# Department of Information Technology

***MCST's CUIS Centre in Gumare***

Maitlamo
National Policy For ICT Development

# Project Background

- Realising the potential of the Global Information Society Botswana has launched a progressive initiative to develop its National Information and Communications Technology (ICT) Plan.
- The plan will identify how the country's social, economic and cultural conditions can be transformed using the intelligent application of ICT.
- Significant improvements in education, healthcare, public/social services and economic growth and diversification are to be key elements of the plan

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Areas of Focus

- Community Access and Development
- Learning
- Health
- Government
- Economic Development & the ICT Sector
- Technical Infrastructure
- Legal & Policy

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Phases

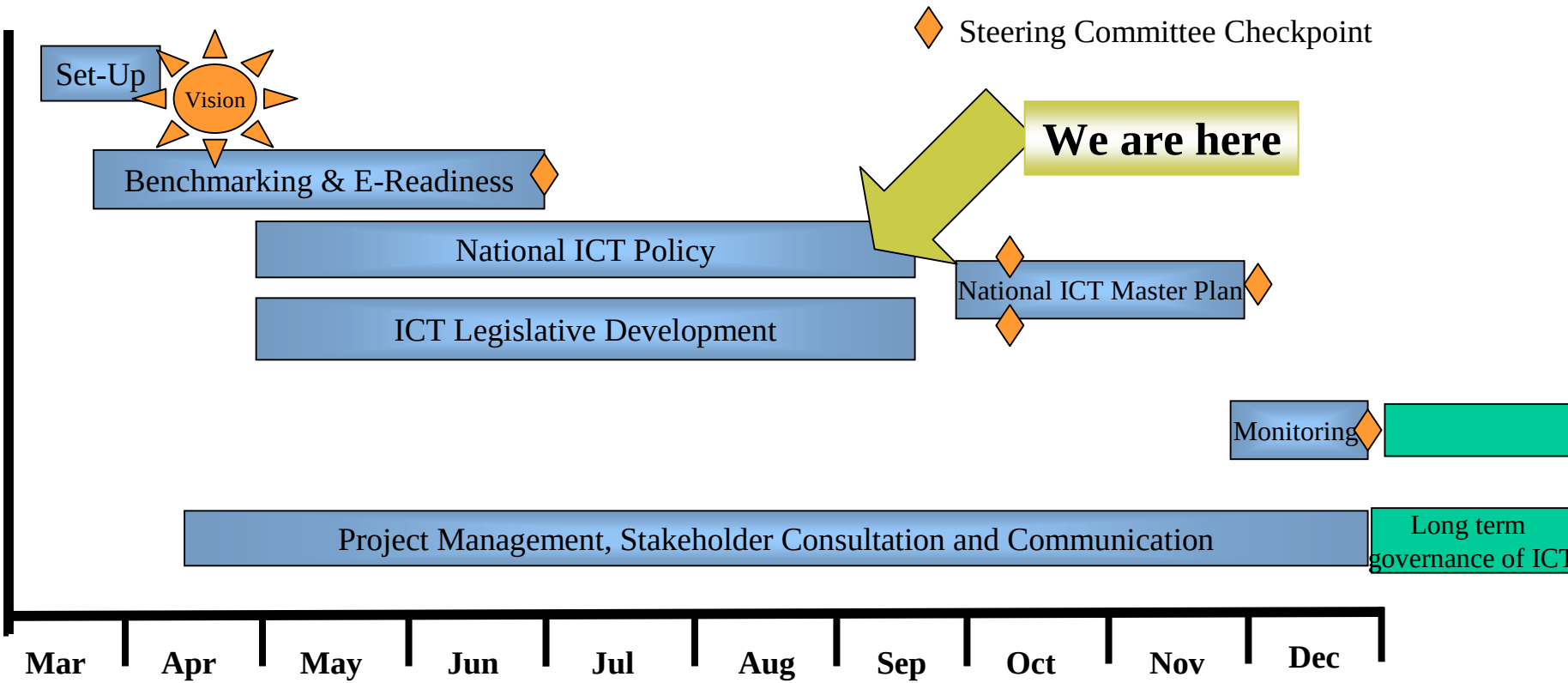
- Vision, Goals and Objectives
- e-Readiness & Benchmarking
- ICT Policy
- ICT Master Plan
- Monitoring & Evaluation

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Maitlamo - Project Status

## High Level Work plan




Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# National ICT Vision

*Botswana will be a globally competitive knowledge and information society where lasting improvement in social, economic and cultural development is achieved through effective use of Information and Communication Technology.*

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Desired ICT Outcomes

1. **Creation of an enabling environment for the growth of an ICT industry in the country;**

2. **Provision of universal service and access to information and communication facilities in the country; and**

3. **Making Botswana a Regional ICT Hub so as to make the country's service sector globally competitive.**

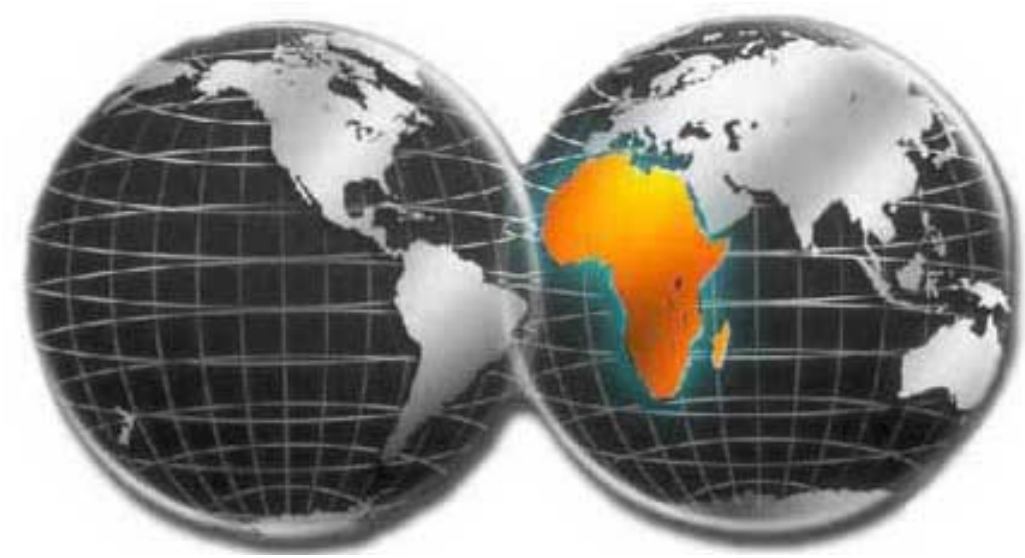
Maitlamo
National Policy For ICT Development

# Supporting ICT Objectives

1. A culture of lifelong learning that maximizes the potential within all citizens and accelerates innovation to develop a knowledge based system.
2. Government services available electronically.
3. Increased economic diversification and foreign investment, including ICT enabled services based in Botswana.
4. Access to relevant, localized and understandable information for all citizens.
5. An ICT access point in every village.
6. Enhanced disease control and healthcare programmes.
7. An efficient and cost-effective ICT infrastructure in place.
8. A clear ICT legal framework in place.

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

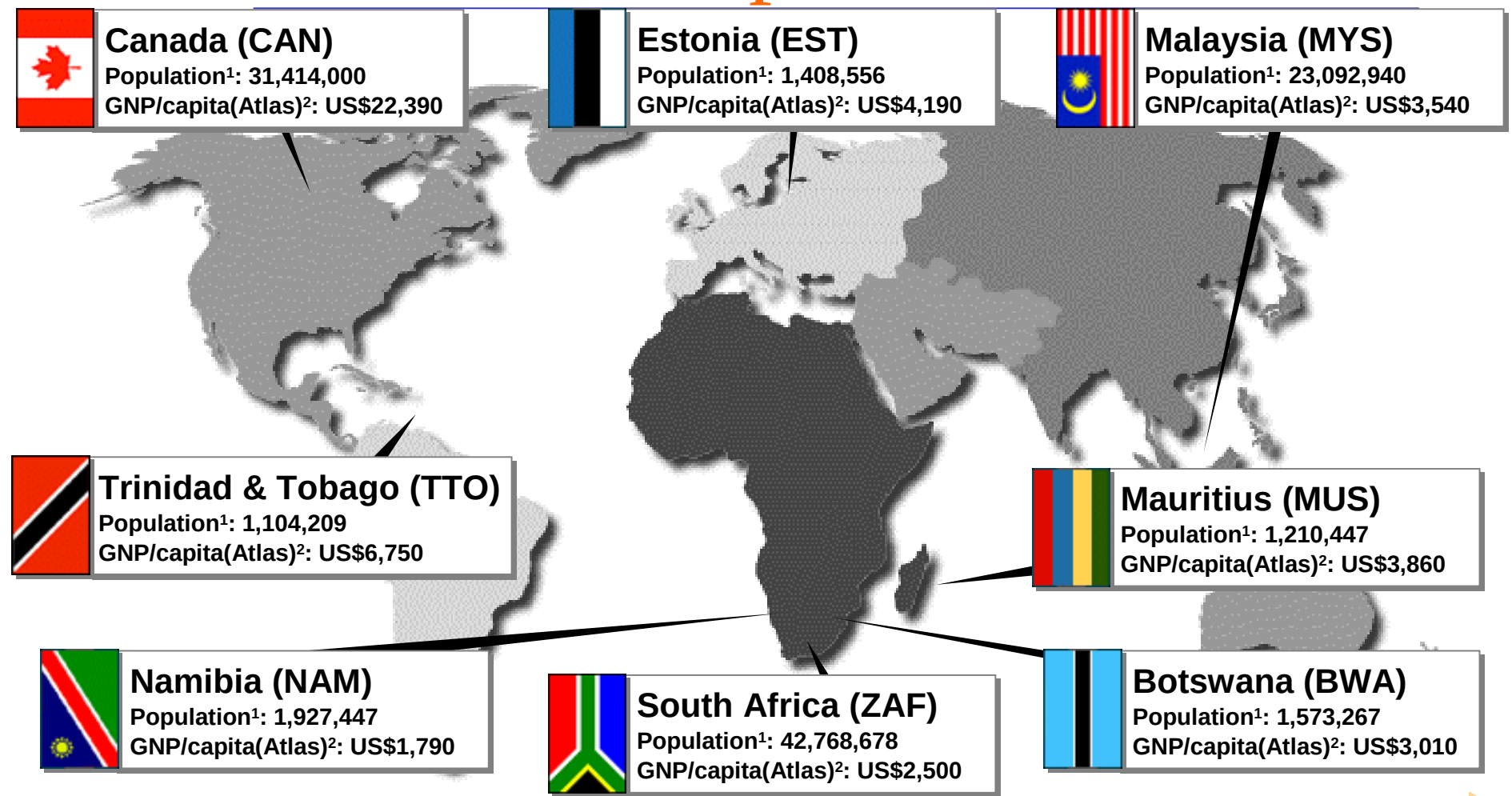


# Summary of ICT Benchmarking and Best Practice Report

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Comparator Countries



**Canada (CAN)**
Population[1]: 31,414,000
GNP/capita(Atlas)[2]: US$22,390

**Estonia (EST)**
Population[1]: 1,408,556
GNP/capita(Atlas)[2]: US$4,190

**Malaysia (MYS)**
Population[1]: 23,092,940
GNP/capita(Atlas)[2]: US$3,540

**Trinidad & Tobago (TTO)**
Population[1]: 1,104,209
GNP/capita(Atlas)[2]: US$6,750

**Mauritius (MUS)**
Population[1]: 1,210,447
GNP/capita(Atlas)[2]: US$3,860

**Namibia (NAM)**
Population[1]: 1,927,447
GNP/capita(Atlas)[2]: US$1,790

**South Africa (ZAF)**
Population[1]: 42,768,678
GNP/capita(Atlas)[2]: US$2,500

**Botswana (BWA)**
Population[1]: 1,573,267
GNP/capita(Atlas)[2]: US$3,010

Sources: [1] CIA World Fact book, 2003
[2] Worldbank.org "Country Profiles", 2002

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Objectives

**Benchmarking:**

- **To assess Botswana's current level of ICT readiness in comparison with selected countries, using common and globally recognised indicators**
- **To determine relative strengths and weaknesses that will assist in designing the National ICT Policy**
- **To provide (in conjunction with e-Readiness) a baseline for measuring future progress**

**Best Practice:**

- **To identify ICT applications in other jurisdictions that could be of value to Botswana in designing its National ICT agenda**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Communities

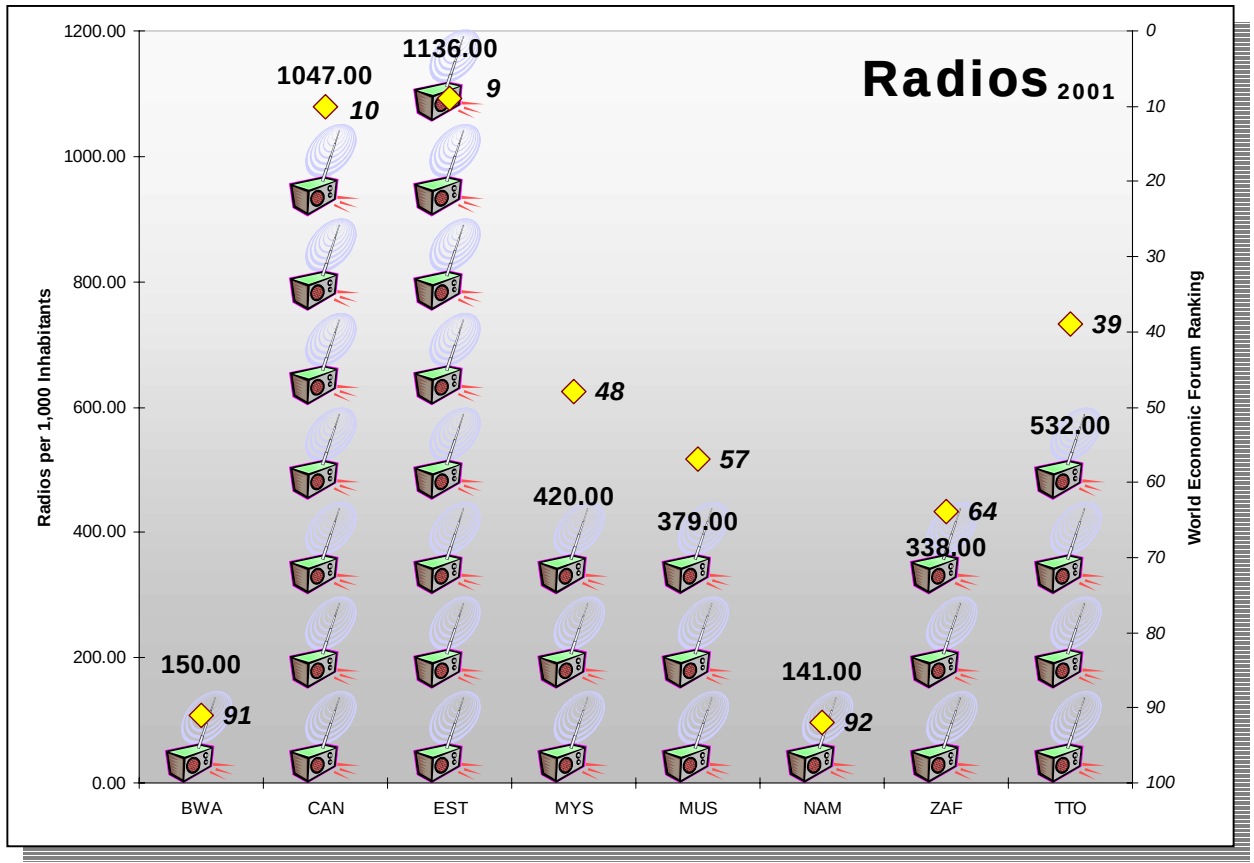



Figure 1. Radios per 1,000 Inhabitants

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Communities

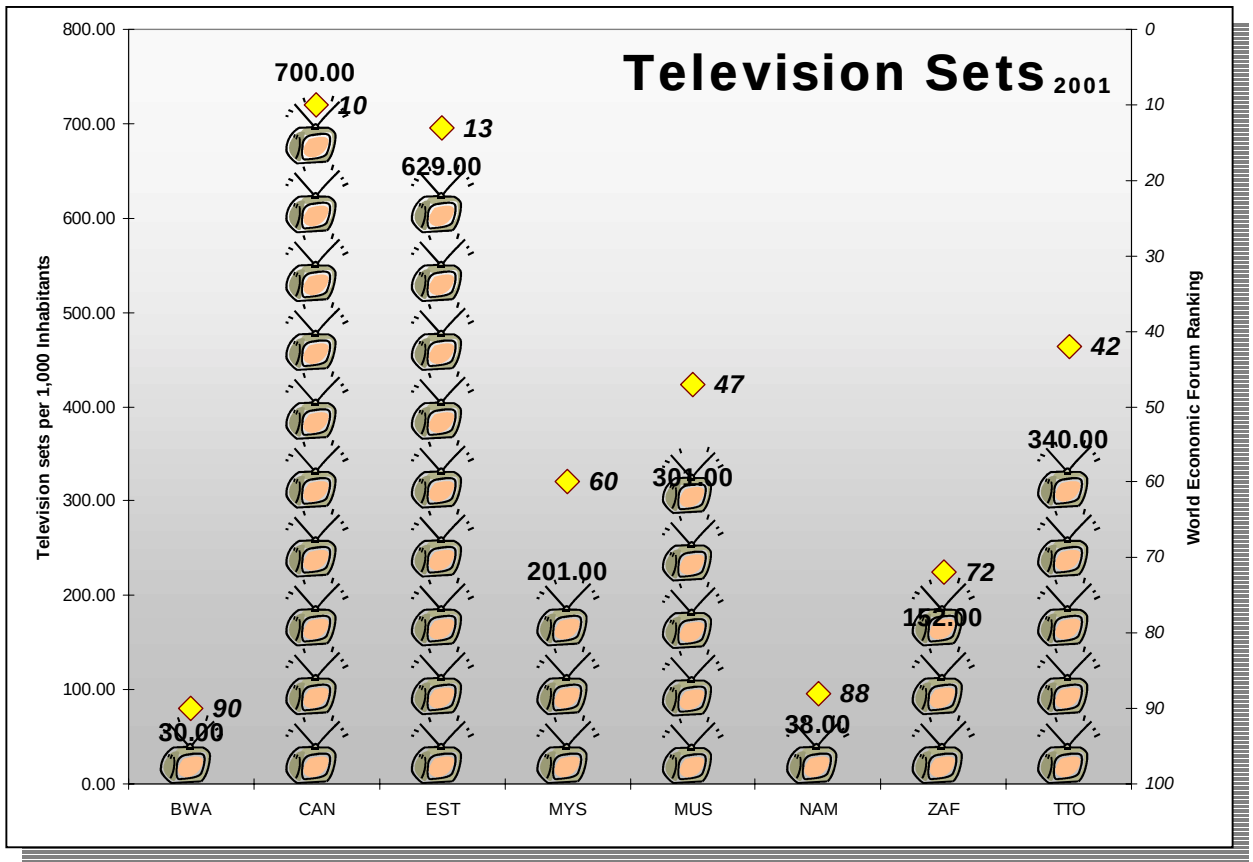
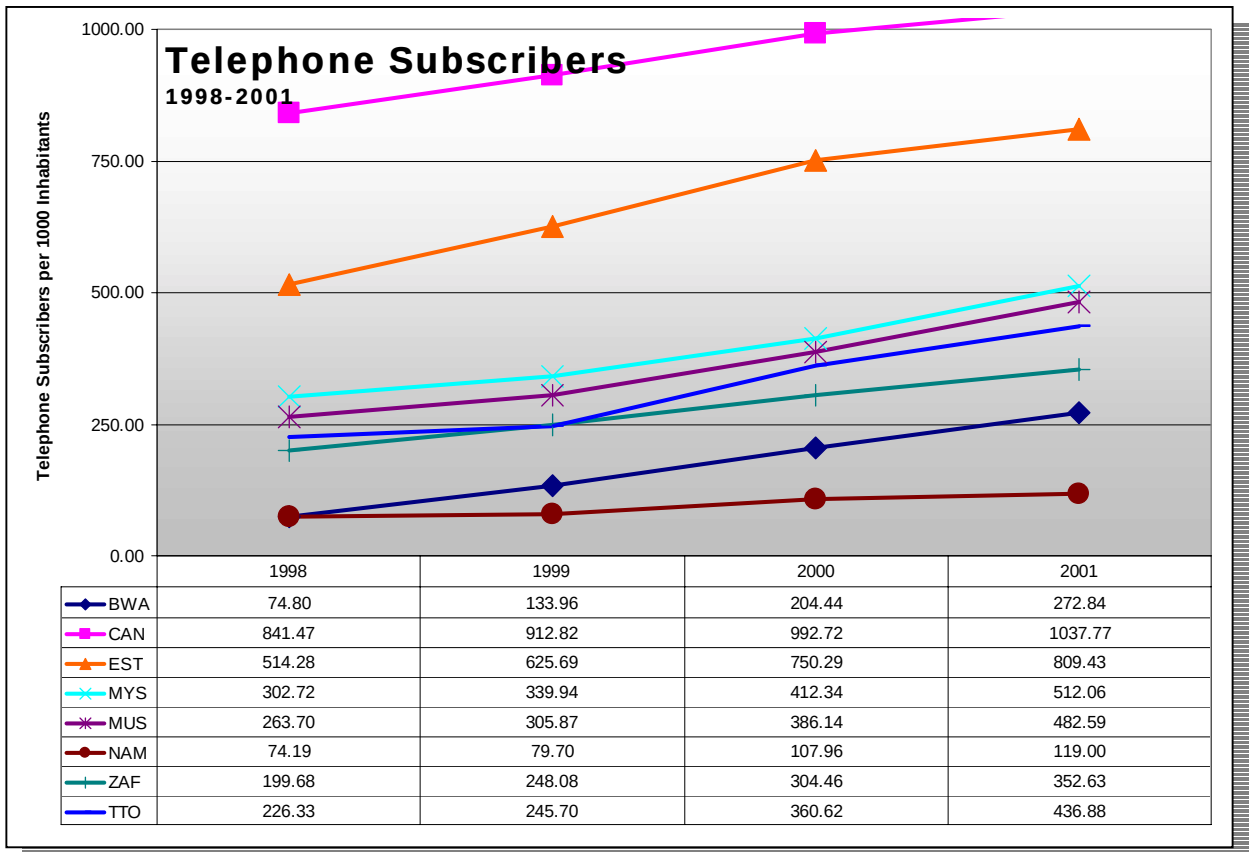



Figure 2. Television sets per 1,000 Inhabitants

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Communities

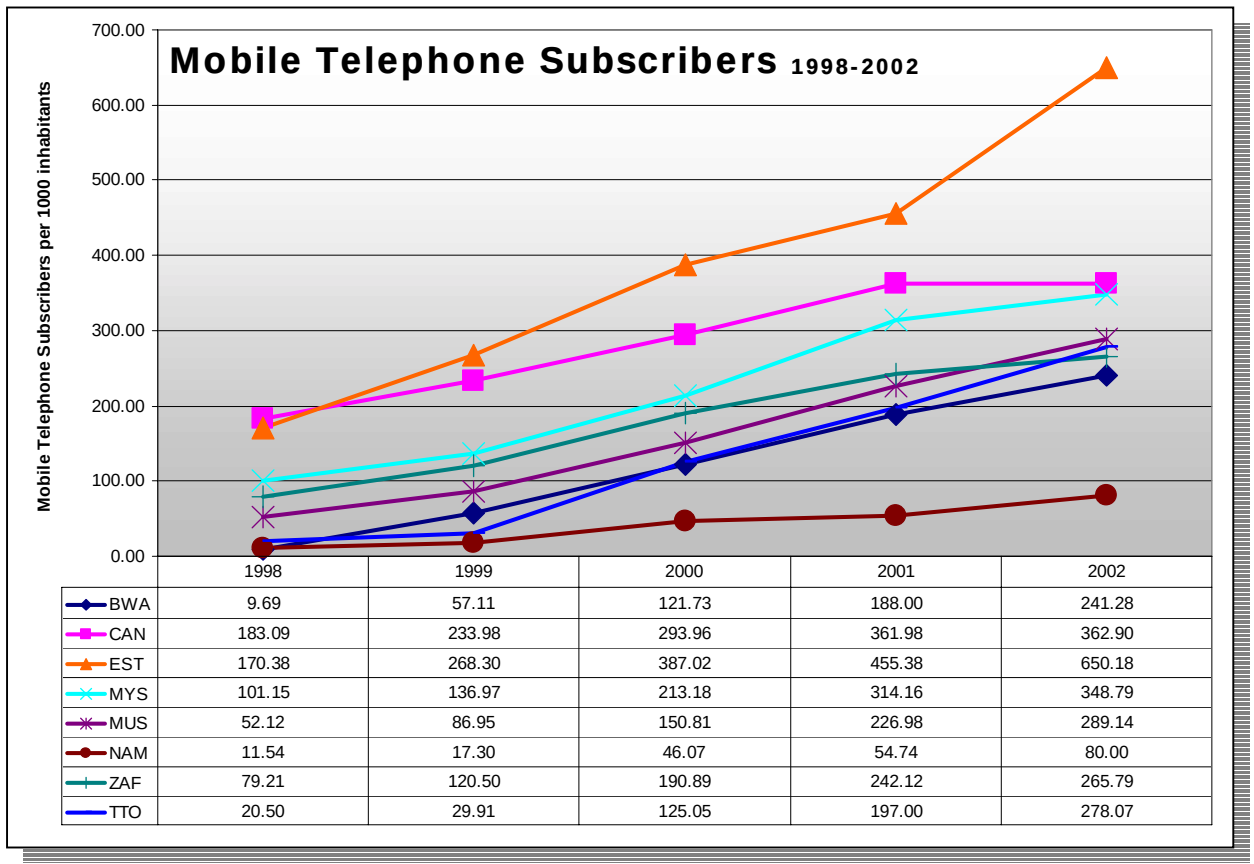



| | 1998 | 1999 | 2000 | 2001 |
|---|---|---|---|---|
| BWA | 74.80 | 133.96 | 204.44 | 272.84 |
| CAN | 841.47 | 912.82 | 992.72 | 1037.77 |
| EST | 514.28 | 625.69 | 750.29 | 809.43 |
| MYS | 302.72 | 339.94 | 412.34 | 512.06 |
| MUS | 263.70 | 305.87 | 386.14 | 482.59 |
| NAM | 74.19 | 79.70 | 107.96 | 119.00 |
| ZAF | 199.68 | 248.08 | 304.46 | 352.63 |
| TTO | 226.33 | 245.70 | 360.62 | 436.88 |

Figure 3. Telephone Subscribers per 1,000 Inhabitants

Maitlamo
National Policy For ICT Development

# ICTs in Communities




| | 1998 | 1999 | 2000 | 2001 | 2002 |
|---|---|---|---|---|---|
| BWA | 9.69 | 57.11 | 121.73 | 188.00 | 241.28 |
| CAN | 183.09 | 233.98 | 293.96 | 361.98 | 362.90 |
| EST | 170.38 | 268.30 | 387.02 | 455.38 | 650.18 |
| MYS | 101.15 | 136.97 | 213.18 | 314.16 | 348.79 |
| MUS | 52.12 | 86.95 | 150.81 | 226.98 | 289.14 |
| NAM | 11.54 | 17.30 | 46.07 | 54.74 | 80.00 |
| ZAF | 79.21 | 120.50 | 190.89 | 242.12 | 265.79 |
| TTO | 20.50 | 29.91 | 125.05 | 197.00 | 278.07 |

Figure 4. Mobile Telephone Subscribers per 1,000 Inhabitants

Maitlamo
National Policy For ICT Development

# ICTs in Communities

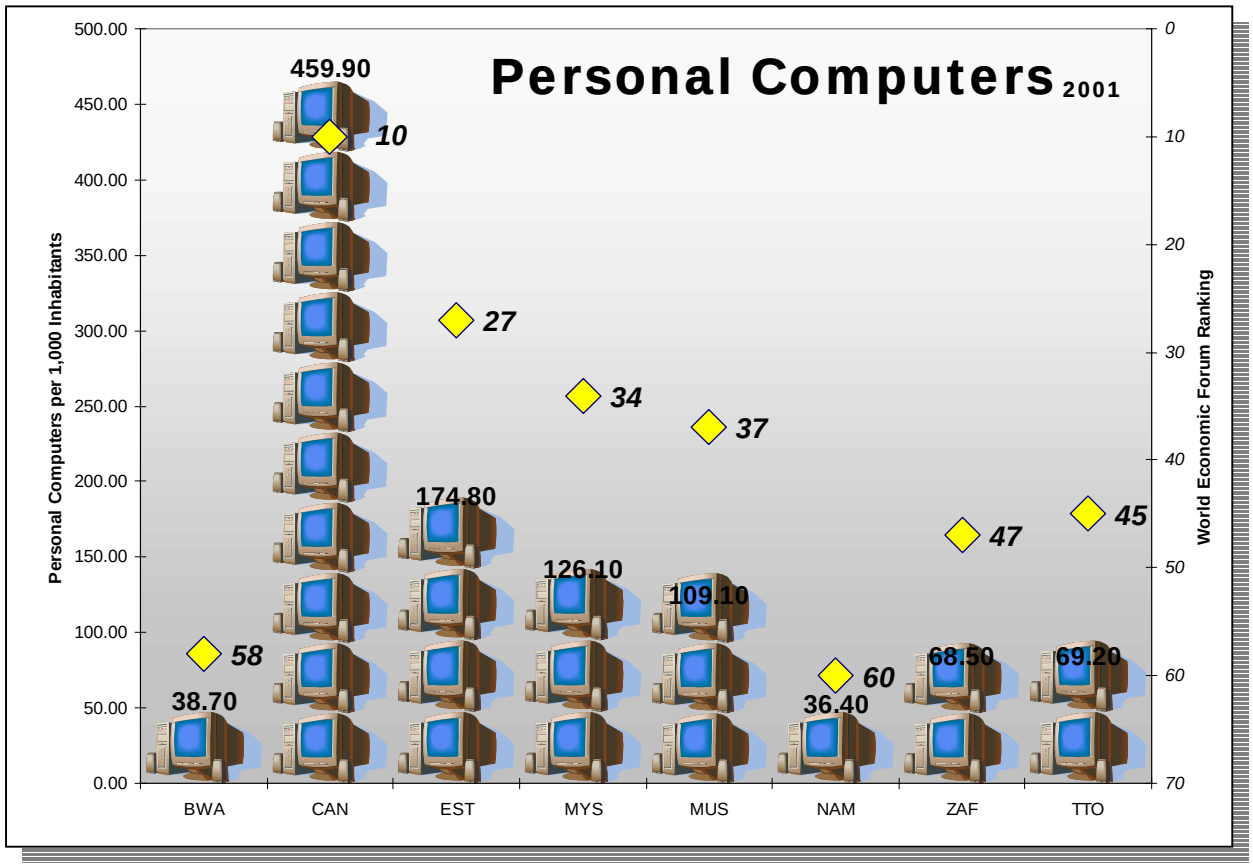



Figure 5. Personal computers per 1,000 Inhabitants

Maitlamo
National Policy For ICT Development

# ICTs in Communities

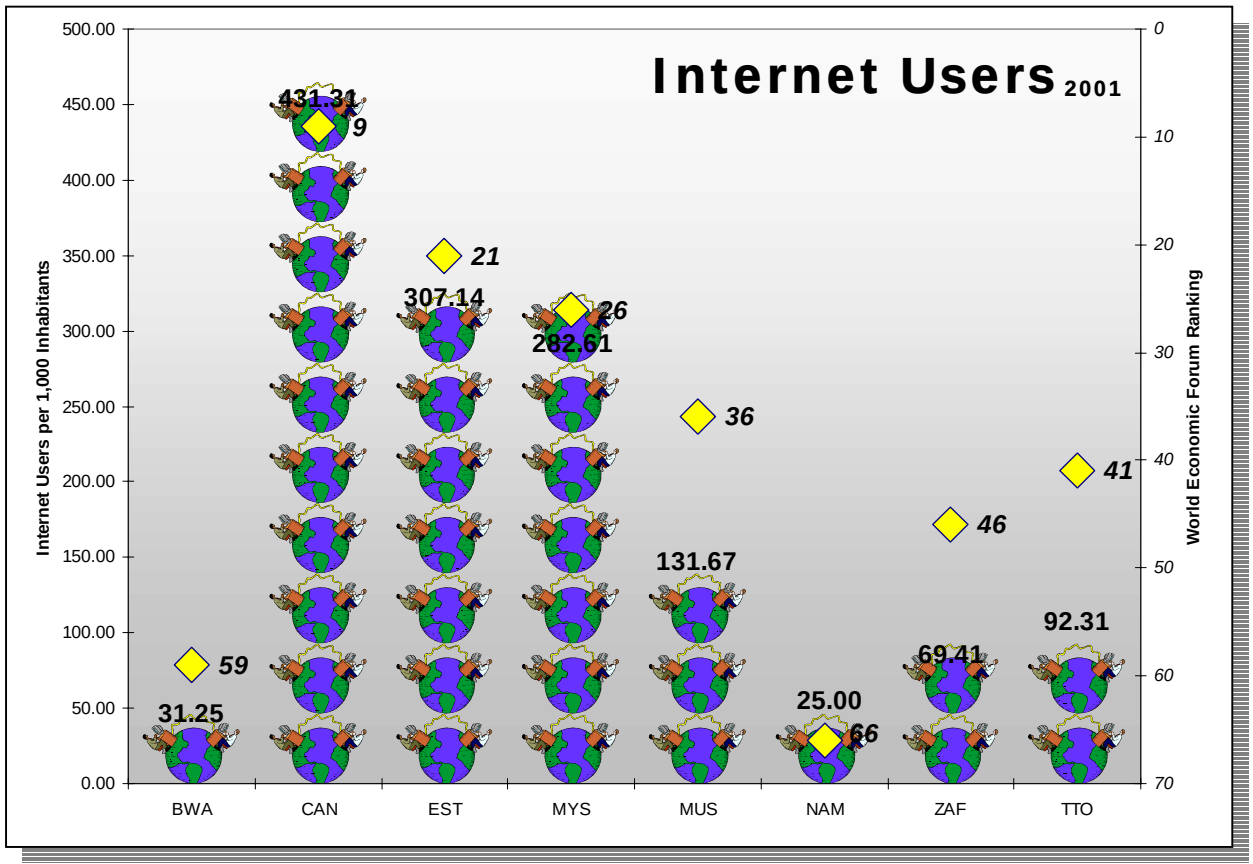



Figure 6. Internet users per 1,000 Inhabitants

Maitlamo
National Policy For ICT Development

# ICTs in Learning

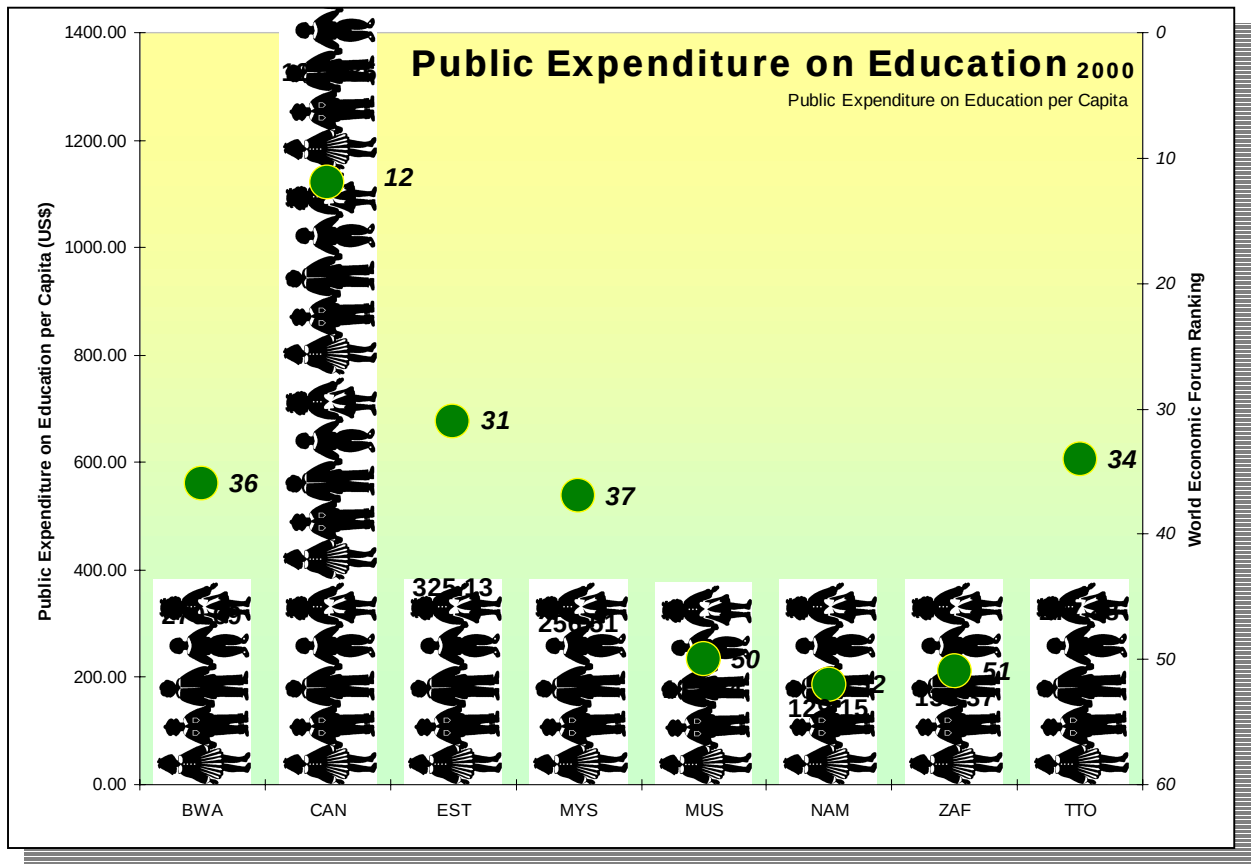



Figure 14. Public Expenditure on Education

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Learning

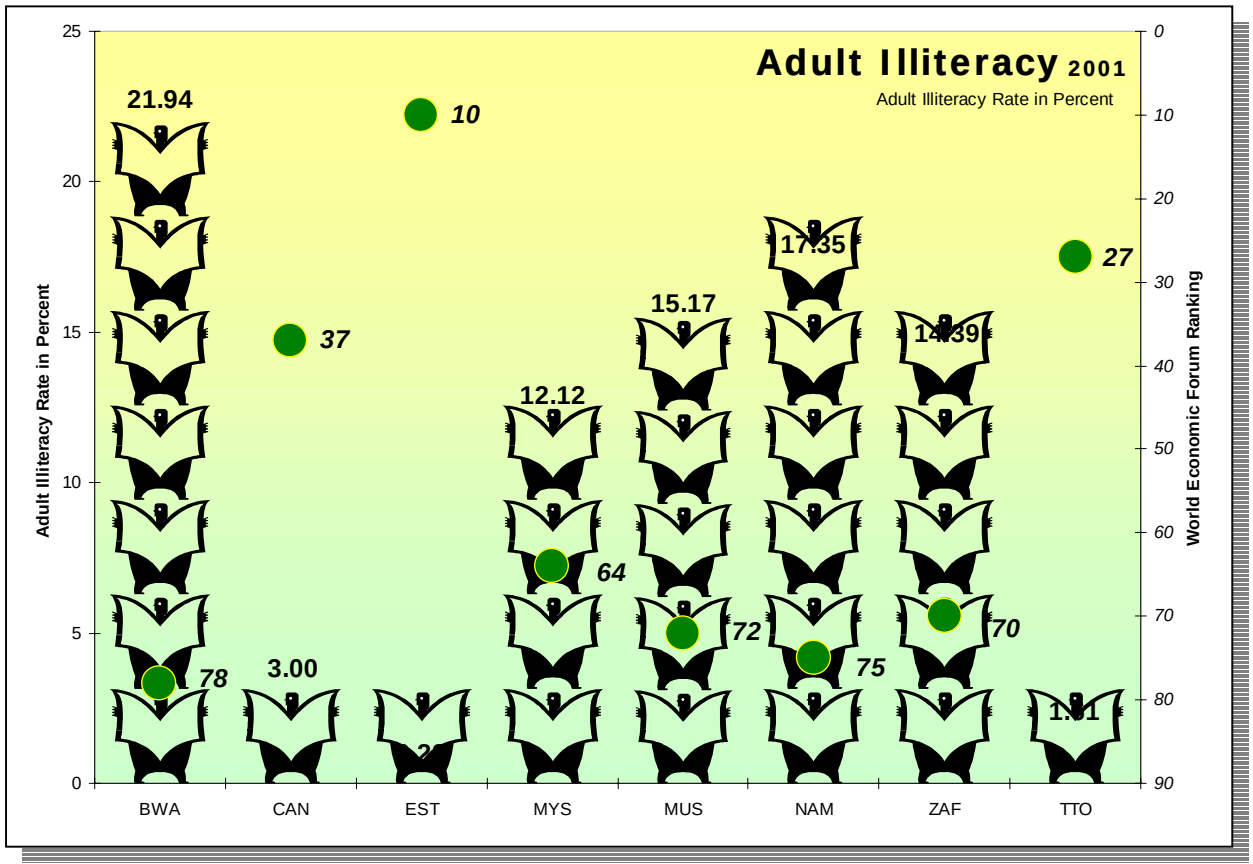



Figure 15. Adult Illiteracy

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Learning

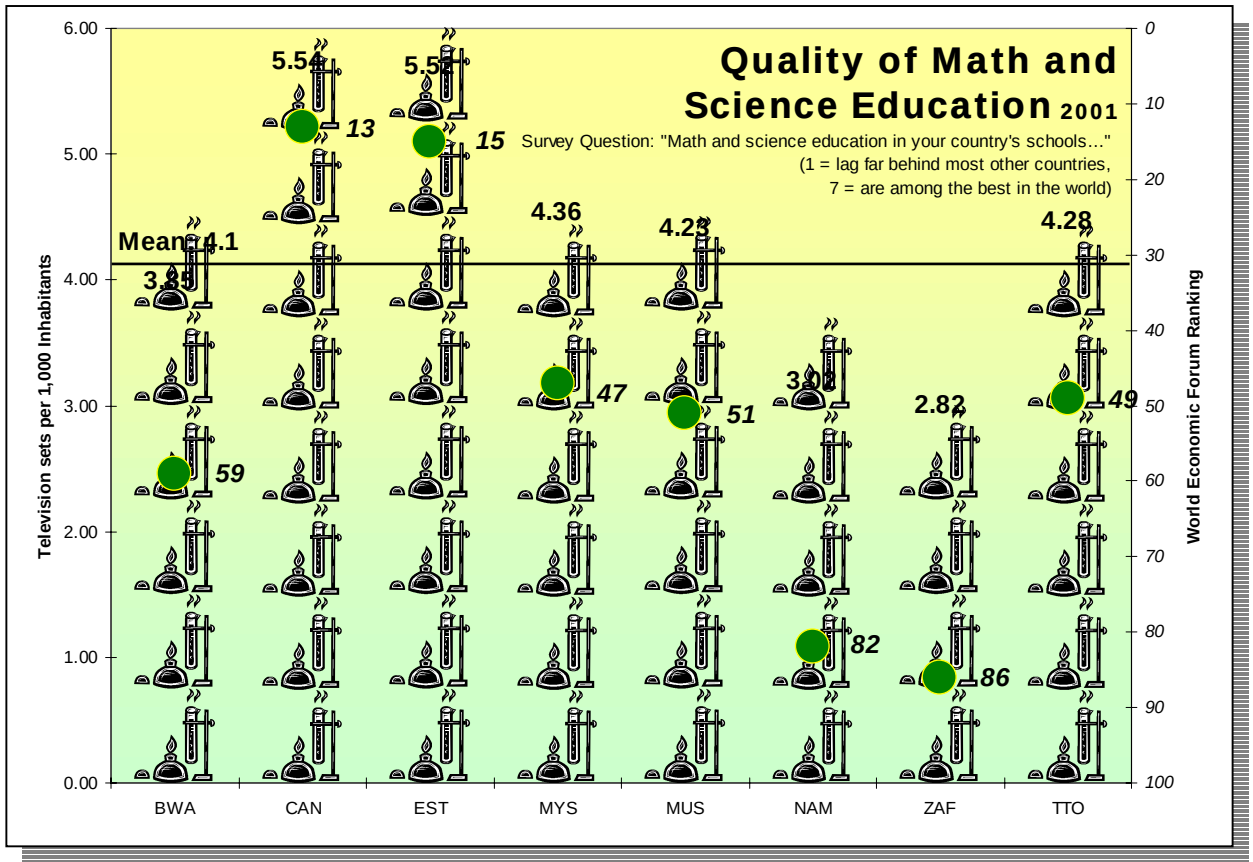



Figure 17. Quality of Math and Science Education

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Learning

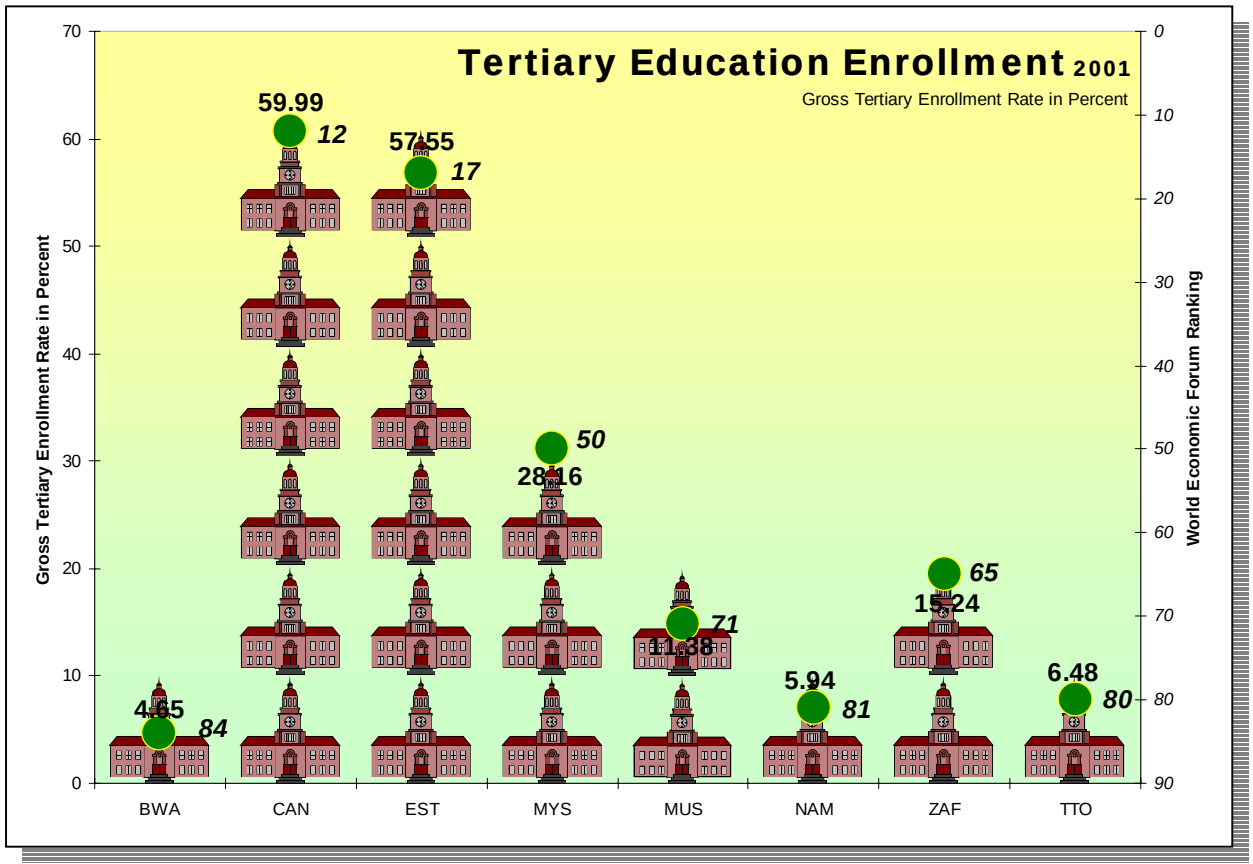



Figure 16. Tertiary Education Enrollment

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Learning

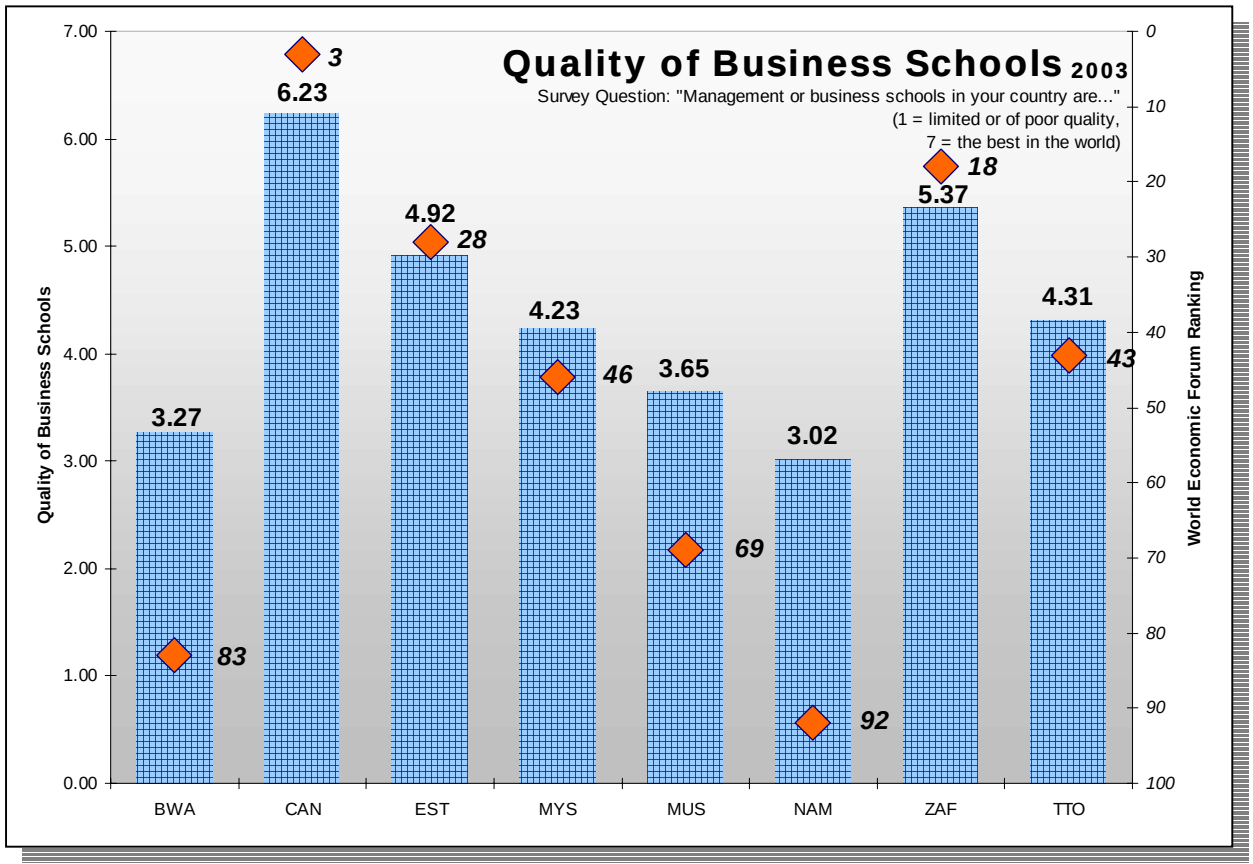



Figure 25. Quality of Business Schools

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Business

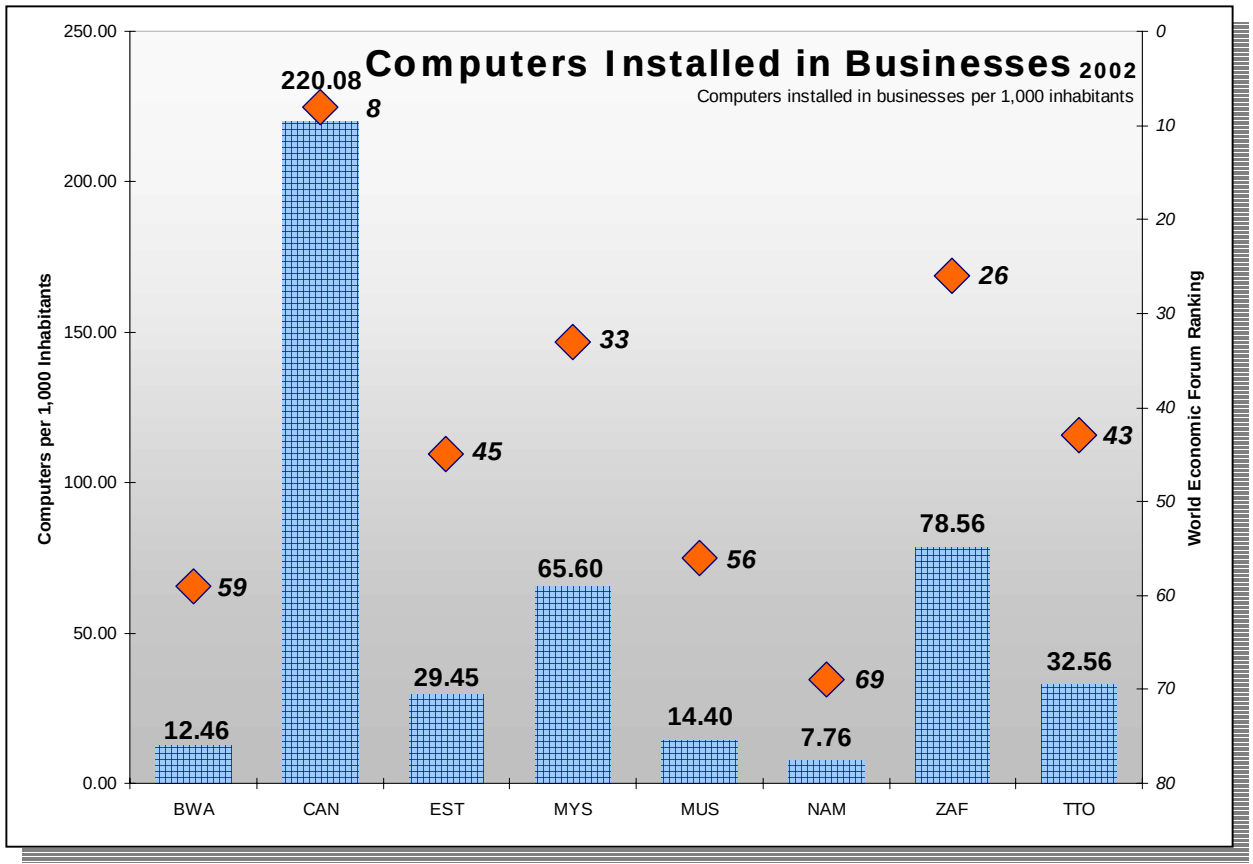



Figure 20. Computers Installed in Businesses

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Business

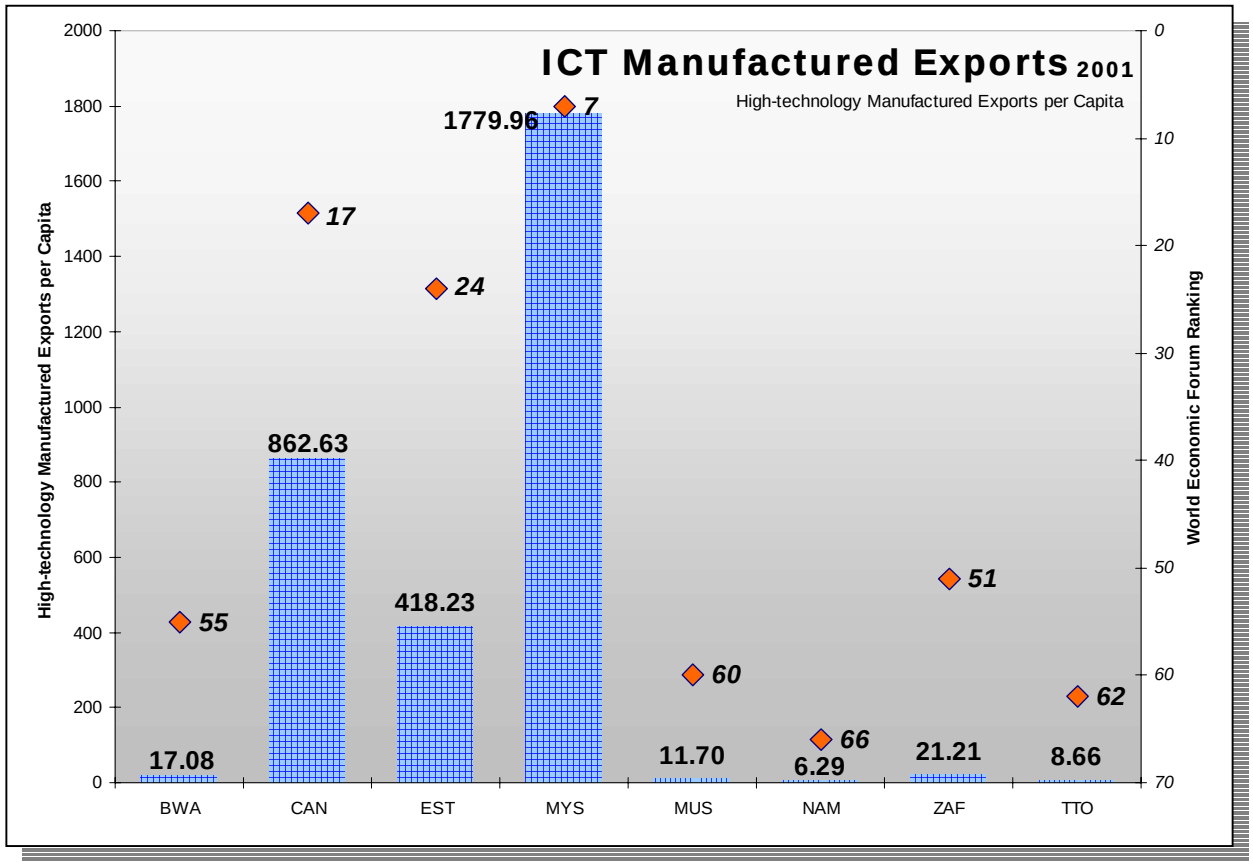



Figure 22. ICT Manufactured Exports

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Business

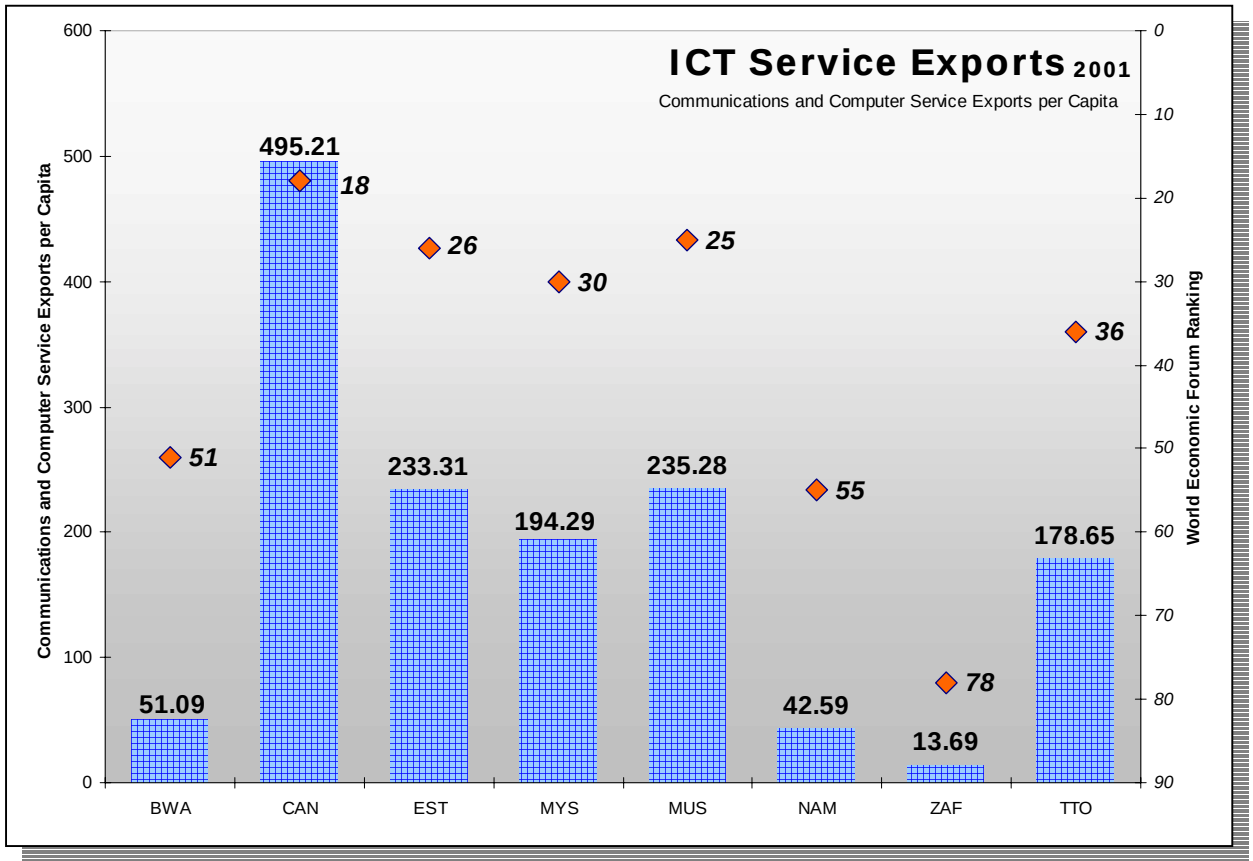



Figure 23. ICT Service Exports

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Business

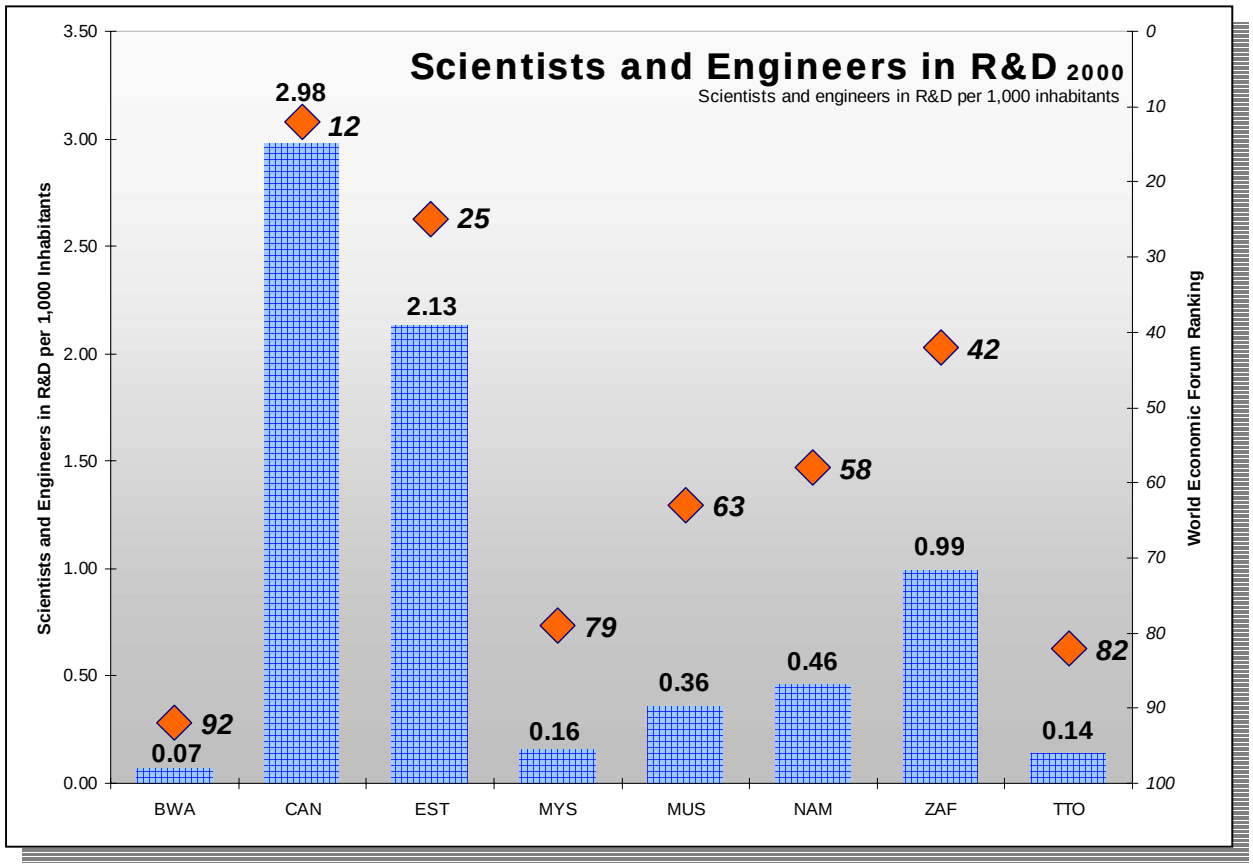



Figure 29. Scientists and Engineers in Research and Development

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Business

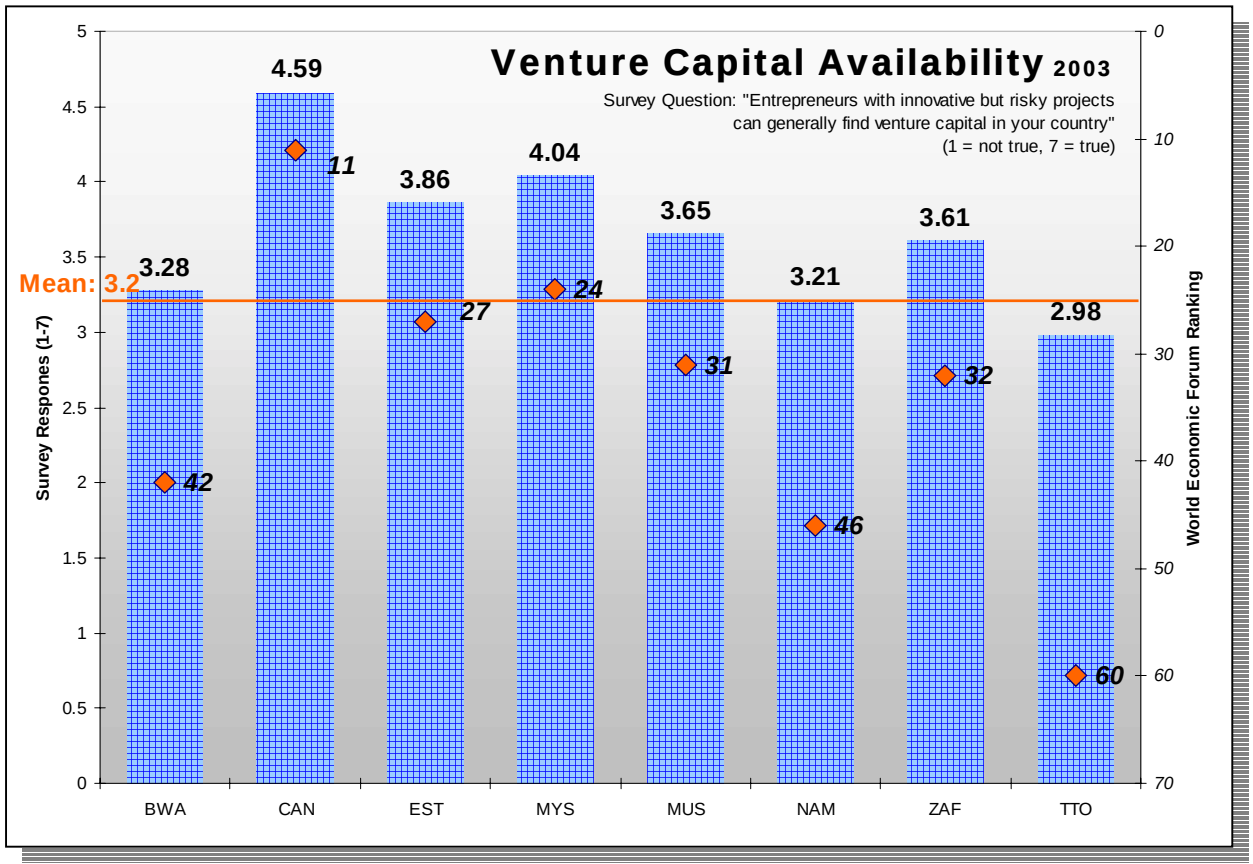



Figure 31. Venture Capital Availability

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Business

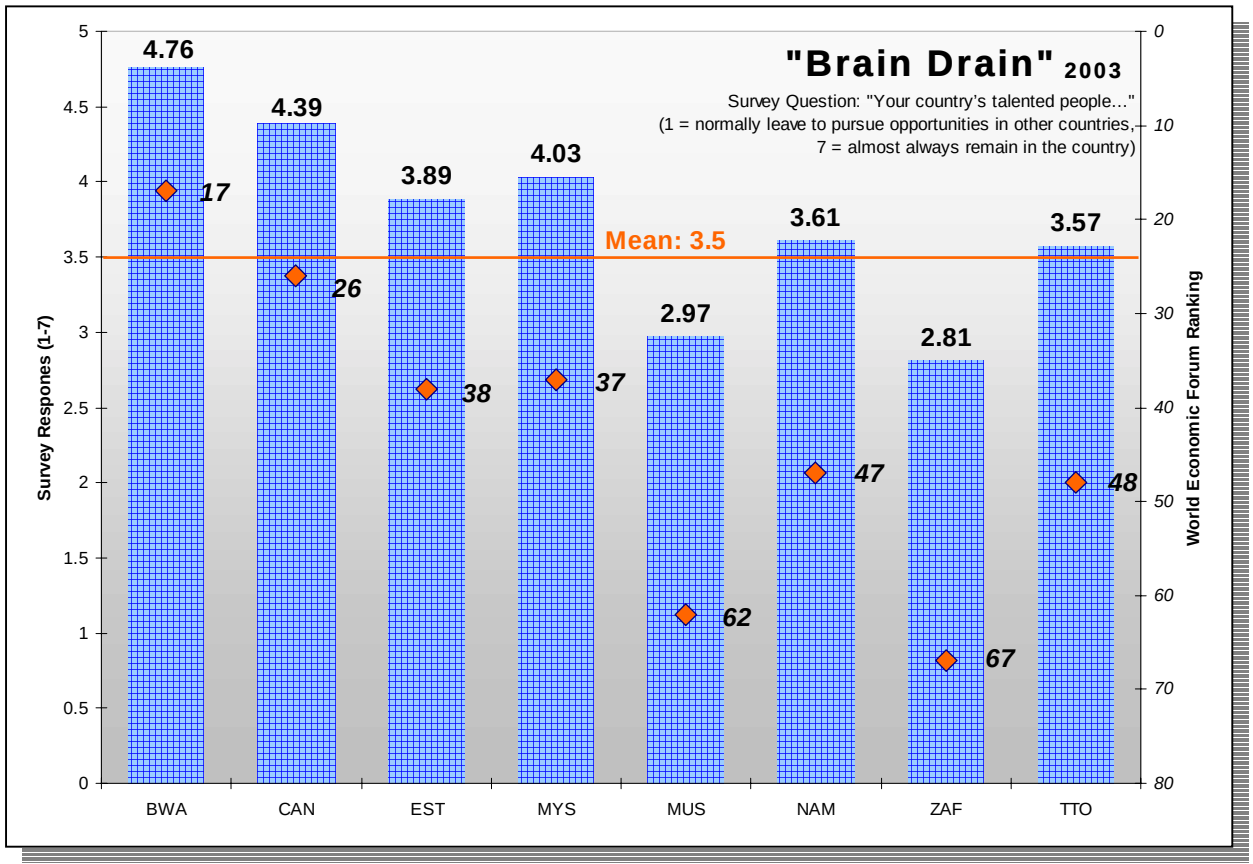



Figure 32. "Brain Drain"

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Government

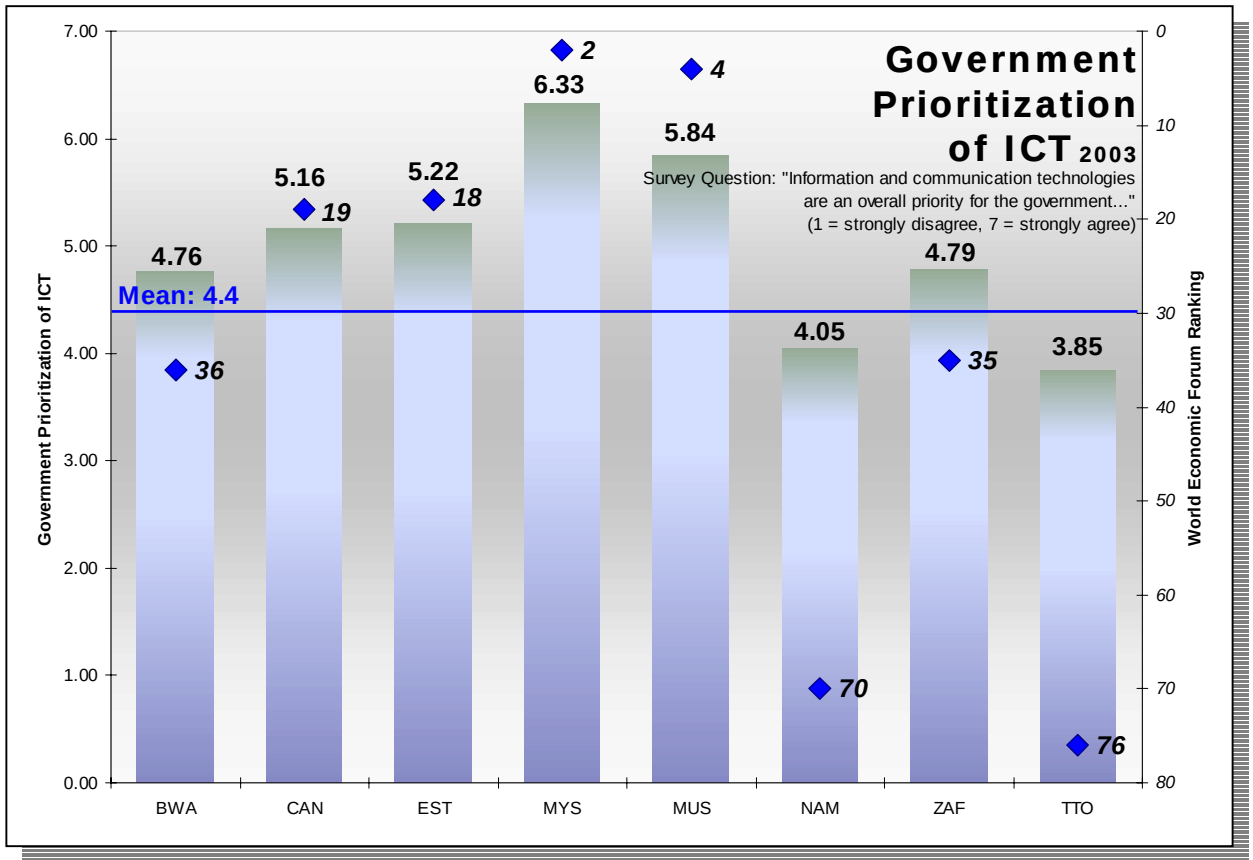



Figure 33. Government Prioritization of ICT

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Government

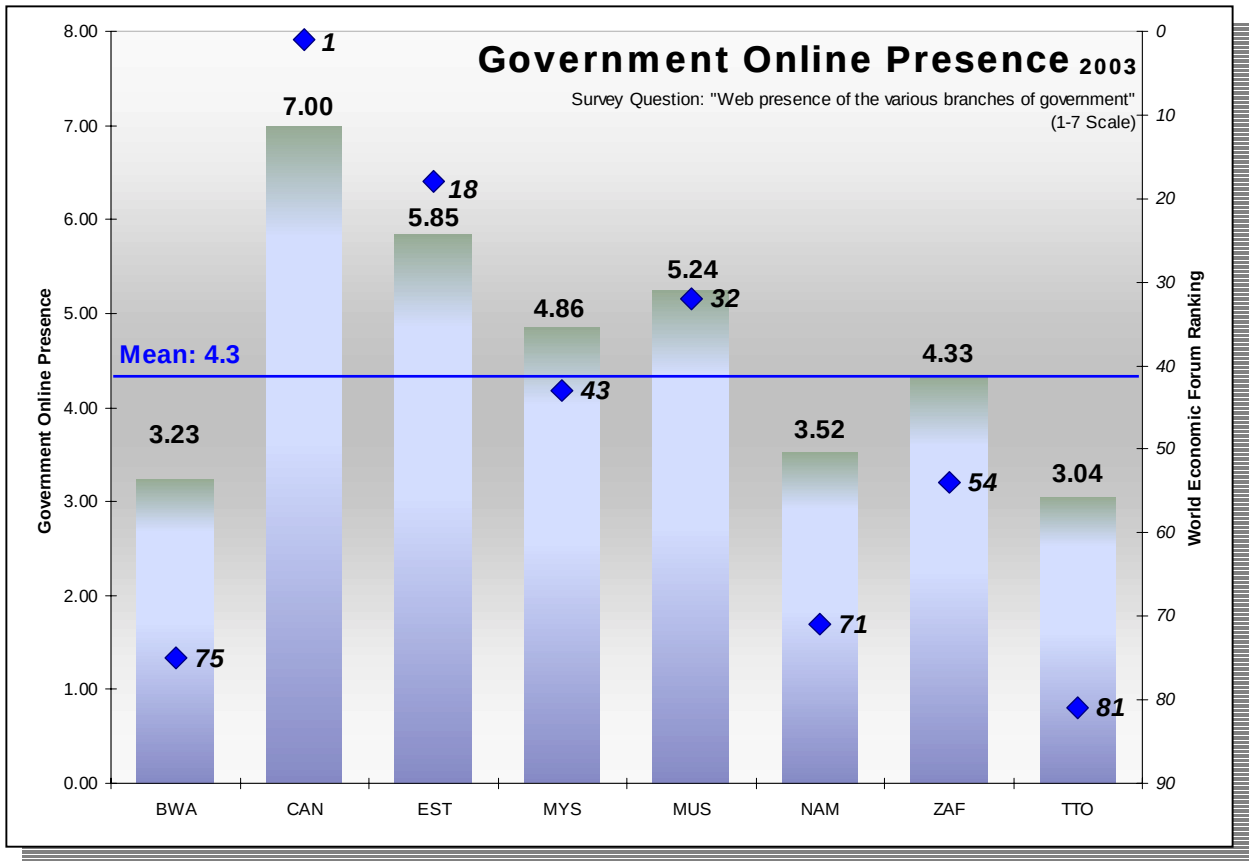



Figure 35. Government Success in ICT Promotion

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICTs in Government

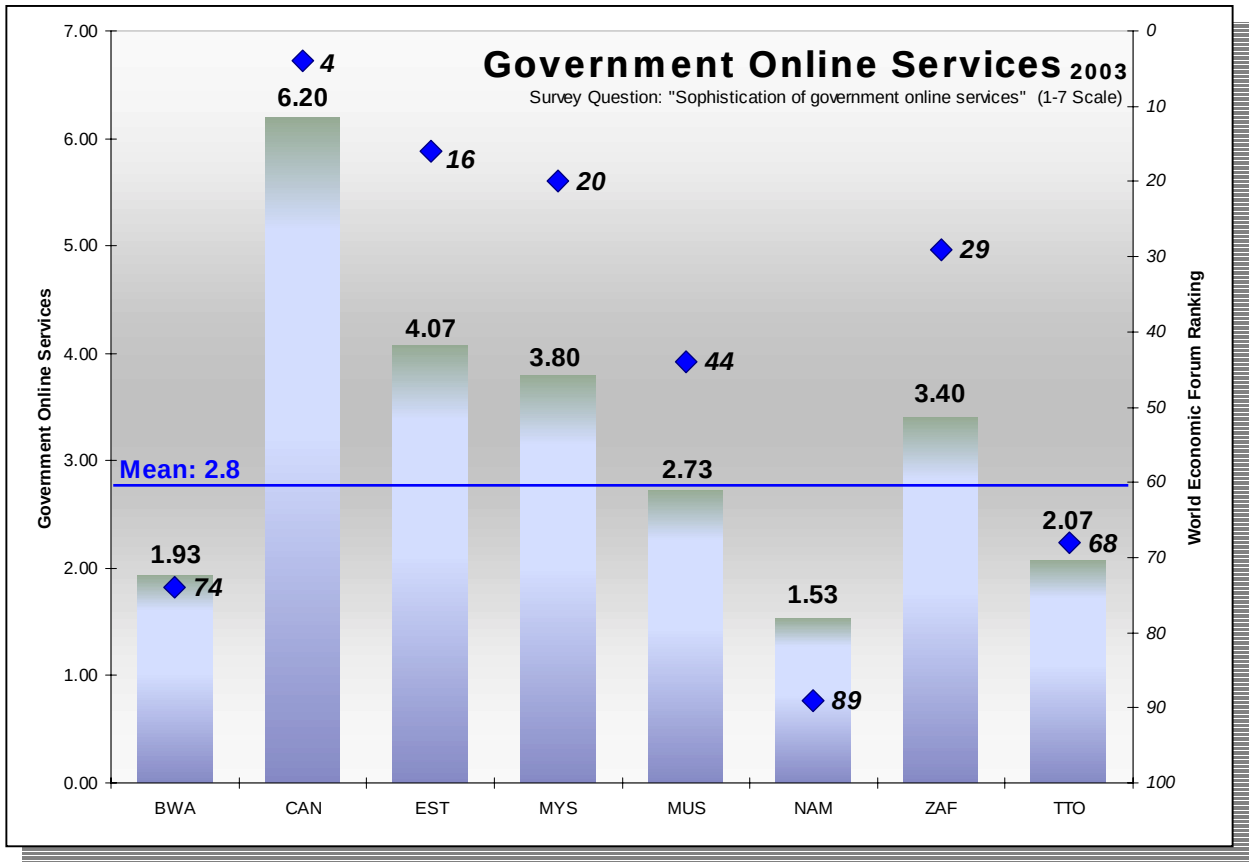



Figure 35. Government Success in ICT Promotion

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICT Infrastructure

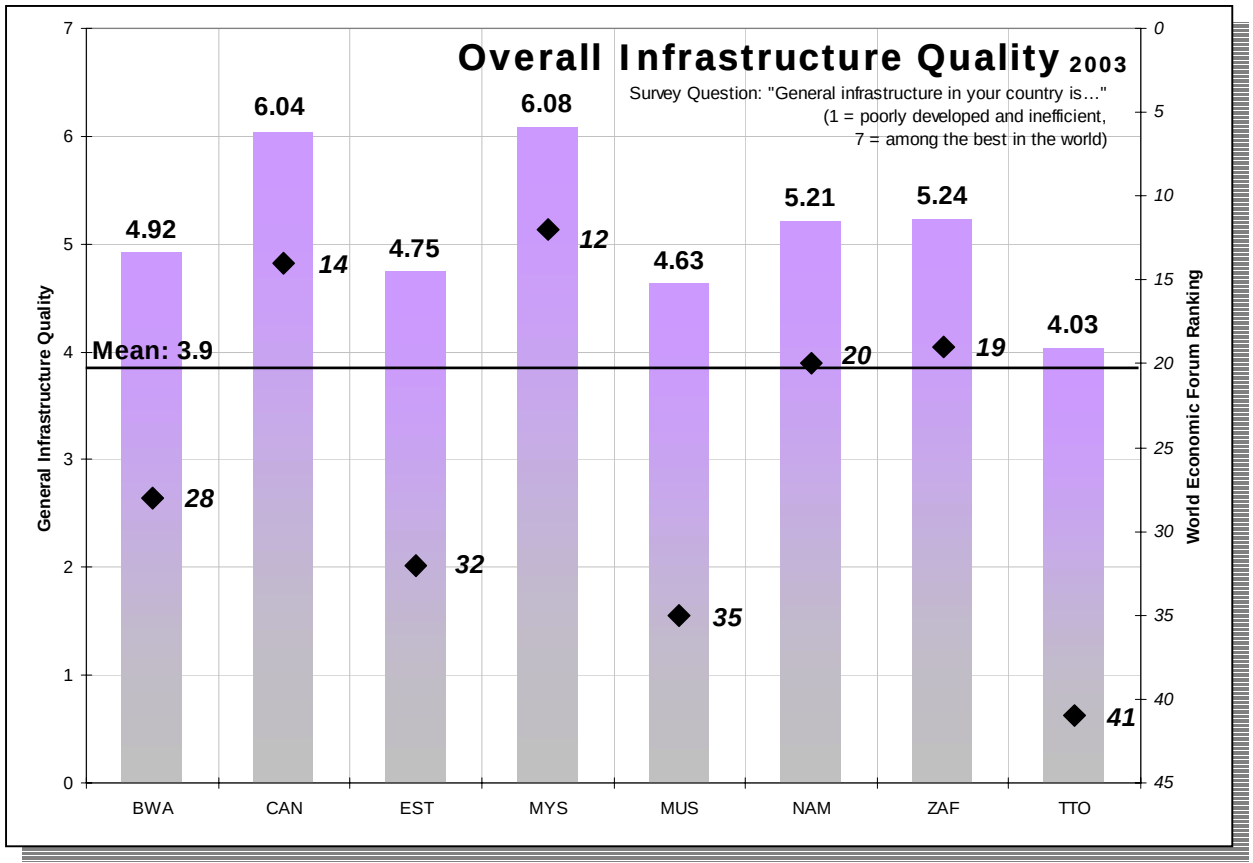



Figure 38. Overall Infrastructure Quality

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICT Infrastructure

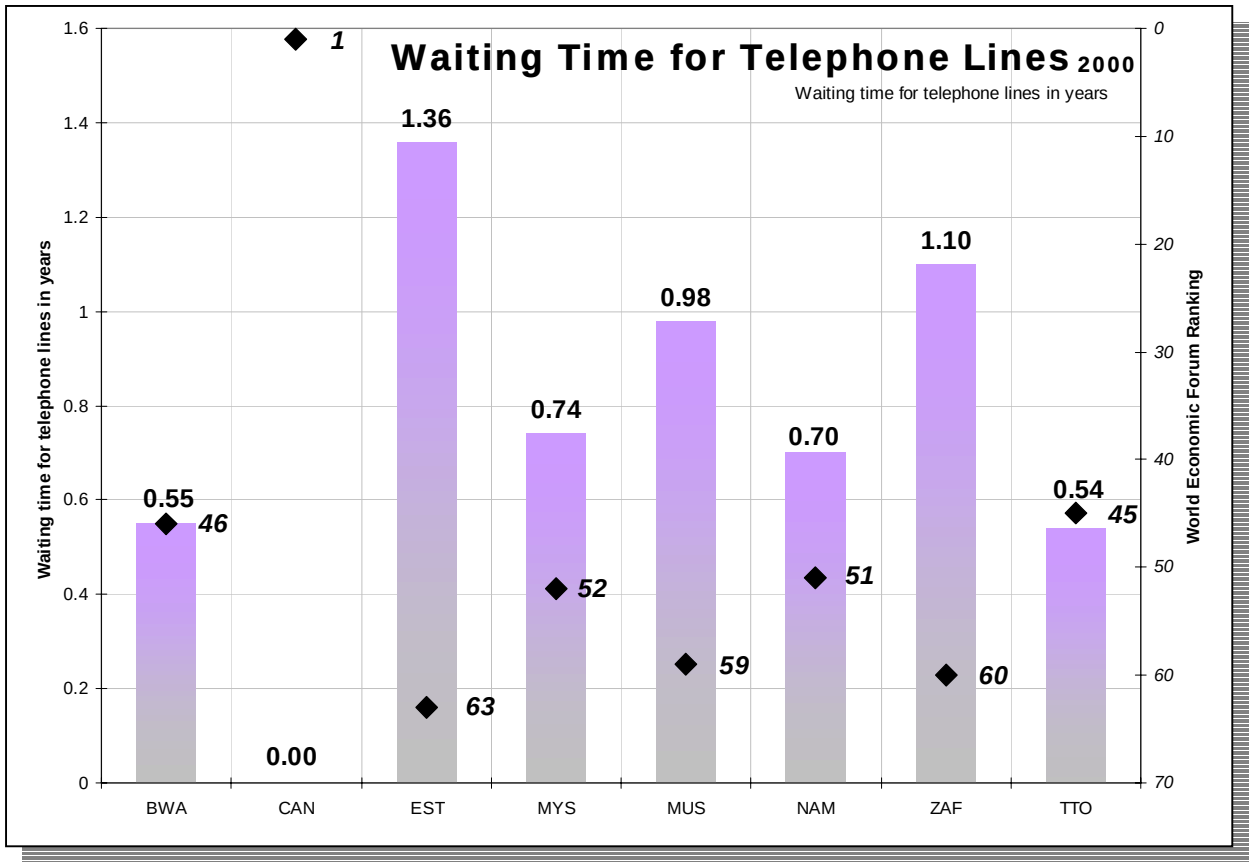



Figure 40. Waiting Time for Telephone Lines

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICT Infrastructure

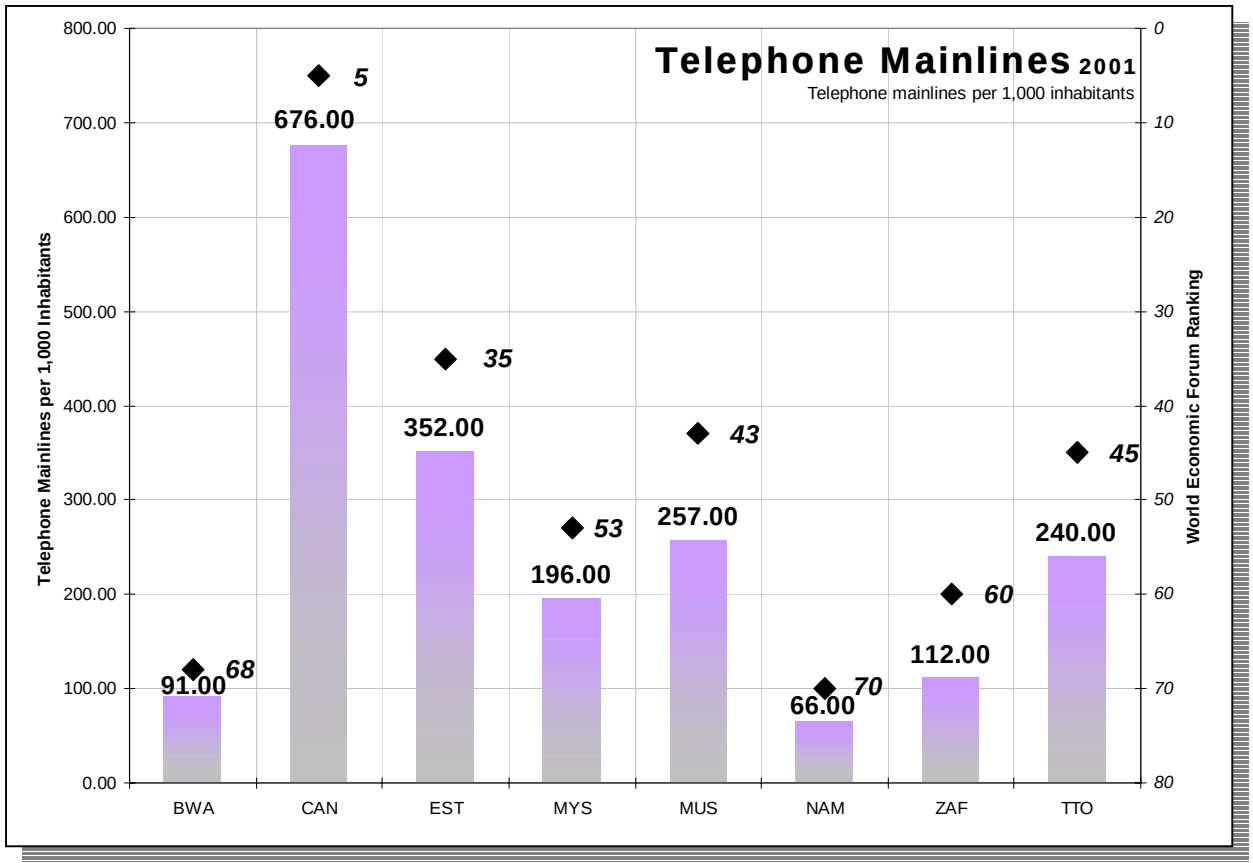



Figure 41. Telephone Mainlines

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICT Infrastructure

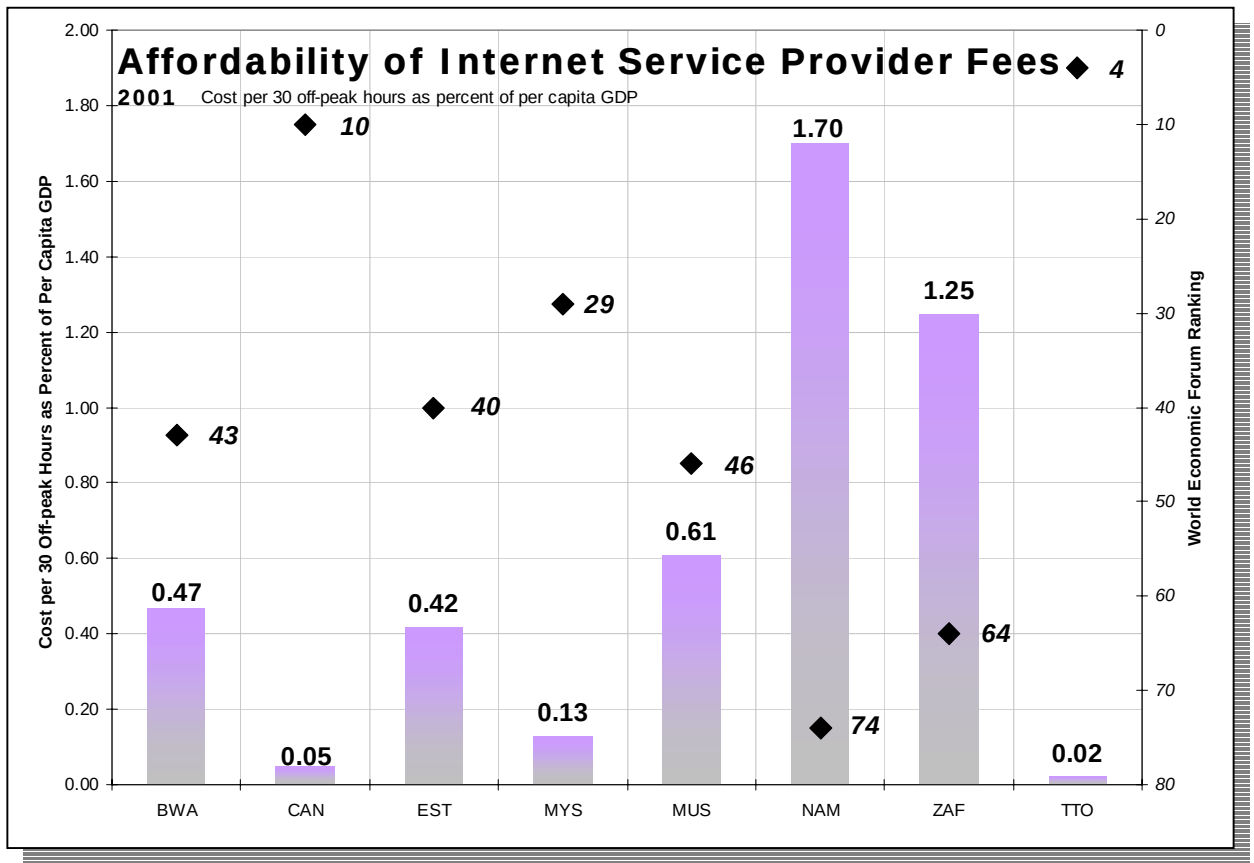



Figure 42. Affordability of Internet Service Provider Fees

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# ICT Legislation

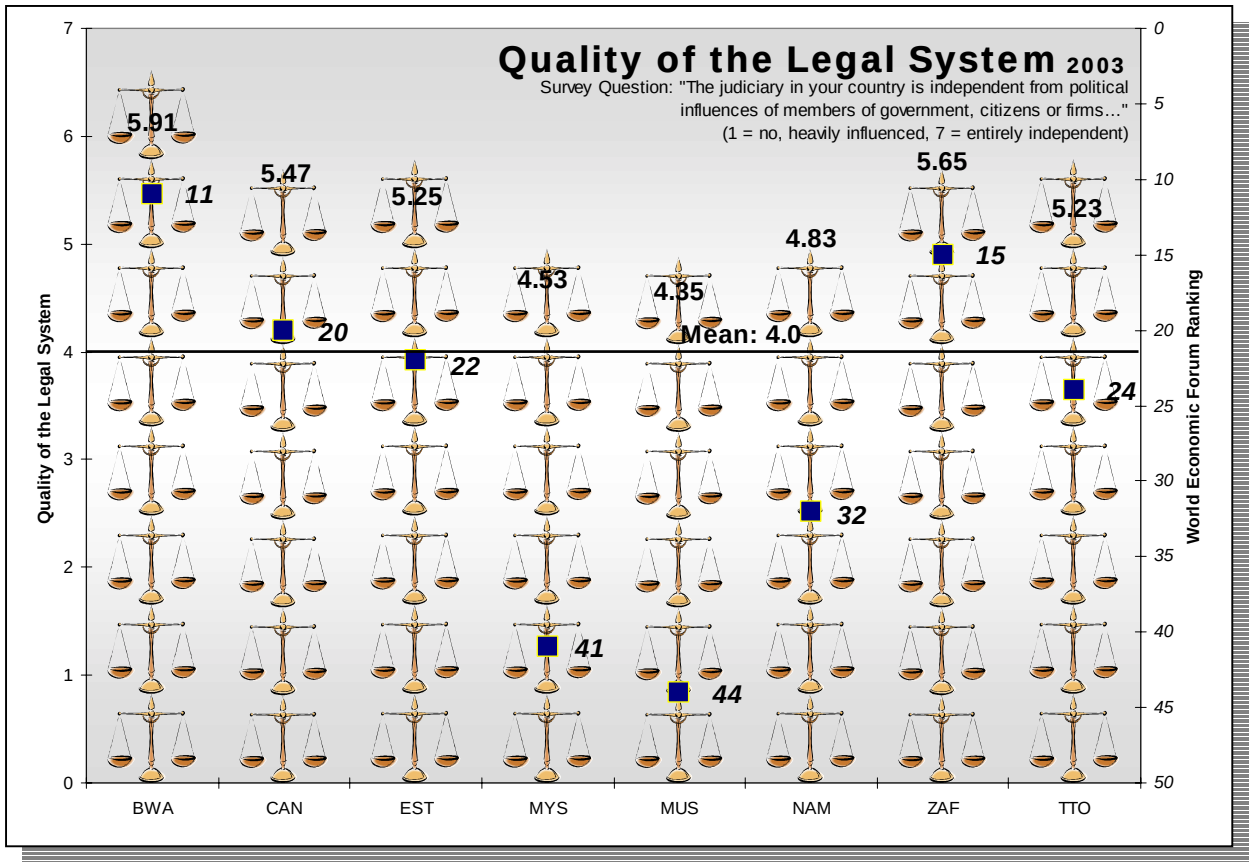



Figure 46. Quality of the Legal System

Maitlamo
National Policy For ICT Development

# ICT Legislation

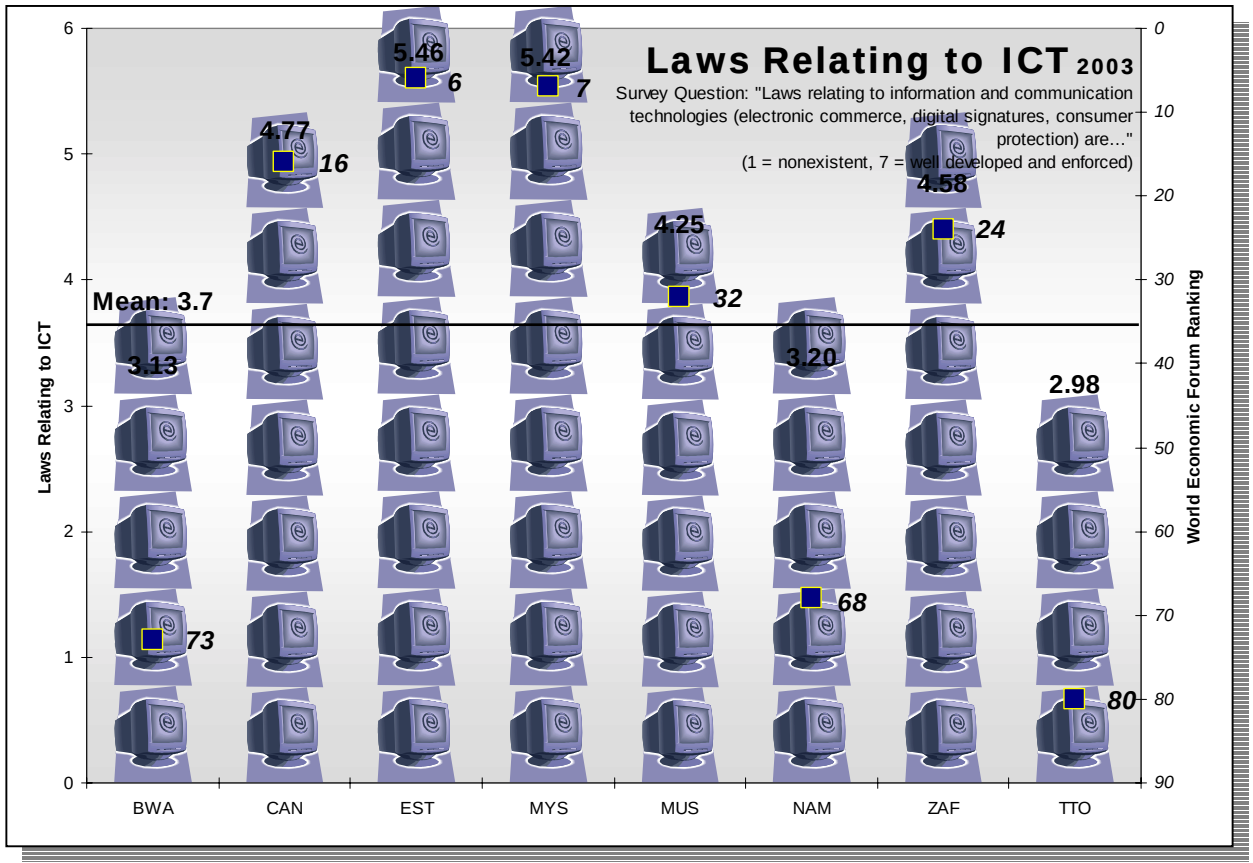



Figure 47. Laws Relating to ICT

Maitlamo
National Policy For ICT Development

# ICT Legislation

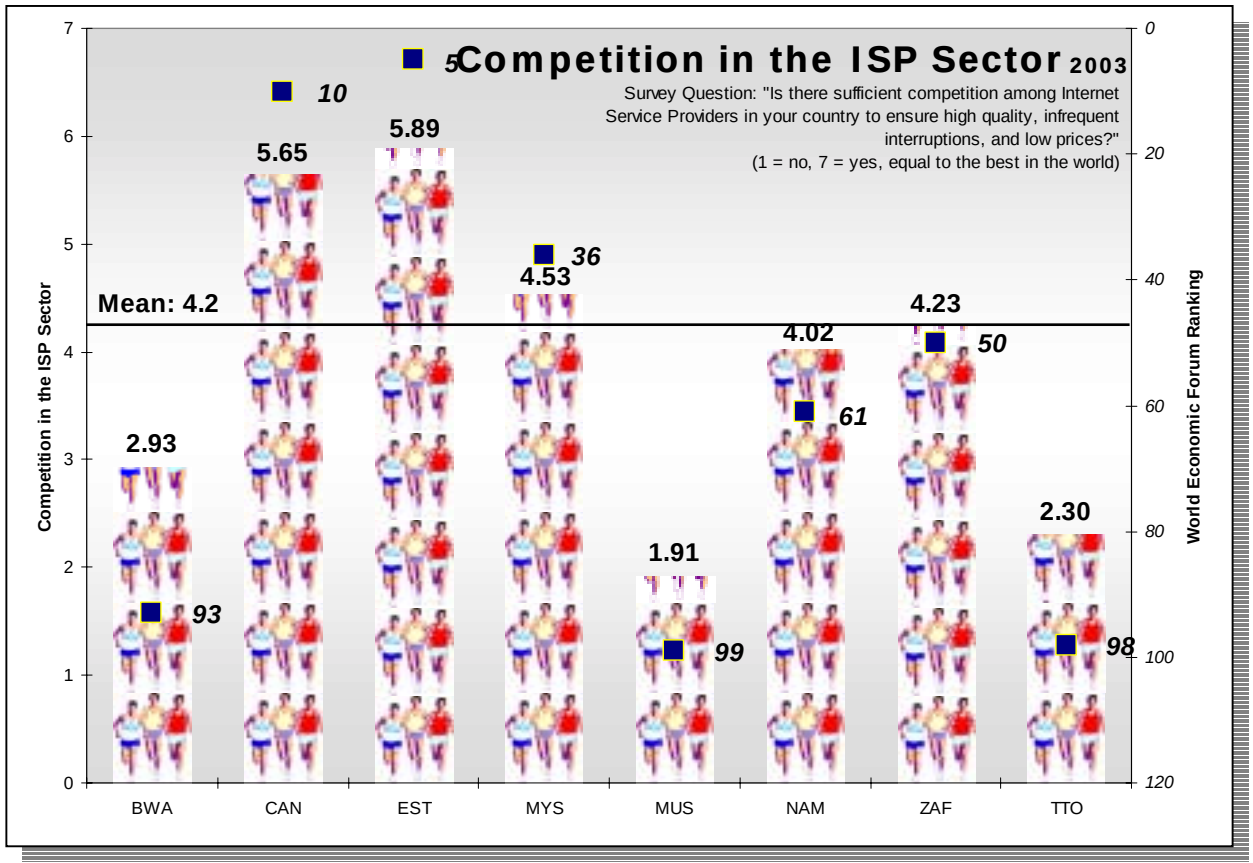



Figure 48. Competition in the ICT Sector

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Benchmarking and best Practices findings

**A national ICT programme must address the following:**

- **ICT usage in homes and communities has been sporadic**
- **The state health care in Botswana is dominated by AIDS/HIV crisis. How much can ICT help?**
- **The country has a low levels of literacy and enrolment at tertiary education; Expenditure high.**
- **The business community has yet to adopt ICT in a meaningful way? Situation being re-assed.**
- **E-government information and services are meagre and Botswana to address the gap between e-government messages and reality of that constituents experience**
- **In other areas infrastructure is inadequate, but there are improvements in waiting time for phone lines and internet access is reasonably affordable**
- **Botswana boosts of advanced legal and legislative system that is generally conducive to the proliferation of ICT**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Global Connectivity Rankings

| Country | 2002/03 Ranking[1] | 2003/04 Ranking[2] | Change |
|---|---|---|---|
| Canada | 6th | 6th | - |
| Estonia | 24th | 25th | -1 |
| Malaysia | 32nd | 26th | +6 |
| South Africa | 36th | 37th | -1 |
| Mauritius | 56th | 43rd | ***+13*** |
| Trinidad and Tobago | 58th | 52nd | +6 |
| **Botswana** | 44th | 55th | ***-11*** |
| Namibia | 53rd | 59th | -6 |

[1] The 2002/2003 study included 82 countries of greater than 1 million population
[2] The 2003/2004 study included 102 countries of greater than 1 million population

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Objective of E-readiness

- The e-readiness was study was undertaken to provide a more detailed “snapshot” of Botswana today
- It examines the degree to which Botswana is prepared to participate in the Networked world

# Findings

- In Botswana today, there is considerable disparity between rural and urban access to information and services—a “domestic information divide.”
- Botswana will need to focus many of its ICT efforts, and budget, on learning and the development of technologically literate children if it is to create a vibrant future in the networked world.

Maitlamo
National Policy For ICT Development

- **Botswana must look at introducing ICT into the formal education system as soon as possible, both as a subject and as an educational tool.**
- **Improving access to healthcare information and services through the effective use of ICT is particularly important in Botswana**
- **Botswana's private sector has still to embrace ICT (being re assed) and Government has an important role to play in stimulating ICT take-up in all elements of society.**

Maitlamo
National Policy For ICT Development

# Key Programme Areas

*Community Connection Programme –*

- **Hundreds of Community Access Centres will be established throughout the country. These centres will be tailored to the specific needs of the community and will provide easy access to information and services relating to healthcare, jobs, education and government services**

*Key target dates-*

- **50 operational Community Access Centres by December 31, 2008**
- **100 operational Community Access Centres by December 31, 2010**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Key Programme Areas

*e-Health Botswana –*

- This programme will introduce a number of ICT initiatives aimed at improving the health of Batswana
- Simple applications such as a Healthcare Portal and improving health related information delivered over the radio and television and sophisticated solutions such as Tele-health (healthcare advice provided over the telephone) and Telemedicine (healthcare services provided over the Internet) will be introduced

*Key target date:*

- All appropriate healthcare facilities on-line by December 31, 2008
- All citizens to have equitable access to on-line healthcare information by December 31, 2009
- Remote access to health services available across Botswana by December 31, 2010

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Key Programme Areas

*School-Net Botswana –*

- **This programme aims to provide the literacy, skills and knowledge required for both formal and non-formal learners in the networked world and provide all schools in Botswana with modern computers and access to the Internet .**
- **All teachers will be trained to use ICT in classrooms and formal ICT education will be introduced into the school curriculum.**
- **Relate Education to Felt needs.**

*Key target dates:*

- **All schools and libraries on-line by December 31, 2008**
- **All teachers to receive ICT training by December 31, 2009**
- **ICT content and curriculum development available at all levels of the education system by December 31, 2010**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Key Programme Areas

*Government on Line –*

- A Government Portal will provide a gateway to all e-Government services and will be structured around the needs of the user
- Will improve customer service, save citizens time and money and introduce the potential for significant financial savings into the public service
- Improve efficiency in Government Processes

*Key target dates:*

- All appropriate government information on line by December 31, 2008
- All appropriate government services on line by December 31, 2010

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Key Programme Areas

*Developing the e-Marketplace –*

- **The strategy for enhancing the ICT sector in Botswana will be focused on the further development of the International Financial Services Centre (IFSC) and positioning the country as an attractive location for Business Process Outsourcing (BPO).**
- **The success of these initiatives is directly dependent upon the quality, speed and reliability of the country's telecommunications infrastructure and the ability to develop appropriate skills within the local workforce – both sizable undertakings in their own right.**

*Key target dates:*

- **In excess of 20,000 new jobs created as a result of the ICT, IFSC and BPO initiatives**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Key Programme Areas

*Connecting Botswana –*

- **This programme will assist in the design and deployment and efficient management of enabling technical infrastructure**
- **It will provide adequate, affordable, reliable and sustainable ICT infrastructure solutions to enable full connectivity to homes, communities and establishments, and the delivery of health, education, public services and e-Commerce solutions to everyone in the country.**

*Key target dates:*

- **50% of citizens to have access to reliable power and Internet connectivity by December 31, 2009**
- **Universal access is available in Botswana by December 31, 2014**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Key Programme Areas

*E-Legislation –*

- **A key element of the e-Legislation programme will be developing the necessary legal environment for increased levels of competition within the ICT and telecommunications space improving quality and reducing service costs for the consumer.**
- **In addition, the e-Legislation initiative will develop policies that enable increased levels of e-Commerce and e-Government, examining areas such as electronic signatures, privacy, security, and intellectual property rights.**

*Key target dates:*

- **Open competition in all areas of ICT implemented by December 31, 2008**
- **All supporting e-Legislation implemented by December 31, 2010**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Emerging Maitlamo Initiatives

* = fast-track project

- ***Connecting Botswana:***
  - **Infrastructure Blueprint – ICT, electrification etc. – all technologies***
  - **Connecting Community Roll-Out Plan**
  - **Efficient management of Infrastructure.***

- ***Connectivity Laws and Policies***
  - **Telecommunications Liberalization ***
  - **e-Commerce and e-Government Legislation ***
  - **Legislative Amendment – e-Signatures, security, privacy, inappropriate content, IPR etc ***

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Emerging Maitlamo Initiatives

* = fast-track project

- ***Connecting Communities:***
  - **Community Access Programme***
  - **Building Awareness & Capacity**
  - **Developing Content**

- ***Government on Line***
  - **Public Sector Reform Programme***
  - **E-Government Portal***
  - **e-Information – Jobs, health, education etc**
  - **e-Services**
  - **Reengineering and organisational redesign**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Emerging Maitlamo Initiatives

* = fast-track project

- ***e-Health Botswana***
  - **National e-Health Council***
  - **e-Health Legislation and Policy***
  - **Healthcare Portal* – connect with Government**
  - **Telehealth**
  - **Telemedicine**
- ***School Net Botswana***
  - **School Connectivity Programme***
  - **ICT Curriculum Development* - connect with e-Marketplace**
  - **ICT Professional Development for teachers**
  - **Computers for Schools Programme**
  - **Educational Software Development**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Emerging Maitlamo Initiatives

* = fast-track project

- ***Enhancing Economic Diversification***
  - **ICT enablement of IFSC and BPO***
  - **ICT enablement of traditional industries – mining, agriculture**
  - **SME portal* – link to Government**
  - **Tax and fiscal incentives**

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Summary

- ***Maitlamo has crossed the halfway mark The draft policy and Legal framework and change reports are ready for review and consultations.***
- ***We know where we want to end up and where we are starting from***
- ***Programmes and projects are being identified that will move Botswana toward its National ICT Goals***
- ***Planning, prioritization and first-class executive management will be key in the next stage of the initiative - but quality of implementation will ultimately determine the level of success and benefits achieved***

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# Summary

- ***High quality technical resources will be in great demand in the coming years***
- ***This should not be viewed as a government initiative. The private sector has a critical role to play***
- ***Maitlamo offers an outstanding opportunity to grow your business and contribute to the future success of the country.***
- ***Get involved!***

Maitlamo
National Policy For ICT Development

English Setswana

Botswana…At your service

Botswana... At your Service

BOTSWANA | TEXT VERSION | FAQs | HELP | FEEDBACK | SEARCH | About Botswana Histor

President's Biography

President's Speeches

Treaty of Accession

Prosperity,
Hope,
A Bright Future.

LOGON INTO MY SERVICES

THE OFFICIAL PORTAL TO THE GOVERNMENT OF BOTSWANA ELECTRONIC SERVICES

**CITIZENS**

+ Health Care
+ Employment
+ Taxes
+ Marriage Licence
+ Drivers Licence
+ Sports Leisure & Culture

**BUSINESS**

+ Registration
+ Start Up Info
+ Finance
+ Taxes
+ Investment Opportunity
+ Business Investments

**CIVIL SERVANTS**

+ Access Botswana Gov. Network
+ Acts & Legislation
+ Local Government
+ Reporting
+ Scheduling

**VISIT BOTSWANA**

+ Visit Botswana
+ Study in Botswana
+ work in Botswana
+ Investing in Botswana

KEY LINKS

The President

The Parliament

B-Government

Maitlamo
National Policy For ICT Development

# e-Government Services

| Programme/Project Description | *Fast Track >>>>* | 2-3 Years | 4-5 Years | 5+ Years | Dependencies |
|---|---|---|---|---|---|
| E-Services | | | | | |
| i. OMANG Registration | | | | | |
| ii. Birth & Death Registration | | | | | |
| iii. Vehicle Licensing & Registration | | | | | |
| iv. Company Registration & Business Licensing | | | | | |
| v. Electronic Tax Filing | | | | | |
| vi. Land Allocation | | | | | |
| vii. Construction Permits | | | | | |
| viii. Work & Resident Permits | | | | | |
| ix. Passport Applications | | | | | |

Maitlamo
National Policy For ICT Development

Maitlamo
National Policy For ICT Development

# e-Government Services

| Programme/Project Description | *Fast Track >>>>* | 2-3 Years | 4-5 Years | 5+ Years | Dependencies |
|---|---|---|---|---|---|
| x. Patents & Trademarks | | | | | |
| xi. E-Post | | | | | |
| xii. Integrated Justice | | | | | |
| xiii. E-Laws | | | | | |
| xiv. E-Publication | | | | | |
| xv. Electronic Tendering | | | | | |
| **Supporting Programmes** | | | | | |
| National Archives Transformation | | | | | |
| ICT Management in Government | | | | | |

Maitlamo
National Policy For ICT Development