REPUBLIC OF NAMIBIA

MINISTRY OF INFORMATION AND COMMUNICATION TECHNOLOGY

NATIONAL BROADBAND POLICY (NBP) FOR THE REPUBLIC OF NAMIBIA: 2019-2029

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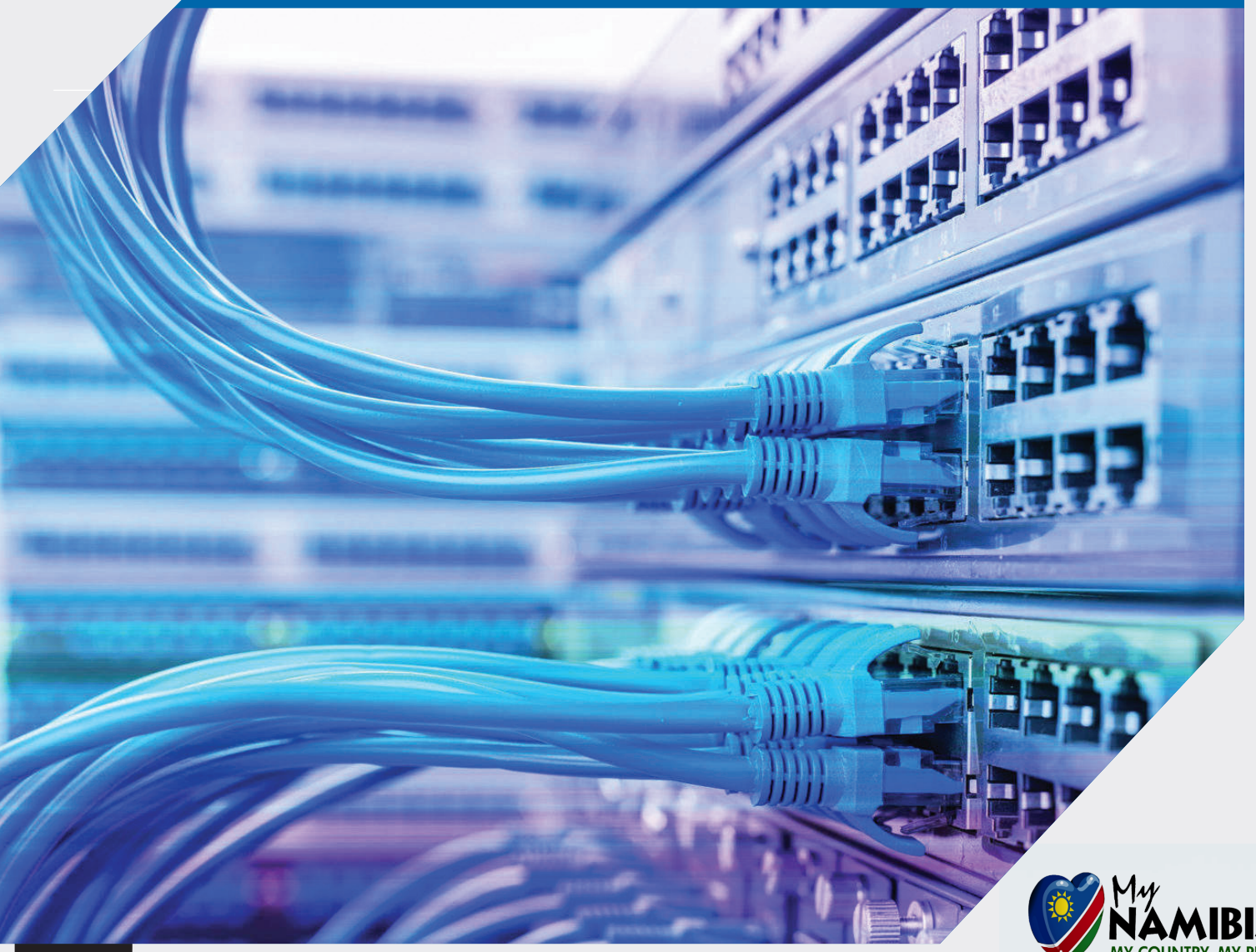

My NAMIBIA
MY COUNTRY. MY PRIDE
"A United Nation Is A Proud Nation"

2019

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ACKNOWLEDGEMENTS

The Government of the Republic of Namibia the Ministry of ICT are immensely grateful to the International Telecommunication Union (ITU) through its Regional Office for Africa and Southern Africa, for the technical assistance and financial support provided for the development of the National Broadband Policy (NBP) and its Implementation Action Plan (IAP). This Policy and its IAP are the product of coordinated and sustained efforts of the National Broadband Task Team.

It would not have been possible to develop this Policy and it's IAP without the invaluable inputs from the Communications Regulatory Authority of Namibia (CRAN), ICT Licensees, Offices, Ministries and Agencies (O/M/As), Academia, and Civil Society Organisations (Non-Governmental Organisations (NGOs) and Consumer Protection Group) who took time to participate in extensive consultations and their inputs and contributions that helped shape this Policy. Furthermore, acknowledgement is extended to the business community, ICT experts and industry stakeholders who provided inputs and insights.

This comprehensive Policy and its IAP represent the commitment to providing broadband to the citizens in solving development problems with innovative solutions and approaches that are effective, scalable and replicable. It is hoped that the same collaborative commitment and spirit with which this NBP and IAP have been developed, will be carried forward for the successful implementation of the NBP through the associated IAP to ensure the achievement of the Vision 2030 of the Republic of Namibia.

FOREWORD

The revolution in Information and Communication Technologies (ICTs) has changed the society fundamentally and will probably continue to do so in the foreseeable future as ICTs have in one way or another pervaded almost every aspect of human activities. The pervasive use of electronic services and the widespread use of the internet highlight some of the developments that have profoundly changed our society. In the last decade, ICTs have been instrumental in the creation and development of sustainable economic growth. The global economy is currently dependingonandisshapedbythebenefitsand opportunities arising from ICTs. This rapid development and uptake of technologies have in turn created opportunities for growth in a new competitive space. Recent studies reveal that broadband is becoming an enabler across all economic sectors, hence the need for a National Policy is inevitable. The World Bank has found that in low and middleincome countries, every 10 percentage point increase in broadband penetration accelerates economic growth by 1.38 percentages.

The development of a broadband Policy should be viewed from the perspective of improving existing and developing of telecommunications, broadcasting, postal, services infrastructure and provision of energy/electricity which is necessary for powering the network and devices. Furthermore, broadband technologies will boot Namibia to increase the global competitive ranking and is a mechanism for accessing information, which is essential for all forms of economic activity and good governance.In developing this Policy, the main port of call has been the Namibian Government's Vision 2030 recognition for ICT as the most important sector in the economic development of the country and

supported the overall objectives the Overarching ICT Policy 2009.

This Policy aims to progressively provide the framework for the holistic development of Broadband in the Republic of Namibia, and contribute to the realisation of the Vision 2030 and its associated National Development Plans. The growth of ICT in Namibia depends on the provision of accessible, quality and affordable Broadband.

This Policy is built on the Vision 2030 for the Republic of Namibia, the Fifth National Development Plan NDP 5 (2017-2022), the Harambee Prosperity Plan (HPP) and, the Overarching ICT Policy 2009 (OICTP 2009) for the Republic of Namibia. Moreover, National ICT Sectoral Policies, relevant Laws and regulations, SADC Guidelines for Development of Broadband Plans and the UN Broadband Commission, collectively have been a solid guide for the drafting of the National Broadband Policy and the Implementation Action Plan for achieving digital transformation.

To the end, this policy is embedded into the Fourth Industrial Revolution, as the leveraging and availability of technologies such as mobile, artificial intelligence, cloud, analytics and application and platforms are vital to digitalise industries and making markets more efficiently.

Hon. Stanley Mutumba Simataa (MP)
Minister: Information and Communication Technology

ACRONYMS AND ABBREVIATIONS

A4AI	-	Alliance for Affordable Internet
BB	-	Broadband
BBC	-	Born Before Computers
BOT	-	Build Operate and Transfer
GB	-	Gigabyte
GNI	-	Gross National Income
CRAN	-	Communications Regulatory Authority of Namibia
DSL	-	Digital Subscriber Line
HPP	-	Harambee Prosperity Plan
ICT	-	Information and Communication Technology
ICTs	-	Information and Communication Technologies
IAP	-	Implementation Action Plan
IoT	-	Internet of Things
IP	-	Internet Protocol
ISDN	-	Integrated Services Digital Network
IT	-	Information Technology
ITU	-	International Telecommunication Union
LTE	-	Long Term Evolution
M&E	-	Monitoring and Evaluation
Mbps	-	Megabit per second
MPCC	-	Multi Purpose Community Centres
MTC	-	Mobile Telecommunications Limited
NBC	-	Namibia Broadcasting Corporation
NBP	-	National Broadband Policy
NBSC	-	National Broadband Steering Committee
NCCI	-	Namibia Chamber of Commerce and Industry
NDP	-	National Development Plan
NDP5	-	Fifth National Development Plan
NPC	-	National Planning Commission
OICTP	-	Overarching Information Communications Technology Policy
O/M/As	-	Offices, Ministries and Agencies
OPM	-	Office of the Prime Minister
OTT	-	Over the Top
PO	-	Policy Objectives
PoPs	-	Points of Presence
PPP	-	Public and Private-sector Partnerships
SADC	-	Southern Africa Development Community
SDG	-	Sustainable Development Goals
SMEs	-	Small and Medium Enterprises
UAS	-	Universal Access Service
UASFs	-	Universal Access Services Funds
UN	-	United Nations
UNESCO	-	United Nations Educational, Scientific and Cultural Organisation
WACS	-	West Africa Cable System
WRC	-	World Telecommunication Conference

GLOSSARY OF CONCEPTS, TERMS, AND JARGONS

Broadband - High-speed data transmission, such as cable, ISDN (Integrated Services Digital Network), LTE and LTE-A (Long Term Evolution and Long Term Evolution -Advanced) mobile technologies, Fibre and DSL (Digital Subscriber Line). It is generally taken to mean bandwidth higher than 2 Mbps.

Broadband Commission for sustainable development - To promote the adoption of broadband friendly practices and policies to spread the benefits broadband Internet can offer and ensure that broadband Internet technologies accelerate progress towards meeting the Sustainable Development Goals (SDG).

Convergence - The integration of industries that up to now have largely operated separately from one another, but meshing along a specific value chain or bundling from different services at the applications end. Convergence is driven by the digitisation of the presentation, transmission, storage, processing and creation of information.

Electronic Commerce (e-commerce) - The conduct of commerce in goods and services, with the assistance of telecommunications and telecommunications-based tools.

Electronic Connectivity (e-connectivity) - Remote connectivity and the provision of the capability of a real-time, secure two way interactive connections between enabled systems.

Electronic Government (e-government) - Government's use of technology, particularly webbased applications, to enhance the access to and delivery of Government information and services to citizens, business partners, employees, other agencies, and government entities.

Industry - A segment of the economy concerned with the production of goods and services.

Information and Communications Technology (ICT) - Any communication device or application, encompassing radio, television, cellular phones, personal digital assistants, computer and network hardware and software, satellite systems and so on, as well as the various services and applications associated with them, such as video conferencing and distance learning. ICT refers to the technologies, including computers, telecommunications and audio-visual systems that enable the collection, processing, transportation and delivery of data, information and communications services between users.

ICT Licensees - Any person or an organization approved to be a holder of a licence in the areas of broadcasting and telecommunications service from the authorized agency.

Information Society - A term used to describe a modern population that is conversant with – and actively using - information and communications technology. A society where the creation and exchange of information is a predominant social and economic activity

Information Technology (IT) - The study, design, development, implementation, support or management of computer-based information systems, particularly software applications and computer hardware.

Internet of Things (IoT) - The network of devices such as vehicles, and home appliances that contain electronics, software, sensors, actuators, and connectivity which allows these things to connect, interact and exchange data.

National Broadband Steering Committee – A multi-stakeholder body duly appointed by the Minister of ICT to oversee, coordinate and report

on the implementation of the BroadbandPolicy and its Implementation Action Plan.

National Broadband Task Team – A group of multi-stakeholders established to facilitate the development of the National Broadband Policy and Implementation Action Plan.

Public-Private Partnerships (PPP) - An approach to facilitate cooperation between the public and private sectors in delivering important Government Policy initiatives. PPPs can take various forms.

Sector - A distinct part of a market that can be described, categorized and targeted according to its own criteria and characteristics.

Small and Medium Enterprises (SMEs) - Smaller enterprises with an annual turnover of not exceeding N$10 million; these enterprises are fully owned by Namibian citizens.

OTT (Over-The-Top) - is a conceptual term that describes a scenario in which a telecommunications service provider delivers one or more of its services across all Internet Protocol (IP) networks, predominantly the public internet although sometimes telco-run cloud services delivered via a corporation's existing IP-VPN from another provider, as opposed to the carrier's own access network. It embraces a variety of telco services including communications (e.g. voice and messaging), content (e.g. TV and music) and cloud-based (e.g. computing and storage) offerings Universal Access (telecommunications) - Accessibility of a telephone, not necessarily in one's home, but through some means such as a public pay telephone or community resource centre providing telephone facilities. The objectives underlying the concepts are similar, to make available and maintain affordable communications services.

Universal access (postal) - Acceptable criteria used for defining postal service access standards which include among others: frequency of mail collection and delivery, post office opening times, the distance between post offices (average area covered) and number of inhabitants served by a post office.

Universal service - Service available, as far as possible, to all the people without discrimination on any basis with adequate facilities at reasonable cost; Licensees provides these services. Universal Access Service (UAS) - Universal access service aims to ensure individual ICT access and usage for all. Universal service for Namibia requires the near-ubiquitous provision of information and communications technology infrastructure, services and content to the overwhelming majority of individuals, households and businesses.

EXECUTIVE SUMMARY

As the world rapidly blends into a global village, connectivity and online presence become constant consumables and necessary ideals upon which national economies now lie. Progressively, the demands of the information society have made broadband a key enabler in pursuit of online presence and globalisation. Universal access to an affordable, quality and open broadband ICT infrastructure and services for all citizens is now a global pursuit. Broadband has the potential to make a positive contribution to socio-economic development of Namibia hence the need to develop broadband Policy.

Undoubtedly, as more and more traditional services become dependent on the internet, so does the role of broadband become more prominent. This critical role is acknowledged in Namibia's National Development Plans as further echoed in the Vision 2030 which acknowledges the exchange of technology and information throughout the world as a key globalization pillar. For a robust broadband ecosystem to be achieved, the linchpin comprising networks, devices, applications and users that hold the ecosystem together must be continually and harmoniously maintained in order to ensure that the mutually beneficial interrelationships are ever complementary. In an ecosystem characterised by distinct policies and practices for each constituent component within the system, the unity of purpose is ever important.

The National Broadband Policy is aligned with both National and Cross-Border commitments. These include Vision 2030, Fifth National Development Plan (NDP5), Harambee Prosperity Plan (HPP), Communications Act No: 8 of 2009, e-Government Policy for the Public Service 2005, e-Government Strategic Action Plan, IT Policy for the Public Service 2008, Overarching ICT Policy 2009, Universal Access Service Policy 2012, Telecommunication Policy 2009, Postal Policy 2009 SADC Guidelines for Development of Broadband Plans, SADC Integration Agenda, Broadband Commission. The success of this Policy will hinge on the governance of broadband, the alignment of the broadband projects to other national plans and goals, strategic focus on both the broadband supply and demand needs, the funding models available and deployed for broadband projects and initiatives, the broadband delivery models and objective measurement of progress through definition of targets, performance tracking and monitoring and evaluation.

This Policy which spans over a period of ten years covers the introduction; background and rationale; its alignment to national and cross-border commitments; and the generally accepted broadband definition. It also highlights the guiding principles; broadband pillars; key focus areas; success factors; advocacy and dissemination; and the roles of stakeholders and monitoring and evaluation which are critical to the implementation of this Policy. The Policy further sets the Policy direction which includes the Vision, Mission and Goal.

This Policy strives to achieve Four Policy Objectives which are aligned to Strategies and these are to promote universal access through the provision of broadband Infrastructure, availability of content, applications and innovation and capacity Building, creation for a conducive environment of broadband deployment awareness.

The success of implementing this Policy is underpinned by the following attributes: Governance of broadband; stakeholders' involvement, legal and regulatory framework resource mobilization. The Monitoring and Evaluation of this Policy call for a robust framework aligned with the National Development Plan (NDP) and Harambee Prosperity Plan. The National Broadband Steering Committee (NBSC) will be set up within three months after the approval of this Policy to oversee the implementation of this Policy and its IAP.

The Implementation Action Plan which spans over a period of Five years tabulates the alignment of the Strategic objectives; Strategies Outputs; Key Performance Indicators; timelines and targets; budget and responsibilities. In order to accommodate constant emerging ICT trends, the Implementation Action Plan will be reviewed after every five years and the Policy document after every Ten years. However, the Policy alignments can be effected throughout the implementation process if needs arise.

1. INTRODUCTION

The role of Broadband Services as an enabler of economic and social development in countries is widely recognized in various published empirical studies and in documents such as the report of the United Nations (UN) Broadband Commission. Universal Access to an affordable, good-quality and open broadband ICT infrastructure and services for all citizens will contribute to achieve developmental goals as outlined in the National Development Plans and Vision 2030.

Consequently, it is of primary importance for Policy-makers, regulators and the society at large to be aware of the positive effects offered by quality of broadband services in order to meet the basic needs of the households, communities, public entities and businesses in Namibia. ICT is both a stand-alone economic sector and an enabler of the other sectors of socio-economic development due to its cross-cutting nature. Further, access to ICT and the development of ICT related skills in the younger population are national imperatives in enabling Namibia's participation in a competitive global economy.

Broadband networks have been cited as offering the greatest opportunity to make rapid and solid advances in global social and economic development across all sectors. In the twenty-first-century therefore, broadband networks need to be considered as basic critical infrastructures like roads, railways, water and power networks. Indeed, countries that have harnessed the potential of ICTs have attained significant social and economic development; they are rapidly transforming into informed society and knowledge-based economies.

The broadband ecosystem will stimulate interaction amongst role players to provide incentives for further innovation and investment in broadband. Thus in 2014 the Broadband Commission for Sustainable Development in its annual report recommended that countries should aim at launching national broadband plans, monitor, review and update ICT regulations, reduce taxes and import duties on telecommunications/ICT equipment and services, acceleration of investment in Broadband infrastructure, enhancement of broadband demand services through new initiatives and local content and utilize the Universal Access Services Funds (UASFs) to close the digital divide.

The Government of Namibia has responded to these recommendations significantly and will continue to do so in order to create an enabling environment for the deployment of broadband for all Namibians. So far a number of Policies and regulatory initiatives including the Overarching ICT Policy of 2009, Universal Service Access Policy for Information and Communications Technologies (2013), and various regulations for the ICT sector, have been undertaken and this Policy is aimed at building on that foundation to move the country higher up in the universal broadband development.

1.1 Methodology

- Preparation of baseline data collection questionnaires to assess the status of broadband in Namibia, validation of the questionnaire, collection of data;
- Meetings between the ITU and the NBP Task Team to clarify expectations and process the development of the NBP and the IAP
- Face to face consultation with stakeholders to affirm the questionnaire's responses;
- Preparation of a draft fact-finding report and circulation to stakeholders for comments;
- Stakeholder consultation workshop to present the aims and methodology for the development of the NBP and the IAP;
- Preparation of the draft NBP and its IAP and circulation of the draft to stakeholders for comments;
- Face to face consultations with stakeholders to receive comments and clarify aspects of the draft;
- National Broadband Policy stakeholder's validation Workshop;
- Preparation of the final National Broadband Policy with further consultations and submission to the Ministry of ICT of the Republic of Namibia,
- Processing of the Policy and the associated IAP for approvals and adoption.

1.2 Organisation of the Broadband Policy

- Section one of this Policy provides the background and highlights the importance of broadband in ICT as an enabler of all sectors in Namibia, the rationale that includes national and cross-border commitments and the guiding principles that comprise of the broadband pillars.
- Section two includes the Policy direction by explaining the Vision, Mission, goal and Objectives.
- Section three indicates the Policy strategies and targets that are supported by the Implementation framework comprising of the ICT Policy Legislation, regulation and the sector development Plan.
- Section four outlines the collaboration between public and private for resources mobilisation, supported by the Monitoring and Evaluation (M&E).
- Section five addresses all the aspects of coordination of the implementation of the national broadband. The Policy document ends with the overall Policy review and conclusion.

2. BACKGROUND

According to Namibia Population and Housing Census Report (2011), Namibia is a vast country covering 824,292 sq. km s of land area with a population of about 2,113,077 million with Urban population is 43% and rural population is 57%. It borders the South Atlantic to the West, Angola to the North, Botswana to the East and South Africa to the South.

Affordability remains a serious challenge to the demand side of broadband services leading to low levels of adoption and use of broadband services in Namibia and in most countries in Africa, including those in SADC. The cost of entry-level for mobile broadband in SADC ranges from 1.8% to 126.4% of Gross National Income (GNI) per capita with only two SADC countries (Mauritius and South Africa) having achieved the UN target of 2% of GNI per capita. The barrier to broadband demand is a result of not doing the planning, consulting stakeholders, using data for evidence-based decision making, creating enabling environments for open access, infrastructure sharing, implementing mobile broadband where appropriate, developing and executing a robust monitoring and evaluation plan, providing shared access, and not being consumer-centric.

Since the essence of broadband deployment is to contribute to socio-economic development through the use of services by citizens, it implies that the factors that impact affordability and hence demand and use of broadband services should be addressed and incorporated in the National Broadband Policy, strategy and plans as a bare minimum. Consequently, besides the fact that this Policy has been developed through wide consultations with stakeholders, an action plan on the affordability of broadband services is included as a specific plan of action area in this National Broadband Policy.

Namibia enjoys over 100% mobile telephony penetration with about 70% of users accessing the Internet through various technology platforms and services offered by over 26 licensed telecommunication service providers in Namibia. Whilst 53% of the population has access to broadband. All licensees shall provide broadband services of an acceptable quality that is comparable to international standards for such services. Further, licensees shall ensure that their broadband systems (networks, devices and software) comply with international standards and are interoperable to ensure that there is seamless accessibility to broadband services across all networks. In this regard, CRAN shall prescribe the broadband service quality standard for all broadband licensees.

The fifth annual edition of the Alliance for Affordable Internet (A4AI) Affordability Report of 2018 indicates affordable internet to low- and middle-income countries are where 1gigabite of mobile broadband data is priced at 2% or less of average monthly income.

In response to the recommendations of the report of the Broadband Commission for Sustainable Development of 2014 for countries to develop their national broadband plans and review or update their ICT regulations with a view of bridging the digital divide, the SADC Ministers meeting responsible for Information and Communication Technologies was held in July 2015 directed the Member States to develop their National Broadband Strategies and Policies. In order to operationalize the Ministers' decisions, MICT secured technical support from the International Telecommunications Union (ITU) to develop the National Broadband Policy and its Implementation Action Plan. The purpose of this Policy is to provide a framework for a holistic development of Broadband in the Republic of Namibia. The Broadband Policy contains the targets which were adopted by the SADC Ministers for implementation by all SADC Member States.

3. RATIONALE

Broadband covers a host of technologies that connect users to the Internet faster than traditional telephone line dial-up connections. Higher connection speeds are required to take full advantage of rich online content. As the social and economic lives of citizens become increasingly digital, reliable and rapid, access to the Internet and its content has become essential. High-speed Internet is no longer seen as a luxury, but a basic infrastructure. Broadband is a foundation for economic growth, job creation, global competitiveness, and improved living conditions.

ITU Connect 2020 Agenda, aimed to connect half of the world population to broadband and Namibia is not exempted. The deployment of broadband requires a responsive framework that guides the role player to safeguard the elements of accessibility, quality and affordability of broadband. Thus the Ministry of ICT is developing the broadband Policy to deploy broadband in Namibia.

The objective of the National Broadband Policy is to bridge the digital divide by ensuring the whole population of Namibia will be provided with a broadband connection at competitive prices and according to industry standards. This Broadband Policy aims to respond to the need for a framework for a holistic development of Broadband in the Republic of Namibia which is universally available and affordable and would transform Namibia into a digital economy.

Broadband connectivity has made considerable progress in enabling a large part of businesses and citizens to participate in digital activities of different sorts. However, there is still a need for action until everyone is connected to sufficient broadband infrastructure. This is the reason why a common broadband strategy Policy is needed, defining aims and targets of broadband development and serving as a point of reference for strategies and policies.

The Policy is intended to guide the Republic of Namibia in the implementation of broadband for the benefit of all citizens. It applies to all ICT matters related to broadband including the mainstreaming and embedding of broadband into all sectors of Namibia's economy.

3.1 Broadband definition for Namibia

The minimum download speed of 2Mbps as a broadband entry level, which shall be reviewed with the aim to increase the download speeds as per country basis in line with targets contained in the broadband plan. The definition of broadband coverage includes geographical and population coverage for telecommunication networks and coverage of the population for broadcasting. Specifically, and for the purpose of this Policy, broadband is defined to mean a minimum of 2 *Mbps download speed available to 80% of the population.*

4. ALIGNMENT

The Broadband Policy is aligned to complement the following aspirations:

4.1 National Policies and Regulatory Framework

4.1.1 Vision 2030 for the Republic of Namibia

The Namibian Government's Vision 2030 stipulates that ICT must be the most important sector in the economic development of the country by 2030.

4.1.2 Fifth National Development Plan NDP5 (2017-2022)

Outlines a development strategy to improve the living conditions of every Namibian. It will ensure that Namibia has universal access to information, affordable communication and technology infrastructure and services.

4.1.3 Harambee Prosperity Plan (HPP) (2016/17 - 2019/20)

Is a targeted Action Plan to accelerate development in clearly defined priority areas, it ensures that the following ICT targets are met, Broadband Infrastructure Development, Ensuring Accessibility and Affordability of Broadband. Promote e-services and innovations and Confidence and security of the broadband network.

4.14 e-Government Policy for the Public Service (2005)

The use of Information and Communication Technologies in public administration, combined with organizational change and new skills, in order to improve public and democratic processes and strengthen support to public policies.

4.1.5 e-Government Strategic Action Plan (2014 – 2018)

The e-Government Strategic Action Plan for the Public Service of Namibia, therefore contains and defines the details of the GRN's comprehensive five-year plan to transform its delivery of information and services through e-Government.

4.1.6 Revised IT Policy for the Public Service (2017)

The purpose of this document is to set out the Information Technology Policy for the Republic of Namibia.

4.1.7 Overarching ICT Policy 2009 (OICTP 2009)

The purpose of this document is to set out the Overarching Policy in the context of the convergence of Telecommunications, Broadcasting, Information Technology, and Postal sectors for the Republic of Namibia.

4.1.8 Universal Service and Access Policy (2013)

Seeks to promote an enabling environment within which regulatory authorities and operators can interact to achieve telephony and broadcasting service and promote Internet and broadband access to the nation.

4.1.9 Communications Act No: 8 of 2009

Provide for the regulation of telecommunications services and networks, broadcasting, postal services and the use and allocation of radio spectrum; for that purpose, the establishment of an independent Communications Regulatory Authority of Namibia.

4.2 Regional framework

4.2.1 SADC Integration Agenda Promotion of sustainable and equitable socio-economic growth.

This will be achieved by having proper and affordable broadband services readily available to communities. Promotion of common political values especially among the populations who can access relevant information more readily and thus participate in political decisions, promotion, consolidation and maintenance of democracy, peace and security. These can be assured through a proper policy and regulatory framework which allow for deployment and use of broadband services in these key areas of human development.

4.2.2 SADC Guidelines for Development of Broadband Plans

Aims to strengthen and harmonise policy and regulatory frameworks for the integration of African telecommunication/ICT markets.

4.3 International Framework

4.3.1 Broadband Commission for sustainable development

The Commission was created in May 2010 by the International Telecommunication Union and the United Nations Educational, Scientific and Cultural Organization in Geneva, Switzerland, to promote Internet access, in particular, broadband networks in order to help achieve United Nations development goals, and as the Millennium Development Goals. The Broadband Commission further aims to promote the adoption of broadband friendly practices and policies to spread the benefits broadband Internet can offer and ensure that broadband Internet technologies accelerate progress towards meeting the Sustainable Development Goals (SDG).

5. GUIDING PRINCIPLES

Broadband in Namibia has surpassed viewing of television, surfing the internet, and basic telephony services. It will facilitate new forms of communication and mass collaboration through the virtually unlimited potential for sharing of information, storage capacity, processing power, transmission and access all made possible through high bandwidth connections.

The following key principles will guide the implementation of the Broadband Policy and its IAP, based on international and regional benchmarks.

- Ensure equitable access to broadband for all Namibians irrespective of geographical location, gender, age among others (Universal access and usage of ICTs).
- Facilitate the adoption of a wide variety of technologies as long as they are affordable, interoperable, re-source efficient and contribute to socio-economic transformation.
- Promotion of Broadband for socio-economic development in the application of e-services in all sectors of the economy.
- Development of the ICT industry by promoting investment and innovation.
- Ensure that Namibia approaches and implements broadband initiatives in harmony with other national development programmes and regional frameworks.
- Facilitate the development and rollout broadband infrastructure and services that respond to the dynamic nature of the economy.
- Realize the critical mass in terms of human, technological and financial resources necessary for effective deployment and usage of broadband infrastructure and services (Capacity Building).

6. POLICY DIRECTION

6.1 Goal

- This Policy aims to achieve reliable and affordable broadband access infrastructure services for all.

6.2 Mission

- To create an enabling environment for universal access to broadband infrastructure.

6.3 Vision

- An informed ICT smart Namibia with access to quality and affordable broadband connectivity.

7. BROADBAND POLICY OBJECTIVES (PO) AND STRATEGIES

In order to implement universal broadband in the Republic of Namibia, the following Policy objectives will be pursued to achieve the broadband targets, through its strategic action areas on the measures and commitments needed to fully leverage the potential of broadband and ICT for sustainable development.

Below are the Broadband Policy Objectives with their Strategies:

PO1 To ensure universal access to broadband Infrastructure and services

- provide quality and affordable broadband countrywide

PO2 To promote the development of content, applications and innovation

- Enable the use of e-application in government and other sectors of the economy to improve service delivery

PO3 To support efforts aimed at capacity building, create awareness and reducing the digital divide

- Drive demand and stimulate public and private sector innovation and investment
- Improve digital literacy
- Promote the continued development of the broadband ecosystem

PO4 To provide an enabling environment for broadband deployment,

- Create an enabling Policy, legislative and regulatory environment for broadband deployment.
- Promote consumer protection through appropriate regulations

8. IMPLEMENTATION FRAMEWORK

Conversantly, the success of all broadband initiatives depend on an appropriate Policy implementation framework.

8.1 Institutional Framework for Implementation of Broadband

The broad framework for the development of broadband comprises of governance, implementation, financing/ investment, and demand and supply of broadband.

8.2 Roles of Stakeholders

There are various stakeholders who shall play important roles in the implementation of this Policy. The following are the key roles of stakeholders with regard to the implementation of the NBP and its IAP.

8.2.1 Ministry of ICT

- To monitor the implementation of the Policy and its Implementation Plan and their review theoreof.

8.2.2 Communication Regulatory Authority of Namibia (CRAN)

- To draft and ensure implementation of Regulations are in line with the NBP.

8.2.3 National Planning Commission (NPC)

- To evaluate the effectiveness of National Broadband Policy in collaboration with MICT and other relevant stakeholder
- To coordinate the development and revision of socio-economic policies related to broadband

8.2.4 Licensees

- To provide broadband services of acceptable quality and at affordable prices;
- To provide consumer education;
- To be part of the development of the demand side of the broadband ecosystem not only the supply side;
- To support the development of content and e-applications.

8.2.5 Office of the Prime Minister (OPM)

To coordinate broadband roll out in all O/M/As and provision of e-services to enable the implementation of e-government.

1.1.6 Consumers Lobby group and Civil Society

- To articulate consumers' concerns with regards to the acceptable and quality of broadband service and advocate for consumer protection.

1.1.7 Namibia Chamber of Commerce (NCCI)

- Create an atmosphere for its members to promote continued development of broadband ecosystem through investments.

8.2.8 NAMIBIA POST LIMITED (NAMPOST)

- Establish collaborations and use post offices as community access points for broadband.

1.1.9 Ministry of Mines and Energy

- Expand the electricity supply infrastructure to rural areas to enable Internet router or modem device switched-on around the clock.

1.1.10 Ministry of Education

- Improve the efficiency of educational administration and management at every level from the classroom, school library, through the school and on to the sector as a whole.
- Broaden access to quality educational services for learners at all levels of the education system.
- Ensure availability of broadband in schools

1.1.11 Academia

- Foster ICT innovation as well as Research and Development.

8.3 National Broadband Steering Committee (NBSC)

In order to implement this Policy, a multi-stakeholder National Broadband Steering Committee (NBSC) charged with overseeing and coordinating the implementation of the Broadband Policy and its Implementation Action Plan. The NBSC shall be set up within three months after the approval of this Policy. The NBSC to be appointed by the Minister of ICT of the Republic of Namibia shall have membership from government various sectors, this includes key intuitions comprising, the ICT regulator (CRAN) and representatives of key ICT stakeholders from the public and private sector. Specifically, the NBSC shall comprise Ministry of ICT, OPM, CRAN, Ministry of Education, Ministry of Mines and Energy, one representative of the ICT licensees that are providing broadband services, Namibia Chamber of Commerce and Industry (NCCI), NamPost, a representative of the academia, Consumers Lobby group and Civil Society.

Once set up, the NBSC shall determine the mode of operation consistent with the objects of the NBP and the Implementation Action Plan in their first meeting which should be held not later than one month after the approval of this Policy. The NBSC shall also establish task teams to deal with and report to it on a quarterly basis on each of the broadband Policy pillars.

8.4 Governance of broadband

This involves the manner in which broadband issues are being managed and their oversight for the orderly development of broadband. The Government of Namibia shall ensure the following key functions of broadband governance:

- Control for the programme in the Policy by ensuring that all interests are aligned and that all responsibilities and accountability points are in place and tracked;
- Monitoring delivery which involves managing the risk and ensuring that the National Broadband Implementation Action plan (IAP) is delivered according to schedule, budgets and objectives.

8.4.1 Linkages and Collaborations for broadband Implementation

This aspect means the mode of execution or how broadband is being/should be put into operation by focusing on institutions (and stakeholders) involved in the actual implementation. To this end, the government shall promote collaboration, linkages and cooperation across all sectors with regard to broadband development and usage. Further, the Government will ensure that each institution charged with the delivery of various aspects of broadband effectively executes its mandate through a monitoring and evaluation mechanism.

8.5 Legal and Regulatory Arrangement

The Policy, legal and regulatory objective is to facilitate reform in laws, policies and standards that create an enabling broadband environment and harmonizing relevant laws to ensure legal sufficiency and a competitive broadband environment. In this regard, a number of legal and regulatory interventions focusing on the complete scope of the broadband ecosystem will be implemented in order to realise the vision and mission of this Policy.

These interventions are as follows:

8.5.1 Demand Side of Broadband

To stimulate the demand for broadband the government will promote content development, e-applications and innovations, ICT training, and creation of awareness regarding the benefits and safe use of broadband services.

8.5.2 Supply Side of Broadband

In order to implement the supply side of the broadband, various initiatives including the deployment of appropriate ICT and related technologies, ensuring the security of networks, services and users; and guidelines to support broadband shall be developed and implemented.

These include:

- Updated Broadband Spectrum Plan guidelines in line with the ITU, World Telecommunication Conference (WRC) outcomes;
- Infrastructure Sharing Regulations (based on the SADC framework);
- License-Exempt Spectrum Regulations (also based on SADC guidelines);
- Adaptation of SADC Guidelines for Development of National Broadband Plans

8.6 RESOURCE MOBILISATION

8.6.1 Investment in Broadband

Broadband infrastructure is capital intensive which will require hi-tech investment over its implementation period, however Government alone cannot sustain such investment, therefore PPP is envisaged to mobilise resources. The deployment Broadband includes the following goods and services: Optic fibre based solutions, Mobile wireless, Fixed wireless, Satellite systems and powerline communication infrastructures. The envisaged ICT infrastructures across Namibia in broadband-based technological objectively support the deployment of broadband services.

Beside proper governance, which will be ensured by the Government of Namibia, financial resources and effective delivery mechanisms are also required and will be ensured under the leadership of the Ministry of ICT. Since investment can be by the government (public), private sector (commercial partners/sources) or through PPPs, it is important to have in mind the business case implied by these investments because the private sector needs a fair return on investment, thus a requisite governance structures for PPPs.

The key stages in governance which shall be followed in the implementation of this Policy will include:

- Definition of strategy
- Stakeholder consultation/alliance
- Funding arrangements
- Ensuring delivery mechanism
- Execution/implementation framework with a focus on timelines and deliverables including penalties for none compliance or late delivery
- Value for money and fulfilment of objectives through a robust responsibility; and
- Accountability for monitoring and evaluation on the basis of clear targets.).

In this regard, the Government will implement PPP as one of the investment mechanisms for broadband in addition to other investment vehicles.

8.6.2 Financing of Broadband

This relates to the modes through which broadband development receives funding from various sources of funds including investment both by the government and private sector.

8.6.2.1 By private sector

- Since the ICT sector in Namibia is liberalized and that this process is ongoing, the financing of broadband shall be predominantly done by the licensees who shall invest in broadband in line with their licenses and the accompanying license conditions that shall be stipulated by the Communication Regulatory Authority of Namibia.

8.6.2.2 By Government

- Besides this private investment and in the framework of "provision of basic broadband infrastructure to stimulate demand and uptake of broadband services", the government shall set minimum targets and fund initiatives for broadband services in the following areas: Schools, Hospitals, Police stations, Connection of constituencies and O/M/As.

8.6.2.3 Through Public-Private Partnerships (PPP)

While the private sector will play a crucial role in broadband development, supportive Policy and good governance are essential for the success of broadband deployment and take-up. However, when such deployments do not offer sufficient returns for private investment, public funds shall be mobilized through public-private partnerships (PPP). To this end, the Ministry of ICT will work together with the Ministry of Finance to operationalise the PPP arrangements in broadband development. Ultimately, the sale of broadband capacity under the PPP should be open, transparent and non-discriminatory to avoid the distortion of the associated market.

8.6.2.4 Incentive regulation

This will be done by simplifying licensing regimes, making available more spectrums while taking into consideration national goals, scarcity and the imperative to efficiently use of spectrum by licensees; and CRAN obligations.

8.6.2.5 Other financing mechanisms

The other modes of financing broadband envisaged in the Policy will be as follows:

- supplier credit,
- grants and loans from development partners; and
- Build Operate and Transfer (BOT)
-

8.7 Monitoring and Evaluation Framework and Reporting

In Order to realise the Goals and Objective of this Policy, robust framework for monitoring and evaluation (M&E), and reporting which addresses all the aspects of coordination of the implementation of the national broadband Policy and the IAP is put in place, thus the goals of the Policy will be realized.

In this regard, a comprehensive M&E programme is provided to guide the implementation of this Policy. The M&E for this Policy will follow the IAP monitoring framework. The results of the M&E will be used in the program and overall Policy reviews. Besides the programs, measurements will also be made on the Policy targets including on quality of services. Specific strategies and actions are developed and will be monitored by the NBSC and measured on a predetermined basis within the Policy period.

8.7.1 Policy Review

Owing to the dynamism of the information age, it is essential to ensure that this Policy is reviewed and updated on a regular basis so that it adequately addresses and responds to current and emerging trends. This should be a progressive commitment involving all the stakeholders. Under the OICTP 2009, it is proposed that the Ministry of ICT establishes mechanisms for the collection of relevant information from the Authority, the operators and other stakeholders through which information on relevant issues, trends and other matters that may affect the ICT sector shall be identified and thereafter be utilized for periodic reviews of this Policy.

Consequently, the approach to the review of this Policy will follow the same process of collecting relevant information on broadband indicators from stakeholders in the framework of the monitoring and evaluation, and reporting that is part of this Policy document. There will, therefore, be quarterly individual project reviews, an annual review of programmes for each Policy objective, bi-annual reviews of the Policy and a comprehensive Policy review after five years. Specifically, there will be a bi-annual programme review for each broadband pillar, bi-annual Policy implementation review against all targets and comprehensive Policy review in the fifth year against the National Development Plan (NDP). Overall the Implementation Action Plan will be reviewed after five years and the Policy document after 10 years but amendments can be carried out through the implementation process if the need arises. The NBSC shall set the parameters for these reviews during the first three months of the promulgation of the Policy.

8.8 Advocacy and Dissemination

For the full benefits of this Policy to be realised, an active and robust communication strategy must be in place. Extensive awareness will arm the people with the information and willpower to drive the objectives of this Policy. To this end, the trickle-down of information from the formulators of the Policy starting with the Ministry of ICT to implementers of the Policy to the final consumers must be pursued. This will ensure that the end users of broadband products and services are informed and therefore capable of contributing to the improvement of this Policy through public participation for example. Proper outreach of this Policy will ultimately entail rollout of tailored approaches that are aimed at disseminating the Policy objectives and direction to the various cadres of society from children, to the less educated, to those living with disabilities, to the unconnected, the under-served, the donors, the Policymakers and all other stakeholders. An all-inclusive approach will ensure that the strategies to be adopted are customized to meet the respective needs of the cadres targeted.

Curriculum review, basic and simple interpretation, awareness creation, capacity building, electronic media advertisement including indigenous languages outreach may serve as fitting modes of outreach. Print media is also useful especially in reaching out to potential donors.

9. CONCLUSION

This Policy has captured the aspirations of the Namibians as part of the global information society. The Policy direction and objectives envisioned, have highlighted the destination to which, as a people, it is aimed towards with the implementation action plan detailing the roadmap upon which this voyage is to be charted. Once approved, the mandate of implementing this Policy will be activated. With various stakeholders involved, tremendous commitment required and an active desire to see this process to its successful destination, the journey ahead holds the promise of Namibians as a people steadily striding towards digital inclusion the progress of which will be underpinned by a robust monitoring and evaluation process through which performance indicators, the gains made, the obstacle encountered and the adjustments calling will be elaborated. As we set sail, therefore, we so do with confidence that the course has since been chartered in the form of this broadband Policy and all that is left is steering the ship.

The status of the broadcasting subsector is presented in Box IV-1 (Regulator Perspective) and Box IV-2 (Operator Perspective)

Appendix 1: Questionnaire used to gauge information on the coverage of Broadcast Services in Namibia

Box IV-1: Regulator Perspective

Please provide YES/NO response to the following statements. If NO, please provide a brief explanation such as the extent of coverage (as at present), a statement on quality (as either Poor, fair or Good), content (as irrelevant, somewhat relevant, relevant etc.)

1. Entire Namibia is able to receive countrywide radio coverage **(YES/ NO)**
   ± 80% population coverage
2. Entire Namibia is able to receive countrywide TV coverage **(YES/ NO)**
   ± 70% DTT population coverage
3. Entire Namibia is able to receive a good signal quality of radio broadcasting services countrywide **(YES/ NO)**
   ± 80% population coverage
4. Entire Namibia is able to receive good signal quality of television broadcasting services countrywide **(YES/ NO)**
   ± 70% DTT population coverage, subscription-based satellite television is expensive
5. Entire Namibia is able to receive a variety of relevant Radio channels countrywide **(YES/ NO)**
   ± 80% population coverage
6. Entire Namibia has a countrywide variety of relevant radio content **(YES/ NO)**
   80% population coverage
7. Entire Namibia is able to receive a variety of relevant TV content countrywide **(YES/ NO)**
   70% population coverage by the public broadcaster, subscription satellite TV is expensive
8. All Namibians are able to receive affordable radio services in all parts of the country **(YES/ NO)**
   80% population coverage
9. All Namibians are able to receive affordable TV services in all parts of the country **(YES/ NO)**
   70% population coverage by the public broadcaster, subscription satellite TV is expensive
10. The migration from Analogue to digital TV has been completed **(YES/NO)**
    ITU requirements met, but still expanding coverage
11. All citizens of Namibia have access to affordable digital TV decoders **(YES/NO)**

The status of broadcast services from an operator's (Namibia Broadcasting Corporation) perspective is presented in Box IV-2

Appendix 2: Broadband Delivery Strategy and National Imperative to Succeed

Box IV-2. Operator Perspective

Excerpt of a survey on the Namibia broadcasting subsector where a YES or NO response was requested followed by a brief explanation

1. The entire Namibia is able to receive countrywide radio coverage **(NO)**

   Only 78% population coverage on FM

2. The entire Namibia is able to receive countrywide TV coverage **(NO)**

   Only 76.7% TV coverage once all analogue transmitters migrated to DTT, 93.2% DTT coverage if all planned new sites are implemented.

3. The entire Namibia is able to receive a variety of relevant Radio channels countrywide (**NO)**

   The Namibia Broadcasting Corporation (NBC) broadcasts in 10 languages, but not all languages cover all areas (depends on population distribution).

4. The entire Namibia is able to receive a variety e of relevant TV channels countrywide (**NO)**

   All areas covered by DTT will receive all channels carried by the Namibia Broadcasting Corporation (NBC) (see coverage in 2. above)

5. The entire Namibia has countrywide variety of relevant radio content **(YES/ NO)**

   Radio content is relevant countrywide, but coverage is not 100%.

6. The entire Namibia is able to receive a variety of relevant TV content countrywide **(YES/ NO)**

   TV content is relevant countrywide, but coverage is not 100%.

7. All Namibians are able to receive affordable radio services in all parts of the country **(YES/ NO)**

   Radio services are affordable, but coverage is not 100% of the population.

8. All Namibians are able to receive affordable TV services in all parts of the country (**NO**)

   (a) TV coverage is not 100%, (b) not all Namibians have electricity, and (c) not all Namibians can afford a TV set.

9. The migration from Analogue to digital TV has been completed **(YES/NO)**

   DTT coverage is over 70%, not all analogue sites migrated due to financial limitations.

10. All citizens of Namibia have access to affordable digital TV decoders **(YES/NO)**

    The decoders are heavily subsidized, selling for N$ 199 each and half-price for pensioners and other special categories. However, even at that price, there may be citizens unable to afford a decoder, but then they probably would not have been able to afford a TV set either.

From the findings presented in Box IV-1 and IV-2, it is clear that there is still work to be done to ensure that all Namibians receive quality and affordable broadcast services. There is also concurrence between the Authority and the operator on the extent of coverage of the broadcasting services.

The key to the success of the broadband strategy is a national imperative to succeed – a shared vision and sense of urgency to ensure that the strategy is successfully implemented. A national imperative to succeed and programme management perspective is necessary for the effective delivery of broadband. This focus will be guided by effective governance which has a national imperative to succeed and program management discipline.

The national imperative to succeed must be visible to citizens from the political side as evidenced by leadership, role modelling, and demonstrated commitment by the NBSC. Further, success can only be realised by proper planning, since 60% to 90% of challenges can be addressed with proper planning/reviewing the National Broadband Policy.

Programme Management Perspective

This perspective will be adopted to avoid confusion in governance which can lead to delays, frustration and cost overrun. The programme management perspective is necessary because each programme under the NBP (such as e-health programme) will have specific projects which need to be coordinated. The deployment of broadband through projects with a focus on the services that will be delivered (starting with the user) is crucial; some of the priority areas to be addressed in the broadband plans are:

- Universal education including implementation of virtual classrooms;
- Delivering health to rural areas including mobile health, telemedicine etc.;
- Broadband in agriculture and livestock;
- Promotion of broadband targeting various segments namely household, business, schools, public sector and government;
- Homeland security and
- Transportation including smart transport.

Demand Side of Broadband

Further, the delivery of broadband strategy shall focus on the demand side of broadband as follows:

- Development of e- applications, and creation of local content and ensuring the sustainability of these initiatives by providing funding and demonstrating a business case to justify the funding;
- Pricing and quality of broadband services to ensure that it is not a barrier to the uptake of broadband services – this involves addressing the affordability of broadband;
- Equipping the citizens with e-skills through training and education to improve ICT literacy including deliberate and targeted literacy programmes for the people Born Before Computers (BBC) – the elderly people. This is underestimated in most cases but is critical for the adoption of broadband service usage hence the need to invest in this area as part of the broadband projects.

The Supply side of Broadband

As part of the delivery of NBPs, Policy actions on the following issues relevant to the supply side of broadband should be taken:

- The opening of vertically integrated markets;
- Technology and service neutrality in the licensing/authorization of the deployment of broadband and promoting Over-The-Top (OTT) IP based services by providers who do not own the network;
- Availing spectrum for rural expansion
- Fiscal support and funding such as grants, and loans based on a robust 'business case' to justify the investment/funding;

Closing the broadband gap by facilitating the connection of rural areas. This will be promoted through incentives for stakeholders to invest in rural areas. The incentives can be in the form of government targeted funding as initial or 'seed capital', or tax incentives to encourage investors into these areas.

Appendix: 3 Affordability of broadband

Obstacles to broadband diffusion

Research on the variables affecting broadband diffusion is quite extensive. For example, Hauge and Prieger (2010) point out that income, educational level of the head of household and household age composition are the main predictors of broadband adoption. Other studies mention variables that are more specific to countries or regions. Navarro and Sanchez (2011, quoted in http://broadbandtoolkit.org/6.8.2) indicate that, *ceteris paribus,* gender is a strong predictor in Latin America, where females are 6% less likely to adopt broadband. At the highest level of analysis, the residential broadband demand gap is the result of three obstacles:

(1) Limited affordability where certain portions of the population either cannot acquire a device or purchase the subscription needed to access the Internet;

(2) Limited awareness of the potential of the service or lack of digital literacy; and

(3) Lack of relevance or interest: the value proposition of applications, services, and content does not fulfil a need of the adopting population

Each of these three obstacles is driven by one or a combination of four structural variables:

(i) **Income levels**: the socio-demographic group, measured by income, does not only influence the affordability barrier, but is also correlated with limited awareness and lack of relevance

(ii) **Education levels**: the education attained by the potential user influences the degree of digital literacy and is related to interest in accessing the Internet.

(iii) **Age**: similarly, the age variable is inversely related to digital literacy and content relevance

(iv) **Ethnicity**: as a result of linguistic and/or cultural factors, ethnic group belonging can impact the level of interest in accessing the Internet

Limited affordability

Affordability remains a serious challenge to the demand side of broadband leading to low levels of broadband usage. It is a barrier to broadband demand as a result of **not doing** the following: planning; consulting stakeholders; using data for evidenced -based decision making; creating enabling environments for open access, infrastructure sharing, implementing mobile broadband; developing and executing a monitoring and evaluation plan; providing shared access; and not being consumer-centric. The specific factors affecting the use of broadband are high retail prices, high wholesale prices and lack of transparency; and lack of local broadband ecosystem (such as content) in most SADC Member States.

Achieving affordability is therefore approached by assessing the broadband demand gap. This process begins by measuring the demand gap, namely *what percentage of the population can purchase broadband yet still do not?* Once this gap is quantified, it is necessary to understand the causes of this so- called "market failure." It could be because a portion of the **population cannot afford** to purchase a subscription at current prices; or because they **lack the necessary digital literacy** that allows them to access the Internet. It could also be that while potential users have a computer (or comparable device), they **cannot find any online content, applications, or services** that would motivate them to purchase broadband service.

Broadband cost as a percentage of income

In order to further illustrate the nature of affordability problem, the cost of broadband as a percentage of an individual's income varies widely across the world and within countries in Africa. Its impact on the affordability of broadband is a major factor in the demand for broadband in SADC, Africa and elsewhere in the world which should be addressed.

The components that determine the total cost of ownership of the technology comprise device acquisition and other one-time costs, service subscription retail pricing (with multiple sub-components), and service taxation. These components serve as the basis for the potential policy initiatives addressing the broadband affordability obstacle.

Consistent with the definition of the elements of the broadband ecosystem elucidate three key elements that comprise its internet (also referred to as) ecosystem, namely: Applications and content; Devices and Networks. Besides these three elements, a reliable power supply is critical for the development of broadband; it should be treated as an integral part of the deployment of the broadband policy.

Appendix 4: Status of Broadband ICT in Namibia

This Section highlights the overview of the Namibia ICT Sector

The Fifth National Development Plan (NDP5) highlights the following challenges for the ICT sector in Namibia which are yet to be addressed -

- Lack of modern ICT Infrastructure in rural areas
- Lack of understanding of the relevance of ICT which results in low resource provision and usage of available ICT capacity
- Limited internet access at public facilities in rural areas
- Insufficient electricity in rural areas
- Low capacity and expensive telecommunication networks
- Poor quality of service

- Inadequate capacity (human and financial resources) to implement projects that may already have been formulated
- High import taxes on ICT equipment and high fluctuations in exchange rates which further push the cost of imported equipment higher and this is impacting affordability
- The high unit cost of rolling out to a vast geographical area

ICT Baseline Data

The following are the present baseline data on ICT in Namibia:

- Namibia established the West Africa Cable System (WACS) connectivity in 2011;
- There are 140 Post Offices countrywide;
- Telecom Namibia has laid about 7755 Km fiber optic cable across the country
- Currently, the Government has established 26 Semi Multi-Purpose Community Centers (MSCC) across the country;
- There is only one (1) Point of Presence (PoPs) for access to the public service information.
- There are 342 FM transmitters, 57 TV transmitters and 36 studios.
- Telecom Namibia has established 193 base stations / PoPs for Broadband Coverage.
- MTC has established 661 active base stations / PoPs for Voice and Data connections, of which 221 are providing broadband (>1mbps) data services.

Broadband Specific Challenges

Besides the sectoral level challenges that face the whole of the ICT sector in Namibia, there are broadband specific challenges which include:

- The Right of Way, co-siting and sharing of infrastructure; including approval processes with local authorities
- Regulation and taxation regime
- Vandalism of infrastructure
- Investment and funding for broadband
- Affordability
- Coverage and access to broadband
- The rate of exchange uncertainty which results in high cost of imported equipment
- Spectrum management and use.

Implementation of Broadband in Namibia

The Government of Namibia recognizes the need to be part of the global information society as contained in the Overarching ICT Policy of 2009 (OICTP 2009).

During extensive consultations on the development of Broadband Policy and Implémentation Action Plan (IAP), that involved meetings with national officials, interviews with licensees and multi-stakeholder's consultation (Windhoek October 29, 2015), the curent status of Broadband in Namibia is summarised as follows:

(i) Limited Broadband Access in rural areas ;

(ii) Poor quality of service experienced by users in urban and rural areas

(iii) Highly priced broadband services ;

(iv) Inadequate ICT skills among service providers and the general public to deploy and use broadband services respectively ;

(v) Inadequate quality of service where, in most cases, the broadband capacity received by the customers is much lower than advertised by the service providers ;

(vi) Need for more enhanced governance and institutional capacity to coordinate the implementation of national ICT programmes in government and in all sectors of the economy ;

(vii) Lack of legislation on cybersecurity to ensure confidence and security in the use of online services

(viii) inadequate investment in broadband due to high- profit orientation by current licensees and potential investors;

(ix) inadequate content, applications and innovations in/for Broadband.

Broadcasting in Namibia

The TV broadcast coverage is currently below 80% of the population and will improve to 93.2 % DTT coverage if all planned new sites are rolled out. Similarly, only 78 % of the population is covered by FM broadcasting. Further, not all Namibians are able to receive affordable TV services in all parts of the country due to the fact that: (a) TV coverage is not 100%, (b) not all Namibians have electricity, (c) not all Namibians can afford a TV set. This situation points to the need for policy interventions on coverage, electricity supply and affordability.

Barriers to broadband deployment among broadcaster operators

From a Broadcaster point of view, the major barriers to the deployment of broadband service by Broadcasters are-

(i) Lack of existing infrastructure;

(ii) Network deployment capital cost issues. Specifically, if a Broadcaster is not able to readily access commercial financing institutions for extension of broadband to last mile customers because although loans are available, the cost is high. Further, it is not difficult for broadcasters to receive licenses for broadband roll-out if the business case and expertise are in place.

Affordability of Broadband

The findings of a study leading to the development of this policy revealed that cost (hence affordability) to enter for a potential consumer is a barrier to the diffusion and uptake of ICTs – and by extension broadband - in Namibia.

Affordability of broadband services is a crucial demand side consideration for broadband. For example, at the highest level of analysis, the residential broadband demand gap is the result of three obstacles: (1) *Limited affordability* where certain portions of the population either cannot acquire a device or purchase the subscription needed to access the Internet; (2) *Limited awareness of the potential of the service or lack of digital literacy*; and (3) *Lack of relevance or interest* where the value proposition of applications, services, and content does not fulfil the need of the adopting population.

Each of these three obstacles is driven by one or a combination of four structural variables:

(i) **Income levels**: the socio-demographic group, measured by income, does not only influence the affordability barrier but is also correlated with limited awareness and lack of relevance;

(ii) **Education levels**: the education attained by the potential user influences the degree of digital literacy and is related to interest in accessing the Internet;

(iii) **Age**: similarly, the age variable is inversely related to digital literacy and content relevance; and

(iv) **Ethnicity**: As a result of linguistic and/or cultural factors, ethnic group belonging can impact the level of interest in accessing the Internet. It is acknowledged that Namibia is a multi-ethnic society and that some content may not be in a language understood by other communities hence the need to ensure that there is appropriable local content for all Namibians irrespective of their age, gender, ethnic community and physical ability.

This NBP addresses this demand side variable with specific policy actions (Appendix I) to ensure that the cost of broadband to a user is within 5 % of the Gross National Income (GNI - being monthly disposable income) by 2020; and that barriers related to demographic factors are also addressed through education and creation of awareness of the potential and benefits of broadband.

Enablers of Broadband Deployment in Namibia

A summary of the survey of the status of the environment created by the government to support broadband deployment in Namibia is presented in Table 1 while the situation with regard to creating confidence and security online, ICT skills and applications and content are also presented.

Enabling broadband deployment in Namibia

Table 1 indicates on a scale of 1 to 5 the extent of to which the Government of Namibia is ready to deploy broadband by examining its ranking on eight enablers of broadband.

Table 1. Enablers of Broadband Deployment in Namibia

No	Status of the broadband ecosystem	(1) Not yet considered	(2) Considering the Act	(3) Have plans in place	(4) Implementing the action	(5) Fully implemented the action
1	Launching national broadband plans		X			
2	Monitoring, reviewing and updating ICT regulations				X	
3	Promoting education for all including the use of broadband as well as the skills and talents necessary for broadband		X			

4	Reduction of taxes and import duties on telecommunications/ICT equipment and services	X				
5	Acceleration of investment in Broadband infrastructure	X				
6	Enhancement of demand for broadband services through new initiatives and local content	X				
7	Engaging in on-going monitoring of ICT developments					X
8	Utilizing Universal Service Funds (USFs) to close the digital divide		X			

Source: Baseline Survey of Broadband in Namibia (2015 October)

From Table 1, there is a need for Namibia policy makers to prioritise fiscal incentives such as tax reduction on telecom network, broadcasting and ICT user equipment, accelerating of investment in broadband such as through competition, setting up of universal service access fund, enhancing demand for broadband and promoting education for use of broadband to all citizens of Namibia.

Confidence and Security Online

In order to build confidence and security online the Government of Namibia has drafted relevant laws which are yet to be enacted. Therefore, though relevant Bills have been drafted, there are no laws at the moment to ensure confidence and security in/of online transactions and services; and for protection of vulnerable members of the Namibia society such as children.

Applications and Content

With regard to applications and content, there exists a Technology Park and ICT incubation center (s) in Namibia namely the University of Science and Technology of Namibia (NUST) which needs enhancements to serve as a fully-fledged Technopark and ICT incubation center. This notwithstanding, there is no adequate local content for use by citizens for socio-economic development. This situation is an indication of the urgent need to develop relevant broadband content and applications.

Skills and Centers of Excellence

A baseline survey with regard to the adequacy of ICT (and broadband) skills revealed that there are no adequate ICT skills in Namibia. Specifically, there is a lack of training in technical skills at certificate and diploma level, whilst there is limited graduation of IT students at degree level. Further, the available ICT skills are not equitably distributed throughout Namibia. The ICT skills are largely limited to the capital of Namibia, Windhoek.

ICT Industry in Namibia

Though the ICT industry is fairly well developed in Namibia in terms of provision of ICT enabled services, it is under-developed in terms of (1) manufacture of ICT devices, (2) software development, and (3) development of applications. There is thus great potential for the development of the industry to fill these gaps by innovators and investors.

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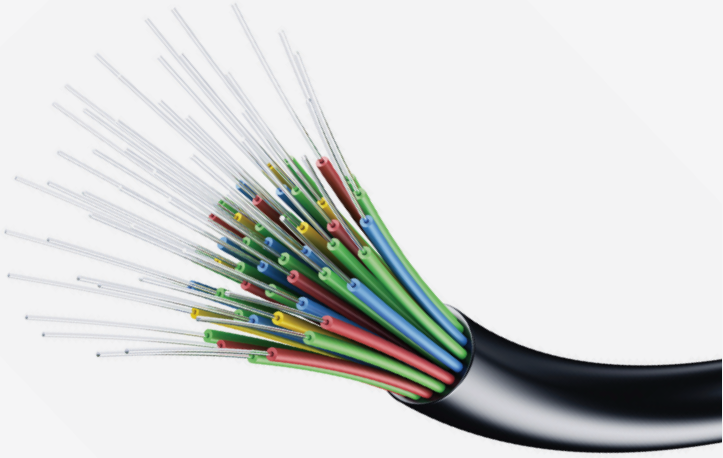
Appendix 6: BROADBAND POLICY IMPLEMENTATION ACTION PLAN: 2019 – 2024



My NAMIBIA
MY COUNTRY. MY PRIDE
"A United Nation Is A Proud Nation"

BACKGROUND

Like any developing country, Namibia is facing digital divide and the rural population is sparse with an accompanying need to deploy the most appropriate broadband solutions. The population pyramid indicates that Namibia has a young population which should be the main focus for the adoption of ICT for socio-economic development.

In recognition of the critical role that broadband ecosystem plays in socio-economic development of countries, and in order to provide enabling environments that ensure broadband access, the Republic of Namibia has prepared the national Broadband Policy and its Implementation Action Plan (IAP) and taking into account the decisions made at Southern Africa Development Community (SADC) level with regard to the development of broadband networks and services as a vehicle for socio-economic development. Specifically, the SADC Ministers in charge of ICT encouraged all Member States to formulate a National Broadband Policy/Plan/Strategy or include broadband in their universal access/service definition by 2017.

The Broadband Policy responds to the needs of the Republic of Namibia contained in its National Development Plans and are based on the broadband ecosystem framework and the recommendations of the Broadband Commission with regard to the development of broadband; and on how to harness it as a catalyst for sustainable development.

Broadband Policy highlights the following Objectives, Mission and Goal:

PO1 Ensure universal access to broadband Infrastructure and services,

PO2 Promote the development of content, applications and innovation,

PO3 Support efforts aimed at capacity building, awareness creation and reducing the digital divide,

PO4 Provide an enabling environment for broadband deployment.

Mission: To create an enabling environment for a universal access to broadband infrastructure.

Goal: This Policy aims to achieve reliable and affordable broadband infrastructure and services for all.

This IAP is presented as a five years' road map to achieving the targets whilst prioritizing the budget and setting timelines with responsible parties or entities for each action activity. The IAP sets performance and verifiable indicators and allocates responsibilities for implementation to different institutions that include Government and other key stakeholders. A multi-stakeholders (NBSC) will be established to oversee and coordinate the implementation of the policy and this IAP. Furthermore, the NBSC is entrusted to monitor and review the implementation of the IAP after every five years.

Policy Objective : PO1: To ensure universal access to broadband Infrastructure and services															
Strategy	**Activities**	**Output**	**Key Indicators**	**Baseline**	**Timelines and Targets per year**					**Budget (NAD) ,000**					**Lead/ Responsible Entity**
					19/20	**20/21**	**21/22**	**22/23**	**23/24**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	
1. Provide quality and affordable broadband countrywide	Promote Infrastructure sharing amongst operators Operationalize UAS Fund. Promote stakeholders 'partnership in the provision of internet at Multipurpose Centers Promote the use of Broadband for socio-economic development in health, and education,	Population covered by broadband	% of the population covered by the broadband	50%	70%	80%	85%	90%	95%	-	-	5000	5000	2000	**MICT/CRAN /All Licensees**
		Schools covered by broadband infrastructure.	% of Schools covered by broadband Infrastructure	30%	40%	80%	95%	100 %	-	-	-	3000	4000	1000	**MICT/CRAN /OPM/Ministry of Education/All Licensees**
		Health facilities covered by broadband infrastructure.	% of health facilities covered by broadband infrastructure	30%	50%	70%	75%	80%	90%	-	-	5000	3000	2000	**MICT/CRAN /OPM/Ministry of Health/All Licensees**

	Equip Multi –Purpose Community centers country wide with Internet access points	Multipurpose Community Centers used as community access points for broadband	Number of Post offices and Multipurpose Community Centers used as community access points for broadband	26	26	26	26			5000	5000	5000			MICT

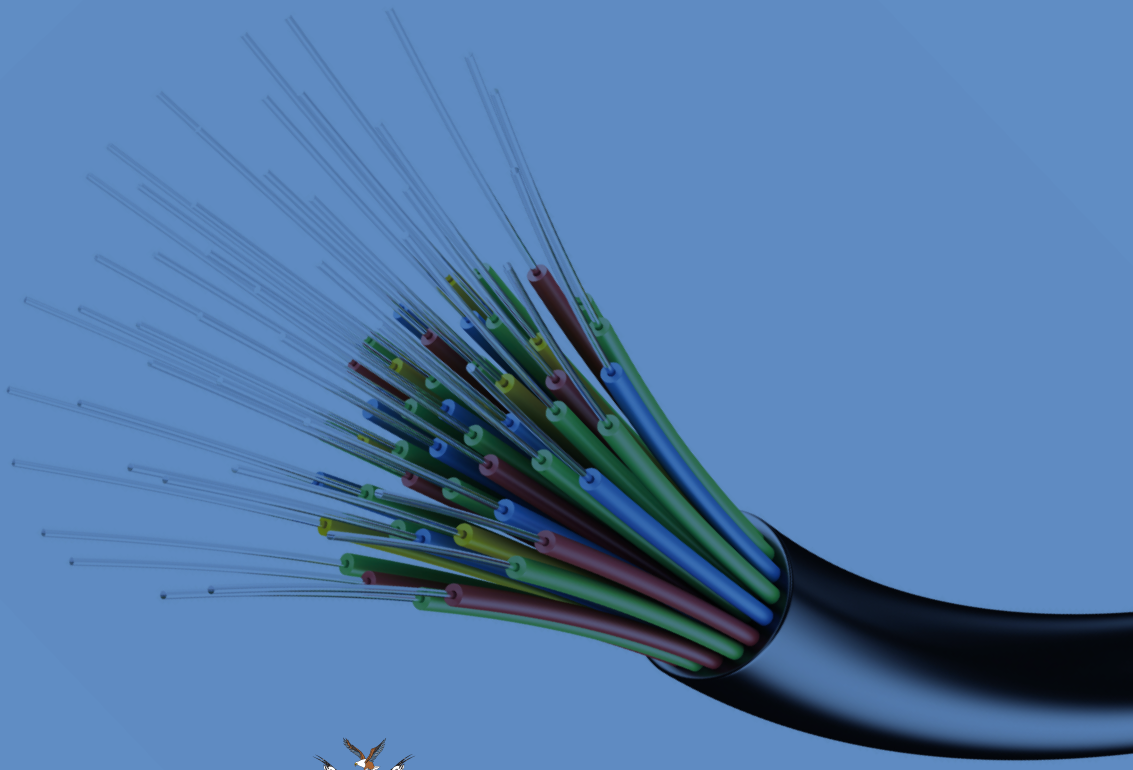
Policy Objective (PO2): To promote development of content, applications and innovation

Strategy	Activities	Output	Key Indicators	Base line	Timelines and Targets per year					Budget (NAD) ,000					Lead/ Responsible Entity
					19/20	20/21	21/22	22/23	23/24	19/20	20/21	21/22	22/23	23/24	
1. Enable the use of e-application in government and other sectors of the economy to improve service delivery	Develop a national e-Governance implementation Framework.	% of Institutions with governance Implementation Framework developed	% percentage made on the Development of the e-governance implementation framework	50%	70%	80%	90 %	100 %	100	-	-	2000	1500	1000	**OPM/MICT**
	Coordinate and facilitate the implementation of e-governance	% of service areas e-enabled	% of service areas enables with transactional e-application	10%	15%	20%	30 %	35%	45%	-	-	3000	2500	2000	**OPM/MICT**
			% of public entities that have established e-services portfolio	60%	70%	100%	-	-	-	-	2000	1500	1000	-	**OPM/MICT**

Policy Objective (PO3): To support efforts aimed at capacity building, create awareness and reducing digital divide															
Strategy	**Activities**	**Output**	**Key Indicators**	**Baseline**	**Timelines and Targets per year**					**Budget (NAD) ,000**					**Lead/ Responsible Entity**
					19/20	**20/21**	**21/22**	**22/23**	**23/24**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	
1 Accelerate demand and stimulate public and private sector innovation and investment	Promote national and regional institutional collaboration for research innovation and industry development	National and regional institutional collaborated for research innovation.	Number of national and regional institutional collaborated for research innovation	0	-	3	5	5	5	-	-	800	600	500	**MICT/CRAN/ All Licensees**
2. Promote continued development of the broadband ecosystem	Undertake a study to determine the broadband demand gap, affordability and the cost for broadband deployment	Study on Broadband demand gap, affordability and deployment cost Study conducted	Number of studies carried out	0	-	-	1	-	-	-	1,000	-	0	1,200	**CRAN/MICT**
3.Improve digital literacy	Raise awareness campaigns on available and potential broadband services.	Broadband awareness Campaigns carried out.	Number of Awareness campaign carried out	0		2	2	2	2	-	-	150	200	250	**MICT/CRAN/ All Licensees**

Policy Objective (PO3): To support efforts aimed at capacity building, create awareness and reducing digital divide															
Strategy	**Activities**	**Output**	**Key Indicators**	**Baseline**	**Timelines and Targets per year**					**Budget (NAD) ,000**					**Lead/ Responsible Entity**
					19/20	**20/21**	**21/22**	**22/23**	**23/24**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	
1 Accelerate demand and stimulate public and private sector innovation and investment	Promote national and regional institutional collaboration for research innovation and industry development	National and regional institutional collaborated for research innovation.	Number of national and regional institutional collaborated for research innovation	0	-	3	5	5	5	-	-	800	600	500	**MICT/CRAN/ All Licensees**
2. Promote continued development of the broadband ecosystem	Undertake a study to determine the broadband demand gap, affordability and the cost for broadband deployment	Study on Broadband demand gap, affordability and deployment cost Study conducted	Number of studies carried out	0	-	-	1	-	-	-	1,000	-	0	1,200	**CRAN/MICT**
3.Improve digital literacy	Raise awareness campaigns on available and potential broadband services.	Broadband awareness Campaigns carried out.	Number of Awareness campaign carried out	0		2	2	2	2	-	-	150	200	250	**MICT/CRAN/ All Licensees**

Policy Objective (PO4): To provide an enabling environment for broadband deployment														
Strategy	**Activities**	**Output**	**Key Indicators**	**Baseline**	**Timelines and Targets per year**					**Budget (NAD) ,000**					**Lead/ Responsible Entity**
					19/20	**20/21**	**21/22**	**22/23**	**23/24**	**19/20**	**20/21**	**21/22**	**22/23**	**23/24**	
1. Establish a comprehensive monitoring and evaluation framework for broadband deployment and development	Establishment of the National Broadband Steering Committee (NBSC)	Strategic broadband implementation Committee established	% of progress made on the establishment of the NBSC	0%	100 %	-	-	-	-	-		40	-	-	**MICT/CRAN/ All Licensees**
	Operationalize the National Broadband Steering Committee	The National Broadband Steering Committee operationalized	% of progress made operationalization of the NBSC	0%	50%	70%	100%	100 %	100%			50	60	80	**MICT**
2. Promote consumer protection through appropriate regulations	Formulate regulations in line with the consumer protection legislation.	Consumer regulation formulated.	Progress made on the enactment of the consumer legislations	0	100		-			-	-		-	-	CRAN



Republic of Namibia