



**United Nations Expert Meeting on Building Inclusive Societies and
Development through Promotion of Accessible Information and
Communication Technologies (ICTs); Emerging issues and trends
Tokyo, Japan
19 – 21 April 2012**

REPORT*

Organized by the
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in cooperation with the
United Nations Information Centre (Tokyo), and the Nippon Foundation

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I. MEETING OUTCOME: FINDINGS AND RECOMMENDATIONS

The United Nations Expert Group Meeting (EGM) on Building Inclusive Society and Development through Promoting Accessibility in Information and Communication and Technologies (ICTs): Emerging issues and trends, was held at the headquarters of The Nippon Foundation in Tokyo, Japan from 19 to 21 April 2012. The EGM was organised by the Department of Economic and Social Affairs of the United Nations (UN DESA) in close collaboration with the United Nations Information Center in Tokyo and The Nippon Foundation.

The two and one-half day expert group meeting, consists of plenary and working group session, had intensive and wide-ranging discussions on issues and trends in accessible and usable information and communications technologies (ICTs) and development. The Meeting had a special plenary session, on 20 April, to review and discuss accessible ICTs in disaster responses and emergency situations, which included consideration of lessons learned from the 2011 East Japan Tohoku earthquake and tsunami and other experiences. Participants considered in plenary, on 21 April, findings and recommendations submitted by its working groups concerning: (1) policy frameworks and institutional arrangements to promote accessible and usable ICTs, (2) accessibility technologies and technical standards and (3) accessible and usable ICTs in disaster responses and emergency situations, which were adopted as presented.

A. Policy frameworks and institutional arrangements to promote accessible and usable information and communications technologies (ICTs)

1. Development setting

The expert group began its discussion of accessibility-related policies, structures and technologies by recalling that a recent World Health Organization study¹ had estimated that as at 2010 there were more than one billion persons (more than 15 per cent of the global population) living with disabilities. The Group also noted that population ageing is associated with observed changes in motor and sensory capacities; and that the United Nations Population Division had estimated that as at 2009 there were 737 million persons (slightly more than 10 per cent of the global population) aged 60 and older. United Nations data further indicate that the population cohort age 60 and above is growing faster than the total

¹ World Health Organization and the World Bank Group, 'Disability – a global picture,' in *World report on disability 2011*. Chap. 2 (Geneva: World Health Organization, 2011) p.29.

population in most regions.² Thus, an estimated 25 per cent of world's population will benefit from accessible and usable (ICTs) "to live independently and participate fully in all aspects of life."³

2. International norms and standards

The Group recalled that accessibility has been addressed in international instruments related to persons with disabilities, which include the World Programme of Action concerning Disabled Persons, the Standard Rules on the Equalization of Opportunities for Persons with Disabilities, and the Convention on the Rights of Persons with Disabilities (CRPD).

The Group noted that CRPD defines ICTs accessibility as an integral part of accessibility issue, on par with accessibility in the physical environment and in transport services. Accessibility is framed and defined in CRPD Article 3 (general principles), Article 4 (general obligations) and Article 9 (accessibility). While the terms "Accessibility" and "Accessible" appear, respectively, nine and 17 times in CRPD, it is relevant to many of its other Articles and integral to the enjoyment of many rights for persons with disabilities.⁴

The Group concluded that the current set of international instruments related to persons with disabilities provides appropriate guidance for functionality, technical standards and guidance related to accessible and usable ICTs in the context of development.

3. Disability, accessibility and international development strategies

(a) Issues and background

The Group noted that persons with disabilities had not been fully considered as agents and beneficiaries in major international development strategies in the twenty-first century, in particular the "United Nations Millennium Declaration" and the eight Millennium Development Goals (MDGs), which have an implementation period of 2000 to 2015.

Evidence suggests that lack of awareness and appreciation of accessibility as a cross-cutting development issue, and absence of appropriate policy guidance on promoting accessibility in the context of development have been challenging obstacles to furthering achievement of the

² United Nations. Department of Economic and Social Affairs, *World Population Ageing 2009* (United Nations publication, ST/ESA/SER.A/295, 2010) p. 11.

³ Article 9, "Accessibility," in *Convention on the Rights of Persons with Disabilities*, para. 1.

⁴ See Dónal Rice (ed.), *e-Accessibility Policy Toolkit for Persons with Disabilities*, (n.d.) available at http://www.e-accessibilitytoolkit.org/toolkit/un_convention/accessibility_provisions .

Millennium Development Goals, as well as other internationally agreed outcomes for all, persons with disabilities in particular.

The Group noted there are two related processes underway within the United Nations system concerning international development strategies: in the short term, the United Nations Conference on Sustainable Development (Rio+20), scheduled to 20-22 June 2012 at Rio de Janeiro, Brazil, and for the medium term, discussions on a post-2015 international development agenda. Both have important implications for advancement of persons with disabilities and their roles as development agents and beneficiaries.

The Group also took note that the upcoming one-day High-Level Meeting of the General Assembly on Disability (HLMD) scheduled for 23 September 2013 at United Nations Headquarters is expected to result in an outcome document in support of the principles and purposes of CRPD and present options for realization of the MDGs and other internationally agreed development goals for persons with disabilities.

The Group is of the view that three thematic areas are of particular importance to advancement of persons with disabilities in the context of development: education and training, sustainable livelihoods, and social services and safety nets, which could be presented as policy options, programmes and implementation modalities, premised on accessibility to the general systems of society for all, for consideration of governments as measures to further sustainable, equitable and inclusive development.

(b) Recommendations concerning international development strategies

- 1) Accessible and usable ICTs are recognised as essential enablers for persons with disabilities to realise full and effective opportunities on the basis of equality in all aspects of development, which should be appropriately reflected as both policy commitment and an integral part of the action programme adopted by the upcoming Rio +20 Conference, by the 2013 United Nations High-Level Meeting on Disability and Development, and by post-2015 global conferences, summits and related events in the economic, social and related sectors.
- 2) Targeted advocacy efforts related to sustainable, equitable and inclusive development and advancement of persons with disabilities should be promoted, enhanced and supported, including establishment of global networking and partnerships among multiple stakeholders, including the United Nations system of organisations, governments, academic institutions, research and advocacy centres, disability and civil society organizations as well as the private sector.

4. Implementation of international commitments and role of the United Nations system of organisations

(a) Issues and background

The United Nations system of organisations has an important role to play, and its members can make significant contributions to promote awareness of accessibility in the context of development in their respective areas of substantive concern.

The Group observed that accessibility in general and ICTs accessibility in particular, often are lacking in international development frameworks, although it did take note of several examples of significant development initiatives and innovative practices. For instance, the United Nations Educational, Social and Cultural Organization (UNESCO) have been implementing the “Inclusive Education” and the “Education for All (EFA)” initiatives to further achievement of Millennium Development Goal 2: Achieve universal primary education. However, the Group noted that data presented in the *World report on disability 2011* indicate that children with disabilities – girls and boys alike – experience significantly lower rates of primary school completion and lower mean years of education than children and young adults without disabilities.⁵ Accessible and usable ICTs can make significant contributions to furthering the universal primary education goal for all children by, among means, providing educational and enrichment resources in accessible and usable formats.

(b) Recommendations concerning international commitments

- 1) The integral role of accessible ICTs in ensuring inclusive societies should be recognized by bodies and organisations of the United Nations system and be promoted and referenced in their policies, programmes and guidance documents.
- 2) Internet-based information resources of the United Nations system, such as the United Nations Public Administration Network,⁶ should promote accessible and usable design and content, and accessible e-governance and public services provision, which could involve public Web site design and use of accessibility requirements in public procurement.
- 3) Urgent action should be taken to accelerate the EFA initiative along with other global initiatives in the economic, social and related sectors to draw global attention to the

⁵ WHO, ‘Education,’ in *World report on disability 2011*, op. cit. Chap. 7, pp. 206-207.

⁶ The Division for Public Administration and Development Management, Department of Economic and Social Affairs of the United Nations is the UN PAN programme manager, available at <http://www.unpan.org/>.

issue of mainstreaming disability in efforts aimed at achieving agreed development commitments and tapping the full potential of accessible and assistive technologies in realization of the MDGs and other internationally-agreed development goals for all, particularly as this pertains to persons with disabilities - children and adults, and women and men alike – who often are not fully involved as agents and beneficiaries of these processes. The recommendation is directed to concerned members of the United Nations system, governments, civil society as well as the private sector.

- 4) UNCTAD is urged to initiate a dialogue on Corporate Social Responsibility (CSR) issues⁷ as this would pertain to accessible ICTs as an essential element of good labour practices, human resources development and community involvement with a aim of promoting new and expanded opportunities for persons with disabilities to engage in trade, finance and enterprise as well as participate in corporate governance.
- 5) Specialized agencies of the United Nations system, such as the International Telecommunications Union (ITU) and the World Intellectual Property Organization (WIPO), and international non-governmental entities such as International Organization for Standardization (ISO) are urged to strengthen and expand efforts in their respective areas of concern to development and dissemination of practical guidance and technical resources to support governments and national standards organizations build capacities and strengthen institutional capabilities to produce and provide accessible and usable ICT products and services.
- 6) The United Nations Global Compact⁸ and associated Principles for Responsible Investment (PRI)⁹ are urged to introduce “rights of persons with disabilities as development agents and beneficiaries” as one of their “guiding principles” and to include in their periodic reports information on actions taken to further the rights of persons with disabilities in the context of development and the contribution of accessible and usable ICTs in corporate operations and outreach to that end.

5. National policies and programmes

(a) Issues and background

The Group took note of a global comparative study of national policies and programmes

⁷ The *São Paulo Consensus* of UNCTAD XI, held at São Paulo, Brazil from 13 to 18 June 2004 (United Nations publication TD/410) provides a broad context by which UNCTAD can address corporate responsibility with a view to facilitating and enhancing corporate contributions to the development of host developing countries.

⁸ The UN Global Compact is a strategic policy initiative for businesses that are committed to aligning their operations and strategies with ten principles in the areas of human rights, labour, environment and anti-corruption, available at <http://www.unglobalcompact.org/AboutTheGC/index.html>.

⁹ PRI is a network of international investors working to put six “Principles for Responsible Investment” into practice, which reflect the view that environmental, social and corporate governance (ESG) issues can affect performance of investment portfolios, available at <http://www.unpri.org/about/>.

related to accessible ICTs, based on a survey of 32 State parties to CRPD (plus the United States as the benchmark).¹⁰ The study found that as at mid-2010 only about half of the CRPD State parties surveyed had adopted specific policies on mainstream ICTs accessibility, and where such policies exist, implementation was varied.

(b) Recommendations concerning national policies

- 1) Governments, which have not already done so, are urged to promote public awareness of the role of accessibility as a key cross-cutting development issue and its importance in enabling persons with disabilities to participate fully and on the basis of equality as development agents and beneficiaries.
- 2) Governments, which have not already done so, are urged to formulate and adopt clear and concise policy and regulatory frameworks on accessibility, which would include, among issues addressed, accessible and usable information and communication products, services, and user interfaces and procedures. Evidence suggests that stakeholder involvement, particularly persons with disabilities, can play a decisive role in the design, promotion, enforcement and evaluation of policies and programmes that aim to promote ICTs accessibility. Measures to ensure opportunities for involvement of all concerned stakeholders should be instituted.
- 3) Governments, the United Nations system, international development research and advocacy institutions, including organisations of persons with disability, as well as the private sector are strongly urged to strengthen efforts to build national capacities and institutions for policy design, programme planning, implementation management, monitoring and evaluation of accessible and usable ICTs.

6. Public procurement

(a) Issues and background

The Group noted that public procurement as a means to promote social objectives, strengthen regulation and influence markets positively has proven to be effective in domains such as environmental protection and accessibility. The experience of the Group is that both CRPD Article 9, on accessibility, and Article 4 (d), on actions and practices of State parties, are being cited as motivators for State parties to adopt such rules. Use of public procurement rules for accessible ICTs by governments can wield significant influence in markets by

¹⁰ Global Initiative for Inclusive Information and Communication Technologies, *Convention on the Rights of Persons with Disabilities 2010 ICT Accessibility Progress Report* (Produced in collaboration with Disabled Peoples' International) (Atlanta, 2011), pp. 11-12.

ensuring that all public procurement uses an agreed set of accessibility requirements.

Public procurement used in this way has the potential to influence the accessibility of ICTs commonly procured by governments and their agencies, although there exist some categories of software applications – for instance, freely available micro-blogging clients, such as Twitter® - that are unlikely to be influenced by public procurement rules in their initial designs and distributions. Adoption of public procurement rules in support of accessibility requirements for ICTs is an important first step in ensuring expanded end-user access to information and communication products and services; and it has the potential to influence accessibility of ICTs developed under business models that do not view governments and publicly-funded bodies and organizations as their sole - or principal - clients.

(b) Recommendations concerning public procurement

- 1) The Group strongly urges that governments, which have not already done so, adopt procurement rules that incorporate accessibility requirements as set out in commonly-used standards for public procurement of ICTs.¹¹
- 2) Governments, the United Nations, and concerned civil society organizations, organizations of persons with disabilities in particular, are urged to pursue innovative and catalytic ways to encourage and ensure accessibility and usability in information technologies and communication services developed and distributed on the basis of commercial models where financing may range from individual purchase or subscription to registered end-user access supported by display advertising and fees associated with payments infrastructure for goods and services options.

7. Structural aspects of accessible ICTs

(a) Issues and background

¹¹ The European Commission (EC) Mandate M- 376 (7 December 2005) requires the three European standards organisations, CEN – European Committee for Standardization, CENELEC – European Committee for Electrotechnical Standardization, and ETSI – European Telecommunications Standards Institute, to harmonise and facilitate public procurement of accessible information and communication technologies (ICTs) products and services within Europe. CEN and CENELEC issued in November 2011 a draft European Standard (EN) on European accessibility requirements for public procurement of ICTs products and services for comment (until 31 December 2011), “ Human Factors (HF); Accessibility requirements for public procurement of ICT products and services in Europe,”(ETSI EN 301 549 V0.0.34 (2011-11)) , available at <http://www.mandate376.eu/> . In the United States, the US Access Board released for public comment a revised draft of updated accessibility requirements for information and communication technology (ICT) covered by Section 508 of the Rehabilitation Act and Section 255 of the Telecommunications Act, “Information and Communication Technology (ICT) Standards and Guidelines” (December 2011), available at <http://www.access-board.gov/sec508/refresh/draft-rule.pdf>.

The Group reviewed and discussed the important contributions that participatory and inclusive institutional structures make to advancement of persons with disabilities in the context of development and facilitate their full and effective participation in decisions that affect their well being and livelihoods. The Group took note of the rich experiences of the São Paulo (Brazil) State Secretariat for Promoting the Rights of Persons with Disabilities.

The Group also discussed structural aspects in the provision of accessible ICTs, particularly as this pertains to availability of reliable and affordable broadband services for persons with disabilities. Experience suggests that many persons with disabilities require broadband access to obtain essential services and information resources, which can range from remote health status monitoring to access to online sign language interpretation. The data available suggest, however, that many persons with disabilities often are less able to afford broadband services to meet their essential information and communication needs than society as a whole.

(b) Recommendations concerning structural aspects of accessible ICTs

- 1) Governments, which have not already done so, are urged to establish and develop clear, multilevel structures and lines of communication to ensure full and effective participation of persons with disabilities in decision making processes, including decisions regarding accessible and usable ICTs.
- 2) With regard to development of policies and programmes to promote broadband services, governments are urged to direct special attention to provision of affordable and reliable broadband services for persons with disabilities in both urban and rural areas to meet essential communication and information services needs. Regulatory authorities are specifically urged to identify options to encourage telecommunication providers to develop realistic and viable proposals to address economic barriers to access to broadband services that confront many persons with disabilities.
- 3) State parties to CRPD, which have not already done so, are urged to establish clear and concise objectives on accessible ICTs and development, and to consider using structures established in connection with promotion and implementation of CRPD to monitor progress in availability, adoption and use of accessible ICTs.

8. Assistive technologies (AT) and augmentative and alternative communication (AAC)

(a) Issues and background

Assistive technologies (ATs) play essential roles in enabling persons with disabilities to

achieve their aspirations, which include full access to education, employment opportunities and participation in society. Since the inability to speak can be emotionally devastating, augmentative and alternative communication (AAC) play an especially important role in enabling people with speech and language disabilities, yet who are cognitively able, to communicate and participate actively in social life and development, to become more independent, and to make decisions on their own.

Experience suggests that there exist significant inequalities in access to ATs and to ACCs and related expertise. Experience further suggests that lack of availability of Text to Speech (TTS) and voice recognition applications in many languages is a fundamental barrier to the uptake of technologies by many groups of persons with disabilities, which affects opportunities to participate fully in all aspects of development. The Group noted that TTS is an issue not only for persons who are blind or visually impaired but also benefits persons with dyslexia and those with print disability.¹²

(b) Recommendations concerning ATs and AACs

1) To ensure lower cost of access to ICTs-related products and services for all end-users, particularly as this concerns persons with disabilities and the acquisition of ATs and AACs, governments are urged to adhere to international standards and functional requirements for ICTs accessibility when developing and updating national ICTs standards.

2) Concerned members of the United Nations system, UNESCO in particular, in cooperation with other concerned international organizations and academic institutions, are urged to seek support for establishment, development and maintenance of a repository of freely-available TTS voices in a range of mother tongues which will provide essential building blocks for expanded and equitable access to ICTs for all.

3) The Group took note of a newly-formed “AT Leadership Network” within the framework of activities under the Global Initiative for Inclusive Information and Communication Technologies, a non-profit organization, and suggested that its early establishment be open and democratic and provide online information resources, perhaps as a Wiki,¹³ on ATs issues, trends and research needs.

9. Emerging issues in ICTs accessibility policies and structures

(a) Advances in digital publishing and provision of accessible content

¹² Defined as a condition related to blindness, visual impairment, specific learning disability or other physical condition in which a person needs an alternative or specialized format (i.e., Braille, Large Print, Audio, Digital text) to access and gain information from printed materials, available at http://maine-aim.org/print_disability.

¹³ <http://wiki.org/wiki.cgi?WhatIsWiki>.

The Group discussed accessibility issues and trends in digital publishing formats, EPUB® 3¹⁴ in particular. The Group noted that while an increasing number of publications are available mainly as digital content, not all digital formats currently provide accessibility with reasonable accommodation. Note was taken of the participation of DAISY Consortium¹⁵ experts in development of EPUB® 3 standards, which has ensured effective consideration of accessibility issues. An expected benefit of the collaboration is when the DAISY Consortium updates the DAISY standard, EPUB® 3 would be identified as the DAISY delivery format, which will enable use of the EPUB® 3 standard to produce electronic document files that work on a range of reading systems and deliver content accessibly as well.

The Group urges that governments, which have not already done so, when considering adoption of standards for publication and dissemination of digital content, whether these are EPUB® 3 or similar standards, ensure that the standard effectively supports conversion of digital content into accessible formats.

The Group further recommends that the United Nations system consider adopting the use of the Creative Commons Licence¹⁶ – or other, open copyright licensing frameworks, such as the GNU General Public License (GPL), version 3¹⁷ or the MIT/X11-License¹⁸ - to allow conversion of content under copyright into accessible formats for personal use and without restrictions by those who use assistive devices. Providing United Nations publications under open copyright licensing would provide a significant increase in information resources in formats appropriate to the needs and capabilities of a wide range of end users worldwide.

The Group further urges governments to support early adoption and implementation of the proposed WIPO (World Intellectual Property Organization) “Treaty for an Improved Access for Blind, Visually-Impaired and Other Reading Disabled Persons,”¹⁹ which would provide a binding international instrument to support copyright exemptions for persons with disabilities and result in a significant increase in the number of accessible books available for persons with disabilities worldwide.

(b) Open-source and participatory approaches to developing assistive technologies

¹⁴ EPUB is a registered trademark of the International Digital Publishing Forum < <http://idpf.org/>>, a trade and standards association, see <http://idpf.org/epub/30/spec/epub30-overview.html>.

¹⁵ http://www.daisy.org/about_us .

¹⁶ <http://creativecommons.org/about>.

¹⁷ <http://www.gnu.org/licenses/gpl.html>.

¹⁸ <http://whatis.techtarget.com/definition/mit-license.html> .

¹⁹ http://www.wipo.int/meetings/en/doc_details.jsp?doc_id=130505..

The NVDA (Nonvisual Desktop Access) screen reader for Microsoft Windows® operating systems was cited as a successful and highly-rated example of open source development. NVDA was developed by NV Access²⁰ with support of local community groups; it is distributed at no cost. NVDA provides feedback via synthetic speech and Braille, which allows blind or vision-impaired persons to use Windows-based computers at no more cost than sighted users. Major features include support for over 35 languages and ability to run as a portable application on a USB drive.

While the Group considers NVDA to be a successful example of open-source and participatory development of an important assistive technology, some were of the view that its current model for further development and support may not be sustainable overtime.²¹

The Group considers open-source assistive technologies to be an important component in policies, strategies and programmes to promote accessible and usable ICTs products and services and would, therefore, encourage governments, foundations, industry as well as the non-governmental sector to include support for development, dissemination and maintenance of open-source assistive technologies in national ICT policies and programmes.

As a general recommendation concerning accessible and usable ICTs, the Group urges that international standards organisations build on their accessibility work by systematically incorporating accessibility concepts and principles in all standardisation work. The Group would further encourage international standards organisations to progressively involve persons with disabilities and their organizations in standardisation development, promotion, implementation and guidance processes.

B. Technologies, technical standards and regulations related to promotion of accessible and usable information and communication technologies (ICTs)

1. Accessibility standards and compliance

(a) Issues and background

Accessibility standards contribute significantly to increasing the up-take, lowering the cost of production, upgrading and improving interoperability and eventual quality and experience for

²⁰ NV Access < <http://www.nvaccess.org/> > is a non-profit organisation in Australia that supports provision of free, open source computer software that enables blind and vision-impaired users to use any type of technology for the same cost as sighted peers.

²¹ Major sponsors of NV Access enabling full-time development of NVDA are Mozilla Corporation and Adobe Systems; past sponsors include Yahoo! Inc and Microsoft Corporation, available at <http://www.nvaccess.org/>.

all end users. In some areas of ICTs, there are broadly accepted accessibility standards, but compliance to these standards remains very poor, available global audits suggest. The Web Content Accessibility Guidelines (WCAG)²² is a well-known example.

Despite integration into laws and regulations in numerous countries as well as widespread advocacy and promotion, the level of compliance and implementation of Web accessibility standards remains low. Common reasons given include: (1) the standards are too complex and hard to understand; (2) they are perceived as to be potentially counter to technical advances; and (3) there is a lack of awareness by a majority of Web content authors.

In the area of Web content, production has shifted to the masses, enabling an ever-growing number of individuals to become Web content authors. Even in the area of Web and mobile application development, a growing number of application developers are able to produce applications. It is not realistic that every Web author and application developer can be made aware of relevant accessibility standards, be motivated to apply the standard – or standards, and be trained in their application.

Almost all Web authors and Web application developers use some form of authoring tool, development tool, software toolkit or component library. It is possible - and guidelines are available - to design such tools and toolkits so that authors are supported and guided in creating accessible content and that the default condition of any content or application produced by the tool is accessible.

Similarly, toolkits provide the building blocks, or components for creating Web applications. A given component is reused and embedded in many applications. If the component is created accessibly, then the accessible design propagates to all applications embedding the component. Unlike the typical Web author, producers of authoring tools and development tools have the technical expertise to understand technical standards and guidelines related to accessible content and services.

(b) Recommendations concerning standards and compliance

- 1) Governments, the United Nations system, international standards organizations and accessibility advocates as well as private, corporate sectors, are urged to direct emphasis and focus on embedding accessibility supports in the tools used to create content and applications (including Web content authoring tools, authoring templates, application development tools, software component libraries and component toolkits)

²² WCAG “Overview,” available at <http://www.w3.org/WAI/intro/wcag.php>.

and in the standards and guidelines that prescribe this process. The United Nations system, other international organizations and governments should implement this recommendation internally to provide a model of good practice.

- 2) Governments and concerned regulatory bodies and agencies are urged to implement, monitor and enforce legislative and regulatory frameworks related to accessibility standards in the same way that environmental and public health standards are implemented, monitored and enforced, which is based on public reporting, inspection and fines (but which do not depend on persons with disabilities to litigate); these approaches should be adopted in all jurisdictions that implement, monitor and enforce accessibility standards.
- 3) Publically-funded institutions, wherever possible, are urged to use public procurement requirements as a practical way to encourage and support use of accessibility standards-compliant products and services, including authoring and development tools that support production and maintenance of accessible Internet resources, including content, applications and services.
- 4) All stakeholders that support research and set research agendas, including governments, the United Nation system, other international organizations, foundations as well as the private, corporate sectors are urged to support and disseminate widely research on practical and effective compliance strategies and processes.
- 5) Likewise, systems and tools that monitor and provide comparative data on compliance to accessibility standards should be supported and widely disseminated.

2. Convergence and harmonization of technology platforms

(a) Issues and background

Fragmentation within the ICTs domain puts untenable strains on the under-resourced accessibility technologies community. Each separate ICT platform (e.g., Internet, telecommunications and broadcast, or multiple industry standards for a specific function) requires separate training, alternative access systems, technical standards and expertise.

At the level of certain intergovernmental agencies there are proposals to create tiered versions of currently unified ICTs services (e.g., two tiered Internet), and for certain media there are multiple competing and incompatible proprietary standards.

In the accessibility field, such fragmentation multiplies the effort and investment required to achieve accessibility. For persons with disabilities it requires multiple sets of often costly assistive technologies and an investment of time to learn each set. For many persons with

disabilities, it currently is not possible to acquire even one set of assistive technologies. Proprietary standards hinder production of alternative access systems for persons with disabilities and limit opportunities for their participation in designing and evolving the standards as well. In contrast, open standards (such as EPUB^{®3} and HTML5²³) make it possible for all to provide input and contribute to development of alternative means of access.

(b) Recommendations concerning technology platforms

The Group recommends that:

- 1) Governments, the United Nations system, other international organizations, including the intergovernmental Organization for Economic Co-operation and Development (OECD) and the non-governmental Internet Society (ISOC), as well as private, corporate sectors and other concerned parties, are urged to promote and encourage convergence and harmonization of technology platforms at competent international and national decision-making forums. Concerned decision makers and technology regulators should be made aware of the cost and risk that platform fragmentation presents to persons with disabilities.
- 2) Publically-funded organizations are urged to promote and support development of open standards-based accessibility technologies and adopt them as appropriate. The recommendation is directed to governments, the United Nations system, other international organizations, as well as the private, corporate sectors, which are urged to implement the recommendation internally to provide models of good practice.

3. Proactive forecasting for ICTs accessibility and developing human capacities

(a) Issues and background

Retrofitting ICTs systems and practices is far more difficult and costly than designing accessible and usable ICTs systems and practices from the start. Experience suggests that inaccessible ICTs designs quickly propagate and become more and more difficult to fix. The field of accessible ICTs is perpetually catching up to technical advances.

Awareness of accessibility problems usually occurs once inaccessible ICTs conventions are well established and widespread and therefore much harder (and costly) to eradicate.

²³ Editor's draft, "HTML5" (15 May 2012), available at <http://dev.w3.org/html5/spec/single-page.html>.

Experience suggests that accessibility measures are almost always reactive. Accessibility advocates generally do not have the technical expertise or awareness to forecast potential threats to accessibility and to act proactively.

(ii) Recommendations concerning proactive forecasting

The Group recommends that:

- 1) The United Nations system and other, concerned international organizations consider options for establishing a trusted, standing committee of technical and market experts to forecast and monitor emerging ICTs trends, to analyze their possible impact on accessibility, to alert and flag potential risks to accessibility and to communicate probable risks and potential opportunities to strategically relevant entities for information and action as appropriate. The proposed expert committee should be formed and supported at the international level.
- 2) Governments, education ministries, technical and vocational training centres and institutions in particular, which have not already done so, are urged to promote establishment and development of educational programs to build human capacities in digital inclusion and in inclusive design of ICTs for persons with disabilities. Concerned certification bodies should provide guidance, monitor curricula, evaluate performance and outcomes and provide recommendations for further practical action.
- 3) Governments, which have not already done so, are urged to adopt policies and legislation to integrate and include accessible and universal design concepts and principles in mainstream ICTs education and training and to support development of programmes to train and certify developers of accessible ICTs. Concerned governmental bodies and organizations, educational authorities and national certification bodies in particular, are urged to design and implement procedures to monitor education and training in accessible and inclusive ICTs and to evaluate performance and outcomes.

4. Sustainable digital inclusion of persons with disabilities

(a) Issues and background

The Group is of the view that it is neither possible nor feasible to sustain a separate, specialized technical ecosystem for persons with disabilities. Currently policies and legislation in most jurisdictions assume that specialized assistive technologies can bridge the gap between mainstream ICTs and the needs and capacities of persons with disabilities that require alternative access systems.

The assistive technology industry is struggling technically and economically. As assistive technologies that enable digital inclusion for persons with disabilities must effectively interoperate with a growing number of applications and mainstream technologies, almost every advance and update of mainstream systems requires an immediate and responsive update in the relevant set of assistive technologies. Emerging development strategies in the ICTs field make it increasingly difficult for assistive technologies to achieve interoperability. Unlike mainstream technologies, assistive technologies are increasing in cost, decreasing in availability, reliability, functionality and diversity.

Assistive technologies are not widely available in most of the world. In a majority of countries they are not sold, and if available often are not properly maintained and may often cost more than 50 per cent of an individual's annual income to acquire.

Moreover, appropriate assistive technologies do not exist to meet the needs of some of the most prevalent disabilities.

Similarly, it is difficult to implement, harmonize and sustain separate accessibility standards and technical specifications for ICTs. As in all other domains, integrated and mainstream approaches are more sustainable, less costly and most effective.

(b) Recommendations concerning sustainable digital inclusion

The Group recommends that:

- 1) International and national standards organizations are urged to direct special attention to ensuring that mainstream technical and interoperability standards and functional specifications include and integrate accessibility considerations as part of the particular standard or specification to promote accessible design solutions for all.
- 2) The United Nations system, governmental regulatory bodies and organizations, and international standards organizations are urged to direct special attention to ensure that policies, legislation and technical standards that promote accessibility should neither assume nor depend on availability and use of specialized and separate assistive technologies for compliance. Policies and legislation should promote integrated approaches to accessibility as appropriate.
- 3) Governments, regulatory bodies as well as private, corporate sector organizations concerned with designing and providing systems to address functional requirements of persons with disabilities should consider options for shifting these functions – or

entering into public-private partnerships - to developers and producers of mainstream ICTs, who could engage any necessary assistive technology expertise to implement national accessibility policies, technical standards and codes, and legislation.

5. Basic tools for accessibility in all languages

(a) Issues and background

Digital inclusion of persons with disabilities is supported by a number of critical language-specific building blocks. These include: text to speech (TTS), speech to text (speech recognition), optical character recognition (OCR), and Unicode encoding.

Currently, such building blocks do not exist for many languages, which can lead to exclusion of many persons with disabilities who can only speak and use functionally the particular language. Language-specific building blocks often are developed by independent research organizations, without the involvement of private-sector companies, which often means that development and maintenance often stop when task-specific, episodic funding ceases.

(b) Recommendation concerning language-specific building blocks for all

The Group strongly recommends that governments, the United Nations system, interested research and advocacy organizations as well as the private, corporate sector direct special attention to development of key language-specific accessibility building blocks, which should include support for all official languages used by international organizations as a first priority. The effort should include private sector involvement, as appropriate, which is expected to contribute to sustainability of these efforts overtime.

C. Accessible information and communication technologies (ICTs) in disasters and in emergency preparedness and management

1. Key principles in accessible and inclusive disaster responses and emergency management

The Group reviewed and discussed policy and programme implications of (a) the special plenary session on disaster preparedness, responses and lessons learned from the 2011 East Japan earthquake and tsunami, (b) CRPD Article 11 (Situations of risk and humanitarian emergencies) and (c) the “Hyogo Declaration” and “Hyogo Framework for Action 2005-

2015: Building the resilience of nations and communities to disasters.”²⁴ The Group proposes the following key principles to guide work to promote accessibility and disability inclusive and responsive disaster preparedness, responses and emergency management:

- 1) Fundamental integration. Focus on integration and coordination of persons with access and functional needs into every aspect of risk reduction, emergency preparedness and disaster response and recovery.
- 2) Whole community approach. Utilize a “Whole Community” approach that engages individuals and communities and employs accessible ICTs in all physical, programmatic and communication delivery mechanisms.
- 3) Nothing about us, without us. Persons with disabilities and others with access, functional needs or both must be involved and empowered and fully engaged in the whole spectrum of disaster and emergency-related activities, which will lead to changes in attitude and reduce stigma: persons with disabilities become, in effect, “force multipliers.”
- 4) Accessible ICTs innovation. Persons with disabilities, as well as accessible ICTs and universal design experts with and without disabilities, must lead with transformative (and practical) uses of accessible ICTs in risk reduction, emergency preparedness and disaster response and recovery. Lessons of these experiences (as well as obstacles encountered) must be documented and widely disseminated in accessible formats.
- 5) Sustainability and universal accessibility. Encourage and assist communities be more sustainable through development, inventorying and sharing of resources, programme experiences and promising practices for disability-inclusive risk reduction, emergency preparedness and disaster response and recovery. This would include, but not be limited to, promotion of universal accessibility in planning, preparation, response and recovery and reconstruction.
- 6) Resilience. Support variations in physical and ICTs infrastructure capacities, which should include accounting for (a) low-power or no-power scenarios, (b) pre-existing capacity limitations, and (c) other infrastructure impacts of disaster or an emergency. Resilience analyses should also consider options for redundancy in key services, for instance backup communications accessible to persons with disabilities through use of AM/FM broadcasting that transmits text to handsets with text display capacities.

2. Recommendations concerning disability-inclusive disaster responses and emergency management

²⁴ *Report of the World Conference on Disaster Reduction (Kobe, Hyogo, Japan, 18 to 22 January 2005)*, (A/CONF. 206/6), available at <http://www.unisdr.org/2005/wcdr/intergover/official-doc/L-docs/Final-report-conference.pdf>.

The Group directs its recommendations to all stakeholders concerned with disasters and emergency situations, which include, as identified in the “Hyogo Declaration,” governments, regional and international organizations and financial institutions, civil society, including non-governmental organizations and organizations of persons with disabilities, as well as the private sector and scientific community.

- 1) Risk identification and evaluation. Concerned stakeholders are urged to support establishment and development of open databases or repository mechanisms to collect and share local community resources, along with cloud-based mechanisms to share good practices, information on skilled and experience people, and material resources at all levels (from local to subregional, national, regional and international). The repository should include good practices in providing accessible ICTs, including provision of content and formats by functional need. National-level repositories may information on existing (and available) community and service delivery rosters with a view to assisting everyone receive accessible and usable ICTs and information services.
- 2) Risk and disaster reduction planning. Concerned stakeholders, which have not already done so, are urged to develop local, national and international plans to address risk reduction, emergency preparedness, and disaster response and recovery that include provisions to respond to the needs and capacities of persons with disabilities and to persons with access and functional needs. Risk and disaster reduction planning must involve skills, knowledge and experiences of organisations of persons with disabilities as well as provide resources for their full and effective involvement in disaster response and recovery. Risk reduction, emergency preparedness and disaster response planning must include provisions for acquisition, operation, maintenance and repair of accessible ICTs.
- 3) Disaster preparedness at community and individual levels. Concerned stakeholders are urged:
 - a) To define accessible ICTs standards for the full range of ICTs employed in disaster preparedness, response and recovery processes, which shall include integrated public alert systems, accessible digital radio, television broadcasts, and related communication services.
 - b) To define and acquire low power or alternative power ICTs that can be used when power outages occur, for instance crank radios to receive emergency warnings, and mobile ICTs devices that work in extreme weather conditions, for instance waterproof mobile telephones that can be charged from a crank radios and similar device.
 - c) To develop and promote standards for accessible, plain-language content for use in ICTs goods and services.

- d) To commit to development and provision of outreach and training in accessible ICTs, which can include, but not be limited to, training of trainers, planning training content development, and training delivery mechanisms that planners, emergency management teams, local communities and individuals can use prior to, throughout and during recovery from a disaster or an emergency situation.
- 4) Early warning. Concerned stakeholders are urged:
 - a) To prepare and test accessible early warning and emergency information in multiple formats, which can be delivered through multiple channels to reach the whole community inclusive of all people with access and functional needs. One key delivery channel, recent experience suggests, is accessible social media that can deliver content to networks of people on multiple form factors, such as accessible Twitter,²⁵ which can be delivered on smart phones, tablets and ultrabooks.
 - b) To explore development and adoption of an international symbol that can serve as a standard in disasters and emergencies, which will provide clear, actionable information and guidance in accessible formats.
- 5) Immediate and inclusive responses. Concerned stakeholders are urged to support planning, deployment and maintenance of accessible ICTs systems that effectively and efficiently match urgent needs with community resources in all aspects of disaster and emergency responses, for instance reunifying families and community groups, identifying accessible transportation, identifying shelters and related essential services to meet the needs of all affected persons, including those with access and functional needs.
- 6) Accessible ICTs in disaster recovery and reconstruction. Concerned stakeholders are urged to employ accessible ICTs in analysis, planning and evaluation of disaster recovery and reconstruction, as well as in emergency preparedness, since it allows quick and efficient collection and analysis of community-based information from all before and during a disaster or an emergency situation. Accessible social media can help mobilize, engage and deploy local people in disaster and emergency situations. Accessible ICTs can play a key role in mobilizing community knowledge and experiences, which can contribute to prompt implementation of universally-designed improvements in both reconstructed and newly-constructed community infrastructure that will respond to the

²⁵The Social Web Wiki, hosted by the World Wide Web Consortium (W3C), notes invalid markup and lack of consistent use of alt text and other accessibility issues with Twitter's Web site < <http://twitter.com/> > means persons with disabilities often access Twitter via third-party applications, available at http://www.w3.org/WAI/PF/wiki/Social_Web#Twitter_API_Clients_Used_by_Persons_With_Disabilities. These include: Qtwitter < <http://qtwitter-client.net/> > which is a Twitter client designed for persons who are blind or have limited vision to interface Twitter micro-blogging services globally via a screen reader. Easy Chirp < <http://www.easychirp.com/> > which is a Web-accessible alternative to Twitter that is optimized for persons with disabilities: all links are keyboard accessible, simple, consistent layout and navigation is provided, each page includes helpful headings, audio cues indicate when Twitter's 140-character limit is almost reached, works with or without JavaScript, is compatible with major Internet browsers, and can be used by persons with disabilities and non-disabled persons alike.

needs and capacities for all, for instance, improved and accessible evacuation, accessible shelters that are family-friendly and accessible schools and related community facilities.

II. SUMMARY OF PROCEEDINGS

A. Opening of the Meeting

Mr. Yasunobu Ishii, Director, Disability Programs of The Nippon Foundation, opened the Meeting by welcoming participants to the Meeting. He introduced Mr. Yohei Sasakawa, Chairman of The Nippon Foundation and WHO Goodwill Ambassador for Leprosy Elimination, who delivered the keynote address.

1. Keynote statement

Mr. Yohei Sasakawa welcomed Meeting participants to The Nippon Foundation, which was honored to support and host this important event. Mr. Sasakawa noted the Foundation is a non-profit philanthropic organization that supports activities both in Japan and in over 100 countries in the fields of education, health and social welfare and food security, which are fundamental building blocks in building national capacities for peaceful and prosperous societies. As a result of his own fieldwork he had come to realize that a major stumbling block in resolving problems lies not so much with those who are facing the difficulty themselves as with those who come from outside to propose solutions. Experience suggests that the best solution to any problem is one that suits the lifestyle and wisdom of the people it affects. However, those trying to help often will use their own value systems and methods and not take into account differing ways of thinking or try new methods to address a problem.

Recognizing that many persons with disabilities have not enjoyed opportunities to participate in capacity building efforts, the Foundation had been working with partners, to design and implement programs directed to empowerment and self-advocacy. This became an area of special attention following the 2011 East Japan earthquake and tsunami, in which persons with disabilities suffered disproportionately.

Noting the Meeting's focus on information and communication technologies, he recalled a recent experience in which Foundation used technologies to facilitate access by the deaf to project operations through remotely-delivered sign language services via smartphones. What project staff had not taken into full account was the critical human – machine interface: intended beneficiaries had limited – if any – experience with smartphone technologies. This

resulted in limited uptake and affected project operations until needed changes were introduced. In his view human factors and respect for value systems and cultures are essential elements in the design and operation of original and dynamic solutions to urgent issues; they are essential to successful, sustainable, and inclusive projects. He wished Meeting participants much success in their deliberations and looked forward to learning of their results and recommendations.

2. Welcoming statement

Ms. Mari Yamashita, Director of the United Nations Information Center (UNIC) in Tokyo, a Meeting co-organizer, made a welcoming statement. She noted that accessible ICTs is an important issue in the context sustainable, equitable and inclusive development, which is major concern in the work of the United Nations and of particular interest in Japan as well. The special session on accessible ICTs and disaster preparedness and response provides an important opportunity for exchanges of Japanese and international experiences. She was certain the Meeting outcome will contribute to enhanced discourse on accessible ICTs and development in both Japan and internationally.

3. Opening statement

Ms. Akiko Ito, Chief, Secretariat for the Convention on the Rights of Persons with Disabilities, Division for Social Policy and Development, Department of Economic and Social Affairs of the United Nations, officially opened the meeting and extended a warm welcome to participants from the Under-Secretary-General for Economic and Social Affairs, Mr. SHA Zhukang. She wished to note the sincere thanks of UN DESA to the two partners for the Meeting: UNIC Tokyo and the Nippon Foundation.

Ms. Ito provided a brief introduction to the work of the United Nations in the field of disability, noting that UN DESA is global focal point for the United Nations system. UN DESA and its partners convened the Meeting to consider emerging issues, trends and strategic options to advance accessible information and communication technologies (ICTs) in the context of sustainable, equitable and inclusive development, which is a key focus in deliberations on options for international development strategies beyond 2015. Meeting findings and recommendations will also inform the forthcoming High-level Meeting of the General Assembly, in September 2013, on disability and development at the level of heads of States and government with the theme, “the way forward: disability and inclusive development agenda towards 2015 and beyond.” The High-level Meeting is expected to adopt an outcome that focuses on options to promote sustainable and equitable development

and inclusive societies from the disability perspective in the period beyond 2015.

She noted the Meeting will also consider the role of accessible ICTs in disability-inclusive disaster responses and recovery, drawing on lessons of the 2011 East Japan earthquake and tsunami and similar experiences worldwide. In the light of the planned world conference on disaster reduction in Japan in 2015, Ms. Ito observed that Meeting findings and recommendations would provide the international community with examples of good practices and first principles of disability-inclusive approaches and effective – and innovative – ways to employ accessible and usable ICTs in disaster responses and emergency situations.

B. Plenary session one: 19 April

1. Overview of ICTs accessibility: policies, structures and technologies

Mr. Clinton Rapley, consultant to the United Nations, moderated the first plenary session and invited comments on the draft agenda and programme of work; there were none. The adopted agenda is presented in chapter III of the current report.

Following adoption of the agenda, Mr. Rapley presented a brief introduction to Meeting purposes, methods of work and expected outcomes. He noted the Meeting would advise the United Nations on three issues: (1) issues and trends in ICTs accessibility, (2) forward-looking assessments of innovative and promising practices, technologies and approaches to promoting accessible and usable ICTs, and (3) suggested priorities and practical, action-oriented recommendations to promote accessible and usable ICTs for all. He noted that ICTs accessibility in the context of development is essential: preparations are at an advanced stage for the “Rio+20” United Nations Conference on Sustainable Development (Rio de Janeiro, Brazil, from 20-22 June 2012), and discussions are underway on options for an international development strategy for the period beyond 2015. Both events could be enriched by Meeting findings and recommendations, since the challenge is less a matter of formulating policy options to further the agenda of the respective event, which may include options related to technology policies and structures - admittedly important concerns – whereas the need is to focus on ways to address an observed mental construct that equates accessibility as an issue concerning mainly populations with access and human functioning conditions and not as enabling factors in promoting sustainable and equitable growth and change for all.

The Meeting will conduct its work in plenary and in thematic working groups. The first plenary session will review and discuss accessible ICTs issues and trends in terms of policies, structures and technologies, and will then consider selected experiences in ICTs accessibility

in practice. The special plenary session, on 20 April, will consider the role of accessible ICTs in the context of the East Japan (Tohoku) earthquake and tsunami and similar international experiences. The final plenary, on 21 April, will involve presentation and discussion of findings and recommendations. The report of the Meeting will be used beyond the Meeting close: it will provide background for the report to the United Nations General Assembly at its sixty-seventh session (2012) on global disability issues and trends, will be a technical resource for the High-level meeting of the General Assembly on disability and development, scheduled for 23 September 2013, and be made available to support discussions on options for international development beyond 2015 and other discourse on international development.

2. Overview of accessible ICTs policies and structures: global framework

Ms. Akiko Ito, UN DESA, briefly reviewed current global issues and trends related to disability and development, particularly the emergence of sustainable, equitable and inclusive development as key themes in discussions on international development for post-2015, and implications for accessible and usable ICTs for all. She observed that preparations for the High level meeting of the General Assembly on disability and development, which will take place in September 2013, will benefit from the Meeting findings and recommendations on accessibility and disability-inclusive development. Other intergovernmental meetings that are expected to benefit from the Meeting outcome, include the United Nations Commission for Social Development, whose fifty-first session (2013) will consider the priority theme “promoting and empowerment of people in achieving poverty reduction and social inclusion,” and the Economic and Social Council, whose 2013 annual ministerial substantive review will consider “science, technology and innovation, and the potential of culture, for promoting sustainable development and achieving the Millennium Development Goals.”

Ms. Ito made three points concerning policy frameworks. First, a comprehensive global policy framework concerning disability and development exists: the World Programme of Action, the Standards Rules and the Convention all address accessibility as goal and a means to promote full participation and equality of persons with disabilities in development within a broad human rights framework. However, the framework does not provide practical insights on measures to build accessible and inclusive societies for all. Second, policy guidance on accessibility in the context of development remains limited. She noted that slowly - but increasingly - accessibility is being referenced in mainstream development agenda, for instance, in a number of international development cooperation policies and practices. Third, the outcome of the EGM could contribute to global development discourse as this pertains to current international development policies, in which the focus is implementation

of the eight Millennium Development Goals (MDGs) and outcomes of other major United Nations conferences and summits in the economic, social and related fields, so these would promote increased equity and social inclusion; on preparations underway for “Rio+20,” the United Nations Conference on Sustainable Development (Rio de Janeiro, 20-22 June 2012); and on the third five-year review of progress in implementing the MDGs, scheduled for 2015.

3. Overview of accessible ICTs policies and structures: international organization experience

Mr. Wisit Atipayakoon, International Telecommunication Union, Regional Office for Asia and the Pacific, provided a brief introduction to the Telecommunication Development Sector of ITU and its work on accessible ICTs. The focus of his presentation was a pilot effort between the ITU Regional Office for Asia and the Pacific and Mongolia to promote “digital Inclusion.” The effort focused on establishment of a pilot Mongolian HMM (hidden Markov model)-based TTS (text-to-speech) engine, to make the Mongolian TTS compatible with screen readers for the Blind and to train end users; project activities were carried out with the participation of the Mongolian National Federation of the Blind. Other project partners included the National Information Technology Park of Mongolia (NITP), the National University of Mongolia and the National Electronic and Computer Technology Center of Thailand (NECTEC). While the pilot phase was successfully completed in May 2011, support for continued development of the Mongolian TTS and expansion to wider set of users has not been confirmed to date; TTS services in Mongolia remain at the pilot stage. Lessons of the experience include the importance of fully and effectively involving all stakeholders and beneficiaries in digital inclusion initiatives; consulting with and involving concerned governmental bodies and organisations as well as industrial enterprises; and exploring non-traditional options to support continued operation, maintenance and further development of digital inclusion initiatives, which could include use of “Universal Access” funds.

4. Overview of accessible ICTs policies and structures: Japanese perspective

Professor Toshio Obi, Waseda University (Tokyo, Japan), presented a Japanese perspective on accessible and usable ICTs, with special reference to its role in disasters and emergency situations, the status and prospects ICTs accessibility and implications for future efforts. Professor Obi noted that over the past two decades, Japan has experienced a number of major disasters related to earthquakes, typhoons and tsunamis. Seventy per cent of persons injured in these disasters were older persons and persons with disabilities.

The experience of Japan suggests that reducing damage associated with major disasters

includes: civic education and training in disaster response and management, strengthening communications between central government and local municipalities, promoting networks of concerned communities both prior to and during disasters, preparation and wide dissemination of practical manuals on disaster planning and responses, and appropriate financing and support services for vulnerable population groups.

In terms of ICTs accessibility, Professor Obi said key factors to be considered include: planning to meet the needs and capabilities both of older persons and all persons who have access or functional limitations; identifying end-user equipment that is affordable, usable and sustainable; and providing accessibility in security and safety systems as well as general communications systems. Planned accessible ICTs measures must also take into consideration social as well as economic impacts and both public information and capacity building measures among intended beneficiaries. He cited e-government services and accessible and smart transportation as practical examples in promoting digital inclusion - or e-participation - by persons with disabilities in Japan.

Technical standardization related to ICTs accessibility draws upon relevant resources of the International Organization for Standardization (ISO) as well as ITU. The Japan Standards Association, the national standards body, has issued several Japanese Industrial Standards (JIS) on accessibility and usability for older persons and persons with disabilities. Major obstacles to implementation of accessibility standards include lack of an appropriate regulatory framework, which means JIS provide solely design guidance; limited financing to promote and guide accessibility; and a lack of understanding of the role of accessibility among both government officials and individual citizens. Other factors include: a shortage of trained and experienced personnel, poor coordination among governmental sectors and organizations, and a lack of measures to encourage experimentation and innovation in producing accessible and usable solutions. In his view too much importance has been accorded to hardware aspects of ICTs accessibility, whereas experience suggest more attention should be directed to the underlying software and to social and institutional factors. In terms of structural aspects, Professor Obi was of the strong view that creation of a governmental body at the level of a minister charged with issues related to older persons and persons with disabilities would be a desirable development for Japanese society.

5. Selected experiences in promoting accessible and usable ICTs

(a) European Union

Mr. Donal Rice, Republic of Ireland: National University of Ireland at Galway, and National

Disability Authority, provided a brief introduction to the European Union (EU) perspective on ICTs accessibility policy and practices, especially the use of public procurement along with technical standardization and national legislations to promote accessibility.

Mr. Rice recalled that in Europe, ICTs accessibility became a policy issue over 15 years ago. Initially the EU focused on four technology areas: Web sites, self service terminals, or kiosks, telecommunications, and digital television broadcasts. Accessibility was treated as both an equality and an economic issue. However, progress in implementing EU directives was weak, as has been documented in European Commission-commissioned studies.

The ratification of the UN CRD by the EU continues to play an important role in framing policy debates on improving accessibility of information and communications technology (ICT) within Europe both at national and Community level. The European Commission's agendas on disability and the digital economy contain specific commitments for further legislative action on ICT accessibility at European level.²⁶ These include commitments to bring forth proposals for a direct action specifically in the area of web accessibility and a more encompassing European Accessibility Act. Both of these proposals are currently under development with drafts likely to appear by the end of this year (2012).

To support the evidence base for further legislation, the Commission continues to benchmark levels of ICT accessibility across Europe and conduct studies into market barriers being posed by the use of fragmented accessibility requirements. In 2005, the EC sent a mandate (Mandate M376) to the European Telecommunications Standards Institute (ETSI), a key standardization body, to commence work on standards and a procurement toolkit to promote accessible ICTs. A new European standard on ICT accessibility is due for completion in late 2013.²⁷ The primary motivation behind the development of this standard is to provide a set of accessibility requirements for use in public procurement. These requirements could also potentially be referenced in the new legislation being developed to replace the multitude of fragmented and often contradictory requirements currently being specified by procurers in different countries. As ICT is a global industry, the requirements specified by this standard and will need to be harmonised with those in other regions of the world.

Mr. Rice said that Europe is at a critical juncture in the development of its accessibility policy

²⁶COM (2010) 636 final "European Disability Strategy 2010-2020:A Renewed Commitment to a Barrier-Free Europe". Available at <http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0636:FIN:EN:PDF>
The Digital Agenda for Europe 2010-2020 is the European Commission's flagship initiative which has as its aim the further development of a "single digital market for Europe". [http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0245R\(01\):EN:NOT](http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=CELEX:52010DC0245R(01):EN:NOT)

²⁷<http://www.mandate376.eu>

framework. The standards and laws being developed now will have long-term impacts on levels of accessibility for ICTs all Europeans with disabilities.

There are two major learning points that may be drawn from the European experience: First, public procurement can be an effective way to influence markets; and second, formulation of public policy is aided by a strong business case for the proposed measures. In his view, a rigorous business case has yet to be developed for ICTs accessibility.

(b) Canada

Ms. Jutta Trevinarus, Canada: OCAD University (Toronto, Ontario), Inclusive Design Research Centre, discussed accessibility issues and trends from the Canadian perspective, with a focus on lessons learned from actual practice. Notable progress in Canada includes the 2005 “Accessibility for Ontarians with Disabilities Act (AODA),” which is significant for treating accessibility not as a matter of litigation but as a matter similar to environmental inspection and public health inspection. This means that the onus for seeking regulatory compliance rests not with an individual with a disability, who normally would need to seek legal measures in an accessibility case, but that the requirement that government seek legal justice to implement the Act. According to AODA, every organization, public or private, has to report annually on their compliance with accessibility; fines are levied as in the case of environmental infractions that arise.

Another example concerns authoring tools accessibility guidelines. She said Canada is pursuing accessibility compliance not by publishing regulations but by integrating accessibility concepts and principles into tools and applications used to construct software, to construct applications, including mobile applications and to create Web content, so that even if someone is not motivated or may not know about accessibility, they will be able to create accessible content and services because authoring tools guides them and prompts them to do it. Canada will soon release its authoring tool accessibility guidelines 2.0.

Ms. Trevinarus identified four issues that, in her view, will influence ICTs accessibility. First: the current way of developing assistive technologies to bridge digital gaps between the mainstream ICTs performance characteristics and requirements that reflect the needs and capacities of persons with disabilities is not working; assistive technologies lag developments in mainstream ICT products and services. Second: personalization of approaches to access ICTs products and services seem to be countering much accessibility legislation that currently is in place. Third: by the time accessibility technology proposals qualify for public funding, they often are out of date to mainstream ISTs products and services. Consequently, there is a need to think of other ways to achieve accessible ICTs training and affordability of assistive

devices. Fourth: the question of cognitive access is absent in many accessible ICTs efforts and in many the accessible ICTs standards currently available. The question is closely related to functional literacy and e-Literacy, and is a rising concern with population aging.

Ms. Trevinarus also identified several emerging opportunities to would contribute to increased availability of accessible ICTs, cloud-based technologies in particular. These include cloud sourcing and the distribution, production and servicing of cloud-based accessibility-related technologies. She cited “cloud for all,” a global public inclusive infrastructure, as an emerging example of good, cloud-based accessibility practice. From an economic perspective, cloud-based accessibility technologies will lead to creation of a “pull” rather than a “push” market. Since pull markets depend on consumer choice, consumer needs and capacities will drive designs and mix of products and services as opposed to mass production of a single type of product or service pushed to end users.

(c) Brazil

Mr. Cid Torquato, Brazil: State Secretariat for the Rights of Persons with Disability, Sao Paulo State, discussed several points related to institutional frameworks and promotion of accessible solutions in both the public and private sectors. In his experience, establishment of a governmental focal point – or coordinating body or agency – for disability affairs is critical to the promotion of disability-inclusive development at all levels, from federal, to state and city. He was of the view that United Nations should consider the possibility of creating a global “task force” - or empowering UN DESA - to promote and coordinate efforts related to disability and development and accessibility for all and to present findings and recommendations to the Secretary General. Finally, he noted briefly the need to consider options as well as parameters for a global network concerned with accessibility and development, which, among other tasks, would promote exchanges of knowledge and experiences on good practice.

(d) South Africa

Mr. Phosa Mashangoane, South Africa: Independent Communications Authority, presented an overview of the situation of disability and accessible ICTs in South African. In his experience, ICTs affordability is a major concern of most persons in developing countries. A recent study found that while 57 per cent of persons with disabilities in South Africa have mobile phones, cost was the main driver in the choice of end-user devices. However, ICTs accessibility policy and strategy do matter. In South Africa, the code on rights of persons with disabilities stipulates that broadcasters must provide accessible services to persons with

disabilities. Promotion of accessible ICTs requires an appropriate institutional framework with clear mandates and responsibilities among government agencies that can influence accessibility and development, including accessible ICTs. Other key factors include support for public information, education and training in accessibility concepts and principles, regular organization of awareness raising activities on the rights of persons with disabilities in the context of national development. In all such efforts, systematic consultation and effective involvement of persons with disabilities concerning policy options, implementation strategies and monitoring and evaluation are essential.

(e) Interregional

Mr. Axel Lebois, Executive Director, Global Initiative for Inclusive Information and Communication Technologies (G3ict), summarized the results of a recent G3ict study in cooperation with Disabled Peoples' International on national disability policies and programmes, the "CRPD 2010 ICT accessibility progress report." The study was conducted among 32 of the CRPD State parties with the United States serving as benchmark. The study found that 91 per cent of the State parties reported existence of provisions that define the rights of persons with disabilities in their constitutions or other legislation, 73 per cent report existence of a definition on reasonable recommendation, but only 58 per cent of governments that had defined accessibility had also adopted accessible ICTs in laws or regulations.

The study identified key success factors as well as barriers to developing and implementing ICTs accessibility policy, for instance public procurement rules that include ICT accessibility criteria are proving to be especially effective. Successful experience suggests that accessibility legislation, codes or regulations cannot work in isolation but should be part of a comprehensive framework to promote accessible ICTs products and services for all. The experience also suggests that accessibility stakeholders vary by sector, background and application: in settings that range from education and employment promotion to telecommunications to broadcasting, the data indicate there is no single solution that works for all sectors or domains. For instance, private-sector developers tend to focus on accessibility of products, services and e-commerce in both Internet and mobile-based environments, while the public sector focuses on accessibility in e-government, education and public services. In cases where multiple stakeholders work together, the data clearly indicate that better results are achieved; and multi-stakeholder awareness raising, public information and capacity building, including e-literacy, are essential success factors.

Challenges to implementing ICTs accessibility policies among private sector ICTs developers and service providers include low levels of managerial awareness of accessibility issues and

concepts, and limited numbers of well-trained and experienced staff in accessibility basics and universal design concepts and principles. Accessibility often is driven by compliance considerations and perceived to be a cost rather than an opportunity to use accessibility standards to exploit market opportunities and build market share. Corporate social responsibility strategies are not a substitute for policy commitment to accessibility.

In the public sector, the study found that 59 per cent of States surveyed had not yet adopted or promoted ICTs accessibility standards; 65 per cent had not defined public procurement rules to promote accessible ICTs; 72 per cent do not have a systematic mechanism to involve disabled persons organizations in policy making related to digital accessibility; and 87 per cent do not maintain data and statistics on digital access by persons with disabilities.

Study findings suggest several areas for international cooperation, which include public information and training, support for pilot action, promotion of networks and centres of excellence for accessible ICTs in the context of development, all of which should work closely with the United Nations system organizations to achieve multiplier effects.

(e) Participant comments and observations

Participants made a number of comments and observations during the interactive discussions, which included questions about business cases for accessibility in contrast to accessibility as an essential public good, the role of technical standards and regulatory guidance in promoting ICTs accessibility, and civil society involvement.

Mr. Soya Mori, Institute of Developing Economies-JETRO of the Japan, shared data he had compiled on good practices in developing countries in promoting ICTs accessibility. A JETRO study of 66 cases collected from Bangladesh, Ghana, India, Malaysia, and Qatar, between June 2005 and April 2012, found that government motivation and support for ICTs development and disability inclusion were important for successful implementation of accessibility policies and programmes. His research found that some developing countries already have a coordinated national policy on ICTs. While global ICTs companies have played an important role in provision of technical assistance, disability organizations often have been most active in conducting trainings to strengthen capacities for ICTs accessibility. His research also found that for reasons of both corporate social responsibility philosophy and long-run profitability, some large ICTs companies had invested in ICTs accessibility research and development in their respective areas of operational concern.

C. Special plenary session: 20 April

1. Inclusive and responsive disaster preparedness and responses: experiences and lessons learnt from the East Japan (Tohoku) earthquake and tsunami

Mr. Hiroshi Kawamura, Japan: DAISY Consortium, moderated the special plenary session. Invited experts and participants from Japan were joined by experts in disaster responses and emergency management from Haiti, Indonesia, Russia, Switzerland, the United States, and the United Nations systems. They held intensive, interactive discussions on (1) situations prevailing in the aftermath of disasters and measures taken in the affected areas; (2) first-hand experiences and findings concerning access to information and communications from the perspective of persons with disabilities; and (3) reflections on lessons learnt from field practice and recommendations for communities, governments and the United Nations system to reinforce disability inclusive and accessibility in disaster prevention, response and recovery.

Feature presentations were made by the following experts: Ms. Tomoko Sakata of Japan Broadcasting Corporation (NHK) , who introduced an NHK documentary on the 2011 East Japan earthquake and tsunami and its impact on persons with disabilities in the affected areas; Mr. Katsunori Fuji, President of Japanese Disability Forum, who discussed key challenges and measures to address the needs of persons with disabilities during immediate responses to the earthquake and tsunami and continuing recovery efforts, and role of JDF in these efforts; Dr. Jo Mtasuzaki, Miyagi University of Education of Japan, who experienced the earthquake and tsunami, described the situation of deaf and hard-of-hearing persons during the disaster and in follow up responses, noting the particular importance of accessible communications; Ms. Macie Roth, Federal Emergency Management Agency (FEMA) of the United States, who discussed measures FEMA is taking to insure emergency preparedness and management is fully inclusive of persons with disabilities; and Ms. Helena Molin Molin Valdes, Director a.i of the United Nations International Strategy on Disaster Reduction (UNISDR) who made a video presentation from her office in Geneva in which she discussed global trends in disaster preparedness and measures to insure these fully and effectively address the needs and capacities of persons with disabilities.

Presentations were followed by interactive discussions among participants on site and with invited experts by distance collaboration (via Skype®-based teleconferencing), which included Mr. Gerald Oriolo Jr. , Secretary of State for the Office of the Secretariat of State for the Integration of People with Disabilities of the Government of Haiti, who discussed the continuing efforts and problems associated with the January 2010 earthquake and its

aftermath and the particular situation experienced by many Haitians with disabilities; Mr. Anatoliy Popko from Moscow-based All-Russia Society of the Blind observed that disability-inclusive disaster responses and emergency planning were emerging concepts in Russia and there was limited practical experience to contribute at this date; Mr. Claudio Giugliemma, expert from the Dominic Foundation of Switzerland, who is working in Panama City (Panama) on a capacity building project to introduce cloud-based accessibility technologies for Central and Southern Latin America in cooperation with the Government of Panama and the University of Panama; he envisaged that the cloud-based platform will be able to support accessible and usable content and services in fields such as education, health, e-government and e-payment, which would be fully accessible for people with disabilities. Ms Cucu Saidah from Indonesia shared a paper with the participants at the meeting but was unable to connect for her planned distance interaction at the special session. A representative of the Ministry of Foreign Affairs, Government of Japan made a brief observation on response and recovery measures related to the Great East Japan earthquake and tsunami and continuing efforts by the Government to ensure they are fully and effectively inclusive of persons with disabilities.

2. Lessons learned

The review and interactive discussion of both Japanese and selected international experience in disaster response and emergency management yielded several important lessons with reference to policy frameworks, field practices and role of accessible ICTs.

First, the data suggest that persons with disabilities, compared to the general population, are more vulnerable and more likely to be left behind during natural disasters, due to (1) lack of inclusive and responsive preparedness and emergency management procedures, (2) lack of access to early warning information and communications concerning disaster responses, particularly as this involve accessible ICTs, and (3) significant gaps between abilities of persons with disabilities to access early warning information and emergency services and capacities of mainstream communication services to provide accessible content and limited – or lack of – accessible and conveniently-located emergency facilities and services.

Second, experts noted that gaps are evident between disaster response policies and strategies prepared in normal, non-disaster settings and actual performance of those policies and strategies in disasters and emergency situations. Operational problems can include lack of backup power supplies and other critical infrastructure, such as alternate communication tools. Such conditions contribute to the high mortality and morbidity rates as well as considerable suffering experienced by persons with disabilities, especially those with hearing impairments, in the East Japan earthquake and tsunami. Initial official data showed that the

death rate of registered persons with disabilities in East Japan was two times - or higher - than among the general population affected; international statistics indicate that 50 to 70 per cent of victims who died as a result of the earthquake and tsunami were older persons or persons with disabilities.

Two key lessons may be drawn from the response experience in the East Japan earthquake and tsunami: (1) existing counter-disaster policies and measures did not work well due to the unprecedented scale of the 2011 earthquake and associated tsunami; and (2) applicable standards and procedures designed for normal disaster scenarios did not work well in the extreme situations such as that of the Great East Japan earthquake and tsunami.

Participants directed special attention to the need to incorporate safety nets and measures to address access and functional needs of persons with disabilities in the current “Hyogo Framework for Action.” Participants also cited a number of examples of good practice in disability inclusive disaster responses in Japan and internationally. For instance, disaster prevention and preparedness education among the general public in Japan is a recognized success and has been replicated in many settings worldwide; disaster preparedness training resources and toolkits are available on the Web site of the Ministry of Education of Japan. During the 2011 earthquake and tsunami, there were many public-private sector initiatives that contributed to disability inclusive responses. For instance, the Nippon Foundation provided over smartphones remote video sign language interpretation services to the deaf and hard-of-hearing persons in earthquake and tsunami-affected regions. In the United States, FEMA has instituted “whole community initiatives” to disaster response and recovery in the light of lessons learned from the past emergency responses, including the 2006 Hurricane Katrina. Other promising practices and innovative approaches include: (1) cloud-based provision of accessible ICTs products and services, and (2) use of multi-stakeholder partnerships that cross public and private sectors as well as further north-south and south-south cooperation in promoting ICTs accessibility in disaster response and recovery.

3. Implications for disability inclusive disaster responses, recovery and emergency management

Discussions indicate an evident and urgent need to raise public awareness and redouble efforts to mainstream the disability perspective in development discourse at all levels and ensure that strategies and programmes for disaster preparedness and emergency management fully and effectively involve persons with disabilities as agents and beneficiaries.

In a basic sense, the rights and needs of persons with disabilities in disasters and emergency

situations, particularly as involves accessible information and communication services and accessible, usable, convenient, safe and secure emergency facilities, must be fully and effectively incorporated in both international and national disaster-related policies, strategies and programmes. This would mean that the needs of persons of all categories of disabilities and those with particular access and functional requirements must enjoy the same rights as all affected populations to equal access to essential services and facilities, full inclusion in decisions that affect their well being, livelihoods and integration. These considerations of equal access and accessible services and facilities pertain to both public- and private-sector stakeholders and relate to in all aspects and all stages of disaster and emergency prevention and preparedness planning, early warning, evacuation and transportation, sheltering, first aid and medical services, temporary housing, and recovery and reconstruction measures.

The participants noted that the next World Conference on natural disaster reduction will take place in Japan in 2015 and are of the strong view that disability inclusive approaches and accessible services and facilities must be both fully and effectively considered in the Conference preparations and clearly and concisely addressed in the expected Conference outcome.

D. Plenary session two: 21 April

1. Consideration of findings and recommendations

The Meeting considered and discussed findings and recommendations of the three Working Groups, which were circulated as an in-session draft compilation and presented by the respective Working Group Rapporteurs. Following brief exchanges and clarifications, Meeting participants adopted the set of recommendations as presented.

2. Closing of the meeting

Mr. Yasunobu Ishii (The Nippon Foundation), Ms. Mari Yamashita (UNIC, Tokyo) and Ms. Akiko Ito (UN DESA) made brief, closing remarks on behalf of the three organizing parties.

The Group wished to record formally its considerable appreciation to The Nippon Foundation, the United Nation Information Center in Tokyo and UN DESA for their generous support and excellent cooperation:

Meeting participants wished to record considerable appreciation: (a) for the initiative by the Department of Economic and Social Affairs of the United Nations, represented

by the Division for Social Policy and Development, to organise the Expert Meeting, which had provided an important forum to exchange knowledge and experiences on accessible and usable information and communication technologies (ICTs) and to study of the Japan experience in accessible ICTs, particularly in the context of disaster recovery and emergency management; (b) for the effective and efficient cooperation of the United Nations Information Centre in Tokyo, which facilitated timely organization of the Meeting in Tokyo; and (c) for the generous support provided by the Nippon Foundation to the Meeting, the efficient and courteous assistance of its staff members throughout the Meeting at its modern and fully-accessible meeting facilities in Tokyo, which included closed captioning of plenary sessions, provided remotely via the Internet, sign-language interpretation for both plenary and working group sessions, and effective Japanese-English and English-Japanese translation services in the plenary sessions.

Meeting participants also wished to express appreciation for the initiative of the Japan Disability Forum (JDF), which cooperated with the Nippon Foundation to organise an “International Forum on ICT accessibility, disability and inclusive society, “ following the EGM, which provided opportunities for representatives of Japanese civil society organizations, disabled persons organizations and academic centres and institutions to consider EGM findings and recommendations and exchange knowledge and experiences on accessible ICTs issues and trends in Japan.

III. ORGANIZATION OF THE EXPERT MEETING

A. Background

The United Nations Expert Group Meeting (EGM) on Building Inclusive Society and Development through Promoting Accessibility in Information and Communication and Technologies (ICTs): Emerging issues and trends, was held in Tokyo, Japan from 19 to 21 April 2012. The EGM was organised by the Department of Economic and Social Affairs of the United Nations (UN DESA) in close collaboration with the United Nations Information Center in Tokyo and The Nippon Foundation. The EGM was held at the headquarters of The Nippon Foundation in Tokyo. The Meeting was financed in part by the United Nations Voluntary Fund on Disability and generous co-financing support from The Nippon Foundation.

The key objectives of the Meeting were: (1) to identify innovative ideas and options for greater awareness of accessibility in information and communication and advancement of

persons with disabilities in the context of development, including in situation of natural disasters and emergencies, (2) to compile good practices and innovative approaches to improving accessibility in the field of information and communications to further disability-inclusive development and disaster/emergency management and (3) to develop recommendations for disability-inclusive development policies and guidelines, including those related to disasters and emergency management.

Experts concerned with ICTs accessibility, including their role in disaster preparedness and responses and emergencies, were selected and invited based on the following considerations: (1) expertise and previous contributions to the global body of knowledge on issues to be discussed; (2) geographic regions represented by invitees that could benefit from the technical exchanges; and (3) direct experience or knowledge of addressing diverse accessibility needs of all persons with disabilities.

UN DESA, The Nippon Foundation in partnership with the Japanese Disability Forum (JDF) organised parallel to the EGM the "International Forum on Accessibility, Disability and Inclusive Society" at the headquarters of The Nippon Foundation on the afternoon of 21 April, which provided important opportunities to study the Japan experience and for technical exchanges. Three experts from the EGM were invited to present findings of the EGM Working Groups concerning its thematic areas of policies, structures and regulation concerning ICTs accessibility; functional requirements and technical standardization of accessible ICTs, and ICTs accessibility and disability inclusion in context of natural disaster reduction and management of emergency situations.

B. Attendance

Forty two participants attended the EGM, which included twenty four experts in their individual capacity from fifteen Member States of the United Nations, from the United Nations system and from intergovernmental and non-governmental organisations. Fifteen local experts and participants, representing governmental organisations, public corporations, academia, research institutions and civil society organisations, including organisations of persons with disabilities, attended the EGM as observers. (See Annex I.)

C. Opening of the Meeting

The Meeting was opened by Mr. Yasunobu Ishii, Director, Disability Programs of The Nippon Foundation, who welcomed participants to the Nippon Foundation, and introduced Mr. Yohei Sasakawa, Chairman of The Nippon Foundation, who delivered the keynote

address. Ms. Mari Yamashita, Director, United Nations Information Centre, Tokyo, co-organizer of the Meeting with UN DESA, made a brief welcoming statement. Ms. Akiko Ito, Chief, Secretariat for the Convention of Persons with Disabilities, Division for Social Policy and Development, UN DESA, open the Meeting officially.

D. Adoption of the agenda

The following agenda was adopted:

1. Opening of the meeting
 - a. Welcoming remarks by representative of The Nippon Foundation
 - b. Welcoming remarks by representative of United Nations Information Center, Tokyo
 - c. Opening remarks by representative of UN DESA
2. Adoption of Agenda
3. Plenary session one: overview of issues and trends and international norms and standards relating to disability and accessibility
4. Parallel working group sessions by thematic cluster
 - a. Policy frameworks and ICTs accessibility and disability-inclusive development
 - b. Technologies, technical standards and regulations for promotion of ICTs accessibility
 - c. ICT accessibility in the context of natural disasters and emergency preparedness, response and management
5. Special session: inclusive and responsive disaster preparedness, responses and emergency management: lessons learnt from the East Japan earthquake and tsunami
6. Plenary session two: consideration of findings and recommendations
7. Adoption of recommendations
8. Closing of the meeting

E. Organization of the working groups

The Meeting considered its priority themes in three parallel working groups:

1. Working Group One (Policy frameworks): Mr. Clinton Rapley, moderator; Mr. Donal Rice, rapporteur
2. Working Group Two (Technologies and technical standards): Mr. Toshio Obi,

- moderator; Ms. Jutta Trevinarus, rapporteur
3. Working Group Three (Disasters and emergency management): Mr. Wisit Atipayakoon, moderator; Ms Marcie Roth, rapporteur.

F. Adoption of recommendations

Meeting participants reviewed and discussed findings and recommendations of the Working Groups in plenary session on 21 April and adopted them as presented.

G. Closing of the Meeting

Mr. Yasunobu Ishii (The Nippon Foundation) and Ms. Mari Yamashita (UNIC, Tokyo) made brief remarks, and Ms. Akiko Ito (UN DESA) made a closing statement.

The Group expressed its considerable appreciation for the generous support and excellent cooperation of The Nippon Foundation, the United Nation Information Center in Tokyo and UN DESA prior to and throughout the Meeting.

The Meeting officially adjourned at 1 pm on 21 April 2012.

****END****

Annex I

List of participants (order by working groups and names)

Experts

Clinton Rapley (Moderator, United States)
Director of Planning Services
Associates for Intl Management Services

Working Group One

Axel Leblois (France)
Executive Director,
G3ict - The Global Initiative for Inclusive ICTs

Aqeel Qureshi (India)
Second Vice President
Global Alliance on Accessible Technologies and Environments (GAATES)

Cid Torquato (Brazil)
Coordinator
Sao Paulo State Secretariat for Promoting the Rights of Persons with Disabilities

David Banes (Qatar)
Managing director
MADA

Donal Rice (Ireland)
Researcher
National University of Ireland at Galway

Hiroshi Kawamura (Japan)
Former President
DAISY (Digital Accessible Information System) Consortium

HuiPing Cui (China)

Director

Information Centre, China Disabled Persons' Federation

John Kemp (United States)

Chairman

Abilities!

Lawrence F Campbell (United States)

International Council for Education of People with visual impairment

Working Group Two

Claudio Giugliemma (Switzerland)

Chairman

LucyTech and Dominic Foundation

Dipendra Manocha (India)

Managing Trustee

Saksham Trust

Jutta Trevinarus (Canada)

Director,

Inclusive Design Research Centre, OCAD University

Phosa Mashangoane (South Africa)

Managing director

Customer Affairs, Independent Communications Authority of South Africa

Toshio Obi (Japan)

Director

Institute of e-Government, Waseda University

Shinji Iizuka (Japan)

IBM Japan

Working Group Three

Benjamin Dard (France)

Accessibility officer
Christian Blind Mission Haiti Office

Gerald Oriol Jr. (Haiti)

Secretary of State
Office of the Secretariat of State for the Integration of People with Disabilities

Helena Molin Valdes (UNISDR)

Director
United Nations International Strategy for Disaster Reduction

Jo Matsuzaki (Japan)

Associate Professor, Miyagi University of Education Faculty of Education

Marcie Roth (United States)

Director, Office of Disability Integration and Coordination
Federal Emergency Management Agency

Takayuki Ito (Japan)

NHK

Wisit Atipayakoon (ITU)

International Telecommunication Union, Regional Office for Asia and the Pacific

William Curtis-Davidson (United States)

IBM Research, Human Ability & Accessibility Center

Additional invited experts and observers

Anatoly Popko (Russia)

Head
Information Technology Department, All-Russian Society of the Blind

Cucu Saidah (Indonesia)

Project Manager
Access to Mobility Aids for Handicap International

Hideo Watanabe (Japan)

IBM Japan

Katsunori Fuji (Japan)

President

Japanese Disability Forum

Maki Uehara (Japan)

Global Issues Cooperation Division

International Cooperation Bureau, Ministry of Foreign Affairs

Milton Seigui Oshiro (Brazil)

Head of bioengineering, Lucy Montoro Institute of Physical Medicine, University of Sao

Paolo

Nagase Osamu (Japan)

Special Visiting Professor

Ritsumeikan University

Soya Mori (Japan)

Senior Research Fellow & Deputy Director,

Poverty Alleviation and Social Development Studies Group, Development Studies Center

Tomoko Sakota (Japan)

Japan Broadcasting Corporation (NHK)

Tsunenari Yamasaki (Japan)

Program Director

Tokyo Broadcasting System

Wang Can (China)

Associate Professor

ICT accessibility research Center, Zhejiang University

Yuki Matsuoka (Japan)

Programme Officer

UNISDR Office in Japan

United Nations

Akiko Ito

Chief

Secretariat for the Convention on the Rights of Persons with Disabilities
Department of Economic and Social Affairs

Guozhong Zhang

Social Affairs Officer

Secretariat for the Convention on the Rights of Persons with Disabilities
Department of Economic and Social Affairs

United Nations Information Center in Tokyo

Mari Yamashita

Director

United Nations Information Center in Tokyo

The Nippon Foundation

Yohei Sasakawa

Chairman

Yasunobu Ishii

Chief Manager of International Program

Shota Nakayasu

Project Coordinator of International Network Team

Annex II

1. List of background documents

Enable website, Department of Economic and Social Affairs, United Nations, 2012. “Selected international norms and standards on disability ;Practical tools for Action; UN Meetings and seminars on accessibility; Other sources on ICT accessibility and inclusive and accessible disaster response”, Online resource materials, United Nations.

DESA, “Accessibility: implications for sustainable and equitable development for all ICT”, Technical Paper, Department of Economic and Social Affairs, United Nations.

2. Contributed notes of participants

All of the documents issued for the EGM and notes that were contributed by participants would be posted/updated online to be available at the UN Enable website at: <http://www.un.org/disabilities/default.asp?navid=46&pid=1596>.

Axel L. “*Global Trends in ICT Accessibility Implementation* ”and “*Case study on France mobile accessibility: Developing a National Mobile Accessibility Strategy among Key Stakeholders (2005 – 2010)*”, Global Initiative for Inclusive ICTs (G3ICT)

Aqeel Q. *Accessible ICT tools and services in disaster and emergency preparation*, Global Alliance on Accessible Technologies and Environments (GAATES)

Cid T. “*Projects of São Paulo State Secretariat on the Rights of the Person with Disability*”, Sao Paolo State Secretariat for Promoting the Rights of Persons with Disabilities, Brazil

David B. “*Qatar Assistive Technology Center some case study and best practice*”, MADA, Qatar

Donal R. “*EU level ICT accessibility policy development, public procurement, technical standardization and ongoing work around the development of a new European Accessibility Act: Experience and lessons learnt*”, National University of Ireland at Galway, Ireland

Hiroshi K. “*ICT development for inclusive Disaster Risk Reduction*”, Digital Accessible Information System Consortium (DAISY)

HuiPing C. “*Development of ICT Accessibility for Persons with Disabilities*”

in China ”, China Disabled Persons’ Federation

Lawrence F C. *Three case studies on promoting accessibility and inclusive education in developing countries: Improving policy and expanding access to higher education for persons with disabilities (Cambodia, Indonesia, Philippines and Vietnam); Development of centers of accessible technology for blind students with inclusive schools(Philippines); and Project KEBI: Empowering the E-Braille community to improve Braille production in Indonesia(Indonesia); International Council for Education of People with visual impairment and the Nippon Foundation*

Dipendra M. *“Key Issues and challenges in assistive technology in ICT in most developing countries and three case studies on Samarth, DAISY and Epub and accessible mobile phone”, Saksham Trust, India*

Jutta T. *“Emerging Issues, Trends and Opportunities. case studies on promising practices in advancing accessibility in Canada: FLOE project and open education resources, Fluid Support for accessibility web application development and Accessibility for Ontarians with disabilities”, Inclusive Design Research Centre of OCAD University, Canada*

Phosa M. *“Case study on accessibility by persons with disability”, Independent Communications Authority, South Africa*

Toshio O. *“ICT accessibility: solutions for Japan’s ageing and disability society ”, Waseda University, Japan*

Shinji I. *“Case study: why private sector is lagging behind in promoting web accessibility”, IBM Japan*

Benjamin D. *“Promoting Universal Accessibility for an Inclusive Reconstruction in Haiti: From Legislation to Action”, Christian Blind Mission Haiti Office*

Gerald O. *Haiti, Disability and Reconstruction, Office of the Secretariat of State for the Integration of People with Disabilities, Haiti*

Helena M. V. *“UNISDR work to promote inclusion of persons with disabilities in global disaster reduction strategies and efforts (video message)”, United Nations International Strategy for Disaster Reduction, United Nations (available at http://www.preventionweb.net/tmp/HMV_Videomessage_DRR_and_Disability.wmv)*

Marcie R. “*Case study: Feeling Safe, Being Safe*”, Federal Emergency Management Agency, United States

Takayuki I. *Accessibility Guidelines for TV Broadcasting of Japanese Government and actions taken by broadcasters including NHK.*NHK, Japan

Wisit A. *Digital inclusion, related work in ITU and a pilot text-to-speech project in Mongolia*, Regional Office for Asia and the Pacific, International Telecommunication Union

William C. Davidson. *Accessible transportation mobile application and accessible center; IBM Accessible workplace connection.* IBM Human Ability & Accessibility Center

Anatoly P. “*Russian way of accessibility: emerging from shredded pieces*”, All-Russian Society of the Blind

Cucu S. “*People with Disabilities in Disaster Preparedness: An Indonesian Aceh Tsunami 2004 and Jogjakarta Earthquake 2006*”, Access to Mobility Aids for Handicap International, Indonesia

Katsunori F. “*Social Standards Requiring Reconsideration: The Degree of Restoration of Daily Life of People with Disabilities Will Show the Real Strength of Japan*”, and “*Death rate of the citizen, death number and rate of people with disabilities by the disaster in MIYAGI prefecture*”, Japanese Disability Forum

Soya M. “*ICT Disability accessibility in developing countries: Good Practices Analysis*”, Development Studies Center, Japan

Yohei S. “*Work to advance inclusive society for all*”, The Nippon Foundation

Yasunobu I. “*welcome and closing remarks*”, International Program, The Nippon Foundation