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August 2006

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INTERNET GOVERNANCE FOR DEVELOPMENT

SYNOPSIS

This South Centre Analytical Note provides a brief discussion of the linkage between Internet Governance and development. It suggests that agenda topics of the 2006 Internet Governance Forum should focus on development, capacity building, and increasing the level of democracy and transparency of Internet Governance. Such a focus will contribute toward improving equity among Internet Governance stakeholders and successfully bridging the digital divide.

August 2006
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List of Acronyms

ASCII	American Standard Code for Information Interchange
CSIRTS	Computer Security Incident Response Teams
ccTLD	Country Code Top Level Domains
DNS	Domain Names System
FOSS	Free and Open Source Software
GAC	Government Advisory Committee (of ICANN)
G77 & China	Group of 77 and China, includes 133 countries
IANA	Internet Assigned Number Authority
ICANN	Internet Corporation for Assigned Names & Numbers
ICT	Information and Communication Technologies
IDN	International Domain Name
IG	Internet Governance
IGF	Internet Governance Forum
IP	Internet Protocol
IPRs	Intellectual Property Rights
ISP	Internet Service Providers
IXP	Internet Exchange Points
MDG	Millennium Development Goal
ODF	Open Document Format
RNS	Root Name Server
TDMA	Time Division Multiple Access
TLD	Top Level Domain Name
UN	United Nations
WGIG	Working Group on Internet Governance
WSIS	World Summit on the Information Society

Glossary of Terms

ASCII (American Standard Code for Information Interchange): a character encoding based on the English alphabet. ASCII codes represent text in computers, communications equipment, and other devices that work with text.[1]

Digital Solidarity Fund (DSF): established as on outcome to the First World Summit for the Information Society meeting in December 2003 to fund local projects that would serve to reduce the North-South digital divide.

Domain Name System (DNS): translates domain names into IP addresses which simplify the Internet by turning long numerical addresses for websites into easy to remember addresses.

Free and Open Source Software (FOSS): software which is liberally licensed to grant the right of users to study, change, and improve its design through the availability of its source code. F/OSS is generally synonymous with free software and open source software, and describes the same licenses, culture, and development models.[2]

International Domain Name (IDN): an Internet domain name that (potentially) contains non-ASCII characters.

Information and communications technology (ICT): includes any communication device or application, encompassing: radio, television, cellular phones, computer and network hardware and software, satellite systems as well as the various services and applications associated with them, such as videoconferencing and distance learning.[3]

Internet Corporation for Assigned Names & Numbers (ICANN): the non-profit corporation currently responsible for: Internet Protocol (IP) address space allocation, protocol identifier assignment, generic and country code Top-Level Domain name system management, and root server system management functions.[4]

[1] Wikipedia, ASCII, http://en.wikipedia.org/wiki/ASCII.
[2] Wikipedia, FOSS, http://en.wikipedia.org/wiki/FOSS.
[3] SearchWebServices.com Glossary, *ICT*, http://searchwebservices.techtarget.com/gDefinition/0,294236,sid26_gci928405,00.html.
[4] ICANN, ICANN Information, http://www.icann.org/general/

Internet exchange point (IXP): a physical infrastructure that allows different Internet Service Providers (ISPs, see below) to exchange Internet traffic between their networks (autonomous systems) by means of mutual peering agreements, which allow traffic to be exchanged without cost. [5]

Internet Service Provider (ISP): a business or organization that offers user's access to the Internet and related services. ISPs provide services such as Internet transit, domain name registration and hosting, dial-up or DSL access, leased line access and co-location.[6]

Phishing: emails and websites designed to resemble legitimate organizations such as banks and financial institutions to obtain sensitive personal information like Social Security or credit card numbers that can be used illegally.

Root Name Server (RNS): a Domain Name Server (DNS) that answers requests for root namespace domain, and redirects requests for a particular top-level domain (TLD) name server. Each TLD (such as .org) has its own set of servers, which in turn delegate to the name servers responsible for individual domain names (such as southcentre.org), which in turn answer queries for Internet Protocol (IP) addresses of hosts.[7]

Stupid Pointless Annoying Messages (Spam): are the abuse of electronic messaging systems to send unsolicited, bulk messages. While the most widely recognized form of spam is e-mail spam, the term is applied to similar abuses in other media: instant messaging spam, Usenet newsgroup spam, Web search engine spam, spam in blogs, and mobile phone messaging spam. [8]

Tier 1 Network: connects to the entire Internet through peering with no transit costs for accessing any portion of the Internet. To be a Tier 1 network a network must peer with every other Tier 1 network.

Tier 2 Network: accesses most of the Internet for free, with some transit costs. Tier 2 networks are the most common providers on the Internet.

Tier 3 Network: mainly local ISPs that are not Tier 1 or Tier 2. To access information on the Internet Tier 3 networks must pay transit fees to Tier 1 and Tier 2 networks.

[5] Wikipedia, Internet Exchange Point, http://en.wikipedia.org/wiki/IXP.
[6] Wikipedia, Internet Service Provider, http://en.wikipedia.org/wiki/Internet_service_provider.
[7] Wikipedia, Root name server definition, http://en.wikipedia.org/wiki/Root_nameserver.
[8] Wikipedia, Spam (electronic), http://en.wikipedia.org/wiki/Spam_%28electronic%29.

Executive Summary

As the scope of the Internet has expanded with regard to functionality and geographical reach the importance of the Internet for attaining development objectives has also increased. The possible impact of broader, more affordable access to the Internet holds great promise for improving educational opportunities, access to information, new business possibilities; government services, strengthening cultural diversity; and preserving rare languages among others. This far-reaching influence of the Internet therefore makes resolving Internet Governance (IG) issues vital for development.

In recent years, governments, international organizations, and civil society have attempted to address the myriad of issues involved with improving international IG. These efforts have now culminated in the establishment by the UN Secretary General of an Internet Governance Forum (IGF) scheduled to meet for the first time from October 30 to November 2 this year in Athens, Greece.

To assist developing countries and those concerned with realizing the IGF theme of "Internet Governance for Development", this paper identifies the key issues for developing countries and strategies for bringing them to the fore in Athens. Plenary sessions and workshops at the IGF will fall under the four broad themes of: openness, security, diversity, and access. Within these topic areas the key concerns for developing countries are:

- governance of the Internet Corporation for Assigned Names and Numbers (ICANN) and related Internet institutions;
- capacity building;
- technical standards issues including open source software options;
- Internet security issues;
- the need for more multi-lingual content and non-ASCII fonts for domain names; and
- access and connectivity costs;

Strategies for raising these issues at the IGF involve submitting statements for the plenary sessions, active participation in the question period provided during the plenary sessions, and submitting workshop proposals connecting the four themes to development. Although issues such as ICANN reform do not fit squarely into the IGF agenda, developing countries might also consider developing coalitions among each other and with civil society to work more closely on these issues so that they can then be addressed more substantively at the 2007 meeting of the IGF in Brazil.

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Internet Governance for Development

I. Introduction: The Link between Internet Governance and Development

1. As the scope of the Internet has expanded with regard to functionality and geographical reach the importance of the Internet for attaining development objectives has also increased. The possible impact of broader, more affordable access to the Internet holds great promise for improving educational opportunities, access to information, new business possibilities; government services, strengthening cultural diversity; and preserving rare languages among others. This far-reaching influence of the Internet therefore makes resolving Internet Governance (IG) issues vital for development.

2. Establishing a framework for IG in the present will serve as a much-needed foundation for the growth of Internet usage worldwide. Effectively addressing the underlying issues will contribute significantly to closing the digital divide. Successfully doing so will mean not only addressing the current inequity of control of the Internet between developed and developing countries; but also attending to infrastructure inadequacies, technical barriers to cultural presence, and the essential need for capacity building in developing countries.

II. Background

A. UN Information and Communication Technologies Taskforce

3. International efforts to tackle Internet Governance began in March 2001 when the UN Economic and Social Council requested the Secretary General to establish the ICT Taskforce. The purpose of the ICT Taskforce:

> *is to provide overall leadership to the United Nations role in helping to formulate strategies for the development of information and communication technologies and* ***putting those technologies at the service of development*** *and, on the basis of consultations with all stakeholders and Member States, forging a strategic partnership between the United Nations system, private industry and financing trusts and foundations, donors, programme countries and other relevant stakeholders in accordance with relevant United Nations resolutions.*[1]

[1] UN ICT Taskforce, *Plan of Action ICT Taskforce*, http://www.unicttaskforce.org/about/planofaction.html, Emphasis added.

4. Hence from the very beginning of international attempts to address the complex issues involved in IG the focus was squarely on development. The ICT Taskforce website affirms the importance of the Millennium Development Goals (MDGs) and states that the "eradication of poverty and the special needs of the least developed and low-income countries and Africa will constitute the principal focus and benchmark for all activities of the Task Force."[2]

5. In its first meeting the ICT Taskforce participants established a Plan of Action with five short-term objectives and eleven medium-term objectives covering a wide range of goals from developing improved stakeholder participation to addressing funding needs for ICT development.[3] Members also established four Working Groups and Regional Nodes (Africa, Asia, Latin America and the Caribbean, and for the group of Arab States). The structure of regional nodes continued in the subsequent meetings of the World Summit on the Information Society (WSIS).

6. The ICT Taskforce is composed of roughly 55 members including high-level participants from the World Trade Organization (WTO), the World Bank, the International Telecommunication Union (ITU), government representatives, and individuals from the private sector.

B. World Summit on the Information Society Phase I

7. Following on the work of the ICT Taskforce and to tackle IG issues in a broader, multilateral manner the United National General Assembly endorsed ITU's call for a World Summit on the Information Society (WSIS) with Resolution 56/183 in December 2001. Phase one of the WSIS was coordinated by ITU and took place in Geneva in December 2003. WSIS I was attended by over 11,000 individuals from 175 countries, including 50 heads of government as well as ministers, academics, private sector representatives and civil society organizations.[4]

8. One success for developing countries at WSIS I was keeping the importance of funding for information and communication technologies (ICT) infrastructure and capacity building as one of the main points. Nearly all delegations submitting statements to the gathering touched on

[2] UN ICT Taskforce, *About*, http://www.unicttaskforce.org/about/.
[3] For more detail on the objectives of the Plan of Action go to: http://www.unicttaskforce.org/about/planofaction.html.
[4] ITU, *World Summit on the Information Society*, http://www.itu.int/wsis/basic/about.html

these important issues. Many delegations also touched on the importance of using ICTs for reaching development goals.

9. For example the African Union (represented by Mozambique) prioritized ICT infrastructure and capacity building along with the idea of using ICTs to meet MDG targets and the need for development partners to "open a new chapter in North-South and South-South cooperation".[5] Issues related to funding for capacity building and ICT infrastructure at WSIS I were also included in statements by Egypt in reference to the results of the Pan-Arab Conference to prepare for WSIS I and by Pakistan. India stressed the need for improved ICT infrastructure and proposed using ICT tools to end illiteracy. India also suggested the creation of a universal networking language.[6]

10. Developed countries also made frequent reference to improving access to the Internet in developing countries although capacity building was not as frequent in their statements. Beyond these issues Australia and Germany both reaffirmed support for Internet Corporation for Assigned Names and Numbers (ICANN). The US statement focused on the need for countries to improve national rules and regulations to create an environment for innovation. The US also stressed the importance of intellectual property rights (IPRs).

11. The meeting produced the Geneva Plan of Action and the Geneva Declaration of Principles. The documents laid out the common principles and goals of the WSIS participants, established a Digital Solidarity Agenda to address resource issues in developing countries, along with 11 Action Lines;

    a. Development of national e-strategies, including the necessary human capacity building, should be encouraged by all countries by 2005, taking into account different national circumstances;

    b. Initiate at the national level a structured dialogue involving all relevant stakeholders, including through public/private partnerships, in devising e-strategies for the Information Society and for the exchange of best practices;

[5] WSIS I, *Wednesday, 10 December 2003: General Debate: Plenary Session 1*, p. 4-5, http://www.itu.int/wsis/geneva/coverage/statements/mozambique/mz.pdf.
[6] WSIS I, *Thursday, 11 December 2003: General Debate: Plenary Session 3*, p. 6, http://www.itu.int/wsis/geneva/coverage/statements/india/in.pdf.

c. In developing and implementing national e-strategies, stakeholders should take into consideration local, regional and national needs and concerns. To maximize the benefits of initiatives undertaken, these should include the concept of sustainability. The private sector should be engaged in concrete projects to develop the Information Society at local, regional and national levels;

d. Each country is encouraged to establish at least one functioning Public/Private Partnership (PPP) or Multi-Sector Partnership (MSP), by 2005 as a showcase for future action;

e. Identify mechanisms, at the national, regional and international levels, for the initiation and promotion of partnerships among stakeholders of the Information Society;

f. Explore the viability of establishing multi-stakeholder portals for indigenous peoples at the national level;

g. By 2005, relevant international organizations and financial institutions should develop their own strategies for the use of ICTs for sustainable development, including sustainable production and consumption patterns and as an effective instrument to help achieve the goals expressed in the United Nations Millennium Declaration;

h. International organizations should publish, in their areas of competence, including on their website, reliable information submitted by relevant stakeholders on successful experiences of mainstreaming ICTs; and

i. Encourage a series of related measures, including, among other things: incubator schemes, venture capital investments (national and international), government investment funds (including micro-finance for Small, Medium-sized and Micro Enterprises (SMMEs), investment promotion strategies, software export support activities (trade counseling), support of research and development networks and software parks.[7]

12. The Plan of Action called on governments, international organizations, and the private sector to research, evaluate and share information on a range of issues in preparation for the second phase of the WSIS. The Plan

[7] WSIS I, *Geneva Plan of Action*, http://www.itu.int/wsis/docs/geneva/official/poa.html.

of Action also requested the Secretary General to establish a Working Group on Internet Governance (WGIG).[8] The first meeting of the WGIG was November 2004.

C. Working Group on Internet Governance

13. The WGIG was given three tasks: (i) examine and prioritize the extensive list of issues highlighted in the Geneva Plan of Action, (ii) develop a working definition of IG, (iii) and develop an understanding of the roles of government, business, civil society and other stakeholders in IG. Half of the 40-member working group was from developing countries, a quarter from government departments, as well as a mix of individuals from the private sector, civil society and academic institutions.

14. Prior to the first meeting of the WGIG contributions and statements on the work of the WGIG were submitted for review. Interestingly, among the 5 country contributions submitted only one was from a developing country (Venezuela), the others being from the US, Canada, Norway and Japan. Norway and the US both touched in intellectual property (IP) issues in their statements.

15. The WGIG organized the most important items to cover in WSIS II into four categories:

    - infrastructure and management of internet resources;
    - Internet usage issues including security and cybercrime;
    - the wider impact of IG on world trade and intellectual property; and
    - developmental aspects of IG.

16. While all these issues are relevant to certain stakeholders they do not necessarily reflect the most important concerns for many developing countries. For example in IG discussions among developing countries IPRs are rarely placed so high on the list of priorities.

17. Additionally, the motivations of developed and developing countries on IPR issues often vary greatly. Developed countries often seek to increase intellectual property protections as trade in services to developing countries increase. Developing countries concerns often lie in balancing the creation of new IPRs and retaining policy space to ensure that IPRs for

[8] WSIS I, *Geneva Plan of Action*, http://www.itu.int/wsis/docs/geneva/official/poa.html.

foreign technologies do not supplant domestic innovation. Many developing countries are also interested in ways to utilize open source software technologies to attain development objectives.

18. The WGIG's second task was forming a definition of IG. The report submitted by WGIG in June 2005 provided the following definition:

> *"Internet Governance is the development and application by Governments, the private sector and civil society, in their respective roles, of shared principles, norms, rules, decision-making procedures, and programmes that shape the evolution and use of the Internet."*[9]

Universal agreement did not emerge among WGIG members about the definition of IG thus it remains a working definition subject to potential modification.[10]

19. In completing the WGIG's third objective, the members grouped the actors fulfilling the various roles and responsibilities of IG into three categories: Governments, the private sector, and civil society with some reference also to academic institutions and technical communities and their organizations. The lists are rather generic and many of the roles and responsibilities appear in all categories, highlighting the cross-cutting nature of IG issues and the need for actors to work in cohesion. The conclusion of the section gives brief mention to the roles and responsibilities of international and intergovernmental organizations. The WGIG concluded that their role in IG is important however there is a need to improve coordination among these organizations.

20. The issue of international cooperation is a core theme in the last and perhaps most interesting section of the report on proposals for action. The section reiterated the current lack of an effective international forum to discuss IG issues, especially for developing countries. The members advise that any forum created should be linked to the UN due to its ability to engage with developing countries. The WGIG Report expressed repeatedly the need for such a forum to be transparent, enable the participation by all relevant stakeholders, use a "lightweight structure", and avoid taking on issues already addressed in other fora.

[9] WGIG, *Report of the Working Group on Internet Global Governance*, June 2005, p. 4, http://www.wgig.org/docs/WGIGREPORT.pdf.
[10] For more detail on the line by line construction of the WGIG definition for IG please reference the *WGIG Background Report* at http://www.wgig.org/docs/BackgroundReport.doc.

21. Finally, the WGIG Report included four potential models for international IG with varying degrees of diversion from the status quo. One model proposed the creation of a Global Internet Council (GIC) to replace the Government Advisory Committee of the Internet Corporation for Assigned Names and Numbers; another proposal suggested reforming and bringing ICANN into the UN system.

D. World Summit on the Information Society Phase II

22. In November 2005 WSIS II was convened in Tunis. The outcome of the second phase reaffirmed many of the ideas agreed upon before and attempted to develop clearer strategies for implementing the goals identified in WSIS I.

23. Most developing country statements at WSIS II made clear reference to agreements made at WSIS I but nearly none of the statements discussed the work of the WGIG. South Africa affirmed the decisions of WSIS I that prioritized: ICT infrastructure, capacity building, security, access, and diversity.[11] This list does not include issues prioritized by the WGIG as noted above. A few countries also mentioned needed reforms of ICANN including Cuba and Norway.

24. Many developed countries highlighted the need to not to over-regulate ICT services, arguing that innovation would be compromised as a result. In their WSIS II statements the U.K., Germany, Sweden, and Australia all made reference to limiting regulations and encouraging more public-private partnerships.

25. There is not evident reference to IPRs in the statements of developed countries, but the reoccurring mention of limiting rules and regulations should raise flags for developing countries. In referencing regulation issues what developed countries may be aiming for is the opening up of ICT service sectors for their firms. Developing countries attempting to build domestic ICT sectors may want to establish laws with regard to foreign competition in order to let domestic ventures incubate before competing with potentially sophisticated foreign competition.

26. WSIS II produced several documents including: the Tunis Commitment [12]and Tunis Agenda for the Information Society[13]. The contents of both

[11]ITU, *First Plenary Meeting, General Debate World Summit on the Information Society, Wednesday, 16 November 2005: Plenary Session 1*, p. 1, http://www.itu.int/wsis/tunis/statements/docs/g-southafrica/1.pdf.
[12] WSIS II, *Tunis Commitment*, http://www.itu.int/wsis/docs2/tunis/off/7.html.

documents reiterate the needs to internationalize IG and the need to view access and development of ICTs as they relate to development objectives. Paragraph 90 of the Tunis Agenda details the ways in which ICT can be used as a tool for reaching the Millennium Development Goals. In paragraph 67 of the Tunis Agenda WSIS II participants called upon the Secretary General to establish a new multi-stakeholder dialogue forum, the Internet Governance Forum (IGF).

27. One of the most significant successes at WSIS II for developing countries was reference in the Tunis Agenda to States "rights and responsibilities for international Internet-related public policy issues."[14] This language supports the needs of developing countries to maintain policy space with regard to developing Internet-related rules and policies. Developing countries were also successful in keeping the need for a multi-lateral forum on the agenda.

III. Internet Governance Forum

28. The IGF will meet for the first time in Athens from October 30 through November 2, 2006. In paragraph 72 of the Tunis Agenda WSIS participants laid out twelve functions for the new IGF:

a. Discuss public policy issues related to key elements of Internet governance in order to foster the sustainability, robustness, security, stability and development of the Internet.

b. Facilitate discourse between bodies dealing with different cross-cutting international public policies regarding the Internet and discuss issues that do not fall within the scope of any existing body.

c. Interface with appropriate intergovernmental organizations and other institutions on matters under their purview.

d. Facilitate the exchange of information and best practices, and in this regard make full use of the expertise of the academic, scientific and technical communities.

e. Advise all stakeholders in proposing ways and means to accelerate the availability and affordability of the Internet in the developing world.

[13] WSIS II, *Tunis Agenda for the Information Society*, http://www.itu.int/wsis/docs2/tunis/off/6rev1.html.
[14] Ibid.

f. Strengthen and enhance the engagement of stakeholders in existing and/or future Internet governance mechanisms, particularly those from developing countries.

g. Identify emerging issues, bring them to the attention of the relevant bodies and the general public, and, where appropriate, make recommendations.

h. Contribute to capacity building for Internet governance in developing countries, drawing fully on local sources of knowledge and expertise.

i. Promote and assess, on an ongoing basis, the embodiment of WSIS principles in Internet governance processes.

j. Discuss, inter alia, issues relating to critical Internet resources.

k. Help to find solutions to the issues arising from the use and misuse of the Internet, of particular concern to everyday users.

l. Publish its proceedings.[15]

29. The theme of the first IGF meeting is "Internet Governance for Development" and while the functions of the IGF have been agreed (paragraph 72 of the Tunis Agenda), the agenda for the forum remains vague. According to the IGF the meeting will cover four topic areas: access, security, diversity, openness. All of these issues, among others, have some relevance for developing countries however, it is critical for developing countries to construct a strategy to ensure the most important issues for development are addressed within these topic areas.

30. What remains unclear is under which of the broad topics reforms of IG structures such as ICANN can be discussed. In the February 2006 consultations in Geneva to form the IGF agenda representatives from the US and Canada focused on tackling technical issues such as spam and privacy concerns rather than issues of ICANN governance and other institutions as raised by the G77 and China, and Brazil. Many of the statements in the Tunis Agenda stressed the need for governance of the Internet to be internationalized.

[15] ITU, *Tunis Agenda*, http://www.itu.int/wsis/docs2/tunis/off/6rev1.html#fui.

31. There are several means which could be utilized by developing countries to infuse their priorities into the IGF meeting. Countries who would like to make substantive contributions to the IGF need to submit their statements to the IGF Secretariat[16]. All statements will be accepted and those submitted by the deadline will be translated into all U.N. languages, will be considered input for the IGF, and included in the meeting materials. Contributions sent to the Secretariat after the submission deadline will be posted on the IGF website but not translated or distributed at the IGF meeting.

32. To review contributions for the plenary session and workshop proposals an Advisory Group of 40-45 members from about 20 countries has been established to advise the Secretariat. The members were determined through a call for members from the Secretariat with the goal of having representation of all stakeholders. Countries organized themselves by regional groupings created during the WSIS and submitted individuals from their regions to participate. The next meeting of the Advisory Group will be on 7 and 8 September 2006 in Geneva.

33. Some members of the Advisory Group have suggested that the substantive written contributions for the IGF could play an important role in the scope and direction of the forum. According to the IGF website most of the substantive contributions submitted until now are from the International Chamber of Commerce's Coordinating Committee of Business Interlocutors.[17] Putting development issues high on the list of priorities at the IGF will require developing countries to submit comments as well.

34. Developing countries can also bring their issues to the forefront through contributions to the plenary sessions. The structure of the plenary sessions is still being established, however, the current vision involves those wishing to make statements to submit their statement proposals to the Advisory Group to be put on the agenda. Rather than statements being read one after another, the plenary meetings will be run by a chair that will allow participants to comment, respond, or ask questions to the speakers on the agenda.

35. The opening plenary on day one will be the most free in terms of format, as no clear theme has been established. This may be the best opportunity

[16] Submissions should be sent to igf@unog.ch by August 2, 2006.
[17] IGF, All Contributions and Statements for the IGF, http://www.intgovforum.org/contributions_for_1st_IGF.htm

to raise issues which fall outside of the four broad themes of the forum. Other plenary meetings will likely focus on the four broad themes with openness and security being discussed on day two, and diversity and access being discussed on day three. The last day of the meeting will provide a forum to discuss "emerging issues".

36. The IGF program will also include workshops for which the Secretariat is seeking proposals. Workshop proposals should involve multiple stakeholders, multiple points of view, and a clear connection to one of the four themes of openness, security, diversity, and access. Workshop proposals are being approved on a rolling basis and the deadline for submission is August 24. The sooner proposals are submitted the better their chance of being accepted. The Secretariat estimates there will be 30 workshop slots, each lasting for about 90 minutes.

37. There have been discussions about holding parallel events to the IGF near the forum facility to discuss important and controversial issues not on the agenda such as ICANN reform. The possibility of incorporating such conversations into the workshops at the forum is also possible; however it is unlikely that workshops with a focus on ICANN reform will be approved given the inclusion of ICANN representatives in the Advisory Group. If developing countries want to plan or participate in such events planning should commence soon to ensure space in neighboring meeting areas.

38. According to the IGF website the expected outcome of the meeting "will be the reports of the individual sessions as well as of the meeting as a whole. There will be no negotiated texts such as decisions or resolutions."[18] The IGF will be able to issue recommendations to the international community; however, the meaning of this remains unclear.

IV. Key IGF Issues for Developing Countries

39. While the levels of development, ICT infrastructure and specific challenges developing countries face vary widely there are several themes that reoccur in discussions among developing countries with regard to IG. In a March 31, 2006 letter to the IGF Executive Coordinator the G77 and China laid out the following list of proposed agenda items for the IGF meeting:

[18] IGF, Internet Governance Forum Athens Programme Outline, http://www.intgovforum.org/athens_outline.htm

- bridging the digital divide: access, policies and financing;
- affordability and availability of the Internet;
- international inter-connection costs;
- technology and know-how transfer;
- multilingualism and local content;
- local development of software and open source software;
- capacity-building and participation of multi-stakeholders from developing countries;
- equitable and stable resource management; and
- Internet access and international transit agreements.[19]

40. Many of the above issues are inter-related and relevant for many countries, however, in reviewing statements beyond those of the G77 and China some issues should be added and some subtracted from the list. The issues vary in priority but the ones most often mentioned by developing countries are:

    - governance of ICANN and related Internet institutions;
    - capacity building;
    - technical standards issues including open source software options;
    - Internet security issues;
    - the need for more multi-lingual content and non-ASCII fonts for domain names; and
    - access and connectivity costs;

41. All of these issues are interconnected and finding the resources (human and financial) for many developing countries to accomplish these aims should be addressed at the IGF. Given the theme of Internet Governance for Development access to funding whether for infrastructure or capacity building should be incorporated into discussions in each of the topic areas whenever relevant.

42. In the subsequent pages this paper will attempt to identify under which of the broad topic areas on the IGF agenda developing countries might try to raise the above mentioned key issues.

[19] IGF, *G77 and China, Suggested Topics/Themes for the Proposed IGF*, March, 31, 2006, p. 2, http://www.intgovforum.org/contributions/G77%20March%2031.pdf.

V. Governance of ICANN and Related Issues

43. In the Tunis Agenda the need to internationalize governance of the Internet was reiterated repeatedly, however no place is set aside to discuss this in Athens, and there now seems to be a lack of cohesion among developing countries on the issue. Some countries such as Brazil, believe that ICANN reforms issues should be discussed at the IGF. Other countries, such as South Africa, have said that the IGF is not the right forum for these issues. While other countries, particularly in Africa, have placed reform of Internet institutions lower on the priority list and suggest minimal reforms to the status quo.

44. In the February 2006 consultations in Geneva to establish an agenda for the IGF meeting, both the G77 and China, and Brazil's statements (with Iran and India concurring later in the session) highlighted the need to discuss governance beyond technical, infrastructure, and capacity building issues. The representative from Ghana also touched on the issues of equal participation and transparency in bridging the digital divide. This issue was perhaps most clearly expressed by the Brazilian representative who stated:

> "*The most important question to the international community is face -- that the international community is facing nowadays, and that is why we decided to create a forum to discuss it, is that due to a lack of any obvious international organization to deal with Internet public policy issues, a number of entities which should ideally be only in charge of the technical management of the day-to-day operation of the Internet are pushed to fill the void and take political, which is public policy decisions.*"[20]

45. In the same statement Brazil also raised the issue of the IGF being a forum to address the legal framework for Internet public policy issues, and potentially a forum to discuss the creation of an international treaty. This idea was not picked up on by any other members.

46. In consultations on the convening of the IGF's institutional governance body, South Africa raised the issue of institutional reforms stating that they should be discussed instead at the UN level not at the IGF.[21] The motivation for this may be to take the issue to a forum with a smaller

[20] IGF, *Consultations on the Convening of the Internet Governance Forum Transcript of Morning Session 16*, February 2006, http://www.intgovforum.org/contributions/IGF-1-0216.txt.
[21] IGF, *Consultations on the Convening of the Internet Governance Forum Transcript of Afternoon Session 16*, February 2006, http://www.intgovforum.org/contributions/IGF-1-021606pm.txt.

number of stakeholders (perhaps only states) rather than large open forums like the WSIS conferences or the IGF.

47. In the 2005 Dakar Resolution African countries participating in the Accra meeting reaffirmed the role of ICANN and called for a reinforcement of the role of the Government Advisory Committee (GAC). The statement did not indicate whether or not ICANN reform issues should be taken up at the IGF meeting.

48. As recently a May 19, 2006 in a letter to the Chairman of the IGF Brazil reiterated its desire to see IG institutional reform issues discussed at the October meeting. In Brazil's opinion the term IG means "a set of "globally applicable principles on public policy issues associated with the coordination and management of critical internet resources".[22] In the letter Brazil recognized the intention of the UN Secretary General to hold meetings on "enhanced cooperation issues" at another forum and also stressed the need to discuss these issues in October.

49. It is also possible that reform of ICANN and other Internet institutions have been moved off the agenda at the IGF due to a lack of negotiability with the U.S. government. In September 2005 a high-level U.S. diplomat when speaking at the US Congressional Internet Caucus on WSIS and Internet Governance said "The United Nations will not be in charge of the Internet. Period".[23] This lack of flexibility could be why many countries have let this issue slip; however, some initiative still remains to push this issue at the IGF meeting in October.

50. As there is not yet agreement among many developing countries; and no specific opportunity to discuss them on the agenda, developing countries may want to establish some cohesion before raising ICANN reform at the IGF. There also may be opportunities to combine efforts to reform ICANN with developed countries that are also uncomfortable with the disproportionate amount of control the U.S. holds over ICANN and the Internet itself as a result.

51. The best opportunity to raise the issue at the IGF will be on the first day of the meeting during the general discussion on multi-stakeholder policy

[22] IGF, *Brazilian Delegations on Consultations for the IGF agenda*, www.intgovforum.org/contributions/19_May_2006/Discurso%20IGF%20meeting%20maio-2006.doc
[23] Kevin Murphy quoting U.S. Ambassador David Gross, *Internet governance meeting appears deadlocked*, Computer Business Review Online, September 30, 2005, http://www.cbronline.com/article_news.asp?guid=660BDF8D-F96B-4F4C-9EB1-0E642A018493.

dialogue. The intention per the IGF website is to set the scene for the discussions to be held in the subsequent days of the meeting; however it could also pose an opportunity to discuss IG institutional reform/change issues.

52. Developing countries could also submit workshop proposals for the meeting which touch on ICANN reform indirectly such as the International Domain Name System (IDN, to be discussed in the Diversity section of the paper). Taking this strategy may enable the discussion about this important issue to occur within the IGF framework. Others have suggested holding parallel events to enable like-minded countries, NGOs, and/or civil society groups to discuss this issue.

53. Another strategy may be for developing countries to join with civil society and/or NGOs to form a "dynamic coalition" around ICANN reform. "Dynamic coalition" is the term the IGF is using to describe working group-like coalitions that may be among the outcomes of the forum. Learning more about ICANN will enable developing countries and civil society groups to bring this issue to the fore at the 2007 IGF meeting in Brazil. As Brazil is a key proponent of ICANN reform and decentralization, addressing this issue in Brazil in an environment more friendly to the debate, and with stronger proposals may be a more beneficial long-term strategy than tackling these issues directly in Athens.

54. Under governance of Internet institutions the debate often refers to: Internet Corporation for Assigned Names and Numbers (ICANN), Root Name Server Operators, and management of the Domain Names System (DNS).

A. Internet Corporation for Assigned Names and Numbers (ICANN)

55. ICANN is the non-profit corporation currently responsible for: Internet Protocol (IP) address space allocation, protocol identifier assignment, generic and country code Top-Level Domain name system management, and root server system management functions.[24] While in some ways ICANN has been a guardian to the development of the Internet there is concern that the organization holds too much power and is too significantly influenced by the US government.

[24] ICANN, *ICANN Information*, http://www.icann.org/general/

56. In the late 1990's the U.S. government issued statements about intentions to privatize some functions of ICANN (such as the Domain Name System). However, after the September 11th attacks, U.S. government policy changed with the result that ICANN (with all of its functions) continues to report to the U.S. Department of Commerce. This policy change has re-ignited the debate about ICANN governance and it's currently lack of transparency and democratic principles.

57. ICANN has in its structure a Government Advisory Committee (GAC) composed of 101 country representatives and nine observers; however the role of the GAC is purely advisory. Additionally, not all members participate in all meetings. At the June 24-28, 2006 meeting in Marrakech only 41 members participated. This lack of voice is a concern for many countries who want to internationalize IG to ensure it is democratic and transparent. Beyond the issues of transparency and lack of democratic accountability ICANN has also been criticized for being too beholden to corporate interests. ICANN initiated some reforms in 2002 however; these reforms have done little to resolve the serious concerns of many countries.

58. Critics also point to the multiple yet not always coinciding responsibilities of ICANN from allocating generic Top Level Domain Names (gTLDs) and Country Code Top Level Domains (ccTLDs), to running a dispute resolution body, to the oversight of Regional Internet Registries (RIRs) that allocate Internet Protocol (IP) addresses. Some suggest that ICANN's responsibilities should be reallocated to more appropriate or new international management agencies.

B. Root Name Servers (RNS)

59. The Internet Assigned Number Authority (IANA) is responsible for selecting Root Name Server Operators. There are currently 13 Root Name Server Operators, four of which have sites in developing countries, most of them in China, India or Brazil with only a handful in the rest of the developing world.[25]

60. A RNS is a Domain Name System (DNS) server which answers requests for root namespace domains, and redirects requests for a particular top-level domain (TLD) name server. Each TLD (such as .org) has its own set of servers, which in turn delegate to the name servers responsible for

[25] Please see Appendix I for a list of root servers, this information can be accessed at http://www.root-servers.org/.

individual domain names (such as southcentre.org), which in turn answer queries for Internet Protocol (IP) addresses of hosts.[26]

61. In early discussions on Internet Governance the issues of RNS Operators and RNS locations were often mentioned. Recently, however, nearly half of the Root Name Servers are now distributed using anycast [27]which many argue has improved and increased Internet accessibility. The issue remains however that most RNS Operators are ultimately run by U.S. based companies.

C. Domain Name System (DNS)

62. The DNS translates domain names into IP addresses. This simplifies the Internet by turning long numerical addresses for websites into something easy to remember like www.southcentre.org. The DNS also plays an important role the successful flow of email traffic.

63. Currently the DNS is under the control of ICANN. Within ICANN the DNS committee is composed of the 13 RNS operators and a couple of others. This 15-person committee is comprised of nearly all Americans with one member from Australia, one from the UK, with no developing country members.

64. The time for developing countries to act on this issue is now. The memorandum of understanding (MOU) between the U.S. Department of Commerce's National Telecommunications and Information Administration (NTIA) will expire in September 2006. The NTIA issued a public comment period, which recently concluded, for comments on the transition of the technical coordination and management of the Internet DNS to the private sector. The future of the DNS system is potentially on the brink of change, and it would benefit developing countries to become involved in the DNS issue prior to the IGF.

VI. Capacity Building

65. Capacity building has been identified as a cross cutting theme for all sessions as the benefits of accomplishing any of the aforementioned issues will only be realized in society at large if capacity building efforts are successful. There is wide agreement among developing countries on the

[26] Wikipedia, Root name server definition, http://en.wikipedia.org/wiki/Root_nameserver.
[27] For more information on anycast technology please visit, http://en.wikipedia.org/wiki/Anycast.

need to ensure the resources and ability for national and regional capacity-building efforts. References to the need for capacity building and the issue of resources for such projects are mentioned in nearly all statements about IG by developing countries.

66. At the WSIS 2003 Geneva meeting The Digital Solidarity Fund (DSF) was established to fund local projects that would serve to reduce the North-South digital divide. The DSF funds an array of projects including local capacity-building initiatives, particularly in least developed countries (LDCs) that focus on increasing the ability to use and the accessibility of the Internet for women, youth, the disabled, indigenous people and other minorities. The fund can also provide some assistance for South-South cooperation projects.[28]

67. Two broad types of capacity building and resources to fund them should be created to support developing countries in bridging the digital divide. The first type of capacity building should involve improving the institutional knowledge and understanding of IG issues for governments and their representatives. This type of capacity building will enable developing countries to advocate their common and particular needs/goals more effectively domestically, regionally, and internationally with other governments and the private sector.

68. The second type of capacity building should be aimed at improving the ability of citizens to fully utilize the benefits of the Internet. These activities could include training to support new government or private sector jobs related to Internet services and activities, as well as training programs for the general public. Many developing countries, as well as the objectives of the DSF, highlight the importance of targeting these activities to ensure involvement of women, youth and other minorities such as indigenous groups, and handicapped persons. Careful attention to the inclusiveness of these groups will contribute to creating an environment of equal opportunity and access to the Internet.

69. One method for increasing the number of citizens with Internet usage skills is through the creation of ICT centers such as the Kofi Annan ICT Center of Excellence in Ghana. The center is a government institution established in 2003 through a partnership between India and Ghana.[29] The

[28] For more detail on the *Digital Solidarity Fund* please visit, http://www.dsf-fsn.org/
[29] For more information on the *Kofi Annan ICT Center of Excellence* visit http://www.aiti-kace.com.gh/index.php#

center offers educational opportunities for citizens and holds specialized courses for decision makers and parliamentarians. India is also in the process of developing a partnership with Saudi Arabia to set up an ICT center. These South-South initiatives are encouraging and discussions at the IGF could explore how these projects could be expanded to include more countries.

70. Other promising South activities include the May 2006 First Annual International Conference on ICT Development, Education and Training. The event brought together governments, civil society, international organizations, and the private sector to discuss the use of ICT for e-learning and how to better connect ICT infrastructure in Africa. Given the benefits of developing regionally viable ICT infrastructure and learning from the experiences of other countries perhaps similar conferences should be held in Latin America and South Asia.

71. Funding is always at issue with capacity-building projects therefore as noted in other sections of this paper developing countries should raise this issue at the IGF as one of vital importance for bridging the digital divide.

VII. Openness

72. The topic of openness gives little guidance on what issues are to be covered in this area. For developing countries this could be an opportunity to discuss Openness in terms of the use of free and open source software (FOSS). With regard to FOSS Paragraph 49 of the Tunis Agenda states "…we support the development of software that renders itself easily to localization, and enables users to choose appropriate solutions from different software models including open-source, free and proprietary software".[30] Many developing countries have also raised the issue of FOSS as a means of retaining policy space to achieve development objectives without the complexity of IPRs that could stunt domestic innovation and progress due to high cost of patented foreign technologies.

73. In the 2003 Bavaro Declaration Latin America and Caribbean countries stated that in forming technical standards and competition policies that consideration should be given to open-source code standards, codes and models. The Dakar Resolution also suggests the use of open-source software to ameliorate the linguistic digital divide. Additionally, in the

[30] ITU, *Tunis Agenda for the Information Society*, http://www.itu.int/wsis/docs2/tunis/off/6rev1.html.

statement on behalf of the G77 and China on the second day of consultations on the convening of the IGF the Ambassador of Pakistan referenced the issue of using open source and free proprietary software for development and included this as a suggested agenda item for the IGF in a follow up letter to the Executive Coordinator in March 2006.

74. The importance of open standards has also gained speed in developed countries. More countries have now recognized that citizens should not have to purchase software from a particular vendor in order to access government documents or services. In light of this development the State of Massachusetts (US), Belgium, Denmark, and France have all begun to develop public policies which support the use of Open Document Format (ODF). The usage of ODF ensures that regardless of what computer system a user may have they will be able to access documents.

A. Free and Open Source Software (FOSS)

75. Despite the improved environment for discussing open standards, FOSS remains controversial, particularly from the perspective of some developed countries and their IPR holding corporate constituents. For example, in previous meetings of the WSIS Microsoft, has in a sense, supported the idea of ODF by suggesting that Microsoft standards be adopted as de facto ODF standards. If this happened then the usage of Microsoft products would expand further worldwide. This would be good for Microsoft; however one should be skeptical of the resulting benefits to countries and citizens if this were to occur.

76. Most computer systems currently use proprietary software, meaning the source codes of the software are owned by the company that produces it. Proprietary software can be expensive, and its usage is restricted to those who have licenses for the product. Whether for individuals or for large government offices these costs can add up quickly in developing countries where funding streams for technology is already scarce.

77. Whether the future brings greater usage of FOSS or proprietary software standards is of great importance to development. A 2003 report by the UN Economic Commission for Latin America and the Caribbean (ECLAC) clearly presents what is at stake for developing countries with regard to this issue drawing on lessons learned by Latin America's mobile telephony industry.

Box 1

Latin America: Mobile telephony

Wide adoption in Latin America of a particular mobile technology, Time Division Multiple Access (TDMA), resulted in TDMA being the most widely used mobile technology in Latin America. In 2002 TDMA was used by nearly 60% of cellular phones in Latin America but only used by 10% of cell phone users worldwide.

Not engaging in a well thought out process for developing the mobile telephony industry has left Latin America with an ICT system for mobile telephony with reduced economies of scale (in terms of production and service provision), creating higher prices for consumers, and missed opportunities to improve services due to system incompatibility with other regions.

Lastly and most importantly, due to the market marginalization of TDMA the technology has reached a dead end requiring Latin American consumers to purchase new phones, and creating another round of ICT infrastructure investment needs in Latin America.[31]

Source: http://www.itu.int/wsis/docs/rc/bavaro/eclac.pdf

78. What developing countries can take from the lesson learned in Latin America is that proprietary software solutions could translate into the privatization of other standards as a consequence. Further down the line these decisions could also result in restricting access and affect dissemination information. In order to prevent this situation from being realized developing countries should investigate whether utilizing FOSS options maybe more beneficial to reaching development objectives than arrangements with proprietary software companies.

79. Given the importance of the debate of employing wider usage of FOSS or not worldwide, developing countries may want create a dynamic coalition at the IGF to delve deeper into this issue. Establishing a dynamic coalition, perhaps with civil society or NGOs, to better understand the

[31] ECLAC, *Road Maps Toward an Information Society in Latin American and the Caribbean*, January 2003, p. 20, http://www.itu.int/wsis/docs/rc/bavaro/eclac.pdf.

consequences of adopting FOSS or proprietary software will enable developing countries to make informed decisions about this issue which has a system wide impact.

VIII. Security

80. Among the issues to be discussed at the IGF the issue of security is high on the list of priorities for developed countries such as the United States, Switzerland, and Australia. Among developing countries security issues seems to be more important in Asia than in other regions. In the UNDP's publication Internet Governance: Asia-Pacific Perspectives produced by Asia Pacific Development Information Program (APDIP) an online survey of over 1200 individuals found viruses, spam, and cybercrime issues to top the list of concerns by respondents who as a group indicated dissatisfaction levels of over 90% in each category.[32] The reason may be due to an estimated 15% of global spam originating in South Korea and 10% originating in China.[33]

81. In questionnaires and statements on the convening of the IGF Saudi Arabia, Samoa, and Azerbaijan indicated spam and other security issues as priorities issues. In the G77 and China's March 31, 2006 letter to the IGF Executive Coordinator the issue of security was not included in the list of nine suggested agenda items. However, in the consultation meeting on convening the IGF, China, Brazil, and Korea all raised the issues of spam and security. The issue seems to be of less concern among African countries and in Latin America as security issues were not raised in either the Dakar Resolution or the Bavaro Declaration.

82. In order to maximize the benefits of the IGF meeting developing countries should attempt to find some consensus on how to approach the issues that are likely to arise in discussions under Security including: spam, and cybercrime.

A. Spam

83. Though the link may not be obvious the issue of spam is a development issue. Bandwidth and storage space required for spam can clog networks in developing countries which already have bandwidth and storage space

[32] UNDP-APDIP, *Internet Governance Asia-Pacific Perspectives*, Ed. Danny Butt, 2005, p. 40, http://www.apdip.net/publications/ict4d/igovperspectives.pdf
[33] Ibid, p.56.

disadvantages. There are also financial costs to dealing with spam. Staff time spent by companies and governments (as well as individuals) to deal with spam can add up quickly, and the viruses that spam may carry can wreak havoc on networks, resulting in exorbitant repair costs.

84. Another spam-related cost results from "phishing", emails and websites designed to resemble legitimate organizations such as banks and financial institutions to obtain sensitive personal information like Social Security or credit card numbers that can be used illegally. Phishing activities not only result in costs to consumers who may become victims of fraud, but also cost companies who may need to spend resources to disassociate from phishing activities using their company's name and complying with new regulations.[34] All of these consequences to spam have financial costs and reduce the level of confidence of Internet users.

85. Paragraph 41 of the Tunis Agenda addresses the issue of spam and the commitment of participants to deal effectively with spam. While some countries have implemented anti-spam laws many countries, particularly in the developing world, have not. As the problem of spam has increased regional initiatives such as the APEC Anti-Spam Strategy have emerged. What has become clear is the need for an international framework to deal with spam worldwide.

86. One of the issues that will need to be addressed to facilitate an international framework will be agreement on definition for what constitutes spam. Another important decision will entail agreeing on whether the international framework should employ an "opt-in" or an "opt-out" approach. An "opt-in" approach (currently the policy in the European Union) requires email solicitors to have approval from the recipient prior to sending an email to them. The "opt-out" approach enables solicitors to send unsolicited emails however recipients must have a mechanism for requesting to be taken off a mailing list.[35]

87. Lastly, amid any discussion on limiting the impact of spam attention should be paid to free speech issues. Otherwise restricting spam could take on a dual role of also limiting freedom of expression.

B. Cybercrime

[34] ITU, *ITU Survey on Anti-Spam Legislation Worldwide*, July 2005, p. 8, http://www.itu.int/osg/spu/spam/legislation/Background_Paper_ITU_Bueti_Survey.pdf.
[35] Ibid, p. 58.

88. One solution that has been used to address cybercrime has been the model of Computer Security Incident Response Teams (CSIRT). CSIRTs bring together multiple stakeholders to coordinate responses to cybercrime. One of the first CSIRTs was formed by Carnegie Mellon University and since that time the concept has spread and CSIRTs have been formed at the national level in many developing countries in Asia, Latin American and the Middle East. A CSIRT system has yet to be set up in Africa however there is interest in doing so.

89. As instances of cybercrime involving more than one country increases, countries are beginning to consider the either the establishment of regional CSIRTs and/or increase the level of communication between existing national CSIRTs and their counterparts in other countries. Regional initiatives have already taken hold in Europe and in Asia a Regional Forum for CSIRTs has been established.

90. At the IGF meeting the importance of funding and the development of a CSIRTs system in Africa should be discussed. Ensuring better Internet security is essential for all developing countries in order to create a secure environment for Internet users be they individuals, governments, civil society, or the private sector.

IX. Diversity

91. Among the various topic areas the issue of diversity is one that developing countries agree upon as a priority. In 2005 the Dakar Resolution African countries included among their ten recommendations implementation of programs to guarantee the presence of African languages on the Internet.[36] Additionally, in a letter from the G77 and China to the IGF Executive Coordinator in March 2006 multilingualism and local content were fifth in a list of nine agenda items proposed for the IGF.[37]

92. Latin America and Caribbean countries have also highlighted multilingualism and local content particularly with regard to the preservation of indigenous languages and knowledge. On a similar note, in response to a questionnaire on convening the IGF the Indigenous ICT

[36] *Africa's Common Position on Internet Governance: the Dakar Resolution*, September 16, 2005, p. 7, http://www.itu.int/wsis/docs2/pc3/contributions/co88.pdf.
[37] G77 and China, Statement on the IGF Substantive Agenda, March 31, 2006, p. 2, http://www.intgovforum.org/contributions/G77%20March%2031.pdf

Task Force prioritized multilingualism and cultural diversity issues. In UNDP-APDIP's statement on the IGF agenda the organization noted that the results of the Open Regional Dialogue on Internet Governance (ORDIG) listed multilingualism as one of the top three issues from the Asia-Pacific perspective. The statement goes on to note that Asia-Pacific region encompasses more languages than any other region.[38]

93. The inter-related aims with regard to diversity are: more language translations and capacity for the usage of non-American Standard Code for Information Interchange (ASCII) fonts, international domain names, and increasing multilingual content on the Internet.

A. Non-ASCII Fonts

94. Of the more than 6,000 languages in the world "only about 50 languages have so far been encoded for the use on computers according to widely known standards".[39] And while many in the world do not speak English, English language websites continue to dominate the Internet. Further, many of the languages without standard encodings are the languages of developing countries. As a result the ability to use the Internet for disseminating information, improving communication, and as a development tool is hamstrung by font barriers.

95. The ASCII was the first system for character encoding for computers based on the English alphabet. Over the years the number of languages translated and usable with the ASCII system has increased however many languages cannot be translated using ASCII. Efforts to translate non-ASCII languages resulted in the creation of Unicode. All texts developed with Unicode are maintained by the Unicode Consortium in California. Any individual or organization willing to pay the fees of the consortium can join the organization. As a result of Unicode translations a much larger number of languages can be used on computers and the Internet.

Box 2

Cambodia: Unicode and ISO Translation of Khmer

[38] UNDP-APDIP, *Internet Governance Public Policy Issues from the Asia Pacific Region Submission to the Internet Governance Forum*, March 31, 2006, p. 2, http://www.intgovforum.org/contributions/UNESCAP-APDIPIGF.doc

[39] Norbert Klein, Internet Governance Perspectives from Cambodia, for the UN ICT Taskforce, March 25-26, 2004, p. 8, http://www.unicttaskforce.org/perl/documents.pl?id=1297

Developing countries seeking to translate their language for broader computer and Internet usage should be cautious to avoid the problems that occurred in the translation of the Khmer language in Cambodia. As Norbert Klein reported to the UN ICT Taskforce in 2004, the Unicode Consortium and the International Organization for Standardization (ISO) took it upon themselves to translate the Khmer language without the involvement of the Cambodian government.

By the time the Cambodian government tried to intervene in the project it was too late since Unicode Consortium's policy is not to change or remove any characters once they have been encoded. The results of Unicode's translation has been a computerized version of Khmer that is not consistent to what is taught in Cambodia, and leaves some characters out altogether.

Source: http://www.unicttaskforce.org/perl/documents.pl?id=1297

96. The experience of Cambodia should be a warning to countries seeking to computerize their languages. To avoid a similar situation from developing, countries, especially developing countries with multiple languages, should create a strategy for translating their languages which addresses: who will do the translation, who can edit the translation if needed, and find resources to ensure that once initiated these projects can be completed.

97. As one of the potential benefits of the Internet is the preservation of rare languages, and many of these languages are in developing countries, the issue of language translation and coding is no small matter. To find viable alternatives that will ensure the integrity of languages to be translated developing countries may want to form a dynamic coalition at the IGF to look more deeply into this issue.

B. International Domain Names

98. Another issue related to fonts and language presence is the development of International Domain Names (IDNs). In the past the Domain Name System (DNS, discussed earlier in the paper) limited domain names to those using ASCII fonts. This meant web addresses could not be created in languages such as Japanese or Arabic for example. In order to ensure ease of access to websites in local (non-ASCII font) content it follows there

should also be the capacity for web addresses using local language fonts as well.

99. The concept of IDNs has been around for sometime but it has only become a reality in recent years. There are now a few providers of IDNs however, the system is not fully integrated into the DNS and problems still persist. Some countries, such as China, have decided not to wait for the DNS and IDN system to be better integrated by ICANN and have instead begun their own IDN system.

Box 3

China's Net IDN System: A Break Up of the Net?

In early March 2006 the biggest English language Chinese newspaper suggested that China would introduce new Chinese character domains including .china, .com, and .net.

The article went on to say that now Internet users in China "don't have to surf the web via the servers under the management of ICANN of the United States." Unsurprisingly the announcement raised the concerns of ICANN supporters and drew curiosity from other countries pushing for better implementation of an IDN system.

China has said that it does not intend to create a separate Chinese Internet however; at the very least the action will likely increase the pressure on ICANN to respond to many countries who are frustrated with the slow pace of IDN implementation.

According to Michael Grist at the University of Ottawa; "with an alternate IDN system in place, it would relatively simple for China to migrate toward a true national root or alternate internet since a system is now in place for their ISPs to work with domain name alternatives."

Source: http://news.bbc.co.uk/2/hi/technology/4779660.stm

100. At the IGF dialogue with IDN providers (if present), Chinese representatives, and technical experts could provide ideas for advancing the development of an IDN system that could either work more smoothly

with the current DNS or separately from the DNS like China has initiated. Developing countries may also want to submit a proposal for a workshop to discuss the future of the IDN as this fits squarely into the theme of diversity. Successfully resolving this issue will enable the governments and citizens of developing countries with non-ASCII fonts to finally access the wealth of opportunities that the Internet can provide.

C. Local and Multilingual Content

101. The development of additional languages for Internet usage and the establishment of local Internet Exchange Points (IXPs) should increase the number of Internet users, but in order to maximize the myriad of development possibilities the Internet can bring local content in local languages will need to be developed.

102. Responsibility for developing local content will likely initially fall on governments, civil society and the private sector; with individuals contributing more content as users numbers increase and capacity-building efforts take hold. For local governments of LDCs in particular resources needed for developing online government web pages and other related information could be obtained through the Digital Solidarity Fund. To maintain the viability of this option, developing countries should reiterate the importance of the Fund at the IGF.

X. Access

103. By and large Internet users in developing countries pay higher costs for lower quality connections and service than their counterparts in developed countries. This is an issue for all developing countries, and particularly for island states who have small populations and relatively little Internet traffic. The high cost and limited consumer base able to pay high fees for internet service have also limited the number of Internet Service Providers (ISPs), further reducing accessibility to the internet in many developing countries.

104. At the February 2005 African Regional Preparatory Conference for the WSIS in Accra, many African countries united around the Dakar Resolution which indicated several goals related to the issue of connectivity including: developing regional IXPs, working toward universal access to Internet infrastructure, setting up a high speed Internet

backbone in Africa, and the sharing of connectivity costs at the international level.[40] Additionally, at the Accra meeting President Paul Kagame of Rwanda and President John Agyekum Kufuor of Ghana both emphasized the need for developing countries to collaborate regionally to develop complementary regulatory frameworks and foster harmonization of ICT infrastructure. President Kagame also referenced the role that the New Partnership for Africa's Development (NEPAD) could play in promoting regional ventures as it did with the East African Submarine Cable System.[41]

105. In other regions the issue of regional ICT infrastructure cooperation has also been raised. The Bavaro Declaration agreed upon in the 2003 Report of the Latin America and Caribbean Conference for WSIS also highlighted the need for "in-depth economic and technical analyses to ensure that the to make sure the regional information society is neither locked out of global trends nor locked into particular technological solutions".[42]

106. In South Asia countries are also working together through the Asian Development Bank to develop a South Asia Subregional Economic Cooperation (SASEC) ICT Development Master Plan. The group held its second meeting in October 2005. The goal of the Master Plan "aims to develop a regional strategy with time framework to improve connectivity in ICT infrastructure and applications; and to harmonize rules, regulations, and technical standards in a regional setting."[43]

107. With regard to access and connectivity issues the current problems can largely be divided into two broad categories: infrastructure and services.

A. Infrastructure

108. In many countries extensive resources will be needed to invest in and improve ICT infrastructure, an essential building block to improve

[40] *Africa's Common Position on Internet Governance: the Dakar Resolution*, September 16, 2005, p. 5-6, http://www.itu.int/wsis/docs2/pc3/contributions/co88.pdf.
[41] Paul Kagame, Access – Africa's Key to an Inclusive Information Society, http://www.wsisaccra2005.gov.gh/updates/speech_kagame.htm.
[42] *Report of the Latin America and Caribbean Conference for WSIS*, February 5, 2005, p. 5, http://www.itu.int/dms_pub/itu-s/md/03/wsispc2/doc/S03-WSISPC2-DOC-0007!!PDF-E.pdf
[43] Asian Development Bank, Asia Subregional Economic Cooperation (SASEC) Information and Communication Technology (ICT) 2nd Steering Committee Meeting, http://www.adb.org/Documents/Events/2005/SASEC/SASEC-ICT/2nd/default.asp#participants

backbone access. Internet usage, due to in part to infrastructure inadequacies, remain dismally low in many developing countries. A 2003 study by the Economic Commission for Latin American and the Caribbean (ECLAC) found television penetration in South America at around 83% and mobile telephony growing at a rapid rate. The same report also found that just 8% of the population had access to the internet as of June 2002 with DSL access only composing .3% of the Internet users.[44]

109. As funding for large infrastructure improvement cannot be funded by the Digital Solidarity Fund and allocating funds from already over-stretched domestic budgets may be a near impossibility, developing countries at the IGF should raise ICT infrastructure funding as one of primary importance in bridging the digital divide. Potential solutions for dealing with this critical issue could be the establishment of public-private partnerships, and/or a Digital Fund for ICT Infrastructure for Least Developed Countries (LDCs) in particular.

110. Within this issue attention should also be paid to ensuring wide access to the Internet within societies. This has been stressed by Latin American and Caribbean countries who are concerned that without careful attention to the equal distribution of Internet availability, a domestic digital divide could develop within society geographically and/or socio-economically.

B. Services

111. In Asia some observers have noted that high connection costs are caused by a lack of agreement and dispute settlement system between local Asia-Pacific ISPs and their upstream providers. As a result local Asia-Pacific ISPs pay the full cost for their links resulting in Asia-Pacific users "subsidizing access for users in richer countries".[45]

112. Further, the results from the Open Regional Dialogue on Internet Governance (ORDIG) completed by UNDP's Asia-Pacific Development Information Programme (APDIP) found that issues of access and

[44] ECLAC, *Road Maps Toward an Information Society in Latin American and the Caribbean*, January 2003, p. 12, http://www.itu.int/wsis/docs/rc/bavaro/eclac.pdf.
[45] UNDP-APDIP, *Internet Governance Asia-Pacific Perspectives*, Ed. Danny Butt, 2005, p. 45, http://www.apdip.net/publications/ict4d/igovperspectives.pdf

affordability were among the top concerns for respondents from India, Indonesia and Thailand.[46]

113. This experience is not limited to the Asia-Pacific region. The unfairness of users in developing countries bearing a disproportional amount of the cost for internet service has been also highlighted by ITU:

> *"Developing countries wishing to connect to the global internet backbone must pay for the full costs of the international leased line to the country providing the hub. More than 90% of international IP connectivity passes through North America. Once a leased line is established, traffic passes in both directions, benefiting the customers in the hub country as well as the developing country, though the costs are primarily borne by the latter.* ***These higher costs are passed on to customers [in developing countries]. On the internet, the net cash flow is from the developing South to the developed North****."*[47]

114. A solution to this problem suggested by many is the development of IXPs at the national level in developing countries. IXPs are the points where ISPs exchange traffic and could be managed in private sector partnerships among ISPs or on a not-for-profit basis. By establishing local IXPs Internet traffic would not need to pass through North American or the current large (though perhaps distant) regional Internet hubs like Singapore.

115. Stumbling blocks to establishing local IXPs (beyond infrastructure issues) are largely related to legal/regulatory and financial issues. To set up new IXPs developing countries will need to domestically address: telecommunications regulations, the need to potentially modify licensing arrangements, and in some cases telecom monopolies who could stand to gain from maintaining the high fees of the status quo. Financially, resources will be needed to sort through legal issues and engage with government representatives, civil society, the private sector and other relevant stakeholders.

116. Developing countries should also seek to establish regional IXPs to further limit transcontinental Internet traffic. By establishing regional IXPs the costs to access particularly for regional content will be reduced, likely

[46] APDIP, *APDIP Releases China, India, Indonesia, Pakistan and Thailand Country Reports on Internet Governance*, http://www.apdip.net/news/ordigcountryreport.
[47] ITU, *International Internet Connectivity the Issues- Are Poor Countries Subsidizing the Rich*, http://www.itu.int/itunews/manager/display.asp?lang=en&year=2005&issue=03&ipage=interconnectiv-poor&. Emphasis added.

resulting in an increase in users and the development of more local content. Thus far IXP development has been initiated with significant success in reducing costs in Africa where there were 10 new IXPs established as of 2004[48]. Elsewhere Nepal and Mongolia have also seen decreases in prices and increases in usage of the internet after establishing new IXPs.

117. As the number of users increase in regions the possibility of forming peering agreements with Tier 1 and Tier 2 providers outside the region also increases. Peering agreements are bilateral business and technical arrangement in which two connectivity providers agree to accept traffic from one another (and from one another's customers, and their customers' customers). In a peering agreement, there is no obligation for the peer to carry traffic to third parties. There are no cash payments involved and each ISP trades direct connectivity to its customers in exchange for connectivity to the other ISP's customers.[49]

118. Tier 1 networks connect to the entire Internet through peering, meaning there are no transit costs for accessing any portion of the Internet. In many ways Tier 1 networks serve as the backbone of the Internet. To be a Tier 1 network a network must peer with every other Tier 1 network. Further, a new network can not become a Tier 1 without the implicit approval of every other Tier 1 network, since any one network's refusal to peer with it will prevent the new network from being considered a Tier 1. In general, Tier 1 providers own the physical medium over which information is carried, as well as the network equipment which manages that information, and are either telcos who pre-dated the Internet or early movers in the Internet market who managed to build up critical mass in the days prior to the introduction of paid transit agreements.[50] Most current Tier 1 networks are based in the US.

119. Tier 2 networks access most of the Internet for free, with some transit costs. Tier 2 networks are the most common providers on the Internet. There is no formalized hierarchy between Tier 2 and Tier 3 networks. Tier 3 networks are largely composed of local ISPs that are not Tier 1 or Tier 2. To access information on the Internet Tier 3 networks

[48] ITU, *International Internet Connectivity the Issues- Are Poor Countries Subsidizing the Rich*, http://rights.apc.org/handbook/ICT_05.shtml.
[49] Mawaki Chango and Kenneth Msiska, *Toward a Continental Backbone for Internet Traffic in Africa: the Case of the IXPs. Achievements, Challenges and Prospects*, http://www.diplomacy.edu/IG/research/research_projects.htm
[50] Answers.com, *Tier 1 Carrier*, http://www.answers.com/topic/tier-1-carrier.

must pay transit fees to Tier 1 and Tier 2 networks. If the critical mass of Internet users increases in developing countries and in regions then Tier 1 and Tier 2 networks would have a greater incentive to establish share-cost peering agreements with ISPs in developing countries.

120. Under the Access topic area at the IGF meeting developing countries could initiate two key issues namely: addressing and finding resources to improve ICT infrastructure and the importance of the development of IXPs (nationally and regionally) and how this relates to creating future peering agreements with Tier 1 and Tier 2 networks. To the extent cooperation emerges on this issue in regions, such as Southeast Asia or West Africa for example, developing countries could also discuss the creation of Tier 1 and/or Tier 2 networks at the regional level as mentioned in the Dakar Resolution.

XI. Conclusions and Recommendations for Action

121. As mentioned previously the IGF agenda remains unclear and it is up to developing countries to make the loose agenda work. Developing countries should work to keep the theme of "Internet Governance for Development" at the heart of all issues to prevent discussions on development and capacity building from sliding off the table.

122. Effective engagement and participation by developing countries in the IGF and its associated meetings and processes, including the IGF Advisory Group as appropriate, is essential to ensure that a more democratic, participatory and equitable IG system emerges. Ensuring this type of future will require work on multiple fronts including: connectivity costs, ICT infrastructure investment, security issue, capacity building, and overall governance of the Internet. Regional ties related to infrastructure and security in particular are being built and strengthened in Latin America, Africa and Asia. To the extent these ties can develop into better inter-regional cooperation the voice of the South can also become more influential in the debate and future of IG.

123. To prepare for the October 2006 meeting, there is a request for contributions. Submission of papers by developing countries could help direct discussions at the IGF meeting, and ensure that key issues are addressed in October. All papers submitted after the 2 August 2006 deadline will be posted on the website but will not be included in the conference documents. Contributions should be sent to igf@unog.ch.

124. Developing countries could use the workshop format as an opportunity to discuss the broad themes and their relationship to development. Governments should consider collaborating with civil society groups to design a workshop for each theme perhaps with the titles: Openness for Development; Security for Development; Diversity for Development; and Access for Development. The deadline for workshop proposals is 24 August 2006. Proposals will be reviewed by the IGF Advisory Group on 7 and 8 September 2006 in Geneva.

125. To maximize the agenda and potential outcomes of the IGF for developing countries should consider raising key issues for development within the framework of the agenda.

Day 1 – Afternoon Session, Multi-stakeholder Policy Dialogue

- reiterate the focus of the IGF on development and the cross cutting theme of capacity building; and
- raise the issue of IG with regard to institutions such as ICANN.

Day 2 – Openness

- the importance of retaining policy space for developing countries with regard to the use of Free and Open Source Software (FOSS);
- establish a dynamic coalition to investigate the costs and benefits of using FOSS as opposed to proprietary software options.

Day 2 – Security

- initiate dialogue on an international and/or regional spam framework and establish agreement on whether this should utilize an "opt-in" or "opt-out" approach; and
- address the need for funds to develop effective Computer Security Incident Response Teams (CSIRTs) nationally and regionally.

Day 3 – Diversity

- determine ways to translate more languages for computer and Internet usage that enable countries to have more control of who translates, and who can edit translations if errors occur;
- establish a dynamic coalition to take on this issue and consolidate the time and effort many countries will otherwise need to spend to understand this issue more thoroughly;
- discuss with private sector and civil society technology organizations ways to resolve the current problems of the Domain Name Server in translating International Domain Names; and

- promote and encourage increased contributions to the Digital Solidarity Fund for local and multilingual content development.

Day 3 – Access

- establish opportunities for the funding of large scale ICT infrastructure projects;
- address the inequality of connectivity costs which result in Internet users in developing countries subsidizing the costs for Internet users in developed countries;
- develop plans and locate funding for regional Internet Exchange Point (IXPs) initiatives;
- discuss with private sector and civil society groups developing peer agreements with current Tier 1 and Tier 2 networks; and
- propose the establishment of Tier 1 and Tier 2 networks in developing countries.

Day 4 – Review of the Work on Previous Days

- raise issues not addressed adequately in the preceding sessions; and
- reiterate the need for funds for capacity building and ICT infrastructure to accomplish increased equity of access to the Internet and for accomplishing development objectives.

Appendix I

List of Root Name Server Operators

Server	Operator	Locations	IP Address	Home ASN
A	VeriSign Naming and Directory Services	Dulles VA	198.41.0.4	19836
B	Information Sciences Institute	Marina Del Rey CA	IPv4: 192.228.79.201 IPv6: 2001:478:65::53	*tba*
C	Cogent Communications	Herndon VA; Los Angeles; New York City; Chicago	192.33.4.12	2149
D	University of Maryland	College Park MD	128.8.10.90	27
E	NASA Ames Research Center	Mountain View CA	192.203.230.10	297
F	Internet Systems Consortium, Inc.	**37 sites:** Ottawa; Palo Alto; San Jose CA; New York City; San Francisco; Madrid; Hong Kong; Los Angeles; Rome; Auckland; Sao Paulo; Beijing; Seoul; Moscow; Taipei; Dubai; Paris; Singapore; Brisbane; Toronto; Monterrey; Lisbon; Johannesburg; Tel Aviv; Jakarta; Munich; Osaka; Prague; Amsterdam; Barcelona; Nairobi; Chennai; London; Santiago de Chile; Dhaka; Karachi; Torino	IPv4: 192.5.5.41 IPv6: 2001:500::1035	3557
G	U.S. DOD Network Information Center	Vienna VA	192.112.36.4	568
H	U.S. Army Research Lab	Aberdeen MD	IPv4: 128.63.2.53 IPv6: 2001:500:1::803f:235	13

I	Autonomica/NORDUnet	**29 sites:** Stockholm; Helsinki; Milan; London; Geneva; Amsterdam; Oslo; Bangkok; Hong Kong; Brussels; Frankfurt; Ankara; Bucharest; Chicago; Washington DC; Tokyo; Kuala Lumpur; Palo Alto; Jakarta; Wellington; Johannesburg; Perth; San Francisco; New York; Singapore; Miami; Ashburn (US);Mumbai; Beijing	192.36.148.17	29216
J	VeriSign Naming and Directory Services	**21 sites:** Dulles VA (2 locations); Sterling VA (2 locations); Mountain View CA; Seattle WA; Atlanta GA; Los Angeles CA; Miami FL; Sunnyvale CA; Amsterdam; Stockholm; London; Tokyo; Seoul; Singapore; Sydney; Sao Paulo, Brazil;Brasilia, Brazil; Toronto, Canada; Montreal, Canada	192.58.128.30	26415
K	Reseaux IP Europeens - Network Coordination Centre	London (UK); Amsterdam (NL); Frankfurt (DE); Athens (GR); Doha (QA); Milan (IT); Reykjavik (IS); Helsinki (FI); Geneva (CH); Poznan (PL); Budapest (HU); Abu Dhabi (AE); Tokyo (JP); Brisbane (AU); Miami (US); Delhi (IN); Novosibirsk (RU)	IPv4: 193.0.14.129 IPv6: 2001:7fd::1	25152
L	Internet Corporation for Assigned Names and Numbers	Los Angeles	198.32.64.12	20144
M	WIDE Project	Tokyo; Seoul (KR); Paris (FR); San Francisco, CA	202.12.27.33 IPv6: 2001:dc3::35	7500

Source: http://www.root-servers.org/

READERSHIP SURVEY QUESTIONNAIRE
South Centre Analytical Note
"INTERNET GOVERNANCE FOR DEVELOPMENT"

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