

Malekula is also the second-largest recipient of government support thanks to the services rolled out in the main areas, especially the central part of the island, where the commercial centre (Lakatoro) is located. There are more than 2 000 people living in South Malekula, where the proposed Smart Islands Vanuatu Programme will be implemented (Figure 1).

In terms of governance, Malekula is one of the constituencies with the most members of parliament: in 2020, the island had seven members of parliament in the Twelfth Legislature. The southern part of Malekula is represented by two members of parliament. The day-to-day functioning of the area's villages and small islands is the job of village chiefs and other community leaders, such as church elders, sports leaders, youth leaders, women leaders, cultural chiefs and public servants (area councillors, area secretaries, school teachers and health workers). The chiefs are the key leaders.

Figure 1: Maps of Vanuatu and of Malekula showing the Smart Islands Vanuatu area



The proposed Smart South Malekula sites (Malfakal, Bonvor, Farun, Renaur and Hokai villages, South Malekula Secondary School and Akhamb Island) are surrounded by a wealth of resources, including white sandy beaches, pristine waters and small uninhabited islands with abundant wildlife (bats, birds and other animals). Smart South Malekula has great potential in terms of water sports, sunbathing, scuba diving and snorkeling, game fishing and other marine activities, including boat races. It boasts waterfalls and rivers, and is a producer of many agricultural products (e.g. kava, cocoa, vanilla, ngangai (canarium) nuts) and livestock (cattle, poultry, pigs, horses). The surrounding waters are home to marine animals such as dolphins, dugongs and whales. The potential for agriculture (including fisheries), e-commerce and tourism is therefore good. The friendly people of South Malekula are very excited to join the Smart Islands Vanuatu Programme and are looking forward to the implementation and roll-out of the related projects

as soon as possible. Unfortunately, the island is also prone to natural disasters, such as Cyclone Harold (2020), and is confronted by the challenges of climate change.

Daily experiences in South Malekula include paddling in the waters, catching up on one's reading on the beach front, harvesting the bounty of fruit trees and enjoying sea food with taro and milked banana (photos © Dalsie Baniala).

A non-drinking water source (photos © Dalsie Baniala

Example of the effect of climate change: waves roll corals to the foot of Akhamb Church (photos © Dalsie Baniala).

Lunch on a sandy beach as the waves roll in: another magnet for tourists (photos © Dalsie Baniala

2 The field visit: analysis, design and planning

The field visit focused on identifying the stakeholders and their needs, building shared understanding and awareness, planning sustainable activities in the light of the stakeholders' vision and expectations, devising governance models and preparing preliminary actions. The shaded yellow and green circles (Figure 2) are activities that were actually carried out during the field visit, which included community awareness-raising, stakeholder consultations, workshops/training (2.5 days) and storytelling. The activities, which were highly interactive and participatory, received very positive feedback. All community members present were given the opportunity to contribute their views, in order to test their understanding and level of interest in the project.

The participatory and interactive model was found to be effective, as it followed a consultative design and planning process.

Figure 2: Activities carried out during the field visit

3 Identification of stakeholders and their needs

3.1 Smart South Malekula community and government stakeholders

The preliminary Smart Islands needs assessment involved engagement with a wide group of individual community and government stakeholders from South Malekula (Figure 3).

Figure 3: South Malekula stakeholders

3.2 Awareness-raising

During the awareness-raising activities at each site (Hokai, Renaur, Farun, Bonvor, Malfakal and Akhamb Island), the majority of community members attending the workshop/training signaled strong support for and interest in having implementation start as soon as possible. As the photos below show, a gender-inclusive approach was adopted during the consultations. Two area chiefs spent all of their time with the ITU consultant ensuring that all sites understood the project purpose. The workshops and consultations were held together with community leaders and helped identify the stakeholders on the ground and their needs. For example, Nurse Afu Fifanty, from Bonvor Health Centre, called for improvements to health centre facilities and for the health centre – the only one in the area – to be connected to the Internet, to allow her and her team to have direct access to live video calls with doctors based in Port Vila.

The island community has also formed the Smart Islands Programme Committee, which has representatives from each site. The nine committee members volunteered and voted to take the lead on activities on the ground.

The Smart Islands Vanuatu Programme is closely linked to the Vanuatu Digital Government Roadmap Master Plan and reflected in the National ICT Development Framework, which are currently being developed. Presentations were also made by the Office of the Government Chief Information Officer on the Digital Government Roadmap Master Plan and the Smart Islands

Programme as a subsidiary programme. The Vanuatu National ICT Development Committee also recently approved the programme.

The Vanuatu Rural Electrification Project, which is financially supported by the World Bank, was keen to learn more about the programme, as it could stimulate the demand for electricity provided through mini grids or other forms of renewable energy.

Community awareness-raising activities were gender-inclusive throughout the site visits for the project (photos © Dalsie Baniala)

3.3 Network verification exercise – user experience

An expert conducted a user experience check for Vodafone and Digicel Vanuatu Limited on landing at Lamap Airport and while visiting the sites. The network provides high-speed downlink packet access (HSDPA+) from Lamap to all other villages and Akhamb Island; in some areas, the population is still using the Edge (2.75G) network. Out of all the sites visited, only two (Malfakal and Akhamb Island) had a reliable network for phone calls; the five others had an unreliable network in terms of access to both voice and data. The quality of communication services provided by both service providers could be greatly improved. The islands/villages did not have 4G services at the time of writing.

A health worker in front of Akhamb Clinic. Circled in red is the wireless point-to-point antenna to the South Malekula Secondary School VSAT system (photo © Daalsie Baniala).

In partnership with the International Telecommunications Satellite Organization and Kacific Broadband Satellites Group, the ITU Pacific Connectivity Project[1] identified and selected several sites, including schools and health facilities, throughout the Pacific region to be connected to the Internet via Ku-band satellite terminals. South Malekula Secondary School (SMSS) was selected as one of the five sites in Vanuatu. From the school, a point-to-point connection was established from the mainland to the health clinic on Akhamb Island. The point-to-point network was working very well until the end of the project on 31 May 2019. Subsequently, the launch of Kacific's new Ka-band satellite resulted in all Ku-band sites being upgraded to the Ka band. This has affected the network used by the surrounding communities. Internet connectivity needs to be fixed and appropriate maintenance training and guidance provided. According to Chief Saiken Jack, the Chairman of the SMSS board, "There is a need for SMSS to be fully connected with Internet to allow students to have fluent access to e-library and other online research materials, and also cater for students whose parents cannot afford their high cost of fees and travel expenditures to do online studies where the learning space is already being provided."

3.4 Access to telecommunications/ICT devices and services

During the field visit, the expert met with over 700 people from seven villages. Based on the awareness-raising sessions held in each village, training and workshops/basic training (e.g.

[1] 7RAS14050: Development of Satellite Communications Capacity and Emergency Communications Solutions for the Pacific Islands (2014-2020)

use of basic Internet services such as e-mail, use of online content, making presentations) were dispensed each evening. A show of hands indicated that more than 80 per cent of those attending the sessions in each village had access to either mobile, text or broadband data services and more than 60 per cent of the population in each village owned a phone (in most cases, a smartphone). Some people also had home laptops, while tablets and desktops were mostly used in schools. All the villages visited had access to telecommunications/ICT devices and services. Primary schools, aid posts, health clinics and centres, a vocational training centre, church buildings, and women's association buildings, such as the premises of the Presbyterian Women's Missionary Union (PWMU) had access to at least one device (laptop, mobile phone or tablet) and a small solar cell to charge it. Most people were on Facebook and were fully aware of Facebook's impact on their individual lives.

Dominique Fred, a well-known soccer player, said, "I would like to see and attend training on how I could perform a livestream of soccer competition that we have been playing each quarter. It will attract more young boys and girls to sports, especially to play soccer."

Interestingly, the price of voice and data services is not as much of an issue at this time as is network quality (frequently described as "on and off"). This may be the result of limited availability of services. However, the issue of affordability is important when it comes to mainstreaming the use of broadband digital services at individual level.

3.5 Local small business activities

During the visit, presentations by business operators (which were recorded for reporting purposes) indicated that there are more than 30 small businesses operating in the area. Their activities include:

- small stores (20 or more);
- aid post health centres (in each village);
- health dispensaries and clinics;
- primary schools in five villages;
- a secondary school;
- a vocational technical school (which already has Internet access);
- kava plantations;
- kava bars selling kava juice (over 50 bars);
- sale of green kava to Port Vila (main source of income);
- fishing and selling the catch (another main source of income);
- raising and selling cattle;
- growing and selling cocoa;
- growing and selling copra;
- sale of other marine products;
- credit union (now disbanded);
- money transfer service through Vanuatu Post's Kwik Cash;
- a cooperative;
- agricultural products;
- a bakery;
- a handicraft market;
- growing and selling tobacco;

- small-scale animal husbandry;
- small-scale logging;
- local sale of agricultural products;
- transportation by land;
- transportation by sea (banana boats);
- sale of top-up credits for cellphones;
- sale of ice cubes and hiring of ice machines;
- hiring of music/sound systems;
- sale of cooked food;
- construction;
- electrical wiring;
- small-scale tourism activities with growth potential;
- money-lending service through VANWOD;
- hiring of spaces and meeting rooms;
- sporting competitions that are also starting to commercialize;
- faith-based activities (very common and well attended by many villages).

The sale of green kava to Port Vila is the most common business activity, occupying more than 60 per cent of people in the area. Another 20 per cent earn the bulk of their income from fishing and selling the catch in the area and to Port Vila, and a further 20 per cent have other small businesses, including banana boat transportation and kava juice bars in all corners of the villages. Other business activities include liquor shops, shipping, the production of copra and cocoa, and money transfer services, which are very useful, especially for remittances from the New Zealand Recognised Seasonal Employer scheme, in which members of the communities participate.

These businesses could grow and flourish if they were advertised across Vanuatu or in other nearby islands, through either the Internet or mobile services – unmet demands exist in other parts of Vanuatu. For example, there is a demand for green kava in the southern part of Vanuatu. According to Elder Fred Markandre (the chairman of the Fishermen's Association), "If there is a means to market our fishing products and services, we are fulfilling our dreams that we have longed for many years back."

3.6 Daily challenges and costly experiences

The most common challenge that the islanders face each day is **transportation and the cost of travel from one point to another or one village to another**, or even to their kava plantation. For example, the trip from Akhamb Island to Lamap (Figure 4) to access banking services (including the long queue at the bank) costs them around USD 150 one way (a boat trip and then vehicle transport). This is very expensive, especially when there are no other people travelling at the same time and able to share the cost.

Figure 4: Travel from Akhamb Island to access banking services

The line in black shows the route from Akhamb Island to Lamap to access most services.

The introduction of online banking and other digital services (printing, reliable e-mail access, reliable access to government services such as registration of national identity cards, online passport applications for the regional seasonal workers scheme) that are available in Port Vila and other centres would generate significant savings in terms of time and money.

An **unreliable and poor-quality communication** network is the second major challenge that most of the villages experience. For example, some shopkeepers complain that they have bought credit for mobile phone recharges (to generate business) but tend to make no sales because the frequent network outages discourage people from buying them.

The third most common challenge is **lack of the skills needed to sell and market products** that are available and ready for sale. The key requirement is to learn how to increase income and attract more customers.

The fourth most common challenge relates to **digital literacy and skills**. There is a demand for basic training. According to the participants, in places where broadband network coverage is reliable, they still need to learn more about how to grow their business using cellphones, which are key enablers of small business growth. Connectivity to schools and health facilities must be enhanced, with the outcome and learning experience focused not only on students but also on the community.

Power and reliable energy have long been and remain shared needs. Although small-scale solar power generators are popular, especially for new businesses, reliable power would be a great enabler. Possibilities include windmills, hydropower and mini-grids. Although these are costly products, they are a priority for the population across the nation and especially in the South Malekula area. In the words of Ms Ronda Fred, "We have built our centre [PWMU Women's Centre], where all women and girls gather to train on a number of activities including cooking, mat and basket weaving, sewing of clothes and shell necklaces, baking of cake and bread, etc. These activities can only meet the demand from our customers if our building is supplied with uninterrupted power as it will enable us to increase our production and together with decent Internet access promote our products."

4 Building shared understanding

4.1 Potential emerging business opportunities

As mentioned earlier, the area currently has more than 30 small businesses that help their operators meet their daily needs (e.g. household expenses, school fees, medical fees) despite the small customer pool. However, some people have upgraded their business potential by engaging in other business activities.

For example, Mr Billy Williams from Akhamb Island, who has a meeting venue, runs four different types of business: he manages his own lodge (accommodation for visitors), sells kava juice in the evening, rents meeting venues and acts as a third party for the purchase of products from Port Vila (with a mark-up) using the National Bank of Vanuatu ISI Mobile platform. In the last case, he adds a charge to cover his banking fees, the cost of mobile-enabled Internet and a small profit.

A multifaceted entrepreneur: Mr Billy Williams (photo © Dalsie Baniala)

Given that the South Malekula area encompasses a large bay, beautiful small islands, waterfalls and other fascinating resources (land crabs, mud crabs, seashells, etc.), the Smart Islands Vanuatu Programme will spark exciting business opportunities, including:

- increased sales and improved marketing of existing products and services;
- enhanced tourism activities, including visits to the beautiful surrounding small islands, water games and competitions such as jet skiing, potential floating bungalows or hotels, diving and snorkeling in the crystal-clear waters, observing forest and marine life;
- virtual tourism business activities;
- demand for electricity, which would also boost many small businesses;
- production of virgin coconut, tamanu, caranium nut and other oils;
- production of dried cocoa beans for chocolate-making;
- making small islands or a village more attractive to banking service providers;
- improved product marketing and businesses that will also attract direct transportation from urban areas to South Malekula, making travel more convenient;
- attracting government business services pursuant to the "bring government to the people" policy, through the Department of Local Authorities;
- the sale of the fresh catch of the day to restaurants in Port Vila or Luganville;
- greater possibilities for university, college and technical study online;

- online medical treatment, including online purchase of medicines;
- online marketing and purchase of agricultural products;
- emergency telecommunications and disaster management activities.

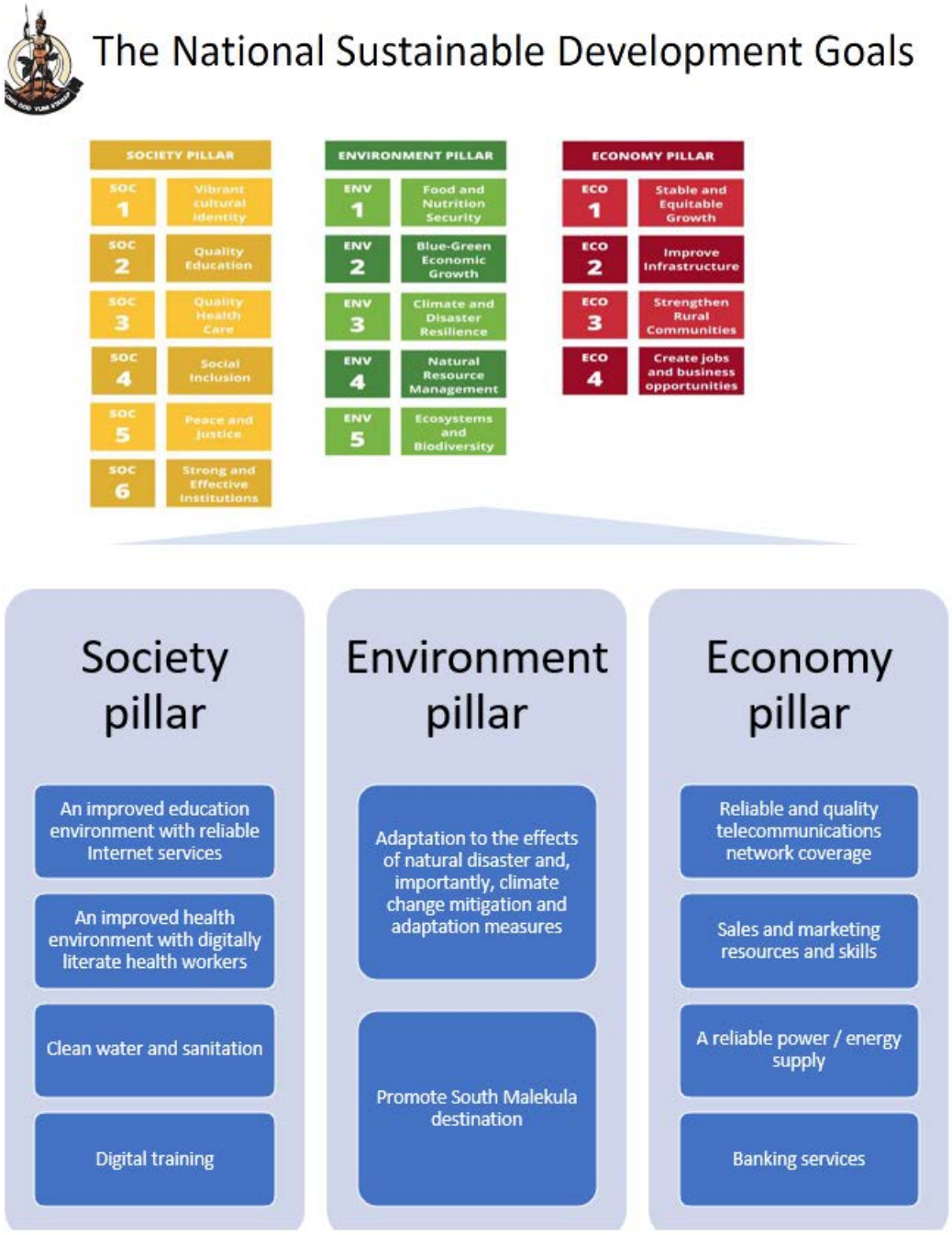
4.2 Priority community needs

The two half-day workshops revealed the following priority needs for the sites concerned:

- **reliable and quality telecommunication network coverage** for the main sites, including Bonvor, Farun, South Malekula Secondary School, Renaur and Hokai, to address the needs of over 2 000 people;
- **digital training,** especially in the use of smartphones and other devices, to help businesses enhance their revenues;
- **sales and marketing resources and skills**, to promote and market products in other parts of Vanuatu and throughout the region;
- **a reliable power/energy supply**;
- **banking services** that allow people to make transactions from one point to another;
- **an improved education environment with reliable Internet services,** for young people currently studying at the University of the South Pacific and other universities in the region, but more importantly for students attending Vanuatu's top-ranking college, which is currently offering online courses;
- **an improved health environment with digitally literate health workers**;
- **clean water and sanitation** around the villages, for appropriate planning of sanitation management;
- **adaptation to the effects of natural disasters and, importantly, climate change mitigation and adaptation measures**;
- **promotion of South Malekula** as a destination for both domestic and international tourists.

These priorities are also linked with **Vanuatu 2030 – The People's Plan** (Figure 5), which sets out the country's National Sustainable Development Goals in line with the United Nations Sustainable Development Goals (SDGs).

Figure 5: Vanuatu's National Sustainable Development Goals and links to Smart Malekula priorities



5 From Smart Islands vision to sustainable actions

In view of the communities' priority needs listed above and their ties to the National Sustainable Development Goals, the Smart Islands Vanuatu Programme has great potential to bring about positive change through new and improved digital experiences. The programme should be delivered via a whole-of-government approach (aligned with the Digital Government Roadmap Master Plan) and predicated on evidenced-based policy-making that takes into consideration emerging technologies for future proofing and builds on partnerships.

The problem and solutions tree for Smart South Malekula (Figure 7) identifies where the three pillars need support to meet existing challenges and create the pathway for the islands' digital transformation. The needs include:

(a) adequate access to broadband connectivity;
(b) more affordable access to network and services;
(c) heightened awareness and digital skills;
(d) enhanced digital services.

The Smart Islands Vanuatu Programme should be implemented using a phased approach (Figure 6).

Figure 6: Phased approach to the Smart Islands Vanuatu Programme

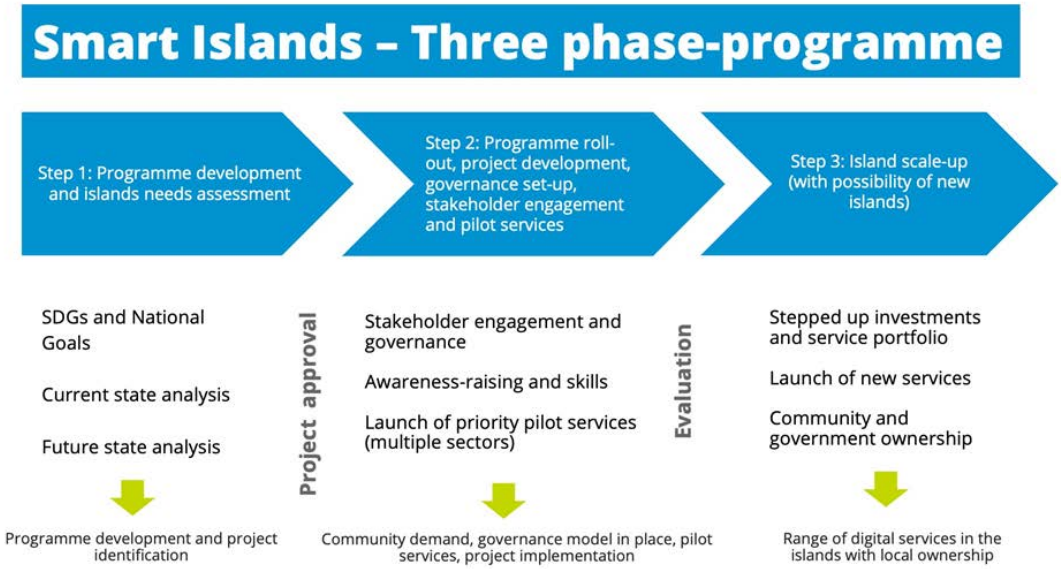
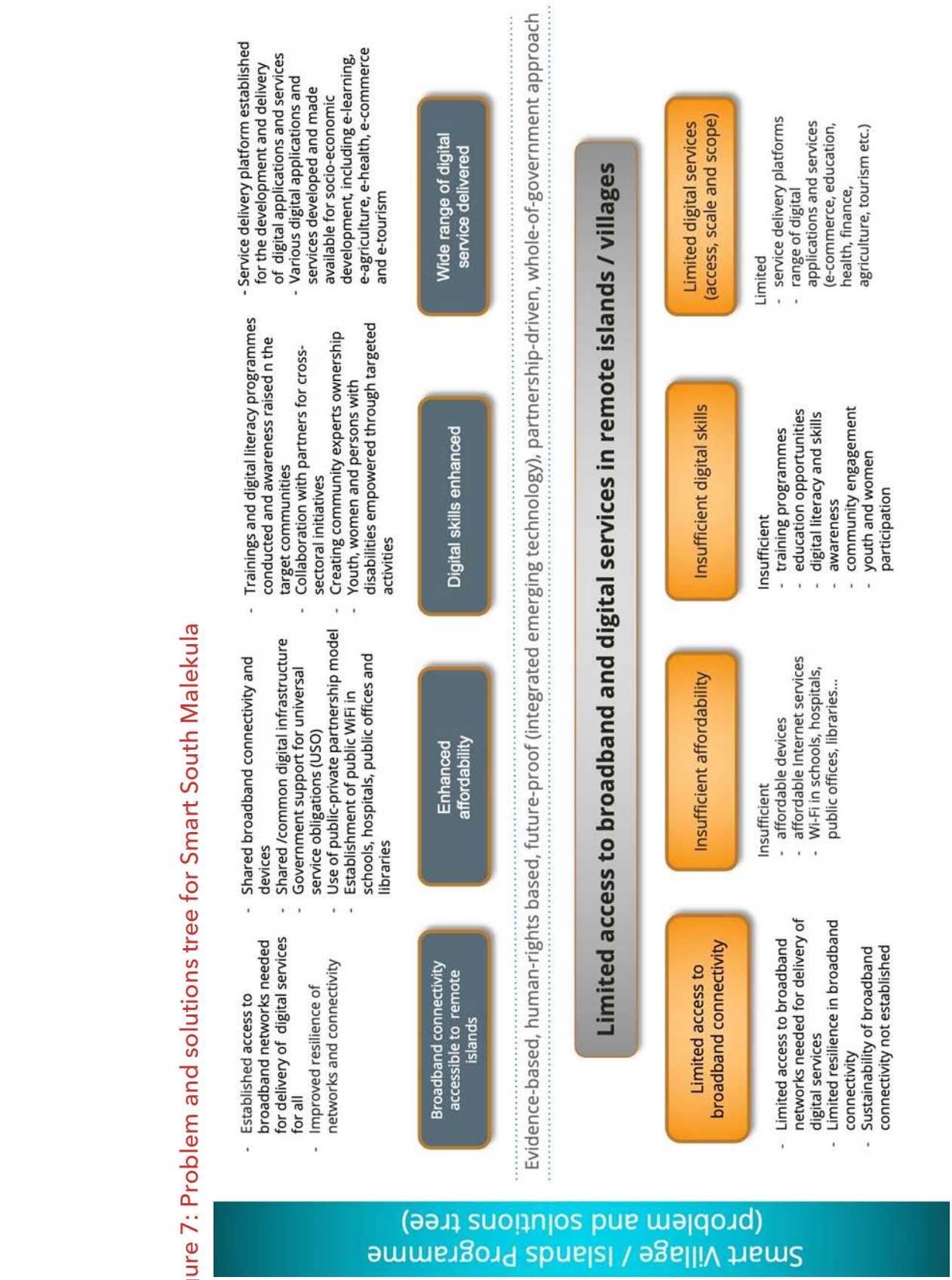


Figure 7: Problem and solutions tree for Smart South Malekula



5.1 Potential providers and partners

The study also identified potential partners and sources of support, from private and government service providers to international and regional stakeholders (Table 1).

Table : Potential providers and partners

Priority needs	Potential providers and partners
Reliable and good-quality telecommunication network coverage	• The Vanuatu Telecommunications Radiocommunications and Broadcasting Regulator (TRBR) and Government extend support through universal access policy to Smart Islands • Service providers (Vodafone, Digicel and Wantok) take the initiative for improvements based on the outcome of the quality-of-service exercise carried out in 2020 by the TRBR • Other service providers (3 Link Communication, Pacific Networks, Wantok, etc.) use VSAT through Kacific's satellite broadband, which covers all of Vanuatu, develop strategic partnerships
Digital training	• Vanuatu Internet Governance Forum Secretariat • Local private companies, including: o Edwards Institute of Technology o Pacific Inspiro Limited • Vanuatu Institute of Technology • Vanuatu Skills Partnership • Asia Pacific Technical College • Other local professional trainers • Academia • United Nations and other development organizations
Sales and marketing resources and skills	• Ministry of Agriculture, Livestock, Fisheries, Forestry and Biosecurity and all its departments • Identified local individual expertise • Other local companies, including: o Jam Consulting o V-Lab • Vanuatu Institute of Technology • Vanuatu Skills Partnership • Asia Pacific Technical College • University of the South Pacific • National University of Vanuatu
Reliable and renewable power/energy supply	• Department of Energy • Vanuatu Rural Electrification Project • National Green Energy Fund • National climate funds for individual rural electrification system • Global climate funds • Renewable solar power suppliers • GIZ (German development agency)

Table : Potential providers and partners (continued)

Priority needs	Potential providers and partners
Banking services	Parliament recently adopted the National Payment System Bill of 2021, which will soon be gazetted. Commercial arrangements can also be made through: • National Bank of Vanuatu • Bank South Pacific • Bred Bank Vanuatu Limited • Reserve Bank of Vanuatu's Financial Inclusion Programme • Digital financial inclusion solutions for Vodafone (m-Vatu), Digicel (Digi-Cash) and Wantok (Wantok Money)
Improved education environment with reliable Internet connectivity	• Ministry of Education and Training • Department of Education Services • National University of Vanuatu • University of the South Pacific • Malapoa College, etc. • View Point Exchange – a local non-charitable organization assisting schools with online learning platforms
Improved health environment with digitally literate health workers	• Ministry of Health currently promoting roll-out of telemedicine projects through the service provider 3 Link Communication • Local companies Tasinga and Arora partnering with Maewo Telecommunications Committee to implement telemedicine project on Maewo Island • V-LAB incubator • International organizations – Save the Children, Red Cross, Care International, Adventist Development and Relief Agency Vanuatu • Development partners – Australia, New Zealand and others • Other private health clinics and hospitals
Clean water and sanitation	• Department of Water and Energy also implementing projects on islands of Vanuatu • International organizations – Save the Children, Red Cross, Care International, Adventist Development and Relief Agency Vanuatu • Development partners – Australia, New Zealand and others • Private organizations providing clean and filtered water services • Atoll Aqua and others

Table : Potential providers and partners (continued)

Priority needs	Potential providers and partners
Adaptation to the effects of natural disasters and climate change mitigation and adaptation	• Ministry of Climate Change • Ministry of Agriculture, Livestock, Fisheries, Forestry and Biosecurity • Global Green Growth Institute • Green Climate Fund • International organizations – Save the Children, Red Cross, Care International, Adventist Development and Relief Agency Vanuatu • Development partners – Australia, New Zealand and others • All service providers • Vanuatu Government • Natural Disaster Management Office, etc.
Promotion of South Malekula as a tourist destination	• Implement National Tourism Office's Digital Policy (Department of Tourism) • Best Vanuatu Tourism • Vanuatu Skills Partnership • Development partners – Australia, New Zealand and others • International organizations – Save the Children, Red Cross, Care International, Adventist Development and Relief Agency Vanuatu

6 Establishing a governance mechanism

As a next step, it is important to set up a specific programme and project to support the Smart Islands Vanuatu Programme in South Malekula and formalize the governance mechanism.

The community has established the Smart Islands Programme Committee to serve as a point of contact. The committee has nine representatives from each village, in particular people with e-mail access and mobile contact numbers able to receive and send regular updates, as work is required at the community level. There is great interest in and support for this project. At the same time, the committee is established as a point of contact for each village project development.

The Smart Islands Programme Committee is comprised of representatives of the chiefs, church elders, students, young people, women, people with special needs and business operators. The chairman is an active business operator. It is recommended that the government formalize the governance mechanism as part of the Smart Islands Vanuatu Programme governance.

7 Action planning

A detailed action plan with key deliverables needs to be developed pursuant to the various phases of the Smart Islands Vanuatu Programme (Figure 6). A detailed project document should be developed that includes a long-term (5 to 7 years) action plan.

7.1 Short-term actions going forward

In the short term, the following way forward is proposed.

1) **At the community level**

   (a) Identify an expert pool able to spearhead the actions and work to be carried out in each community (Smart Islands Programme Committee and respective communities)

   (b) Identify human resources in the community able to act as the main players and points of contact on the ground for the priority needs identified and listed above

   (c) Identify human resources to be trained to assist with on-the-ground reporting on activities

   (d) Plan a launch date for the Smart Islands Vanuatu Programme

   (e) Keep up to date with the programme status, emerging needs and information from the Government of Vanuatu

2) **At the government level**

   (a) With support from ITU and other key stakeholders, formalize arrangements for and understanding of programme implementation, taking into consideration the steps involved

   (b) Launch the Smart Islands Vanuatu Programme and link it with the Digital Government Roadmap Master Plan and the National ICT Development Framework, so that implementation is formally recognized under Vanuatu 2030 – The People's Plan

   (c) Set up a governance mechanism for the programme

   (d) Identify a dedicated government officer to coordinate the programme and ensure its timely development and delivery

   (e) Mandate all decision-makers in ministries and other key entities, to enhance their awareness of the programme and seek their active participation in it

   (f) Allocate financial and administrative support for the programme

   (g) Provide active government support to all programme stakeholders

3) **At ITU**

   (a) Continue to support programme implementation

   (b) Help the Government formalize the programme

   (c) Help the Government identify partners

   (d) Support government efforts at initial programme and project management and advice

   (e) Source/supply technical capacity to support the roll-out of the programme

   (f) Other activities

7.2 Preliminary recommendations

Community consultations resulted in the following preliminary recommendations.

Institutional set-up

1) Set up a specific programme and project to support the Smart Islands Programme in South Malekula and formalize the governance mechanism
2) Formalize the governance mechanism taking into account the community initiative to establish the Smart Islands Programme Committee

Improve coverage and quality of connectivity in South Malekula

3) Address a letter, signed by the Government and the regulator, to the telecom service providers (Vodafone Vanuatu, Digicel Vanuatu and Wantok Pacific) to inform them about the Smart Islands Vanuatu Programme, seek their support to improve service coverage and quality (upgrade broadband services from 3G to 4G and/or use VSAT terminals for specific centres) and, more importantly, address the priority need for access to village-wide reliable and good-quality voice and data services
4) Arrange with the telecom service providers to develop Wi-Fi network solutions at South Malekula Secondary School to address network issues there

Integration with the Digital Government Roadmap Master Plan

5) Launch the Digital Government Roadmap Master Plan so as to formalize the roll-out of the Smart Islands Vanuatu Programme

Digital skills development

6) In preparation for the roll-out of the Smart Islands Vanuatu Programme, project and activities, and based on existing experience, provide face-to-face or virtual training on how to use smartphones to develop business (taking a smartphone to a smart village), how to use mobile phones or tablets to access government services (especially Health Management Information Systems and Vanuatu Education Management Information Systems using any networks) and other high-priority services
7) In consultation with universities and other training providers, develop (where needed) and provide training on priority skill needs such as sales and marketing, virtually or face to face, depending on the situation (the Smart Islands Programme Committee can help identify people who are prepared, passionate and ready to be trained)
8) Plan to deploy and implement activities as soon as possible
9) Provide digital and financial literacy training, including in the online mobile banking application of the National Bank of Vanuatu and other banks (potential customers need to learn how to make mobile transfers, so as to help reduce travel costs)

Priority digital services

10) Identify the priority government institutions (such as the Ministry/Department of Education, the Ministry/Department of Health, the Ministry/Department of Trades and Tourism, the Ministry/Department of Climate Change, the National Disaster Management Office, the Department of Energy, the Department of Meteorology and Geohazards, the Ministry of Lands and Natural Resources and its departments, and the Ministry of Agriculture, Livestock, Fisheries, Forestry and Biosecurity and its departments), discuss with them the needs identified by the community and prepare an action plan for services that can be delivered as part of the programme

11) Consult with the National Bank of Vanuatu, Bank South Pacific and Bred Bank, including on their financial inclusion programmes and services, to learn if they have any corporate plans to extend services beyond Port Vila (and especially in South Malekula) and invite them to be part of the Smart Islands Vanuatu Programme; encourage the banks to expand financial services in scale (cover more villages) and scope (introduce new services)
12) Consult with agriculture and tourism providers on support for fisheries and tourism on the islands

Reliable energy/power supply

13) Consult with the Vanuatu Rural Electrification Project, including about the national government rural electrification programme under which two of the villages in the Smart Islands programme area were pre-selected, and facilitate coverage of other islands

Further studies and engagement of academia

14) While the programme is being implemented, engage actively with academia to document findings that can facilitate evidenced-based policy-making and conduct baseline and impact studies

8 Conclusion

South Malekula, which is one of the most remote areas of Vanuatu, has a high demand for digital services. The roll-out of the Smart Islands Vanuatu Programme will have a transformative impact on people's lives (Figure 8) and accelerate Vanuatu's progress towards achievement of national and international development goals. Access to quality government services such as education and health care, appropriate water and sanitation services, other government services such as civil registry, proper infrastructure services (roads, wharfs, telecommunication services, electricity), tourism, banking and other business activities will grow with the uptake of digital services under the Smart Islands Vanuatu Programme, thereby accelerating achievement of the goals of Vanuatu 2030 – The People's Plan. It will also lead to the development of new business opportunities, improve existing ones and create synergies across various sectors, thus enhancing sustainability.

Figure 8: Expected impact of the Smart Islands Vanuatu Programme

Learning from this experience, the Smart Islands Vanuatu Programme should be refined and expanded in scope. It should also be extended to other islands of Vanuatu and provide a wealth of experience in digital services to the people of Vanuatu.

Office of the Director
International Telecommunication Union (ITU)
Telecommunication Development Bureau (BDT)
Place des Nations
CH-1211 Geneva 20
Switzerland

Email: bdtdirector@itu.int
Tel.: +41 22 730 5035/5435
Fax: +41 22 730 5484

Office of Deputy Director and Regional Presence
Field Operations Coordination Department (DDR)
Place des Nations
CH-1211 Geneva 20
Switzerland

Email: bdtdeputydir@itu.int
Tel.: +41 22 730 5131
Fax: +41 22 730 5484

Digital Networks and Society (DNS)
Email: bdt-dns@itu.int
Tel.: +41 22 730 5421
Fax: +41 22 730 5484

Digital Knowledge Hub Department (DKH)
Email: bdt-dkh@itu.int
Tel.: +41 22 730 5900
Fax: +41 22 730 5484

Partnerships for Digital Development Department (PDD)
Email: bdt-pdd@itu.int
Tel.: +41 22 730 5447
Fax: +41 22 730 5484

Africa

Ethiopia
International Telecommunication Union (ITU) Regional Office
Gambia Road
Leghar Ethio Telecom Bldg. 3rd floor
P.O. Box 60 005
Addis Ababa
Ethiopia

Email: itu-ro-africa@itu.int
Tel.: +251 11 551 4977
Tel.: +251 11 551 4855
Tel.: +251 11 551 8328
Fax: +251 11 551 7299

Cameroon
Union internationale des télécommunications (UIT)
Bureau de zone
Immeuble CAMPOST, 3e étage
Boulevard du 20 mai
Boîte postale 11017
Yaoundé
Cameroon

Email: itu-yaounde@itu.int
Tel.: + 237 22 22 9292
Tel.: + 237 22 22 9291
Fax: + 237 22 22 9297

Senegal
Union internationale des télécommunications (UIT)
Bureau de zone
8, Route des Almadies
Immeuble Rokhaya, 3e étage
Boîte postale 29471
Dakar - Yoff
Senegal

Email: itu-dakar@itu.int
Tel.: +221 33 859 7010
Tel.: +221 33 859 7021
Fax: +221 33 868 6386

Zimbabwe
International Telecommunication Union (ITU) Area Office
TelOne Centre for Learning
Corner Samora Machel and Hampton Road
P.O. Box BE 792
Belvedere Harare
Zimbabwe

Email: itu-harare@itu.int
Tel.: +263 4 77 5939
Tel.: +263 4 77 5941
Fax: +263 4 77 1257

Americas

Brazil
União Internacional de Telecomunicações (UIT)
Escritório Regional
SAUS Quadra 6 Ed. Luis Eduardo Magalhães,
Bloco "E", 10º andar, Ala Sul (Anatel)
CEP 70070-940 Brasilia - DF
Brazil

Email: itubrasilia@itu.int
Tel.: +55 61 2312 2730-1
Tel.: +55 61 2312 2733-5
Fax: +55 61 2312 2738

Barbados
International Telecommunication Union (ITU) Area Office
United Nations House
Marine Gardens
Hastings, Christ Church
P.O. Box 1047
Bridgetown
Barbados

Email: itubridgetown@itu.int
Tel.: +1 246 431 0343
Fax: +1 246 437 7403

Chile
Unión Internacional de Telecomunicaciones (UIT)
Oficina de Representación de Área
Merced 753, Piso 4
Santiago de Chile
Chile

Email: itusantiago@itu.int
Tel.: +56 2 632 6134/6147
Fax: +56 2 632 6154

Honduras
Unión Internacional de Telecomunicaciones (UIT)
Oficina de Representación de Área
Colonia Altos de Miramontes
Calle principal, Edificio No. 1583
Frente a Santos y Cía
Apartado Postal 976
Tegucigalpa
Honduras

Email: ituteguciglapa@itu.int
Tel.: +504 2235 5470
Fax: +504 2235 5471

Arab States

Egypt
International Telecommunication Union (ITU) Regional Office
Smart Village, Building B 147,
3rd floor
Km 28 Cairo
Alexandria Desert Road
Giza Governorate
Cairo
Egypt

Email: itu-ro-arabstates@itu.int
Tel.: +202 3537 1777
Fax: +202 3537 1888

Asia-Pacific

Thailand
International Telecommunication Union (ITU) Regional Office
Thailand Post Training Center
5th floor
111 Chaengwattana Road
Laksi
Bangkok 10210
Thailand

Mailing address:
P.O. Box 178, Laksi Post Office
Laksi, Bangkok 10210, Thailand

Email: ituasiapacificregion@itu.int
Tel.: +66 2 575 0055
Fax: +66 2 575 3507

Indonesia
International Telecommunication Union (ITU) Area Office
Sapta Pesona Building
13th floor
Jl. Merdan Merdeka Barat No. 17
Jakarta 10110
Indonesia

Mailing address:
c/o UNDP – P.O. Box 2338
Jakarta 10110, Indonesia

Email: ituasiapacificregion@itu.int
Tel.: +62 21 381 3572
Tel.: +62 21 380 2322/2324
Fax: +62 21 389 5521

CIS

Russian Federation
International Telecommunication Union (ITU) Regional Office
4, Building 1
Sergiy Radonezhsky Str.
Moscow 105120
Russian Federation

Email: itumoscow@itu.int
Tel.: +7 495 926 6070

Europe

Switzerland
International Telecommunication Union (ITU) Office for Europe
Place des Nations
CH-1211 Geneva 20
Switzerland
Email: eurregion@itu.int
Tel.: +41 22 730 5467
Fax: +41 22 730 5484

International Telecommunication Union
Telecommunication Development Bureau
Place des Nations
CH-1211 Geneva 20
Switzerland

ISBN 978-92-61-35181-6

Published in Switzerland
Geneva, 2021
Photo credits: Shutterstock