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# Measuring Fixed & Mobile Broadband in the Maldives

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# Measuring Fixed and Mobile Broadband in the Maldives

## Introduction

Fixed broadband services are provided by Dhiraagu, (a part Government (48%) , part Cable & Wireless (52%) company, established in 1988) which has a license to provide all telecommunications services in the country and Focus Infocom (a 100% Maldivian company, established in 2003) which provides only internet services. Mobile broadband services is provided by the two mobile operators, Dhiraagu with the Universal license and Wataniya (whose parent company is Qatar Telecom ) who is licenced to provide mobile services and more recently international Gateway services.

Maldives with a population of 314,000 scattered on 200 islands spread over 90 sqkm in the Indian Ocean poses an immense challenge to rolling out fixed broadband services in the country. As such, a wireless broadband infrastructure becomes the natural technology choice for broadband roll out to the islands. Although fixed broadband services, primarily ADSL has been available in the capital Male' and other populous islands, the infrastructure cost imposed by the geography of the country has prevented roll out to the majority of islands. Fixed internet service was launched in Maldives in ..... initially through dial-up over the PSTN network later over ISDN lines. This was later upgraded to ADSL services with gradual increase of available speeds from 256kbps to the currently available 10Mbps service. Unfortunately after the most populous 10-15 islands were covered, the economic cost burden of providing fixed services to islands with low populations has prevented the roll out to other islands. This has always been the challenge; provision of broadband services to the less populated islands. Since early 2006 Maldives boasts of two redundant mobile network that run across the country with 99% coverage of all islands, thereby making the the mobile broadband network, as the option of choice for the roll out of broadband services to the islands. Thus the two mobile operators began the task of upgrading their networks to support 3G with the culmination of the introduction of 3G mobile services in January 2008.

Currently Maldives uses the ITU-D definition of 256 kbps to demark the beginning of broadband. But with availability of many broadband products by both operators with much much higher speeds, we need to question whether this truly reflects the broadband service of today in Maldives as well as in other parts of the world.

## Current Situation

At the end of 2011, the number of fixed telephone lines in the Maldives stood at 24,084. Although the target to provide access to telephone services by all islands were reached in 1999, on demand residential telephone service is only available on 13 islands including the capital Male'. While the growth of fixed telephones has reduced as in most countries globally, cellular mobile services has increased rapidly with Maldives reaching a mobile penetration of 163% by the end of 2011 and continuing to grow. The number of mobile subscriptions stood at 530,449 of which about 80% are prepaid subscriptions. Mobile broadband subscriptions overtook the number of Fixed broadband

subscriptions in just over an year of introduction with 20,677 fixed broadband subscribers and 55,320 mobile broadband subscribers at end 2011.

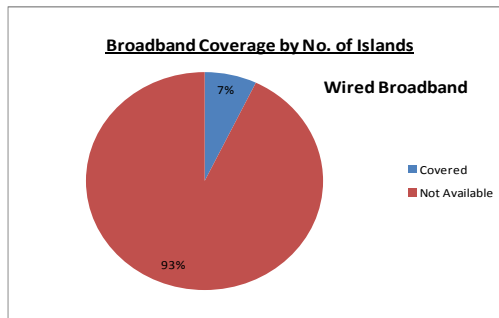
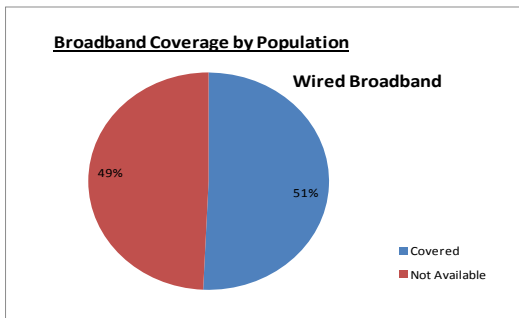
In Maldives, operators do not have to obtain a separate 3G licence to provide 3G services. All mobile operators can provide 3G services as part of their licence. In the same token, users do not have to subscribe to 3G service separately. The availability of 3G depends on the coverage area and the hand set. i.e by default any mobile user has access to 3G services if he/she is in a 3G covered location and is using a 3G enabled device.

When we look at the current situation of broadband coverage across the country, the picture is quite different from a geographic perspective when compared to the population covered by broadband.

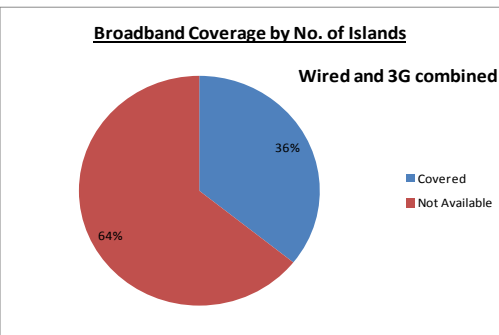
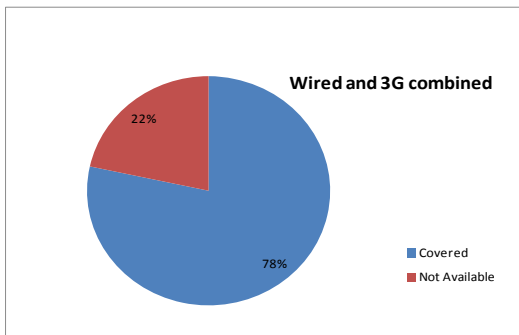
While the access technology for fixed broadband is mostly ADSL with few islands served via cable modems, the majority of wireless broadband uses 3G with few islands served by WiMax Technology. (WiMax roll-out started by Dhiraagu has been discontinued and is being replaced by 3G).

### The current Broadband Availability Situation

#### Wired Broadband



#### Wireless Broadband



## Measuring Broadband

Measuring broadband is an area of great concern to the Communications Authority of Maldives, the telecom regulator. Today it is harder than ever to measure due to the many dimensions concerned. Before deciding how to measure broadband, many questions need to be addressed. How do we compare Fixed and Mobile broadband? Can they be substitutes for each other? How can we compare the various different broadband packages with different speeds and different download capacities? What about unlimited packages. Mobile broadband products available on voice SIMs offer lower capacity at less price in comparison to the dedicated data SIMs for use with dongles and other devices with 3G capabilities such as ipads and other tablets.

Then again, our primary concern is how closely do the available packages deliver the promised speeds. We also do get a lot of customer allegations saying that the quality of service varies depending on the type of use by the customer. For example online voice and video communication services such as skype and viber.

While fixed broadband is more similar across the different packages available, the mobile broadband experience depend more heavily upon the type of access device as well as the package used. There are three types of mobile broadband users. Those who subscribe to mobile broadband on their voice SIM, those who subscribe to dedicated data packages to use with dongles on mobile devices and those who access broadband on their mobile phones at standard rates without subscribing to a particular product. Those packages targeted to be used on mobile phones with the user's regular voice SIM are usually packages of limited speed with 1Mbps being the most common.

Today, with ITU assistance CAM is embarking on a project to measure the Quality of Broadband services in the country. With the many different tools ranging from the commonly available speed testing tools to the more sophisticated tools being used by developed countries CAM is studying what will be most suitable to measure broadband services in the Maldives. We are currently looking at the methodologies used in other regional countries where we have found very successful outcomes of broadband testing as well as other tools provided by regional think tanks. At the least, we will be testing the speeds which is the only substantial parameter that is advertised to customers. The methodologies usually involve downloading a file on servers located locally and globally. The difficult part would be to ensure the consistent server environments as well as size of the files that will be used for downloading... Here again another question arises. What is the right size for the file that will be downloaded for the testing process? Here again different tools use different sizes together with different methodologies...

## Conclusion

CAM recognizes that measuring broadband service is very important to the providing a quality user experience to the citizens of Maldives. While we do measure the take-up of services and the growth in 3G and fixed broadband coverage, we are still at an early stage in establishing a framework for the proper measurement of Broadband services. CAM's aim is to establish a broadband monitoring framework and implement a monitoring mechanism by 2013.