The Maldivian digital communications environment:
Freedom of expression and the media, telecommunications and IT sectors

June 2010

An assessment of the state of development of digital communications in the Maldives using a framework based on the **Media Development Indicators,** endorsed by UNESCO's International Programme for the Development of Communication, and the **Layer Model of the Digital Communications Environment,** developed by Global Partners as part of the Freedom of Expression Project.

This report is based on the findings of a mission to the Maldives in October 2009 undertaken by:

ARTICLE 19 – Barbora Bukovska
Centre for Law and Democracy – Toby Mendel
Global Partners and Associates – Lisa Horner
ict Development Associates – David Souter
International Media Support – Thomas Hughes
UNDP – Lars Bestle
UNESCO – Iskra Panevska
wire.less.dk – Sebastian Buettrich

Wireless zones are available at public places like at this café in Gan-Fonadhoo, Laamu Atoll.
Photo: Lars Bestle by courtesey of UNDP.

Contents

1 Introduction

1.1 Background and context

On 6 May 2009, International Media Support (IMS) hosted a meeting of key international organisations to look into the application of Freedom of Expression (FoE) principles to Digital Communications Environments (DCEs).[1] Organisations participating at this meeting included ARTICLE 19, Freedom House, Global Partners, ict Development Associates, Open Society Institute, UNDP, wire.less.dk and IMS.[2]

The participants at the meeting agreed on the relevance of applying FoE principles to evolving DCEs with the aim of influencing the creation of transparent and accessible information and new media landscapes. In pursuit of this, a country-specific partnership approach was agreed, which would bring together actors encompassing a broad base of expertise in the FoE and DCE fields. This partnership would seek to work together on advocacy, policy and programme activities with government, civil society and the private sector in the individual countries.

Global means of communication are undergoing rapid and continuous transformation. This is partly a consequence of the emergence of digital communications environments, supported by inter-connected and converging Internet-based technologies and ICTs, greatly increasing the intensity and speed of global communications. These changes are being driven at a very fast rate by a complex blend of technological, business, political, cultural and social forces.

The spread and convergence of new communications technologies and tools make it increasingly easy to access information. In addition, those involved are no longer simply consumers of information, but are also empowered to create and share their own content. A recent trend is the emergence of what is often referred to as Web 2.0,[3] which allows for far greater two-way interaction within the media and ICT sectors. These developments, which are an ever-evolving process, have profound implications for freedom of expression.[4] The degree to which DCEs are remoulding media landscapes and public spheres so as to enable communities to engage in conflict resolution, democratic participation, disaster mitigation and social dialogue is of key interest to IMS and the other participating organisations.

The opportunities for individual-to-individual and individual-to-mass communications provided by ICTs are very significant. They are redefining traditional media landscapes, creating multi-polar spheres in which the mass media, civil society media and individual bloggers and their co-bloggers both compete and cooperate.

How ICTs are developed and regulated is therefore a matter of essential importance for those who support freedom of expression and press freedom. Unlike their print media counterparts, the infrastructure and distribution channels for new media and ICTs are undergoing constant development. Whilst the freedom of expression community has been active in seeking to impact on and define developments in the traditional media sphere, this has been much less the case for the new media and ICTs.

1 *DCE or digital communications environment: All of the physical infrastructure and technologies, companies, governments, members of the public and other actors that use and control digital communications. This includes the relationships between these actors and the underlying economic, social and political structures that influence them (New Frontiers for Freedom of Expression? by Lisa Horner/ 2007-05-06/ www.freedomofexpression.org.uk).*

2 *UNESCO was invited and expressed interest in the process, but was unable to attend the May meeting.*

3 *The term Web 2.0 is associated with web applications that foster interactive information sharing, interoperability, user-centred design, and collaboration, including social networking and blogs.*

4 *'New Frontiers for Freedom of Expression?' by Lisa Horner, 6 May 2007. Available at: / 2007-05-06/ www.freedomofexpression.org.uk.*

DCEs should not be left only to national governments, vested interested groups and the telecommunications industries to define. If commercial interests, national security, and mainstream social beliefs and prejudices dominate the discourse, the resultant legal and regulatory structures will reflect the interests of those groups, rather than the wider public interest, including in protecting and promoting human rights.

In seeking to ensure a truly open and unrestricted regulatory landscape, existing international law and accepted norms – including freedom of expression as defined by Article 19 of the UDHR, Article 19 of the ICCPR and regional human rights treaties - should provide a key element of the framework through which DCEs are structured.[5]

In pursuit of this, the freedom of expression community potentially finds itself with some powerful adversaries. However, the community also finds itself with powerful potential allies – the architects, innovators and users of DCEs. These communities tend to provide strong support for a free, flexible and well-regulated ICT environment, to support their right to communication and express themselves, and to support their business models. Moreover, while it has sometimes been difficult to form and retain collective support for these principles through the traditional media, new media offer interactive opportunities, and utilise wide-reaching networks and pools of knowledge, to lobby and build constituencies to overcome or circumvent obstacles.

DCEs are still a "new" area of policy, and many national authorities are not able to keep pace with developments, either because policy processes are slower than technological development in this area or because they simply lack the capacity. As a result, it is even more important than otherwise for international expertise to be made available and this also means that there are openings for influencing national policies to ensure that productive and socially beneficial DCEs are put in place. Some developing country governments, interested in better securing the rapid and profitable development of ICTs within their national jurisdictions, might be amenable to identifying ways to create a transparent, equitable DCE in support of socio-economic development, as well as capitalising on profits to bring improved communication resources to the general public.

This was a goal of the World Summit on the Information Society,[6] which aimed at fostering the political will to take concrete steps to establish the foundations for an information society for all. One of the main ratified documents from the WSIS stated: "We reaffirm our desire and commitment to build a people-centered, inclusive and development-oriented Information Society, premised on the purposes and principles of the Charter of the United Nations, international law and multilateralism, and respecting fully and upholding the Universal Declaration of Human Rights, so that people everywhere can create, access, utilize and share information and knowledge, to achieve their full potential and to attain the internationally agreed development goals and objectives, including the Millennium Development Goals."

Discussions on this have also taken place in international forums such as the Internet Governance Forum (IGF) and Internet Corporation for Assigned Names and Numbers (ICANN).

1.2 The Maldives as a pilot country

The Maldives was identified as a pilot country for testing such an approach. Following discussions with national actors, a mission was undertaken to the

5   *Freedom of expression is guaranteed under by Article 19 of the* Universal Declaration on Human Rights *(UDHR), and in more- or- less in similar terms under by an Article 19 of the* International Covenant on Civil and Political Rights *(ICCPR), as follows: '"Everyone has the right to freedom of opinion and expression; this right includes the right to hold opinions without interference and to seek, receive and impart information and ideas through any media regardless of frontiers'." Freedom of expression is also protected in all three regional human rights treaties, at Article 10 of the* European Convention on Human Rights *(ECHR), at Article 13 of the* American Convention on Human Rights *and at Article 9 of the* African Charter on Human and Peoples' Rights. (*Agnes Callamard, Article 19, 2 October 2008)*

6   *See www.itu.int/wsis/index.html.*

Maldives in October 2009 to review the FoE/ DCE situation and produce an assessment report, as well as open a dialogue with the authorities, civil society, media and the business community in the country about cooperating in this field. The Maldives was selected because it provides a receptive political context for discussing FoE issues, along with a rapidly evolving policy environment. In October 2008, Mohamed Nasheed was elected President, with the incumbent, President Gayoom, stepping down after 30 years. With these political changes, there has been an improvement in press freedoms, with a new constitution providing strong protection for FoE.

Moreover, as described in this report, the Maldives presents a strongly developing ICT[7] sector. Fixed-line telephony penetration was 16 percent in March 2009, whilst mobile coverage is 100 percent and penetration was 145 percent in March 2009. Broadband is reportedly accessible for around one-half of the population, with overall Internet penetration being estimated at around 25% as of the end of 2009. A UN report indicates that the Maldives also has the highest e-government readiness in South Asia.[8]

As a further contributing factor, during the first half of 2009, ARTICLE 19 and UNESCO worked with the government in conducting an assessment of media development in the Maldives, based on UNESCO's Media Development Indicators, which provide a framework for assessing media development.[9] The report, *Assessment of Media Development in the Maldives*,[10] focused on the environment for the traditional media. This work is part of UNESCO's wider efforts to promote media development in accordance with international standards on freedom of expression.

The overall objective behind the Maldives mission was to engage with the national authorities and other actors to influence favourably the development and regulation of the DCE in the country in a way that respects freedom of expression principles, thereby ensuring the creation of a transparent, accessible and public interest oriented information and new media landscape. The mission identified a number of options for building a strong, transparent and well-regulated DCE landscape in the Maldives.

Prior to undertaking the mission, the team entered into dialogue with national actors in the country to confirm the relevance of the approach and to define jointly the Terms of Reference. A key outcome of the mission is this joint assessment report on the situation regarding FoE/DCE in the Maldives. It is hoped that this will provide the basis for outlining opportunities and obstacles in the Maldives involving policy, advocacy and activity-based follow-up.

1.3 UNESCO Media Development Indicators

The UNESCO publication Media Development Indicators: A Framework for Assessing Media Development was formally endorsed by the Intergovernmental Council of the International Programme for the Development of Communication (IPDC) at its 26th session from 26-28 March 2008.[11] The publication is primarily a methodology for assessing the state of media development in a given national context. It may also be used to evaluate the impact of media development programmes over time, and as an instrument to guide media development assistance efforts. It was developed as part of UNESCO's mandate to promote the development of free, independent and pluralistic media.

The media's potential to strengthen democratic processes is well known. As the Preface to the Indicators notes: "Evidence shows that a free, independent

7   *Information and Communications Technology, or ICT, is an umbrella term that includes all technologies for the manipulation and communication of information. ICT encompasses: Backbone infrastructures, wide area and local area networks, including all broadcasting technologies and wireless mobile telecommunication networks, access infrastructure, related hardware and software, and various media for collection, storage, processing, dissemination and presentation of information.*

8   *United Nations E-Government Survey 2008: From e-Government to Connected Governance (United Nations, New York, 2008).*

9   *See note 13.*

10 *(Toby Mendel, May 2009). Available at: http://portal.unesco.org/ci/en/files/28892/12459422999media_assessment_maldives.pdf/media_assessment_maldives.pdf*

11   *This publication is available at: http://portal.unesco.org/ci/en/ev.php-URL_ID=26032&URL_DO=DO_TOPIC&URL_SECTION=201.html.*

and pluralistic media environment is essential for fostering democracy. More-over, by providing a means for communicating and accessing information, the media can help to ensure that citizens are equipped with the tools necessary to make informed choices and enhance their participation in decision-making on issues that affect their lives. Media development assistance is therefore an indispensable component of development strategies, although it has still to gain a wider recognition and adequate funding from the international donor community."

The process of developing the Indicators was initiated by the Intergovern-mental Council of the IPDC at its 25th session in 2006. It was felt that it was important to identify the key characteristics of a media environment in which freedom of expression, and an independent and pluralistic media can flourish, in accordance with the principles set out in the Windhoek Declara-tion (1991) and subsequent regional declarations on Promoting Independent and Pluralistic Media adopted in Almaty, Santiago, Sana'a and Sofia.

The process involved a number of stages, including an analysis of existing efforts to assess various aspects of media development and freedom, con-tained in a background paper on *Defining Indicators of Media Development*.[12] A draft Indicators paper was the subject of various consultations, including a major Expert Group meeting at UNESCO headquarters in Paris, in December 2007, following on from which the document was finalised and presented to IPDC for approval.

The Media Development Indicators report published by UNESCO.

The Indicators are divided into five main media development categories, bro-ken down into a number of issues. For each issue, a set of key indicators is provided, along with a set of means of verification. The five main categories are as follows:

CATEGORY 1: A system of regulation conducive to freedom of expression, pluralism and diversity of the media: existence of a legal, policy and regula-tory framework which protects and promotes freedom of expression and information, based on international best practice standards and developed in participation with civil society.

CATEGORY 2: plurality and diversity of media, a level economic playing field and transparency of ownership: the state actively promotes the develop-ment of the media sector in a manner which prevents undue concentration and ensures plurality and transparency of ownership and content across pub-lic, private and community media.

CATEGORY 3: media as a platform for democratic discourse: the media, within a prevailing climate of self-regulation and respect for the journalistic profession, reflects and represents the diversity of views and interests in so-ciety, including those of marginalised groups. There is a high level of informa-tion and media literacy.

CATEGORY 4: professional capacity building and supporting institutions that underpins freedom of expression, pluralism and diversity: media workers have access to professional training and development, both vocational and academic, at all stages of their career, and the media sector as a whole is both monitored and supported by professional associations and civil society organisations.

CATEGORY 5: infrastructural capacity is sufficient to support independent and pluralistic media: the media sector is characterised by high or rising levels of public access, including among marginalised groups, and efficient use of

12 Available at:
http://portal.unesco.org/ci/
en/files/24288/11743196661
media_development_
indicators_background_
paper.pdf/media_
development_indicators_
background_paper.pdf.

technology to gather and distribute news and information, appropriate to the local context.

The Indicators are starting to be applied in a number of different countries with a view to assessing the state of media development and to prioritising media development efforts. One of the earliest assessments to be completed is *Assessment of Media Development in the Maldives*, published by UNESCO in May 2009.[13] This Report builds on UNESCO's initial assessment, which focuses primarily on the environment for the more traditional media.

1.4 The layer model of the digital communications environment

The Internet and mobile phones have dramatically changed the nature of communications, unleashing new possibilities for expressing ourselves and for searching and receiving information. The Internet is used for a wide range of different forms of communication, from disseminating traditional media – print and broadcast – to one-to-one voice conversations, to peer-to-peer online chat. Similarly, mobile phone devices can be used not only for voice conversations, but also to access the Internet, watch movies and listen to music. Increasingly, the same physical platforms are able to support different forms of communication, from voice telephony to broadcasting to Internet. There is thus convergence at multiple levels within the communications sector.

The term "digital communications environment" is used to refer to the platforms, actors and institutions operating in this converging communications arena. As digital communications are increasingly central to all of our communication activities, it is important to understand how they operate at local and global levels, among other things in order to assess prospects for freedom of expression in the modern world.

This Report uses an analytical model that breaks the digital communications environment into a series of four overlapping layers:

- The **infrastructure** layer: The infrastructure (or physical networks) that transport communications.
- The **connectivity** layer: The code and protocols that allow communication devices to connect with each other across networks.
- The **applications** layer: The software that we use to perform communications activities, such as Internet search engines and web browsers.
- The **content** layer: The subject matter of communication itself, in audio and visual formats.

Dynamics at each communications "layer" affect the ability of the communications environment to support freedom of expression and public interest communication. Restrictions on freedom of expression can operate at any of the layers. For example, access to the physical infrastructure is a precondition for expressive activity. At the connectivity layer, certain data formats and transmission protocols may be patented and therefore only available for use by those who have the funds to pay. At the applications layer, the tools and services that we use to communicate – such as search engines, word processors and voice-over-Internet protocols – influence what we can do online, what we can access, and what language we can communicate in. Dynamics across the layers can also have a positive impact on freedom of expression, such as having access to a diverse range of content. Other factors – such as the wider socio-economic environment, cultural factors, wealth and affordability and literacy – also affect access.

13 *Mendel, Toby (UNESCO, May 2009). Available at: http://portal.unesco.org/ci/en/files/28892/124594 22999media_assessment_ maldives.pdf/media_ assessment_maldives.pdf.*

Layer models are commonly used in the telecommunications industry to describe the interfaces and protocols that make up telecommunication services. Communications environments are highly complex, and divisions between layers are not rigid, with actors often operating in more than one layer. The layer model presented here[14] draws on the concepts used in the telecommunication industry. However, it has been simplified so as to create a useful analytical tool that is accessible to a wide range of stakeholders and that provides insight into the factors that need to be considered to build communications environments that support free expression.

Drawing on research and findings from a series of four international civil society workshops, Global Partners and Associates Freedom of Expression Project has identified a series of policy principles to promote and protect free expression at each of the four layers of the model. If upheld, these principles would help to foster communications environments that are accessible, diverse and pluralistic, transparently governed, and that support creativity and innovation. The principles are designed to be technologically and geographically neutral, and to provide insights into the types of issues that should be borne in mind in different communications environments rather than to be specific recommendations to be implemented as such.[15]
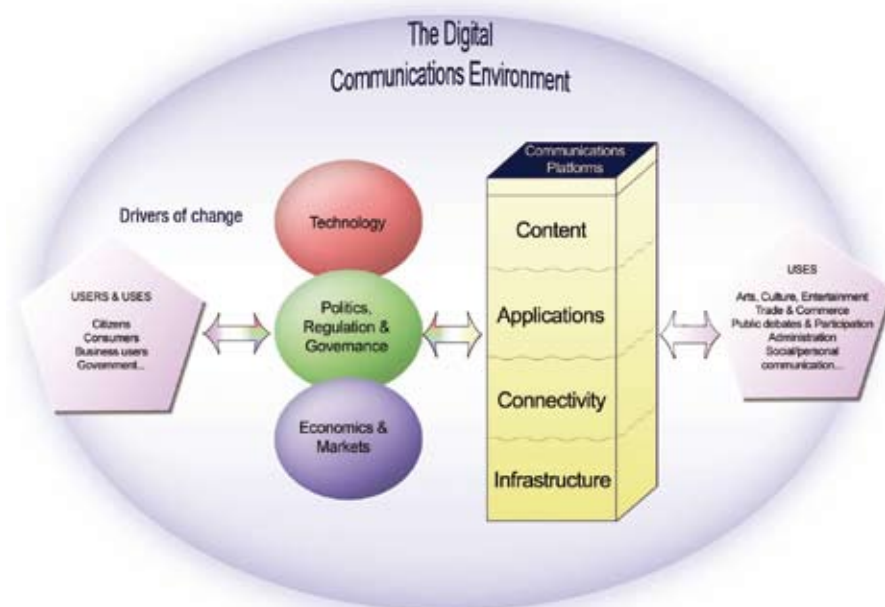
1.5 Report methodology – MDIs and the layer model

The aim of this Report is to build on both UNESCO's Media Development Indicators (MDI) and the layer model of digital communications environments to assess the state of development of digital communications in the Maldives. As noted above, the earlier MDI assessment of the Maldives focused primarily on more traditional media. The structure of this Report follows the five main media development categories of the Indicators. Where appropriate for assessing the digital communications environment, the Report adopts the issues used in the Indicator's report, but in other cases new or different issues are introduced, as necessary to reflect the focus of this Report on ICTs.

14 The model was initially developed by Global Partners and Associates as part of the Freedom of Expression Project, a global research and policy project exploring the relationships between human rights and information and communication technologies (ICTs). See www.freedomofexpression.org.uk. It draws on the work of a range of communications scholars and social scientists including Benkler (2000), Lessig (2001), Fransman (2001), and Mueller (1999).

15 The Principles are available at: http://www.freedomofexpression.org.uk/resources/principles+for+a+public+interest+communications+environment.

The layer model has been relied upon to inform the analysis of the digital communications environment under each category. An important part of the Report focuses on the infrastructure and connectivity layers, although the applications and content layers are also referenced in various sections.

The primary source of information for this Report was a series of interviews and group focus meetings conducted during a mission to the Maldives by the authors of the Report from 25-30 October 2009. A list of the members of the mission, as well as all of those met, is included in Annex 3. Those interviewed included representatives of the government, of regulatory and oversight bodies, of parliament, including members of parliament, of civil society and the media, including new media, of the international community, of political parties, of the legal profession and of the private sector.

These sources were supplemented by a literature review, and assessment of online information sources from and about the Maldives. Most of the interviews and meetings were conducted in the capital city of Malé, but a mission was also undertaken to Laamu Atoll and Maabhaidoo Island to assess the status of access to ICTs outside of Malé.

2 Assessment of the regulatory system

Summary from Traditional media assessment[16]
Legal guarantees for freedom of expression and of the media are a key part of the framework for media development. Where these guarantees suppress freedom, prevent criticism of government, give the government undue control or fail to ensure the right to information, media development will either be limited or will not serve the overall public interest. On the other hand, where legal guarantees create an enabling framework for media freedom, this can make an important contribution to an overall positive media environment.

The Maldives adopted a new and progressive Constitution in August 2008, which includes strong guarantees for freedom of expression, including appropriately narrow limitation clauses. The one exception to this is the overriding rule that the right must not be exercised in a manner that is "contrary to any tenet of Islam". Institutional structures are relatively weak, with no independent broadcast regulator, information commissioner or ombudsman (either in law or under the Constitution). There is, however, a Human Rights Commission and the Media Council Law adopted in 2008 purports to establish a Media Council, although none has been appointed to date.

The wider legal framework, much of which dates back to before reform efforts began, lacks many of the guarantees of a modern, democratic system, while retaining unduly broad restrictions on content. There is no right to information law or broadcasting law, although both have been under consideration for some time. The criminal defamation rules remain in force, although again commitments have been made to do away with them, and other laws, including the Criminal Code, contain a number of unwarranted restrictions on freedom of expression. Editorial independence is not guaranteed in law, and there is a history of owners exerting influence over media content.

On a more positive note, there is no State censorship of the media, although books are still legally subject to a system of prior censorship. The right of the media to protect the confidentiality of their sources is guaranteed by the Constitution, and is respected in practice. There is also no central blocking of the Internet, although a few isolated incidents of this have occurred (see below).

2.1 Legal and policy framework for telecommunications and ICTs

Context and key issues
Many developing country governments have adopted ICT or ICT4D (ICT for Development) policies which establish objectives for the ICT sector and for the use of ICTs to support national social and economic development. They normally address a range of technical, social and economic factors, with the aim of creating an enabling framework for ICT deployment and use.

These strategies have a mixed record, the more successful generally being those which have been developed with a high level of stakeholder engagement and intra-governmental coherence. Success also depends on consistency

16 *This section, an analogous version of which appears at the beginning of each of the next five chapters, is a summary of the UNESCO publication, Assessment of Media Development in the Maldives (Toby Mendel, May 2009). Further information about the regulatory system can be found in that publication, which is available at: http://portal.unesco.org/ci/en/files/28892/12459422999media_assessment_maldives.pdf/media_assessment_maldives.pdf.*

Assessment team discusses before meetings in front of the United Nations office in Male.

of the strategy with national development plans. These policies should also respect freedom of expression standards, as guaranteed in the Constitution of the Maldives and under international law.

Telecommunications policy, on the other hand, is specifically concerned with the structure of the telecommunications sector, a key aspect of ICT/ICT4D. Until the 1980s, the telecommunications sector in most countries was a public or (less often) private sector monopoly. Since the 1980s, almost all countries have restructured their telecommunications sectors, through total or partial privatisation of the "incumbent" fixed telephony monopoly, liberalisation of existing markets, the introduction of new markets on a competitive basis, and the introduction of independent economic regulation.

The principal objective of telecommunications policy in most countries is the promotion of consumer welfare, specifically in terms of universal availability of networks and affordable services. Competition at both the network and service levels is usually considered desirable to achieve these ends. Universality, however, may require regulatory obligations or incentives, or more direct forms of support, to encourage or require operators to provide service to low-income groups and/or in remote/low population density areas that would not otherwise be profitable. Furthermore, in smaller markets,

competition at the physical network level may not be efficient and, instead, regulatory measures may be needed to protect consumer interests within a monopoly or limited competition environment.

A major policymaking weakness in many developing country markets is a lack of information on the use of existing services and uncertainty regarding demand for additional services. While telecoms businesses often undertake market research, a better understanding of existing patterns of use and of consumer interest in future services, which may be gained through a communications audit and opinion survey, can be very useful in helping government and regulators develop policy priorities.

Descriptive assessment
ICT Policy
The Maldives does not have a cohesive ICT or ICT4D policy and none is currently being proposed. Furthermore, there is no overall strategic approach to this in existing or planned governance arrangements. A number of different government departments are responsible for different aspects of policy relevant to ICT – for example, the Ministry of Civil Aviation and Communications is responsible for telecoms policy, while the National Council on Information Technology is responsible for e-government – and no department has overarching responsibility for ICT policy or strategy. This fragmentation may lead to less rapid expansion of ICT deployment and use than might otherwise be achieved.

The Maldives has just developed a Strategic Action Plan for 2009-2013, which identifies five national priorities: a) improved transport, b) affordable housing, c) affordable healthcare, d) lower costs for goods and services, and e) tackling drug abuse. In terms of infrastructure, transport rather than telecommunications is prioritised, but this may simply reflect the fact that the dynamic communications sector has been more successful in addressing infrastructural needs in recent years.

ICT-related aims appear in minor roles in a number of chapters of the Plan, and they are also addressed more directly in the Plan's section on economic development, under "Communication, science and technology". As with governance arrangements, however, there is no overall strategic approach to ICTs in the Plan. 'E-governance', for example, is addressed under 'good governance' and the chapter on "information, arts and culture" asserts the need to ensure "infrastructural capacity to support media, including new media and the Network Communications Environment".

The value of ICTs is also noted in relation to delivering education. However, although ICTs are clearly significant for other sectors, such as tourism, fisheries and small to medium sized enterprises (SMEs), it is not mentioned in relation to these sectors with the exception of its use to enhance banking services (seen as significant for SMEs).

The ICT section of the "Communications, science and technology" chapter notes that ICTs "will play a major role" in "linking our dispersed communities" and in "achieving the economic and social goals of good governance and human rights development". It refers to the need for continued improvement in telecoms infrastructure and regulation, and notes the need for "comprehensive capacity building and resources in order to develop e-services and to make infrastructure and services sustainable." There is, however, no general assessment of the contribution which ICTs can make to the achievement of government plans as a whole, and it is not included in the list of "cross-cutting" policy areas that are expected to make such a contribution in either the social or economic spheres.

The key policies identified for communications are mostly concerned with telecoms infrastructure and regulation, and may be summarised as follows:

1. To establish a national infrastructure capable of providing comprehensive telecommunication and ICT services throughout the country.
2. To strengthen the regulatory framework for telecommunications and ICT.
3. To promote prices for services that are non-discriminatory, affordable and based on costs.
4. To engage and support the private sector in developing a local ICT industry.
5. To establish an e-governance service platform for the efficient delivery of information and online services.

Telecommunications Policy
In terms of specific telecommunications policy, the lead ministry is the Ministry of Civil Aviation and Communications. The regulator, the Communications Authority of Maldives (CAM), is the main source of government policy expertise in this sector, and it clearly plays a leading role in advising government on policy issues, in addition to discharging its regulatory remit.

There have been two Telecommunications Policy documents during the past decade, from 2001-2005 and from 2005-2010, in addition to the 2003 Presidential Decree which established CAM, which also included a statement of policy objectives. At the time of the mission, a new Telecommunications Policy for 2011-2015 was being discussed by CAM and government departments, while both a Telecommunications Act and a Broadcasting Act were before the Majlis. Neither the draft Telecommunications Policy nor the draft Telecommunications or Broadcasting Acts was available in English, and so the only source of information regarding them for this Report comes from comments by interviewees.

The first Policy, covering 2001-2005, laid the groundwork for competition in both the telephony and Internet sectors. Second competing providers were introduced in these sectors, respectively, in 2005 and 2004, while an independent regulator (now CAM) was introduced in 2003. The Policy oversaw significant improvements in the coverage and quality of services, and reductions in prices, and was regarded at its close as having been broadly successful in advancing connectivity, competition and consumer welfare.

The second Policy, covering 2006-2010, carries the slogan "... towards ONE ISLAND NATION through effective telecommunications." It is also generally regarded as having had a positive impact. Although not all of its objectives have yet been realised, some of those remaining will be addressed by the new Telecommunications Act or are otherwise in train. The five principal objectives in the policy, and the main objectives for each, are as follows:

1. Telecoms charges shall be non-discriminatory, affordable and cost-oriented:
   – consolidation of tariff zones
   – introduction of benchmarking

2. Telecoms infrastructure shall be expanded and developed to provide basic, enhanced and broadband services throughout the country:
   – introduction of a basic telecoms package of 90 minutes of voice calls and 250Mb of Internet access at a minimum speed of 56kb for a maximum of Rf200 per month (expected to be required by the new Telecoms Act but at 256kb)
   – improvements in national infrastructure

- provision of high speed Internet services, including the establishment of an Internet Exchange Point
- improved national emergency warning system and telecoms services to vessels
- improved services for special needs communities
- improved international connectivity through the introduction of sub-marine cable

3. The autonomy of the regulatory authority shall be guaranteed by law and it shall be given clearly defined powers and adequate resources to carry out its mandate effectively, including to protect the interests of both consumers and operators:
   - enactment of a Telecommunications Act (currently in the Majlis)
   - improved and more transparent procedures and processes
   - action against cybercrime and other "undesirable" uses of communications

4. Competition shall be increased in the existing services and new services shall be opened for competition:
   - increased competition in service provision, including in the Internet market
   - increased infrastructure competition between existing networks, including through the introduction of new technologies such as WiMAX
   - removal of Dhiraagu's remaining monopolies and opening international services to competition (achieved in the relicensing of Dhiraagu from January 2009)

5. The use and development of telecommunication technology shall be facilitated so that the Maldives can fully embrace its benefits:
   - increased awareness and applications development
   - introduction of new mobile services, including m-banking

The most significant developments during this (second) Policy period have been the introduction of competing submarine cables and the evolution of competition in mobile telephony and Internet, both of which have led to substantial reductions in prices for telephony and Internet (see Chapter 4).

The 2003 Presidential Decree which established CAM identified the following five national policy objectives for the telecoms sector, which are largely consistent with the objectives of the two telcoms policies:

1. To make all telecommunications services more affordable, equitable and competitive.
2. To develop telecommunications infrastructure and services to reduce the disparity between Malé and the rest of the Maldives.
3. To introduce, encourage and maintain competition in telecommunications services.
4. To provide CAM with the necessary means and powers to regulate the telecommunications industry in accordance with national policy objectives.
5. To develop and promote information and communication technologies.

From interviews, the mission understood that the draft Telecommunications Act includes provisions to:

1. Establish a secure legal basis for independent regulation of the sector by CAM;

2. Mandate a guaranteed basic service package (as proposed in the 2006-2010 Policy);
3. Establish a mechanism for a universal service fund;
4. Enable some service specific licences, for example for Voice over Internet Protocol (VoIP), gateways and community retail services; and
5. Enable the benchmarking of prices (another legacy of the 2006-2010 Policy).

The new Telecommunications Policy was described by CAM as essentially a continuation of the current (second) Policy, aimed primarily at achieving the same broad goals of improved connectivity, competition and consumer welfare. The particular focus will be on improving Internet access in outlying islands, and specifically to promote the provision of broadband services to all islands.

Overall, the telecommunications policy framework addresses the main requirements for the development of a digital communications environment which is widely accessible and affordable. We note that the new Telecommunications Act will apparently establish a universal access fund (UAFs). UAFs usually seek to support the capital costs of extending networks to non-commercial areas through subsidies. The Maldives has already effectively achieved 100% mobile telephony coverage and both Internet providers are planning to expand their broadband services. In this context, any UAF should be carefully designed so as to focus on areas which the market will not serve, and not to impact negatively on competitive service provision in profitable areas. Alternatives, such as universal service obligations, should also be considered.

Recommendations
- A national discussion should be held, bringing together government representatives, the communications sector, business and civil society, to consider the potential role of ICTs in delivering the objectives identified in the Strategic Action Plan. This should lead to the development of a comprehensive and coherent set of ICT-related policies and regulatory approaches, to be implemented within the framework of the agreed Strategic Action Plan.
- Current efforts to enact a Telecommunications Act and to agree on a new Telecommunications Policy should continue with a view to extending access and promoting affordability. The implementation and effectiveness of the new Act and Policy should be reviewed after three years.
- CAM should consider researching the extent to which existing services are being used, as well as the demand for new services. A particular aim could be to assess what might be appropriate broadband access targets and to identify appropriate means of achieving universal broadband access, including potentially through mobile broadband networks.

Principles Underpinning these Recommendations
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:

- Laws and policies affecting freedom of expression should be developed in a transparent and consultative manner.
- States have an obligation to put in place a legal and policy framework which promotes the right of everyone to access – in terms both of technical availability and affordability – ICTs, including telephony, Internet and media.
- To achieve the above, the legal and policy framework needs to be tailored to local conditions – commercial, social, geographic and so on – so as to

maximise access potential. It also needs to be reviewed from time-to-time so as to adapt to changing local conditions, as well as technological possibilities.

2.2 Regulatory system for telecommunications and ICTs

Context and key issues

'Independent' regulators have been established in most countries as part of the restructuring of the telecommunications sector since the 1980s. Independence, where regulators is concerned, is primarily a matter of independence from those who are subject to regulation, both network and service providers, so as to ensure that the regulator is not unduly influenced by the companies it regulates. However, independence from ministerial (or government) control is also very important, to ensure that decisions are taken in accordance with regulatory rules and principles rather than ministerial whim. Independence from government is particularly important where government owns part or all of one competing network or service provider. Independence is also important, indeed it is required by international guarantees of freedom of expression, where the regulator has a role in relation to content, for example through the licensing of broadcasters.

An important concern of telecoms regulators is the promotion of competition and the consumer welfare which is generally, in telecoms, expected to arise from it. Experience in telecoms and Internet worldwide has been that competitive markets tend to stimulate network expansion, promote innovation in technology and service provision, and increase quality and lower prices for consumers. As a result, rates of connectivity to both telecoms and Internet are usually higher in competitive markets, while rates of Internet connectivity are also usually higher in competitive telecoms markets.

There are, however, areas of natural monopoly and market failure in many countries, where the costs of developing networks or market entry are such that only one supplier, or in some cases no supplier, is likely to secure a commercial return. As a result, many regulators, in addition to promoting competition, seek to substitute for it in non-commercial areas, for example through universal access obligations or funds.

In addition to promoting access, competition and consumer welfare, regulators are often charged with managing technical standards and with managing spectrum.

Descriptive assessment

The Telecommunications Authority of Maldives was established as the national telecoms regulator by a 2003 Presidential Decree. Changes introduced in December 2008 included renaming it the Communications Authority of Maldives (CAM), and extending its mandate to include responsibility for information technology and postal services, as well as telecoms.

CAM is not responsible for regulation of content. However, CAM has been used to enforce requests by government, for example from the Ministry of Islamic Affairs, to control access to some Internet content. Its role in this appears to be mainly instrumental.

CAM is responsible for allocating spectrum to broadcasting operators, although broadcasting licences are issued by the Ministry of Civil Aviation and Communications. The Strategic Plan and a draft Broadcasting Act envisage

the establishment of a new broadcast regulator to take over the licensing of broadcasters, although it is not clear whether this will include spectrum allocation.

It may be noted that while the Maldives has decided to establish a separate broadcast regulator, many countries are now bringing together their broadcasting and telecommunications regulators in response to convergence in technology and markets. In practice, these regulatory functions often continue to be managed separately within these converged regulatory bodies. However, broadcasting and telecommunications increasingly make use of the same networks and may be provided in new combinations which cut across traditional regulatory boundaries, with scope for both horizontal and vertical market consolidation. The relationship between CAM and the new broadcast regulator will need to be carefully drawn and managed in order to avoid regulatory inconsistencies.

The 2003 Presidential Decree establishing CAM defines its purposes as being:

– To ensure that telecommunications services are accessible to everyone, and that they are supplied as efficiently and economically as practicable, at performance standards that reasonably meet the social and commercial needs of the Maldives.
– To encourage, promote and facilitate the development and expansion of a telecommunications industry that is efficient, internationally competitive and responsive to the needs of the community.
– To promote a competitive environment for the provision of domestic and international telecommunication services.
– To promote agreed national policy objectives for telecommunications.
– To establish a licensing and regulatory framework that supports and facilitates the achievement of these objectives.

CAM's small staff of ten professionals is, and is considered to be, competent and well-trained, and its decision-making is regarded as generally sound and independent. Its standard of regulatory performance rated relatively well in a survey of regulatory 'consumers' – including regulated companies, equipment vendors, consultants, lawyers and representatives of the public interest – conducted by the reference institute LIRNEasia[17] in 2008, not least in comparison with other regulators in South Asia. CAM has therefore performed fairly well in spite of its lack of a sound legal basis.

Most households have a satellite dish for TV reception like this household on Maabhaidoo Island.

17 LIRNEasia is a regional information and communication technology (ICT) policy and regulation think tank active across the Asia Pacific region. See: http://lirne-asia.net/.

At the same time, no regulator with ten professional staff can match the legal and regulatory expertise available to multinational companies such as those behind Dhiraagu and Wataniya. CAM has not established as wide a range of subsidiary regulations and standardised procedures as might normally be expected of a telecoms regulator. According to LIRNEasia, it has tended to respond to companies' requests for determinations in an ad hoc manner, rather than putting in place regulatory measures in advance of market developments. It has also tended to publish insufficient information about its determinations. These shortcomings may increase risk and uncertainty in the regulatory environment and undermine CAM's ability to impose public interest regulatory solutions on providers.

The Presidential Decree establishing CAM failed to ensure its independence from government to the extent generally thought to be desirable, and required for any regulator dealing with broadcast content. A draft telecommunications law to provide a more secure legal basis for CAM has been discussed and available in draft form since 2003. As at the time of the mission, no law had yet been enacted but a draft Telecommunications Act was currently before the Majlis. Such a law would hopefully enhance the independence of CAM from government and the draft reportedly does this. If so, it should provide a better framework for CAM's operations, and strengthen its ability to intervene to promote consumer interests.

An important regulatory issue is the government's part-ownership of Dhiraagu. Dividends from Dhiraagu make a significant contribution to government funds, 9.4% in 2007, on a rising trend. Governments in many countries would be tempted to protect and promote such State assets. Although Wataniya did not allege to the mission that there was any significant, let alone deliberate, policy or regulatory intervention to favour Dhiraagu over its competitors, a number of interviewees during the mission did argue that Dhiraagu benefited from policy and regulatory decisions because of its government ownership status. Dhiraagu itself claims the regulator is strict, but not hostile to it or other operators.

Some commentators suggested that the previous government had a fractious relationship with Dhiraagu but that the present government's relationship with it is more cordial ("naïve", said some). Government procurement of communications services in practice does not seem to discriminate heavily in favour of Dhiraagu.

Recommendations
- A Telecommunications Act should be adopted to provide a secure legal basis for CAM and to protect its independence from both the government and the industries it regulates.
- CAM should establish clear rules of procedure for dealing with telcoms issues and regulated companies. This should include publication of standard procedures and subordinate regulations, as well as the reasoning behind its determinations.
- CAM should establish stronger processes for consultation with industry stakeholders, including regulated businesses and consumers, and for developing and publishing market information. This might include public consultation phases in major decision-making processes.
- CAM should strengthen its capacity to assess future developments in technology and markets, and focus on developing regulatory approaches which take this, as well as present markets, into account.
- If and when a broadcast regulator is established, CAM should work closely with the new regulator to define areas of joint and separate responsibility, and to ensure consistency of approach in areas of overlap, including

spectrum allocation policy and practice, licensing of telecoms and broadcasting operators, the regulation of triple play (providing telephone, Internet and television services as a package to consumers) and other converged services, and the distinction between services, applications and content.

Principles Underpinning these Recommendations

The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:

–   All bodies which exercise regulatory powers which could be used to limit or interfere with freedom of expression should be independent of both government and the bodies they regulate.
–   Regulatory processes which affect freedom of expression should be transparent and fair.
–   Interested stakeholders should be consulted regarding policy development and implementation where this affects freedom of expression.
–   Regulatory approaches which affect access to digital communications should be carefully tailored to local circumstances so as to maximise their potential in terms of ensuring wide access.

2.3 Censorship

Context and key issues

The right to freedom of expression applies to the new media just as it does to more traditional means of disseminating content. In a digital communications environment, freedom of expression requires that networks be 'neutral' in the sense that the flow of content should not be influenced by financial, cultural or political reasons.[18] Limitations, where these are warranted in accordance with international law, for example for defamatory or inciting material, should not be embedded in the networks themselves but applied *post facto*, just as *post facto* remedies are the norm for other media (such as newspapers and broadcasters), or by end users. Furthermore, service providers should not be held liable for content they help users access.

Despite this, controls at the network or service levels are being discussed and applied in many countries. Typically, discussions focus on issues like (child) pornography, criminal and security-sensitive activities, and content deemed to be controversial for political, religious or cultural reasons. The boundaries between what it is legitimate to control, and how, and what should not be subject to restriction, are often far from clear.

Where controls are imposed, gatekeepers should, at a minimum, be transparent about the norms and protocols used to limit content. In particular, in the case of filtering, the origin of filtering lists and the underlying criteria and processes should be publicly available.

Descriptive assessment

In March 2009, the blocking of a number of websites was widely reported by Maldivian news media, and confirmed by the Ministry of Islamic Affairs as well as the regulator, CAM.[19] Minivan News had already reported in December 2008 that plans for blocking websites were being made (see http://minivan-news.com/news_detail.php?id=5617).

The blocked sites included a mix of religious sites aiming at promoting Christianity in the Maldives, blogs openly discussing matters of secularisation, a fake

18 *In other words, you should not be able to purchase faster transportation across the system based on cultural or political reasons. See the Global Partners Principles, note 17.*

19 *See http://www.haveeru.com.mv/english/details/26178 (accessed 7 April 2010).*

site claiming to be the website of a Maldivian school, and one pornographic website. The site of Maldivian blogger Simon Shareef[20] was also blocked at this time, although it was later unblocked after a controversial post was removed. Interviewees were generally uncertain as to the legal or regulatory justification for these blocking activities.

It would appear that service providers were required by CAM to carry out the blocking, with CAM acting at the request of the Ministry of Islamic Affairs. According to the news report cited above: "The Deputy Director General of TAM, Mohamed Nazih, said that the websites that were blocked under instructions from the Islamic Affairs Ministry [and that] it was TAM's responsibility to ban the websites that the Government asked to be banned and that they didn't check to see what the banned websites contained." The report also claimed that the Ministry of Islamic Affairs confirmed that they had requested TAM to block access to some anti-Islamic websites.[21]

During an interview, representatives from the Ministry of Islamic Affairs stated that there would be no blocking of websites. But they also stated, in apparent contradiction to this, that nobody "can talk about homosexuality" and that freedom of religion was not an issue, since the "Maldives are a 100% Muslim country".

At a technical level, it would appear that the sites were blocked by IP filtering and redirects on IPSs' local gateways/proxy servers. Such blockings are not URL-sensitive, but are more primitive IP blockings, thus affecting other websites hosted under the same IP (a common practice in virtual domain hosting). Blockings of this kind can be circumvented by a number of known techniques, including the use of anonymising proxies. This type of IP-based blocking results in the blocking of websites which do not contain content deemed offensive. The process is not transparent and lacks procedural safeguards, which are available where court processes are used instead of ministerial discretion.

According to tests carried out by members of the mission while in the Maldives in October 2009, the websites in question were accessible, for example through the leased line at the hotel, but they were not accessible from some private companies' DSL lines, utilising Dhiraagu's gateway and proxy servers.

There has been an extensive debate in Europe about the legitimacy and efficiency of trying to block websites.[22] One issue is that the publicity caused by blocking activities may actually draw more attention to the content being targeted.

In other cases, content has been taken down in response to threats of or calls for prosecution. For example, Minivan News, a leading news website, removed a letter discussing the issue of homosexuality, which note that it was legal in a number of Islamic countries. This was in response to calls by an Islamic foundation for Minivan to be prosecuted. These calls were followed by a hostile campaign against Minivan in some of the traditional media, although no prosecutions were in fact initiated.

Both ISPs – Dhiraagu and Focus Infocom – offer content filters for end users. Interestingly, while Dhiraagu charges a fee for such filters, Focus Infocom charges a fee for those who wish to have this service removed. Interviewees from various NGOs and community organisations expressed the view that ISPs should offer filters and assistance in using them to families and communities.

20 http://www.randomreflexions.com (accessed 7 April 2010).

21 The name of the regulator had already been changed to CAM at the time, but the news report still used the old name.

22 See, for example, the recent debate in Germany at: http://www.netzpolitik.org/2009/the-dawning-of-internet-censorship-in-germany/ (accessed 7 April 2010).

Recommendations
- The blocking of websites through the process applied in March 2009 should be stopped.
- Where websites contain content that is deemed to be illegal, the matter should be dealt with on a post facto basis through court challenges or prosecutions, and any blocking or removal of content should only be pursuant to a court decision.
- An open discussion about blocking and filtering should be fostered in the Maldives, for example through a meeting between regulators, other relevant officials, NGOs, media representatives and the general public. International Internet rights experts should also be included in these discussions so that the Maldives can benefit from solutions tried elsewhere.

Principles Underpinning these Recommendations
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:

- Freedom of expression protects the dissemination of content via the Internet. Only restrictions which are provided by law and are necessary in a democratic society to protect overriding public and private interests may be imposed on Internet content.
- Blocking of websites, particularly through the over-inclusive system used in the Maldives, cannot be justified as a restriction on freedom of expression.
- Challenges to Internet content as illegal should, as with all such challenges, be made through the courts, not by ministries or other government bodies.

3 Diversity and competition

Summary from traditional media assessment[23]

Diversity is a key hallmark of a media sector that operates in the overall public interest. A robust democracy depends on multiple sources of information being made available to the public. A media sector which is limited in scope, on the other hand, either because of government control or because of commercial reasons, will provide citizens with less choice and will be unable to function well as a 'marketplace of ideas'.

From a regulatory perspective, there are few rules in place in the Maldives which ensure or promote media diversity. There are no specific rules on concentration of media ownership, no legal framework for licensing broadcasters which would promote diversity, no community broadcasters in the country, and no system of providing support to promote diversity of content.

At the same time, there are no legal obstacles to diversity, and media ownership is not, in practice, highly concentrated as of yet, with sole ownership of media outlets being the primary model. Indeed, both the newspaper and broadcast markets have diversified in recent years, although a recent withdrawal of much government advertising, which is now disseminated through the official Gazette, will place some commercial pressure on the media.

Overview of existing providers

There are two principal communications service markets in the Maldives, one providing voice telephony services and one providing Internet access. A total of three service providers operate within these two markets – Dhiraagu (Dhivehi Rajjeyge Gullum), Wataniya and Focus Infocom – but each market is in practice a duopoly, with Dhiraggu and Wataniya providing telephony services, and Dhiraggu and Focus Infocom offering Internet services. These two markets overlap with one another, and intersect with the physical layer described earlier in this report.

Dhiraagu had a monopoly in the ISP market until 2003, when most Internet access was still being provided through dial-up connections. Focus Infocom was selected as the second ISP licensee through a competitive process and began to offer broadband service in January 2004. Its capacity to compete with Dhiraagu was greatly improved when it obtained international fibre connectivity. CAM estimates the current total Internet market at around 30% of the population.

Dhiraagu had a monopoly in the mobile phone sector until 2005, when Wataniya was selected as the second licensee, also through a competitive process. Dhiraagu reduced tariffs significantly in the run-up to liberalisation, suggesting that its tariff structure before then was overpriced. Mobile phone penetration in the Maldives is high, with approximately 150 phones per 100 people.[24]

Until the end of 2008, Dhiraagu retained a monopoly on fixed telephony, and on local termination of international traffic. These exclusivities were removed when Dhiraagu's licence was renewed (for a fifteen year period) in January 2009, and competition was introduced into the inbound international market.

23 *This section is a summary of the UNESCO publication, Assessment of Media Development in the Maldives (Toby Mendel, May 2009). Further information about media diversity can be found in that publication, which is available at: http://portal.unesco.org/ci/en/files/28892/12459422999media_assessment_maldives.pdf/media_assessment_maldives.pdf.*

24 *Mobile teledensity rates over 100 are quite common due to dual ownership. A discussion of the reasons for this being so high in the Maldives is below.*

Dhiraagu, established in 1988, is the historic incumbent fixed line operator in the Maldives and is currently the only "total solutions provider" (i.e. the only company with both telephony and ISP licences). It is owned jointly by the government of the Maldives and the international telecoms business Cable & Wireless (C&W). The latter has joint ownership with national governments of former incumbent telcos in many small island Commonwealth countries. Until recently, the government owned a majority 55% share of Dhiraagu, but in the autumn of 2009 it sold 7% to C&W, giving the latter a majority share-holding (52% against 48%). Until this transfer of ownership, a majority of the board members, including the chair, were appointed by the government, although this is likely to change now. Dhiraagu personnel indicated to the mission that the government intends to sell a further 20-30% of its remaining shares (i.e. 10-15% of the company) through an initial public offering (IPO) in the near future, but this has not been confirmed by government officials.

Operational management of Dhiraagu has been and remains with C&W but, at the national level, Dhiraggu is managed by Maldivians. These managers, who are well-trained and professional, made it clear that only the company business plan and major procurement decisions require approval by C&W headquarters in London. At the same time, the company benefits from sharing experience with other C&W operations and from access to C&W training facilities.

All inhabited Islands have coverage via antenna towers such as this, located on a main road in Gan-Fonadhoo, Laamu Atoll.

Dhiraagu's legacy as the former sole fixed telephony provider gives it a strong continued position in the market for ADSL broadband, which is delivered over fixed lines. Its ISP competitor, Focus Infocom, uses the fixed network of cable television (CATV) operators in Malé, but it is dependent on Singapore Telecom satellite connectivity to provide service to other islands.

Dhiraagu offers ADSL on 13 islands, covering about 50% of the population, and has achieved 43% household penetration on those islands, with a total of 10,000 to 12,000 customers. Through its ADSL, WiFi and WiMAX services, Dhiraagu claims to offer broadband connectivity to 70% of the country's population.

Wataniya is the mobile telephone competitor to Dhiraagu. It was originally owned by the Kuwait Investment Corporation but, in 2007, a consortium led by the Qatari telecoms company Qtel purchased Wataniya. Qtel owns a total of seventeen telecoms businesses, mostly in the Middle East, and Wataniya's relationship with its parent group resembles Dhiraagu's relationship with C&W. According to Wataniya's management, the takeover by Qtel has strengthened its financial security, enabled it to gain experience from other Qtel businesses and facilitated investment. As a result of the high level of capital investment, however, it had not yet made a profit by 2008.

Wataniya offers 3G and mobile Internet access, although it does not yet have its own ISP licence and can only provide access though Focus Infocom. It claims that its mobile Internet speeds exceed those offered by Dhiraagu and that 80% of its mobile Internet customers use mobile Internet once a day. Packages are available which target different population segments. It has a vigorous 3G roll-out programme, and expects to achieve significant revenue gains from international roaming by tourists, provided that problems of access to resort islands are resolved (see below).

Focus Infocom holds the second ISP licence in the Maldives and offers fixed broadband services in competition with Dhiraagu, using the MediaNet CATV network in Malé and SingTel satellite connectivity to other islands. Focus was an established, locally-owned IT supply company when it won the second ISP licence. Ownership control has recently been taken over by one of the Maldives' major local businesses.

Focus Infocom claims to have 3600 fixed broadband customers. It would like to offer fibre to the home and to provide service through Wataniya's microwave network in the future. It is said to be marginally profitable at present.

3.1 Market concentration and ownership

Context and key issues

Since the 1980s, competition has become the norm within telecommunications service (connectivity) markets and, to a lesser degree, in network (infrastructure) markets around the world. Almost all telecoms service markets, where services reach the customer, are now competitive. Although some fixed networks have remained monopolies, sometimes under State control, mobile telephone markets, where infrastructure is less expensive than in fixed networks, are now almost always competitive in terms of both networks and services.

In parallel to this, and driven largely by convergence, telecoms regulation is increasingly being redesigned on a "technology-neutral" basis, i.e. according to services provided (telephony, broadband) rather than technology used

(fixed, wireless, type of wireless). This redesign may also take into account convergence between communications and broadcasting, for example in the form of a converged regulator.

The degree of market concentration/dominance is an important determinant of the extent to which the benefits of competition, including lower prices and service innovation, reach end-users, affecting accessibility and affordability of services. Convergence between different communications technologies, networks and services, cutting across traditional sectoral divisions, has led to significant new horizontal and vertical integration in communications businesses, posing a potential threat of market concentration/dominance. Telecoms and CATV operators in many countries now offer packages of services, known as "triple play", which combine telephony, Internet and television.

Concentration of ownership is also a potential constraint on diversity and the competition of ideas at the level of the content layer, as a high degree of concentration of ownership may result in less diverse content being made available to consumers and in fewer opportunities being available for expression. Cross-media ownership between telecoms, broadcasting and publishing, and the relationships between media ownership and political elites, are particular areas of concern.

Dominance can be achieved through market share or through control of essential facilities within digital communications environments, for example of international communications gateways, over which former monopoly companies have often retained exclusive rights during liberalisation. Because interconnection between networks is essential both for fair competition and to enable customers of competing service providers to connect to those of others, regulators usually require dominant operators to offer interconnection on equal terms, even to their competitors.

Duopolies are not generally regarded as desirable because of the high level of market dominance by one company which is likely to occur, and the high risk that operators will collude in cartels that maintain higher prices and profit levels at the expense of consumers. However, just as some markets are natural monopolies, some markets – particularly those with high capital costs and relatively low numbers of possible consumers – may be unable to sustain more than two competitors.

Markets which are characterised by a high degree of market dominance, including duopolies, require more intensive regulation in order to ensure genuine competition and consumer welfare. As a result, these markets are most likely to serve consumer welfare if they are overseen by a strong regulator capable of exerting its authority to prevent abuses by the dominant business. It is most effective for regulators to prevent anti-competitive behaviour by exercising ex ante (before the fact) powers against companies with "significant market power" (the ability to determine market outcomes in practice through their pricing and other actions, irrespective of the responses made by their competitors).

Descriptive assessment

There has been very considerable improvement in the availability of both networks and connectivity in the Maldives during the past decade. Teledensity and Internet access rates are higher than in other countries in South Asia, as well as least developed countries (LDCs) generally. The international infrastructure links are sufficient for present and near future needs, and service providers are extending connectivity to the islands. The Maldives nevertheless remains a difficult environment for communications infrastructure and service rollout due to its unique geographical challenges.

In terms of competition, a key issue is the limited scope for more competitors to enter a market of the size that exists in the Maldives. Although the 2006-2010 Telecommunications Policy does envisage further competition, several interviewees with high-level experience of local telecoms felt that the Maldives market has reached its natural market limit. These interviewees felt, in particular, that the voice telephony market could not sustain and would not gain from the presence of a third competitor. Some also thought that the Internet market could not sustain a third competitor, although there was scope for more ISPs providing connectivity, in particular to take Internet services 'the last mile'. The regulator, CAM, states that while more competition will be encouraged, infrastructure operators will remain limited to the existing few.

There is a high level of market dominance by Dhiraagu in both the telephony and Internet markets in the Maldives. Although market share data are not published by CAM, it is agreed by all of those concerned that Dhiraagu has a share of between 70% and 80% in both the telephony and Internet markets. In the mobile phone market, Dhiraagu claims an 80% share, with a total customer base in excess of the total population figure of 300,000, while Wataniya claims a 30% market share, with a total customer base of 130,000. Dhiraagu's share may be higher in value than its number of subscribers would suggest, including because it is more dominant in Malé, where Wataniya admits that it has only 10% of all customers, mostly at the lower-value end of the market. Wataniya has higher market share in the inhabited islands, particularly those where Dhiraagu did not offer coverage before Wataniya entered the market in 2005, and it claims to have a majority of the market in some islands. Dhiraagu allegedly concentrated its mobile offering before liberalisation on the resort islands, where it could gain high revenue from international roaming.

Regardless of the precise figures, the degree of dominance enjoyed by Dhiraagu is normally sufficient – unless a competitor is well very financed and/or much superior in performance, or unless there is strong regulation – to enable an operator to control the market and, if it wishes, to move towards an effective monopoly. Industry insiders reported that market shares are stable, and that Wataniya is not making progress towards its 2011 target of 50% market share. Indeed, neither competitor appears at present able significantly to reduce Dhiraagu's dominance.

There are a number of areas in which Dhiraagu is able to take advantage of its market dominance, and some industry experts interviewed during the mission accused it of anti-competitve behaviour. Whatever the truth of these allegations, because of Dhiraagu's former monopoly status, its competitors have had to develop their services in response to what Dhiraagu offers, while Dhiraagu has aggressively defended its market position. Some commentators said that they felt Dhiraagu had not accepted competition at the time of liberalisation, and that some in the company still had a monopolistic mindset.

A possible indicator of market-related challenges is the fact that different governmental and non-governmental actors (ISPs, the National Centre for Information Technology (NCIT), governmental offices) have all preferred to build their own infrastructures than to use existing ones, even though sufficient capacity exists on existing networks to carry more traffic. However, this may alternatively be more of a political than a market choice.

LIRNEasia's 2008 study of satisfaction with regulation in the Maldives indicated relative dissatisfaction with CAM's performance in regulating anti-competitive practices, and suggested that stronger regulation was needed to

break Dhiraagu's market dominance in several areas. At the same time, two factors help to mitigate what might otherwise be a significant problem:

1. The high level of independence of the second service providers (particularly Wataniya) in the physical layer, because of the existence of separate international cables and separate microwave backbones.
2. The fact that Wataniya, the second telephony licensee, has the backing of a substantial international communications business, which can invest with a longer-term perspective.

A natural outcome of this market structure would seem to be some form of merger between Wataniya and Focus Infocom. This would enable Wataniya to offer ISP services through mobile broadband and through the cable networks currently used by Focus, and would allow Focus to take advantage of Wataniya's networks to enhance its Internet offerings.

The outcome of such a merger would be to create a duopoly in which two companies were able to offer a full range of services throughout the country in competition with one another, including packages of services comparable with those that Dhiraagu is currently able to offer. A merger would combine Focus' strengths in Malé with Wataniya's strengths in the atolls. On balance, the competitiveness of both telephony and Internet markets would probably be increased by such a merger.

If a merger between Wataniya and Focus goes ahead, then both Dhiraagu and the new company may be able to offer triple play services, bringing telephony, Internet and television together into a single package for consumers. At the time of the mission, Dhiraagu was unable to offer triple play because broadcasting licences could only be awarded to companies with 100% Maldivian ownership, but it expected this restriction to be lifted and it was apparently already in negotiations with potential television partners. Wataniya was also considering triple play at the time of the mission, for introduction in or around 2012. This would have implications for cross-media ownership, as well as the relationships between telecoms businesses, local and satellite broadcast providers, and the local companies that provide cable TV services to their communities.

3.2 Three key competition issues

a. The resort market
Dhiraagu has a near-monopoly presence in the resort islands, even in atolls where Wataniya has a large subscriber base in neighbouring inhabited islands. Dhiraagu established its presence in the resort islands before liberalisation, through agreements with resort owners. Since liberalisation, most resort owners have refused permission for Wataniya to erect the towers it would need to link its network to their islands, arguing that this would negatively affect the scenic beauty of the resorts, while Dhiraagu has refused to provide Wataniya with access to its towers, arguing that these are not strong enough. This argument seems highly questionable. A range of techniques for network separation, e.g. frequency, polarization and modulation separation, exist and can be applied.

Dhiraagu's dominance of the resort market has more significance for competition than might immediately be apparent for two reasons:

- Although the mission did not collect data on this, it is clear that inbound roaming by tourists at resorts provides a high revenue stream for

businesses which offer that service. At present this high-value market is monopolised by Dhiraagu, to Wataniya's detriment.

– Resorts employ many residents from local islands who telephone family members and other fellow islanders while working at resorts. If they can only access Dhiraagu while working, they are likely to choose Dhiraagu as their main service provider wherever they live.

CAM has so far not required infrastructure sharing. Wataniya believes that CAM should take measures to give it access to the resort market, through agreements between the government and resort owners. This would seem an appropriate regulatory response. In particular, CAM should take measures to ensure that antenna towers are made accessible to competitors, if necessary on new, stronger towers, which would provide an obvious remedy.

b. The mobile market

As noted above, the mobile market is highly saturated, with about 1.5 subscriptions/SIMs per capita. There are several potential reasons why the number of phones substantially exceeds the number of phone users: because of differences in connectivity to different locations (users may need two

Some public buildings like this hospital connect via VSAT dish.

phones/SIMs in order to cover all locations); because of differences in price structure; because some people have both a work and a private phone; and because of the absence of number portability. In the Maldives market:

– Both mobile companies have near-universal coverage, reaching more than 96% of the population in inhabited islands. However, Dhiraagu's monopoly coverage in resort islands gives it a considerable advantage in terms of scope.

– Dhiraagu currently charges a 35% premium for calls outside its network (i.e. off-net calls to Wataniya numbers) as compared to calls to Dhiraagu numbers. Wataniya has recently begun to charge the same for off-net as for on-net calls. The price differential means that for some users it is cheaper to maintain separate SIMs than to incur Dhiraagu's higher off-net charges.

– There is no number portability in the Maldives (transferring ownership of the number to the subscriber and enabling it to be "ported" from

one operator to another). Consumers are generally reluctant to change mobile service providers if this means that they must change telephone numbers, because of the inconvenience and transaction costs involved. A recent study commissioned by CAM of number portability suggested that it was too expensive to implement in the Maldives, but this was said to be under review at the time of the mission.

– For some users, it is probably cost-effective to maintain two phones/ SIMs, so as to be able to take advantage of differential pricing plans.

c. Interconnection

Interconnection between operators, so that retail or connectivity services can be provided to and via other operators' networks, is essential if competition is to be sustained. It requires not just technical access and interoperability, but also accounting arrangements which fairly charge interconnecting operators for the facilities used on each others' networks. Dominant operators often seek to overcharge competitors for interconnection, unless prevented from doing so by regulatory oversight.

There do not seem to be significant problems with interconnection between Dhiraagu and Wataniya at present, possibly because both companies have such extensive backbone networks, making it difficult for either to take advantage of the situation. Interconnection arrangements which appear to be acceptable to both parties have been agreed between Dhiraagu and Wataniya, following some intervention by CAM.

However, Dhiraagu suggested to the mission that, within "the next five years", it plans to install fibre running north/south through the country, connecting every second or third atoll (with the current microwave system providing onward connections to other atolls and islands, and with connectivity within islands being provided through WiMAX). If fibre proves significantly cheaper and superior in quality to microwave, to remain competitive Wataniya would either need to upgrade its own network to fibre or to buy access to Dhiraagu's. It is possible that Dhiraagu's fibre network might then become the common carrier for both operators' traffic.

If this were to happen, renewed attention would need to be paid to regulatory issues in order to maintain effective competition. Without forceful ex ante regulation, Dhiraagu would be able to exploit its ownership of the fibre network to undermine Wataniya's competitiveness, with negative implications for consumers. Specifically, CAM would probably need to impose two regulatory measures in these circumstances:

– Require Dhiraagu to offer "open access" to its fibre, i.e. to charge its competitor the same price for access as it charges its own retail business.
– Require Dhiraggu to introduce internal accounting separation, so that its network (wholesale) and service (retail) businesses were costed and accounted separately, and also transparently, so that open access could be monitored. Accounting separation was proposed in the 2006-2010 Telecom Policy, but has not yet been implemented, although Dhiraagu indicated to the mission that it expected it to come about in due course. In extreme circumstances, a regulator might require a company in a highly dominant network position to separate structurally, i.e. to become two distinct businesses rather than merely to separate accounts.

Recommendations

– Consideration should be given to producing a report reviewing the best ways of improving competition from the consumer's point of view and assessing appropriate regulatory mechanisms to achieve this.
– CAM should carefully monitor potentially anti-competitive behaviour carefully and, where needed, take appropriate regulatory measures to prevent or address it. It should, in particular, monitor potential developments such as a merger between Wataniya and Focus Infocom and the development of internal fibre links by Dhiraagu.
– CAM should:
    – intervene to ensure that Wataniya is able to compete in the lucrative resort islands by mandating infrastructure sharing on those islands;
    – ask Dhiraagu to justify the differential between its on-net and off-net tariffs and, if necessary, adjust or eliminate this differential;
    – reconsider the introduction of mobile number portability; and
    – require accounting separation between Dhiraagu's network and retail businesses.

Principles Underpinning these Recommendations
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:
–   Fair competition is a key element in promoting universal and affordable access to ICT, which in turn is protected by the right to freedom of expression. Effective measures to ensure fair competition, including between network and service provision and among different markets, are therefore key to ensuring freedom of expression.

4 Platform for democratic discourse

Summary from traditional media assessment[25]
One of the key roles of a public interest media sector is to foster social debate on matters of public interest or concern. To be able to do this, the media must not only be free and diverse (roughly the topics of the two preceding chapters), but it must also have specific features, such as a strong public service broadcaster with a mandate to serve the people and clear rules on balance and impartiality, and also enjoy a degree of public trust.

The Maldives is a relatively homogenous society, with a uniform language and religion. Representation of women in the media is, while lower than men, significant and growing. The public broadcaster, the Maldives National Broadcasting Corporation (MNBC), is in a state of transition at the moment, with key legislation seeking to govern it before the Majlis at the time of the mission. For now, it lacks either formal guarantees of independence or a clear mandate to operate in the public interest, both of which the new legislation would address. Safety of journalists is not a particular issue in the Maldives, although it has been suggested that some media avoid reporting on sensitive issues, particularly drug trafficking and organised crime, out of fear of the repercussions.

Until the Media Council, currently provided for by law but not yet in existence, is established, there is no system for addressing public complaints regarding the media, either statutory or self-regulatory. There is also no code of conduct for either broadcasters or the media more generally, although the former do at least have clauses requiring them to be balanced and impartial in their contracts. It is hard to assess the level of public trust in the media. The few independent studies that have been done on this suggest that it is relatively low.

4.1 Media reflects diversity in society

Context and key issues
An active and open blogging and social networking scene is a key indicator of diversity in the new media. Blogging can make an important contribution to the ability of the media overall to reflect diversity in society. Indeed, in many countries, citizen journalism in the blogosphere is an extremely active and dynamic space for public debate, which can supplement more traditional journalism in important ways. Openness and inclusiveness of the blogosphere can also contribute to a country's development in terms of culture, politics and business.

Descriptive assessment
There is a very lively and active blogosphere in the Maldives. While quantitative figures are difficult to obtain, the country is likely to score highly globally for per capita blogging. One reason it is difficult to research the extent of activity and diversity of the Maldivian blogsophere is that it is difficult, when conducting research through search engines, meta-blogs and web indexes, to cut through the noise of tourist themes that dominate the global public perception of the country. Moreover, local blogs on themes of political, social,

25 *This section is a summary of the UNESCO publication, Assessment of Media Development in the Maldives (Toby Mendel, May 2009). Further information about the media and democratic discourse can be found in that publication, which is available at: http:// portal.unesco.org/ci/en/ files/28892/12459422999 media_assessment_ maldives.pdf/media_ assessment_maldives.pdf.*

cultural and general interest tend to be rather poorly connected to global meta-sites.

The Maldivian blogosphere is, however, well connected internally, and meta-sites and aggregation engines like Mvblogs.org provide evidence of the level of activity. Although these appear to be rather closed systems, with inclusion being moderated and self-registration disabled, they do include many expatriate blogs, as is to be expected from a country with so many international contacts and students abroad. Mainstream journalists and media are well aware of the existence and value of the Maldivian blogosphere. MNBC, for example, dedicates a weekly programme to excerpts from local blogs.

The range of themes and topics covered by the Maldivian blogosphere is very extensive, including many issues that are seen as controversial by the classical media and in the overall political landscape. These include topics like religion and secularity, sexuality, and modern lifestyles, drugs and party life. This suggests that it is understood that blogs as a medium are subject to less control and enjoy greater freedom of expression than the mainstream media. Bloggers know that the scope of freedom is not, however, unlimited and, in some areas of controversy, bloggers employ protective approaches, like using the term 'alternate lifestyles' instead of 'gay' or 'homosexual'.

In some cases, bloggers have been successful in bringing controversial topics to the wider attention of the mainstream media, politicians and the general public. Perhaps the most important such blog exposure was the case of the "child concubines", bringing to public attention the sexual abuse of underage females.[26] A major debate in the online and offline media followed the initial blog.

The case which led to the initial blog eventually resulted in a public prosecution. The police and the Human Rights Commission of Maldives (HRCM) started to investigate similar cases, and the initial prosecution was followed by a number of other legal cases. The size of the social problem was eventually acknowledged and addressed by the President in a special campaign.

Raising these controversial issues can lead to harassment and other negative results. Blogger Hilath Rasheed, who made the initial disclosure, was reportedly taken in by the police for questioning, although he denied reports by RSF that he had been arrested.[27] He has also received a number of threats, including death threats, for his blogging.

The Maldivian blogosphere is characterised by the widespread presence of defamatory, abusive and threatening discourse. Verbal attacks on bloggers often involve personal insults, frequently involving allegations regarding religion, sexual preference, lifestyle or drug abuse. In addition to online attacks, some bloggers have been threatened offline. The mission spoke to a number of bloggers and individuals who maintain blog Meta sites who claimed to be the subject of such threats, including death threats. At the same time, these individuals did not appear to take these threats very seriously.

We asked bloggers and experts for their views on the emotionally charged and heated Maldivian blogosphere. Many ascribed the tone to the fact that blogging was a newfound outlet in a society just starting to come to terms with freedom of expression after not having enjoyed it previously. A second reason is the fact that in a small and densely populated country, everybody knows everybody else, and that personal and private factors often overlay political and social discussions.

26 See www.hilath. com/?p=1332 (accessed 7 April 2010).

27 See http://www. sananews.com.pk/english/2009/10/06/journalist-refutes-rsf-report/ (accessed 7 April 2010).

Recommendations
– Maldivian bloggers should consider developing connections with global blogging meta-sites such as Globalvoicesonline.
– Maldivian bloggers should also consider trying to develop a system of sector self-regulation and ethics, for example adopting a shared code of conduct and work principles. The more informal organisational structures of the blogosphere, such as the blog meta-sites, might be used to start a discussion about this.
– Sufficient resources and attention should be allocated to investigating allegations of illegal threats against bloggers and the authorities should make it clear that such threats will not be tolerated.

Principles Underpinning these Recommendations
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:
– Measures to strengthen the Maldivian blogosphere contribute to diversity and contribute to the realisation of freedom of expression.
– Self-regulation is an effective means of promoting an appropriate balance between avoiding harmful expression and protecting freedom of expression.
– Threats against those exercising their right to freedom of expression exert a chilling effect on this right. As a result, States are bound to devote sufficient attention and resources to preventing such threats and to investigating them when they do occur.

4.2 E-government

Context and key issues
In countries which are in the process of democratic transition, e-government can support and in some cases facilitate transformation of public services so that they become more citizen-oriented. In order for this to happen effectively, a coherent set of policies and strategies to guide the development of the necessary regulatory framework, organisational and technical infrastructure, and information systems is required.

Descriptive assessment
The Maldives had the highest e-government readiness in South Asia in 2008, and it continues to lead the region, followed by Sri Lanka.[28] The homepage of the main government website[29] directs users to the websites of various ministries. Most ministries have an online presence, but the options provided by each ministry website vary significantly. Some are more developed and allow for the public to make use of various services and to download forms for free[30] and some are listed but are not yet accessible. A draft e-government bill is expected to reach the Majlis in 2010, but this was not seen by the mission.

28 *See UN E-government Readiness Survey 2008, United Nations Economic and Social Affairs.*
29 *See http://www.themaldives.com/government/.*
30 *See, for example, the websites of the Ministry of Fishery and Agriculture and the Ministry of Human Resources Employment and Labour.*

The Government has recently initiated the Information Technology Development Project (ITDP), an e-government project which aims to improve the efficiency, accountability and transparency of the public sector. The National Centre for Information Technology (NCIT) is the lead agency responsible for the development and promotion of information technology in the Maldives, and it is responsible for implementing the ITDP project. The project has three main components, namely applications, the network and public kiosks.

The application component revolves around the establishment of an overall e-government service platform consisting of common applications across

The assessment team used a variety of methods to uncover media and ICT usage here through a focus group discussion with NGOs and community groups in Gan-Fonadhoo.

government, such as email and Internet services, with the dual aim of enhancing internal communications and providing the public with information and services on-line. As of the end of 2009, this component is still being implemented. Three main portals will be created – the government to government portal (G2G), the government to citizen portal (G2C) and the government to business portal (G2B) – to streamline navigation. The G2G portal will function as a government intranet, while the G2C and G2B portals will be single window entry points for citizens and businesses, respectively.

As part of this component, online applications will be developed for:

1. Registration and fee payments for vehicles and vessels.
2. Birth and death registration and certification, along with a vital health statistics database.
3. Expatriate employment services, including payments for work permits and verification of employer status.
4. Company licensing and management, and registration of shops.

Although other potential service delivery uses have been identified, they are not priorities. A more ambitious approach to this aspect of the e-government service platform could be considered, taking into account what is available in many countries. Other improvements envisaged are systems for managing and monitoring in – and outgoing mail, enhanced government knowledge management through improved intranet facilities, and improved internal data exchange and management.

The network component revolves around the establishment of the Government Network of Maldives (GNM), the actual network which will connect governmental organizations and parastatal agencies in Malé and the 20 atoll capitals via fibre, ADSL and satellite. Fibre will be the main distribution network and will operate within Malé and connect some atoll capitals, with satellite connecting the rest. ADSL will carry the network to agencies accommodated in temporary locations.

NCIT indicated that it decided to build its own backbone network, citing at the reasons problems in remote connectivity and prohibitive pricing by existing ISPs, rather than technical unavailability. Given the overwhelming mobile teledensity and imminent 3G deployment in the Maldives, it will be important to consider the efficiency and capacity of delivering e-government services through mobile phones in addition to this new network and system of kiosks.

In February 2005, the contract for building the network was awarded to CET Technologies Pte Ltd (CET), of Singapore. NCIT reported that the development of the fibre network for Malé, connecting 110 sites in 88 buildings, was completed in January 2006. However, it would appear that the system is not yet fully established and, in interviews, none of the government agencies and departments reported being connected to it. Budget and capacity bottlenecks were named as the main obstacles by NCIT, which throughout 2009 was still looking to hire staff to operate the network. In an interview, the Civil Services Commission also mentioned that it was considering building its own network between ministries and departments, due to the slow speed at which the NCIT network was being developed.

Public service kiosks are being provided to enable citizens to access the service platform. They will be available in Malé and in the atoll offices, although resource constraints mean that they will not be located on every island. Procedures for making payments over this system have yet to be developed. In Laamu, the one atoll office visited by the mission, the kiosk had been installed but it was not yet operational.

The government has also established multi-purpose community tele-centres (MCT) on some islands where private Internet access is not yet available. Available facilities include fax, telephone, Internet, TV and radio. A Guidebook has been developed on establishing MCT's,[31] which includes a step-by-step planning process on how to do this. The importance of active community participation is highlighted, including ensuring that each centre accommodates the specific needs of island residents.

The project serves multiple purposes. These include providing access to new markets and income possibilities, and facilitating telemedicine and tele-education. The MCT's will also increase general ICT awareness and knowledge of the possibilities it provides, and facilitate training in IT services such as word-processing and using the Internet.

Recommendation
- Consideration should be given to how the extensive mobile phone network that exists in the Maldives can be used to speed up, extend or render more efficient e-government service delivery plans.
- Government could consider using 'Gov 2.0', for example through social media and networking, blogs, mobile applications and the like to increase citizen participation, collaboration and efficiency in government.

Principles Underpinning this Recommendation
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:
- Governments should make use of the most effective locally available means to roll out e-government service delivery.

31 *The Guide Book is available at: http://www.ncit.gov.mv/downloads/Guidebook.pdf.*

5 Professional capacity building

Summary from Traditional media assessment[32]

It is important that media workers be able to access training courses – both academic and professional – that are suitable to their needs and that equip them with the necessary knowledge and skills to be able to help the media fulfil its role in a democratic society. Media workers should also be able freely to form trade unions and professional associations to advocate on their behalf. Finally, an active civil society sector focusing on media issues – both to defend media rights and to monitor the performance of the media – can make an important contribution to a democratic, public interest media sector.

General training opportunities for the media in the Maldives are somewhat limited and there is a widespread perception that far more training is needed. Some training is offered by international trainers, and also in-house by some media outlets, notably MNBC. A diploma course in journalism for O-level graduates was supposed to start at the Maldives College of Higher Education (the country's degree-granting institution) in January 2010, but it has been delayed due to a lack of qualified staff.

Organisational structures for the media are also limited. There is no union serving media workers and only one association of journalists. There are also no local NGOs focusing specifically on media issues, although some international media groups do monitor developments in the Maldives.

5.1 The digital communications environment

Context and key issues

In the telecoms and Internet sector, capacity building and training are important for policymakers, regulators, companies and end-users. Policymakers and regulators need to have an understanding of technical issues, as well as a range of more traditional policy/regulatory knowledge and capacities. Businesses need to be able to access a wide range of skills related to technology, business management, consumer relations and regulation. Users need to understand what different technologies and services offer them, as well as how to use and adapt these technologies to their specific needs. For example, open source software can often provide accessibility for less affluent users, but only where they have the skills to make use of it. To make the most of the ICTs, users need to know not only how to use it, but also how to navigate around it, distinguish between partial and impartial analysis, and how to 'behave' in relation to others.

Descriptive assessment

In general, existing capacity levels in the Maldives seem to be relatively strong for a small island State, particularly among specialised bodies. CAM has relatively few senior personnel (approximately ten professional staff), but they exhibit a high level of competence within their roles, and appear to have benefited from international training and capacity-building programmes that are available for regulators.

32 This section is a summary of the UNESCO publication, Assessment of Media Development in the Maldives (Toby Mendel, May 2009). Further information about professional capacity building can be found in that publication, which is available at: http://portal.unesco.org/ci/en/files/28892/124594 22999media_assessment_maldives.pdf/media_assessment_maldives.pdf.

There appears to be more of a capacity gap at the policy level, in particular in the Ministry of Civil Aviation and Communications. This has resulted in CAM playing a significant policy guidance role, which can be problematical if it means CAM effectively both sets and enforces the rules.

There also seems to be a lack of expertise in other parts of government in using ICTs to promote development goals, including at NCIT. If ICTs are to play a substantial role in the delivery of overall government development objectives, there is scope for enhanced capacity relating to project design, management and impact assessment.

Although Dhiraagu and Wataniya are both effectively overseas companies, their personnel, including senior management, are overwhelmingly Maldivian and have high levels of competence. Both benefit from training and experience sharing with other companies in their parent companies' portfolios. Cable & Wireless has invested heavily in training management personnel in its island companies for many years.

Small businesses and citizens in the Maldives have shown a strong interest in using ICTs. Internet use in Malé is extensive and innovative (including content generation). There does not seem to be much need to stimulate demand or to raise awareness where applications and services are available which have value for citizens and businesses.

Even remote Islands have mobile coverage enabling people to access the internet via mobile phones like this Island officer checking Facebook using his iPhone on Maabhaidoo Island.

At the same time, in many interviews – for example with the Civil Service Commission, ministries, government offices and media – the lack of staff skills, training and ICT capacity were raised as a major problem. These capacity shortfalls limit the country's ability to realise its ICT goals, as acknowledged in the government's Action Plan. Furthermore, it is likely that limited availability of services in Dhivehi is a constraining factor for the many Maldivians who do not speak English well.

ICT skills among island residents in the Maldives are less developed than in Malé. There is a significant pattern of migration to Malé, as island residents seek better opportunities in the capital, and this poses a threat to national development goals. To increase employment possibilities and enhance access to services, the government plans to establish economically and environmentally sustainable growth centres at the atoll level, as part of their e-governance roll-out. A component of this wider project, being run by NCIT, is the establishment of a broadband network in four focus islands, namely B.Eydhafushi, Lh.Naifaru, G.Kudahuvadhoo and L.Gan. The project also involves:

– Building network capacity to support telemedicine in selected islands.
– Connecting schools in the focal islands to the national school intranet.
– Undertaking capacity building to support and maintain network services.
– Connecting job centres.

Business representatives told the mission that there were significant shortages in specialised ICT skills within the country, for example regarding installation and maintenance of equipment. This is a common problem in small island countries. The government is seeking, in its Strategic Plan, to promote the development of an ICT sector and, if this is successful, it will further increase the demand for ICT-skilled personnel.

Recommendations
– A general programme of capacity building should be undertaken in the ministry responsible for communications and on ICT4D in other ministries for which communications is key to the achievement of their objectives.
– A general awareness-raising programme on the benefits and usage of various ICTs and e-governance services should be implemented, including through integrating this into school curricula.
– The availability of specialised ICT skills – including designing, installing and maintaining websites – should be increased.

Principles Underpinning these Recommendations
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:

– Government can only fulfil its role in promoting ICTs, both generally and in different sectors, if it has the capacity to promote and regulate this sector effectively. Similarly, promoting the development of ICTs requires strong private sector capacity.
– Effective access in practice by the public requires not only technical availability and affordability, but also awareness of the benefits and potential of ICTs in social, political and economic terms.

6 Infrastructure and connectivity

Summary from traditional media assessment[33]
For the media to be able to play its role in informing the public and acting as a platform for democratic debate, it must be able to access the technical facilities needed to do its work, both traditional and modern. It must also have the effective capacity to be disseminated widely around the country, including to marginalised groups.

There are no formal restrictions in the Maldives, other than cost, on access to both traditional and modern technical facilities. In practice, most media have pretty good access to the Internet and other facilities, although more training in this area is needed and a number of 'last mile gap' challenges exist.

Distribution of mainstream media is less pervasive. The national broadcaster, both radio and television, is available nationwide through terrestrial transmission, as well as over the Internet and through cable. Most other media are, at least partially, available over the Internet but do not otherwise reach beyond Malé and nearby islands. Local cable operators bring a range of international channels to many inhabited islands.

Overview of existing situation
International connectivity to the Maldives is provided by three main routes:

– A 10Gb submarine fibre optic cable linking the Maldives with Sri Lanka, which is owned 85% by Cable & Wireless (Dhiraagu's owner) and 15% by Sri Lanka Telecom.
– A submarine fibre optic cable, known as WARF, linking the Maldives with southern India, which is owned 60% by Wataniya, with minority shareholding by Focus Infocom and the Indian telecommunications company Reliance.
– Satellite connectivity through a variety of satellite operators, including Cable & Wireless (for Dhiraagu) and Singapore Telecom (for Wataniya and Focus Infocom).

Fibre optic links are superior to satellite links in both price and quality, and now provide the core international infrastructure for voice and data (telephony and Internet). Satellite links are used primarily as redundancy.

Within Malé, both Dhiraagu and Focus Infocom operate fibre optic networks independently. Customer access is offered via DSL and various fixed line packages. Speed offered to the end customer ranges from 64 kb on leased lines to 4 Mb for private ADSL, and greater speeds for corporate rates. In addition to optical and copper lines, mobile Internet (EDGE) is available in all of the capital area.

Connectivity between Malé and other atolls is mostly provided by microwave links, including the 65 km cross-equator link between the southern atolls of Gnaviyani Fuvammulah and Gaafu Dhaalu. This is complemented by one intra-national fibre link between the southern atolls of Laamu (Laamu Gan) and Gaafu Dhaalu (GD Ghadhdhoo). In addition to fibre and wireless based infrastructure, satellite (VSAT) connections are still being operated by both Dhiraagu and Focus Infocom.

33 This section is a summary of the UNESCO publication, Assessment of Media Development in the Maldives (Toby Mendel, May 2009). Further information about media infrastructure can be found in that publication, which is available at: http://portal.unesco.org/ci/en/files/28892/12459422999media_assessment_maldives.pdf/media_assessment_maldives.pdf.

The current Internet infrastructure brings broadband connectivity to Malé and thirteen of the 200 inhibited islands, covering an estimated 50% of the population. With about one third of the population concentrated in Malé, the 50% overall reach means that some 75% of the island population does not have access to broadband Internet. Furthermore, there is a large gap between accessibility and actual take-up or penetration. This is a characteristic feature of a country with strong infrastructure, yet a lack of user-oriented services.

The same situation largely applies in the governmental sector. Although in theory all atoll and island offices and schools should be connected to the Internet, interviews at the Civil Services Commission and the Laamu Atoll office show another picture, and fax and phone remain the communication modes of choice. Of three random samples taken by phone during our interview at the Civil Service Commission suggested, none of the island or atoll offices had Internet access and only one atoll school, the country's second largest, had dial-up access. However, a mission visit to Laamu Atoll indicated that schools and offices in the main towns were all connected to the Internet.

All three Internet and mobile operators, namely Dhiraagu, Wataniya and Focus Infocom, operate on Laamu Atoll main island, in the towns of Fonadhoo and Gan. As an example, the Dhiraguu tower in Fonadhoo connects the island via fixed wireless to the operator's backbone. A few hundred meters away from the antenna tower, cafes and restaurants operate Dhiraagu wireless zones, although they do not appear to be used heavily. However, most of the households in the community remain unconnected. Some people from smaller islands, such as Maabaidhoo, make trips to the larger towns by boat in order to access the wireless zones. Mobile Internet is generally available and reliable, and appears to be used widely.

6.1 ICT penetration and connectivity

Context and key issues
The availability of adequate telecommunications infrastructure is a prerequisite for ICT penetration and connectivity. Adequate infrastructure is needed at each stage in a chain connecting the individual user to a local network, national backbone network and the global communications network.

Descriptive assessment
In terms of the main international links, although the government apparently encouraged Dhiraagu and Wataniya to share a single fibre link, Dhiraagu at least preferred to participate in a separate consortium, enabling it to control its own international connectivity. The two international cables have led to substantial price reductions, and duplication may have increased the effectiveness of competition between ISPs. However, mandated infrastructure sharing might well have achieved the same result at lower overall cost.

The cables now deployed are more than capable of meeting current and foreseeable demand. An unofficial estimate seen by the mission suggests that the Dhiraagu cable was using 6% of its capacity in early 2008, while WARF was using 3% of its capacity.

Duplication provides for redundancy, which enables continuity of service in the event that a cable is cut or service is otherwise interrupted. CAM has encouraged agreement between Dhiraagu and Wataniya to provide service to one another in the event of interruption. Both companies stated to the mission that such an agreement was in place, and that they would cooperate

effectively in the event of interruption. Other informants were sceptical as to whether this was in fact the case.

Overall development of the main internal networks has been largely determined by Dhiraagu, as the former monopoly and dominant operator. It has focused on three main objectives.

ICT learning centre at one of the schools on Gan-Fonadhoo Island.

- In the 1990s, it focused on achieving universal telephony access, through the provision of payphones in all islands. This was achieved in 1999.
- From 2000 to 2007, it focused on the establishment of its mobile business, extending mobile connectivity to all islands.
- Since 2007, it has focused on the development of its broadband ADSL business, including WiFi and WiMAX services in islands where it does not offer ADSL. Broadband services are offered at 512kb, 1Mb, 2Mb and 4Mb tiers. Dhiraagu is also "working towards 3G" mobile service, but says that it expects the short-term benefits of this to lie in improved voice rather than data services.

Each telephone company has its own backbone network, and these run in parallel around the country. As with the international links, while this does provide a higher degree of competition than might otherwise have been achieved, and offers greater redundancy, it could be argued that economies of scale would have been achieved if a single microwave backbone had been established with mandated infrastructure sharing.

In general, Internet and mobile communications infrastructure in the Maldives is developed to a high level, particularly for a country which is geographically split into many islands, and is currently still considered by the UN to be among the worlds Least Developed Countries (LDCs). The country's unique geography poses special challenges, and whereas Malé has saturated connectivity for both Internet and mobile phones, large parts of the remote regions remain underserviced. With a large percentage of the population living on thinly populated and remote islands, closing the last mile gap is, without a doubt, the key challenge.

At the same time, a careful analysis shows that the line between connected and disconnected parts of the country is influenced not only by geography but

also by economic factors and the lack of effective last mile strategies. Remote resorts, for example, have good connectivity, while some communities in direct proximity to these resorts remain largely unconnected, including on Laamu Atoll, visited by the mission. This suggests that closing the last mile gap needs attention in terms of market and regulatory approaches, as well as technology.

It may be noted that the traditional media are affected by connection challenges in the remoter parts of the country. Journalists cite the poor quality of island connectivity as one of the main obstacles to locally produced content being included in nationally broadcast programs. MNBC informed the mission that all atoll offices are connected with 512 kb lines, and 2 Mb dedicated lines for special events. But the poor quality of these lines means that audio/video clips of 20 Mb cannot successfully be transferred to Malé, even over a period of hours. Instead, MNBC journalists in the atolls are forced to use the networks of other organizations, such as those of the police, to transfer files, with obvious negative consequences. The lines are also prohibitively expensive for MNBC.

It seems likely that any solution to rolling Internet access out the last mile will involve local providers. Dhiraagu, for example, has offered to enter into revenue sharing arrangements with local community providers, who could connect homes in unconnected islands through their local CATV networks. There has not been substantial take-up of these offers, which Dhiraagu believes could be cost effective in communities of more than 150 households.

The problem appears to be unaffordable start-up costs for the local providers. In interviews with local NGOs and citizens in Laamu Atoll, people typically said they were willing to pay between Rf. 300-500 per month for broadband access, and a spot survey found about one third of the residents would buy Internet services if offered at Rf. 300 per month. The mission also spoke to community operators in Gan/Funadhoo Island (the administrative capital of Laamu Atoll) who are interested in closing the last mile gap by means of Internet via cable TV or wireless technology. With the monthly cost of a 6 Mb connection for redistribution quoted as being Rf. 24,000, this seems to be a reasonable business proposition.

However, there is an additional upfront cost of some Rf. 160,000 for "bandwidth management hardware", which would have to be carried by the local community. This, combined with the fact that CATV operators indicated that even their well-established cable TV business did not allow for any local profit, makes local communities reluctant to get into the business of providing Internet services.

In order to address these problems, and to promote inclusive connectivity levels across the country, new business models for last mile access need to be developed, while the current situation may be described as classical market failure in "non-commercial" areas. Universal Service Funds are one option, although experiences in other Asian and African countries show mixed results.

A creative dialogue between regulators, operators and community activists seems advisable in order to identify innovative models for last mile access. Low cost, low power community networking models exist and are suitable for the specific situation of the Maldives. The economic nature of the last mile demands low cost approaches. A low power approach would also support the country's ambitious zero-carbon vision and fit in well with the decentralised character of the networks to be deployed.

The specific geography of atolls, namely island groups with distances normally ranging up to 10 kilometres apart, typically with several neighbouring islands within line of sight, are a strong fit for the properties of available wireless

technologies. These could be driven by intra-atoll solar and wind power, creating benefits across strategic sectors.

It should be noted that communities may have undue expectations, having been exposed to relatively high broadband speeds, and that a community of, say, 30 households could in theory be connected with significantly less than 6 Mb, if proper bandwidth management techniques, cache/proxy and local storage are deployed. Even with an ambitious contention rate of 1:20 (as suggested for business broadband by LIRNEasia), and a goal of 256 kb per customer, true 375 kb of total bandwidth would be sufficient as an entry point. Seamless upgrading of bandwidth is technically unproblematic, if needed to keep up with growing markets.

Recommendations
- The regulator and network operators should explore the technology and economics of new connectivity options, including 3G, WiFi and WiMAX, with a view to identifying ways of enabling lower-income groups and remoter islands to afford higher levels of access.
- More attention should also be focused on regulatory strategies to close the last mile gap, potentially including pricing interventions, to foster the entry into the market of local service-based providers using the networks/infrastructure of the three main existing players.
- The idea of promoting a discussion between the various stakeholders – government, the regulator, the main operators, local operators and local communities – about how to address last mile gap problems should be considered.

Principles Underpinning these Recommendations
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:

- The right to freedom of expression applies to everyone. Access to ICTs is, in modern democracies, central to the ability of citizens to access information and to articulate their views. States are therefore bound to devote sufficient resources and attention – including through regulation and other means – to ensure that everyone has access to the Internet.

6.2 Other infrastructural enabling factors

Context and key issues
The availability of stable and affordable power/electricity is a prerequisite for the success of other strategies to ensure the availability of digital communications to all. Access to stable electricity is often named as one of the biggest obstacles in countries facing geographical and technical challenges to provide Internet access in remote and rural environments. This challenge often further cements gaps between capital/urban regions and remote provinces, amplifying social and political divisions.

The potential for mobile banking transactions in countries/areas with limited physical bank infrastructure has been demonstrated in economies from the Philippines to Kenya, where it has usually been a (telecoms and or financial services) private sector led development.

Descriptive assessment
None of those interviewed during the mission, across a number of sectors and organisations, named access to power as an issue. Electricity is stable

and available everywhere, even in smaller islands. Our visit to Laamu Atoll confirmed that and even smaller island villages typically have abundant street lighting, household electricity and general power infrastructure.

The dominant source of electrical power is kerosene, which gets shipped to the islands by boat. Photovoltaic power installations (solar power) and other sustainable sources of power are found in only a very few places. This is an interesting paradox in the Maldivian context, where the potential business and development opportunities from solar power are clear. Due to its geographical location, the country has privileged access to three main forms of sustainable energy, namely solar, hydro and wind energy. Plans for feasibility studies and pilots for large-scale wind farms are apparently being undertaken.

It may be noted that environmental initiatives could catch the interest of and generate support from the tourist sector and other visitors. Initiatives linking eco-tourism to local environmental programmes in other countries have successfully demonstrated the potential of this. Furthermore, national strategies for ICT and network inclusion should be seen in the context of the country's zero-carbon emission vision.

Businesses in the Maldives outside major population centres would particularly benefit from mobile banking transactions. A platform for this is currently being designed, unusually, by a government agency, namely the Maldives Monetary Authority, with funding from the Asian Development Bank. This is intended to be accessible through both competing telephone companies and to be available by the end of 2010.

Recommendations
–   National strategies for ICT, energy and tourism should be linked together under an inclusive vision which promotes synergies between these sectors.
–   Pilot projects to initiate energy self-sufficient rural communications networks should be considered.
–   Consideration should be given to linking the ambitious wind power projects currently being initiated in the Maldives with a wider ICT strategy.
–   Efforts to develop mobile phone banking should be supported and prioritised.

Principles Underpinning these Recommendations
The following principles, based on freedom of expression as guaranteed under international law, along with the practical considerations outlined above, underpin these recommendations:
–   States should take advantage of all available tools to fulfil their obligations to promote universal access. This includes taking advantage of coordination, of the local context, including in relation to the energy needs of ICTs and existing networks, such as high mobile phone use.

7 Annexes

7.1 ANNEX 1:

Update to the Initial Assessment of Media Development in the Maldives

Update to the Initial Assessment of Media Development in the Maldives

I. Regulatory system

A number of legal and regulatory developments have taken place or come to light since the first media development assessment for the Maldives was done in May 2009. Although the media council was supposed to have been appointed, this has still not happened, in part because of a lack of support for the law among practicing journalists and other media workers.

There is still no law protecting privacy in the Maldives, although it is protected by Article 24 of the Constitution. It would appear that a privacy law or some variant thereof is on a list of priority legislative needs prepared by the Attorney General's office. We were informed that a Data Protection Bill is being prepared by a local consultant that this is expected to be ready in a couple of months. Finally, we were informed that the Maldives National Broadcasting Corporation has a clause on respecting privacy in its editorial policy document.

The Maldives has still not adopted intellectual property or copyright laws. An intellectual property law is apparently being developed with the assistance of the World Intellectual Property Organization (WIPO) and a law on copyright and related issues is with the government.

A bill purporting to abolish criminal defamation has been tabled in parliament by the government and was, at the time of the mission, before a parliamentary committee. According to reports, however, it seems unlikely that this will pass due to opposition in the Majlis. At the same time, a new Penal Code is being considered by parliament, which does not provide for criminal defamation. It remains to be seen how this issue will be addressed.

We were informed that there have been some criminal defamation cases over the last year, since the new Prosecutor General announced that he would start bringing these cases (see page 5 of the original assessment). At least one case against the media, involving a senior political figure, has been brought before the courts.

A number of civil defamation cases have been brought before the courts, and we were informed that there have been about ten high-profile cases over the last year (civil defamation was introduced in the Maldives only in January 2007). In many of these cases, plaintiffs are asking for very large sums of money, up to Rf. 50 million (approximately USD4 million). Actual awards, however, are much lower.

The mission was informed that the Ministry of Islamic Affairs is seeking to introduce a new regulation under the Law on Protecting Religious Unity, which would impose detailed and specific restrictions on freedom of expression, purportedly to prevent statements which are contrary to Islam, as provided for in the Constitution.

The Human Rights Commission informed the mission that it has never received a complaint against the media or involving the media. It has, however, received one complaint based on defamation.

II. Media diversity

A broadcasting bill has been prepared by government and the mission was informed that it would be placed before the Majlis imminently. Although the mission did not have access to an English version of the bill, according to comments made by interviewees, it would significantly transform the broadcasting environment in the Maldives. Among other things, it would establish a new and independent broadcasting commission to license and regulate broadcasters. It would also put in place a number of public interest rules governing broadcasting, including requiring broadcasters to carry a minimum percentage of local content and establishing a code of conduct and complaints system for broadcasters.

The government's plan to move most of its advertising away from commercial media and instead to disseminate its advertising through the Official Gazette, noted on pages 9-10 of the original assessment, has been implemented. The fund which was under discussion at that time to help protect media outlets against the loss of income this would entail has, however, not been put in place, largely because of serious budget pressures on the government.

III. Platform for democratic discourse

A law on public service broadcasting has been placed before the Majlis and is now at the committee stage. Although the mission was not provided with a copy of the draft law, according to descriptions of it by those interviewed, it appears to be based heavily on ARTICLE 19's A Model Public Service Broadcasting Law. It does not, however, necessarily take into account the local situation in the Maldives. For example, the Board is to be appointed by the Majlis, but only NGOs may make nominations to the Board, despite the fact that there are not very many NGOs in the Maldives. 20% of all programming must come from independent producers, exactly as in the ARTICLE 19 Model Law, although local production in the Maldives is limited. And advertising is limited to 25% of overall funding, again as in the Model Law, although most funding for MNBC currently comes from advertising.

Since the May 2009 media assessment, the MNBC now hires its own employees, who are no longer civil servants. In an effort to ensure that issues relevant to local populations are covered, MNBC has placed a journalist in every atoll. Technology permitting, a clip from these journalists is included in the 8pm news every evening.

IV. Professional capacity building

The diploma course on journalism noted at page 14 of the original assessment has been developed but it will not be offered in 2010, at least, at the Maldives College of Higher Education. The main reason for this is apparently a shortage of qualified teachers to deliver the course.

V. Infrastructure

The mission visit to Laamu Atoll and Maabaidhoo Island supported the conclusions regarding media availability set out in the original assessment. Newspapers are generally available over the Internet but are not physically distributed in atolls which are not proximate to Malé. TVM is available both terrestrially and through the cable networks which the majority of island residents subscribe to. VoM is available via terrestrial transmission on both the AM and FM bands in the islands. Other broadcasters are not available except in islands close to Malé.

7.2 ANNEX 2: Laamu Atoll case study

ICT and new media landscape on Laamu Atoll and Maabaidhoo Island

7.2.1 Introduction

In order to obtain a clearer understanding of the situation in the whole of the Maldives regarding ICT and the new media, and the discrepancies between Malé and the other atolls, a brief one and one-half day visit was conducted to Laamu Atoll in the Southern Maldives. The field visit mainly took place on the capital island of Gan/Funadhoo, but the mission was also able to make a brief visit to the remote island of Maabaidhoo to observe the difference between the provincial capital and smaller and more remote islands.

The research tools used during the visit were key informant interviews, a focus group discussion with CSOs, women committees (eight men and women) and one group interview with young school students. In addition, inspection of communications facilities such as computing equipment Internet speeds and telecom towers was conducted.

Laamu Atoll forms the southern limit of the Central Maldives. Under the current regionalisation process, Laamu and Thaa Atolls will comprise the upper South Province (Mathi-Dhekunu Province) as one out of seven administration regions. The administrative capital is Gan, located on Gan/Funadhoo Island. There are a total of 82 islands in the atoll, of which 12 are inhabited. The total population is around 15,000, with 5,000 living on Gan/Funadhoo Island, and with an increasing number of people migrating out of the atoll. Geographically, Gan and Funadhoo are two islands now joined by bridges between them and two other smaller islands. Gan/Funadhoo is the second largest connected landmass in the Maldives, with the longest road running some 16 kms.

The atoll had a self-sufficient economy until 1970s and it remains relatively developed compared to neighbouring atolls with a large population. The biggest industries are fishing and agriculture (maze and rice), but an increasing number of people combine a service sector job with a small agricultural livelihood project. Around 20% of the population is employed in regular service jobs, and the rest work in fishing or farming. The youth tend not to be very interested in fishing and farming, but prefer office or security-related jobs, partly because fishing is a seasonal business. Tourism has not traditionally been a big sector on Laamu Atoll but the first tourism resort, 'Six Senses' located on Olhuveli Island, is due to open in early 2010, creating new employment opportunities.

Map of Laamu Atoll:

An Internet Service Kiosks – not yet in use – for e-Government services at the Government Atoll Office.

7.2.2 Laamu Atoll

The Atoll office

The atoll office provides administration and services in the areas of trade and economic development, transport, the fishery and agriculture. It also keeps an overview of the situation, monitors implementation and reports to Malé on progress, problems and development in the atoll. The office only provides services in areas that the ministries instruct them to and most services for citizens are provided directly from Malé. The office is in a transition phase, waiting for the provincial office to start operations, as it remains unclear what roles will be taken on by which office. Some of the main services currently provided are issuing trade certificates and driver's licences.

The national e-government portal and service platform being developed (see main report) is not being used by the atoll office. The Internet kiosk for citizen's access to the portal is installed, but it is not operational.

The employees of the atoll office use computers in their daily work, employing word processing, spreadsheets and e-mail. In most cases, information is sent by island-based officers to the atoll office by fax and then it is entered into spreadsheets there and sent by e-mail to the ministry in Malé.

Internet and telecom connectivity

All three Internet and mobile telephone service providers – namely Dhiraagu, Wataniya and Focus Infocom – operate on the capital island of Fonadhoo and Gan. For example, the Dhiraguu tower connects the island via fixed wireless to the operator's backbone. A submarine cable also connects Laamu Atoll to the south.

Internet is generally available on the island through fixed line, wireless or mobile Internet. Connectivity at the government administrative offices (which currently include the island office, the atoll office and the new provincial

office), the police station, schools, hospitals, the airport and the main businesses is generally delivered through a fixed line. Public access is mainly via wireless or mobile Internet, and few of the households in the community are connected.

Wireless zones

Public access to the Internet is available from wireless zones located in selected restaurants and cafés on the islands, using a prepaid Internet card, which can be purchased on the island. A few hundred meters away from their main antenna tower, Dhiraagu wireless zones are available. These are not used heavily but when they are, they are accessed either via laptop or mobile devices, or from home desktop PCs. People from smaller islands like Maabaidhoo travel to the larger towns to access the wireless zones.

Demand versus affordability

	Price	Validity Period
Half hour access	Rf 10	1 day
Two hour access	Rf 30	5 days
Ten hours access	Rf 140	10 days
Thirty hours access	Rf 350	30 days
Sixty hours access	Rf 590	60 days
Unlimited access	Rf 95	1 day

Source: http://www.dhiraagu.com.mv/internet/wifi_service.php

As the chart above indicates, the pricing structure of wireless Internet access is not suitable for unlimited (24/7) access. Making household Internet access affordable is a critical issue for improving access to the Internet on the islands generally. An obvious solution to this problem would be for a local service provider to act as an intermediary between Dhiraagu and end customers. The mission spoke to community operators in Gan/Funadhoo who are interested in closing the last mile gap by means of Internet via cable TV or wireless technology. However, they find themselves confronted with a pricing structure that is seen as prohibitive.

The monthly cost of a 6 MB connection for redistribution is quoted as Rf. 24,000, with an unclear upfront investment, for "bandwidth management hardware", of Rf. 160,000, to be carried by the local community. A survey within one local community found about one third of the approximately 100 households willing to buy Internet services at Rf. 300 per month. In interviews undertaken by the mission with local NGOs and citizens, people typically said they were willing to pay Rf. 300-500 per month for broadband access. So it would seem that it would be possible to cover the ongoing connection costs, but the start-up costs would be hard to recoup. The local operators indicated that even their well-established cable TV business does not generate a profit.

Community ICT centres

Interviews conducted by the mission suggest that despite cost and access problems there is not much interest in shared access through ICT centres

as most people have access to their own computers. Students can also get limited Internet access in school.

Internet at school

Gan/Funadhoo has four schools which all use Internet for teaching and learning purposes. A visit to the secondary school in Funadhoo showed that the school uses the Internet actively for research, teaching, learning and administrative purposes. The school has a teacher's resource centre with a dozen PCs, all connected to the Internet, that teachers use for preparing classes and for downloading teaching materials. Some teachers use the Internet actively in the teaching processes. For example, one class produced an online newspaper. Students can also use the teacher resource centre for limited browsing access: most pages are blocked (you can only access authorised pages) and there is always at least one teacher monitoring usage. An intranet is being planned for teachers to download resources.

Internet at the hospital

A brief visit to the regional hospital showed that they have computing tools for administration and for providing medical services and expert advice, including communication with smaller clinics on other islands and with larger hospitals in Malé.

Internet usage

The focus group interviews indicated that students use the Internet for research and learning purposes, and some of their homework involved using the Internet. When it comes to local websites, the Dhiraago homepage is popular, as is the online version of the local daily newspaper Haaveru. Websites providing the programme schedules for soccer matches shown on ESPN TV are also popular, as are international news sites such as CNN. Mothers tend to like websites with food recipes and local fashion dress designs.

Interviewees complained about the cost and speed of the Internet, which limits their usage significantly. As one interviewee noted: "it sometimes takes 5 minutes to download the google search page." If the cost was lower and the speed higher, it is likely that locals would use the Internet more frequently, and new users would also start using it.

Interestingly, there seems be general consensus among locals that filtering and blocking is acceptable as a way to control public access to inappropriate content, particularly for children. According to the focus group, the responsibility for this lies with society and, in particular, with the State and parents.

Mobile telephony

Mobile telephony is the medium which has changed the communications landscape most significantly on the atoll and it is the most important communications device for the general public, while Internet, TV and radio are more important for providing access to entertainment and news. For the atoll office, mobile telephones mean that coordination with Malé is much easier and more efficient. For the public, mobile phones allow them to communicate easily with family members in Malé and on other islands. In general, communication between the islands and the atoll capital has improved significantly since the introduction of mobile telephony. A random survey among the focus group of 16 men and women showed about a quarter of them had more than one mobile handset, while some had more than one SIM card. Several interviewees had Internet access on their smart phone, providing access to Haaveru, ESPN and social networking applications such as Facebook.

Teachers prepare for their lessons at this teachers resource centre at the main school in Gan-Fonadhoo.

Television

TV is provided locally by cable TV service providers through MediaNet to each of the six village communities on Gan/Funadhoo. The six community service providers package their services differently but on average each household can access 4-24 channels, including the national broadcastier, TVM. Despite the relatively high cost for the service provider (Rf. 175,000) and for household subscriptions (Rf. 150 per month), almost all households purchase the service.

TVM has one journalist posted in Gan/Funadhoo to cover stories happening within the atoll and to report on stories that the central office in Malé views as priorities. A few private producers also carry out TV/video production in the atoll.

The focus group interview indicated that TVM is seen as being politically biased compared to radio broadcasting, which is perceived to be relatively neutral. The most popular cable channel for women is Star Plus, due to the Indian soap operas it carries. National Geographic Channel, ESPN Sports and movie channels are popular among men. Fitness TV was mentioned as a favourite channel by one interviewee.

Radio

The atoll has access to the two Voice of Maldives radio channels, one each on the AM and FM bands. VoM also provides audio streaming through its website: www.vom.gov.mv. Until recently, VoM had a radio journalist posted to the atoll to cover local news and features. According to interviewees, the Maldivian commercial radio stations are not accessible in the atoll or on the islands. Those interviewed expressed a strong interest in setting up a community radio station for the atoll. The excessive cost of a community radio license appears to be one of the key obstacles. Most women interviewed indicated that in their household the radio is on all day, since they can listen to it at the same time as they do housework.

Newspapers

Printed newspaper do not seem to be distributed on the atoll, although some newspapers, like Haveeru, are accessible online.

7.2.3 Maabaidhoo Island

Maabaidhoo Island, also called Laamu Maabaidhoo, is a small island 1525m long and 500m wide with a population of about 950 people in 158 households.

Maabaidhoo Island was one of the worst hit by the December 2004 Tsunami, which left 532 people homeless, 114 houses damaged and 56 houses totally destroyed. At the time of the visit, some limited reconstruction efforts were still taking place.

Fishing is the main source of income on Maabaidhoo, although aquaculture and small-scale farming is being experimented with. The brief visit suggested that Maabaidhoo is much poorer and disadvantaged than Gan/Foonadhadu. A new ferry service connects the island to Gan/Funadhoo once a week.

Laamu Maabaidhoo has its own Facebook site.[34]

Both Dhiraago and Wataniya have towers on the small island and mobile connectivity is very reliable. Most people were seen with mobile phones, which they use to enhance livelihood prospects. Fishermen (there are a total of nine fishing boats on the island) depend on the mobile phones to identify markets for their catch and to check for the best market prices while still fishing, so they can decide where to go with their catch. Previously, they used walkie-talkies, which are still used for 'dead' coverage areas. It was suggested to us that Wataniya has the best signal coverage out at sea.

The island office, school, health centre and court all have dial up connections. The school's connection is funded by UNICEF. Mobile Internet is the only form of public access with a number of people using it, for example to access Facebook, sports and news sites. The island office has asked Dhiraago to provide wireless services on the island, but at the time of the visit was still awaiting a response. Some islanders take the ferry to Gan to access the Internet, which is cheaper, faster and more reliable than the office and the school's dial up connections. Students use the Internet during school hours.

All households have radios with access to two stations: Raj FM, which carries mainly music, and VoM, which has both music and more informative programs. Cable TV and satellite TV are both available through MediaNet service providers and Air Tel from India (with no Maldivian channels).

Interviews conducted on Maabhaidoo Island suggest that while islanders can access some information, they are interested in accessing more, and less biased, information in relation to the political process. They are also interested in more information about fishery and agricultural extension services, such as on how to optimise use of the inland lake for fish breading and aquaculture.

34 *Available at: http://www.facebook.com/group.php?v=app_2373072738&gid=81291297908 (accessed 7 April 2010).*

INTERNATIONAL
MEDIA SUPPORT