

Universal Service for Persons with Disabilities

*A Global Survey of
Policy Interventions and Good Practices*

By

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The Global Initiative for Inclusive Information
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Foreword

Universal Service definitions have been developed by 125 countries and are the foundation for policies and programs ensuring that telecommunications are available to all categories of population. Universal service funds are the main vehicle used to fund those programs, primarily addressing imbalances such as lack of availability of services in rural areas. While geographic coverage has vastly improved over the past decade with wireless infrastructure, the scope of Universal Service has expanded to include other categories of underserved populations.

Among those, persons with disabilities and senior citizens, who represent 15% of the world population¹, are an increasing concern for legislators and regulators. Basic accessibility features for public telephone booths, fixed line or wireless handsets, customer services in alternate formats such as Braille, or assistive services such as relay services for hard of hearing or deaf persons are in fact not implemented in a majority countries².

To address those issues, several countries have expanded the scope of their national definition of Universal Service Obligation to include persons with disabilities allowing programs promoting the accessibility of information and

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1. WHO Global Report on Disability, June 2011 - http://www.who.int/disabilities/world_report/2011/en/index.html
 2. CRPD Progress Report on ICT Accessibility – 2010 by G3ict - http://g3ict.org/resource_center/publications_and_reports

communication technologies to be covered by Universal Service Funds.

The adoption of the Convention on the Rights of Persons with Disabilities by over 150 countries since March 31st, 2007 will likely accelerate this trend: States Parties have an obligation to ensure that Information and Communication Technologies and Services are made accessible to persons with disabilities. This can be done by aligning the definition of Universal Service Obligation with article 9 of the Convention and expanding the charter of Universal Service Funds to cover programs promoting accessibility for persons with disabilities.

This report is the first attempt to document how Universal Service definitions and related policies and programs have been implemented by various countries to ensure that persons with disabilities have full access, on an equal basis with others, to telecommunication services.

G3ict would like to express its sincere appreciation to the Center for Internet and Society for its support of this project, to Nirmita Narasimhan for researching and editing this report; to the International Telecommunication Union for providing references and helping identify countries to be surveyed, and to the Hans Foundation for funding the print version of the report.

Promoting universal service for persons with disabilities can affect positively the lives of millions of users around the world. We hope that this report may serve as a useful reference for policy makers, operators, organizations of persons with disabilities, and as a framework for good practice sharing among countries currently implementing the Convention on the Rights of Persons with Disabilities.



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October 2011

Introduction

The advent of the Internet and accessible information and communication technologies (ICT) has opened up exciting possibilities and opportunities for persons with disabilities. The United Nations Convention on the Rights of Persons with Disabilities (the 'UNCRPD')³ has explicitly recognized the right of persons with disabilities to seek, receive and impart information on an equal basis with others⁴ and has placed specific obligations on member states to ensure that all ICT based facilities and services (which include telecommunications services) must be made available and accessible to all. To this end, member states are required to formulate and implement appropriate laws and policies at national, regional and global levels. In an age where almost all spheres of life are inextricably woven with and dependent on ICT, Article 9 of the UNCRPD on Accessibility is possibly one of the most powerful and critical tools in the hands of policy makers to ensure that persons with disabilities are assured of basic human rights such as education, health, employment and access to information and participation. While the lack of awareness amongst governments is undeniably a serious impediment to implementing accessible ICT in any country, an equally serious and perhaps more realistic problem is the lack of resources which is plaguing

3. <http://www.un.org/disabilities/default.asp?id=259>

4. Article 21, UNCRPD.

many countries, especially developing nations. The fact that governments are already struggling to ensure basic human rights for all citizens by judiciously dividing their limited resources for the whole gamut of needs makes it difficult for them to outlay separate and substantial budgets which may be required for implementing ICT accessibility. In such a scenario it becomes very important to look around and identify sources of funding, new or existing, which can be leveraged by governments to fulfill their obligation towards making all ICT based applications and services accessible and promoting assistive technologies for persons with disabilities.

This report aims to highlight the extreme suitability of leveraging the Universal Service Fund (USF) to implement accessibility and assistive technologies in telecommunications. It examines the evolution of the concept of USF, its minimum mandate and scope, funding sources, as well as project implementation mechanisms and showcases countries which are using the USF to fund accessibility projects through policies and programmes.

Chapter 1

Recent evolution of the scope of Universal Service Obligations; inclusion of ICT and telecommunications accessibility for persons with disabilities

ITU Colloquium–1993 (Definition & Principles)

The concept of universal service originated in the USA around 1913 and was used to denote a monopoly in the telecommunications market. Subject to certain regulations, AT&T was allowed by the government to be the sole provider of telecommunications services in an uncompetitive market environment and ‘universal service’ referred to ‘interconnection to all networks’, including to those of non-competing phone companies and not service to all customers.¹

However, the Communications Act of 1934, for the first time established universal service as a national policy and stated its purpose in its preamble as follows: “to make available, so far as possible, to all the people of the United States, a rapid, efficient, nationwide, and worldwide wire

1. http://en.wikipedia.org/wiki/Universal_Service_Fund#Origins

and radio communication service with adequate facilities at reasonable charges.”²

Today, universal service is understood worldwide as the policy of providing a baseline level of telecommunications service to all residents of a country. The concept of universal service was debated at length at the International Telecommunication Union’s (ITU) second colloquium in 1993,³ where the following questions were considered⁴

- What is universal service? What needs are involved? Whose needs?
- How is it paid for? Who pays?
- Who decides? What is the regulator’s role?

The colloquium agreed upon refraining from using any one single definition. The report states⁵ -

“A long discussion clarified that there is no fixed and uniform definition of “universal service”. The term may mean different things in different countries and regions, and different things in different contexts within each country. It has been a changing concept over time as technology develops and expectations consequently alter. At its narrowest, it involves plain old telephone service (POTS); at its broadest, it involves interconnectivity in the provision of all types of services, with all the sophisticated technology that implies. Politically, it can come to be regarded as an entitlement, the content of which changes. Now, newer technologies such as cellular and new satellite and wireless technologies may

2. http://en.wikipedia.org/wiki/Universal_service#Origins_of_concept_and_term

3. The changing role of government in an era of telecom deregulation: Report of the Second Regulatory Colloquium held at the ITU Headquarters, 1-3 December 1993. See- <http://www.itu.int/pub/S-GEN-COL2-1993>

4. Ibid.

5. Ibid.

transform the feasibility of universal service, and make telecommunication service economically viable in many more communities, and thus widening the geographic reach of the public network, particularly in the developing countries.”

The colloquium identified the following as elements of universal service:⁶

- Universal Service as Access to Telephones
- Universal Service as Availability or Affordability
- Universal Service as Residual Service⁷
- Universal Service as an Information Infrastructure
- Universal Service as the Provision of Specific Services

Present definition and context

Today, universal service is largely understood as the minimum set of telecommunication services that should be accessible to everyone. For a working definition, the meaning of universal service can be borrowed from a paper published by the ITU in 1998 which states “universal service is the long-term objective of making communication facilities available to every member of society on an individual or household basis, and it is used in particular in the regulatory-legislative framework to indicate the obligation of telecommunication operators to provide their services to the entire population.”⁸

Until recently, in most countries the obligation has been construed only to mean the provision of the minimum level of telecommunications services in cases of market failure due to any reason, whether geographic or otherwise. This included the provision of basic fixed telephony in ways such as fixed line connection, subsidizing phone usage, access to emergency services and providing payphones.

6. Ibid.

7. Provision of services to users whose needs cannot be met commercially.

8. Elements and Principles of the Information Society- www.itu.int/osg/spu/wsis-themes/access/.../IS%20Principles.doc

However, developments in ICTs have necessitated a significant broadening in the understanding of the term communication technologies. This has resulted in the expansion of the scope of the universal service obligation in several countries to include mobile telephony and broadband. In addition, many universal service funds also undertake ICT outreach programmes in education and e-governance.

As the ITU states in its World Telecommunications Development Report, 1998: “Technology that theoretically provides telecommunication access from any place on the surface of the Earth is already available. Universal access is now not so much an engineering or supply-side problem but rather a regulatory and policy challenge.”

Persons with disabilities: an underserved community

The ‘World Report on Disability’, issued in June 2011 by the World Health Organization in cooperation with the World Bank, estimates that over a billion of the world’s population lives with some form of disability.⁹ According to World Bank estimates, 20 per cent of the world’s poorest people are disabled and are understood to be the most disadvantaged sections of society.¹⁰ In addition, either owing to discrimination or the inability to work, persons with disabilities are often unemployed or underemployed with unemployment rates for the disabled working age group being as high as 80 per cent in a few nations. The global literacy rate for persons with disabilities was reported at approximately three per cent in 1998 by UNDP.¹¹

UNESCO estimates that about 796 million adults across the globe are illiterate, almost all of them located in

9. http://www.who.int/disabilities/world_report/2011/en/index.html

10. <http://www.un.org/disabilities/default.asp?id=18>

11. Ibid.

developing countries.¹² They also face accessibility barriers to any form of text based communication because of their inability to read and write. In addition, the elderly who will outnumber children by the middle of the 21st century for the first time¹³ face many of the same problems that persons with disabilities face in using technologies.

There is little or no information available on the levels of access to telecommunications services that persons with disabilities may have. They often face barriers to telecommunication access arising from –

- Lack of clear legislation that can guarantee accessibility to ICTs
- Lack of initiatives on the part of manufacturers and service providers to provide accessible ICT services and products
- Prohibitive cost of accessible ICT products and services

The universal service policy or charter of a country usually outlines the scope and target population. These groups are usually termed as ‘underserved communities’ and may include low-income users, marginalized groups, ethnic minorities, users in rural and remote areas and persons with disabilities.

Hence, the mandate for funding activities to serve persons with disabilities in many countries stems from their identification as an underserved community. However, countries have also been known to fund disability related projects in the absence of a specific policy mandate.

The question of disability and how it comes to fall under the scope of universal service is a scantily documented area of research. There is no clear indication of when the move to cover persons with disabilities under universal service began. The rise of internet technologies and the push for telecom

12. UNESCO Institute for Statistics, Adult and Youth Literacy: Global Trends In Gender Parity, UIS Fact Sheet, September 2010, No. 3.

13. <http://www.globalaging.org/waa2/articles/untimes.htm>

accessibility in the 1990s flowed closely out of the advocacy in the western world that had lobbied aggressively for universal design in the 1970s¹⁴ and the evolution of telecom related disability laws in the United States and Europe appear to be a direct outcome of this advocacy. In addition, many governments seemed to recognize that accessibility and income disparity,¹⁵ made participation of persons with disabilities in the information age very difficult, and strengthened the case for broadening the scope of universal service to act as an equalizer.

14. <http://www.adaptenv.org/index.php?option=Content&Itemid=26>

15. Where in persons with disabilities are less likely to be able to afford access to technologies.

Chapter 2

Governance and funding processes of Universal Service Funds

USO policy frameworks

There are several ways of understanding universal service and how it comes to form part of regulation. At a basic level, the idea of universal service ties in with the idea of basic access to utilities. In developing countries, the idea of universal service centres around the need to bring rural populations under the coverage of telecommunication services. In more advanced countries, where the infrastructure for basic access may already exist, universal service may involve bettering the quality of service and enhancing existing networks. Some countries also choose to interpret universal service as a mechanism to administer development oriented ICT programmes that can benefit the population.

Universal service is addressed differently in different countries. It may take the form of a separate policy or charter or be covered under an omnibus telecommunications legislation. In Europe, it takes the form of a regional framework document which is agreed upon by the different member nations.

In general the type of universal service policy adopted by a country determines its model of funding.

Types of USO Models

Universal Service Obligation (USO) as a concept is recognized in about 125 countries.¹⁶ The following are some broad examples of how universal service funds are modelled to fulfil the USO.

- **Centralized fund with programmes/streams:** In some countries a universal service fund is created as a federal/central level organization with certain broad mandates through either a separate Act, a provision in the telecom legislation or a policy document/charter. For example, in the United States a universal service fund (USF) has been established at the federal level and branched into four major programmes.¹⁷ These are then administered at the state level to suit the requirements of the state. In India, the Universal Service Obligation Fund (USOF) runs programmes under six different streams. In Pakistan, the USF functions in a manner similar to a professional organization – as an autonomous body with a board and chief executive.
- **Universal Service Provider:** Countries may often choose to designate a Universal Service Provider (USP) to discharge obligations, usually as part of the licensing agreements. Australia,¹⁸ New Zealand,¹⁹ and Ireland²⁰ are some of the countries that have designated USPs to carry out USO activities.
- **Pairing of Service Areas:** As part of licensing agreements, service operators may be assigned some lucrative geographic areas along with an obligation to serve specific underserved communities or geographical areas.

16. As per ITU records.

17. High Cost, Low Income, Rural Health Care, Schools & Libraries.

18. Telstra.

19. Sprint.

20. Eircom.

Funding

USFs are funded differently in different countries. Some common models are given below:

- **Levies on network operators:** Charging a percentage of annual profits, license or revenues of network operators or 'levy' is often the most common form for funding the USF. The percentage of contributions from network operators is decided either annually or is collected at a fixed rate. In India, five per cent of the revenue of network operators is earmarked for the USOF. In Jamaica, levies are charged on incoming international calls. Malaysia's Universal Service Provision Fund is maintained through the collection of six per cent of licensees' net revenues annually.
- **Compensating USP:** Reimbursing service providers (or the designated USP) for the costs incurred while fulfilling their obligation is also a common method of funding USO activities. This is often done by splitting the costs among the service providers. In New Zealand, costs incurred in fulfilling the objectives of a Telecommunications Service Obligations instrument are apportioned among network providers who come under the category of 'liable persons' based on a cost allocation determination.²¹ The percentage of reimbursement varies from one network provider to the other.
- **Budget allocations:** States may often make allocations from within the national budget for USO activities. Chile, for example, offers one-off subsidies from the national budget which is disbursed through competitive tenders to private interests who are willing to invest in USO projects.
- **Combination of funding mechanisms:** Some countries may opt for a combination of one or more of the above described methods. Kenya's USF is financed primarily

21. <http://www.comcom.govt.nz/telecommunications-service-obligations/>

through a universal service levy charged on licenses. It is additionally funded through allocations made by the parliament, as well as from income derived from investments, loans, gifts and endowments made towards the fund. In Pakistan, the USF presently operates on a prescribed contribution from service providers which has been determined at 1.5 per cent of their respective adjusted revenues.²² But the policy makes provision for the USF to be financed through central and provincial state grants, proceeds from sale of radio spectrum rights, loans sanctioned by the government and third-party grants and endowments.

22. <http://www.usf.org.pk/Company.aspx>

Chapter 3

Compendium of selected Universal Service Funds programmes for persons with disabilities

This chapter showcases examples of policies and projects implemented by various countries as part of universal service obligation for persons with disabilities. The countries covered are Australia, France, Ireland, Italy, Jamaica, Kenya, Lithuania, Malaysia, New Zealand, Pakistan, Poland, Portugal, Slovak Republic, Slovenia, Sweden, Thailand, United Kingdom, and The United States.

Australia

The Australian Communications and Media Authority (ACMA)²³ is the regulator for the communication sector in Australia and is in charge of telecommunication, radio communication, internet, as well as broadcasting and accessibility for persons with disabilities.

Division 2 of *The Telecommunications (Consumer Protection and Service Standards) Act, 1999*²⁴ relates to the Universal Service Obligation (USO).

23. <http://www.acma.gov.au/WEB/HOMEPAGE/PC=HOME>

24. See http://www.austlii.edu.au/au/legis/cth/consol_act/tpassa_1999620/s6.html Section 6 makes the STS obligation mandatory for the disabled also.

The USO is required to ensure that “standard telephone services, payphones and prescribed carriage services are reasonably accessible to all people in Australia on an equitable basis, wherever they reside or carry on business.”²⁵

The funding mechanism for the USO is outlined in the Telecommunications (Universal Service Levy) Act, 1997.²⁶ For the year 2009-2010 an overall sum of USD145, 076, 237 was subsidized as part of the USO for various telecom projects.

The USO requires that persons with disabilities have reasonable access to voice telephony, including mobile phones or an equivalent form of communication if voice telephony is not practical.

Section 6 of Australia’s Telecommunications (Consumer Protection and Service Standards) Act 1999²⁷ defines standard telephone service (STS) as including any form of equivalent communication to be provided for persons with disabilities who are unable to use fixed voice telephony.

Telstra,²⁸ Australia’s universal service provider is mandated to provide Standard Telephone Service (or equivalent) to all people in Australia as per its USO. This implies that alternative forms of communication for deaf people or persons with hearing or speech impairments such as text teletypewriters, volume control phones, and hands-free phones are also part of Telstra’s USO with regard to STS.

Australia’s USO²⁹ also has a priority assistance service mandate in place. This service aims at assisting persons with diagnosed life-threatening medical conditions who depend on a reliable, home telephone service to be able to call for

25. http://www.acma.gov.au/WEB/STANDARD..PC/pc=PC_2491

26. <http://www.comlaw.gov.au/Details/C2009C00522>

27. http://www.austlii.edu.au/au/legis/cth/consol_act/tpassa1999620/s5.html#standard_telephone_service

28. http://www.acma.gov.au/WEB/STANDARD/pc=PC_2491

29. http://www.acma.gov.au/scripts/nc.dll?WEB/STANDARD/1001/pc=PC_2413

medical assistance should the need arise. Under priority assistance, customers who are identified for the service are entitled to faster connection and repairs on their telephone services and be ensured of a greater level of reliability.

Service providers must provide connections or carry out repairs for priority assistance customers within 24 hours in urban areas and 48 hours in remote areas. Customers who experience two or more faults on their telephone service within a three month period are entitled to have their connection tested by the provider. Telstra, AAPT and Primus are among the service providers who offer priority assistance services.

France

Autorité de Régulation des Communications Électroniques et des Postes (ARCEP)³⁰ is the regulator for France's telecom sector. It was set up through the Telecommunications Act of 1996.³¹

France's universal service obligation is outlined in the Telecommunications Act of 1996. Article L. 35-1 states: "universal telecommunications service means the provision to the public of a quality telephone service at an affordable price. It includes the conveyance of telephone calls to and from subscriber points, the provision of an information service and a telephone directory in both printed and electronic form, the provision throughout the territory of public pay phones installed on the public domain and the conveyance of emergency calls free of charge."³²

Article L. 35-1 goes on to identify low-income users and disabled users as "social categories with special needs."

The Act makes provision for the formation of a universal

30. <http://www.arcep.fr/index.php?id=1&L=1>

31. <http://www.arcep.fr/fileadmin/reprise/textes/lois/finallrt.rtf>

32. <http://archive.bild.net/france.htm>

telecommunication fund to be administered by *Caisse des dépôts et consignations*³³ or the “deposit and consignment office” in a specifically designated account. It designates France Télécom as the USP.

In France, the USO is used to provide public pay telephones for end-users with disabilities with the following accommodations—

- A special button on payphones for blind users and persons with visual impairments with voice based server with pricing information
- Listening text public telephones for deaf users or users with hearing and speech impairments
- ‘Locomotor’ disabled devices (without a door and at a lower position)
- In addition, after the adoption of the new telecoms package to the EU Universal Services Directive in 2009, the French government announced that specific relay centres will be created for people with hearing loss

Ireland

Ireland’s telecommunication sector is regulated by the Commission for Communications Regulation (ComReg)³⁴ which was formed in 2002. Ireland does not have a USF. Its USO³⁵ is defined by the 2002 EU Directive which was implemented in the country by the European Communities (Electronic Communications Networks and Services) (Universal Service and User’s Rights) Regulations 2003 – S.I. No.308 of 2003.³⁶

33. <http://www.caissedesdepots.fr/en/home.html>

34. http://www.comreg.ie/about_us/about_us.472.html

35. http://www.comreg.ie/consumer_initiatives/universal_service_obligation.590.html

36. <http://www.irishstatutebook.ie/2003/en/si/0308.html>

- In 2010, Eircom³⁷ was reinstated as the USP for two years until June 2012.³⁸ As Ireland's USP, Eircom is obligated to undertake the following measures for the benefit of users with disabilities.
- Provide a dedicated section of its website, accessible from the homepage, with information on the services which affect persons with disabilities.
- Maintain a code of practice regarding the facilitation of services for persons with disabilities which will be subject to periodic review. Eircom will also be required to amend the codes where appropriate through consultation with Ireland's National Disability Authority (NDA) and similar representative agencies.
- Provide inductive couplers for users who are hearing impaired so that they can connect their hearing aids to the telephone and hear incoming speech clearly. Eircom is also required to provide them with amplifier phones to increase the volume of incoming speech and teleflash visuals that can indicate an incoming call
- Provide a text relay service which will enable the receipt and translation of voice messages into text
- Put in place rebates for text telephone calls
- Provide push button telephone sets with speed and automatic redial buttons which will enable use of pre-programmed telephone numbers and hands free phones for people with dexterity impairments
- Provide restricted vision telephones and Braille billing for people with visual impairments, free of charge
- Provide alternative directory enquiry arrangements free of charge.

37. <http://www.eircom.net/>

38. The Provision of Telephony Services Under Universal Service Obligations (ComReg Decision No: D06/10, ComReg Document No: 10/46).

In accordance with USO stipulations, Eircom has made the following services and products available for persons with disabilities:³⁹

- **For hearing impaired users** – Inductive couplers, amplified phones, visual indicators
- **For hearing and/or speech impaired users** – National relay service provided under the National Association for the Deaf⁴⁰ Programme
- **For dexterity or mobility impaired users** - Speed dial and automatic redial buttons on phones, hands free facility
- **For visually impaired users** – Braille billing at no extra cost, standardized layout of key pads around a central number with raised dots and extra-large high contrast buttons on phones

Italy

Autorità per le Garanzie nelle Comunicazioni (AGCOM)⁴¹ is the regulator for the telecommunication industry in the country. The framework for universal service in Italy is found within the EU universal service directive.

Although there has been no formal designation, Telecom Italia⁴² acts as the USP. It has made the following provisions⁴³ in keeping with the EU universal country service directive -

- Easy activation and repair of services
- Accessible public telephones for consumers using hearing aids

39. http://www.comreg.ie/publications/provision_of_universal_service_by_eircom_-_performance_indicators_q1_-_q3_2006.584.102568.p.html

40. <http://www.iol.ie/~nad/nad-homepage.html>

41. <http://www.agcom.it>

42. <http://www.telecomitalia.it>

43. http://www.telecomitalia.com/content/dam/telecomitalia/documents/Sostenibilita/Policies_ENG/LA%20CARTA%20DEI%20SERVIZI%20DI%20TELECOMITALIA_08.01.10.pdf

- Dome-type public phone booths, equipped with a metal bar at the base allowing for detection with the stick used by persons with visual impairments
- 50 per cent discount on monthly phone bills for eligible households having persons with disabilities
- Total exemption from telephone charges for households with one deaf person
- 90 hours of free internet usage, or a 50 per cent reduction on monthly charges for households that include one “completely blind” person

Jamaica

The Office of Utilities Regulation⁴⁴ acts as the regulator for Jamaica’s telecom industry. It was set up through the Office of Utilities Regulation Act, 1995⁴⁵ to perform the role of independent regulator for telecom, electricity, water and sewerage and transportation.

Chapter 4 of the Telecommunications Act, 2002⁴⁶ outlines the section on universal service obligation. While the Act does not explicitly make provisions for the creation of a fund, it lends the framework for designation of a USP.

The scope of universal service was expanded in 2009 under Jamaica’s ICT policy⁴⁷ where achieving “a thriving, digital economy and knowledge-based society with opportunities for accelerated growth and which includes every Jamaican” was identified as a focus area.

The ICT policy gives the fund the power to support programmes intended to benefit vulnerable groups such as

44. <http://www.our.org.jm/#>

45. www.miic.gov.jm/office_of_utilities_regulation_act.pdf

46. http://www.our.org.jm/index.php?option=com_content&view=article&id=447:telecommunications-act&catid=123:act&Itemid=190

47. www.broadcastingcommission.org/uploads/.../GOJ-ICT_Policy.pdf Similar You +1'd this publicly. Undo

low-income households, the elderly, youth and persons with disabilities.

In 2009, Jamaica's Universal Access Fund Company provided computers and audio-visual equipment worth USD six million to six schools for deaf students in the country.⁴⁸

The equipment including desktops, laptops, video cameras, document cameras, projectors, desk jet printers, projector screens and workstations was provided by Fujitsu Transaction Solutions to enhance communication among the schools. The schools would be able to interact with one another using teleconferencing.

Kenya

The Communications Commission of Kenya (CCK)⁴⁹ is the regulator for the electronic and telecommunications sector in Kenya.

The legislative framework for universal service is found in PART VIB of the Kenya Communications (Amendment) Act, 2009⁵⁰ which refers to the establishment of a USF to be managed and administered by CCK. Part IVB also outlines the objectives, functioning and funding mechanism of the fund.

The Kenya Information and Communications (Universal Access and Service) Regulations, published in 2010⁵¹ elaborates further on the functions of the fund. Section 3(2)(b) makes the USF responsible for facilitating "reasonable" availability and affordability of "basic and advanced communications systems and services" to disabled end users at both the household and individual levels, particularly in instances

48. http://www.jis.gov.jm/officePM/html/20091002T000000-0500_21351_JIS_UNIVERSAL_ACCESS_FUND_DONATES ICT_EQUIPMENT_TO_THE_DEAF.asp

49. <http://www.cck.go.ke/about/>

50. <http://www.communication.go.ke/documents/media.pdf>

51. http://www.cck.go.ke/services/universal_access/administration.html

where the market is unable to offer services in an economically feasible manner.

Currently, Kenya's USF has initiated six pilot universal access projects across the country⁵² for facilitating the spread of ICTs.

The ICT for People with Disabilities project⁵³ aims at providing ICT access to persons with disabilities through various methods including:

- Establishing school-based ICT centres in secondary education institutions for disabled students
- Setting up an accessibility web portal offering information for and about persons with disabilities
- Conducting an awareness campaign to develop suitable guidelines on ICT for persons with disabilities

CCK has identified eight institutions for people with physical, hearing and visual impairments to participate in this programme. The regulator supported the supply, delivery, and installation of computers, requisite hardware, software, and furniture through the fund and will support internet connectivity in the schools for a two-year duration.

Lithuania

The Communications Regulatory Authority of the Republic of Lithuania (RRT)⁵⁴ is the regulator for telecommunications and is responsible for ensuring compliance with universal service objectives in the country.

Chapter 5 of the Law on Electronic Communications 2004⁵⁵ combined with the dictates of the EU Universal Service

52. http://www.cck.go.ke/services/universal_access/projects/index.html

53. http://www.cck.go.ke/services/universal_access/projects/icts_for_people_with_disabilities.html

54. http://www.rrt.lt/en/about_rrt.html

55. http://www3.lrs.lt/pls/inter2/dokpaieska.showdoc_l?p_id=242679

directive outlines the provision and scope for universal service obligation in Lithuania.

Article 31 (1) dealing with provision and funding of universal service covers the following services under the USO–

- Public fixed telephony and related services
- Pay phone services
- Directory enquiry services
- Accessibility for persons with disabilities

Lithuania's USP is mandated to ensure that the total number of public pay phones that cater to the needs of disabled end users is no less than 10 per cent of all pay phones in the country. These pay phones must be equipped with instructions for users in large, easy-to-read font and be illuminated when dark.

Installation of public pay phones and supporting infrastructure (such as a booth) must be accessible for persons with disabilities.

The USP is also mandated to install at least one textual public payphone in every disabled rehabilitation centre.

Service providers are required to provide billing in alternative formats free of charge to persons with disabilities. They are also obligated to publicize information about the universal services provided by them and provide accessible directory enquiry services at no cost to disabled end users.

In addition, the first 300 litas (approx •85) of the cost of a new handset every six years is covered by the state budget.

Malaysia

The Malaysian Communications and Multimedia Commission (MCMC)⁵⁶ is the regulator for the telecommunications industry in the country.

56. www.skmm.gov.my

Malaysia's Universal Service Obligation, termed Universal Service Provision⁵⁷ was set up through Section 202⁵⁸ of the Communication and Multimedia Act, 1998.⁵⁹

The Universal Service Provision (USP) identifies persons with disability as an "underserved community/group" defined by SKMM as "being groups of people in served areas that do not have collective and/or individual access to basic communications services". Section 192 of the Act also states that the Required Application Service⁶⁰ i.e., specific services that service providers are mandated to offer includes services for disabled consumers.⁶¹

The fund has been used to set up USP communication centres to provide broadband internet access to disabled communities in underserved areas. The People's Communications Development Programme was launched in 2004 to provide internet access facilities to disabled entrepreneurs. Klang Valley Broadband Push 90 aims at 90 per cent household broadband penetration in the Klang Valley by 2010. It targets public institutions, schools, libraries, communities within particular municipalities and disabled communities within Klang Valley.

New Zealand

New Zealand's telecom sector is regulated by the Commerce Commission⁶², which is the country's primary competition regulatory agency.

57. http://www.skmm.gov.my/index.php?c=public&v=art_view&art_id=98

58. http://www.skmm.gov.my/index.php?c=public&v=art_view&art_id=251

59. http://www.msc.com.my/cyberlaws/act_communications.asp

60. http://www.skmm.gov.my/link_file/the_law/NewAct/Act%20588/Act%20588/a0588s0193.htm

61. http://www.msc.com.my/cyberlaws/act_communications.asp

62. <http://www.comcom.govt.nz/telecommunications/>

TSO in New Zealand is outlined in Part 3⁶³ of the Telecommunications Act, 2001.⁶⁴ The TSO is aimed at facilitating specific telecommunication services that may not be available commercially or are unaffordable to groups of end users.

The TSO in New Zealand is carried out through 'instruments' which are defined in sub-section 70 (4) of the Telecommunications Act.⁶⁵

Costs incurred in fulfilling the objectives of a TSO instrument are apportioned among network providers who come under the category of 'liable persons' based on a cost allocation determination.⁶⁶ The percentage of contributions varies from one network provider to the other.

There are currently two TSO instruments in operation

- TSO Deed for Local Residential Telephone Service between the Crown and Telecom; and
- TSO Deed for Telecommunications Relay Services (TRS) for the hearing impaired between the Crown and Sprint.

Telecommunication Relay Service (TRS) for the hearing impaired is a TSO instrument in New Zealand. The TSO deed is an arrangement between the Crown⁶⁷ and service provider Sprint, which is compensated by the qualifying liable network operators.

The Government of New Zealand set up the national relay service in 2004 for hearing impaired and speech impaired communities in the country.⁶⁸ The service operated by Sprint

63. http://www.legislation.govt.nz/act/public/2001/0103/latest/DLM126860.html?search=ts_act_telecommunications_noresel&p=1

64. http://www.legislation.govt.nz/act/public/2001/0103/latest/DLM124961.html?search=ts_act_telecommunications_noresel&p=1&sr=1

65. http://www.legislation.govt.nz/act/public/2001/0103/latest/DLM126860.html?search=ts_act_telecommunications_noresel&p=1

66. <http://www.comcom.govt.nz/telecommunications-service-obligations/>

67. Refers here to New Zealand's form of constitutional monarchy.

68. <http://www.nzrelay.co.nz/About/>

is operated from two call centres – a traditional relay service centre and a video relay service centre – in Pukekohe which operate 24 hours a day.

In the year 2009-2010, the TSO qualified revenue was calculated at USD 3, 772, 083, 687 out of which TRS-TSO charge was calculated at USD 2, 224, 124.95. Sprint was reimbursed USD 2, 295, 074.54 for operating relay services.⁶⁹

Pakistan

The Pakistan Telecommunication Authority⁷⁰ is the telecom regulator of Pakistan that oversees the establishment, operation and maintenance of telecommunication systems, and provides telecom services to consumers.

Chapter III A of the Pakistan Telecommunication (Amendment) Act, 2006⁷¹ titled Special Funds laid down the provision for the Federal Government to establish the Universal Service Fund.

Subsequently, in the latter half of 2006, the Government of Pakistan established the Universal Service Fund⁷² as a company – in order to give it a corporate structure – under Section 42 of the Companies Ordinance 1984.⁷³ Pakistan's USF has an independent Board of Directors and is headed by a Chief Executive.

A USF policy document⁷⁴ was brought out by the IT and Telecommunication Division of Pakistan's Ministry of

69. <http://www.comcom.govt.nz/assets/Telecommunications/TSO/2009-2010-TSO-Determination/Final-2009-10-TRS-TSO-Determination-15-December-2010.pdf>

70. <http://www.pta.gov.pk>

71. www.na.gov.pk/acts/act_2006/pakistan_telecommunication_amend_act2006_220206.pdf

72. <http://www.usf.org.pk/>

73. http://www.secp.gov.pk/corporatelaws/pdf/Comp_Ord1984.pdf

74. <http://www.usf.org.pk/FCKeditor/editor/filemanager/connectors.aspx/UserFiles/USF-Policy.pdf> at <http://www.usf.org.pk/Rules-Policies.aspx>

Information Technology⁷⁵ in 2006. Section 2 of the policy document enlists the Universal Service Fund Policy Objectives which are geared towards “Meeting the needs for basic telecommunication and ICT services in un-served and underserved areas throughout the length and breadth of the country.”

The objectives of the USF policy do not specifically mention persons with disabilities. However in Section 5, sub-section 5.7, which covers services to be supplied under the Universal Service contracts, the document states that the contractors will be required to provide special services, infrastructure and equipment for persons with disabilities

In May 2008, the USF launched a special project titled ‘Enabling persons with disabilities to use telecom services’. The project covers the areas of Punjab, Khyber Pakhtunkhwa and Sindh.

Under this project the fund signed a USD25 million contract⁷⁶ with the Al-Shifa Eye Trust with the aim of increasing accessibility to IT and telecom for people with low vision and visual impairments. The following activities were outlined as part of the collaboration.

- To extend support to the low vision centre at Rawalpindi hospital and help make it into a ‘Centre of Excellence’ through expansion in infrastructure, recruitment of trained professionals and providing modern low vision equipment
- To upgrade the low vision centre at Sukkur, Sindh by providing it with modern equipment
- To establish low vision centres on the lines of Rawalpindi and Sukkur at Kohat, Khyber Pakhtunkhwa

The USF has also signed a USD 6.1 million contract with the Pakistan Foundation Fighting Blindness.⁷⁷ The project will

75. <http://www.moit.gov.pk/>

76. <http://www.usf.org.pk/Publicphase.aspx?phaseid=50&pgid=12&phasename=Project with Al-Shifa Eye Trust>

77. <http://www.usf.org.pk/Publicphase.aspx?phaseid=51&pgid=12&phasename=Project with Pakistan Foundation Fighting Blindness>

utilize USF funds to digitize Audio World Library and establish an internet café at Darakhshan Rehabilitation Centre. Additionally, efforts will be made to expand the foundation's accessible internet café at Islamabad.

Poland

The Office of Electronic Communications (UKE)⁷⁸ is the telecom regulator for Poland.

The telecommunications law of 2004⁷⁹ contains provisions for universal service. Article 81 Clause 3 covers the scope of service and includes the following –

- Fixed telephone services that can support internet access and fax transmission
- Directory and directory enquiry services
- Payphone services
- Services for persons with disabilities

Pursuant to Article 82 of the Telecommunications Law, universal service in Poland is to be provided through a designated undertaking. Telekomunikacja Polska⁸⁰ was chosen as the universal service provider in 2006 and is required under the telecommunication law to provide certain services to persons with disabilities.

Clause 2 lays down the requirements concerning facilities for persons with disabilities, including the types of terminal equipment which should be offered to persons with disabilities by the designated undertaking as well as the requirements concerning the adaptation of public pay phones for use by persons with disabilities.

78. http://www.en.uke.gov.pl/ukeen/index.jsp?place=Menu07&news_cat_id=79&layout=0

79. http://www.en.uke.gov.pl/ukeen/index.jsp?place=Lead09&news_cat_id=17&news_id=490&layout=2&page=text

80. <http://www.tp.pl/>

Article 89 of the Telecommunications Law mandates the USP to provide the following services for persons with disabilities:

- Terminal equipment adapted to meet the needs of persons with disabilities
- Facilities which persons with disabilities may require to access universal services such as accessible payphones, etc.

Portugal

Autoridade Nacional de Comunicações (ANACOM) is the regulator for the telecommunications sector in Portugal.⁸¹

Although the provision for universal service was made in Portugal's Telecommunications Act, 1997,⁸² the scope of the universal service was later outlined in keeping with the EU US directive and the Decree-Law no. 458/99 passed in 1999.⁸³

Decree-Law no. 458/99 states that universal service may be undertaken by one or more service providers either on the basis of the services in question or alternatively geographical zones. The decree makes provisions for a compensation fund for fulfilling the USO mandates.

The USO in Portugal covers the following services – ⁸⁴

- connection to the fixed telephone network and access to the fixed telephone service,
- supply of public pay phones and
- provision of telephone directories and a directory enquiries service

Article 5 of Chapter II of the decree⁸⁵ deals with public pay phones. Section 6 makes it a USO for the service provider

81. <http://www.anacom.pt/render.jsp?categoryId=5409#horizontalMenuArea>

82. <http://www.anacom.pt/render.jsp?contentId=981366>

83. <http://www.anacom.pt/render.jsp?contentId=981855>

84. Ibid

85. Ibid

to comply with technical norms so as to guarantee access to pay phones in public buildings for persons with disabilities.

Chapter IV Article 10. 9 on pricing makes provisions for special price systems for specific regions or for categories of users or services. These include -

- Rural zones
- High-cost zones
- Users with special needs
- Users who are economically vulnerable or have special social needs
- Portugal covers the following services under USO for persons with disabilities⁸⁶
- Billing in accessible formats
- Text Relay Services
- Information about accessible services
- Functions and special measures for access to emergency services
- Mandating handsets for fixed telephony to be accessible

In addition, service end-users with hearing impairments often need only pay EUR 30.90 towards their telecommunication service, with the remainder subsidized by the USP on a voluntary basis. This offer is facilitated through a foundation created by the USP that is geared towards research to accommodate the needs of disabled end-users.

Slovak Republic

*Telekomunikačný úrad SR (TU SR)*⁸⁷ is the regulator for the telecommunications sector of Slovakia.

Chapter 2 (2) of the Act 610 on Electronic Communications 2003⁸⁸ covers the following services as USO –

86. Ibid

87. <http://www.teleoff.gov.sk/index.php?ID=9>

88. <http://www.teleoff.gov.sk/index.php?ID=303>

- Fixed telephony services at public places that can support internet access
- Directory and directory inquiry services
- Access to pay phones
- Free and uninterrupted access to emergency call numbers
- Access to public telephone services for persons with disabilities including barrier-free access to pay phone facilities that are fitted with assistive technologies

Chapter 2 (3) of the Electronic Communications Act states that information regarding public pay phones and other services available through the USO for persons with disabilities must be established in a binding legal regulation by the regulator.

This has led to the creation of the Measure of the Telecommunications Office of the Slovak Republic No. O-4/2004 of April 22, 2004 laying down particulars on providing public pay phones and services for users with health disabilities.⁸⁹ The Measure was put into effect in 2006.

Article 2 of the Measure states that the designated universal service provider shall ensure that every payphone shall–

- Include simple operating instructions
- Be enabled with buttons that can be identified by visually impaired users
- Be equipped with multilevel sound amplification
- Facilitate access to an operator for hearing impaired users

In addition, Article 3 states that the USP must ensure that a minimum of 25 per cent of pay phones are accessible to hearing impaired users with hearing aids and should be marked to aid easy identification.

According to Article 4, the USP must provide the following for users with hearing and speech impairments–

89. <http://www.teleoff.gov.sk/index.php?ID=309>

- Round-the-clock operator service for assistance
- A terminal device for access to public telephone services including emergency services

Article 5 mandates the USP to provide free access to information about telephone numbers to persons with visual disabilities.

Slovenia

Agencija za pošto in elektronske komunikacije (APEK) or the Agency for Post and Electronic Communications of the Republic of Slovenia⁹⁰ is the telecom regulator for the country. It was set up through the decision on establishing the Agency for Post and Electronic Communications of the Republic of Slovenia (Official Gazette of RS, no. 60/01, 52/02 and 80/04)⁹¹ in 2005.

Article 13 of the Law on Electronic Communications⁹² combined with the EU-US directive outlines the scope of universal service in Slovenia. As per the law, the designated universal service provider – Telekom Slovenia⁹³ – covers the following services as part of USO -

- Fixed line connection
- Access to telephone services that can support internet access
- Access to directory and directory enquiry services
- Access to payphone facilities that can connect to emergency numbers free of cost
- Accessibility for persons with disabilities

The USP is therefore required to provide the following accommodations and services for persons with disabilities⁹⁴

90. <http://www.apek.si/>

91. http://zakonodaja.gov.si/rpsi/r03/predpis_STAT103.html

92. http://www.apek.si/sl/zakon_o_elektronskih_komunikacijah_zekom

93. <http://www.telekom.si/en/>

94. http://www.apek.si/sl/datoteke/File/Podrocja_regulacije/izrek_dopolnilne_odlocbe.pdf

- Prioritize service and repair requests from disabled end-users
- Provide eligible persons with disabilities a 50 per cent discount for setting up a fixed line connection.
- Provide general information about available services including details of tariff in Braille and audio formats
- Offer eligible persons with disabilities a five per cent discount on monthly charges for publicly available fixed telephone services
- Make available information about call costs, remaining balance on prepaid, etc., through voice messages for visually impaired users
- Provide users with visual impairments a special number to dial for assistance in placing calls at no extra charge

Sweden

The Swedish Post and Telecom Agency (PTS)⁹⁵ is the country's telecom regulator.

The PTS is one of 14 agencies that are mandated to enforce and realise the objectives of Sweden's Disability Policy,⁹⁶ i.e., to enhance and assure accessibility and usability of electronic communication and postal services for disabled users.

Chapter 5 of the Electronic Communications Act, 2003 (Lag (2003:389) on electronic communications)⁹⁷ under the Swedish Code of Statutes⁹⁸ deals with services to end users. Section 1 outlines the ambit of universal service in the country.

The scope of universal service in Sweden is also defined by the European Communities (Electronic Communications Networks and Services) (Universal Service and User's Rights) Regulations 2003 – S.I. No.308 of 2003.

95. <http://www.pts.se/en-gb/>

96. <http://www.sweden.gov.se/sb/d/2197/a/15254>

97. http://www.riksdagen.se/webbnav/index.aspx?nid=3911&dok_id=SFS2003:389&rm=2003&bet=2003:389#K4

98. http://en.wikipedia.org/wiki/Swedish_Code_of_Statutes

The activities of PTS with regard to meeting USOs are financed via levies applied on service operators and broadcast license holders. Programmes and initiatives operational under the PTS for persons with disability are funded from allocations from within the national budget of Sweden.

Sub-section 6 of the Electronic Communications Act, 2003 states that under the USO, persons with disabilities must be provided access to services to the same extent on an equal footing with other users. It also makes provisions for special services to accommodate their needs.

Specialist terminal equipment, relay services, accessible billing systems and information and emergency services are administered through PTS and service providers. PTS provides services such as text and video relay and directory information.

PTS also finances projects for devising innovative communication solutions in electronic communication that can accommodate the needs of persons with disabilities.⁹⁹

This includes the SMS112 Project¹⁰⁰: distress calls to emergency number 112 using text message which is in trial state.

Other trial projects include Audio 4 all¹⁰¹: tools for the distribution and navigation of audio information which looks at testing flexible mediums for dissemination and use of audio information by people with reading disabilities through computers, cell phones and broadband television and digital streaming of audio books and papers to cell phones.

PTS is also funding the e-Adept project,¹⁰² which is looking at ways in which persons with disabilities can independently navigate their way in urban environments through digital maps and GPS. The objective is to develop a mobile or handheld

99. <http://www.pts.se/en-gb/People-with-disabilities/Trials/>

100. Ibid.

101. Ibid.

102. <http://www.pts.se/en-gb/People-with-disabilities/Trials/>

device-based service that can guide users through GPS and ‘gyro compass’. The information will be very precise and also have details of temporary obstacles or barriers. The project is currently being tested in Stockholm and other cities.

Thailand

The National Telecommunications Commission (NTC)¹⁰³ is the regulator for the telecom sector in Thailand.

The Telecommunications Business Act, B.E. 2544 (2001) – I¹⁰⁴ makes provisions for universal service obligation in Thailand which as per section 17 will be administered by the NTC.

According to Telecommunications Business Act, 2001, Section 17¹⁰⁵, NTBC has the duty to administer the USO for basic telecommunications service and is empowered to demand the following from service providers –

- Provide services in rural areas/low rate of return have insufficient service
- Provide services for educational institutions, religious institutions, medical institutions and other social assistance agencies
- Provide certain services for low income persons
- Provide services facilitated by utilizing public telecommunications
- Services for children, elderly people and persons with disabilities

Section 56 of the Frequency Allocation and Radio & Television Broadcasting and Telecommunications Services

103. <http://eng.ntc.or.th/>

104. <http://eng.ntc.or.th/index.php/act-and-regulation/thailand-telecommunication-acts-of-legislation/32-telecommunications-business-act-be-2544-2001-i.html>

105. <http://www.thailawforum.com/database1/telecom-business-act-3.html>

Authority Act, 2000mlink allows for the formation of the Telecommunications Development for Public Benefit Fund.

Designated USPs are required to provide the following services for persons with disabilities –

- Provide a free 30-minute phone card per person every month for persons with disabilities, low income people and seniors who are registered with Ministry of Social Development and Human Security for 30 months counting from the date of license issuance.
- Provide at least one public telephone within 100 meters in radius for low income communities that make a petition
- Provide public telephone and other necessary services for persons with disabilities as per act of disability B.C. 2544.

United Kingdom

The Office of Communications¹⁰⁶ (Ofcom) is the regulator for the telecommunications sector in the country.

The provision for universal service in Britain was first made in the Communications Act, 2003¹⁰⁷ which as per section 65(1) states that the Secretary of State must bring out an Order to secure compliance of the universal service obligations detailed in sub-section (2). This resulted in the Electronic Communications (Universal Service) Order 2003¹⁰⁸ which outlines the scope of universal service obligations in the UK. Based on the EC Universal Services Directive, the services covered under the Order are implemented by Ofcom. They are as follows:

- Publicly available telephone services
- Directories
- Directory Enquiry Facilities

106. <http://www.ofcom.org.uk/about/>

107. <http://www.legislation.gov.uk/ukpga/2003/21/part/2/crossheading/universal-service-conditions>

108. <http://www.legislation.gov.uk/uksi/2003/1904/schedule/made>

- Public pay telephones
- Billing, payment and tariff options
- Special measures for persons with disabilities

To implement the order, specific conditions have been laid on BT and Kingston Communications (in the Hull area) and general conditions on all service providers. The order defines the following as USO services –

- Special tariff schemes for low income customers
- A fixed network connection which includes internet access
- Access to public pay phones
- Services for persons with disabilities including text relay service

USO is currently funded by BT and Kingston¹⁰⁹ who have been designated as universal service providers.¹¹⁰ The EU directive makes provision for funding through the NRA in case the obligation poses an “unfair burden” on the USPs.

The text relay service¹¹¹ in UK is operated by BT under the USO. All communications providers must give their customers access to an approved text relay service. They must also ensure that customers who make calls using the text relay service are charged no more for these calls than if the call had been made without the relay service. Because calls using the text relay service take longer than other calls, most providers meet this condition by giving customers a rebate on these calls. The amount of the rebate is not set by the regulator, but is typically 50-60 per cent.

United States

The USF was set up in the United States through the

109. <http://www.k-c.co.uk/>

110. <http://stakeholders.ofcom.org.uk/consultations/uso/main/>

111. http://www.textrelay.org/about_us.php

Telecommunications Act of 1996.¹¹² The USF is administered through the Universal Service Administrative Company (USAC),¹¹³ an independent, not-for-profit corporation set up by the Federal Communications Commission (FCC).¹¹⁴ Approximately, USD 7.3 billion was spent in 2009 by the USAC on various programmes.

The USF runs its programmes under four broad categories–

- **High Cost** - Telephony services for consumers in regions where the rates for telecommunications services that are reasonably high compared to those in other areas
- **Low Income** - Also known as Lifeline and Link Up, the service offers discounts on telephony services for low-income consumers
- **Rural Health Care** - Reduced rates for rural health care providers for telecommunications and Internet services
- **Schools & Libraries** – Also known as the E-rate support, it facilitates affordable telecommunications and Internet services to schools and libraries

Universal Service Fund – Examples from US states

Given the federal structure of the government in United States, universal service programmes are run differently by different states. Most states have implemented measures for persons with disabilities at the local level under their universal service mandate. For example, discounts for persons with disabilities on basic telephony services are available in states such as Missouri, Virginia, Colorado, Illinois, Texas, Pennsylvania, Vermont, etc. Specific provisions are also made for disabled end users in the following states-

112. <http://www.fcc.gov/telecom.html>

113. <http://www.usac.org/about/usac/>

114. <http://www.fcc.gov/>

Wisconsin

The Wisconsin Universal Service Fund¹¹⁵ was set up under the 1993 Wisconsin Act, 496.¹¹⁶ The fund is administered by the Public Service Commission of Wisconsin.¹¹⁷ The fund covers low-income customers and persons with disabilities and is financed through contributions from service providers. The following programmes are funded by the USF either in part or in full for persons with disabilities-

- **Telecommunications Equipment Purchase Programme (TEPP)** is a programme that allows persons with disabilities to purchase assistive technology they may require to use basic telephone services. The service is made available through vouchers
- **The Access Programme¹¹⁸** is a grant programme for non-profits under USF for programmes or projects that will enable affordable access to telecommunications and information services for users in areas that have relatively high service costs, low-income users or users with disabilities
- **Technology for Educational Achievement Programme (TEACH)¹¹⁹** is a programme run by the Wisconsin Department of Administration, Division of Enterprise Technology¹²⁰ and funded under USF. It subsidizes fully or partially of the cost to provide telecommunications to eligible schools, libraries, and educational institutions
- **Newsline¹²¹** is a programme funded by the USF and administered by the National Library Service for the Blind

115. <http://psc.wi.gov/utilityinfo/tele/usf/programs/generalInfo.htm>

116. legis.wisconsin.gov/acts89-93/93Act496.pdf

117. <http://psc.wi.gov>

118. <http://psc.wi.gov/utilityinfo/tele/usf/programmes/npSummary.htm>

119. <http://teach.wisconsin.gov/>

120. <http://www.doa.state.wi.us/index.asp?locid=155>

121. <http://dpi.wi.gov/rll/wrlbph/newsline.html>

and Physically Handicapped (NLS)¹²² and the Wisconsin Talking Book and Braille Library¹²³ in collaboration with the National Federation of the Blind (NFB).¹²⁴ Newsline is a free dial-in service that allows print impaired persons access to newspapers. Users can hear sections or articles of interest from the newspapers through synthetic speech input reading the contents over the phone. This service is open to all users eligible for library services from the National Library Service for the Blind and Physically Handicapped (NLS) of the Library of Congress¹²⁵ and affiliates

California

The California Public Utilities Commission¹²⁶ runs Universal Service Public Programmes¹²⁷ and fulfils the USO objectives of the federal government. In compliance with Public Utilities Code § 2881¹²⁸, Senate Bill 597 (1979), Assembly Bill 3369 (1984) and Senate Bill 227 (1984) Telecommunications Devices for the Deaf, Senate Bill 244 (1983) California Relay Service and Senate Bill 60 (1985) Supplemental Telecommunications Devices for the Disabled, the CPUC¹²⁹ offers the following services under the Deaf and Disabled Telecommunications Programme.¹³⁰

California Telephone Access Programme (CTAP)¹³¹ is a

122. <http://www.loc.gov/nls/>

123. <http://dpi.state.wi.us/rll/wrlbph/>

124. <http://www.nfb.org/nfb/Default.asp>

125. <http://www.loc.gov/index.html>

126. <http://www.cpuc.ca.gov/PUC>

127. <http://www.cpuc.ca.gov/PUC/Telco/Public+Programs/>

128. <http://www.leginfo.ca.gov/cgi-bin/displaycode?section=puc&group=02001-03000&file=2881-2890.2>

129. <http://www.cpuc.ca.gov/puc/>

130. <http://www.cpuc.ca.gov/PUC/Telco/Public+Programs/ddtp.htm>

131. <http://ddtp.cpuc.ca.gov/default1.aspx?id=160>

programme that provides telecommunications assistive technologies and devices for persons with disabilities. The service is funded through a nominal surcharge on consumers' telephone bills which goes towards the CA Relay Service and Communications Devices Fund.

California Relay Service (CRS)¹³² is a service that provides trained operators to facilitate relay services for persons with speech or hearing disabilities who wish to communicate using a telephone.

Oregon

The Oregon Public Utility Commission¹³³ runs the following programmes for persons with disabilities under the Residential Service Protection Fund.¹³⁴

- **Oregon Telecommunications Relay Service** is a free relay service for all state residents who have hearing and or speech disabilities. There is no charge for local calls but long distance rates are charged. The service is operated by Sprint.
- **Telecommunication Devices Access Programme (TDAP)** offers loan of adaptive telephone equipment free of charge to eligible state residents with hearing, visual, speech, mobility or cognitive disabilities.

General observations

USFs around the world have addressed disabled ICT access through a mix of policies and programmes. Some commonly found programmes and projects are identified below.

- **Provision for financial assistance in the form of subsidies and loans for persons with disabilities** can be found in

132. <http://ddtp.cpuc.ca.gov/default1.aspx?id=381>

133. <http://www.oregon.gov/PUC/>

134. <http://www.puc.state.or.us/PUC/rspf/index.shtml>

Ireland, Italy, Lithuania, Portugal, Slovenia, Thailand, United Kingdom and United States

- **Identification of persons with disabilities as an underserved user group** can be found in the policies of France, European Union, Malaysia, Portugal
- **Provisions for accessible pay phone facilities** can be found in Ireland, Italy, Lithuania, Poland, Portugal, Slovak Republic, Slovenia, Thailand, United Kingdom
- **ICT Projects in media/health and education** have been rolled out in Jamaica, Pakistan, Kenya, United States and Sweden
- **Provisions for customer care** can be found in Ireland, Slovenia, Slovakia, Australia, Italy, and Lithuania
- **Provisions for relay service** have been made in Australia, France, Ireland, New Zealand, Portugal, Sweden, United Kingdom, and United States.

Chapter 4

Evolution of Universal Service Provisions based upon the Convention on the Rights of Persons with Disabilities

The rapid and universal adoption of the Convention on the Rights of Persons with Disabilities (CRPD) provides a timely opportunity for Legislators and Telecom Regulators around the world to align their policies and programmes in support of persons with disabilities.

1. Applicability of the CRPD to states with a telecommunications regulatory authority

As of September 30, 2011, 153 countries have signed the CRPD and 105 have ratified it, making it the universally accepted legal framework defining the rights of persons with disabilities and outlining the conditions for exercising those rights (including accessibility to information and communications technologies). All countries with a telecom regulatory authority are parties to the CRPD with almost no exception. Countries which have signed the Convention are:

Albania, Algeria, Andorra, Antigua and Barbuda, Argentina,

Armenia, Australia, Austria, Azerbaijan, Bahrain, Bangladesh, Barbados, Belgium, Belize, Benin, Bhutan, Bolivia, Bosnia and Herzegovina, Brazil, Brunei Darussalam, Bulgaria, Burkina Faso, Burundi, Cambodia, Cameroon, Canada, Cape Verde, Central African Republic, Chile, China, Colombia, Comoro, Congo (Republic of the), Cook Islands, Costa Rica, Cote d'Ivoire, Croatia, Cuba, Cyprus, Czech Republic, Denmark, Dominica, Dominican Republic, Ecuador, Egypt, El Salvador, Estonia, Ethiopia, European Union, Fiji, Finland, France, Gabon, Georgia, Germany, Ghana, Greece, Grenada, Guatemala, Guinea, Guyana, Haiti, Honduras, Hungary, Iceland, India, Indonesia, Iran (Islamic Republic of), Ireland, Israel, Italy, Jamaica, Japan, Jordan, Kazakhstan, Kenya, Kyrgyzstan, Laos, Latvia, Lebanon, Lesotho, Liberia, Libya, Lithuania, Luxembourg, Macedonia, Madagascar, Malawi, Malaysia, Maldives, Mali, Malta, Mauritius, Mexico, Micronesia (Federated States of), Monaco, Mongolia, Montenegro, Morocco, Mozambique, Namibia, Nepal, Netherlands, New Zealand, Nicaragua, Niger, Nigeria, Norway, Oman, Pakistan, Palau, Panama, Papua New Guinea, Paraguay, Philippines, Poland, Portugal, Qatar, Republic of Korea, Republic of Moldova, Romania, Russian Federation, Rwanda, Saint Lucia, Saint Vincent and the Grenadines, San Marino, Saudi Arabia, Senegal, Serbia, Seychelles, Sierra Leone, Slovakia, Slovenia, Solomon Islands, South Africa, Spain, Sri Lanka, Sudan, Suriname, Swaziland, Sweden, Syrian Arab Republic, Thailand, Togo, Tonga, Trinidad and Tobago, Tunisia, Turkey, Turkmenistan, Uganda, Ukraine, United Arab Emirates, United Kingdom of Great Britain and Northern Ireland, United Republic of Tanzania, United States of America, Uruguay, Uzbekistan, Vanuatu, Vietnam, Yemen, and Zambia.

All States Parties to the CRPD are obligated once they ratify it to abide by its dispositions and to align their legislation, regulations, policies and programmes with the CRPD as stipulated by its Article 4 on "General Obligations" –

1. States Parties undertake to ensure and promote the full realization of all human rights and fundamental freedoms for all persons with disabilities without discrimination of any kind on the basis of disability. To this end, States Parties undertake:
 - (a) To adopt all appropriate legislative, administrative and other measures for the implementation of the rights recognized in the present Convention;
 - (b) To take all appropriate measures, including legislation, to modify or abolish existing laws, regulations, customs and practices that constitute discrimination against persons with disabilities;
 - (c) To take into account the protection and promotion of the human rights of persons with disabilities in all policies and programmes;
 - (d) To refrain from engaging in any act or practice that is inconsistent with the present Convention and to ensure that public authorities and institutions act in conformity with the present Convention; (...)

Those dispositions are directly applicable to Universal Service Obligations and Universal Service Funds legislations and regulations. The following analysis shows how national laws and regulations on USO and USF may be aligned with the dispositions of the CRPD covering the obligation for States Parties relative to the accessibility of information and communication Technologies for persons with disabilities.

2. Dispositions of the CRPD to be taken into consideration to cover persons with disabilities in the definition of Universal Service Obligation

In order to establish a legal foundation to expand the coverage of Universal Service Obligation to Persons with Disabilities, States Parties can refer first to the CRPD Preamble (v) which establishes that accessibility to communication is a prerequisite for persons with disabilities to fully enjoy their

human rights:

“Recognizing the importance of accessibility to the physical, social, economic and cultural environment, to health and education and *to information and communication*, in *enabling persons with disabilities to fully enjoy all human rights and fundamental freedoms.*”

Article 3 on “General Principles” lists eight principles, four of which are in direct support of the inclusion of persons with disabilities in the definition of the universal service obligation:

- (b) Non-discrimination;
- (c) Full and effective participation and inclusion in society;
- (e) Equality of opportunity;
- (f) Accessibility;

However, the cornerstone of the dispositions of the CRPD obligating States Parties to provide equal access to communications to persons with disabilities is its Article 9 on “Accessibility”:

“To enable persons with disabilities to live independently and participate fully in all aspects of life, States Parties shall take appropriate measures to ensure to persons with disabilities access, on an equal basis with others, to the physical environment, to transportation, to information and communications, including information and communications technologies and systems, and to other facilities and services open or provided to the public, both in urban and in rural areas. These measures, which shall include the identification and elimination of obstacles and barriers to accessibility, shall apply to, inter alia: (...)

1. (b) Information, communications and other services, including electronic services and emergency services.
2. States Parties shall also take appropriate measures to:
 - (b) Ensure that private entities that offer facilities and services which are open or provided to the public take into account all aspects of accessibility for persons with

disabilities;

(f) Promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information;

(g) Promote access for persons with disabilities to new information and communication technologies and systems, including the Internet;

3. Definition of “Persons with Disabilities”

Obligations to provide accessible communications to persons with disabilities apply to a number of different sub categories. Article 1 on the CRPD specifies: “Persons with disabilities include those who have long-term physical, mental, intellectual or sensory impairments which in interaction with various barriers may hinder their full and effective participation in society on an equal basis with others.”

In considering the development of programmes to provide equal access to communications to persons with disabilities, States Parties should therefore take into account the various barriers to access for the above categories.

4. Accessibility features for communications covered by CRPD dispositions currently promoted by USF funded programmes

Services funded by USF surveyed in this report include examples of programmes to provide physical access to persons in wheel chairs or rely on alternate modes of communication for persons living with sensorial, speech or cognitive impairments. Several dispositions of the CRPD may serve as references to document the obligation to offer such services.

Physical accessibility is covered by Article 9 of the CRPD:

2. States Parties shall also take appropriate measures to:

(b) Ensure that private entities that offer facilities and services which are open or provided to the public take into

account all aspects of accessibility for persons with disabilities;
(d) Provide in buildings and other facilities open to the public signage in Braille and in easy to read and understand forms;

These obligations are met, for example, by programmes providing accessible public telephone booths.

Alternate modes of communication are defined by Article 2 of the CRPD (Article 2 “Definitions”):

“Communication” includes languages, display of text, Braille, tactile communication, large print, accessible multimedia as well as written, audio, plain-language, human-reader and augmentative and alternative modes, means and formats of communication, including accessible information and communication technology;

“Language” includes spoken and signed languages and other forms of non-spoken language.

The obligation to offer alternate modes of communication are met in the context of text based relay services, video relay services, services or equipment with braille interfaces, and more recently by advanced solutions leveraging high end mobile phones capabilities including text to speech and voice recognition.

The CRPD also stipulates that States Parties should undertake (Art. 4 – Par. 1 - h) “To provide accessible information to persons with disabilities about mobility aids, devices and assistive technologies, including new technologies, as well as other forms of assistance, support services and facilities”. This disposition would specifically support the funding by USF of outreach programmes to inform persons with disabilities of the availability of accessible communication solutions and services.

5. Additional areas of intervention for USF related to information and communication technologies beyond telephony

a. Access to the Internet by Persons with Disabilities

Several countries promote the use of the Internet by persons with disabilities with USF funded programmes. The CRPD offers a legal framework to implement such programmes in its Article 9, par. 2:

(f) Promote other appropriate forms of assistance and support to persons with disabilities to ensure their access to information;

(g) Promote access for persons with disabilities to new information and communications technologies and systems, including the Internet;

b. Funding of R & D and localization of assistive solutions

Assistive solutions such as text to speech or voice recognition constitute an increasingly important aspect of providing reasonable accommodation to persons with disabilities for essential e-services and communications. While few USF have dedicated funding to develop assistive solutions, the CRPD stipulates that States Parties (Article 4, par. 1 - g) should “undertake or promote research and development of, and to promote the availability and use of new technologies, including information and communications technologies, mobility aids, devices and assistive technologies, suitable for persons with disabilities, giving priority to technologies at an affordable cost;”

While assistive technology solutions developed by the private sector are available today in mainstream languages, they are often not available in many local or minority languages due to lack of market size and potential ROI for private sector assistive technology vendors. An option could be for USF to help fund the localization of assistive solutions in order to make them available in local language to local service providers.

c. Specific sectorial ICT accessibility obligations

Several articles of the CRPD covering accessibility or reasonable accommodation obligations have direct implications for Information and Communication Technologies. Those include articles 19 on Independent Living, 24 on education, 27 on employment, 30 on Culture and Leisure (including television). Those areas of application of assistive technologies are addressed by USF in certain countries today. Programmes which may be considered include funding of assistive equipment and services in schools, discounted rates to access the Internet for libraries and education institutions or support of technology investments in special schools for the deaf or the blind.

6. Evolution of USF Charters in the context of new technologies in relation to the CRPD

While most USF around the world have focused on funding legacy programmes to promote the accessibility of fixed telephony, recent technology and usage trends have considerably expanded the potential to deploy useful programmes for persons with disabilities:

a. Mobile telephony

Mobile telephony offers unprecedented benefits to persons with disabilities due to its ease of use anywhere, anytime, the many accessibility and assistive features that exist on many high end handsets, the availability of powerful third party assistive software and the ability of mobile service providers to deploy special services for persons with disabilities. Among programmes which may be considered by USF for mobile telephony are:

- Discounted rates for persons with disabilities including for special features such as text messaging for the deaf
- Free licenses of assistive software such as text to speech

- Subsidizing high end handsets for persons with disabilities requiring those
- Awareness and training programmes in cooperation with education institution, service providers or non-profit partner organizations to reach out to persons with disabilities

b. Emergency response

Mobile and fixed telephony are important components of emergency response services in all countries. Accessibility of those services is a specific requirement of the CRPD. This is an area of considerable interest for governments around the world while new technology such as geo-positioning on mobile phones offers powerful solutions to serve persons with disabilities. Among possible programmes for USF to consider:

- Fund programmes to make mobile phones and services available to specific populations at risk.
- Fund accessibility features for emergency call centres

c. Media convergence

The convergence of mobile telephony, wireless Internet and multi-media creates a new communication environment which needs to be looked at from the perspective of persons with disabilities. Services such as captioning, audio description, accessible social media, e-government services, and cloud based assistive solutions may all be considered as potential areas of intervention for USF. As tablets and high end mobile handsets gain a significant share of the global market of mobile users, most telecom regulators will have to make a decision as to which is a regulated telecom device or service and which is not. The same question will apply for determining the legitimate areas of intervention for Universal Service Funds. With these considerations in mind, programmes may be funded by USF to ensure that new essential services relying on multi-media communications remain accessible, particularly by promoting captioning and audio description.

Appendix 1: Table of accessibility programmes and policies under USOs

Country	USF Process	USO Definition	Regulatory Measures	Projects
1 Australia	Designated USP	Obligation to provide standard telephony to all citizens and make accommodation for PWDs where necessary	Priority assistance	Accessible fixed telephony through payphones and personal connections
2 France	Designated USP	EU Universal Service Directive Disabled users as “social categories with special needs.”		Accessible pay phone facilities -Creation of relay services
3 Ireland	Designated USP	EU Universal Service Directive	Braille billing	<ul style="list-style-type: none"> – Accessible pay phones – National relay service – Provision for assistive technologies to use with telecommunication devices
4 Italy	Designated USP	EU Universal Service Directive	Priority assistance and repair	<ul style="list-style-type: none"> – 90 hours of free internet usage and 50percent reduction for visually impaired users

					<ul style="list-style-type: none"> – Accessible pay phone facilities – Discounts & exceptions on monthly phone bills – Computer infrastructure for special schools
5	Jamaica	Designated USP	General ICT action plan with provisions for persons with disabilities		
6	Kenya	Organization setup	Provisions for persons with disabilities in USO policy	ICT for People with Disabilities project	<ul style="list-style-type: none"> – Accessibility web portal – ICT centres in special schools
7	Lithuania	EU directive, Designated USP	Accessibility for persons with disabilities as part of USO under Law on Electronic Communications 2004 EU Universal Service Directive	Mandate to ensure that a minimum of 10 per cent of public pay phones are accessible. Billing in alternative formats Accessible information about universal services	<ul style="list-style-type: none"> – 300 litas (approx. ●85) subsidy for new handset – Provision for one textual public payphone in every disabled rehabilitation centre.
8	Malaysia	Organization setup	Identifies persons with disability as an underserved		<ul style="list-style-type: none"> – Klang Valley Broadband Push 90 for broadband penetration in the Klang

			community/group			<ul style="list-style-type: none"> – Internet access facilities to disabled entrepreneurs. – Text Relay and Video Relay Service Centres 	Valley by 2010.
10	New Zealand	USO instruments	Deed for Telecommunications Relay Services				<ul style="list-style-type: none"> – USD6.1million project for library digitization – Support to the low vision centres in various parts of the country
11	Pakistan	Organization setup					<ul style="list-style-type: none"> – Terminal equipment adapted to meet the needs of persons with disabilities – Accessible pay phone facilities
12	Poland	Designated USP	EU Universal Service directive Services for persons with disabilities as part of USO under Telecommunications Law of 2004				<ul style="list-style-type: none"> – Voluntary subsidy on telephone charges for hearing impaired users – Text Relay Services
13	Portugal	Designated USP	EU Universal Service directive Provision of special pricing for disabled users and accessible pay phones under Decree-Law no.458/99	Billing in accessible formats Information about accessible services Measures to be taken to make emergency services			

14 Slovak Republic	Designated USP	EU Universal Service directive Access to public telephone services for persons with disabilities as part of USO under Act 610 on Electronic Communications 2003	accessible Free directory enquiry Round the clock technical support	– Accessible payphone facilities with 25 per cent of total payphones to be marked and be accessible to hearing impaired.
15 Slovenia	Designated USP	EU Universal Service Directive Accessibility for persons with disabilities as part of USO under Law on Electronic Communications	Priority service and repair, accessible information about call costs, remaining, balance on prepaid through voice messages. Special number for assistance for visually impaired users	– 50 per cent discount for setting up a fixed line connection for eligible persons with disabilities services – 5 per cent discount on monthly charges on fixed telephone services for eligible persons with disabilities
16 Sweden	No formal structure or USP	EU directive/ programmes under national disability	Specialist terminal equipment accessible billing	– Funding for projects for innovative communication solutions including sms

		policy	systems information and emergency services	112, e-adept and audio 4 all relay services
17 Thailand	Organization setup			<ul style="list-style-type: none"> – Monthly 30-minute phone card for persons with disabilities – Relay Service
18 United Kingdom	Designated USP	EU Universal Service Directive Electronic Special measures for persons with disabilities under Communications (Universal Service) Order 2003		<ul style="list-style-type: none"> – Text relay service – Accessible pay phones
19 United States	Organization setup	Inclusion of persons with disabilities under the broad programmes of the organization	Grant Programme for non profits under USF for programmes or projects	<ul style="list-style-type: none"> – Access to media publications – Relay Service – ICT projects for schools such as Newsline and TEACH – Loans/subsidies programme for purchase of assistive technologies

Glossary of Terms

1. ACMA- Australian Communication and Media Authority
2. ANACOM- *Autoridade Nacional de Comunicações*
3. APEK- Agency for Post and Electronic Communications of the Republic of Slovenia
4. ARCEP- *Autorité de Régulation des Communications Électroniques et des Postes*
5. AT: Assistive Technology
6. ICT: Information and Communication Technology
7. DAISY: Digital Accessible Information System
8. CCK- Communications Commission of Kenya
9. CPUC- California Public Utilities Commission
10. CRS- California Relay Service
11. CTAP- California Telephone Access Programme
12. EU- European Union
13. GPS- Global Positioning System
14. ITU- International Telecommunication Union
15. MCMC- Malaysian Communications and Multimedia Commission
16. NFB- National Federation of the Blind
17. NGO: Non Government Organization
18. NDA- National Disability Authority
19. NLS- National Library Service for the Blind and Physically Handicapped
20. NTBC- National Broadcasting and Telecommunications Commission

21. Ofcom- Office of Communications
22. PTS- Swedish Post and Telecom Agency
23. R&D: Research and Development
24. RRT- Communications Regulatory Authority of the Republic of Lithuania
25. TDAP- Telecommunication Devices Access Programme
26. TEACH- Technology for Educational Achievement
27. TEPP- Telecommunications Equipment Purchase Programme
28. TSO- Telecommunications Service Obligations
29. TRS- Telecommunication Relay Service
30. TU SR- *Telekomunikačný úrad SR*
31. UKE- Office of Electronic Communications
32. UNDP- United Nations Development Programme
33. UNESCO - United Nations Educational, Scientific and Cultural Organization
34. USAC- Universal Service Administrative Company
35. USOF- Universal Service Obligation Fund
36. USF: Universal Service Fund
37. USO: Universal Service Obligation
38. USP: Universal Service Provider

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