ZIMBABWE

NATIONAL INFORMATION

AND

COMMUNICATION TECHNOLOGY

POLICY FRAMEWORK

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FOREWORD

The world is embracing Information Communication Technologies (ICTs) as tools that enable efficient and timeous exchange of data and information in an effort to contrive an information society. In the emerging information society characterized by convergence of technologies; time, space and distance collapse to create, what for some is, 'a new communication paradigm' with instantaneous and simultaneous dimensions. All these efforts contribute positively towards the effective implementation, by nation states, of the United Nations Millennium Development Goals and UN WSIS Plan of Action towards the attainment of sustainable development.

Significant progress has been registered in Zimbabwe in the development and application of ICTs in all sectors of the economy. The “digital divide” which is the disparity between those who have access to, and are enabled to utilize ICTs is evident at national sub-regional, regional and global levels. Within developing nations, Zimbabwe included, the uneven diffusion and inequitable access to the benefits of ICT applications is evident in different ways with significant consequences for social, economic and political development. The impact of the digital divide is more evident amongst rural communities where there is limited supportive ICT infrastructure such as energy. Special groups such as women, youths, people living with disabilities and the elderly also need special consideration in the formulation and implementation of ICT policies.

Firstly, the ICT Policy, endeavors to narrow the digital divide through enhancing public awareness and education on ICTs; improving penetration in all economic sectors increasing access by all communities; expansion of basic and supportive communication infrastructure; developing relevant local content in vernacular; and establishing a business culture open to the new ICT based economic dispensation.

Secondly, there are disparate policies and programmes in the ICTs sector which have resulted in Zimbabwe adopting different systems and standards and the duplication of efforts and consequently the sub-optimal use of resources across all sectors of the economy. For a cross-sectoral entity like ICTs, this calls for a robust, coherent and internally consistent national policy framework.

This ICTs policy is an integrated infrastructural, social, economic, environmental, legal and institutional framework that provides strategic direction and guidance for sustainable national development through the development and application of ICTs.

The support and leadership from the highest levels of both Government and Stakeholders reaffirms Zimbabwe's commitment to mainstream science and technology in general and ICTs in particular into the national development agenda.

The Government of Zimbabwe extends her most sincere gratitude to the National Economic Consultative Forum, the United Nations Development Programme, National University of Science and Technology and all stakeholders who participated in this truly national effort to produce this ICT policy.

Both Government and private sector are therefore encouraged to partner and collectively develop strategies and programmes to effectively implement the ICT Policy in support of national economic development.

ACKNOWLEDGEMENTS

The contributions and advice of the following institutions and members of the society have been critical to the preparation of the National ICT Policy Framework:

1. **Office of the President and Cabinet**
2. **Ministry of Science and Technology Development**
3. **National Economic Consultative Forum**
4. **United Nations Development Programme**
5. **National ICT Project Steering Committee**
6. **National University of Science and Technology**
7. **Government Ministries**
8. **Quasi-government departments and institutions**
9. **Private sector organisations**
10. **Civil Society**
11. **Zimbabwean citizens**

LIST OF ABBREVIATIONS AND ACRONYMS

BAZ	Broadcasting Authority of Zimbabwe
HUG	Harvard University Guide
ICTs	Information and Communication Technologies
MDGs	Millennium Development Goals
MSTD	Ministry of Science and Technology Development
NECF	National Economic Consultative Forum
NERP	National Economic Recovery Programme
NetOne	Mobile Services Provider in Zimbabwe
PFMS	Public Finance Management System
POTRAZ	Postal and Telecommunication Regulatory Authority of Zimbabwe
RCZ	Research Council of Zimbabwe
S&T	Science and Technology
SMEs	Small and Medium Enterprises
TELECEL	Mobile Services Provider in Zimbabwe
TelOne	National Telecommunications Services Provider for fixed telephony, radio and data networks
UNDP	United Nations Development Programme
WSIS	World Summit on the Information Society
WWW	World Wide Web
ZARNET	Zimbabwe Academic and Research Network
ZBH	Zimbabwe Broadcasting Holdings
ZESA	Zimbabwe Electricity Supply Authority

GLOSSARY OF TERMS

Bandwidth the amount of data that can pass through a given communication channel per standard amount of time (usually per second). It is an indication of the capacity of a channel of communication.

Broadcasting the distribution of information using radio, television, Internet and intranet or web casting.

Digital Divide the gap that exists between those who have and those who do not have access to and the skills to use ICTs like telephones, computers, Internet access and related services.

e-Commerce (Electronic Commerce) business activities involving consumers, manufacturers, suppliers, service providers and intermediaries using computer networks such as the Internet.

e-Readiness a country's e-business environment measured by assess to its technology infrastructure, the degree to which e-business is being adopted by the Government, consumers and companies, social and cultural conditions that influence use of ICTs, the availability of services to support ICT, broadband penetration, capacity and speed of connectivity.

Information and Communication Technology (ICT) embraces the use of computers, telecommunication office systems and technologies for the collection, processing, storing, packaging and dissemination of information.

Information Society (IS) a country or region where information technology has been fully exploited and is part of everyday life as an enabler of information sharing, communication and diffusion.

Internet Service Provider (ISP) a company which offers Internet access and possibly other services such as e-mail and web hosting to individuals or companies through either temporary or dedicated connection.

Teledensity a term commonly used to describe the number of telephone lines per some unit of population (often 100 people). The density of telephone lines in a community.

Universal access the widespread availability of telecommunications or ICT service. No society can claim to be a genuine knowledge society if universal access to knowledge and information is denied. Access in this case implies infrastructure, connectivity, content, affordability, information technology literacy, know how to develop and use information in education and the free flow of information, opinions and ideas.

Universal service the availability of ICTs in a country including the rural areas.

EXECUTIVE SUMMARY

Since independence in 1980, Zimbabwe has recorded significant progress in the development and application of ICTs in all sectors of the economy. However, the benefits from this investment have been sub-optimal, primarily due to lack of co-ordination both at the policy, programme and project design level on one hand and implementation on the other. Accordingly, Government embarked on the development of a comprehensive policy and strategy document for effectively harnessing ICTs for sustainable national development. The process was structured to yield a national ICTs policy framework and strategy document with three distinct but conceptually related components as follows;

Volume 1 - e-Readiness Survey Report for Zimbabwe. This is a measure of the country's e-business environment. Overall, the country score is 1.4 out of a possible score of 4 on the Harvard University Guide (HUG) model.

Volume 2 - Challenges that Zimbabwe faces and the recommended policy options and strategies to develop and use ICTs across all sectors of the economy.

Volume 3 - Policy Framework document.

The Policy Framework addresses the following:

(a) key challenges that are faced by Government and the social and economic sectors of the nation.

(b) Policy directions for implementation by each sector. These form the basis for the development of activity programmes and action plans by relevant line ministries and their stakeholders.

(c) Policy actions to be undertaken to develop the requisite infrastructure like telecommunications, electricity, transport and computer hardware and software in support of ICTs.

(d) cross cutting issues of access to and use of ICTs by special graphs such as women, youths, the disabled and the elderly are also addressed. Emphasis is also given to the need to develop relevant content and use of local languages in the application of ICTs across and at all levels of the economy. In order to achieve these policy objectives, there is need to develop and retain globally competitive and high quality human resources in ICTs and related disciplines.

(e) The leadership and catalytic role of Government particularly with respect to the development of the political, institutional, economic, legal, and security frameworks for ICTs is central to the successful implementation of the policy framework.

(f) The establishment of a National Information and Communications Technology Authority responsible for ensuring policy coherence across all sectors of the economy. In addition, the policy provides for the establishment of a single national regulator for the ICTs sector to manage telecommunications, broadcasting and computer services in their converged form. The legal and regulatory framework also provides for the development of legislative instruments on privacy, security, cyber crimes, ethical and moral conduct, encryption, digital signatures, copyrights, intellectual property rights and fair trade practices.

(G) The need to mobilize adequate resources (Human, Infrastructure, Institutional, Financial and Technological) to effectively implement the ICT Policy

1. Background

ICT are a generic term referring to technologies that are used for collecting, storing, analyzing and exchange of date information in various forms through various media. The advances in digital technologies and widespread diffusion of ICTs has been recognized as a formidable force that has accelerated competitiveness in many countries. Today, the relevance of traditional factors of production like labour, land and capital are being undermined by the increasing role of ICTs in determining the pace of socio-economic development of nations.

Empirical evidence has also shown that infrastructure like telecommunications, including computer hardware, software and internet, electricity and transport facilities on one hand, and intellectual capital, institutions, interaction, incentives and integrity systems on the other collectively constitute the necessary foundation and driver conditions for the development and use of ICTs. This, in turn, raises the innovativeness, competitiveness, productivity and wealth accumulation capacity of nations. ICTs therefore are a powerful instrument for increasing national economic growth and development. By harnessing the potential of ICTs, developing and developed countries alike, are now able to emerge with better solutions to vital and long standing issues such as poverty reduction, wealth creation, equity, as well as social justice. It is imperative that Zimbabwe exploits the potential of ICTs as an enabler of national development.

Accordingly, Zimbabwe has embarked on a process of harmonizing its disparate sector-based ICT related policies into a coherent and internally consistent national ICTs Policy Framework. The ICTs Policy Framework will enable Zimbabwe to co-ordinate various initiatives in the public and private sectors and of other stakeholders within and outside Zimbabwe in order to optimize the allocation and utilization of resources in the development and use of ICTs across all sectors of the economy. The policy framework will also provide the requisite guidance and direction to the formulation and implementation of ICTs strategies and programmes in and across all sectors of the economy. The combined effect of both policy and strategy implementation will place Zimbabwe on the high road to becoming a knowledge based economy and society.

1.1 National ICTs Policy Framework Process

The Government of Zimbabwe adopted a consultative and participatory approach in formulating the national ICTs Policy Framework and Strategy. The key partners in the programme were:-

- Government of Zimbabwe
- National Economic Consultative Forum (NECF)
- United Nations Development Programme (UNDP)
- National University of Science and Technology (NUST)

1.2 Project Execution Phases

The national ICTs Policy Framework and Strategy Project was conducted in three phases namely:

a) National e-Readiness Survey Phase

e-Readiness is a measure of a country's e-business environment in relation to availability of communication infrastructure, adoption of e-business by government, consumers and companies, the social and cultural conditions that influence use of ICTs and the capacity and speed of connectivity.

The state of e-Readiness in Zimbabwe was measured using the Harvard University Guide (HUG). This is an internationally recognised model, especially suitable for developing countries.

The HUG model uses a four-stage scale (1 = low state of readiness and 4=ideal state of readiness). Five attributes that are critical to e-Readiness across the economy and society are used, and these are:

- **Network Access** this addresses issues of availability, cost and quality of ICTs networks, services and equipment.
- **Networked Learning** addresses how well the education system integrates ICTs into its processes to improve learning, and whether or not it has training programmes in ICT.
- **Networked Society** seeks to establish whether or not there are employment opportunities in the sector, and the extent to which individuals are using ICTs at work and at home.
- **Networked Economy** examines the degree to which businesses, organizations and Government are using ICTs to interact with the public and with each other.
- **Network Policy** addresses the degree to which the policy environment promotes or hinders the growth of ICTs adoption and use.

The sectors covered by the e-Readiness survey were ICT, government, governance, education and training, agriculture, commerce and SMEs, health, mining and manufacturing, transport, tourism and environment, and cross-cutting issues of gender, youths, disabled and the aged/elderly.

According to the HUG model, Zimbabwe is not uniformly ready across the five attributes mentioned above. Overall, the country score is 1.4 out of a possible score of 4.0.

The e-Readiness Survey Report for Zimbabwe can be accessed on the Internet at www.ict.org.zw.

b) e-Period Phase

The e-Period phase was an information and publicity campaign during which citizens discussed the findings of the e-Readiness survey and proposed policies and strategies that would guide the development and use of ICTs in their respective sectors.

c) Drafting of the National ICTs Policy Framework

The ICTs Policy Framework drafting phase involved the collection and collation of stakeholder inputs across all sectors of the economy into a coherent draft national ICTs Policy Framework document.

1.3 Vision

To transform Zimbabwe into a knowledge-based society by the year 2020.

1.4 Mission

To accelerate the development and application of ICTs in support of sustainable socio-economic growth and development in Zimbabwe.

1.5 Guiding Principles

The principles that underpin the national ICT policy were derived from the following documents:-

◇ Vision 2020

According to Vision 2020,

> "Zimbabwe should emerge a united, strong, democratic, prosperous and egalitarian nation with a high quality of life for all by the year 2020".

One of the key elements that underpin the achievement of Vision 2020 is a national commitment to the exploitation of science and technology, especially ICTs, in support of sustainable national development.

◇ Science & Technology Policy (2002)

The Science and Technology Policy for Zimbabwe was adopted in 2002. The policy seeks to promote national scientific and technological self-reliance, and provides a comprehensive framework for the country to develop and harness S&T for development. The policy also provides for better co-ordination and direction in research and development (R&D) activities in all sectors of the economy. More specifically, the

policy recognises the ICTs sector as a key enabler of national development and accordingly directs that Zimbabwe develops a framework to guide its development and use.

◇ The National Economic Recovery Programme (NERP) (2004-2006)

The NERP was launched in 2003 to address severe socio-economic challenges occasioned by droughts and compounded by a hostile external environment. The "Ten Point Plan" enunciated by His Excellency, the President of Zimbabwe Comrade R.G. Mugabe at his inauguration in 2002, set the tone for a focused multi-sector driven economic turnaround strategy on the back of measures to enhance national capacity to generate foreign currency and sustainable economic growth.

The NERP emphasizes the need for Zimbabwe exploit the potential of S&T in general and ICTs in particular in order to leap-frog national economic competitiveness and in the process increase export market penetrability.

◇ The Nziramasanga Education Commission Report (1999)

The Nziramasanga Education Commission Report of 1999 recommended the introduction and mainstreaming computer-based teaching and learning in the pedagogy of our schools, colleges, universities and other institutions of higher learning. This constitutes a key element of the national ICTs policy.

◇ Industrialisation Policy (2004)

The Industrialisation Policy of 2004 recognises and advocates for the development and use of ICTs in the manufacturing sector in general and to undergird the national export strategy in particular. ICTs are identified as indispensable in effectively marketing industrial products both on the domestic and export markets.

◇ WSIS Declaration of Principles and Plan of Action (2003)

The WSIS Declaration of Principles and Plan of Action agreed to in Geneva in 2003 by Heads of State and Government strongly recommends the adoption and utilisation of ICTs to meet the agreed developmental goals. It is recognized that education, knowledge, information and communication are at the core of human progress, endeavour and well-being. Governments are invited, among others things, to create policy environments that facilitate the development and utilization of ICTs.

◇ Zimbabwe Millennium Development Goals (MDGs) (2005)

Zimbabwe has to a significant extent succeeded in implementing the Millennium Development Goals adopted by Heads of State and Government at the fifty-fifth session

of the United Nations General Assembly in September 2000. The Zimbabwe Millennium Development Goals (MDGs) Report 2005 launched by His Excellency President R G Mugabe in September, 2005 recognises the role of ICTs as tools that add value and contribute significantly to the achievement of the MDGs by 2015.

2. 0 Policy Objectives

The purpose of the National ICTs Policy Framework is to provide strategic direction and guidance for sustainable national development through the development and applications of ICTs in Zimbabwe.

The objectives of the National ICTs Policy Framework are to:

- Ensure provision and maintenance of infrastructural facilities necessary for ICTs development, such as reliable supply of electricity, communications and transport.
- Promote and support the systematic, relevant and sustainable development of ICTs.
- Embark on extensive educational and training programmes to provide adequate supply of qualified ICTs personnel and knowledge workers in all sectors.
- Establish structures for effective implementation of ICTs strategies.
- Establish institutional mechanisms and procedures for determining sectoral application priorities; and
- Encourage the development and use of, and ensure equitable access to benefits offered by ICTs across gender, youths, the disabled and the elderly.
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3. Status of ICTs in Zimbabwe

The e-Readiness Survey identified the developments and institutions that have contributed to the development and utilisation of ICTs in all sectors of the economy and society in Zimbabwe. The key developments in the ICTs Sector are:

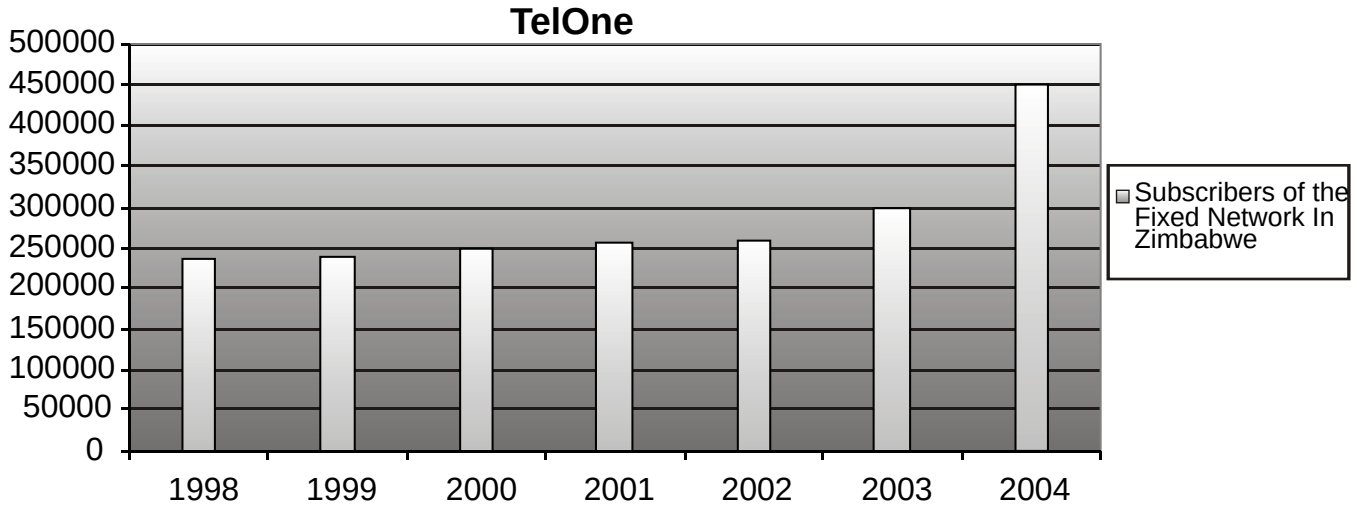
- Committed political leadership at the highest level exemplified by His Excellency the President, Comrade R G Mugabe and the First Lady, Amai G Mugabe through the donation of computers in the education sector.
- Establishment of the Cabinet Committee on Scientific Research, Technology Development and Applications.
- Expanded rural electrification programme.
- Government wide area network used among others by PFMS.
- Deregulation of the telecommunications sector.
- Phenomenal growth in internet users of up to 400% in 2004.
- Establishment of regulatory frameworks for the ICTs sector.
- Massive computerisation of government ministries.

3.1 Fixed Network Subscribers 1998 2004

Fixed Line Service

In Zimbabwe, the incumbent operator TelOne has experienced steady growth from 1998 where main telephone lines in operation were 236530 and increased to 287854 in 2002 (see Table 1). The main telephone lines per 100 inhabitants grew from 2.13 in 1998 to 2.47 in 2002. The number of public payphones increased from 2864 in 1998 to 3234 in 2000.

Table 1 Fixed Network Subscribers 1998 - 2004

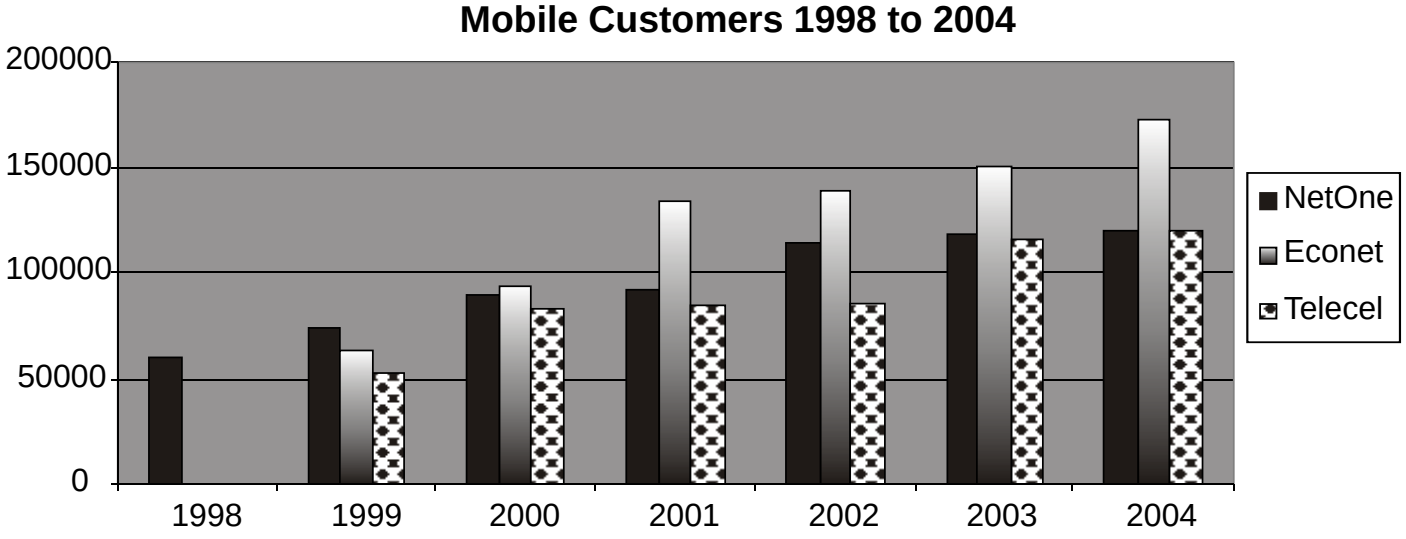


Source: POTRAZ Telecommunications indicators database

3.2 Mobile Subscribers 1998 2004

Currently there are three mobile telephone operators in the country. Table 2 shows that mobile telephone subscribers increased from 60000 in 1998 to 338402 in 2002. The cellular customers per 100 inhabitants increased from 0.17 in 1998 to 3.03 in 2002.

Table 2 Mobile Customers 1998 to 2004



Source: POTRAZ indicators database

3.3 Key Communications Players in ICTs sector

The deregulation of the telecommunications sector resulted in the issuing of licenses to several players in the ICTs sector. Table 3 shows the number of players who have been issued with licenses for specific services.

Table 3 Licenced Communications Provider

Type of Service Licensed	Number of Players
Fixed Public Telephone	**2**
Cellular (Mobile) Network	**3**
Public Data Service	**3**
Broadcasting Transmission Infrastructure	**1**
Public Broadcasting	**1**
Radio stations	**4**
Private network licence	**6**

3.4 Challenges faced by ICTs sector in Zimbabwe

The following challenges in the ICTs sector were identified:-

- Inadequate communications infrastructure
- Inadequate ICTs facilities
- Inadequate ICTs skills
- Limited institutional arrangements
- Inadequate financial resources
- Limited public private partnerships
- Limited data management capacity
- Inadequate horizontal and vertical communication
- Inadequate bandwidth nationally and on the Gateway

3.5 ICTs Sector

The degree to which all sectors can integrate ICTs in their operations is determined by the capacity of the ICT sector to provide the required services in a cost effective and sustainable manner. The ICT sector provides supportive (electric energy) and substantive (communications networks, hardware and software) infrastructure that is the base for all ICT services in the country.

3.5.1 Policy Statements

1. Develop and improve ICTs infrastructure for all sectors of the economy (communications, electricity and transport).

2. Encourage full utilization of existing communications infrastructure to reduce resource wastage.

3. Implement an integrated and equitable framework for accelerated ICTs development and uptake.

4. Increase bandwidth on the national backbone and international gateway(s) systems to enhance speed and efficiency of operations.

5. Develop supportive and enabling infrastructure to ensure equitable access to ICTs by all citizens including disadvantaged groups and rural communities.

6. Promote local production of ICTs products to ensure relevance of content and use of appropriate technologies that meet international standards.

7. Establish institutional mechanisms to co-ordinate inter-organisational planning, policy-making and implementation of strategies to develop ICTs taking into account the convergence of broadcasting, telecommunications and on-line computer services.

8. Implement measures to develop and retain skilled human resources in the ICTs sector.

9. Rationalise the ICTs tariff structure to make ICTs more affordable and accessible.

10. Introduce and enforce stringent quality of service standards in the provision of ICTs.

11. Create a conducive environment for investment in the areas of ICTs through public private partnerships in all sectors.

12. Promote local research and development in software and hardware relevant to all sectors of the economy.

13. Promote awareness and use of ICTs.

4. e-Government

e-Government uses ICTs to provide, on-line:

- Convenient access to government information and services.
- Delivery of public services.
- Efficient and effective method of conducting business transactions.

4.1 Policy Statements

Government shall:-

1. Develop an e-Government policy and legal framework.
2. Ensure that every ministry/department develops and manages computerised information systems.
3. Ensure that every Government Ministry and Parastatal has an updated informative and interactive website.
4. Create an e-Government Agency to coordinate and rationalise efforts by government entities working on ICTs.
5. Make e-Government services accessible to all citizens.
6. Provide a systems security framework for e-Government.
7. Build capacity for e-Government.

5. e-Governance

e-Governance includes the use of ICTs in the following areas:

- Participation in the decision making processes by the citizens, e.g. formulation and implementation of economic and social policies,
- Making Government more accountable, transparent and effective,
- Facilitating the electoral processes, and
- Maintenance of law and order

5.1 Policy Statements

1. Promote the principle of Universal Access.
2. Develop on-line projects that provide information on governance across all levels of society.
3. Strengthen governance and legal framework that promotes participatory democracy and accountability.

6. Education and Training Sector

The policy guidelines have been shaped by the government's conviction that education is the best form of investment in human capital. It is key to social, scientific and technological development. The education policy has resulted in considerable quantitative expansion, making education accessible to all children of school going age. This has in turn resulted in the literacy rate of over 87%. This high literacy rate indicates that Zimbabwe has a high potential to be a knowledge society as the majority of its people can read and write. The adoption and deployment of ICTs will further enhance the process of learning, teaching and training.

6.1 Policy Statements

1. Provide equitable access to ICTs enabled education and training in all parts of the country, including disadvantaged communities.
2. Facilitate acquisition of basic, applicable and affordable ICTs equipment.
3. Build ICTs capacity skills in the education sector.
4. Promote stakeholder participation and partnerships.
5. Promote training in software development, provision of ICTs service and ICTs resources development.
6. Promote e-learning and use of e-learning materials in Zimbabwe.
7. Standardise ICTs in the education sector.
8. Embed ICTs literacy in the pedagogy of schools, colleges and universities.
9. Encourage, promote and apply research and development in ICTs in all sectors of the economy.

7. Commerce and SMEs

e-Commerce is the production, distribution, marketing, sale or delivery of goods and services by electronic means. There is need to ensure that e-commerce infrastructure is secure and reliable. SMEs form the foundation for economic growth, social progress and are prime drivers of the economy. ICTs must therefore be infused into their operations.

7.1 Policy Statements

1. Create a conducive and enabling environment for e-Commerce.
2. Cultivate a culture of e-commerce which makes business easy, quick and cost effective especially among SMEs in both national and international transactions.
3. Promote local and international smart partnerships on e-Commerce.
4. Implement appropriate security systems for e-commerce.

8. Agriculture

Agriculture forms the backbone of Zimbabwe's economy and accounts for 17% of the GDP. The modernisation of agriculture through the systematic adoption and use of ICTs will contribute directly to food security at national and household levels, beneficiation of agricultural produce, effective land management and creation of national wealth.

8.1 Policy Statements

1. Promote the development of, and access to ICTs in land and water utilisation, and management of national agricultural development systems.
2. Facilitate the development of software and provision of ICTs-enabled infrastructure in the production, processing and marketing of agricultural products.
3. Promote the use of ICTs in environmental forecasting and prediction in support of sustainable agricultural development.

9. Tourism and Environment

The tourism sector conducts most of its business such as flight and hotel bookings on-line. ICTs in the tourism and environment sectors can be used for monitoring, forecasting, location identification, publicity, on-line payment systems, information collection and management.

9.1 Policy Statements

1. Promote the establishment of an enabling environment for e-Tourism and sustainable environmental management.
2. Facilitate integrated interactive ICTs systems in the tourism and environmental management sectors.

10. Health

ICTs in the health delivery system are found in areas such as the health, monitoring, data gathering, and processing and information dissemination. There are numerous initiatives by stakeholders to roll out ICTs projects in the health sector.

10.1 Policy Statements

1. Promote the development and use of ICTs in the delivery of health services.
2.Promote the use of ICTs in disease surveillance and control.
3.Develop an integrated and interactive national and international ICTs systems for information sharing in health services delivery.

11. Mining and Manufacturing

Uses of ICTs in the mining sector vary between the large mining houses and the small-scale mines. ICTs in the mining and manufacturing sectors can be deployed in prospecting and ore body modelling, minerals beneficiation, improved quality of products, marketing, automation (control), information gathering, processing and management.

11.1 Policy Statements

1. Support the development and use of ICTs in the mining and manufacturing sectors.
2.Support the development and use of ICTs in national and international trade.

12. Transport

The supply and maintenance of ICTs equipment depend on a sound road network. The National Railways of Zimbabwe also has a well-developed infrastructure for data communication. ICTs in the transport sector can, among others, be used for monitoring, navigation, information gathering and management.

12.1 Policy Statements

1.Promote the development and application of ICTs in air, water, road and rail transportation.
2.Develop and deploy ICTs based systems for traffic management.
3.Promote use of ICTs for security management and monitoring in the transportation sector.

13. Gender, Youths, Disabled and the Aged/Elderly

The interest of women, youths, the disabled and the aged, feature in all the sectors of the economy and the social and political life of the nation. Their impact, as cross

cutting issues, differs from sector to sector. However, certain common trends can be identified in all the sectors.

Gender mainstreaming is a strategy to ensure that the concerns and experiences of both men and women are integrated into the design and implementation of ICTs programmes so that they benefit equally from the same.

Youths constitute a high proportion of potential ICTs users and opportunities should therefore be created to ensure their full participation.

ICTs should also respond to the special needs of the **physically challenged** to ensure their inclusion and participation. Studies have showed that the aged respond slowly to change and shun the use of new technologies. ICTs should be developed to accommodate the elderly.

13.1 Policy Statements

1. Ensure gender equality and equity in access to and the use of ICTs across all sectors of the economy.
2. Bridge the digital divide in relation to the youths, aged/elderly, the disabled and rural communities across all sectors of the economy.
3. Create opportunities for youths in the development and use of ICTs particularly in relation to content, employment and income generation.

14. HUMAN RESOURCES DEVELOPMENT

Skills training in ICTs in Zimbabwe occur at various levels in both private and public institutions. ICTs are a continuously changing field and therefore there is need for continuous training and re-training of ICTs practitioners.

14.1 Policy Statements

1. Develop globally competitive quality human resources in ICTs and related disciplines across all sectors of the economy.
2. Facilitate capacity building in ICTs at all training centres and institutions of learning including teacher training colleges, polytechnical colleges and universities.

15. POLICY INSTITUTIONAL ROLES

The Executive, legislature, research and academic institutions have critical roles to play in the implementation of the ICTs policy.

1. Role of Government

Government should:-

1. Develop technical capacity for ICTs sectoral programme development and implementation in all public sector organisations.
2. Provide leadership in the implementation of ICTs policy at all levels.
3. Develop broad ICTs skills and knowledge base in the public sector.
4. Develop political, institutional, economic, legal and security frameworks to facilitate development and use of ICTs.
5. Enact legislation to establish a National ICTs Authority and a converged National ICTs Regulator.
6. Develop change and project management skills required to integrate ICTs into the public sector.
7. Mobilise adequate technical and financial resources and build PPPs to implement the ICTs policy.
8. Undertake continuous monitoring and evaluation of ICTs programme interventions and outcomes, and
9. Undertake adequate policy reviews in consultation with stakeholders.

2. Role of Parliament

Parliament should:-

1. Advocate for the allocation of financial resources to sustain implementation of the ICTs policy.
2. Monitor effective utilisation of resources in implementing the ICTs policy.
3. Ensure that good governance principles are applied and adhered to in implementing the ICTs policy.

3. Role of Research Institutions (RIs)

RIs should:-

1. Expand and consolidate research and development in the use of ICTs
2. Use ICTs to extend scientific and research facilities taking advantage of the Internet.
3. Assume leadership in testing new technologies.
4. Create networked and multidisciplinary research teams on ICTs.
5. Initiate and support ICTs innovation and incubation, technology transfer and adaptation.

16. POLICY IMPLEMENTATION FRAMEWORK (PIF)

The PIF is required to address the following:

1. Programme coordination and work-plan implementation.

- Resource mobilisation.
- Monitoring and evaluation.

2. Restructuring the ICTs sector.
   - Enact a National ICTs Act.
   - Establish a National ICTs Authority.

3. Reviewing the legal framework for ICTs sector.
   - Enact a National ICTs Convergence Act.
   - Establish a National ICTs Regulator.
   -

17. National ICTs Authority (NICTA)

NICTA should:-

1. Advise government on national ICTs requirements and policy matters.
2. Forster and coordinate accelerated development of ICTs in the country.
3. Promote the development of ICTs industry in conjunction with relevant stakeholders.
4. Facilitate universal access to ICTs in conjunction with the national ICTs Regulator.
5. Develop a national ICTs system security framework.
   Promote and coordinate ICTs human resource development in the country.
7. Promote awareness and use of ICTs products and services.
8. Conduct surveys to monitor and evaluate performance of the ICTs sector, and
9. Review ICTs policy.

18. National ICTs Regulator (Converged Regulator).

The Converged Regulator should:-

1. Promote and regulate the development of communications networks and facilities.
2. Develop and implement licensing frameworks for operators and service providers.
3. Control and license the radio frequency spectrum.
4. Develop guidelines for equipment, standards and inter-connection.
5. Develop guidelines on obligations in relations to communications facilities leasing.
6. Control and regulate broadcasting and telecommunications services.
7. Manage consumer protection issues.
8. Regulate charges and tariffs.
9. Implement the Universal Service Charter.

19. CONCLUSION

This policy recognises that ICTs contribute significantly to the reduction of social, political and economic inequalities, increase national productivity, enhancement of wealth creation and entrepreneurship and increase in efficiency in public administration. They also strengthen democratic values and promote gender equality and the interest of marginalized groups like youths, the disabled and the elderly.

In order for ICTS to act as effective transmission vectors for the national development process, they need to locate the interests of all citizens at the centre of development strategy. They also need to be accompanied by supportive organizational and institutional change. Access to information by citizens on issues that affect their lives and capacity to 'voice' their perspectives and concerns is a key factor in development. The huge investment required to create communication infrastructure to achieve connectivity should bring advantages to all citizens and not new forms of marginalization.

The ICT policy also seeks to ensure that private sector interests and expertise create investments in which the ICTs sector generates jobs, increases national productivity and empowers citizens through the amplifications of choices brought by connectivity. In addition, for ICTs to yield increased development benefits, creative leadership is required from government, as the guardian of the public interest, especially in managing markets and establishing institutions to achieve public policy objectives. In this regard, a strong, committed and effective digital champion, always ready to invest political capital to achieve policy objectives is required at the highest level of government.

The policy further posits ICTs as enablers of development strategies whose nature, scope and purpose are steeped in ideology, power relations and authority. ICTs cut across all sectors of the society and economy. The acid test for policy effectiveness therefore lies in the extent to which the deployment of ICTs buttress the development of human capacity, generates employment and income, creates wealth, enhances enjoyment of health and well being and promotes participation and expression of voice in favour of all citizens in the development process.

Existing and new public and private sector institutions across all sectors of the economy are expected to formulate sector based strategies/programmes to implement ICT flagship projects. Such projects would, inter alia, promote awareness of the benefits of ICTs, develop human skills in ICTs, enhance research and training capability, demonstrate the benefits of public sector leadership and encourage private-public sector partnerships. The projects would also establish appropriate legal frameworks to manage markets, stimulate and promote innovations and inventions in the ICTs sector and give voice to citizens in the development process.