

REPORT

to the

**Ministry of Information, Communications
and Media Relations**

of

Fiji

regarding

Telecommunications Road Map

8 December 2005

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1. General

This report on elements of a Fiji Telecommunications Sector Reform Road Map has been prepared for, and discussed with, the Ministry for Information, Communications and Media Relations as part of a World Bank-financed consultancy. The purpose of the Road Map is to clarify the Government's short, medium and longer-term vision for the development of telecommunications in Fiji. The vision will enable Fiji, in a sustainable fashion, to rapidly expand reliable and affordable telecommunications services to all of Fiji's citizens, with particular improvement in rural areas. The author, Mr. Arno Wirzenius, is solely responsible for any errors, omissions and other deficiencies. The report does not necessarily reflect the opinion of The World Bank.

It is well accepted that efficient, reliable, affordable and widely-available telecommunications services will enhance economic and social development throughout the country, facilitate access by citizens to markets and services and help to integrate Fiji internally. Better telecommunications will also help to reduce the cost of doing business in the Fiji, support diversification of the domestic economy, and promote Fiji's integration with the regional and global economy. To this end, the stage will be set for a liberalised, competitive market structure, taking full advantage of changing technologies, and a modernised legal and regulatory framework for the sector.

The Government believes that liberalisation as outlined in this document will generate growth in the sector to the long term benefit of all stakeholders, including the current operators.

2. Sector status

2.1 Operators and current market structure

Fiji's telecommunications services are offered by six companies, three of which enjoy a monopoly in their respective market. Telecom Fiji, Vodafone Fiji, Connect, Fiji Directories, Transtel, and Xceed Pasifika are directly or indirectly controlled by a holding company, Amalgamated Telecom Holdings (ATH). ATH has also management rights over the government-held shares in FINTEL, the international service provider.

- **Telecom Fiji** is the exclusive provider of local and long distance telephone, telegraph, telex, and data transmission services.
- **Vodafone Fiji** operates under the license awarded to Telecom Fiji, and is the only provider of global system for mobile communications (GSM) mobile cellular services. 49% of Vodafone Fiji is owned by Vodafone International Holding BV.
- **Connect and Unwired** are the commercially active Internet service providers (ISP). Connect is an ATH company, Unwired is private. The University of the South Pacific (**USP**) has obtained an ISP license for internal use. Other ISPs have been licensed since 2001, but not yet started operation.
- **FINTEL** is the exclusive provider of international telephone, telegraph, telex, and data transmission services. 49% of Fintel is owned by Cable & Wireless plc.
- **Coms** is a small private rural wireless operator, providing wireless services mainly to tourist resorts in the Yasawa islands.
- **Fiji Directories** is a nonexclusive provider of directory services.
- **Transtel** provides calling card services, either direct or through ATH operating companies.
- **Xceed Pasifika** business communication and IT solution

Several analyses indicate that the current sector structure and rigid licensing regime with technological restrictions - operators with exclusivity in particular market segments (domestic fixed, international fixed, mobile, Internet) - has hampered service provision. The rigid structures impede beneficial use of the emerging and quickly changing technologies, and do not take account of convergence between telecommunications, Internet and media.

2.2 International comparison

Services are available, primarily in urbanised areas, but tariffs are high by the standards of similar-income economies, and quality of service is variable.

Fiji is classified as a lower middle income country in international benchmarking. Fiji's basic telecommunications indicators relative to this income group are as shown in Table 1.

Yardstick	Fiji's ranking from top	Number of countries
Fixed telephone penetration	24	52
Mobile telephone penetration	31	53
Internet user penetration	22	54

Table 1. Fiji's ranking in main penetration areas. Source: ITU World Telecommunication Indicators 2005, year 2004, or 2003 if 2004 data not available, ATH annual report 2005.

Fiji's ranking is average for fixed telephony, slightly above average for Internet, but below average for mobile services. In 1990, Fiji's ranking for fixed services was 18 of 52 countries. Fiji's ranking in total telephone connections per 100 inhabitants (fixed and mobile) among lower middle income countries is shown in Figure 1.

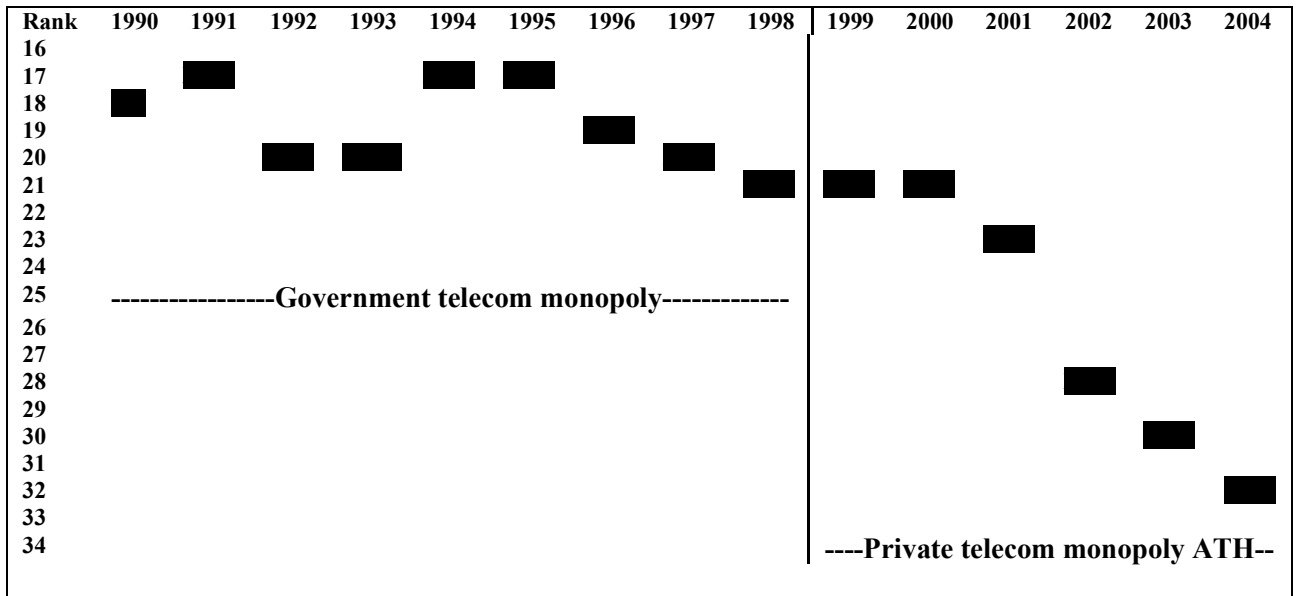


Figure 1. Fiji's overall ranking in total telephone connections per 100 inhabitants (fixed + mobile) among lower middle income countries, total 52 - 54 countries (varies by the year) that have submitted data. Source: ITU World Telecommunication Indicators 2005, ATH annual report 2005. If data for 2004 or 2003 were not available, data for 2003 or 2002 were used.

The overall ranking is deteriorating, in particular in the last few years during the private monopoly period. The obvious reason is that other countries have improved more than Fiji, in particular in mobile.

2.3 Services in rural areas

Provision of services in Fiji's rural areas is among the lowest in lower middle income economies for fixed as well as mobile telephony. See Figure 2 and Figure 3. The main reasons for the poor performance appear to be the limitations imposed by the current licensing regime, and choice of technology and services.

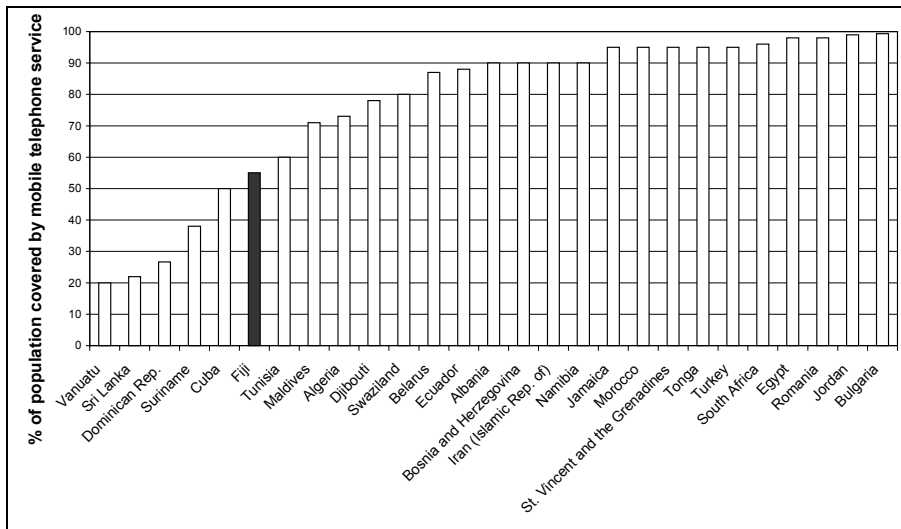


Figure 2. Population coverage for mobile telephone service (means having a possibility to use a mobile phone at home) in middle income countries. Sources: ITU World Telecommunications Indicators, ATH and TFL, years 2002 - 2004.

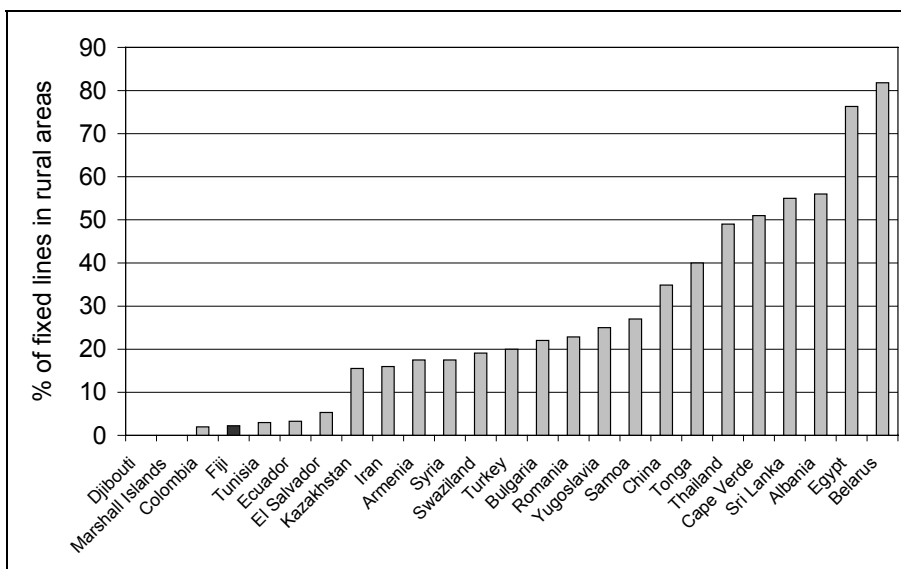


Figure 3. Portion of fixed telephone lines in rural areas in middle income countries. Sources: ITU World Telecommunications Indicators, ATH and TFL, years 2002 - 2004

Another impeding factor is the current objective for service provision in rural areas, one shared telephone per village, upon which the village is considered "served". This objective appears to function in practice as a ceiling for service provision. Furthermore, the shared telephone is in many cases an expensive Drua phone, and users must use Telecards, which increases the call price. Mandating Telecards also hampers availability, as Telecards are usually not sold in the villages where the phone resides, only at post offices and some other distant outlets. This arrangement is likely to further reduce usage and revenue for the telecom operators.

A third factor is the connection charge of fixed telephones in rural areas, in many cases F\$3000 to F\$10,000. The price makes it impossible for virtually all rural inhabitants to obtain a

telephone line. The reason is the past choice of technology and related pricing, and refusal to provide normal services in rural areas.

Mobile telephones are not either available in most rural areas. Appropriate mobile coverage exists in urban areas, but only in few rural areas outside tourist resorts. In many comparable countries mobile services have been extended to many rural areas, on a commercial basis without subsidies. The most important mobile service is prepaid. The mobile revolution has not yet reached Fiji's rural areas.

2.4 Overall conclusion

Telecommunications can be viewed as a stand-alone sector, or an enabling infrastructure for the entire economy. The entire economy is the most important. The entire economy would benefit from the liberalization and opening-up of the telecommunications sector.

The single most important **reason for licensing any telecom operator is provision of services.** The above survey of current access to telecommunications infrastructure and services in Fiji (Figures 2 and 3) indicates that service provision is quite inadequate. Other comparable countries have performed clearly better, in particular in mobile services and services in rural areas, thanks to a competitive market structure. The present arrangement in Fiji with a private monopoly is disappointing.

The objective of liberalisation, allowing new service providers to operate, has already been initiated through licensing of several Internet Service Providers (ISP) in 2001. Due to interconnection difficulties with the present holders of exclusive rights, the first independent ISP started operations only in October 2005.

The entire telecommunications sector now needs to be liberalised. Liberalisation has been included in Government policies, such as the Strategic Development Plan, and agreements, such as the Sales and Purchase Agreement, when FNPF bought the first batch of 49% of ATH in 1998. The purchase agreement stated that FNPF will co-operate with Government in removing all exclusive rights, specifically mentioning Vodafone, Fintel and certain TFL connections, and set a deadline, 1 December 2003 or later.

This document - the Road Map - sets out the Government's vision for the reform and future development of the telecommunications sector, and the proposed sequencing of actions to realise this vision.

3. Basic Road Map

The Road Map consists of four phases as shown in Figure 4

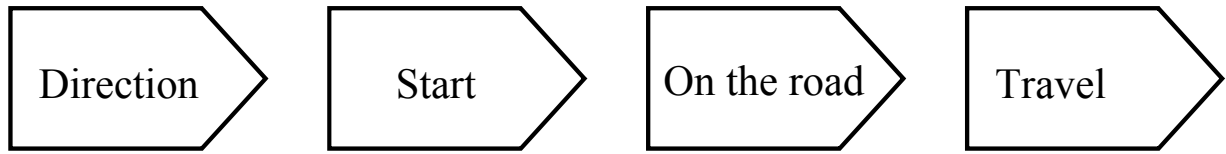


Figure 4. Overall structure of Road Map

The main contents of the four phases are shown in Table 2. The main contents of the Road Map are explained in the following sections.

Direction	Start	On the road	Travel
<ul style="list-style-type: none"> • start of the Road Map, July 2005 • vision • common understanding • outline of new regulatory regime, including licensing • agree strategy for normalising licences of existing operators • develop and adopt a new Telecommunications policy • Cabinet approval of the Road Map 	<ul style="list-style-type: none"> • undertake consultations with operators and other stakeholders • define new licensing regime • grant transitional licences to existing operators • license new mobile operator(s) through an open and competitive process • finalise the Telecommunications Bill 	<ul style="list-style-type: none"> • pass new Telecom Act and regulations • develop new rural/universal access plan; identify funding and implementation mechanism; • create new independent regulator • strengthen capacity of Ministry, regulator • license more operators • define concept of Telecom Hub Fiji 	<ul style="list-style-type: none"> • Convergence and Multimedia Act • new simple licensing regime • launch universal (rural) access program • implement Telecom Hub Fiji • new, emerging topics •
7/05 - 12/05	1/06 - 6/06	7/06 - 6/07	7/07 - 6/11

Table 2. Main phases of Road Map and their timing.

4. Direction

4.1 Vision

The government's vision for the future telecommunications sector in Fiji has a short-term and a medium-term perspective:

In the short term (7 - 12 months):

- a new legal and regulatory framework (Telecommunications Bill) has been developed;
- a strategy has been agreed for a transition from exclusive rights;
- the strategy is implemented for normalising existing licences;
- one or two new mobile operators will be licensed by open and competitive tender;
- operators and users may buy network capacity (e.g. leased lines) direct from network operators;
- new operators will be licensed on the basis of a transparent and competitive process;
- develop and adopt a Telecommunications Policy for updating the Policy of 1998; and
- stakeholder consultations have been undertaken.

The Government's stated priority in the short term is to reach agreement with existing operators on the abolition of exclusive rights and the transition to a new, open multi-operator environment. The Ministry is strongly pursuing that objective, and has initiated discussions with the operators for that purpose.

Once an agreement is achieved, implementation will take place. Normalising the present regime means that the present operators without a licence should be licensed, and the transfer of all licences to the new competitive regime should be implemented. The Ministry will consult with the operators as to how the transfer will occur, which could be through a transitional arrangement until the new legal and regulatory framework is in place. The present draft Telecommunications Bill will be developed further and submitted to Parliament.

For the medium-term, the government's vision is as follows:

- developing services in rural areas (essentially most of the services provided in urban areas, no special rural services);
- promoting the development of a greater variety of telecommunications services;
- promotion of telecoms based business in Fiji; and
- developing Fiji as a regional telecoms hub.

The main means to achieve the objectives are:

- enacting a new Telecommunications Act and related regulatory framework;
- creating an independent Regulatory Authority;
- strengthen fair competition through competition law;
- active licensing of additional operators to achieve the developing objectives;
- define the scope and modalities of implementing services in rural areas;
- creating a Universal Service Fund for subsidising service provision in rural areas; and
- strengthening the Ministry and the Authority to be capable of handling the changes.

Most of the means are analysed in this report.

4.2 Redefinition of services to rural areas

An initial estimate has been prepared for additional revenue to telecom operators if all rural areas were served properly. The estimate suggests that telecom operators could earn **F\$ 50 to 100 million** in additional revenue per year. Most of this revenue is not generated at present. The estimate assumes that the society is adapted to telecommunications, which will take some years. The required investments may be of the order of F\$ 20 - 50 million per year.

Government intends to conduct a market study in co-operation with the industry to determine more precisely what revenue can be generated and how it may be realised on a commercial basis so that rural areas are served more equitably.

The present main licences include the term "*rural services*". At present the term is understood as one fixed telephone in each village, a community telephone, usually a Drua phone requiring Telecards, which both increase the cost of the service and correspondingly decrease use of telecommunications. Villages with one telephone are considered "served", which in practice means that a number of rural villages will not receive better service.

The telephone penetration in rural areas is 0.6 telephones per 100 inhabitants, while urban areas have 20 (year 2005). Thus the term "*rural services*" has functioned as a ceiling, a maximum for service provision. Even manual switches (a manual operator connects the calls) exist, which is rare anywhere in the world today.

This concept is not sufficient for developing rural economy, diversifying village income. New types of business in the villages require better telecommunications, fixed and / or mobile phones to homes and businesses, perhaps even Internet. Without such telecommunications new business will not develop. Telecommunications alone is not sufficient for development, but lack of telecommunications is alone a major barrier for development.

When defining service obligations for operators, the old concept of "*rural services*" should be abandoned. Residents in rural areas have the right to a range of normal telecommunications services, even if not all services will be provided.

Most of the rural service provision will be financed from user charges, in the first hand from the users of the particular service, but also using internal cross subsidies from urban to rural areas. Such cross subsidies are normal best practice and not considered anti-competitive.

The *opening of the market* is in recognition of the citizens' rights guaranteed in the Constitution. Section 30 (1)(a) provides for the rights "Freedom of Expression" which includes the "freedom to seek, receive and impart information". Opening of the *medium* of seeking, receiving and imparting of information is one such recognition, valid for all forms of communication.

The Ministry of Information, Communications and Media Relations shall undertake a detailed analysis of these issues and on that basis formulate detailed policies on Universal Service (US) and Universal Access (UA)¹.

¹ **Universal Service** means that any person can obtain an own personal connection, often defined as affordable price. This works reasonably well in urban areas in Fiji, but not in rural areas. **Universal Access** means that the entire population has access to a public phone or other communications facility. This approach is implemented in Fiji mainly using Drua phones and Telecards.

Such policies shall include: establishment and revision of US/UA targets to be achieved over a given period of time; identification of a transparent and sustainable financing mechanism; institutional responsibility and governance structure for managing these finances; and establishment of a program for utilisation of US/UA funds. Any obligatory contributions to financing universal access by regulated telecommunications operators shall be administered in a transparent, non-discriminatory, and competitively neutral manner.

A Rural Telecom Fund (RTF) shall be established under the Telecommunications Authority. The RTF shall receive its funds from a levy on licensed operators based on value-added of licensed services. The levy funding arrangement results in a zero-sum game, neither increasing nor decreasing sector revenue. Other financing opportunities may be explored.

4.3 Policy

A Telecommunications Policy will be developed in co-operation with relevant parties. The Policy is an update of the 1998 Telecommunications Policy. The Policy will be approved by Cabinet in February 2006, and will be duly gazetted. The policy will be fully consistent with this Road Map, and contain additional details on:

- the different roles of Government;
- market structure in the short and medium term;
- normalisation of present unlicensed operators, and transition to a new regulatory regime;
- issuance of new licences, in particular mobile;
- updating and presentation of a Telecommunications Bill to Cabinet and Parliament;
- establishing a Telecommunications Authority;
- issuance of licences under the new legal and regulatory framework;
- Universal Service, Universal Access;
- creation of a Universal Service Fund;
- regulatory policies; and
- time table.

5. Start

5.1 Overview

The phase *Start* is the first phase including implementation. The phase is essentially a transition phase from the present exclusive regime to the proposed new, more liberal regime. The proposed regime is likely to be a transition phase. A still more liberal regime will be created and implemented later on, tentatively in the *Travel* phase.

In the *Start* phase several major actions will be initiated:

- update the Telecommunications Bill in line with the Telecommunications Policy
- define the new licensing regime and agree on its implementation with operators;
- normalise present unlicensed operators;
- transfer existing licences to the new regime, with additional rights; and
- license new operators.

5.2 Outline of new licensing regime

The new liberal regime is designed as Open licensing. Most networks and services will ultimately be licensed on a first-come-first-served basis, without significant qualification criteria. The first such area is Internet Service Providers, ISPs, for which a liberal open licensing regime is already implemented. Other areas will follow. Details of the new licensing regime will be agreed in consultations with stakeholders. See Table 3.

Traditional licensing	Open licensing
Restricted number of licences	Unrestricted number of licences
Detailed requirements for applicants	Little requirements for applicants
Detailed licences	Short licences, "driving licences"
Discretion in granting licences	No discretion in granting licences (except mobile)
Operators protected from competition	Full competition
Users have no or little choice	Users have choice of many suppliers

Table 3. Description of traditional and open licensing.

The regime will be defined by drafting a licensing regulation, and other relevant regulations. The new regime will use short licences, with common terms and conditions in separate regulations.

Definition of the new regime also includes agreement with existing operators on the new regime. Agreement includes the following major components:

- define a "package" covering all major aspects of the initial new regime and the transfer to the new regime; and
- prepare a proposal to the existing operators on accepting the package, initiate and conclude subsequent negotiations.

Arrangements for transition from the current exclusive licences to the new licensing regime will be required, which may include a transitional period during which exclusivity no longer applies.

This would allow the existing operators to commence providing services previously subject to each other's exclusivity on an accelerated basis.

5.3 Normalise the present licensing regime

Normalising the present regime includes mainly licensing those operators that at present do not have a licence or whose licensing arrangements are unclear, and amend the scope of licences to meet the Decree. Existing operators whose licences are to be normalised include Southern Cross. The arrangement by which Vodafone currently provides services will require to be made consistent with the licensing regime and any new mobile licence to be issued. This will mean issuing Vodafone with a new licence providing it with legal certainty about its licence and a level playing field with a new mobile provider or providers.

Amending the scope of the licences mainly means that networks (named *systems* in the Decree) are not exclusive, and operators with networks have the right to lease network capacity to other operators. This is important in particular for international leased lines. Normalising means that ISPs have the right to lease international bandwidth direct from Southern Cross and satellite operators, without mandatory middlemen such as Fintel and TFL.

One of the objectives of the new licensing regime is enabling of new operators. Fiji does already have one such operator, COMS. COMS serves part of the Yasawa group tourist sites using wireless technology, and thus acts as a wireless rural operator. COMS is an operator at level with e.g. Vodafone, even though it is regional and not national.

Basically COMS is a good example of an independent operator.

5.4 License new operators

The new regime also includes licensing new operators. Additional operators may be licensed, for a number of different services. The new licensing regime would allow for easy licensing of similar operators. It is likely that most new operators are small. More active invitation of new operators will be done in the following phase, *On the road*.

6. On the road

6.1 Overview

The third phase, *On the road*, would mainly be stabilising the new regime, once a final solution has been achieved on abolishing exclusive rights. The phase would last until two years after the inception of the Road Map.

The third phase, *On the road*, would initiate at least the following main activities:

- pass a new Telecommunications Act;
- create a Telecommunications Authority and transfer the activities of the present Communications Unit to the Authority;
- create a Universal Service Fund (the name may change) and start its activities including an overall plan for improving telecommunications access in rural areas and the outer islands;
- create and implement a capacity building programme for the Ministry and the Authority;
- actively search for, and license, additional operators;
- create possibilities for export business utilising telecommunications and other ICTs such as call centres and Internet based business; and
- plan and implement actions creating Fiji as a telecommunications hub in the South Pacific, essentially by promoting sea cables to neighbour countries co-ordinated with telecommunications to outer islands.

The above matters are detailed below.

6.2 Updating telecommunications legislation

The present Posts and Telecommunications Decree, 1989, is to a large extent outdated. It lacks several areas that have emerged since it was enacted.

The Decree does not include anything about Internet, as Internet was only a scientific (university) network at the time, commercial activities and non-scientific users were prohibited. The Decree does not include a regulator, which is considered a necessity in virtually all countries with several operators, user choice and competition. The Decree does not include specific development objectives or rural obligations. The Decree does not include specific rural subsidy mechanisms that would ensure that also non-profitable areas are served, e.g. using a Universal Service Fund. The Decree does not address specific mobile telecommunications matters. The Decree is based on full ministerial discretion in granting licences, which is not considered the best practice anymore. The Decree does not allow exemptions from licensing, only licences granted to all persons.

A Bill has been prepared in 1998 for a new Telecommunications Act. The Bill has been updated several times, and a final version should be finalised and submitted to Cabinet and Parliament for approval in 2006.

The development in the telecommunications sector elsewhere is so fast that legislation is constantly changing. This means that any legislation even in Fiji can be expected to require frequent (almost annual) updates, and complete review every 5 - 7 years.

6.3 New cyber legislation

New legislation will be required for the emerging information society. Development elsewhere points out at least privacy protection in telecommunications, Internet and other similar services. Privacy protection covers use of customer data and limits for use of such data for commercial purposes, e.g. unsolicited advertising, also called spam in Internet. Spam and similar is already used in telephony and SMS messages.

Protection of children from e.g. pornography and certain kinds of advertising is an issue elsewhere. It is part of privacy. Certain forms of cyber crime (e.g. break-in over Internet into data systems) may require amendment of existing law to explicitly declare such activities criminal.

E-commerce will require some legal support, e.g. legalising electronic signatures.

The Ministry of Information, Communications and Media Relations has a key role in all of the above.

6.4 Universal Service Fund

An increasing number of developing countries have realised that access to telecommunications services is a right of citizens, and a necessity for development. Telecommunications is no longer a kind of luxury service for the better-off. This change has major implications. At least some telecommunications is needed in all inhabited areas, even if not all services can be offered. On the other hand, remote areas, in particular smaller outer islands, are not likely to be served on a commercial basis.

An increasingly used method is to create a subsidy mechanism for financing such areas. The idea is to collect funds from all operators, specify projects for serving rural areas, and tender such projects, usually on a least subsidy basis (smart subsidies). The subsidies are usually one-time subsidies, not continuous subsidies.

The need for subsidies to achieve commercial viability is shown in Table 4.

Viable	Viable after one-time subsidy	Requires continuous subsidies
User charges are sufficient to recover initial investments, expansion investments and operating cost (incl. profit)	User charges are sufficient to recover expansion investments and operating cost, but not initial investments	User charges are not sufficient to cover expansion investments and operating cost
Commercially viable, no subsidies are needed	This is the typical application area of the Fund approach	The Fund approach is not sufficient, continuous subsidies are needed
In Fiji the urban areas and possibly some dense rural areas, some major tourist resort areas	In Fiji densely populated rural areas on the two main islands; some major outer islands	In Fiji possibly the most remote areas of Viti Levu and Vanua Levu; many of the outer islands

Table 4. Need of subsidies to achieve commercial viability. The estimate for Fiji is not sufficiently researched; the table only shows in principle division.

Elsewhere most such funds are created for mainland economies, not for island economies². In a mainland economy the backbone network is usually a rather minor portion of the cost compared to the last miles. In an island economy the situation may be partially the opposite, when the distance to outer islands requires satellite and cannot be done using microwave links or similar solutions.

Tendering is easier if the country has several existing operators that can compete, extending their served areas. The competition is then between operators established in the country. New entrants that need to establish their presence in the country are less likely to succeed (even domestic entrants have to establish themselves). Also for that reason a multi-operator system is preferred.

Experience elsewhere is that granting subsidies based on applications, or on budgeting without competition, results in much higher subsidies than tendered.

The principle of extending the normally served area results in another advantage. Extending the area means that the operator can use his normal tariffs, and no special price regulation is needed. Entrants winning rural subsidy tenders have to establish all tariffs from scratch, and most likely require special price regulation, which should be avoided. Rural areas have been subsidised in other countries, but most cases have so far been on land and not in archipelago type countries. Some type of solution may be developed for the purpose.

6.5 Promotion of telecoms based business and new business

Telecoms policy and regulation frequently focus on operator issues and relations between operators. Fiji has excellent opportunities to create telecoms based business, such as call centres and Internet based business. Many of these would be export oriented. Fiji already has some call centres, which could be analysed as case studies and published.

The Ministry should also actively search for new operators to provide services that are not yet provided, or in which sufficient competition is not prevailing.

6.6 Fiji - Telecom hub for the region

Another initiative would be to create Fiji as a telecom hub in the South Pacific, essentially by promoting sea cables to neighbour countries. With the Southern Cross cable already installed, cable connections to neighbouring countries should be promoted.

Figure 5 shows a map of the South Pacific with tentative cables between countries, and Table 5 shows some neighbouring countries, their population and GDP. The most likely countries are those with the largest population and GDP: Solomon Islands, New Caledonia, Vanuatu, Samoa and Tonga.

² See e.g. <http://rru.worldbank.org/PapersLinks/Managing-Telecommunications-Sector/>, click down until heading Extending services beyond the market; <http://rru.worldbank.org/Documents/PublicPolicyJournal/234Banno-607.pdf>, <http://www.ruralict.ftml.net/np/Final%20main%20report2.pdf>, <http://www.ruralict.ftml.net/np/Final%20annexes.pdf>.

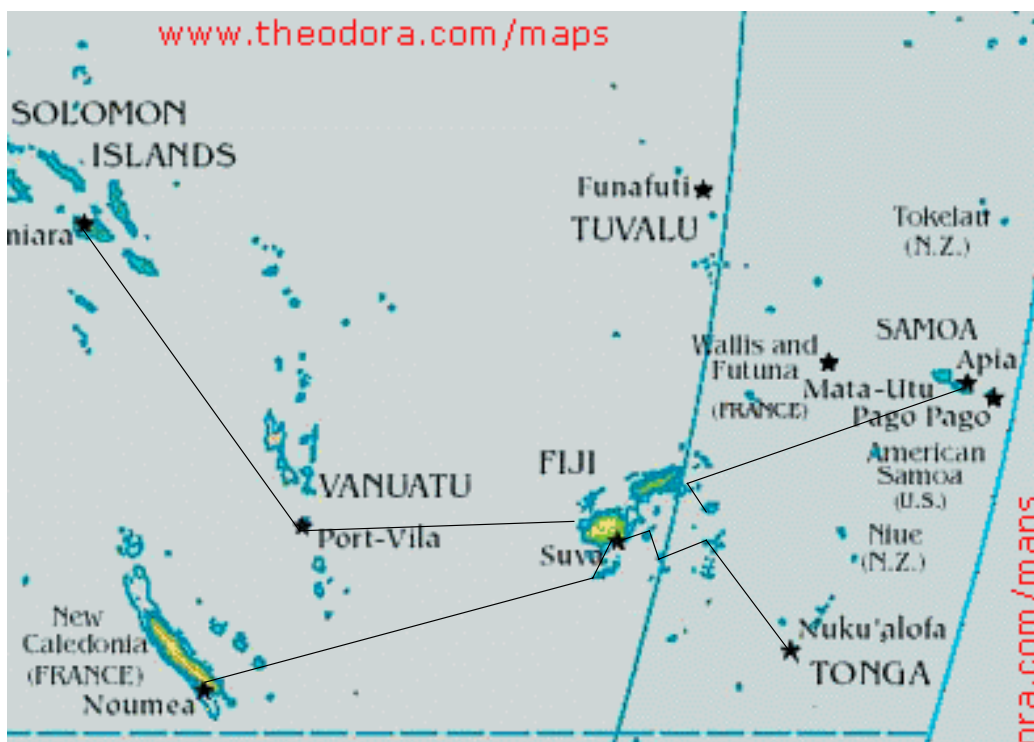


Figure 5. Map of neighbour countries, with tentative cables shown, including connections to outer Fiji islands. Source of map: www.theodora.com/maps.

Country	Population '000	GDP US\$ million
Fiji	826	1682
Solomon Islands	477	264
New Caledonia	229	3057
Vanuatu	208	219
Samoa	182	255
Tonga	100	131
American Samoa	61	..
Tuvalu	10	..

Table 5. Neighbouring countries, their population and GDP. Source: ITU World Telecommunication Indicators 2004.

The hub initiative would most likely require a dedicated person in the Ministry, perhaps combined with promotion of telecom based business. Participation of the Minister would be necessary at times, as such a regional project would require high level political contacts. The dedicated person could in the long run be combined with a policy expert position, also otherwise required in the Ministry.

The hub initiative should be co-ordinated with telecommunications to outer islands. Cables to neighbouring countries could well land on some major Fijian islands as well as islands in other countries, so that the cost of the cables could be shared between national and international usage.

The telecom hub initiative would be a long term undertaking, probably lasting 10 year or so.

6.7 Staffing of Ministry

The present problems in the telecommunications sector are by and large a result of insufficient and too narrow expertise in the Ministry. The problems have developed over time, and would have been avoided by sufficient resources capable of timely intervention.

The substantial reform will require more resources, more than a stabilised situation. New primary and secondary legislation is required, a new licensing framework will be designed, all existing licences have to be replaced, new licences drafted, a number of transitional matters will emerge and require attention and solution, new regulatory principles and practices created, some disputes may require resolution, etc.

The overall staffing of the Ministry, in addition to the regulatory functions in the Communications Unit, requires attention. The present staffing is minimal, does not include any permanent staff with good understanding of telecommunications from a policy, commercial and legal perspective, is not sufficient for upcoming promotional, legislative and policy functions, and for overseeing an increasingly competitive sector and its regulation.

Creation of the independent Telecommunications Authority will further reduce the available telecommunications expertise, as the only available expertise will be moved out of the Ministry.

The Government will ensure that the Ministry of Information, Communications and Media Relations and the Commerce Commission, as well as Telecommunications Authority in the future, have sufficient resources, including full-time staff to implement reform, particularly for the period 2006-2008 during which the majority of the reforms will be undertaken. Lacking sufficient resources, the success of the reform is at risk.

6.8 Telecommunications Authority

An independent Telecommunications Authority should be established. The present Communications Unit is the key telecommunications entity in the Ministry. At present it lacks regulatory skills, resources and powers to be able to manage effectively the well-resourced operators with huge international companies as strategic owners. This disparity needs to be reduced as quickly as possible to allow for a more level playing field between operators and oversight agencies.

The present Bill for a new Telecommunications Act includes the creation of an independent Telecommunications Authority. The style of regulation is preferably light-handed, but only if the outcome serves provision of services to the population. The Authority should have sufficient powers and also use those powers, if required.

The present Communications Unit should be strengthened even before a new Bill is passed. The need is due to the sector reform steps outlined in this Road Map. This requires additional resources, significantly broader knowledge, a new and more active approach, and clearly specified and monitored objectives. The required resources can, and should, be financed from licence fees.

The recent determination on tariffs by the Commerce Commission is a good example of the need for competent resources. The Commerce Commission had to rely on international expertise for

the task. The Commerce Commission and the Telecommunications Authority will co-operate for the various tasks in the field of telecommunications.

The relation to the Commerce Commission will be observed when drafting the Bill.

7. Travel

7.1 Overview

The last phase of the Road Map would last years 3 - 6 after the inception of the Road Map. The *Travel* phase would finalise the on-going major activities initiated in the previous phase, such as promotion of telecoms based businesses and creation of Fiji as a telecoms hub in the South Pacific. Rural access most likely will extend beyond the *Travel* phase.

Many of the tasks to be undertaken in the Travel phase will emerge in the future. The telecommunications sector will develop quickly, following international development.

7.2 Fiji - telecom hub for the region

Development of the telecom hub may result in co-operation between the South Pacific countries, in order to jointly benefit from the possibilities of such a hub. The outcome and duration of the efforts to create the hub is difficult to predict, thus the scope and form of the co-operation cannot be estimated at this point in time.

Initial creation of a hub is probably not sufficient, improving utilisation of the network and creation of new business and employment will continue after the initial network is implemented. It is, however, clear that such co-operation requires high level political support, for which the natural body in Fiji would be the Ministry of Information, Communications and Media Relations.

7.3 Telecommunications in rural areas

Provision of the present level of reasonably adequate telecommunications services in Fiji, reaching about half of the population, has taken decades. Provision of services also to the remaining half of the population will also take time.

The solution of appropriate service provision to outer islands is a difficult question. Telecommunications is still more important than in rural areas on the two main islands, due to geographical isolation. The Government wishes to keep the islands inhabited, which requires solutions to be developed. International good examples tailored to the Pacific geography appears to be scarce; Fiji may need to develop its own solutions.

7.4 New comprehensive legislation and regulatory regime

The *Travel* phase is expected to include an overall revision of communications and related legislation necessary for a digital economy. It is already possible to see that the telecommunications and broadcasting legislation may require merging, into more comprehensive convergence and multimedia legislation. The contents of such legislation will probably not be ready for definition before the *Travel* phase. Fiji may prefer to acquire experience of the present changes before pursuing convergence of communications legislation.