

## Chapter 21

# TELECOMMUNICATIONS IN PAPUA NEW GUINEA

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- The introduction of competition into the mobile sector has effectively led to universal coverage: prices are lower and a wider variety of services are available.
- The benefits to the many remote communities now able to interact with the rest of the economy are important: the availability of mobile phone services is helpful in medical emergencies and mobile banking initiatives are now underway.
- The provision of market pricing information for rural commodities through mobile phone services will be valuable because the livelihood of the bulk of the population is from agricultural and fishing activities.

### 21.1 INTRODUCTION

Telecommunications reform, specifically reform of the market for mobile phone services, has been adopted in five Pacific island economies in recent years. Reform of this market in Papua New Guinea (PNG) was perhaps the most difficult of the five cases, particularly with respect to the political struggle over the nature and pace of the reform. This study illustrates the benefits of being able to lock in domestic reforms through international commitments – in this case through the World Trade Organization’s telecommunications commitments.

This study also illustrates the problems that regulatory capture can give rise to in trying to bring about reform. PNG’s Independent Consumer and Competition Commission (ICCC), which was initially given the power to issue licences to mobile phone providers, fought a gallant battle to ensure competition. However, this eventually resulted in the loss of its role as an independent regulator of telecommunications. This study also demonstrates the potent power of consumers realising the benefits of market reform and the irresistible force that consumer power can exert with respect to reforms.

### 21.2 HISTORICAL BACKGROUND<sup>2</sup>

A plan for a national telephone system in PNG was drawn up in 1964 when a Telecommunication Division of the Department of Posts and Telegraph was established and ‘overseas’ expert advice was sought from Australia. A telephone service was subsequently introduced.

In 1973 the Department of Information and Communication Services was established when the National Broadcasting Commission (NBC) was set up to take over the PNG branch of the

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<sup>2</sup> This section draws on Sinclair (1984, 1993) and Stanley (2008a, 2008b).

Australian Broadcasting Commission. The NBC became the broadcasting arm of the department. This was a vital event in PNG's history. Given the very rugged topography and the isolation of many clans, radio played a crucial role in the dissemination of information throughout the land, using an extensive network of provincial radio stations. Radio has subsequently played a huge role in building a more cohesive society from what was then more than 1000 diverse tribes.

After gaining independence from Australia in September 1975, the Department of Information and Communication Services was responsible for information services, communication policy, and research and development. The newly formed Department of Public Utilities took over the functions and the responsibilities of the Department of Posts and Telegraphs and became the Division of Postal and Telecommunication Services (DPTS). DPTS continued to function as a separate organisation until it was incorporated as the Post and Telecommunication Corporation (PTC) in October 1982.

On 9 September 1981 an executive steering committee was set up to examine ways and means of making a change in the status of the Postal and Telecommunications Services Division to a 'legal commercial entity'. This committee presented its report to the National Executive Committee (NEC; effectively the Cabinet) on 16 December 1981 and the NEC gave approval to draft enabling legislation. The Post and Telecommunication Corporation Act 1982 was passed by the National Parliament on 15 February 1982.

Due to a change in government policy in 1996, the PTC was split up and corporatised. The split saw the creation of Telikom PNG Ltd, Post PNG Ltd, and the PNG Telecommunications Authority (PANGTEL).

In 1997 the Department of Information and Communication Services was reduced to the Office of Information and Communication and there were tighter constraints on its resources. This resulted in a situation where it was not able to implement its mandated responsibilities. After the 2002 general elections, however, a new government established the Department of Public Enterprises, Information and Development Corporation (DPEIDC). Its core functions included national information and communication policy, rural connectivity and development, and the integrated government information system. It was also required under the government's Medium Term Development Strategy (2005–10) to expand telecommunication infrastructure and services.

With the re-establishment of the Ministry for Information and Communication Services in 2007, all matters relating to PANGTEL, NBC and the Office of Information and Communication were placed under its administration.

### **21.2.1 Telikom PNG Ltd**

Under the Telikom PNG Limited Act 1996, Telikom PNG Ltd was responsible for providing telecommunication services for profit and with a consideration of community service obligations. Under the Telecommunications Act 1996, Telikom was given exclusive rights up to 2001 to provide all forms of telecommunications services within PNG and between PNG and other economies. Through a regulatory contract with the ICCC, Telikom was granted another 5-year monopoly, from 2002 until 17 October 2007, over fixed-line and mobile services and the international gateway.

### **21.2.2 PANGTEL**

PANGTEL was established on 1 January 1997 under the Telecommunications Act 1996. Its creation was part of the government's policy to corporatise PTC and to divide it into three different organisations: two service delivery companies incorporated as public companies under the Companies Act and one regulatory and licensing authority. PANGTEL became the sole technical regulator and licensing authority of telecommunications and broadcasting in PNG. The telecommunications industry comprises all private and government-owned companies that are involved in the provision of fixed and mobile telecommunications services such as voice, facsimile, data, cellular phones, video and audio programs to the general public. The radio communications sector includes radio frequency spectrum and satellite orbital positions. The radio frequency spectrum is managed according to the Radio Spectrum Act 1996.

PANGTEL's main operational functions with respect to mobile telephony include:

- the granting of licences to carriers and suppliers of telecommunication services and equipment;
- establishing performance standards for carriers and monitoring compliance with those standards;
- regulation of the telecommunications industry to ensure competitiveness;
- protection of consumers of telecommunications services;
- promotion of fairness and efficiency in the industry;
- provision of arbitration to conflicting parties in the industry; and
- monitoring the development of telecommunication services.

### **21.2.3 Independent Competition and Consumer Commission**

The powers and functions of the Independent Competition and Consumer Commission are set out in the Independent Competition and Consumer Commission Act 2002. The ICCC was established as part of the government's economic reforms in implementing its privatisation policy. Generally, the ICCC has very wide powers relating to price regulation, licensing, industry regulation through regulatory contracts, and ensuring compliance with the competition and consumer protection provisions of its legislation.

With respect to licensing, its powers relate to giving approval either for acquisitions or new entrants to a market and to the administration of Part IV of the ICCC Act, which deals with competitive market conduct. The ICCC is required under this part of the Act to consider all aspects of market conduct rules. When the ICCC is satisfied that the proposed activity will not have any negative effect but rather will enhance competition, it may grant the necessary approval or licence. It is in this context that the ICCC assumed authority to award carrier licences to two new entrants to the deregulated mobile phone industry.

As the principal regulator of the telecommunications sector, the ICCC was required to ensure that the provision of telecommunications services under the Telecommunications Act were fulfilled. The exception was any provision relating to the technical regulation of the sector, which was the responsibility of PANGTEL. Where the ICCC and PANGTEL were given concurrent powers, the agencies were required to consult before making any decision. In the event that they were unable to agree, the views of the ICCC would prevail.

However, the ICCC's powers with respect to mobile phone licences were removed and now rest with the Minister for Information and Communication. The ICCC participates through representation on the ICT Licensing Committee and makes recommendations to the Minister for Information and Communication for approval and awarding of SERVCO licences.

#### **21.2.4 Pacific Mobile Communications Ltd**

Pacific Mobile Communications Ltd (PMC), a wholly-owned subsidiary of Telikom PNG Ltd, was established in 2002. PMC is responsible for the provision of Internet gateway services. It is also involved in the mobile phone sector, trading as B-Mobile. Since Telikom is the sole distributor and wholesaler of bandwidth, PMC, the operator of the Internet gateway, leases bandwidth from Telikom and resells it to Internet service providers under the brand name 'Tiare'. As a wholly-owned subsidiary of Telikom PNG, B-Mobile is regulated by the regulatory contracts pertinent to competition issued under the ICCC Act.

#### **21.2.5 Independent Public Business Corporation**

The Independent Public Business Corporation (IPBC) came into being on 30 June 2002 under the Independent Public Business Corporation Act 2002. The IPBC holds all assets and liabilities of corporatised publicly-owned enterprises. The IPBC reports to the Minister for Public Enterprises.

#### **21.2.6 Universal service obligations**

One of the key objectives of PNG's information and communication technology (ICT) policy has been the provision of access to telecommunications for all users, with particular emphasis on the rural population. Strategy guidelines have been set, and these include the provision of funding for rural telecommunications and encouraging local and provincial governments to improve access to telecommunications for all citizens. The rural development obligations and the Rural Development Fund in the Telecommunications Act 1996 focused on basic telephony becoming 'reasonably' accessible to all. Consultation between the minister and PANGTEL declares specific areas for rural development obligations. Operators declared by PANGTEL to be universal service carriers may access the Rural Development Fund to pursue infrastructure developments. Funding for the Rural Development Fund is sourced from levies paid by operators and interest from the fund's investments.

### **21.3 DEVELOPMENT OF ICT POLICY**

In December 2005 the NEC handed down a decision to open the market in mobile phone services. Several policies have been drafted and pieces of legislation amended or repealed since this decision. Prior to the introduction of mobile services, only two pieces of ICT legislation had been implemented. The first was a Communication Policy drafted as a result of a Communication Policy seminar in 1978. Then in 1992 the Department of Information and Communication was instructed to begin the process of formulating a coherent national ICT policy (Department of Communication and Information 2008 pp.2–3), the result of which was the National Policy on Information and Communication of Papua New Guinea, adopted in 1994. This latter policy was more comprehensive in setting out general guidelines on defining ownership, access and content. It emphasised the role of the publicly-owned telecommunications operator in providing access to rural communities and extending the network to complement economic development. Privatisation plans for the incumbent operator were mentioned; the introduction of competition was not.

The main objective of the ICT policy approved in 2005 was to use telecommunications for economic development. The government's stated preference was to establish electronic connectivity for disseminating information to the general public and as a means of reaching out to the public and outside world (e-government, e-commerce and e-education); however, Telikom's infrastructure through which these services were to be provided was limited and in need of major modernisation. Therefore, rehabilitation of Telikom was said to be a government priority. According to the same NEC decision, competition was to be introduced in the mobile sector. However, Telikom was inadequately prepared for competition. The lack of ability of Telikom to operate effectively in a competitive market seems to have been the key issue that drove much of the political intervention in the reform program that led to regulatory uncertainty in 2007 and 2008.

The capacity of Telikom to serve rural and isolated communities was severely constrained due to the difficult geographic terrain, the largely rural population and the diversity of languages and culture within PNG. But geography and the largely rural population were not the main reasons for Telikom's underperformance. A new administration had set out in 2002 to rehabilitate Telikom. At that time poor management was seen as one of the major contributors to inefficiency. The Prime Minister reported to Parliament in 2005 that Telikom at one time had six managing directors over an 11-month period. The government stabilised the management structure and hired experts to assist in providing strategic direction to the chairman and the board. The result was a series of positive business initiatives, including the appointment of international firms to formulate strategic policies and further the network expansion of fixed-line services.

There were three key statements in the NEC's decision in December 2005: through its regulatory contract with ICCC, Telikom PNG Ltd was to terminate its mobile phone monopoly by 31 March 2006; ICCC was mandated to select, via public tender, two new licensees to compete with Telikom's B-Mobile service; and March 2007 was the date set for open competition in mobile services.

Following the government's decision to introduce competition, the ICCC released a press statement in January 2006 outlining the processes it would follow in fulfilling its obligations (ICCC 2006 pp.1–2). There were to be four main steps: the public tender process would begin on 7 March 2006 and submissions would close in May 2006; the assessment of the applications would be undertaken by the ICCC, with the two new mobile providers being announced by mid October 2006 (in fact, the licensees were announced in September 2006); construction of network infrastructure for the mobile entrants was tentatively scheduled for December 2006; and licences would be issued. The licences were issued on 27 March 2007 to Digicel PNG and GreenCom: the former commenced operations on 17 July 2007; GreenCom has not yet begun operations.

### **21.3.1 Policy uncertainty**

The ICCC was required to consult with Telikom on the processes to be followed by Telikom in terminating its monopoly over mobile services. In surrendering its exclusivity rights, Telikom required the ICCC to fulfill several conditions. The ICCC claimed that these were addressed and amended the contract agreement with Telikom to reflect the termination of exclusive rights over mobile services.

However, in September 2006, Telikom claimed that the conditions were not fulfilled and that it did not consent to the release of its monopoly rights (ICCC 2007 p.1). Moreover, the

government released a National ICT Policy in the same month that effectively reversed the NEC's decision in December 2005 to liberalise mobile services. Notwithstanding the uncertainty, the ICCC kept to its timeline and announced the two new licensees in March 2007.

Three public entities pressured the ICCC to stall the mobile liberalisation program. Firstly, Telikom commenced three separate judicial proceedings to challenge the ICCC's actions: one through an Appeal Panel and the other two through the court system. However, the Appeal Panel ruled in favour of the ICCC. The first court decision also dismissed Telikom's claim for abuse of process (Supreme Court of Papua New Guinea 2008 p. 1). Telikom voluntarily discontinued the second court proceeding.

Secondly, the IPBC—the sole shareholder of Telikom—advocated a position that would have prevented the introduction of mobile competition (Abe 2007a p. 4). Finally, the minister responsible for the DPEIDC pushed for the policy reversal in order to allow for the rehabilitation of Telikom's capacity to compete effectively.

This reversal attempt referred to the September 2006 National ICT Policy, which stated that Digicel should not be granted a licence for immediate competition but that there should be staged competition. However, the licence that the ICCC granted in March 2007 was based on the NEC's decision in 2005, which had not been amended before Digicel began to establish its infrastructure network in September 2006. Although the ICT Policy was passed in September 2006, coinciding with the announcement of the result of the tender process, it was rather late as the ICCC had followed its public tender process mapped out from January 2006, soon after the NEC's decision in 2005.

Two reasons for the policy reversal were put forward in the National ICT Policy. The first was that Telikom's network was technically not capable of interconnecting to another carrier's network and, therefore, customers of one carrier would not be able to call customers of another carrier. Digicel had requested interconnection with Telikom 3 months before its official launch in May 2007 (Joku 2008). Digicel only began testing interconnection with Telikom on 31 January 2008 and nationwide connection was not possible until July 2008. Much of the delay was due to the technical capacity of Telikom to allow interconnection. Also, the numbering plan in Telikom's network limited subscribers to 400 000 mobile telephone numbers.

Secondly, it was claimed that the 'ICCC has both a regulatory function under the ICCC Act (2002) and the regulatory authority to issue and revoke licences under the Telecommunications Act (1996) ... which is a conflict of interest and ought not be allowed to subsist' (DPEIDC 2006 p. 32). The National ICT Policy recommended that the ICCC's power to issue and revoke licences return to a committee comprised of representatives from PANGTEL and the ICCC, with a former Chief Justice in the chair. This recommendation would have effectively returned licensing power to government control and not to an independent entity.

The National ICT Policy was never implemented. No publicly accessible document is available to shed light on why this was so, although its timing does provide hints about the purpose of the policy. The policy was finalised at the same time that the ICCC announced the results of the public tender process for the two new mobile service providers. The ICCC timeline set for March 2007 was based on the December 2005 NEC decision.

In March 2007 Digicel launched several mobile stations. In accordance with its legislative mandate, PANGTEL issued Digicel with a spectrum licence. However, several days later it

withdrew the licences, stating ‘amended ICT policy’ as the reason. PANGTEL’s Acting Director-General was reported as saying that under the amended ICT policy, access to spectrum would be restricted to NETCO, the proposed new operator of all telecommunications infrastructure. Digicel obtained a court order shortly afterwards that overrode PANGTEL’s action and allowed it to continue operations.

The ICT policy was reviewed again in early 2007. A Telecommunications Blueprint was developed in May 2007, which was the basis for the May 2007 National ICT Policy. The May 2007 policy reflected the recommendations of the draft September 2006 National ICT Policy in three crucial regulatory areas. The first was there was a recommendation for the adoption of the ‘NETCO/SERVCO model’ in which Telikom retained an indefinite monopoly over NETCO infrastructure, whereas SERVCO would be opened for new licences. Secondly, that competition (SERVCO services) would only commence after 1 June 2008. Thirdly, the government, through DPEIDC, would establish new committees to oversee licensing issues and the overall ICT policy. The authority of the ICCC to issue and revoke licences would be ‘removed and will rest with the Minister for the DPEIDC’ (DPEIDC 2007 p. 12).

However, due to pressure from key stakeholders, including Digicel, the May 2007 policy was never implemented. Subsequently, the latest ICT Policy (March 2009) gave the power to issue and revoke licences to a new body, the National Information and Communication Authority (NICTA). NICTA is primarily composed of PANGTEL staff and assets.

### 21.3.2 Multilateral policy restraints

Digicel was methodical but diplomatic in how it dealt with the policy uncertainties. Digicel pressured the government through two main channels. Firstly, it negotiated directly with the government on ensuring security for its investment, meeting with the Prime Minister early in March and being given an assurance that its investment and licence to operate in PNG were protected. Digicel continued to engage in regulatory dialogue with Telikom, the ICCC, PANGTEL and the government to ensure that its initial licence, based on the December 2005 NEC decision, was protected. Digicel was also assisted in protecting its investment through government-to-government dialogue channels between the Irish and PNG governments (Digicel is an Irish company) (*Islands Business*, 3 September 2007).

Digicel’s main investment concerns up to the May 2007 ICT Policy were basically two-fold: the withdrawal of its spectrum licence by PANGTEL in March 2007 and concern over the NETCO ‘model’ through which Telikom controlled the international gateway. The chief executive officer of Digicel PNG was reported as saying that:

with only one gateway operating, people will experience higher calling rates, lower quality of calls due to network congestion as well as limited international roaming services [and] to remove Digicel’s international gateway would be a step backward from the current open market approach. The people have tasted the benefits of competition and have the right to continue to enjoy those benefits – lower prices, better quality, increased coverage and introduction of new services (Digicel 2008).

There is evidence that Digicel PNG also relied on PNG’s WTO commitments on telecommunications reform to protect its investment and to ensure that it was able to operate mobile services. Two events in the telecommunications reform process strengthen the case for this point. First, that the latest ICT Policy stated that the model proposed was consistent with PNG’s WTO obligations (Department of Communications and Information 2009 p. 22)

indicates that the government was trying to ensure that its policy was compatible with its WTO commitments. Secondly, the September 2006 National ICT Policy had argued for a phased liberalisation under which, in phase 1, Telikom retained its monopoly over the international gateways. The two ICT policies issued in 2008 adopted similar frameworks. There was no timeframe indicated in the 2008 ICT policies as to when phase 2 would begin. However, the March 2009 ICT Policy did come up with a clear timeframe and set milestones to be achieved.

### **21.3.3. Domestic restraints**

Local business communities in PNG also put pressure on the government. The Port Moresby Chamber of Commerce made known its concerns that the government had not consulted with them on the policy.

As noted above, the ICCC also resisted changes in the government's policy (Abe 2007). Since the ICCC's involvement with the reform program in December 2005, its position was to act as the independent regulator for telecommunications services and to provide competition in the mobile service sector through the granting of licences. The ICCC's role in accordance with its legislation was effective during the reform program on one key regulatory aspect – independence. Maintaining independence amid commercial and political interference was achieved by the ICCC, although it may have contributed to the loss of its power to grant and revoke telecommunications licences.

## **21.4 THE BENEFITS FROM OPENING THE MOBILE PHONE MARKET**

As mentioned earlier the government tender process was completed in September 2006. Two carriers were selected: Digicel, which had been successful in privatising the telephony market in the Caribbean; and GreenCom, an Indonesian engineering and telecommunications company. In March 2007 mobile carrier licences were issued to Digicel and GreenCom by the ICCC, while PANGTEL issued the spectrum licences. Digicel PNG commenced operations on 17 July 2007 and has since extended its services to most of PNG.

In setting up its services, Digicel made two strategic moves. It established widespread coverage very quickly and put mobile phones into the hands of as many Papua New Guineans as quickly and as cheaply as possible. The novelty of having a mobile phone and of being able to call relatives and friends over large distances in an economy where physical movement is so difficult gave a huge impetus to Digicel's efforts to retain its licence. Essentially, the public pressure from consumers to retain Digicel's licence became impossible to resist.

Digicel claims to have invested in excess of PGK450 million in the PNG mobile telecommunications market in 2008 and 2009 (Batten et al. 2009). This investment has had a large impact on the coverage and quality of domestic services, with mobile phone coverage now very extensive. The quality of international connections has also improved, with a substantial amount of the investment going towards enhancing an international gateway. Moreover, there are plans for an additional PGK1 billion investment in rolling out further services over the next 3 years (Stanley 2008b). Extending coverage to most of PNG is anticipated.

ICCC and World Bank estimates placed the number of mobile phone subscribers (through B-Mobile) at 130 000–140 000 prior to the entrance of Digicel in July 2007. While exact



industry figures are not available, Telikom and Digicel now claim to have over 500 000 customers each. This suggests a remarkable 700% growth in the number of mobile phone subscribers (Batten et al. 2009).

Average peak time and off-peak time domestic call billing rates have fallen by 11% and 51% respectively since the introduction of Digicel and average peak and off-peak international call rates have fallen by 40% and 38% respectively (Table 21.1). As well, calling rates for both carriers for both domestic and international calls have moved from 30 second billing increments to per second billing increments. Charges by B-Mobile and Digicel are generally similar, except when special pricing events are being run.

**Table 21.1: Average call rates for domestic and international phone calls, 2008 (PGK/minute).**

<b>Charges</b>	<b>Peak</b>	<b>Off-peak</b>
<b>Domestic</b>		
Pre-Digicel	K1.80	K1.60
Post-Digicel (Sept. 2008)	K0.99	K0.49
<b>International</b>		
Pre-Digicel	K2.45	K1.60
Post-Digicel (Sept. 2008)	K1.48	K0.99

Source: Batten et al. 2009, Table 4.

Digicel has a wide range of market products and services, such as a pre-paid handset pack, 24/7 customer care, post-paid price plans, international text messaging, missed call alerts and other promotional products such as ‘talk-for-free’ and ‘Happy Fridays’. It claims to have provided employment opportunities to some 300 people of whom 90% are Papua New Guineans and indirect employment for about 500 people through dealer stores, top-up vendors, distributors etc. Furthermore, it has committed itself to community relations programs such as Operation Open Heart, Street Vendors and to providing technical support to St John’s Ambulance and Food for Schools, and sponsorship of the Pukpuk national rugby 7s team at the South Pacific Games in Samoa (*The National*, 12 September 2007).

On 26 June 2008 the long-awaited interconnection of B-Mobile and Digicel services was achieved. Previously, they had been operating on separate and unconnected networks. The interconnection ended the rather bizarre situation where many consumers carried two mobile phones, one for calling through Digicel and the other for calling through B-Mobile.

Mobile phone sector reform and growth has made a strong contribution to PNG’s GDP. Following the entry of Digicel in 2007, the contribution of the transport, storage and communication sector to total and non-mining GDP almost doubled – from 2.7% and 3% respectively in 2006 to 5.1% and 5.7% respectively in 2008 (Batten et al. 2009). The sector contributed just over 20% of total GDP growth for 2008. With total GDP growth estimated at 7.16%, this means that the sector contributed approximately 1.4 percentage points to GDP growth in 2008.

Since the introduction of competition, Telikom has adapted by selling 50% of the equity in its mobile service (B-Mobile) for PGK130 million. The 50% equity investment was contributed by a ‘consortium of companies, including the US-based Trilogy International Partners LLC (20%), GEMS Ltd (20%), PNG’s National Superannuation Fund (5%) and Nambawan Super Ltd (5%)’ (*Post Courier* September 2008). With separate ownership and management of the mobile service, it is anticipated that B-Mobile will be able to compete with Digicel.

## 21.5 LOCKING-IN POLICY THROUGH WTO COMMITMENTS

The multilateral policy restraint provided by the WTO's telecommunications commitments has been very important in progressing mobile telephony reform in PNG. The main difference between this form of policy restraint and domestic policy restraint provided by an independent regulator is in the domestic and international costs of policy reversal by governments.<sup>3</sup> Commitments on telecommunication's liberalisation reform in the WTO are legally binding and failure to adhere to the commitments can be challenged by member economies through the WTO's Dispute Settlement Body. Bosworth and Duncan (2002 p. 10) capture this argument in suggesting that:

the main economic benefit to be gained ... from WTO membership is help in facilitating policy reforms that liberalize trade and, as a by-product, support a market economy ... By 'locking in' such reforms internationally, WTO accession [commitments] provide governments with a defence mechanism against future policy backsliding or 'de-liberalization' in response to domestic protectionist pressures.

The telecommunications regulatory reforms in PNG encountered challenges that the domestic independent regulator dealt with to the best of its ability. However, the frequent policy changes over the past 5 years point to the limited ability of the independent regulator to provide credibility to the reform process. Actions instigated through various channels by the Irish-owned Digicel operator, including the European Commission reminding the PNG government of its WTO obligations, provide evidence that multilateral policy restraints can provide credibility to the telecommunications reform process. The government recognised its WTO obligations, as evidenced by revisions to PNG's ICT policy in 2008 and 2009.

## 21.6 CONCLUSION

Notwithstanding an eventful process to liberalise the mobile telephony market in PNG, the benefits are already large and appear likely to become much larger in the future. Call rates have been reduced significantly and coverage has increased hugely and looks to become almost universal. In a land with a terrain as difficult as PNG's, the benefits to the many remote communities of being able to interact with other people cannot be underestimated. Already the availability of mobile phone services has done much for social interaction as well as being helpful in medical emergencies. Moreover, the mobile banking initiatives now underway will be enormously helpful. Until now, banking services in rural areas have been very limited. Further, the provision of market pricing information through mobile phone services will be very helpful because the livelihood of the bulk of the population is from agricultural and fishing activities.

However, the liberalisation of the mobile phone sector has been a difficult experience at a political level. In this there are several lessons for PNG and other economies. One of the main lessons is that regulatory capture provides incentives for government to reverse commitments on telecommunications reform. The eventual 'internal reform' of the ICCG since its involvement in the telecommunications reform process in 2005, culminating in the removal of its autonomous power to grant licences and essentially giving this power back to the minister responsible for telecommunications, shows the vulnerability of domestic policy restraints to vested political interests.

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<sup>3</sup> International reputation, borrowing capacity, aid programs and political and socio-economic partnerships of economies are at stake when departing from international rules.

The publicly-owned telecommunications operator, Telikom, needed significant rehabilitation time and funding to prepare for open competition. The government may not have been clear about the necessary rehabilitation following the NEC's decision in December 2005. Since then, seven national ICT policies were passed over about 3 years. These frequent policy changes created significant uncertainty about investment regulations. Nevertheless, when PNG authorities were reminded of their WTO telecommunications commitments, they realigned their policies to those commitments. This multilateral policy restraint, therefore, provided credibility to the reform program and gave confidence to international and domestic investors.

Another lesson is that technical assistance in making the case for reforms is vital. Once it was seen that the introduced competition would have significant benefits, including for those in rural and isolated areas, the general public's support for the liberalisation of the mobile service sector increased dramatically. As a result, it became much more difficult to resist or reverse the reform. Therefore, convincing the public that services will improve and prices will be reduced is critical to gaining their support for the introduction of competition.

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