

Botswana Telecommunications Services

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1. Introduction

The Botswana telecommunications sector is made of four major stakeholders. The Botswana Telecommunications Authority (BTA) is the sectors' regulator. The Botswana Telecommunications Corporation (BTC), a government owned company, provides fixed lines. Two private companies, Mascom Wireless and Vista Cellular provide mobile services. Very little research on the telecommunication sector in Botswana has been conducted. This study tries to help contribute to the understanding of the operations of the telecommunications sector in the country. A questionnaire approach was used to collect information in the report. Each of the above mentioned key telecommunications stakeholders was sent a questionnaire. The questionnaire was prepared by the World Bank and administered under the ambit of the Southern African Trade Research Network (SATRN). The rest of the study is organised as follows: Chapter 2 looks at the fixed line services; Chapter 3 deals with mobile services; Chapter 4 looks at Internet services; and, Chapter 5 provides conclusions.

2. Fixed Lines

2.1. Market Access

The 1995 Botswana Telecommunications Policy abolished the BTC's monopoly in the provision of telecommunications services in the country. The BTC Act of 1980 was amended to allow for competition, and a Telecommunications Act, establishing a regulatory authority, was enacted. While there is no predetermined limit on the permissible number of new entrants, entry is, however, regulated by BTA. There is no preferential treatment given to local companies over their foreign counterparts. Since the liberalisation of the telecommunications sector, no company, other than the BTC has been licensed to provide fixed line services. This renders BTC a de facto monopoly. The BTA has commissioned a study to determine whether there is a need to introduce a second fixed line operator.

There are restrictions on the provision of basic telecommunications services through networks other than the public switched network. BTC is the only provider of basic telecommunications services. As a result, market entrants have to use the BTC's gateway(s) for international connections. Third party resale of lease line capacity is permitted for data only, and only on the domestic front.

2.2. Ownership

Only BTC, which is wholly owned by the Botswana Government, is allowed to provide basic telecommunications services. This means that, at least for now, foreign and local private ownership in the provision of fixed line services (local services, long distance, international, leased line) is not allowed.

2.3. Market Structure

BTC is the only provider of basic telecommunications services in Botswana. It provides all fixed line services: local services, long distance calls, international calls and leased line services.

2.4. Regulation

Established in 1996, the BTA has responsibility over regulation of telecommunications services. The BTA is independent from all operators (including the BTC), as well as Ministry of Science and Technology, which is the sector ministry. The BTA is financed principally through license fees. However, it was given seed funding to start its operations.

The responsibilities of the BTA include, licensing of new operators and license renewal of existing operators, regulation of retail tariffs, dispute settlement and arbitration as well as regulation of cable television.

End user tariffs are determined through the rate of return regulation. This is an arrangement that prevents any firm from having returns that exceed the cost of producing its regulated service. There are plans to rebalance the tariffs. One

proposal being flagged is to use a system of price caps on some services provided by the BTC. Price cap controls are used to ensure that an operator does not use its market power to raise its prices above the level necessary to achieve an acceptable level of profit, given reasonable assumptions for efficiency improvement.

2.5. Regional Integration Agreements in Fixed Line Services

There are no preferential arrangements affecting fixed line services. However, Botswana is party to the Southern African Development Community (SADC) protocol on Transport, Communications and Meteorology and the SADC Telecommunication Policies and Model Bill, the two fundamental documents that give direction on harmonisation of telecommunications policies in the region.

2.6. Past and Future Changes in Policy

(a) Past Policy Changes

Market Access – In 1996, a new telecommunication policy aimed at liberalising the telecommunications sector was enacted. The policy ended BTC's monopoly.

Regulation: Still in 1996, the BTA was established to regulate the telecommunications sector.

(b) Anticipated Policy Changes

Ownership – Privatisation of BTC is anticipated in near future. However, a time frame has not yet been set.

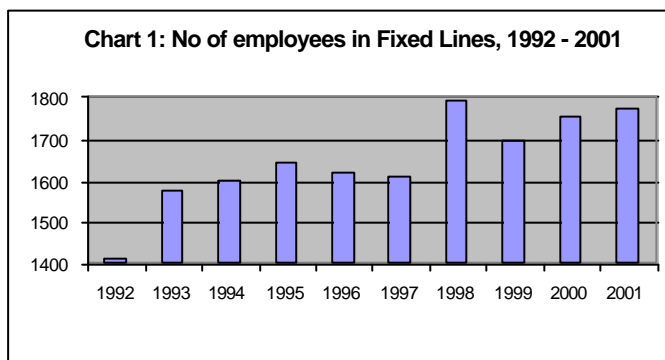
Market Access – A second fixed line operator is expected to be introduced in future. No date has been set yet. It is most likely to happen after a few years, since there is a need for tariff rebalancing first. The rebalancing exercise is still at a consultative stage.

2.7. Universal Service

There is yet to be a clear definition of universal service/access in Botswana. The exercise for developing the universal service policy is ongoing, and a clear definition is expected to come from this exercise. A number of policy options have been proposed to achieve universal access including, financial disbursements to the BTC to finance rural telephone access.

2.8. Employment

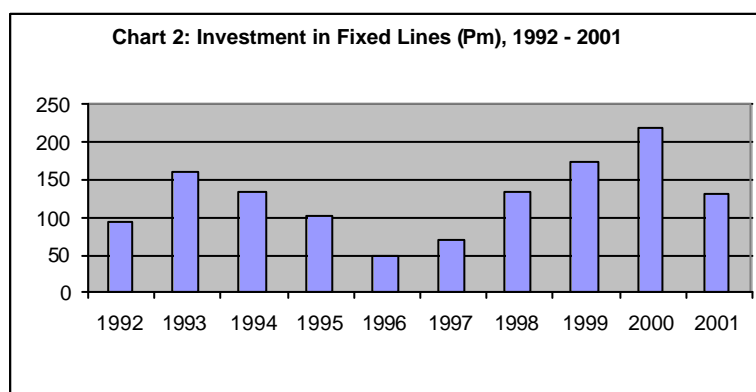
Employment within the fixed line sector (BTC) has grown over time from 1,415 employees in 1992 to 1,771 in 2001 (Table 1). The average annual wage for the fixed line services sector is around P55, 000.



Source: BTC annual reports (various)

2.9. Investment

Investment in fixed lines fell from P161 million in 1993 to P49 million in 1996, before gradually increasing to P220 million in 2000. The increase can be attributed to the investment associated with offsetting the possible effects of the then anticipated millenium bug, as well as installation of new capital for BTC.



Source: BTC annual reports (various)

2.10. Prices

Fixed line prices are regulated by the BTA. Botswana has among the highest fixed line charges in Southern Africa. The installation charge (35.21US\$) is the second highest in Southern Africa. Tanzania has the highest installation charge (48.04 US\$). Zambia has the lowest installation charge in the region (11.76 US\$). South Africa has the highest monthly subscription charge (6.44US\$), followed by Namibia (4.70 US\$), Lesotho (2.99 US\$), and Botswana has the fourth highest monthly subscription (2.50 US\$) in the region. Tanzania has the highest rate for a 3 minute local call (0.13 US\$). Botswana shares the second highest local call rate (0.11) with Lesotho. South African 3-minute call costs just 0.08 US\$.

Table 1: Fixed Line Telecommunications Prices

	Fixed Line Access Price (US\$)		Fixed Line 3 Minute Local Call (US\$)
	Installation	Monthly Subscription	
Botswana	35.21	2.50	0.11
Lesotho	29.94	2.99	0.11
Malawi	15.60	1.30	0.04
Mauritius	33.44	2.01	0.03
Namibia	25.34	4.70	0.08
South Africa	22.72	6.44	0.06
Tanzania	48.04	4.20	0.13
Zambia	11.76	1.18	0.05

Source: Hodge 2002 and SATRN Telecommunications Research

2.11. Quality and Access to Services

As at May 2002, there were about 142, 609 main telephone lines in the country, and 2,224 payphones. The waiting list has gone up and down over the years. It stood at 11,484 in 1996 fell to 9,300 in 1997 before rising to 15,322 in 1998. It however fell once again to 11,800 in 2000 before going up to 14,819 in March 2002.

3. Mobile Services

3.1. Market Access

Even though the market is liberalised, it is still highly regulated. There are entry restrictions on both analogue mobile and digital mobile. This is because there are concerns that the market may be too small, and as such, the two mobile operators have been given an exclusive control of the mobile service market until February 2003. A decision will be made on whether or not to end the exclusivity period then.

3.2. Ownership

Private ownership within the mobile services sector is allowed for both analogue and digital mobile services. Maximum private equity permitted is 100% in both cases. In addition, foreign ownership is permitted. For example, at the time the tenders to operate mobile services were awarded, Mascom Wireless was owned by a citizen company, Deci Holdings (36%), Portuguese Telecom (25%), T.S. Masiyiwa (14%) Debswana Pension Fund (15%), Southern African Enterprises Development Fund (5%) and International Finance Corporation (5%). Vista Cellular was owned by France Telecom (49%), Five Botswana companies, namely Hemamo Investments, Thusanyo Investments, Inter Pubic, Omega Holdings and Mosokelatsebeng collectively owned 46%, and a local investor owned 5% of the company. Since then, France Telecom's interest is now held by Orange SA.

3.3. Market Structure

No Company has been licensed to provide analogue mobile services yet. Mascom Wireless and Vista Cellular provide digital mobile services. The two use the Global System for Mobile (GSM) communications technology. Mascom accounts for 66% - 70% of the market share. Mascom has a larger share of the market probably because it started operations first. Mascom received its license on 15 February 1998, and Vista received its license on the 27th February 1998. Whereas Mascom started operations almost immediately, Vista Cellular started operations almost six months after receiving its license. The domestic/foreign ownership structure is 51/49% in the two companies.

Since 1998, the rise in the number of mobile subscribers has been very rapid. Mobile subscribers are more than fixed line subscribers. By the end of March 2002, there were 278 000 mobile subscribers as compared to 142 000 fixed line subscribers. The rise in mobile subscribers compares favourably with the initial estimate that, by 2002, there would be 60 000 subscribers. Compared to other countries, Botswana's mobile penetration (teledensity) has been remarkable, from nothing in 1997 to 14.24 in 2002, only second to South Africa in the region. In terms of mobile lines as percentage of total lines, Botswana is behind Lesotho, South Africa and Tanzania only. This shows that among the Southern African countries, Botswana's mobile sector has been among the best performing. There are entry restrictions into the provision of mobile services through an exclusivity clause that allows for a duopoly within the sub sector until February 2003.

Table 2: Regional Growth in Mobile Subscribers, 1997 -2002

Mobile Subscribers				
	1997	2002	As percentage of total lines	Teledensity (lines per 100 people)
Botswana	0	278,000	66.1%	14.24
Lesotho	1,262	52,000	71.1%	2.43
Malawi	7,000	59,000	51.3%	0.59
Mauritius	37,000	300,000	51.6%	10.33
Namibia	12,500	100,000	46.7%	4.32
South Africa	1,600,000	11,000,000	69.1%	25.00
Tanzania	20,200	427,000	74.0%	1.01
Zambia	3,752	121,300	59.0%	1.18

Source: Hodge 2002, SATRN Research

3.4. Regulation

The regulatory functions are entrusted to BTA. BTA's responsibilities include licensing of new operators, and/or license renewal of existing operators, regulation of retail tariffs, dispute settlement and arbitration as well as regulation of spectrum allocation. Licenses are allocated through competitive tender and

foreign firms face similar licensing requirements as domestic firms. For example, the two mobile licenses were offered through a competitive tendering process. The BTA announced the tender for two mobile cellular licenses in the media. Twenty companies showed interest by purchasing tender documents priced at P1, 000.00. Among others, it was required that local partners should be included in the bid. In the end Mascom and Vista were awarded mobile service licenses. Issued licenses foresee network rollout plans, and those issued to date granted a five-year exclusivity period. Licenses are issued with radio frequencies.

BTA does not set the interconnection charges. They are determined through private negotiations between the affected parties. These are normally commercial agreements between the two parties, as such, the agreements are not made public. However, if the two parties involved fail to reach an agreement on interconnections charge, the BTA may intervene and issue a ruling on interconnection charge. For example, in applying for licenses, the two mobile service operators included their proposed interconnection rates in their license tenders, and the BTC submitted an interconnection rate counter proposal. The proposals did not converge, with the mobile operators arguing that the BTC's proposed interconnection rates were too high. BTA had to intervene, and in its ruling on 14 February 1999, BTA reduced the rates that had been proposed by the BTC by 10% in an effort to find a middle ground between the mobile operators and the BTC. The ruling emphasised that interconnection rates should be cost-based, objective and transparent. In Botswana, interconnection charges are set through reciprocal pricing. All networks must charge the same amount to terminate calls coming from other networks.

End user tariffs are set determined through the rate of return regulation. However, there are plans to rebalance the tariffs in the country, and it has been suggested that one way to begin rebalancing whilst at the same time encouraging efficiency improvements, which will lower overall telecommunications prices in real terms, is to use a system of price caps on some services provided by the BTC. Price cap controls are used to ensure that an operator does not use its market power to raise its prices above the level

necessary to achieve an acceptable level of profit, given reasonable assumptions for efficiency improvement.

In making regulatory decisions, the BTA consults with service providers, consumer groups, user industries and the government. Such regulatory decisions and laws are then published in an official gazette for public consumption.

As with fixed lines, there are no preferential arrangements affecting mobile services.

3.5. Past and Future Policies

(a) Past Policy Changes

Market Access – In 1996, a new telecommunication policy aimed at liberalising the telecommunications sector was enacted. The policy ended the BTC's monopoly, and led to the introduction of mobile operators in 1998.

Regulation: The BTA was established to regulate the telecommunications sector.

(b) Anticipated Policy Changes

Market Access – With the exclusivity period for the mobile operators coming to an end in February 2003, the introduction of another mobile service provider is a possibility, even though no announcement has been made.

3.6. Employment

While the mobile sector has grown very fast in the last few years, direct employment within the sector has not been growing as fast. Mascom employed 97 people, as at March 2002, and Vista Cellular employed about 70 people. Direct employment seems to be growing very fast. There are privately owned payphones in almost all busy streets in the city. They employ many people.

3.7. Prices

Mobile calls in Botswana are among the highest in Southern Africa. In fact, for all the countries with available data on prices, Botswana has the second highest local calls. Botswana's local mobile calls are about 46% higher than South African prices. Zambia has the highest local calls in the region. In general, mobile calls in the region are higher than fixed calls. Zambia and Botswana have the highest cost disparity between mobile and fixed line calls respectively.

Table 3: Regional Comparison: Mobile and Fixed line Prices

	3 Minute Local Call (US\$)	
	Fixed Line	Mobile
Botswana	0.11	0.94
Lesotho	0.11	Na
Malawi	0.04	0.45
Mauritius	0.03	Na
Namibia	0.08	0.53
South Africa	0.06	0.51
Tanzania	0.13	0.35
Zambia	0.05	0.99

Source: Source: Hodge 2002, SATRN Research

3.8. Quality and Access to Services

Growth in mobile subscribers has been spectacular, from 3,301 in 1998 to 106,028 and 335,000 in 2000 and 2002 respectively. It is not possible to break down mobile subscribers into rural and urban areas because over 80% of subscribers are on pay as you go basis. This makes it difficult to tell exactly where they reside. There is no waiting period for pay as you go subscribers, and a handset may be acquired on demand. The waiting period for contract service is normally not more than a day.

4. Internet Services

There were already a number of ISPs operating in Botswana by the time the BTA was created in 1996. These were operating without a license, but the BTA allowed them to continue operating without a license until 1998. Most ISPs were awarded licenses in 1999, immediately after the award of mobile service licenses.

4.1. Market Access

There is no policy restriction on new entry to provide Internet. However, the BTA may limit the number of such licenses. Where it does, it publishes reasons for doing so. In addition, ISPs are not allowed to provide Voice Over Internet (VOI).

4.2. Ownership and Market Structure

Private ownership is allowed for ISPs. Of the largest 6 ISPs, 3 are 100% domestically owned one 90% foreign owned, and the remaining two are 100% foreign owned. There are 11 ISPs licensed by BTA. Only BOTSNET is related to BTC.

4.3. Regulation

Like other telecommunications services, licenses for ISPs are issued by the BTA. ISPs are not allowed to provide Voice Over Internet (VOI). Licensing requirements do not discriminate between foreign and domestic firms. The license allows ISPs to build their own networks, own and/or lease their own international data gateways.

Like in the case of mobile and fixed services, the BTA does not set the interconnection charges. It only set procedures for interconnection. Interconnection charges are determined through private negotiations between the affected parties. In making regulatory decisions affecting ISPs, BTA consults with service providers, consumer groups, user industries, and the Government. The decisions are then published in the Government Gazette.

There are no preferential arrangements affecting ISPs services.

4.4. Employment

ISPs have not generated much employment. On average, each ISP directly employs about 8 people. Total direct ISP employment stands at around 88 people. About 20% of ISPs' employment is generated by the state owned service provider (BOTSNET).

4.5. Investment

Data on ISPs investment is not available. However, it is clear that there has been rapid investment growth investment in this sector in the last few years. ISPs grew from 5 in 1999 to 11 in 2001. No close downs have been reported yet.

Table 4: List of ISPs in Botswana

Name of Firm	Year of Start-up
Info Botswana	November, 1999
UUNET	November, 1999
Botsnet	November, 1999
USKO	November, 1999
4 Site Holdings	November, 1999
Mega Internet	May 2000
Logical Botswana	May, 2000
Romela Internet Communications	July, 2000
Afritel (formerly Ame Enterprises)	February 2001
Pan African Communications Networks	June, 2001
Fourth Dimension	October, 2001

4.6. Prices

The average monthly bandwidth charge for residential Internet access stands at P80 per month. Average monthly charges for high bandwidth business Internet access ranges from P1200 for 12k to 3750 for 64k. One off installation charge is P3750. Table 6 presents prices for ISPs.

Table 6: ISP Prices, March 2002

Service	Price (in local	Date
---------	-----------------	------

	currency)	
Average monthly charges for low bandwidth residential Internet Access	P80.00 per month (Dial Up)	March, 2002
Average monthly charges for high bandwidth business Internet Access	16k – P1500 64k – P3750 12k – P1200	March, 2002
Additional connection charges (Lease line between corporate and ISP)	P1416 for 64k monthly. One off Installation – P3,540	March, 2002

4.7. Quality and Access to Services

There are 11 licensed ISPs in Botswana, with about 17,000 household subscribers. It is estimated that there are 50,000 to 60,000 Internet users in the country. Internet usage in the country is restricted by, among others, the fact there only about half of all households have access to electricity, which reduces the number of potential users significantly.

Table 7: Quality and Access to the Internet, March 2002

Indicator	Value	Date
Number of Internet hosts	11	March, 2002
Number of household subscribers	17,000	March, 2002
Total Number of Internet Users	50,000 – 60,000	March, 2002
Number of users that access internet via leased lines	Some do, but difficult to capture	March, 2002
Number of users that access the internet via the cable network	0	March, 2002

5. Conclusions

The 1995 telecommunications policy could be credited for the reform of the telecommunications sector in Botswana. The policy ended the BTC's monopoly in the provision of telecommunications services, and led to the introduction of two mobile service providers. The policy also led to the establishment of the BTA, the

national telecommunications operator. The BTA, among others, is empowered to supervise and promote the provision of efficient telecommunications services within a competitive environment in Botswana. The BTA does not set interconnection charges. They are determined through private negotiations between the concerned parties. It only set the procedures for interconnection. However, if the two parties do not agree on the interconnection charge, the BTA may intervene and issue a ruling on interconnection.

However the BTC remains the only provider of fixed telecommunications services in the country, although the two mobile service providers indirectly competes with the BTC. Even though the mobile market is liberalised, there are entry restrictions on both analogue and digital mobile. This is because there are concerns that the market may be too small, and as such the two mobile service providers have been given an exclusive control of the market until February 2003. The two mobile operators, Mascom Wireless and Vista Cellular, are 49% foreign owned, and the 51% is domestically owned.

There are no policy restrictions to provide Internet services. However, the BTA may limit the number the number of such licenses. Where it does, it publishes reasons for doing so. The license allows ISPs to build their own networks, own or lease their international gateways.

Annex: Templates to Assess Services Trade Policy and Performance

Telecommunications – Fixed Line Services

Note: Unless specified, please give information for the latest year available and indicate which year. If insufficient space is provided, please attach additional information on separate sheets.

A. Market Access

1. Are there policy restrictions on new entry?				
<i>No, Foreign and local companies are treated on an equal footing, but no company other than the BTC has been licensed. This is just a management decision. A study will be commissioned to look into the market to determine whether additional operators can be licensed.</i>				
	Entry by any firm	If yes, total number of firms allowed	Entry by foreign firms	If yes, number of foreign firms allowed
Local services ¹	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>Not determined.</i>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Long distance	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>Not determined.</i>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
International	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>Not determined.</i>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Leased line ²	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
2. If entry is restricted, what are the reasons provided by the government (BTA)?				
<input type="checkbox"/> To give incumbents time to prepare for competition. <input type="checkbox"/> To increase government revenue from privatization or license fees <input type="checkbox"/> Exclusive rights believed necessary to attract (strategic) investment <input type="checkbox"/> Exclusive rights to allow the provision of universal service <input checked="" type="checkbox"/> Other: <i>The market is still being studied. Before the end of the year, the findings will be known.</i>				
3. Is interconnection to the public switched network allowed in principle?				
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes				
4. Are there any restrictions on the provision of basic telecommunication services through networks other than the public switched network?				
Cable television network <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes				

¹ If policy restrictions on new entry in local services differ across regions within the country, please explain on a separate sheet.

² Leased line services are defined as the ability of telecom service suppliers to sell or lease circuits for any type of bulk network capacity (cable, satellite, wireless) to third parties.

Internet	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes ✓
Satellite	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes ✓
Other: _____	<input type="checkbox"/> No	<input checked="" type="checkbox"/> Yes ✓

If yes, please explain the nature of the restrictions:

Only the BTC is allowed to provide basic telecommunications services (Voice).

5. Do market entrants have to use the incumbent carrier's gateway(s) for international connections?

No Yes ✓

6. Is third party resale of lease line capacity permitted?

Domestic No Yes ✓ *For data only*

International No ✓ Yes

If yes, please specify the designated countries:

B. Ownership

7. Is private ownership in the provision of services allowed?

	Existing operators	Maximum private equity permitted (%)	New entrants	Maximum private equity permitted (%)
Local services	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	
Long distance	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	
International	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	
Leased line	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	

8. Is foreign ownership in the provision of services allowed? *At-least for now – still reserved for BTC.*

	Existing operators	Maximum foreign equity permitted (%)	New entrants	Maximum foreign equity permitted (%)
Local services	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	
Long distance	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	
International	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	
Leased line	<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No ✓ <input type="checkbox"/> Yes	

9. Are there any restrictions on companies offering services in more than one market segment (local, long distance, international, leased line)?

No Yes

If yes, please explain the nature of these restrictions: *The licensed operator is allowed in all*

the market segments.

C. Market Structure

10. Please list the characteristics of all facilities-based operators providing local services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Revenue (2001)	Owners of capital and their respective shares (domestic/foreign)
BTC	1980	National Calls – 362.6	Botswana Government
		International Calls – 124.4	
		Local and Access services – 29.7	
		Data and private circuits – 49.1	
		Customer Premises Equipment – 29.4	
		Other Sales and Services – 15.5	
		Total Revenue – 610.7	

11. Please list the characteristics of all facilities-based operators providing long distance services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Revenue (2001)	Owners of capital and their respective shares (domestic/foreign)
BTC	1980	National Calls – 362.6	Botswana Government
		International Calls – 124.4	
		Local and Access services – 29.7	
		Data and private circuits – 49.1	
		Customer Premises Equipment – 29.4	
		Other Sales and Services – 15.5	
		Total Revenue – 610.7	

12. Please list the characteristics of all facilities-based operators providing international services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Revenue (2001)	Owners of capital and their respective shares (domestic/foreign)
BTC	1980	National Calls – 362.6	Botswana Government
		International Calls – 124.4	
		Local and Access services – 29.7	
		Data and private circuits – 49.1	
		Customer Premises Equipment – 29.4	
		Other Sales and Services – 15.5	
		Total Revenue – 610.7	

13. Please list the characteristics of all facilities-based operators providing leased line services (starting with the incumbent PTO).

Name of firm	Year the firm first offered services	Revenue (2001)	Owners of capital and their respective shares (domestic/foreign)
BTC	1980	National Calls – 362.6	Botswana Government
		International Calls – 124.4	
		Local and Access services – 29.7	
		Data and private circuits – 49.1	
		Customer Premises Equipment – 29.4	
		Other Sales and Services – 15.5	
		Total Revenue – 610.7	

If third party resale of leased-line capacity is permitted, how many resellers are in the market?

Domestic: _____ International: _____

D. Regulation

15. Institutional status of sector regulator

- a) When was the regulator established? 1996
- b) Is the sector regulator independent from the incumbent PTO? No Yes ✓
- c) If yes to b), is the regulator independent from the sector ministry? No Yes ✓
- d) How is the sector regulator financed?
- e) License and other fees 100 % State budget ___% Other (_____): ___%

Except that the regulator was given seed funding to start its operations in 1996.

- e) How many technical and economic professionals are employed?

16. Please indicate regulatory responsibilities for the following functions:

	Licensing	Setting of interconnection rates	Regulation of retail tariffs	Dispute settlement and arbitration	Regulation of cable television
Operator	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ministry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/> <i>Not applicable. The National Broadcasting Board is responsible. But the BTA is the technical advisor to the board.</i>
Other (specify)					

17. How are licenses for fixed line services allocated?

BTC is a defacto monopoly –Hence it offers all fixed line services.

- a) If the number of providers is not restricted by policy, specify the main conditions new entrants must fulfill. *N/A, at least for now*

- Payment of license fee (indicate amount in local currency: _____)
 Other: _____

- b) If the number of providers is limited by policy, through what mechanism are licenses allocated? *N/A*

- Competitive tender
 Discretionary decision by the licensing authority
 Other: _____

- c) Do licenses foresee specific network rollout plans?

- No ✓ Yes

The license is silent on roll out plans.

- d) Are foreign firms subject to different licensing requirements from domestic firms?

- No ✓ Yes

If yes, please specify what additional requirements have to be met by foreign operators:

- e) Do licenses grant exclusivity periods? *N/A*

- No Yes

If yes, please indicate for the relevant market segments (local, long distance, international, leased line) when the exclusivity period will expire? _____

18. Regulation of network interconnection

- a) How are interconnection agreements among carriers determined?

- ✓ Private negotiations between parties
 Private negotiations, but general terms determined by regulatory agency
 Detailed terms of interconnection determined by the regulatory agency
 Other: _____

- b) Which of the following aspects of interconnection are set by the regulatory agency?

- Technical standards
 Procedures for interconnection
 Time frames for interconnection
 Points of interconnection
 Price of interconnection
 Other: *If interconnections agreement is not reached, the BTA may intervene, and*

determine that within a specific timeframe, the agreement should have been reached, failing which the BTA may issue a ruling on the interconnection issue.

c) Are interconnection agreements required to be made public?

No ✓ Yes

d) Which of the following interconnection pricing rules are applied in your country?

✓ Reciprocal pricing³
 Unbundling⁴
 Imputation⁵
 Other: _____

19. End-user tariffs

a) How are end-user tariffs determined in your country?

By market forces (i.e., not regulated)
 Price caps established by the regulator
 ✓ Rate of return regulation
 Other: _____

b) Is there a plan to rebalance tariffs in your country?⁶

No Yes ✓

If yes, please indicate when this plan is scheduled to be completed: *Not yet specified.*

20. Public consultation and transparency

a) Which of the following are consulted in advance of regulatory decisions?

✓ Service providers
 ✓ Consumer groups
 ✓ User industries
 ✓ Other: Government

b) How are laws and regulatory decisions made public?

✓ Published on the regulator's website

³ Reciprocal pricing requires that all networks charge the same amount to terminate calls coming from other networks.

⁴ An 'unbundling' policy requires the dominant network operator to sell network components independently of each other, so that rival networks are not forced to buy services they do not need.

⁵ Imputation rules are designed to eliminate any markup on services components sold to competing firms over and above the implicit charges for internal use— and should tend to equalize prices charged by direct competitors.

⁶ Tariff rebalancing may take place when a dominant carrier provides both domestic and long distance/international services. It usually takes the form of the elimination of cross-subsidies from long distance/international services to the local segment of the domestic market.

<input checked="" type="checkbox"/> Published in an official gazette <input type="checkbox"/> Other: _____

E. Regional Integration Agreements in Fixed Line Services

21. Please indicate if there are any preferential arrangements affecting fixed line services, and list the preferential measures.⁷

Name of agreement	Partner country(s) in agreement	Date of entry into force	Preferential measures

F. Past and Future Changes in Policy

22. Please indicate major changes in market access policies, ownership rules, and regulation since 1990 (e.g., privatization of incumbent operator, introduction of competition, creation of an independent regulatory agency). Please attach copies of laws and regulations.

Area of policy change (market access, ownership or regulation)	Year of policy change	Description of policy change
<i>Market Access</i>	<i>1996</i>	<i>BTC's monopoly ended by the Telecommunications Policy of 1996. The BTC given license as a sole provider of basic telecommunications services.</i>
<i>Regulation</i>	<i>1996</i>	<i>The Botswana Telecommunications Authority (BTA) established to regulate the telecommunications sector.</i>

23. Please indicate announced or anticipated changes in the same areas.

Area of policy change (market access, ownership or regulation)	Anticipated date	Description of policy change
<i>Ownership</i>	<i>No date set.</i>	<i>Privatisation or partial privatisation of the Botswana Telecommunications Corporation (BTC)</i>

⁷ Please, specify how the treatment of fixed line service suppliers of member countries of the agreement differs from the treatment of fixed line service suppliers of non-member countries.

Market Access	<i>No date set</i>	<i>The introduction of the a second fixed line operator</i>

G. Universal Service

24. How does the government define universal service (or universal access)?

Not yet defined. The exercise for developing Universal Service is ongoing, and a clear definition will come from that exercise.

25. What are the policy instruments used to pursue the universal service objective?

Government offers rural telephone through BTC. BTC is given a certain amount of money annually for that purpose.

- Roll-out obligations in services licenses
- Subsidies to operator(s), e.g., from universal service funds or state budgets
- Vouchers for target consumers
- Other: _____

26. On which service suppliers are universal service obligations imposed?

- Incumbent operator
- Private operators offering local services
- Private operators offering long distance and international services
- Other: _____

H. Employment

27. Main employment indicators (for the years 1990-2000)

How many people are employed in the provision of fixed line services?

Year **No of employees**

1992 1415

1993 1579

1994 1602

1995 1645

1996 1624

1997 1610

1998 1703

1999 1700

2000 1754

2001 1771

What share of the total labor force is employed in this sector? 0.2%

What share of workers in this sector is employed by state-owned operators? 100%

What share of workers in this sector is employed by foreign-owned operators? 100%

What is the annual average wage in this sector? *P55 000 (2001)*

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

I. Investment

28. Investment indicators (for the years 1990-2000)

What is the total amount of investment in fixed line services?

Year Pm
 1992 – 93.7
 1993 – 161.1
 1994 – 134.5
 1995 – 102.6
 1996 – 49.4
 1997 – 68.6
 1998 – 134.5
 1999 – 173.8
 2000 – 220.3
 2001 – 131.6

What is the total amount of foreign direct investment in this sector? *Q*

What is the total stock of foreign direct investment in this sector? *Q*

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

J. Prices

29. Please indicate the prices of the following services. Where relevant, distinguish between peak and off-peak charges. For a comprehensive assessment of telecommunications performance, it would be extremely useful to have historical data on prices for the various services. If time series data are available, please attach them separately (preferably electronically).

Service	Price (in local currency)	Date	Comments
Installation charges	P225.00	03/02	
Monthly subscription for business	P225.00	03/02	
Monthly subscription for households	P21.00	03/02	Rental charge
3-minute local call	P0.69 (23 thebe per minute)	03/02	Ordinary lines (Within zone)
3-minute domestic long distance call	P2.76 (23 thebe per 15 seconds)	03/02	Between Zones
3-minute call to neighboring country: <u>South Africa</u>	P4.68 (P1.56 per minute)	03/02	

3-minute call to Tokyo	<i>P16.80 (P5.60 per minute)</i>	03/02	
3-minute call to London	<i>P15.00 (P5.00 per minute)</i>	03/02	
3-minute call to New York	<i>P16.80 (P5.60 per minute)</i>	03/02	
Average interconnection charge with main operator of local services	<i>N/A</i>	03/02	<i>BTC is the main operator of local services.</i>
Monthly leased line charges (capacity: _____)			

K. Quality and Access to Services

Please fill in the following indicators of quality and access to services. If time series data are available, please attach them separately (preferably electronically).

Indicator	Value	Date	Comments
Total number of main telephone lines in the country	142,609	31/03/02	
Number of main telephone lines in rural areas			Data not available
Number of main telephone lines in urban areas	?		Data not available
Number of payphones and/or call centers	2,224	31/03/02	
Waiting time for installation of basic telephone services	60 Days	-	As at November, 2001
Waiting list for installation of basic telephone services	14,819	31/03/02	
Percentage of network that is digitized	?		Data not available
Percentage of unsuccessful calls			Data not available
Are callback services available?	<input type="checkbox"/> No <input type="checkbox"/> Yes If yes, please since when? _____		Data not available
Percentage of households with access to cable television			Data not available

Please, provide the name and contact information of the respondent of this questionnaire, or of a specialist from whom we can obtain clarifications if necessary.

Name Mr. Ephraim Nkomo

Telephone _____

Fax _____

E-mail address: _____

Telecommunications—Mobile Services

Note: Unless specified, please give information for the latest year available and indicate which year. If insufficient space is provided, please attach additional information on separate sheets.

A. Market Access

1. Are there policy restrictions on new entry? ⁸				
	Entry by any firm	If yes, total number of firms allowed	Entry by foreign firms	If yes, number of foreign firms allowed
Analogue mobile	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
Digital mobile	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes		<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	
2. If entry is restricted, what are the reasons provided by the government?				
<input checked="" type="checkbox"/> To give incumbents time to prepare for competition <input type="checkbox"/> To increase government revenue from privatization or license fees <input type="checkbox"/> Exclusive rights believed necessary to attract (strategic) investment <input type="checkbox"/> Limited availability of radio frequencies <input type="checkbox"/> Other: _____				

B. Ownership

3. Is private ownership in the provision of services allowed?				
	Existing operators	Maximum private equity permitted (%)	New entrants	Maximum private equity permitted (%)
Analogue mobile	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%
Digital mobile	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%
4. Is foreign ownership in the provision of services allowed?				
	Existing operators	Maximum foreign equity permitted (%)	New entrants	Maximum foreign equity permitted (%)
Analogue mobile	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>Not specified</i>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>Not specified</i>
Digital mobile	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>Not specified</i>	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	<i>Not specified</i>

⁸ If policy restrictions on new entry in analogue or digital mobile differ across regions within the country, please explain on a separate sheet.

C. Market Structure

5. Please list the characteristics of all operators providing analogue mobile services. *None*

Name of firm	Year the firm first offered services	Technology	Market share	Owners of capital and their respective shares (domestic/foreign)

6. Please list the characteristics of all operators providing digital mobile services.

Name of firm	Year the firm first offered services	Technology (e.g., GSM, CMDA)	Market share	Owners of capital and their respective shares (domestic/foreign)
Mascom	1998	GSM	66%	51/49
Vista	1998	GSM	33%	51/49

D. Regulation

7. Please indicate regulatory responsibilities for the following functions:

	Licensing	Setting of interconnection rates	Regulation of retail tariffs	Dispute settlement and arbitration	Spectrum Allocation
Operator	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Ministry	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Regulator	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>
Other (specify)					

8. How are licenses for mobile services allocated?

a) If the number of operators is not restricted by policy, specify the main conditions new entrants must fulfill.

Payment of service license fee (indicate amount in local currency:

The initial licence fee of P1000 000, is payable prior to the issue of the licence.

Other: _____

b) If the number of operators is limited by policy, through what mechanism are service licenses allocated?

- Competitive tender
- Discretionary decision by the licensing authority
- Other: _____

c) Are foreign firms subject to different licensing requirements from domestic firms?

- No
- Yes If yes, please specify what additional requirements have to be met by foreign operators:

d) Do licenses foresee specific network roll-out plans?

- No Yes

e) Do licenses grant exclusivity periods?

- No Yes

If yes, please indicate for the relevant market segments (digital, analogue) when the exclusivity period will expire? February 2003. (digital).

9. Allocation of radio spectrum

a) If radio frequencies are not awarded with the service license, through what mechanism are licenses for radio frequencies allocated? *They are awarded with a licence.*

- Auction
- Discretionary decision by the licensing authority
- First come, first served
- Other: They are awarded with the licence

b) Is there a separate fee for radio frequency licenses?

No Yes If yes, please indicate the average fee paid by operators: *An annual radio licence fee of P300 000 is payable within 14 days of licence Date.*

10. Regulation of network interconnection

a) How are interconnection agreements between mobile and fixed-line carriers determined?

- Private negotiations between parties
- Private negotiations, but general terms determined by regulatory agency
- Detailed terms of interconnection determined by the regulatory agency
- Other: _____

b) How are interconnection agreements among mobile carriers determined?

- Private negotiations between parties
- Private negotiations, but general terms determined by regulatory agency
- Detailed terms of interconnection determined by the regulatory agency
- Other: _____

c) Which of the following aspects of interconnection are set by the regulatory agency?

Technical standards
 Procedures for interconnection
 Time frames for interconnection
 Points of interconnection
 Price of interconnection
 Other: _____

d) Are interconnection agreements required to be made public?

No Yes

e) Which of the following interconnection pricing rules are applied in your country?

Reciprocal pricing⁹
 Unbundling¹⁰
 Imputation¹¹
 Other: _____

f) Are mobile carriers allowed to charge for incoming mobile calls?

No Yes
If yes, do mobile carriers actually charge for incoming calls? No Yes

11. How are end-user tariffs for mobile services determined in your country?

By market forces (i.e., not regulated)
 Price caps established by the regulator
 Rate of return regulation
 Other: _____

12. Public consultation and transparency

a) Which of the following are consulted in advance of regulatory decisions?

Service providers
 Consumer groups
 User industries
 Other: _____

b) How are laws and regulatory decisions made public?

⁹ Reciprocal pricing requires that all networks charge the same amount to terminate calls coming from other networks.

¹⁰ An ‘unbundling’ policy requires the dominant network operator to sell network components independently of each other, so that rival networks are not forced to buy services they do not need.

¹¹ Imputation rules are designed to eliminate any markup on services components sold to competing firms over and above the implicit charges for internal use– and should tend to equalize prices charged by direct competitors.

- Published on the regulator's website
 Published in an official gazette
 Other: _____

E. Regional Integration Agreements in Mobile Services

13. Please indicate if there are any preferential arrangements affecting mobile services, and list the preferential measures.¹²

Name of agreement	Partner country(s) in agreement	Date of entry into force	Preferential measures
<i>None</i>			

F. Past and Future Changes in Policy

14. Please indicate major changes in market access policies, ownership rules, and regulation since 1990 (e.g., grant of additional mobile licenses, relaxation of ownership rules).

Area of policy change (market access, ownership or regulation)	Year of policy change	Description of policy change
<i>Market Access</i>	<i>1996</i>	<i>-Liberalisation of telecommunications sector -Establishment of regulator – all through the 1996 telecommunications policy.</i>

15. Please indicate announced or anticipated changes in the same areas. Among other things, describe the government's plans for the introduction of third generation mobile services.

Area of policy change (market access, ownership or regulation)	Anticipated date	Description of policy change
<i>Market Access</i>	<i>No date</i>	<i>The end of exclusivity period.</i>

¹² Please, specify how the treatment of mobile service suppliers of member countries of the agreement differs from the treatment of mobile service suppliers of non-member countries.

G. Employment

16. Main employment indicators (for the years 1990-2000)

- How many people are employed in the provision of mobile services? 180
 What share of the total labor force is employed in this sector? 0.03
 What share of workers in this sector is employed by state-owned operators? 0
 What share of workers in this sector is employed by foreign-owned service providers? N/A
 What is the annual average wage in this sector? P50 000

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

H. Investment

17. Investment indicators (for the years 1990-2000)

- What is the total amount of investment in mobile services? *DATA NOT AVAILABLE*
 What is the total amount of foreign direct investment in this sector? *DATA NOT AVAILABLE*
 What is the total stock of foreign direct investment in this sector? *DATA NOT AVAILABLE*

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

I. Prices

18. Please indicate the prices of the following services. Where relevant, distinguish between peak and off-peak charges. For a comprehensive assessment of mobile performance, it would be extremely useful to have historical data on prices for the various services. If time series data are available, please attach them separately (preferably electronically).

Service	Price (in local currency)	Date	Comments
Acquisition of handset			
Monthly rental charges	<i>P107.00</i>	<i>2002</i>	
3-minute domestic call	<i>P3.60</i>	<i>2002</i>	<i>Contract</i>
3-minute call to neighboring country: <i>South Africa</i>	<i>P13.50</i>	<i>2002</i>	
3-minute call to Tokyo	<i>P18.00</i>	<i>2002</i>	<i>Peak</i>
3-minute call to London	<i>P15.00</i>	<i>2002</i>	<i>Peak</i>
3-minute call to New York	<i>P16.80</i>	<i>2002</i>	<i>Peak</i>
Average roaming charges	-		
Average interconnection charge with fixed network	<i>P0.24</i>	<i>2002</i>	<i>Peak</i>
Average interconnection charge between mobile	<i>P 0.9</i>	<i>2002</i>	<i>Peak (Contract)</i>

networks			
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J. Quality and Access to Services

19. Please fill in the following indicators of quality and access to services. If time series data are available, please attach them separately (preferably electronically).

Indicator	Value	Date	Comments
Total number of mobile subscribers in the country	235 000	March, 2002	
Number of mobile subscribers in rural areas	Not Available		Over 80% of subscribers are on pay as you go basis (non-contract). It therefore very difficult to know whether they are rural or urban.
Waiting period for acquisition of handset and initiation of service	Immediate		
Percentage of unsuccessful calls	Not available		

Please, provide the name and contact information of the respondent of this questionnaire, or of a specialist from whom we can obtain clarifications if necessary.

Telecommunications—Internet services

Note: Unless specified, please give information for the latest year available and indicate which year. If insufficient space is provided, please attach additional information on separate sheets.

A. Market Access

1. Are there policy restrictions on new entry of Internet service providers?			
Entry by any firm	If yes, total number of firms allowed	Entry by foreign firms	If yes, number of foreign firms allowed
<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes		<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	
2. If entry is restricted, what are the reasons provided by the government? <i>N/A</i>			
<input type="checkbox"/> To give incumbents time to prepare for competition <input type="checkbox"/> To increase government revenue from privatization or license fees <input type="checkbox"/> Other: _____			

B. Ownership

3. Is private ownership in the provision of services allowed?

Existing operators	Maximum private equity permitted (%)	New entrants	Maximum private equity permitted (%)
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%	<input checked="" type="checkbox"/> No <input type="checkbox"/> Yes	100%
4. Is foreign ownership in the provision of services allowed?			
Existing operators	Maximum foreign equity permitted (%)	New entrants	Maximum foreign equity permitted (%)
<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%	<input type="checkbox"/> No <input checked="" type="checkbox"/> Yes	100%

C. Market Structure

5. a) What is the total number of Internet service providers? <u>12</u> c) How many Internet service providers are related to telecom operators? <u>2</u> <i>BOTSNET – Botswana Telecommunications Corporation</i> <i>VISTA – Vista Cellular PTY LTD. Although licensed, this one is not operational.</i>
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6. Please list the characteristics of the six largest Internet services providers.

Name of firm	Year the firm first offered services	Market share	Owners of capital and their respective shares (domestic/foreign)
USKO	1999	Not Known	100% Foreign
BOTSNET	1999	Not Known	100% Domestic
UUNET	1999	Not Known	90% Foreign
MEGA	1999	Not Known	100% Foreign
ROMELA	1999	Not Known	100% Local
4 SITE	1999	Not Known	100% Domestic

D. Regulation

7. Licensing regime a) Is there a licensing regime for Internet service providers? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes b) If yes to a), which governmental agency issues licenses? <u>Regulator</u> d) If yes to a), please specify the main conditions new entrants have to fulfill: <i>Not to provide VOIP</i> d) Are foreign firms subject to different licensing requirements from domestic firms? <input checked="" type="checkbox"/> No <input type="checkbox"/> Yes If yes, please specify what additional requirements have to be met by foreign operators:
8. Infrastructure and interconnection a) Are Internet service providers allowed to build their own networks? <input type="checkbox"/> No <input checked="" type="checkbox"/> Yes

b) Are Internet service providers (other than the incumbent or affiliates) allowed to own or lease their own international data gateways? No Yes

c) How are interconnection agreements among Internet service providers regulated?

Private negotiations between parties

Private negotiations, but general terms determined by regulatory agency

Detailed terms of interconnection determined by the regulatory agency

Other: _____

d) How many peering points (locations where national and regional Internet traffic can be exchanged) are available ?

Private _____ Public _____

9. Are there any policy initiatives to bolster Internet use? *NO*

No Yes

If yes,

a) when were they introduced? _____

b) what do they cover?

Plan to introduce flat-rate access

Discount local access charges for Internet use

Other: *While there are no specific policies to bolster internet use, it is important to note that the internet licensing regime is very liberal.*

10. Public consultation and transparency

a) Which of the following are consulted in advance of regulatory decisions?

Service providers

Consumer groups

User industries

Other: _____

b) How are laws and regulatory decisions made public?

Published on the regulator's website

Published in an official gazette

Other: _____

E. Regional Integration Agreements in Internet Services

11. Please indicate if there are any preferential arrangements affecting Internet services, and list the preferential measures.¹³

¹³ Please, specify how the treatment of internet service suppliers of member countries of the agreement differs from the treatment of internet service suppliers of non-member countries.

Name of agreement	Partner country(s) in agreement	Date of entry into force	Preferential measures
None			

F. Past and Future Changes in Policy

12. Please indicate major changes in market access policies, ownership rules, and regulation since 1990 (e.g., grant of additional licenses for Internet services, relaxation of ownership rules).

Area of policy change (market access, ownership or regulation)	Year of policy change	Description of policy change
<i>Market Access</i>	<i>1996</i>	<i>-Liberalisation of telecommunications sector -Establishment of regulator</i>

13. Please indicate announced or anticipated changes in the same areas.

Area of policy change (market access, ownership or regulation)	Anticipated date	Description of policy change
<i>None</i>		

G. Employment

14. Main employment indicators (2002) – *Data very unreliable*

How many people are employed in the provision of Internet and data services? ~ 200
 What share of the total labor force is employed in this sector? 0.03%
 What share of workers in this sector is employed by state-owned service providers? 20%
 What share of workers in this sector is employed by foreign-owned service providers? *N/A*
 What is the average annual wage in this industry? P10 500 – For professionals only.

If time series data on these employment indicators are available, please attach them separately.

H. Investment

15. Investment indicators (for the years 1990-2000) *DATA NOT AVAILABLE FOR THIS SECTION*

What is the total amount of investment in Internet services? _____
 What is the total amount of foreign direct investment in this sector? _____
 What is the total stock of foreign direct investment in this sector? _____

If time-series data from 1990 to 2000 is not available, please collect indicators for the years 1990, 1995 and 2000.

I. Prices

16. Please indicate the prices of the following services. Where relevant, distinguish between peak and off-peak charges. For a comprehensive assessment of Internet performance, it would be extremely useful to have historical data on prices for the various services. If time series data are available, please attach them separately (preferably electronically).

Service	Price (in local currency)	Date	Comments
Average monthly charges for low bandwidth residential Internet access (Capacity: _____) Additional (per minute) local telephone charges (if relevant)	P80/month	March, 2002	Dial Up
Average monthly charges for high bandwidth business Internet access (Capacity: _____) Additional connection charges (if relevant)	16k – P1500 32k- P3750 64k – P6700 128k – P12000 P1416.00		Corporate

I. Quality and Access to Services

17. Please fill in the following indicators of quality and access to services. *DATA NOT AVAILABLE*

Indicator	Value	Date	Comments
Number of Internet hosts			
Number of household subscribers			
Total number of Internet users			
Number of users that access the Internet via the fixed telephone network			

Number of users that access the Internet via leased lines			
Number of users that access the Internet via the cable network			
Annual value of e-commerce transactions			

Please, provide the name and contact information of the respondent of this questionnaire, or of a specialist from whom we can obtain clarifications if necessary.

Name _____

Telephone _____

Fax _____

E-mail address: _____

