REPORT BY INDIA

TO THE UNESCO GENERAL CONFERENCE ON

THE IMPLEMENTATION OF THE RECOMMENDATION

CONCERNING THE PROMOTION AND USE OF

MULTILINGUALISM & UNIVERSAL ACCESS TO CYBERSPACE

March 2007

Government of India

Ministry of Communications and Information Technology

Department of Information Technology

New Delhi

(I)   Introduction:

1.0   Government of India recognizes and supports universal access to the Internet as an instrument for promoting the realization of the human rights as defined in Articles 19 and 27 of the Universal Declaration of Human Rights. Therefore universal access to the Internet is promoted as a service of public interest through the adoption of appropriate policies in order to enhance the process of empowering citizenship and civil society.

2.0   India is a multi-lingual and multi-script country. The world is in the midst of a technological revolution nucleated around Information and Communication Technology (ICT). Advances in Human Language Technology will offer nearly universal access to information and services for more and more people in their own language. Today 80 % of the content on the Web is in English, which is spoken by only 8% of the World population and only 5% of Indian population. In a multilingual country like India, with 22 official languages and 10 scripts, it is essential that tools for information processing in local languages are developed and made available at low cost for wider proliferation of ICT to benefit the people at large and thus paving the way towards 'Digital Unite and Knowledge for all' and arrest the sprawling Digital Divide.

(II)   REPORT ON THE SPECIFIC PROVISIONS OF THE RECOMMENDATION:

(1)   DEVELOPMENT OF MULTILINGUAL CONTENT AND SYSTEMS:

3.0   With a view to communicating without language barrier and moving up the knowledge chain, Department of Information Technology, Government of India initiated a programme of Technology Development for Indian Languages (TDIL).

4.0   The main objectives of TDIL programme are to develop information processing tools to facilitate human machine interaction in Indian languages and to create and access multilingual knowledge resources/content, to promote the use of information processing tools for language studies and research, to promote use of Information Processing Tools in Socio-Economic sectors e.g. e-governance, e-rural prosperity and e-learning and to consolidate technologies thus developed for Indian languages and integrate these to develop innovative user products and services.

5.0   In order to achieve the above objectives, the Department of Information Technology has partnered with a large number of professional institutions and academia with required domain specialization from all parts of the country so as to pool all the resources and address all the languages.

6.0   *Brief status of the achievements made so far is as follows:*

a)   Launch of Indian Language Fonts and Software Tools for free use:

7.0   The development of tools and software such as Fonts, Key- Board Drivers, Text Editors, Spell Checkers, Morph Analyzers, Dictionaries and Messaging Systems for 10 official languages out of total 22 official languages have been completed and have been released to the public domain for free use by the masses. The development of such tools for the remaining 12 languages is at advanced stage and will be completed shortly.

b)   Operating System in Indian Languages:

8.0   The open source operating system has been localized and is available for Hindi & other 11 Indian languages namely Assamese, Bengali, Gujarati, Kannada, Malayalam, Marathi, Oriya, Punjabi, Sanskrit, Tamil and Telugu. This will provide Indian languages text processing, web page designing facility and also Internet access in these languages.

c) e-Content:

9.0 UNICODE compliant e- content of approximately 16000 HTML & Dynamic pages in the domains of health, education, tourism and agri-business have been developed at various centers and made available.

d) Standardization:

10.0 Unicode Standards are widely being used by the Industry for the development of Multilingual Software. Department of Information Technology is the voting member of the Unicode Consortium to ensure the adequate representation of Indic scripts in the Unicode Standards. DIT finalized the changes in the Unicode Standard and majority of changes have been accepted and incorporated in Unicode Standards version 4.0. Initiatives have been taken to incorporate additional languages/ scripts such as Lepcha and additional characters and symbols of Vedic Sanskrit.

e) Web Internationalization Initiative:

11.0 Project "Web Internationalization Initiative" has been initiated with the objective of adequate representation of Indian languages in the Web Technology Standards being evolved by World Wide Web Consortium (W3C).

f) Human Resource Development in Language Technology:

12.0 There is shortage of trained manpower in the area of multilingual computing. A project for introducing 'Master' level and 'Post Graduate Diploma' level courses in the domains of Knowledge Engineering, Computational Linguistics and Software Localization has been initiated at eight institutions in India. The project aims at developing trained manpower in the field of Language Technology to overcome the present shortage of manpower.

g)   Development of Linguistic Resources:

13.0   Centers for Indian Language Technology and Resources (CILTR) would be established to generate linguistic resources in all official Indian Languages. The proposed CILTR centers would co-ordinate with State IT department and Language Departments for providing the inputs & feedback on technological issues such as Localization etc. The Linguistic Resources developed at these centers would be used synergistically for the development, roll out and subsequent improvement of the language technology products.

h)   National Localization Research Centers (NLRC):

14.0   To promote localization in the country, it is proposed that National Localization Research Centers (NLRC) will be first set up as an autonomous organization under DIT. The outcome of the TDIL programme in terms of standards, resources, and technologies will be showcased and NLRC will focus on following:

- ❖ Setting up standards wherever gaps are there
- ❖ Creating awareness
- ❖ Providing training and consultancy in selection and application of tools
- ❖ Provide test and certification facility
- ❖ Maintaining a portal: for making available basic localization tools & Linguistic resources, eLearning, best localization practices, Market opportunities.

i)   Basic Research in Language Technology

15.0   Basic research would be undertaken to develop prototype technologies in the frontier areas of Language Technology such as Speech Synthesis, Semantic Web, and Information retrieval etc.

(2)   FACILITATING ACCESS TO NETWORKS AND SERVICES:

a)   Policy initiatives:

16.0   In 1999, the Government of India announced a very forward-looking National Telecom Policy 1999 (NTP – 1999). Availability of affordable and effective communication for the citizens was the core vision and goal of this telecom policy.

17.0   Through this policy government have opened up the entire communications sector and has allowed Foreign Direct Investment (FDI) upto 49% in Basic services, Cellular mobile, National Long Distance, International Long Distance, Value Added Services and Global mobile personal communications by satellite; upto 74% for Internet Service Providers (With Gateways), Infrastructure Providers (Category II) and Radio Paging Service and upto 100% for Internet Service Providers (Without Gateways) – both satellite & submarine cables, Infrastructure Providers (Category I – Dark Fiber Providers), Electronic Mail and Voice Mail.

18.0   In order to ensure fair competition among the service providers and to facilitate universal access to the Internet through affordable telecommunications and Internet costs, an independent Telecom Regulatory Authority of India (TRAI) has been set up. One of the main objectives of TRAI is to provide a fair and transparent policy environment, which promotes a level playing field and facilitates fair competition. Likewise in order to ensure speedier dispute resolution, a separate Telecom Dispute Settlement Appellate Tribunal (TDSAT) has been set up.

19.0   In order to improve telephone access in rural areas, the Government initiated a Universal Service Obligation (USO) for all providers (except those only providing value added services ISPs and voice mail providers). Accordingly a USO Fund was established in April 2002. An independent Administrator manages the Fund.

20.0 As India is a member of the Information Technology Agreement (ITA) of WTO, from 1 May 2005, tariff on all the specified 217 tariff lines have been eliminated. This has been done to ensure lower costs of the ICT infrastructure and resultant lower costs of the access to this infrastructure.

b) Size and reach of the network:

21.0 As a result of the above policy initiatives, Indian Telecom Sector has seen phenomenal growth over the period. There were 139.67 million telephone subscribers (both fixed and mobile) as on March 2006, which converts into tele-density of 12.8% as against 2.3% in 1999.

22.0 In respect of the Internet access, India had 8.29 million subscribers as on March 2006 against 0.90 million in 2000.

c) Community Information Centers (CICs):

23.0 With a view to bring the benefits of ICT to the people for socio-economic development and to alleviate the digital divide between urban and non-urban hilly and far flung rural areas of the country, Government of India has a scheme of establishing Community Information Center (CIC). The CIC model is built on community access methodology and has been found to be an ideal solution to provide affordable Internet access in the rural and inaccessible areas of the country. It is designed as a self-sustaining model with public-private partnership with initial support from the Government.

24.0 Under the CIC scheme so far 555 centers in the North – Eastern States of the country, 135 centers in Jammu and Kashmir and 71 in the Andaman and Nicobar Islands have been established.

d)   Common Service Centers (CSCs):

25.0   Under the National e-Governance Plan of India, in order to provide physical delivery access points for government and other services and to provide Internet access and IT enabled Services to the community at large, 100,000 Common Service Centers (CSC) shall be set up, mainly in rural areas across the country with Public Private Partnerships (PPPs) using 2Mbps connectivity being provided through NICNET / State Wide Area Networks (SWANs). Since there are in total 600,000 villages in India, one CSC shall be set up per six villages.

e)   Education and Research Network (ERNET):

26.0   In what it is described, as the first effort of its kind in the country, in 1986 Government of India had initiated a project Education and Research Network (ERNET) with the funding from UNDP. The objective was to create expertise R&D and education in the country in the area of networking and Internet in the country.

27.0   Today ERNET is largest nationwide terrestrial and satellite network with point of presence located at the premiere educational and research institutions in major cities of the country. Focus of ERNET is not limited to just providing connectivity, but to meet the entire needs of the educational and research institutions by hosting and providing relevant information to their users. Research and Development and Training are integral parts of ERNET activities.

28.0   Under the Indo-EU program, ERNET has been connected to PAN European Research Network – GEANT with 34 Mbps bandwidth connection. European Commission is financing the connectivity to the extent of 50%. The connectivity will help Indian educational institutions to log into the networks of their counterparts in Europe on a peer-to-peer basis and undertake collaborative research and share information.

29.0 ERNET has also initiated a project 'Vidya Vahini' to set up 71 Community Information Centres located in Andaman and Nicobar and Lakshadweep Islands. The centres have dual purpose of imparting ICT based education and training as well as providing citizen-centric services to the people of the region. The centres will also enable schools to access Internet applications, e-journals, distance education and video multi-casting.

f)   National Informatics Center:

30.0   National Informatics Centre (NIC) of the Department of Information Technology is providing network backbone and e-Governance support to Central Government, State Governments, UT Administrations, Districts and other Government bodies. It offers a wide range of ICT services including Nationwide Communication Network for decentralized planning, improvement in Government services and wider transparency of national and local Governments. NIC assists in implementing Information Technology Projects, in close collaboration with Central and State Governments, in the areas of (a) Centrally sponsored schemes and Central sector schemes, (b) State sector and State sponsored projects, and (c) District Administration sponsored projects. NIC endeavors to ensure that the latest technology in all areas of IT is available to its users.

31.0   During the last 30 years, NIC is involved in the field of informatics development and networking for decision support in the Central Government Departments, 28 State Governments, one National Capital Territory of Delhi and 6 Union Territories and about 600 District administrations at sub-state level.

32.0   NIC offers a variety of services through its countrywide network such as Corporate Communications, Internet/Intranet, E-mail, EDI, Web enabled database access, Emergency voice communication, Data broadcast, Multimedia broadcast, Multicasting and Distance Learning.

(3) DEVELOPMENT OF PUBLIC DOMAIN CONTENT:

(a) Information Technology Act, 2000:

33.0 Government has enacted Information Technology Act in 2000 to provide legal recognition for transactions carried out by means of electronic data interchange and other means of electronic communication, commonly referred to as "electronic commerce" which involve the use of alternative to paper-based methods of communication and storage of information, to facilitate electronic filing of documents with the Government agencies.

(b) Right to Information Act, 2005:

34.0 Government of India recognizing that democracy requires an informed citizenry and transparency of information which are vital to its functioning and also to contain corruption and to hold Governments and their instrumentalities accountable to the governed and to fulfill the objective of universal access to information has enforced Right to Information Act in June 2005.

35.0 The Act provides for setting out the practical regime of right to information for citizens to secure access to information under the control of public authorities, in order to promote transparency and accountability in the working of every public authority, the constitution of a Central Information Commission and State Information Commissions and for matters connected therewith or incidental thereto

(c) National e-Governance Plan (NeGP):

36.0 Government is implementing National e-Governance Plan (NeGP) with an objective to make all Government services accessible to the common man in his locality.

A common platform is being created for the integrated delivery services. This shared platform includes high-speed networks for data connectivity, Data Centers, Common Access Points all over the country (including the remotest areas) and laying down standards that enable and ensure integration. NeGP covers 27 Mission Mode Projects (MMPs).

(4) REAFFIRMING THE EQUITABLE BALANCE BETWEEN THE INTERESTS OF THE RIGHTS-HOLDERS AND THE PUBLIC INTEREST:

37.0 Government has undertaken, in close cooperation with all interested parties, the updating of national legislation and its adaptation to cyber space, taking full account of the fair balance between the interests of authors, copyright and related rights-holders, and of the public embodies in international copyright and related rights convention.

(III) FINAL COMMENTS:

38.0 In order to ensure proper planning and effective implementation and monitoring of various plans in different economic sectors, Government of India follows a system of Five Year Plans. Both at the central and state levels, there is established system of planning and implementation by the concerned administrative Ministries and monitoring at the highest level.

39.0 All elements of the decisions taken at the World Summit on Information Society (WSIS) and their implementation are built into the 10th Five Year Plan (2002 - 2007) and the 11th Five Year Plan (2007 - 2012).

40.0 Implementation in a Mission Mode and in Public Private Partnership (PPP) is central to the planning and implementation of various plans and schemes by the Government of India.

41.0 India is a multilingual, multi-script and large country with population of over 1 billion, about one sixth of the world population, with 22% of the population being under the poverty line. Therefore, in order to fully promote multilingualism and universal access to cyberspace, following are the main issues and new challenges that need to be further addressed for undertaking more research and development of various systems and tools:

- Localization research
- Speech technology
- Voice enabled Multilingual Information Access Systems
- Cross Lingual Information Retrieval
- Optical Character Recognition System
- National Indian Languages Web Browser and search engine
- User-friendly content development tool kit supporting Indian languages
- Human Resource Development in Language Technology
- Country wide robust ICT infrastructure with multimedia capabilities
- Availability of computing and networking resources at affordable cost
- Accelerating content creation in all subjects of relevance
- Expediting National Digital Library initiative
- Cyber security in the context of increasing complexity of IT systems and networks, evolving nature of ICT infrastructure and expanding wireless connectivity to computers and networks that increases their exposure to attack
- Strengthening relevant laws and regulations with a view to raise confidence in users for use of ICTs