Chapter 10
Self-Determination for the Communication Policy in the Pacific Islands

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10.1 Introduction

Thousands of islands are spread across the vast ocean which covers a third of the Earth's surface. Telecommunication development has always presented challenges for their economical, political, and cultural development in this region.

This chapter will discuss, firstly, how telecommunication was developed in the Pacific Islands with the launching of undersea cables in the early twentieth century and how satellite communication and decolonization developed after WWII. Secondly, the chapter will discuss how Pacific Island people utilize communication networks for their independent movements, even during the colonial time in Vanuatu. Thirdly, the chapter will discuss how Pacific regional organizations utilized the free satellite as a windfall of the US space development.

From these discussions, we will see that the Pacific Island people and developing countries were not merely passive recipients of telecommunication technologies and its development but were people who chose and fully utilized them for their political will for their own purposes.

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10.2 Historical Background of Telecommunication Development in the Pacific

The Pacific Ocean covers a third of the Earth's surface and has about 25,000 islands, currently 1,500 of which are inhabited. First human colonization is confirmed around 50,000 years ago from Papua New Guinea. The second major colonization event was by seafaring peoples who colonized the Pacific Islands. They originated from Southeast Asia, possibly even Taiwan, before arriving in Papua New Guinea and spreading out into Remote Oceania some 3,000 years ago. People were using traditional outrigger vessels, using wind and the movement of tides, and reading star charts, to aid in their crossing of thousands of kilometers. They commuted between the islands traveling over hundreds and even thousands of kilometers, back and forth, exchanging materials such as plants, food, people, and information (Summerhayes 2000). One example is that of the sweet potato which has a South American origin and which was discovered in an archaeological deposit some 1,000 years old at Mangaia, Cook Islands. Archaeological studies proved that this potato was taken by Pacific Island people who visited South America by sailing vessel and then brought it back to their islands (Hather and Kirch 2000).

Information and communication have been actively undertaken across the vast Pacific oceans for many centuries with traditional technologies such as drums, smokes, songs, stories, and other forms of expression except written languages.

The arrival of Europeans in the fifteenth century to the Pacific led to various economic development and social change. The invention of telecommunications in Europe and the USA subsequently came to the Pacific in the twentieth century.

10.2.1 Western Powers in Pacific and Communication Marine Cables

The first telegraph cable was launched across the Pacific Ocean in 1902. It began from Vancouver Island to Fanning Island to Fiji to Norfolk Island and then separated into two cables, one for Australia and another for New Zealand (Headrick 1991). This ensured that all Commonwealth countries of the British Empire were connected – "All Red Line" (see Fig. 10.1). Of course this communication infrastructure was not developed for Pacific Island people but the colonial administration for economic and military purposes. Furthermore the British Empire wanted their communication network to be excluded and not bridging with other countries' networks.

In 1905, the German territory of Yap was bridging the US mainland and Asia Pacific region. First, Yap-Menado and then the Yap-Guam line were launched. In the same year, the Yap-Shanghai line was launched. The Yap-Guam line was connected to Midway-Honolulu-San Francisco; then it reached to New York.

Fig. 10.1 "The All Red Line"

From New York, via Azores Islands in the North Atlantic, the cable was finally connected to Emden, north of Germany.

Again, the German telegraph cable was launched for the German Empire's administration and for economic and military purposes, not for the people of Yap Island (Takaoka 1954).

Headrick described this cable development in his book, *The Invisible Weapon, from 1851 to 1945*. Britain always enjoyed her monopoly and occupied more than half of the world's cable, even though this ratio slightly declined over time. In 1892 it was 66.28 % of the world's total, in 1908 it was 56.22 %, and in 1923 it declined to 50.54 %. America drastically expanded their cable. In 1892 their length of cable was 38,986 km, and after 30 years, the American cable expanded more than three times to 142,621 km making up 24.20 % of the world's cable. The French, who also had territory in the Pacific, owned around 10 % of the world's cable, increasing almost three times over 30 years (in 1892 21,859 km, in 1923 64,933 km). After the three powers, i.e., Britain, America, and France, both Germany and Japan became major cable players having had an opportunity to have territory in the Pacific. Germany, who became united in 1870, had changes in her colonial policy under Wilhelm II and expanded their territories and power, which also caused tension among Western countries. In 1908 Germany possessed 33,984 km of cables which is 7.18 % of the world's total. After WWI Japan also expanded her cables to 14,463 km after obtaining the Micronesian islands as compensation for protecting her allies such as Britain, Australia, and New Zealand from Germany (see Table 10.1 and Fig. 10.2).

During the negotiations for cables across the Pacific, small Pacific islands were annexed by Britain and the USA. In 1888 Fanning Island was formally annexed by Britain. This island is located in the middle of Pacific and is currently within the

Table 10.1 Distribution of cables in the world in 1892, 1908, and 1923

	1892			1908		1923		
	Number of cables	Length (km)	% of World total	Lengthe (km)	% of World total	Number of cables	Lengthe (km)	% of World total
British cables	508	163,619	66.28 %	265,971	56.22 %	795	297,802	50.54 %
American cables	27	38,986	15.79 %	92,434	19.54 %	147	142,621	24.20 %
French cables	74	21,859	8.85 %	44,543	9.41 %	108	64,933	11.02 %
Danish cables	82	13,201	5.35 %	17,768	3.76 %	26	15,590	2.65 %
Germany and Netherland				33,984	7.18 %			
Japan						214	14,463	2.45 %
Others	535	9,206	3.73 %	18,408	3.89 %	2,276	53,819	9.13 %
Total World Cables	1226	246,871	100.00 %	473,108	100.00 %	3,566	589,228	100.00 %

Data from Headrick (1991)

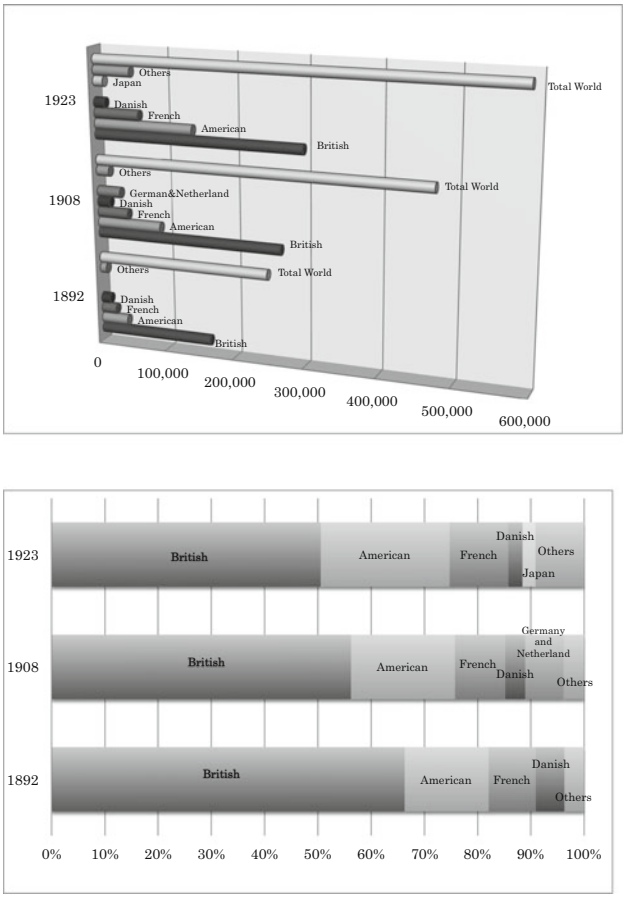

Fig. 10.2 Distribution of cables in the world in 1892, 1908, and 1923 (Data from Headrick 1991)

territory of the Republic of Kiribati. The annexation arose as a result of a British Dominion government-held conference in 1877 which decided that their cable had to land only on British territory. The other island was Necker Island which is located to the northwest of Hawaii. In 1894 the colonial conference at Ottawa endorsed the cable project from Vancouver Island to Necker Island and then to the British Fanning Island. There was an attempt to raise the British flag on Necker, but the provisional government of Hawaii quickly sent a ship and formally annexed it (Headrick 1991) (see Fig. 10.3).

Thus British communication cable policy was the dominant, both physically and politically, in the world. As a result, small islands were annexed for their communication policy, and this communication policy of monopoly remained until recently after more than 100 years in the Pacific Island countries.

Fig. 10.3 Ceremony to annex Mokumanamana (Necker Island) for the provisional government of Hawaii (Source: Ben H. Norton – Bernice P. Bishop Museum, taken from Wikipedia)

10.2.2 Decolonization and Satellite Development After WWII

It is reasonable to start with the "The Missing Link" as officially titled and also known as the "Maitland Report" to describe the historical background to Information Communication and Technology for Development – ICT4D. The "Missing Link" was released in 1985 from ITU as the first comprehensive study on ICT4D. However, I would like to summarize events from a few decades before which led to this report.

The events begin in the mid- to late 1950s with the Bandung Conference (1955) and the Sputnik Crisis (1957) – in other words, decolonization and space development under the Cold War. These two events and movement showed us that space development and decolonization (post-colonization) were synchronized for ICT4D. One of these movements was a demand from newly independent countries for their equal right for new space territory which at that time was a new territory for nation-states. The other movements were a demand from two hegemonies – the USA and Soviet Union, who both wanted to develop space technologies for their power struggle as well as obtaining newly independent countries for their political allies.

10.2.2.1 Decolonization and Space Development: Bandung Conference and Sputnik Crisis

After WWII, decolonization accelerated. In 1946 there were 55 member states in the United Nations; by 1970 membership became 127.

A major symbolic event for the decolonization movement was held in 1955 at Bandung, Indonesia. Twenty-nine decolonized countries from both Asia and Africa gathered and agreed to a ten-point "declaration on promotion of world peace and cooperation," which included human right, sovereignty, and equality of all races.

Following this first conference of non-allied countries, the Soviet Union in 1957 was successful in launching the space rocket Sputnik. This action raised tensions of the Cold War. Non-allied newly independent countries who gathered at the Bandung Conference were dragged into the respective camps of the two hegemony powers.

After the competition between the USA and Soviet Union began in 1957, 1 year later in 1958, the United Nations Committee on the "Peaceful Uses of Outer Space" was provisionally launched and then was formally established as a UN resolution in 1959.

The ITU – International Telecommunication Union – which was established in 1865, is the oldest international organization in existence. In 1952 the ITU became an official participating organization in the UN Expanded Programme of Technical Assistance. The aim was to recruit and send experts to developing countries to help in various technological fields, as well as to support the training of local personnel. In 1959 the ITU took over the management of its technical assistance schemes for telecommunications, with the creation of a department for that purpose the following year. This could be the origin of ICT4D.

In 1961, John F. Kennedy, US president, made a historical speech before the UN General Assembly which included the proposal for the peaceful space development and global system of communications satellites linking the whole world by telegraph and telephone and radio and television:

> . . .As we extend the rule of law on earth, so must we also extend it to man's new domain – outer space.
>
> All of us salute the brave cosmonauts of the Soviet Union. The new horizons of outer space must not be driven by the old bitter concepts of imperialism and sovereign claims. The cold reaches of the universe must not become the new arena of an even colder war.
>
> To this end, we shall urge proposals extending the United Nations Charter to the limits of man's exploration of the universe, reserving outer space for peaceful use, prohibiting weapons of mass destruction in space or on celestial bodies, and opening the mysteries and benefits of space to every nation. We shall propose further cooperative efforts between all nations in weather prediction and eventually in weather control. We shall propose, finally, a global system of communications satellites linking the whole world in telegraph and telephone and radio and television. The day need not be far away when such a system will televise the proceedings of this body to every corner of the world for the benefit of peace.... (John F Kennedy, Address Before the General Assembly of the United Nations, September 25, 1961)

Kennedy and the USA's intention may have been to make allies with those newly developed countries as part of global strategic information control under the Cold War time. Kennedy's speech led to the establishment in 1964 of INTELSAT – International Telecommunications Satellite – service organization. In the same year, the Soviet Union also established INTERSPUTNIK, another satellite service organization. Opportunities existed for the newly developed third world countries to access these satellite information systems, yet again they were divided into the US and Soviet Union hegemonies.

In 1965 the United Nations Development Programme (UNDP) was established, and development for these newly independent nations was strengthened. Space development was also reinforced. As a result, in 1969 humanity made its first steps on the Moon – just as President Kennedy had promised in his 1962 speech.

10.2.2.2 Neglected Voices: "Many Voices One World" and "Bogota Declaration"

Was space development successful for "peaceful space development and global system of communications satellites linking the whole world" as Kennedy urged in his speech? The answer was NO.

The divide of wealth between developed and developing countries was further widened in the 1960s and 1970s. ICT was no exception. Studies in both media and communication showed that the flow of mass media information between developed and developing countries was obvious and that this situation worsened the divide and put up obstacles for development.

In 1969, UNESCO spoke about the "New World Information and Communication Order" and in 1977 launched the International Commission for the Study of Communication Problems asking the Nobel Peace Prize activist Seán MacBride to take the lead. In 1980 this committee released a report titled "Many Voices One World," or as it was well known as the "MacBride Report." The report was condemned by both the USA and UK as it was thought to have been against freedom of expression.

In 1976 there was another voice from developing countries on space satellite development which was ignored by the hegemony again. Eight countries from the world's equatorial zone, Brazil, Colombia, Ecuador, Indonesia, Congo, Kenya, Uganda, and Zaire, joined together at a conference and signed the Bogota Declaration. This declaration made clear that the geostationary orbit arc above each country is the sovereign territory of that country. The declaration also stated that such sovereign rights are in the best interest of all countries and all mankind, not just the most developed countries. Following on from this, it was also thought that the geostationary arc above the oceans was part of the common heritage of all mankind and should be exploited to the benefit of all mankind. Those countries that were developed in space exploration such as the USA did not reply to these demands from developing countries and continued to enjoy their monopolized

space technology and powers not for the betterment of developed countries but strengthening their own military-industrial complex.

It should be noted that the Kingdom of Tonga, located in the Pacific, started Tongasat in 1988 and that this influenced the monopoly satellite service of INTELSAT which led to the liberalization of satellite business in 1990s.

10.2.3 Summary

In the early twentieth century, undersea communication cables were launched across the Pacific Ocean. Some islands were annexed by the USA and Great Britain for this explicit purpose. But these ICT developments were not for the Pacific Island people but for colonial countries such as Britain, the USA, Germany, and Australia. Furthermore, competition between these colonial powers had an impact on ICT development policy, especially Great Britain, until recently who left telecommunication policy regime as legacy to the Pacific Island countries.

After the Sputnik Crisis, space development was the result of fierce competition between the two power hegemonies under the increasing tension of the Cold War. The ICT environment was divided between developed and developing countries. There were two significant voices from the developing countries – "Many Voices One World" and "Bogota Declaration" which were ignored. In 1982 ITU reacted to this discontent on the information and communication divide. During the ITU Plenipotentiary Conference held in Nairobi in 1982, the Independent Commission for Worldwide Telecommunications Development was set up. In 1983 the international study committee was launched under the chairmanship of Donald Maitland, and its report was submitted in 1985. Officially titled "The Missing Link," this report revealed the huge telecommunication divide between developed and developing countries. The report obtained wide attention from the world.

However, the ITU and developed countries had not been so active until they launched in 2003 WSIS (World Summit on the Information Society) which has special attention on the Pacific Islands. Behind this ITU and UN initiative, there was strong concern about the US hegemony on Internet governance. Interestingly, the Pacific Islands had a strong position on this political issue with more than ten voting rights at the international arena.

This story tells us the complex historical background of communication which was developed as a result of the interaction between the demand for rights of space territory, technology, and information and communication equality from decolonized countries and the demand of military-industrial complex of the world's hegemonies led by the USA and the Soviet Union who used lip service toward the peaceful use of space and global benefit.

10.3 Communication Development During the Colonial Time: Vanuatu Case

During the colonial era, were the Pacific Island people hopeless in developing communication and its policy? Vanuatu who obtained independence in 1980 showed us their unique position regarding communication policy and which led their independence movement.

10.3.1 Background of Vanuatu

Vanuatu is located in Melanesia, Oceania, and lies between latitude 16° 0′ S and longitude 167° 00′ E, which is northeast of New Caledonia and southeast of the Solomon Islands (see Fig. 10.4). The first human colonization in Vanuatu is confirmed around 3,000 years ago. These first inhabitants were part of the Austronesian expansion of Lapita cultures who originally came from Southeast Asia. There is a diversity in the languages of Vanuatu having some 113 in number. These are all Austronesian languages and no doubt reflect the complexity of interaction over a 1,000-year period since initial colonization with people further west. However archaeologists and linguists are still arguing this question.

In 1606 the Spanish arrived and set up a settlement on Espiritu Santo under the leadership of the Portuguese explorer de Quiros. The next European to arrive was in 1768 when the French explorer Louis Antoine de Bougainville rediscovered the

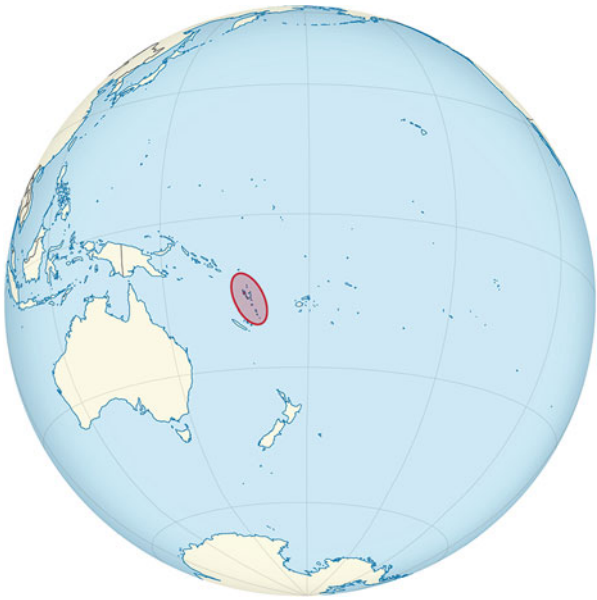

Fig. 10.4 Location of Vanuatu (Source: TUBS, taken from Wikipedia)

islands, and then in 1774 the English explorer James Cook arrived and named the island chain as the New Hebrides. In 1825 European traders found sandalwood, and afterward European immigration started. Blackbirding followed which involved the abduction and forced labor for almost half a century of some 60,000 Melanesian people from New Guinea, the Solomon Islands, and Vanuatu, to work on sugarcane and cotton plantations located in Queensland and Fiji. Christian missionaries also arrived in the early nineteenth century using Polynesian evangelists to make the initial contact. The British and French both had interests in the New Hebrides leading in 1906 to both governments agreeing to a condominium regime, i.e., there were two schools, two hospitals, etc., one British and one French. This was quite a unique type of colonial governance in the world, and it was also the root for the complex social and political framework of Vanuatu until now. Many lands were sold to the French and British for very low prices. During WWII, Santo Island was the main US military base for Pacific theater of war.

The movement for independence started in the 1970s with local leaders such as Father Walter Lini, who became the first prime minister of Vanuatu. However, the French tried to stop independence, while the British supported it. Finally in 1980, Vanuatu, which has 113 languages spread over 82 islands, obtained independence.

In 1957 the French and British administration established an Advisory Council to discuss each year common political matters such as infrastructures, education, and health. Hereafter I would like to see how language in communication was discussed in this Advisory Council.

10.3.2 "Use of Pidgin in News Media"

The Advisory Council met almost every year during the time of the English and French condominium (Jackson 1972). In 1971 the 22nd New Hebrides Advisory Council Session discussed in the agenda the "use of pidgin in news media." This record tells us how language in the media was discussed under the colonial administration and how "Bislama," which is now one of the official languages in Republic of Vanuatu, survived in the media.

According to the proceedings, Archdeacon Rawcliffe, a member of the Advisory Council, suggested the use of "Bichelamar" (Mr. Rawcliffe's use of "Bichelamar" is hereafter called by its common expression "Bislama") as one of the languages to be used in the news media. He explained his reasoning as thus:

- Bislama is a language in its own right.
- It is a mistake to think of it as a form of English, a debased form of English.
- It is in fact a cultural achievement of New Hebrideans in the past.
- It is not something which has been evolved by Europeans.
- This is shown clearly by the fact that although the roots of the words are mainly English, the grammar is entirely "Melanesian."
- This is why he prefers some other names and not that of pidgin English.

Then Archdeacon Rawcliffe concluded:

> It is easy for English-speaking people to view this language as a form of English and therefore to think of it as being "quaint" or "funny" but once you look at it as a language in its own right and not as a form of English you view as something that should continue to exist as a lingua franca (Proceedings of the New Hebrides Advisory Council, 22nd Session, 14–17th December 1971).

He also suggested that Bislama needed an orthography rather than to use English spelling, as Papua New Guinea had done. I assume that the reason Archdeacon Rawcliffe made a motion on this issue was because of negative actions or opinions on the use of Bislama on radio programs around 1970.

M. Delacroix, an ex-soldier and French businessman, disagreed with Mr. Rawcliffe's argument and argued that Bislama should not be the third official language. He also suggested that speaking Bislama will be a disadvantage in the future:

> These who in this country will speak Bislama in future times rather than another language will see themselves cut off from several outlets and will find themselves limited in modern society (Proceedings of the New Hebrides Advisory Council, 22nd Session, 14–17th December 1971).

Mr. Seagoe, a British district officer, supports Archdeacon Rawcliffe such that:

> . . .if we limited the language to English and French, 75 % of the population and more will not understand what is going on in radio Vila. . . .broadcasting service is of more importance to the New Hebrideans than Europeans. . . (Proceedings of the New Hebrides Advisory Council, 22nd Session, 14–17th December 1971)

Mr. Abbil, who in 1971 held a position at the New Hebrides Cooperative Department, suggested the use of pidgin English on the radio for some 15–20 years until the Ni-Vanuatu could speak a major language (I assume English or French). He did not support Bislama as a full language in its own right.

Mr. Kalkoa supported the use of Bislama on radio and also made an indirect political comment for the future:

> . . .I tend to think that the pidgin which is at present use in the Radio Vila is not up to the standard and I am afraid the Melanesian on Radio Vila need better training in this language.
> . . .I should like to see pidgin English maintained, as far as this group or territory is concerned as we never know what may happen in the future (Proceedings of the New Hebrides Advisory Council, 22nd Session, 14–17th December 1971).

He may have been referring to future independence and what may happen. Both Papua New Guinea and the Solomon Islands obtained their independence in 1975 and 1978, respectively. I assume that the possibility of independence was discussed in Vanuatu in 1971 when this council was held.

Father Leymang, a Ni-Vanuatu Catholic priest, agreed with Archdeacon Rawcliffe's argument for the use of Bislama in the media, but "it should be second language between the islands to awaken people as to their belonging to a greater sphere from a political point of view. . ." and ". . .but (not) make pidgin into a written language and to an official language...."

At the end of this discussion, the council did not make a decision on the use of Bislama on radio or not, and they also did not make a decision on an official

language or not. The president of the council, Mr. Allan, noted that a vote would not be taken and that the matter should be left to information services in preparing a recommendation to the Resident Commissions based on the debate.

The majority of the council members held a negative impression on the use of Bislama as a lingua franca, while a few agreed to use Bislama only for their convenience. The exception was Archdeacon Rawcliffe who defended the right of Bislama's use as a lingua franca.

10.3.3 Independence Movement and Role of Radio and Bislama

Discussion on the use of Bislama in the Advisory Council was actually a very critical element for the unity and movement of independence by the indigenous people of Vanuatu. For example, Bolton discusses the influence of radio communication to creating the unity of Vanuatu.

Bolton discussed interconnections between kastom, government, and radio in her paper "Radio and the Redefinition of 'Kastom' in Vanuatu" (Bolton 1999). Bolton discussed the definition of "kastom" (custom in Bislama) as:

> . . .I suggest that the term originally derives from missionary endeavors to make a distinction between unacceptably heathen practice, and acceptably Christian behavior. The antithesis of kastom in this opposition is the Bislama term skul, which until the late 1960s the tern kastom carried a negative connotation.... (Bolton 1999)

With 113 separate languages and cultural groups who live on separated islands, they did not have any common consensus on kastom or even a common uniform Bislama language. However, radio which communicated throughout the archipelago redefined kastom and helped standardize Bislama. The program of radio did not have any official policy to broadcast local contents and language, but as the fact they did. This was a major contribution to the identity of unity which also led to independence:

> The importance of the radio in the redefinition of kastom is a function of the way in which radio created nationally received forum for the communication of ideas. (Bolton 1999)

In the late 1970s, there was no standard Bislama. There was plantation Bislama, French Bislama, English Bislama, and versions of Bislama in specific certain islands. Again radio had a major role to standardize Bislama:

> The contribution of radio to the standardization of Bislama. . ., is very important to kastom. In order for local knowledge and practice to be presented to an archipelago-wide audience it has to be made at some level comprehensible in a language common at all, that is, in Bislama. . . .it is the radio, in this sense, that made kastom a nationally recognized phenomenon. (Bolton 1999)

Bolton also discussed the distinction of attitude between "listen" and "hear":

> The ear is passive, open to all stimuli. Listening is an active function by which a person tunes in to a particular sound. . .

So the radio had a role for "listening" and not merely "hearing" by Ni-Vanuatu. Kastom and a Bislama formed a common identity and unity which led to the independence of the whole archipelago – Vanuatu. Radio was critical in this.

10.3.4 Summary

Interestingly although the indigenous Ni-Vanuatu even did not have citizenship nor much of a voice on the colonial council during this period of time, as Rawlings (2012) discussed, they expressed a strong support to using Bislama as a language and also for local contents on the radio. This led to and also supported the movement of unity for the diversity of Vanuatu people and also the independence of Vanuatu. I would like to argue that people of Vanuatu were fully aware of the power of communication and chose the language and contents for their own reasons. This did not arise from any specific policy framework; however, we can see from the hindsight of the present that Ni-Vanuatu made communication policy as their political will.

10.4 Satellite Development and Regional Organizations: PEACESAT and USPNet

Pacific Islands had a unique opportunity of using the "free" satellite of the USA for four decades – 1971–2012. This satellite made possible a unique distance higher education network which connected twelve island nations for the regional university – the University of the South Pacific. The other regional organization Forum Fisheries Agency also utilized this satellite and obtained Internet service in the early 1990s.

10.4.1 PEACESAT: Windfall of US Space Development

After the Sputnik crisis in 1957, the USA accelerated space development. In 1958 the USA established the National Aeronautics and Space Administration (NASA) under the Department of Commerce and developed a series of communication satellites. The Applications Technology Satellite (ATS) series was one of them. ATS-1 was launched in 1966, but ATS development needed to face resistance from some members of the Congress who feared that NASA was developing technology for the benefit of a private company, i.e., Comsat. So NASA needs to work with the Department of Defense (DoD) to avoid this criticism, and DoD started to influence the ATS series.

Originally, ATS series were not developed for the Pacific Island people but for the US national interests such as space development during under Cold War era. There was pressure not only from the US Congress to the Department of Commerce who obtained huge budget for space development but also international criticism on the US monopolization of outer space.

When the "weather" experiments were completed in 1969, NASA offered free access to the satellite to any nonprofit group (Lewis and Mukaida 1991). The University of Hawaii developed a proposal for NASA's offer and started PEACESAT (Pan-Pacific Education and Communication Experiments by Satellite) in 1971. After 42 years, this experiment ceased on 12 April 2012.

I would suggest that PEACESAT had two stages in her 42 years of history. Stage one was using ATS-1 from 1971 to 1985 (16 years), with their main user in Pacific Islands being USP. Stage two was using satellite GOES series from 1987 to 2012 (25 years). This started with the Forum Fisheries Agency (FFA) as the major user in the Pacific Islands. In this chapter, I would only discuss about USPNet due to limits of space. FFA was established in 1979 with 17 member countries. One of their roles was to provide information to all member countries. PEACESAT installed the Internet in their operations in Hawaii, and this made it possible for FFA members to use the Internet. FFA was one of the first organizations to introduce the Internet into the Pacific Islands (Lassner n.d.). However, FFA withdrew from PEACESAT in the late 1990s as a result of advances in technology and the privatization of satellites, which allowed them to have their own or use another network that was more efficient and stable.

10.4.2 USPNet

10.4.2.1 Birth of Regional University for Pacific Islands: USP

How was the concept of the University of the South Pacific formed? The British and New Zealand governments agreed to study the possibility of higher education in the Pacific and published their results in the so-called Morris Report in 1966. There was an idea to utilize the New Zealand Royal Air Force complex located at Laucala Bay in Suva for the new higher education institute. This New Zealand Royal Air Force complex was built in 1942.

Why Britain and New Zealand studied this issue? In 1966 the British still had colonies such as Fiji, Kiribati, Tuvalu, and Solomon Islands in the Pacific. New Zealand also had their trust territory of Western Samoa and the protectorates of Cook Islands and Niue. While Australia had Papua New Guinea as a trust territory, there was another idea to establish a higher education institute in Papua New Guinea.

The Morris Report made an important and clear statement that "we have unanimously come to the firm opinion that what is needed is a fully autonomous university." "Accordingly we recommend that steps be taken as soon as possible to

establish such a university, to be called the University of the South Pacific," in Suva, Fiji (Morris Report 1966). The Morris Report also proposed that USP should be regional in character as well as in its mission (Renwick et al. 1991). The Morris Report also emphasized "extramural studies" as "The University should have an Extra-mural Department to enable it to carry university studies to towns and villages through the region."

By 1968 the university's extension activities had been identified in a very broad outline (Renwick et al. 1991). The first Diploma of Education courses were taught to off-campus students in 1971. On 5 March 1970, the University of the South Pacific was established with a royal charter, i.e., Queen Elizabeth as head of state of Fiji. In the same year, on 10 October, Fiji gained their independence from the UK, but still Queen Elizabeth was the head of state.

USP's regional structure has always received attention from international experts because of its uniqueness. Actually there are only two "real" regional universities in the world. One of them is USP and the other is the University of the West Indies. One of the reasons for USP's success as a regional feature is that each of the member countries has had university centers from the beginning. Dr. Aikman, the first vice-chancellor, was successful in obtaining a grant from the Carnegie Corporation to build the regional centers. These centers support students enrolled in the USP's external courses but also connect with local people and transmit USP's information to them as well as their needs to university.

Before satellite technology was introduced to the university, they utilized the postal service for their extension courses. Even after the satellite network was installed into each of the centers, the postal service was still used to send textbooks and so on. Thus the current USP feature of regionalism and the functions of distance education were firmly conceptualized and architected before the satellite network was introduced.

10.4.2.2 Birth of Distance Education Network: USPNet

The Renwick Report pointed out that the vice-chancellor and senior members of USP were already aware of the possibility of using a satellite system for their extension service from an early stage. The president of the University of Hawaii was a member of USP's council, and he opened the door for USP to utilize the PEACESAT project (which was started in 1970 at UH) which was using a used satellite: ATS-1 of NASA. Although NASA offered the satellite for free use, USP needed to establish earth stations in each of their centers. Again the Carnegie Corporation provided a grant that made it possible for USP to make contact with NASA and the US Agency for International Development (USAID) in preparing the USPNet project.

In 1972 USPNet's first terminal opened at the Laucala Campus, followed by Nuku'alofa in Tonga. By 1976 USP extension centers in Rarotonga, Port Vila, Honiara, Tarawa, Apia, and Niue were linked, followed by Tuvalu in the following year (McMechan 2000) (see Fig. 10.5).

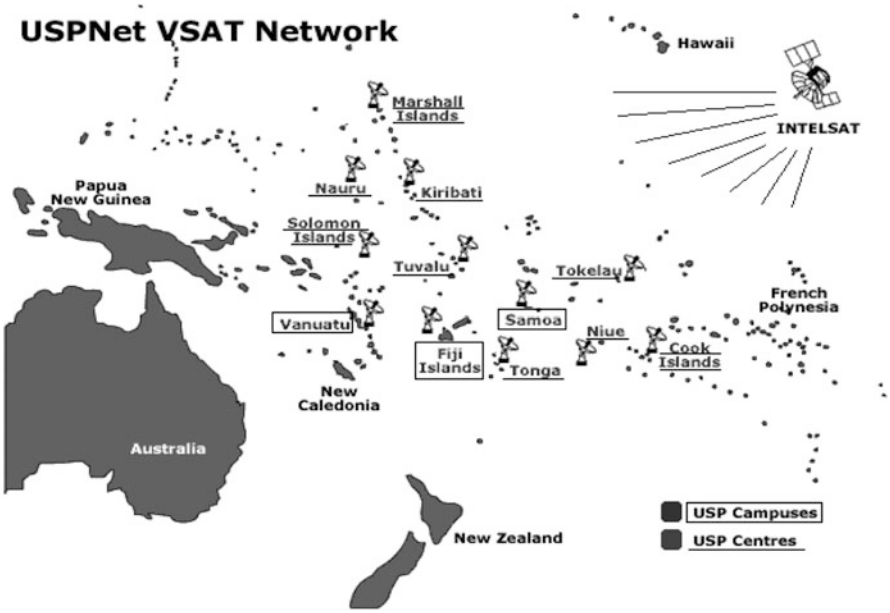

Fig. 10.5 USPNet (From USP website 2005)

The number of extension courses and students drastically increased. Although the ATS-1 satellite was lost in 1985, within 8 years, the number of students increased threefold. From 1980 to 1989, extension courses were increased fivefold (Renwick et al. 1991).

10.4.2.3 Friction: PEACESAT and USPNet

Because USPNet was using the same satellite as PEACESAT and PEACESAT UH was managing the network, USP had been having some stress to work with PEACESAT. "USP Centers found the maintenance of general PEACESAT program difficult" (McMechan 2000).

Some reports (Lewis and Mukaida 1991) described USPNet and other networks, such as Kangaroo Net, using ATS-1 as "part" or "under" the PEACESAT project. However, USP made it clear that USPNet was operating independently from PEACESAT (McMechan 2000). Yet, as pointed out by McMechan, because of USPNet and its location in the Pacific, PEACESAT could truly be said to be "pan-Pacific" in its coverage. However, this was the direct result of USP being the main user of ATS-1 in the South Pacific.

It could be argued that the PEACESAT operation based in the University of Hawaii did not make as much of a contribution to the Pacific Islands as has been

argued, but rather the USP did by using ATS-1. Furthermore, McMechan criticized the PEACESAT operations in UH arguing that they imposed a burden on the other terminal centers in the Pacific Islands, such as the USP centers. This was based on the voluntary nature of USP's cooperation with PEACESAT, while the reverse was not true. PEACESAT staff were paid for their projects, while Pacific Island people working for USP had to sacrifice their work time for PEACESAT.

This history of PEACESAT and USPNet highlights the difficulties that existed and perhaps why USP did not want to participate with any project using a satellite that was shared with PEACESAT anymore. However, there was another reason why USP wanted to have its own satellite network. One of the directors of the Extension Center, Dr. Claire Matthewson, stated that "Some particular 'satellite events' deserve recounting" (Matthewson 2000) with USPNet, that is, disaster, contagious disease, and coups. The small scales of economy in island nations do not allow them to have multiple networks. Big economic countries, such as Japan, have a few marine communication cables and a few satellite networks. If one of them is not working, then the telecommunication carriers switch to an alternative network. There is always a backup for telecommunication services in developed countries, but not in small island nations.

During the occasions when the national telecommunication service was out of action or its use prohibited by their national authority, the USPNet was robust enough to connect people, students, and their families of all member countries. USP is not a national body but a regional organization, and it is this reason why they can legally escape from the influences of national government. Such occasions were:

1972 Cyclone Bebe
1976 Cholera Tarawa
1977 Earthquake Guadalcanal
1987 Coup in Fiji

This backup function of USPNet was also the most important reason for USP's proposal for an independent satellite network after the ATS-1. USP was convinced to keep separate communication networks from the national telecommunication carrier.

10.4.2.4 USPNet: From Free Satellite to Commercial Satellite

On August 1985, ATS-1 was finally disconnected, with USP and other users losing their satellite network. However, as we already noted, the "extension service" was the original mission of USP as the system of extension service was developed as the heart of USP. It was not long before connections were made. In the following year from September 1986, with the support from Ratu Sir Kamisese Mara, USPNet was reestablished using a "Project Share" agreement with INTELSAT in which the use of their satellite was provided for free.

This "Project Share" arrangement was the start of a period from September 1986 to September 1990. However, some centers only connected using HF radio: Niue,

Western Samoa, and Kiribati. In Kiribati, unfortunately the satellite service was disconnected in 1988 as their privatized telecommunication carrier decided to charge full commercial rates – rates that USP could not pay (Renwick et al. 1991).

Prior to the satellite connections being reestablished, problems existed between USP and their national telecommunication carriers. The main problem was the lack of service from the telecommunication carrier with the "landlines" that connected USP. For example, in the USPNet upgrade proposal, it is seen that the list of "a typical fault register from June 1990 to December 1993" shows the length of time USP centers were disconnected from their national telecommunication station. In some cases, USP was disconnected for more than 1 month.

Thus we can see that around the end of the 1980s, USP was convinced to have their own satellite network because of the:

(i) Negative experience with PEACESAT
(ii) Negative experience with national carrier
(iii) Confirmed need for USP regional mission – extension service and higher education
(iv) Confirmed need for backup network – disaster coups

10.4.2.5 Japanese ODA for USPNet

In August 1988, the Japanese NGO, the Sasakawa Peace Foundation (SPF), hosted the Pacific Island Nations Conference in Tokyo, Japan, and invited leaders from Pacific Island nations including Rt. Hon. Ratu Sir Kamisese Mara of the Republic of Fiji.

In January 1989, Mr. Sasakawa met with Ratu Mara. At the meeting, Ratu Mara sounded out the possibility of support for launching a satellite for the whole Pacific Island nations. Ratu Mara pointed out three needs for a telecommunication service to the Pacific Islands:

(i) Communication service between the main islands and remote islands.
(ii) Hot line system which is connected to all Pacific Island leaders simultaneously. This is what happened with ATS-1 in the past.
(iii) Reestablish USPNet.

Ratu Mara confirmed that point 3, USPNet, was the highest priority.

In 1993 the SPF launched the Distance Education Development Study Committee for the Pacific region, inviting Japanese experts on telecommunication and education to study distance education, with a main focus on USPNet.

The first draft of the upgrade USPNet proposal was submitted to the SPF in 1992. Subsequently foundation kept discussion with USP on their proposal. One of the critical decisions of USP board – Ministers of Education – was that they agreed to have a separate network from an incumbent monopoly telecommunication carrier. Most of Pacific Island nations had exclusive monopoly license to the national telecommunication company, so this national and regional decision made a huge

repercussion, as well as taking high risk at that time when the satellite industry was still uncertain for the competition and sustainability.

In 1995 the SPF made the decision to take the USPNet upgrade proposal to the Japanese ODA and started work with the forum and USP to approach the Japanese government. In October 1996, Hon. Amata Kabua was invited to Japan as the chair of the South Pacific Forum (currently Pacific Islands Forum), along with Forum Secretary General Hon. Ieremia Tabai, who is the first president of Kiribati, by the Japanese government as part of an annual event. They brought with them the USPNet proposal and handed it directly to the Japanese government without any preliminary discussions nor discussions with the Japanese Embassy in Suva. As background, it should be noted that the Hon. Amata Kabua made the decision to have the Marshall Islands join USP in 1991, despite Marshall's education system following US and the USP following UK. He believed that the USP education was much suitable and feasible for his country's youth rather than the US education system. It means that he is a strong supporter of the USP as well as its distance education system – USPNet. There was another coincidence. When he visited Japan in 1996, he was also the chancellor of the USP. It meant that he was invited as the chair of the forum, yet as he also wore the hat of the chancellor of the USP, he submitted the USPNet proposal.

This unexpected submission of the proposal directly to the Ministry of Foreign Affairs of Japan had an initial very negative reaction.

In 30 April 1997, both the Japanese and New Zealand prime ministers announced their support of USPNet at a joint press conference by Prime Minister Hashimoto and Prime Minister Bolger at the Japan-New Zealand Summit Meeting. After 6 months, in October 1997, the first Pacific Islands Leaders Summit was held in Tokyo, Japan.

What had happen between October 1996 and April 1997 – a period of only 5 months? There was an urgent need for the Japanese government to make a commitment to Pacific Island countries, especially toward the South Pacific Forum. What was happening between the forum and Japanese government? The answer lies in "plutonium shipping."

From 1992, instead of nuclear waste dumping, Japan started to ship plutonium between Japan and France/England where the nuclear reprocessing facilities were located. In the same year, the South Pacific Forum made a statement on this plutonium shipping in the forum communiqué. This same statement was passed in every forum general assembly over a 15-year period till 2006.

If Hon. Amata Kabua and Hon. Ieremia Tabai did not bring the proposal of USPNet's upgrade to the Japanese government in 1996, USP would not have the opportunity to obtain a grant from the Japanese government who hosted the first Pacific Islands Leaders Meeting in 1997. I would like to stress that this was a result of the regional political will of both the USP and the South Pacific Forum.

USP has now become a leader of ICT development not only in the region but also in all developing countries. The World Bank, Asian Development Bank, ITU, and other donor agencies and countries provide support measures to USP to enhance their capacity for distance education and the whole ICT development. In 2010 the Japan-Pacific ICT Centre was opened with aid from the Japanese ODA (see Fig. 10.6).

Fig. 10.6 Japan-Pacific ICT Centre in USP, Suva

10.4.3 Summary

Why had PEACESAT ceased, while USPNet still continued to grow? Of course PEACESAT was only an experiment, while USP is an institutional mission with many activities, not just an experiment. But we could also notice that PEACESAT's four-decade experiment was heavily reliant on the user needs of USP and FFA, especially from the Pacific Islands, not the PEACESAT operations in the University of Hawaii. In other words, the Pacific Island people and their organizations chose communication technologies for their own mission. The mission of PEACESAT in Hawaii looked lost. Free but unreliable and unsustainable satellite services were not accepted by the Pacific Island people.

However, PEACESAT is still a legacy of the Pacific. This is quoted and highly evaluated in both the "Maitland Report" in 1985 and "the Global Information Infrastructure: Agenda for Cooperation" in 1995. PEACESAT gave the Pacific an idea and opportunity of what ICT could do for education and other public uses in the Pacific Island. This may have led to the Pacific Islands' expressed robust demands of ICT to the development world.

10.5 Conclusion

Because of limits of space in this chapter, I cannot discuss the detailed current development of telecommunication in the Pacific Islands. In the last decade, deregulation and competition were introduced to the Pacific Islands. This is more than 100 years after Britain launched the exclusive undersea cable among her colonies which crossed the Pacific Ocean. Pacific Island governments made the decision to change their telecommunication policy and law which offered exclusive monopoly licenses to telecommunication companies and was for many decades a major obstacle for the ICT revolution. Another element which allowed small and remote islands to enjoy ICT was technological progress, i.e., wireless and compressed technologies. These technologies have drastically changed the picture and it solved "the last one-mile" problem. "The last one-mile" problem is a common phrase for telecommunication network services. Basically, it relates to making network infrastructure with the last one mile, usually into a rural area, very costly due to low population, long distance, costly maintenance, etc. However, mobile phone companies, such as Digicel, are using wireless networks that allow them to easily connect this "last one mile," i.e., outer and remote islands and villages are now connected (see Fig. 10.7).

Thus, the Pacific Island countries who obtained their independence with self-determination from the 1960s to 1990s finally obtained the opportunity to provide telecommunication service to their people at an affordable price. It was their choice

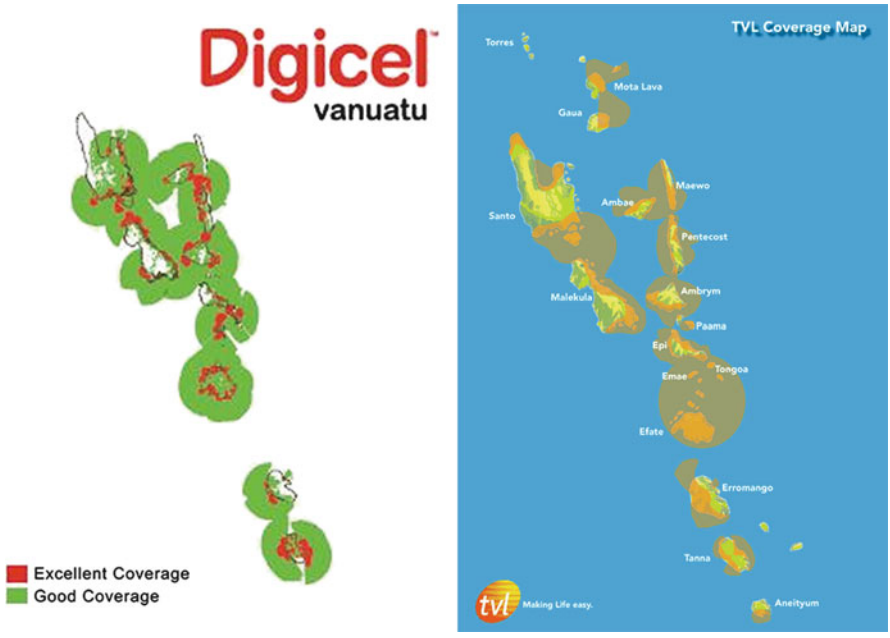

Fig. 10.7 Mobile phone coverage map in Vanuatu Digicel (*left*) and TVL (*right*)

and their decision. However, we should not forget that Pacific Island people were fully aware of the importance of ICT and kept fighting to obtain its opportunity, even during the colonial times and even when the telecommunication companies enjoyed a monopoly.

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