Maldives Telecommunication Policy 2006-2010

… towards ONE ISLAND NATION through effective telecommunications

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Minister of Transport & Communication

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Introduction

Telecommunication can play a vital role in linking our dispersed communities and reduce the impact of the geographical isolation and physical separation that exists between island communities of Maldives. Telecommunication will also play a major role in achieving the economic and social developmental objectives envisaged in the Vision 2020 of Maldives. This policy which is to be effective for the period 2006-2010, is designed to virtually reduce the geographical separation by reducing the disparity in services rendered throughout the country thereby achieving a "one island nation" as envisioned in this policy.

The past Telecommunication Policy saw significant developments in the sector. During the period 2001-2005, improvements in the coverage and quality of telecommunication services became apparent with a reduction in prices of services. A more comprehensive regulatory framework was established that provided sufficient powers and transparency in the Regulator, resulting in foreign as well as local investments in the sector.

This Telecommunication Policy has been formulated through a wider public consultation process, in which a large cross section of consumers from the Atolls as well as the major businesses and industry, government and telecom operators actively participated to provide completeness and credibility for the stakeholders.

This Maldives Telecommunication Policy has been formulated to continue the telecommunication developments triggered through the Telecommunication Policy 2001-2005 as well as to introduce new areas of development, in view of the dynamic global trends in the telecommunication technologies and changing economic and social development needs of the country and to facilitate and achieve the aforementioned objectives. The policy identifies and addresses key issues in the sector in 5 major areas. This policy is designed in the hope that it will facilitate sustainable development of telecommunication services for the next 5 years.

Situation

The first published Telecommunication Policy in the Maldives has brought significant improvements in the telecommunication services.

The telecommunications services especially the cellular mobile services have expanded to cover nearly the whole country. The two independent network infrastructures established through the length of the country has created better resilience and accessibility to the services. It has created new opportunities to provide higher capacity and access to a wider population. It has also allowed the introduction of new services especially on the mobile network.

The services are now significantly cheaper than they used to be before 2001. International call charges have come down by 68%. Calls are now charged on per second basis instead of per minute. National fixed telephone charges have come down by 28%. Broadband Internet has been introduced with use-based charges instead of time-based. Internet charges have dropped by 75%. Post-paid mobile call charges have dropped by 68% while pre-paid charges have reduced by 84%.

Compared to most countries in the South Asia Region, Maldives is in a better position in terms of telecommunications development. Maldives have achieved more than 80% penetration. This figure is high compared to the regional countries. Maldives is the only country in the region to have achieved nearly 100% population coverage.

Whilst acknowledging the significant developments that took place during the past 5 years, it may be noted that the momentum gained must be sustained if not increased. There is still a lot to be done to improve the national telecommunication scenario and to keep abreast the developments in regional and global telecommunications markets.

Our vision is to make Maldives the "most connected nation" integrating all the benefits of telecommunication services to enhance the quality of life of our people.

1. Telecommunication charges in the Maldives

The telecommunication charges have significantly reduced during the policy period 2001 to 2005. Most dynamic changes are seen in the mobile services while Internet services also showed positive changes. International call charges have also reduced.

While there has been some reduction in fixed telephone charges, it has been less significant, and the access to the service is still perceived to be too expensive to be affordable to most people in islands other than the 13 islands which have residential service.

Policy 1

Telecommunications charges shall be non-discriminatory, affordable and cost oriented

Objective 1.1:   Implement "one service one tariff" concept

The economic and social barriers imposed by the physical separation that exists between the inhabited islands could be greatly reduced through effective telecommunication services. "One service one tariff" concept is recommended to create a virtual environment where the geographical distances and separations are ignored to effectively provide one tariff to anywhere in the Maldives.

Mobile service already has this concept and has been effective. The concept needs to be extended to fixed telephone service.

Action

1.1.1   Study the commercial impact of creating a "One service one tariff" by the end of 2006.

1.1.2   Implement tariff rebalance, initially to reduce existing tariff zones to 2. i.e. local and long distance only, by the second quarter of 2007.

1.1.3   Based on the impact tariff of rebalance, implement one tariff to anywhere in the country by the second quarter of 2008.

Objective 1.2:   Make the telecommunications charges comparable and competitive to the regional countries / selected economies / peer groups

In addition to providing an affordable service to its people, Maldives needs to be competitive to its neighbours and regional countries in its telecommunication charges as a prerequisite for foreign investment attraction.

Regular benchmarking of telecommunication charges is necessary in responding to improve the competitiveness of the Maldivian market.

Actions

1.2.1   Regularly benchmark telecommunication tariff including fixed telephone, Internet, international services and leased capacity and publish this information annually.

1.2.2   Operators providing multiple services shall implement accounting separation before end of 2008 and provide cost details along with Annual Financial Reports to the Regulator.

1.2.3   Control tariff of non-competitive services and services provided for national interest.

1.2.4   Increase competition in a sustainable manner as a means of effectively reducing charges, while regulating tariffs for non-competitive services where appropriate.

2. Infrastructure Development

Significant developments have taken place during the last policy period especially in the advent of competition. Two independent nationwide microwave networks exist now reaching all corners of the country. This has created better resilience and accessibility to the services.

However, the networks are designed mainly to cater for voice related services and thin route data services. While there are improvements on availability of bandwidth within the country, it does not provide sufficient capacity for availing broadband connectivity on a wider scale to improve Internet and other ICT applications.

The success of broadband ICT will depend heavily on the available national broadband capacity. The requirement is further enhanced with the planned submarine optical fibre connectivity of Maldives to the outside world.

Except for 13 islands, access networks to provide the fixed telecommunication services have not been developed. The challenges of providing basic telecommunications services universally, needs to be overcome by utilising technology-neutral solutions.

Policy 2

Telecom infrastructure shall be expanded and developed to provide basic, enhanced and broadband services throughout the country

Objective 2.1: Provide basic telecommunications services to all

Telecommunication is now considered as a basic necessity. Therefore, every Maldivian has the right to have basic telecommunication services at an affordable price. For this objective the basic telecommunications services is considered to be the telecommunications services that are needed to fulfil the minimal communication needs of the individual.

Action

2.1.1 Introduce a basic telecommunication package, to be revised from time to time according to circumstances, which includes 90 minutes of national voice calls, 250 MB of Internet access at a minimum speed of 56 Kbps, to be available to any household who requests for the package at a price not more than Rf 200 a month.

2.1.2 The basic telecommunication package could be offered by any telecommunication operator.

2.1.3 The basic telecommunication package shall be introduced not later than end 2006and to be available to all inhabited islands before end of 2008.

Objective 2.2:   **Enhance existing networks to support higher capacity to adequately meet the ICT needs of the country**

In order to provide adequate connectivity for faster Internet and other ICT applications, the existing capacity of the networks needs to be increased. New technologies which are more efficient in providing the necessary capacity and bandwidth need to be adapted to provide local solutions.

Actions

2.2.1 Infrastructure based telecommunication operators shall invest in their networks to increase available capacity to meet the demands of the broadband ICT applications throughout the country.

2.2.2 In this respect, the operators may increase existing backbone capacity based on demand and not less than 2xSTM1s throughout the country before end of 2008.

2.2.3 Leased line capacity of 2Mbps from each inhabited island to be available on demand before end 2008

2.2.4 Study the viability of "Triple play" technology and introduce such technologies in the Maldivian market.

Objective 2.3: Introduce alternative technologies that provide high capacity to improve national connectivity

Instead of depending on satellite or thin-route microwave technologies for backbone connection, the viability of other technologies needs to be studied and deployed. Submarine optical fibre could be the technology to connect the main population centres of the country. The feasibility of other emerging new technologies needs to be studied in line with the national developmental objectives of the government.

Actions

2.3.1 Study the feasibility of linking main population centres via submarine optical fibre cable.

2.3.2 Study the feasibility of emerging new technologies that could be used for deployment of high capacity in national connectivity and introduce appropriate technologies.

Objective 2.4: Provide high speed Internet services throughout the country

To provide cheaper and high speed Internet, the Internet service providers need to get national bandwidth through the terrestrial network instead of depending on high cost satellite bandwidth. Once the international submarine optical fibre is in place, the capacity needs to be extended to the atolls for cost effective delivery of Internet services.

Actions

2.4.1 Infrastructure based operators shall avail national capacity to ISPs to expand their networks nationally.

2.4.2 Wherever possible ISPs should use terrestrial network to carry Internet traffic to their national nodes and international submarine optical fibre capacity to connect their national networks to Internet backbone.

2.4.3 Establish an Internet exchange which will connect all ISP networks at a national level.

2.4.4 ISPs shall be encouraged to use wireless technologies for creating wireless hotspots.

2.4.5 Regulatory measures shall be taken to facilitate countrywide Internet access to be achieved by end 2008.

> **Objective 2.5:   Establish a nationwide emergency telecommunications and early warning system**

In the wake of Tsunami disaster, the requirement of a separate emergency telecommunication network was envisaged. Such a system should provide the necessary telecommunication system to warn the public on a potential disaster and provide the lifeline immediately after the disaster to report damages to the National Disaster Management Authorities and later to facilitate relief efforts.

Action

2.5.1   Formulate an emergency telecommunication plan by the end of 2006.

2.5.2   Enhance existing telecommunication/broadcasting networks to carry early warning messages.

2.5.3   Facilitate priority calling and national roaming in the existing mobile networks to be used in the event of disasters or national emergencies by the end of 2006.

2.5.4   Establish satellite based personal communication system to reach all inhabited islands by the end of 2007.

2.5.5   Establish electronic public warning systems at island level by the end of 2009.

> **Objective 2.6:   Provide effective telecommunication facilities to the fishermen and vessels travelling within the territorial waters of the Maldives**

Maldives consists of a large proportion of sea which cannot be effectively covered by the cellular mobile service. The closure of Coastal Radio Station in 1998 eliminated the HF watch keeping and calling facilities available then to the vessels travelling in and around Maldivian territorial waters.

Currently, CB radios are mainly used by fishermen to communicate with the shore and each other. These radios have limited range and are not effective far out at sea.

A combination of mobile, HF, and satellite based communication will be more effective to provide seamless connectivity.

Action

2.6.1 License satellite phones (GMPCS) to be used on vessels by the end of 2006.

2.6.2 Facilitate roaming arrangements between terrestrial mobile networks and GMPCS operators by the end of 2006.

2.6.3 Create awareness and encourage usage of new technologies

2.6.4 For long haul vessels make GMPCS / HF radio equipment a requirement.

2.6.5 Establish HF stations to listen and facilitate communication to vessels within Maldivian waters.

2.6.6 Extend Coast Guard GMDSS facilities to listen and watch Maldivian vessels.

2.6.7 Study other technologies that could be effectively used for long distance communication.

Objective 2.7: Establish reasonable communication means for people with special needs [PWDs]

Telecommunication being considered as a basic right of the people, it is necessary that all citizens including people with special needs have access to at least basic telecommunication services. In this respect, it is important to assess the telecommunication needs of these groups of individuals and make necessary technological arrangements to provide them with appropriate facilities.

Therefore, the universal service has to be extended to include the needs of this special group. Through a Universal Service Fund (USF) or other financing mechanism the specific technologies should be made available to the people in need.

Action

2.7.1 Study the telecommunication needs of the people with special needs.

2.7.2 Provide awareness on the available technologies to the people.

2.7.3 Monitor the use of such technologies by PWDs and success of the program.

Objective 2.8: Increase international capacity by connecting Maldives to international submarine optical fibre network

To date, all international telecommunication traffic is provided via satellite. Dependence on satellite connectivity alone will not be sufficient to meet the future telephone and data traffic requirements.

Therefore, Maldives needs to be connected to the international submarine optical fibre network to provide cost effective international connectivity and to open doors for diverse business avenues.

Action

2.8.1. Facilitate the operators/investors to complete the international submarine optical fibre projects on schedule before end 2006.

2.8.2. Issue licence to sell international capacity and operate transit facilities.

2.8.3. Promote Maldives as an international hub to provide international transit services.

2.8.4. Encourage development of off-shore ICT services such as call centres, data warehousing, etc.

2.8.5. Establish interconnection among the networks to provide diversity and minimise possibility of interruption of services.

Objective 2.9: Bring customer services closer to the people

The advent of competition has increased the number and complexity of services. While all operators have customers offices in Male' and few densely populated islands, the rest of the country have no access to customer offices. There is significant difficulty to get personalised assistance in application for services and payment of bills.

With a view to reducing the above barriers, it is necessary to improve the accessibility of customer services throughout the country.

Action

2.9.1   Urge operators to establish their own or through their agents, customer offices or access points that would provide basic customer services in all islands.

2.9.2   Establish agents at island level who would act on behalf of the operators to provide basic customer services or through them to access full customer services of the operators.

2.9.3   Provide support for the banking sector to facilitate Banking gateways to be extended to islands

3. Telecommunication regulatory structure

The Regulator's role should be to protect the rights of consumers and service providers, as well as to promote policy objectives for sector development while maintaining a fair and level playing field for all stakeholders.

To make the role of the regulator more effective and transparent, a Telecommunication Act should be in place that gives the necessary legal powers to the Regulator. In addition, all necessary means and resources should be made available to the Regulator to effectively carry out its responsibilities.

The rapid developments in the telecommunication and information technology which result in global seamless connectivity has brought not only increased convenience to the way in which we communicate; but also provides opportunities for abusing these resources. Hence the need to provide security and protection to the individuals and businesses using modern telecommunication means has become an important challenge. Such measures include among other things, providing legal protection, regulatory mechanisms and added cyber security by the telecom operators.

In order to effectively discharge the said responsibilities, we see the world trend in the convergence of telecommunications and IT areas/activities and these services regulated under one umbrella.

Policy 3

Regulatory Authority shall be autonomous by law with clearly defined powers and resources to effectively carryout its dutiesand also to protect the interests of both the consumers and the Operators

Objective 3.1: Enact a Telecommunications Act providing increased transparency in the regulation of telecommunications

In the short term existing Telecommunication Regulation is sufficient for regulatory purposes. However a Telecommunications Act will improve the confidence of the investors, consumers and service providers and will improve the transparency of the regulatory framework.

Action

3.1.1 Draft a Telecommunications Bill to by the end of 2006.

    3.1.1.1 The Telecommunications Act should provide necessary regulatory and telecommunications development framework along the lines of the international best practice.

    3.1.1.2 The Telecommunications Regulator shall be an independent entity with necessary legislative powers to effectively execute its responsibilities, and shall be financially autonomous.

    3.1.1.3 The Telecommunications Act shall sufficiently provide for the protection of the consumer.

3.1.2 Submit the Telecommunications Bill during 2007.

3.1.3 Establish an independent Regulator for telecommunications with financial autonomy

3.1.4 Explore the opportunities of establishing an Ombudsmen in consultation with telecom operators, to look into consumer grievances and make decisions independently and quickly.

Objective 3.2: **Increase transparency and accessibility of the regulatory procedures and processes of the Regulatory Authority**

The Regulator needs to be transparent and impartial. These qualities are particularly important in a competitive environment. It is important that the regulatory procedures and processes are written and available to the stakeholders.

Actions

3.2.1 Formulate subordinate regulations and standards

3.2.2 Regulatory Authority should improve public consultation process on regulatory and general telecommunications and ICT matters that are of interest to the public and industry.

3.2.3 Publish procedures, standards and regulations electronically and physically and arrange for public accessibility.

Objective 3.3: Strengthen the regulatory framework for telecommunications and Information Technology.

In this converged age of telecommunications and IT effectively talking about ICT, it is desirable to have a regulatory framework in place that would allow both sectors to be effectively and efficiently regulated. To this end, it is important to establish such mechanisms in the Maldives in line with the international best practices.

Actions

3.3.1 Study the regulatory mechanisms used at the global level to regulate telecommunications and IT and implement such reforms applicable to the Maldivian environment.

Objective 3.4: Facilitate the safe use of telecommunications and Information Technology

The increasing malicious use of the telecommunications and information technology has victimised many of the users of these resources. Malicious activities ranging from nuisance calls made on the phone and warning messages delivered to spam and indecent material received from Internet have caused undesirable worries to many genuine users. The increased use of cyber crime using modern telecommunication means has posed significant challenges to provide security in maintaining business secrets and data integrity. Hence, the need to facilitate safe use of telecommunications to the Maldivian users has become ever important.

Actions

3.4.1 Telecom Operators shall improve the security and protection of the services they provide to their customers, including appropriate protection against spam and other security threats over internet.

3.4.2 Coordinate and cooperate regional and international efforts to improve cyber security and implement appropriate measures nationally including capacity building in these areas.

3.4.3 Establish a framework to facilitate necessary information to the law enforcers in order to reduce cyber crimes and/or crimes using telecommunications or information technology,

3.4.4 Improve the protection of juniors/minors from possible exploitation of these individuals using ICT means, and facilitate a safe use of telecommunications and information technology.

3.4.5 Formulate necessary laws to facilitate safe use of telecommunications and information technology and to improve cyber security.

4. Further competition in telecommunication service

The introduction of competition in Internet and mobile services has brought about significant improvements to the telecommunications services. These include lower telecommunication charges, expansion of the services, improvement of quality and introduction of new services.

Despite the small size of the Maldivian market, it has shown that competition can be made sustainable and has provided significant benefits to the consumers. Mobile sector has seen most progress, but Internet, infrastructure / capacity leasing, fixed telephone, VoIP, and international are areas that need to be further opened for competition.

Policy 4

Competition shall be increased in the existing services and new services shall be opened for competition

Objective 4.1:   Further strengthen competition in the Internet market

Since the introduction of a second ISP, significant changes are seen in the market. However, the choice in Internet services is currently available only to limited areas. The charges have come down, yet there is scope for further improvements.

It is therefore necessary to find ways to strengthen competition to deliver the full benefits of Internet services across the country.

Actions

4.1.1   Introduce and promote retail opportunities for Internet.

4.1.2   Introduce further competition in the Internet market with obligations for national coverage.

4.1.3   Facilitate by regulatory means to ensure that infrastructure owned operators will provide national and international capacity to ISPs and retailers on commercial terms.

Objective 4.2:   Increase infrastructure competition

One of the possibilities of developing the infrastructure to a level that countrywide broadband services can be achieved is through competition and inviting foreign investment in this area.

Currently two separate networks exist in the Maldives. However, both networks still lack the capacity to provide nationwide broadband services. It is necessary to facilitate competition among the networks and introduce further competition.

Actions

4.2.1   Provide existing infrastructure based operators with a licence to sell bandwidth.

4.2.2   License operators to use new technologies including Wi-MAX, etc.

4.2.3   Assign certain frequency bands as licence free bands and allow installation of infrastructure for individual and scientific / experimental purposes.

Objective 4.3:   Increase competition in international services

Currently international services are provided only by Dhiraagu. The decision of TAM to provide international licence to Wataniya, would introduce competition in the international services at least in the mobile market.

International calls are still expensive. To improve the competitiveness of Maldives compared to regional countries, it is necessary to increase competition in international services and international capacity.

Actions

4.3.1   Provide additional licences to operate international gateways for PSTN after end 2008.

4.3.2   Accommodate the need to licence new operators in the numbering plan.

4.3.3   Provide licences for alternative calling service providers, such as VoIP based operators and Calling Card Operators.

4.3.4   Invite additional international operators for provision of international services..

5. Promoting the use and development of telecommunications and other services delivered using telecommunication means

Telecommunications means have facilitated electronic information to be transmitted over distances, which has revolutionised the lives of the people world over. This revolution continues to improve the socio-economic status of countries including the Maldives.

It is important that Maldives fully embraces what telecommunications technologies could offer, in order to increase the competitiveness of the country thereby creating an environment to attract and sustain foreign investments. It is also necessary to develop and strengthen small and medium enterprises (SMEs) and increase the innovativeness, creativity and productivity of the people.

Policy 5

The use and development of telecommunication technology shall be facilitated for the Maldives to fully embrace its benefits

Objective 5.1: Increase awareness on telecommunications

Availability of the technology itself does not encourage or facilitate the effective use of the technologies. This is evident even in areas where very good access to technology and bandwidth is available. Therefore it is necessary to increase the awareness of the people of the effective use of the technology and potentials.

Actions

5.1.1   Conduct awareness and training programmes to promote usage of telecommunication technology.

5.1.2   Study and introduce potential projects and applications delivered on telecommunication networks, that are feasible and attractive to the Maldives.

5.1.3   Arrange road shows and fairs on a continuous basis through out the country to demonstrate applications of telecommunication technologies.

Objective 5.2: Encourage to develop telecommunication applications

Maldives need to develop its human resources and facilitate its own development of applications and solutions. It is necessary to focus on the possibility of developing telecommunications related applications especially in the mobile areas, which has a lot of potential.

Actions

5.2.1   Study potential of developing telecom related applications

5.2.2   Develop educational and human resources necessary in the field of telecom applications

5.2.3   Provide support facilities to SMEs to develop in telecommunications related applications.

5.2.4   Create relationship with regional and international groups developing telecommunications related applications

Objective 5.3: Improve public accessibility to services through the development and use of m-services

It is envisaged that mobile will be the most used and the most accessible form of communication. With the advanced capability of the mobile infrastructure which has the potential for high speed data, many services can be effectively provided to a very wide population through the mobile phones.

Maldives needs to exploit the mobile platform to provide "m-services", mobile based services. The convenience of mobility, along with the accessibility of the services anywhere anytime is extremely attractive to a mobile pro community that we have in the Maldives.

Mobile applications / services could range from accessibility to public services, mobile banking, electronic money, entertainment, etc.

Actions

5.3.1   Establish a think tank to study and evaluate potential of mobile applications and services to the Maldives

5.3.2   Develop necessary framework in collaboration with the banking sector to facilitate financial services such as mobile banking (m-banking), mobile electronic money (m-money), mobile connected point of service (m-PoS).

5.3.3   Actively promote and provide support to develop public services that could be offered through the mobile services.

5.3.4   Encourage and support the development of mobile based applications.

Closing

Government's policy on telecommunication would be an important guide for the stakeholders of the sector, including the service providers, investors, regulator and the users, to understand developmental objectives and to align their efforts in achieving their respective goals.

The aim of this policy is to provide the continuity to the previous Telecom Policy and continue to shape the Maldives telecommunication sector, so as to contribute positively to the development of the country and thereby improve the quality of life of the people.

> **Note**
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> **The *Maldives Telecommunication Policy 2006-2010* document in its original form is in Dhivehi Language. In all circumstances and purposes the meaning in the original Dhivehi text shall prevail.**

Technical Terms and Abbreviations

Dial-up	To dial a number to get service
Data warehousing	Storage of electronic data outside the country for redundancy and/or protection
Flat rate	A monthly or yearly usage fee instead of charging on a per minute basis.
GMDSS	Global Mobile Distress and Safety System
GMPCS	Global Mobile Personal Communication by Satellite – satellite based personal phone
Info-communication technology (ICT)	Information communication technology
Interconnect	Connection of two or more telecommunication networks to facilitate communication among the customers of all the networks
International Gateway	The point through which all telecommunication traffic passes in and out of a country
ISP	Internet Service Provider
kbps	Kilo bits per second
LAN	Local Area Network – computer network
Local call	Calls to local area. i.e. calls that are charged as at local rate.
Long distance calls	Calls made outside the locality – national calls
m-services	Services delivered on the cellular mobile network
Mbps	Mega bits per second
National Numbering plan	Number Plan that allocates numbers for different telecommunication services. E.g. certain range of numbers for telephone, mobile, etc.
National Roaming	Roaming between two mobile networks within the same country

Ombudsman	A body providing legal services to resolve disputes outside the court
Priority calling	A feature used in mobile networks to assign priority groups for using the network
PSTN	Public Switched Telephone Network
Radio Frequency Spectrum	Radio frequencies assigned for different services. e.g. certain range of frequencies for GSM mobile, cordless telephone, etc.
Submarine optical fibre	An optical fibre laid on the sea bed connecting two or more points within or between countries
SME	Small and Medium Enterprises
STM-1	Synchronous Transfer Mode A measure equivalent to 155 Mbps
Terrestrial Network	Networks build on land
Transit facilities	Provision of facilities for connection between two other countries
Tariff	Telecommunication charges
Telecommunication	Transfer of information through electro-magnetic signals
Triple play	An integrated network delivering video, voice and data
Universal services fund	Fund to facilitate basis services to the public.
VoIP	Voice over Internet Protocol
WAN	Wide Area Network – computer network designed for large geographical area.
WiMAX	Worldwide interoperability for Multiple Access (A broadband wireless technology)
Broadband data network	High speed / high capacity data network