



Internet Governance

Asia-Pacific Perspectives

Edited by **Danny Butt**
Foreword by **Nitin Desai**

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Asia-Pacific Development
Information Programme



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The Asia-Pacific Development Information Programme (APDIP) is an initiative of the United Nations Development Programme (UNDP) that aims to promote the development and application of new Information and Communication Technologies (ICTs) for poverty alleviation and sustainable human development in the Asia-Pacific region.

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All UNDP-APDIP documents on Internet Governance are available at: <http://igov.apdip.net>.

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17A/1, Lajpat Nagar IV,
New Delhi-110 024
Tel: +91 11 2644 7160
Fax: +91 11 2644 7156
Website: www.asiaelsevier.com

ISBN-13: 978-81-312-0110-7
ISBN-10: 81-312-0110-4

Academic Press, Butterworth-Heinemann, Digital Press, Elsevier, Focal Press, Morgan Kaufmann, North Holland, Pergamon are the Science and Technology Imprints of Elsevier.

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Printed and bound in India

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Internet Governance and Socio-cultural Inclusion

– *Danny Butt and Norbert Klein*

It is commonplace in the cultural development sphere to work with imprecise definitions of culture. After all, what we call culture is very broad, and embodies the most basic and often mysterious processes of communication and cohabitation. Cultures are not easily reducible to rules, and many cultures actively resist such codification. Still, we can identify certain uses of the word culture that are important and interrelated. Firstly, the formal aspects of culture are defined by UNESCO's Universal Declaration on Cultural Diversity:

“culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs.”⁴¹

When we think of “other cultures”, we usually have this kind of definition in mind – we think of those who might speak a different language, or have different spiritual or religious practices. But we also use “culture” in a looser sense, when we speak of an “organizational culture”. Where these two definitions overlap is in the practical operation of governance, where the dynamics of power and who is able to have their opinions recognized relies heavily on our shared cultural assumptions.

While this chapter does not pretend to exhaust all the interrelationships between Internet governance and cultural diversity, it does attempt to identify some of the key points of “cultural tension” in Internet governance discussions, and suggest how cultural diversity may be affected. Particular attention is paid to IDNs and software localization. The chapter finishes with conclusions and recommendations for future activities toward developing cultural diversity in the Internet environment.

⁴¹ UNESCO. 2002. UNESCO Universal Declaration on Cultural Diversity. Available <http://unesdoc.unesco.org/images/0012/001271/127160m.pdf>. Accessed 20 March 2005. p.13.

Defining culture

This report takes its definition of cultural diversity from the UNESCO Universal Declaration on Cultural Diversity, that

“culture should be regarded as the set of distinctive spiritual, material, intellectual and emotional features of society or a social group, and that it encompasses, in addition to art and literature, lifestyles, ways of living together, value systems, traditions and beliefs.”⁴²

The relationships that affect culture cannot easily become the sole responsibility of individual government departments or organizations. Most importantly, culture is not synonymous with the nation-state. While nation-states are responsible for many aspects of cultural development and preservation, the experiences of Indigenous peoples, in particular, have highlighted the dangers of cultural nationalism. In this respect, the Internet has played an important role, led by NGO movements, in facilitating dialogue between cultural groups outside of the nation-state mechanism.

Indeed, this is particularly true in the Asia-Pacific, many of whose member-states encompass a diversity of cultures with large diasporic interconnections. Our “ways of living together” are mediated through the technical architectures of online interactions, from the secure transaction services that diaspora use to wire money home, to cultural and political associations who use online forums to collaborate and organize. While culture and technological development concerns may have different organizational priorities, they are not separate. Technology itself enables new cultural forms, and every culture also has a characteristic use of technology.

The last important factor is that cultures – “ways of living together” – are always changing. Culture is not merely a static object in the way a painting is, even though a painting may be

⁴² UNESCO. 2002. *ibid.*

The international instruments supporting cultural diversity are still in the early stages of development. UNESCO has developed a draft Convention on the Protection of the Diversity of Cultural Contents and Artistic Expressions with the objectives to:

- protect and promote the diversity of cultural contents and expressions and to foster intercultural respect;
- give recognition to the distinctive nature of cultural goods and services as vehicles of identity, values and meaning;
- reaffirm the sovereign rights of States to maintain, adopt and implement policies and measures that they deem appropriate for the protection and promotion of the diversity of cultural expressions on their territory;
- create the conditions for cultures to flourish and to freely interact in a mutually beneficial manner.
- encourage dialogue among cultures with a view to ensuring wider and balanced cultural exchanges in the world in favour of a culture of peace;
- foster respect for the diversity of cultural expressions and raise awareness of its value at the local, national and global levels;
- strengthen international cooperation and solidarity in a spirit of partnership with a view, in particular, to fostering the capacities of developing countries to protect and promote the diversity of cultural expressions;
- reaffirm the importance of the link between culture and development for all countries, particularly for developing countries, and to support actions undertaken nationally and internationally to secure recognition of its true value; and
- foster interculturality in order to develop cultural interaction with the spirit of building bridges among peoples.”

While the convention is still in draft status, and does not critique the primary instruments of cultural domination raised by Internet governance mechanisms (such as Intellectual Property Regimes [IPRs]), it nevertheless provides a widely recognized set of cultural diversity objectives that guide investigations in this chapter.

considered a cultural treasure. Culture is the significance that is attached to our ways of life. Our approach to cultural diversity is not just one of preservation, but creating environments where cultures thrive, transform, and evolve. We cannot predict the way a given culture will use Internet technologies, so cultures must be supported to develop their own approaches to the technology. It is this approach to technology which is “cultural” as much as any of the “content” presented via technological means. These approaches will, in turn, shape the technology itself. New media present limitless opportunities for new cultural developments, yet they will also be connected to established norms and ways of life. As Moran and Hawisher suggest, new media are ‘new’ in the way that we say a child is new:

“The child, in some lights and at some moments, looks very much like her mother; in other lights and other moments, she resembles her father, and sometimes she even reminds you of a grandparent...the e-child is still young and other genes and influences are still waiting for the proper conditions for their expression. The e-child has been, and will be, shaped by her cultural contexts, and as an agent she will shape the culture that she joins.”⁴³

There is a real danger that promotion of the Internet without attention to cultural inclusion will exacerbate the dominance of existing perspectives. In background research for ORDIG, Fuatai Purcell found that most small and medium sized enterprises (SMEs) with a website in Samoa are owned by people who used to live overseas or a local person married to a foreign-born resident. Most locally owned SMEs uses the Internet only for email. When asked why they did not have a website, they explained that they could not afford the cost of building a website. It can be argued that the lack of awareness of the benefits of e-commerce by locally owned SMEs, high cost of Internet access and web building, and the skills to manage the websites effectively are the main reasons why locally owned SMEs are not adopting fully integrated e-commerce in Samoa. This is evident in the number of locally operated tourist ventures with websites that are owned by one or more partners from overseas, who bring in the money for establishing such ventures.

The impact of Internet governance on cultural diversity

Even the topics considered under a “narrow” conception of Internet governance, focusing on the issues of ICANN, IETF, and root servers will have a significant impact on the cultures within the region. For historical reasons, the various bodies usually associated with Internet governance (ICANN, IETF, ISOC) have been dominated by participants from English-speaking North America and Europe. While these bodies market their inclusivity and openness – particularly ICANN who advertise the number of languages spoken on their Board – they nevertheless fail to reflect the diversity of the users of the Internet within key positions of power, and this has significant effects on their decision-making capacity in areas which affect primarily non-English speaking users, such as IDNs, where little progress has been made on a viable and scalable implementation.

⁴³ Moran, C. and Hawisher, G.E., 1998, The rhetorics and languages of electronic mail. In: I. Snyder (Ed.), *Page to Screen: Taking Literacy into the Electronic Era*. Routledge, London and New York, pp. 80-101.

Cultural effects of decisions by these bodies would include:

- The ability to use domain names within particular languages. In the literature on Internet economy, for example, a domain name is carefully selected as a branding device, communicating not just a unique location on the Internet, like a phone number, but a whole range of psychological associations in relation to organizations⁴⁴. Domain names are bought and sold for large amounts of money because they are, ultimately, meaningful. In this way, the internationalization of domain names is a cultural issue. There remain serious problems with both the ability of the DNS system to handle non-roman domain names, as well as inadequate procedures to facilitate this occurring. Adam Peake notes that the introduction of a fully internationalised system will “require cooperation between countries and country code domain name operators, particularly between countries of the same language group. Internationalized top-level domain names will require new governance structures and policy development processes that are representative of the language groups they will serve.”⁴⁵
- The culturally-specific nature of the available domain names, particularly top-level domains, whose registration requirements may require users to regulate their activities in ways that have cultural implications. This is particularly notable in relation to the newly added top-level domains such as .jobs and .travel. A typical narrow view of domains treats them as essentially a technical question of putting a zone file into the root. However, as Wolfgang Kleinwächter has pointed out, creating a new domain is like the creation of “new territory in cyberspace” and has unavoidable economic, political, and cultural implications.⁴⁶ The decisions of “what new territories to create, and which are the guidelines that will apply to them” will structure ways of life in terms of how online interactions take place. While this is unavoidable, it becomes a serious developmental issue when these decisions are made without global representation. It is also notable that some countries such as Tuvalu (.tv) and Niue (.nu) market their domain names almost exclusively as gTLD names like .com and .info.
- The Uniform Domain Name Dispute Resolution Policy and Rules (UDRP) on domain names has been developed in collaboration with the WIPO, a policy which has been seen to foreground the commercial rights of corporations over the cultural rights of individuals. The interrelationships here are highly complex. As the Global Knowledge Partnership’s summary points out, “WIPO treaties on circumvention of copyright protection may not mesh with UNESCO-supported norms regarding the promotion of science and culture. [...] Some are concerned that arbitration extends precedent-based law globally and gradually suppresses other national legal systems. In the case of commercial law, this might prove to be more acceptable, given the already high level of unification of substantive rules. However, it would be a more delicate proposition when it came to content and socio-cultural aspects, where a national legal

⁴⁴ Murphy, J., Raffa, L. and Mizerski, R. (2003) “The Use of Domain Names in e-Branding by the World’s Top Brands,” *Electronic Markets*, 13(3): 222-232.

⁴⁵ Peake, Adam (2004) Internet governance and the World Summit on the Information Society (WSIS). Report for Association of Progressive Communications, <http://rights.apc.org/documents/governance.pdf>. Accessed 27 March 2005.

⁴⁶ Kleinwächter, W. 2005. Beyond ICANN vs. ITU? How WSIS tries to enter the new territory of Internet Governance. <http://www.unicttaskforce.org/perl/documents.pl?id=1294>. Accessed 27 March 2005.

system reflects specific cultural content."⁴⁷ This is particularly the case where free speech and critical commentary are seen as core cultural values that may be adversely affected by restrictive international policies.

- The ability of one nation-state's government (the United States) to unilaterally introduce changes to the root DNS file, which could potentially affect access to all ccTLDs, with significant cultural impacts. While, as Adam Peake points out, the US Government is unlikely to exercise this authority, it nevertheless affects the governance of individual ccTLDs, as well as prevents a truly international governance regime.⁴⁸
- ICANN policies regarding access to contact data about domain name registrants through the WHOIS system conflicts with some widely accepted international norms regarding privacy and some national laws. All cultures have some level of privacy protection or other constraints on the circulation of private information in a public context.
- Security issues require cross-border initiatives that lead to the globalization of particular model laws, which have an impact on the diverse forms of behaviour that might be considered allowable in different cultures.

Broad governance questions

As previously suggested, the broader questions of Internet governance promoted by less-developed countries and civil society groups are deeply intertwined with issues of cultural diversity. The ability of governance to be effective is strongly constrained by access to the cultural, social and economic resources necessary for participating in it, and this is easily lost sight of by those who have the resources. As Sally Burch of the Latin American Information Agency (ALAI) suggests:

"There is nonetheless some concern among civil society actors that the heated nature of debate around the control and regulatory aspects of Internet governance, such as those mentioned above [ICANN issues] and issues such as cybercrime and spam, are tending to overshadow the broader but very necessary discussions on the more enabling and social aspects of Internet governance."⁴⁹

A summary of the issues at stake, not "purely of the Internet" but transformed by it, would include:

Supporting effective use of information via the Internet

The emergence of the Internet also affects those who are not online, as resources are diverted from offline to online structures. The question becomes how to involve in Internet governance

⁴⁷ Gelbstein, E. and Kurbalija, J. 2005. Internet Governance: Issues, Actors and Divides. Global Knowledge Partnership & DiploFoundation http://www.globalknowledge.org/gkps_portal/index.cfm?menuid=483&parentid=179. Accessed 20 March 2005. p.79.

⁴⁸ Peake, *ibid.*, p. 10.

⁴⁹ Association for Progressive Communications. 2005. World Summit on the Information Society: A very long road. <http://www.apc.org/english/news/index.shtml?x=31093>. Accessed 30 March 2005.

those who are not on the Internet but are nevertheless impacted by its effects. For this reason, the digital divide has emerged as a key issue in relationship to a broader conception of Internet governance during WSIS. The issues of access and interconnectivity are covered in Chapter Five. However, the divide is not always a simple one, as Mark Warschauer has pointed out:

“Access to ICT is embedded in a complex array of factors encompassing physical, digital, human, and social resources and relationships. Content and language, literacy and education, and community and institutional structures must all be taken into account if meaningful access to new technologies is to be provided.”⁵⁰

One of the most significant issues is the text-dominated content of the Internet, which prevents users without print literacy from engaging with Internet content and services. This has a particularly significant impact on oral cultures, which cannot make use of the text Internet, but may have other ways of circulating information that could anticipate the audio-visual future of networked media. How to foster participation by oral cultures is potentially important for their survival as well as for innovation within the Internet system.⁵¹ Oral cultures are generally the least able to afford information technologies. However, the media convergence fostered by technologies such as VoIP potentially provide an important context for non-text based interactions within and between cultures on the Internet.

At the user level, ongoing support is a particularly difficult area for the least developed countries. In some cases, cell phones have the potential to address some of these issues, as they are relatively cheap and low maintenance. The potential delivery of Internet-like services through the phone system is illustrated by innovative telemedicine projects in the Philippines. “One service allows a subscriber to post a casual question through Short Message Service (SMS). A real doctor replies via SMS. The other service has a software back-end that can instantly answer inquiries about description, symptoms and home remedies of a variety of ailments”⁵². These projects highlight the importance of thinking flexibly about delivery platforms of electronic content, as what we now understand to be a relatively computer-based Internet may soon include a host of other devices and ways of accessing content.

Linguistic diversity

UNESCO states that language is “not only a tool for communication and knowledge but also a fundamental attribute of cultural identity and empowerment, both for the individual and the group.”⁵³

For many cultures, even where there are large populations, and languages are officially

⁵⁰ Warschauer, M. 2002. Reconceptualizing the Digital Divide. *First Monday*, 7(7).

⁵¹ This point is made by Eric Michaels with respect to video in Michaels, E. 1994. *Bad Aboriginal art: tradition, media and technological horizons*, Minnesota University Press, Minnesota.

⁵² Lallana, E. 2003, 'Philippines Chapter', In (Ed, Saik Yoon, C.), *Digital Review of Asia Pacific UNESCO Chairs in Communications (ORBICOM)*, International Development Resource Centre (IRDC), Asia Pacific Development Information Programme (APDIP) of the United Nations Development Programme (UNDP), Ottawa.

⁵³ UNESCO. (2003). Education in a multilingual world. UNESCO Education Position Paper No. (ED-2003/WS/2). Paris. p9.

standardized, hardware and software which can make use of them may not be easily available. Language availability may also differ across many of the various technical components comprising the Internet experience (e.g. operating systems, HTML pages, applications and document formats). Some languages also cross national borders, making coordination of policy difficult.

Development of local software and local language content is the most basic and urgent priority for cultural diversity, as language constitutes the very basis for what we understand to be culture. The number of languages spoken in the world is estimated at between 6,000 and 7,000, and a vast number of these are located in the Asia-Pacific nation-states (Table 5). For example, Indonesia has over 700 languages, and Papua New Guinea has over 800 languages. Over 200 languages are spoken in the Pacific region.⁵⁴ As UNESCO note, “the actual distribution of linguistic diversity is uneven. Over 70 percent of all languages in the world are found in just 20 nation-states.”⁵⁵

The burden of preservation of these languages currently falls primarily on these less-developed

Table 5: Living languages in various Asia-Pacific countries/regions

Country	Languages	Indigenous Languages	Country	Languages	Indigenous Languages
Afghanistan	51	47	Micronesia	19	18
American Samoa	6	2	Myanmar	113	108
Australia	275	231	Nauru	9	3
Bangladesh	46	39	Nepal	125	123
Bhutan	31	24	New Caledonia	41	39
Cambodia	24	21	New Zealand	21	3
China	241	235	Niue	3	2
Cook Islands	6	5	Pakistan	77	72
Fiji	20	10	Palau	5	4
French Polynesia	11	9	Papua New Guinea	820	820
Guam	8	2	Philippines	180	171
India	427	415	Samoa	2	2
Indonesia	742	737	Singapore	30	21
Iran	79	75	Solomon Islands	70	70
Iraq	25	21	Sri Lanka	7	7
Japan	16	15	Taiwan	27	22
Kiribati	3	2	Thailand	83	74
Korea, North	1	1	Timor-Leste	19	19
Korea, South	4	2	Tokelau	2	2
Lao PDR	86	82	Tonga	3	3
Malaysia	147	140	Tuvalu	2	2
Maldives	2	1	Vanuatu	115	109
Marshall Islands	2	2	Viet Nam	104	102

Source: Ethnologue⁵⁶

⁵⁴ Landbeck and Mugler, 2000.

⁵⁵ UNESCO, *ibid.* p.9.

⁵⁶ Gordon, Raymond G., Jr. (ed.), 2005. *Ethnologue: Languages of the World*, 15th edition. Dallas, Tex.: SIL International. Online version: <http://www.ethnologue.com/>

nation-states in the Asia-Pacific, but their loss would be for all humanity. More than just the languages themselves, the forms of Internet communication that are developed by particular language groups form part of the diversity of online communication, and provide the base of innovation that has the potential to transform this young medium.

Two of the most significant linguistic issues related to Internet governance are software localization, and, as a subset of this issue, IDNs. These are covered in their own section later in this chapter.

Content development and control

The Internet is much more difficult to regulate than broadcast media, and this also applies to the content within it. Many governments are unhappy about the lack of content regulation usually applied to Internet content, and various strategies have been applied to automatically filter Internet content.⁵⁷ There are many serious human rights issues involved in the suppression of access to content that must be carefully balanced with legitimate needs to regulate the circulation of restricted materials in the public interest (e.g., controlling obscenity).

More challenging for public policy is the fostering of local content in ways that will allow for sustainable local content development. In the network economy, markets follow a “power law” creating a bimodal economy with a few large organizations and many small ones.⁵⁸ There is only a limited number of organizations that can hold a strong enough recognition among a wide variety of people to remain viable. The methods that content providers use to generate “mind-share” are often expensive (such as advertising), or require integration with other content forms (e.g., television producers can make popular sites around “event programming” – the most popular entertainment websites are aligned with traditional media products). In the case of community-oriented sites providing services such as discussions, classifieds, recommendations, reviews, or auctions; the very nature of the genre means that the largest sites are the most useful to end users. This poses a severe threat to minority culture efforts to provide their own versions of content services, as they will not be able to afford to invest in the technology and features that will allow them to keep pace with dominant “category killers”⁵⁹, even if they provide a distinctive cultural perspective. This creates a vicious cycle due to the negative effect on innovation, collective learning and human development in the minority culture.

However, many examples show that the domination of external multinationals is not a given if there were well-established local alternatives. New Zealand, a predominantly English-speaking country with a very similar industrial structure to Australia, has managed to escape the category killer eBay in the domain of online auctions. Trade Me has over 500,000 active customers and around 1,500 new users joining the site every day, and a growth of 979 percent. In 2004, there

⁵⁷ See for example the Berkman study on Internet Filtering in China: <http://cyber.law.harvard.edu/filtering/china>

⁵⁸ On the “power law” see Adamic, L., & Huberman, B. 1999. The Nature of Markets in the World Wide Web. Retrieved 12 November 2000, from <ftp://parcftp.xerox.com/pub/dynamics/webmarkets.ps.gz>; on “bimodal” economies see Bartos, O. J. 1996. Postmodernism, Postindustrialism, and the Future. *The Sociological Quarterly*, 37(2), 307-326.

⁵⁹ Chakrabarti, R. & Scholnick, B. 2001. “International expansion of e-retailers: Where the Amazon flows”, *Thunderbird International Business Review*, 44(1), 85-104.

were 600,000 online auctions per month, with an average sale price of NZ\$ 50. In the years 2003/4, Trade Me grew from seven employees to 28. The founder attributes some of its success to the “distinctive New Zealand culture” represented on Trade Me.⁶⁰ Meanwhile, US-based multinational eBay continues to dominate the Australian auction market as it does many others.

One of the most significant areas of tension surrounds the WTO's General Agreement on Trade and Services, and the available exemptions for government-provided services. If these are treated narrowly (as favoured by countries such as the US and UK), education may fall outside of these exemptions, forcing countries to open up their education markets to companies from other nations. In an age where e-learning continues to grow, it will become increasingly likely that large educational institutions will maximize their technical and organizational infrastructure to take a leading market position. Education has a central role in cultural development and care must be taken to ensure that “special case” provisions for trade liberalization in the electronic environment do not end up jeopardising cultural maintenance through formal education.

Technology and labour transfer via ICTs

While communications networks are often viewed in terms of what they “bring to” an area, it is also true that, like transportation networks, they allow resources to be “taken out.”⁶¹ The “brain drain” issues raised at WSIS are integral to the idea of the Internet as a “global network”, and proactive steps need to be taken to ensure the benefits of the Internet are evenly distributed. According to Saskia Sassen, the distinctive way information facilitates dispersal of routine information activities and centralization of control activities explains the increasing dominance of cities in global economic activity, and this holds important lessons for ICT-related development.⁶² If regions do not develop their own “control activities” they become mere markets of franchises for organizations which are controlled elsewhere. The most developed human capital in these market situations will invariably be attracted to locations where control and capital amass. As Christopher May has demonstrated, informational marketplaces are highly competitive and more subject to occupational ‘task migration’ than non-informational work.⁶³ In other words, jobs in the informational market are much more likely to be relocated to different physical locations. A “virtuous cycle” emerges for organizations and regions at the top of the ICT value chain, while it becomes increasingly difficult for dependent groups to accumulate capital.

This is not to say that participation in the international ICT-driven division of labour always leads to cultural domination. Economic relationships such as outsourcing, which form a large proportion of Internet-related income for Asia-Pacific nations, can also be a crucial source of market knowledge and skill development. Further, the rapid increase in service economy jobs in the East stems in part from a trend away from simple outsourcing toward mature and strategic relationships that share resources and knowledge between outsourcing partners.⁶⁴ However,

⁶⁰ Wellington City Council. 2004. Trade Me. <http://www.wellington.govt.nz/innovation/details/trademe.html>. Accessed 2 April 2005.

⁶¹ Daniels, P.W. 1985. *Service Industries: a Geographical Appraisal*. London; New York: Methuen.

⁶² Sassen, S. 1991. *The Global City: New York London and Tokyo* (Updated Edition 2000). Princeton: Princeton University.

⁶³ May, C. 2000. “Information Society, Task Mobility and the End of Work”. *Futures*, (32), 399-416.

to maximize the benefits of these relationships an overall plan for knowledge retention is crucial.

Protection of traditional knowledge from inappropriate exploitation

While there are numerous Internet mechanisms for protection of unauthorized use of commercial trademarks, there are no such protections in place for traditional knowledge. Traditional knowledge generally has its own culturally-specific protocols for circulation and use, which may be deeply disrupted by the impersonal nature of content transfers on the Internet. "The so-called level playing field for international trade ensures that some goods – like genetic resources, materials, design, timber, textiles, techniques, know-how, practices and knowledge that are extracted from the "less developed countries" – flow freely, whereas others – genetically modified or industrially developed seeds, fertilizers, pesticides, software, medicines – do not flow freely in trade but are received only as monopolies that command lengthy requirements of rent payments for each and every usage of their informational content. The field is not a level one; those who merely provide resources or information (and resources whose "information" can be extracted through the technologies of others) that they cannot protect as works of intellectual property are at a profound disadvantage."⁶⁵

Traditional Knowledge (TK) and Traditional Cultural Expressions (TCE) generally have very specific functions within the communities that maintain them, and they are often not intended for consumption by an anonymous "public". The lack of i) an effective identity authentication model, and ii) protections against copying are significant issues for indigenous groups in placing their cultural material on the Internet.⁶⁶ As Robert Sullivan notes, when considering the digitization of cultural material, the important questions for indigenous maintainers of knowledge are:

How do we send a message that strengthens the holistic context of each cultural item and collection? How do we ensure that both indigenous and non-indigenous peoples receive the message? How do we digitize material taking into account its metaphysical as well as its digital life?

Sullivan also points out that "the challenge in building a successful indigenous digital library model is winning the trust of the people the library aims to serve. Trust is won through the governance and administration of the digital library, and the way that flow-on economic benefits are distributed to the people providing the content. For trust to exist, there must be a mutual ethic of reciprocity."⁶⁷ This ethic of reciprocity is not adequately addressed in either traditional intellectual property law, or alternative IP movements such as the *Creative Commons* or *General Public License*. These systems tend to posit a relatively anonymous content user;

⁶⁴ Greaver, Maurice II (1999). *Strategic Outsourcing: A Structured Approach to Outsourcing Decisions and Initiatives*. New York: AMACOM.

⁶⁵ Coombe, *ibid.*, pp. 9-10.

⁶⁶ WIPO, 2003. *Intellectual Property and Traditional Cultural Expressions/Folklore. Booklet No.1*. http://www.wipo.org/tk/en/publications/tce_ip.pdf. Accessed 20 April 2005.

⁶⁷ Sullivan, R. 2002. "Indigenous Cultural and Intellectual Property Rights - A Digital Library Context" *D-Lib Magazine* 8(5) May 2002. <http://www.dlib.org/dlib/may02/sullivan/05sullivan.html>. Accessed 15 April 2005.

while, for example, indigenous Pacific cultures emphasize the location of knowledge. Knowledge and information is what Maori call *taonga tuku iho*, a gift from the ancestors to the present, with different obligations attached to its care and use for different people. It is not that these diverse relationships to knowledge cannot be encoded digitally or transferred remotely, but that the appropriate infrastructure does not yet exist to enable this cultural perspective. The prototyping of such online systems remains a promising opportunity for fostering cultural diversity by considering a much broader spectrum of questions with respect to intellectual property and content control.

Intellectual property regimes, copyright and trademarks

There are a number of intellectual property issues which affect freedom of speech and cultural diversity, given the highly-asymmetrical flows of legislation and money in Intellectual Property regimes. These are deeply implicated in Internet governance issues through the controversial workings of the UDRP. Developed countries have also been trying to extend the Agreement on Trade-Related Aspects of Intellectual Property Rights (TRIPS) coverage to e-commerce and to the Internet by using two approaches. First, by citing the principle of “technological neutrality” they argue that TRIPS, like other WTO rules, should be extended to any telecommunications medium, including the Internet. Second, some developed countries have requested closer integration of WIPO’s “digital treaties” into the TRIPS system. TRIPS provides stronger enforcement mechanisms than WIPO conventions.

Further, Mueller *et al* have pointed out that “WIPO/ICANN in 2001 proposed the creation of entirely new domain name rights [related to UDRP procedures] with no basis in trademark law”.⁶⁸ The net result is the increasing globalization of a very specific view of intellectual property law that serves the interests of the richest countries. The UN WGIG suggested:

For some, the current international framework for intellectual rights management is targeted towards an extensive and ongoing protection of monopoly rights granted to producers, and stricter pressure and enforcement on non-complying entities, be they countries or individuals. The main objective of regulation thus appears to grant producers long-term and full control over the use and redistribution of intellectual objects.⁶⁹

In the information and communications sector, economies of scale tend to be gained from distribution as much as production. This has led the creation and domination of value chains by global multinational enterprises, using Intellectual Property Regimes to protect themselves from competition (e.g., by patenting business processes). Organizations without such ICT infrastructure and market control will be locked out of many networks, reduced to slipping between cracks in multinational-dominated markets.

⁶⁸ Mueller, M., Mathiason, J. & L. McKnight. 2004. *Making Sense of “Internet Governance:” Identifying Public Policy Issues*. Internet Governance Project Syracuse University. <http://www.internetgovernance.org>. Accessed 20 March 2005.

⁶⁹ United Nations Working Group on Internet Governance 2005. *Cluster Three Assessment Report: Intellectual Property Rights*. <http://www.wgig.org>. Accessed 13 April 2005. p.5.

This will pose serious challenges to the developing nations of the world, including much of the Asia-Pacific, since their economies are composed of smaller producers who face significant challenges in either a) building similar global markets, or b) making use of the expensive intellectual property enforcement frameworks. A global IPR framework brings even larger challenges to the human rights of peoples whose cultural identity exists outside market economies. The lack of “collective rights” in global IPR instruments – notwithstanding efforts by WIPO on traditional knowledge – makes them specifically exploitative of indigenous knowledge, which tends to provide collective rather than individual control of cultural material.

Asia-Pacific countries must think beyond attracting Foreign Direct Investment (FDI) through franchise or multinational arrangements into their e-commerce markets and begin supporting their own IP-generating digital content industries. They must also lobby the international bodies that set Internet and Intellectual Property policy for a more supportive environment for both these local content industries and non-market driven cultural practices.

Even countries with low participation in the Internet economy must be wary of losing future opportunities through IP expansion. Free trade agreements increasingly contain troubling intellectual property arrangements which may seem unimportant now but will “kick in” with consequences later on. Examples include trade agreement restrictions on the ability for governments to subsidize cultural development. While such issues may appear less important in the short term, these sectors are significant for developed economies and care must be taken not to reduce the Asia-Pacific’s control over its future knowledge economy.

The languages of the Internet: software localization and internationalized domain names

An ICANN Fact Sheet dated 12 January 2004 points to the international nature of ICANN in relation to the global Internet community, not only noting that ICANN meetings have been held in Tunis, Bucharest, Montreal, Shanghai, Rio de Janeiro, Accra, Rome, Kuala Lumpur, and Cape Town, but proudly adding:

The ICANN Board and staff reflect the international nature of the organization. The staff hails from seven different countries (Australia, Denmark, France, The Netherlands, Niger, the United Kingdom, and the United States), exhibiting fluency in more than 14 languages. Similarly, the Board represents twelve nationalities and is fluent in many languages.⁷⁰

Perhaps it is exactly this international capacity of the staff and board which results – perversely – in a disregard of the fundamentally crucial language problem, when it comes to the users of the Internet in many countries, people outside of the small circle of those with international connections and skills. In a WSIS workshop on 1 December 2004 during the ICANN Meetings in Cape Town, Mohammad Diop, an ICANN board member from Senegal, reminded everybody in a passionate speech of the context in which ICANN is working and towards which it has to orient itself: the many different languages and scripts in Africa, the fact that the majority of

⁷⁰ <http://www.icann.org/general/fact-sheet.html>

people in many countries do not even have access to written information because they are illiterate, and the harsh reality that all the nice talk is futile if the question of funding is not faced squarely. “We are talking about an information society that is inclusive. So we need to use the technology in order to reach the population and not ask for the people to be literate before they get access to the information.”⁷¹

Internationalized Domain Names

It is difficult to develop a systematic overview of the challenges facing IDNs, because the stakeholders required to implement them are spread across many different organizations and processes. The lack of progress on IDNs is a key example of the limitations of current Internet governance structures to address cross-cutting issues, which is why the WGIG identified the need for a new multi-stakeholder forum. Reasons why there has been little progress on IDNs include:

1. Languages to have an agreed electronic representation of their scripts in order to be used. This is not a trivial task as many scripts are used in more than one country and language group, therefore require intergovernmental cooperation if any of these encodings are to reach “official” status. On the other hand, countries with many internal languages (which tend to be the least developed countries) may not be able to support script development. Finding the appropriate stakeholders is not always simple, particularly if representatives from local language communities are not specifically included in the development process. See the case study on Khmer (page 88) for an example of how the process for the implementation of the language standard Unicode (ISO/IEC 10646), dominated by English-speaking technical groups, has led to the implementation of standards without consultation of important stakeholders in local language communities.

2. For technical reasons, it is not possible for the Domain Name System (DNS) as it stands to incorporate full Unicode script encoding to be used in top-level domains. Rather than rewriting the basic underpinnings of the DNS to allow a clean fix compatible with all scripts support (an operation determined by the IETF to be impractical), the IETF and ICANN developed a system called IDNA (RFC 3490) that maps Unicode characters to ASCII-compatible encodings at the application level. The benefit of this approach is that the IDNA system is compatible with the existing DNS. However, this requires applications to be “IDN-aware”, so if a URL has to pass through non-aware systems, the translation is broken. The downside is that a lack of control over implementation that comes from requiring conformance at the application layer rather than within the DNS infrastructure.⁷²

⁷¹ <http://www.icann.org/meetings/capetown/captioning-wsis-workshop-01dec04.htm>

⁷² See e.g. Eric Hall, “Primer: Internationalized Domain Names.” <http://www.ehsc.com/reading/20040605nmw1.html> May 2004.

“Most instances of Internet software don’t perform any kind of IDNA transformation yet. Everyday applications such as Traceroute will have to be extended to perform input and output conversions before the Internet can appear to be anything other than an ASCII-centric network. Similarly, basic services such as DHCP and SNMP will need to be upgraded before they can be used to reach domains containing non-ASCII characters. A 100 percent international experience requires a 100 percent replacement of every user-facing piece of code on the planet, from ping to printer drivers.”

3. Because users rely on the visual presentation of URLs to authenticate sites, IDNs increase the ease of phishing (see previous chapter), as some characters with different Unicode representations in different scripts may look identical. These characters are called **homographs**, and there is the potential for malicious site owners to pretend that their site is another. It is already possible for copycat URLs to be used in ASCII (for instance “paypal.com” instead of paypal.com, as the lowercase “l” and uppercase “I” are identical in a font like Arial). However, IDNs greatly increase the number of homographs, and this has led to some browsers disabling IDN support. Recently, Opera and Mozilla browsers have begun re-enabling IDN support for top-level domains that have appropriate policies for preventing such attacks. IETF working groups responsible for IDN development are currently spending much time on the homograph attack issue; many of these discussions are about what kinds of ways IDNA should highlight potential attacks. Some of these groups feel that these discussions are being outpaced by market implementations which are not waiting for the debate to be resolved.

4. Some enterprising groups have set up privately-run “**keyword**” systems, that resolve a set of characters into an IP address. Essentially, these function like an alternative DNS. However, because there is no central authority for these keywords, should an official URL be registered in the future under an IDN scheme, two or more competing organizations may have claims on a particular URL. The keyword systems have had greatest uptake in South Korea (and to some extent, China), which has an extremely high rate of Internet access. Comments by Japanese research centre GLOCOM submitted to WGIG point out that there are no universal standards for keyword systems and also a higher potential for “collisions” between various names.

Recent comments by former IAB Chair John Klensin have acknowledged that the approach taken by IDNA, while better than any other actually existing alternatives in his view, suffers from significant limitations. “If IDNs are this hard and do not solve the problem... maybe it is time to go back to the problem and do some serious thinking about models” which would be “non-DNS” or “above-DNS”. He notes:

“Giving up the ideas of:

- Any two Internet users being able to communicate, regardless of language
- Any Internet user being able to access any public host, using a globally-available name would make many of these problems much easier, but... it would be a high price to pay.”⁷³

The question of global interoperability within a limited set of arrangements must, therefore, be balanced against the detrimental effect of many users not being able to effectively use their own language in the construction of information exchange systems via Internet protocols. The perspective one has on this question is necessarily determined by how easily one is able to use one’s own language within existing systems. For many users, the benefits of such a globally interoperative system are theoretical rather than practical.

The WGIG Background Report clearly identifies many of the implications of the IDN issue and areas where progress is needed, noting that:

⁷³ <http://ws.edu.isoc.org/workshops/2004/ICANN-KL/ICANN-ISOC-KL-IDN-part2.ppt>

“The current market-led approach to IDN only tends to maximize the number of domain names that are sold. However, there might be cases in which global public service issues should be considered – for example, whether gTLDs should be required to support all scripts, including minority scripts that might not be commercially viable. Without these considerations, IDN might become available only for scripts used by big countries and communities, thus contributing to the loss of linguistic diversity. The most pressing areas where progress is needed is the identification of stable character sets, developing rules on how to construct IDNs for specific languages/alphabets, developing a clear strategy to address consumer protection and to ensure that all languages are supported, and the construction and operation of test beds with systems that are actually operational. Some policy issues that emerge are the extensions of naming collisions, not only with trademarks but also with culturally significant names.”

This is a more sophisticated reading of the issues facing IDNs than was noted in WGIG’s background paper on the issues, when an evaluation of IDNs against WSIS criteria concluded:

“As the IDN process is basically a bottom-up one, the main actors have been gTLD operators in coordination with users and other ICANN constituencies... Language communities that have come together around specific representations of alphabets and scripts, coordinating across national borders, have been successful in launching internationally accepted IDN systems or at least are in the process of doing so with solid success perspectives. All interested organizations or individuals may join.”⁷⁴

For many, it is impossible to accept the invitation that “all interested organizations or individuals may join”. There are many technical, linguistic and institutional complexities to get a script codified under Unicode, and the necessary capacities (trained human resources and financial backing) are scarce in many countries with economic difficulties, including in small countries or language groups which have their own “minority” script since many centuries, such as Cambodia. There is also a serious technical challenge in developing software applications localized in such scripts before moving to the level of IDNs. Thus, the benevolent invitation, which invites those who may most need to come but disregards the fact that they cannot even hear that they are invited, sounds almost cynical when compared with the vision of the Geneva WSIS Declaration of Principles, where the representatives of the peoples of the world declared their “common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge.”

A number of country-focused ccTLDs within the Asia-Pacific and beyond have adopted and deployed IDNs for their own scripts or scripts used in their countries.

⁷⁴ *ibid.*

- Domain names using also country specific special characters variations with the Latin script exist in Finland, France, Germany, Italy, Norway, Spain, Sweden, and some of the Spanish and Portuguese-speaking Latin American countries.
- In the Arabic script based group: Farsi is deployed in Iran, and there has been a lot of discussion and action in Egypt, Saudi Arabia, and Syria, but there is no up-to-date consolidated information about the extent of how much actual deployment has been done and how.
- In Asia, most deployment has happened in China (those arrangements also cover Hong Kong and Taiwan), Japan, and South Korea. There are also keyword search systems in Korea and China. These illustrate what is possible if deployment is limited to individual countries. However, as a global network, many users of particular languages lie outside countries where they are official languages.
- Thailand has deployed successfully, and there are plans for doing Hindi, Tamil and other official languages in India.
- Among the gTLDs, .info, .org, and .museum have been moving forward quickly but carefully, with the first two stressing a “one language at a time” model.⁷⁵

The status of recognition of Asia-Pacific languages and cultures

IDNs become a concern to general Internet users only after they have achieved the possibility to use and communicate by having easy access to general software applications localized in their own languages and scripts. Those countries in the Asia-Pacific with a relatively high level of economic and technological development – and therefore the necessary research and development capacities – were also the first to develop facilities to use their languages and scripts on computers. This posed completely new challenges, because the scripts used presented different requirements from the way in which European scripts – a series of letters to be combined freely on a line – were handled:

- Japanese uses a combination of roughly 2000 Chinese characters plus two sets of syllabic scripts of 50 signs each, combines up to two script types in one word, and may use all three types of scripts in one sentence.
- Chinese uses several thousand ideographic characters.
- Korean uses Hangeul – a combination of consonant and vowel signs assorted in a square place per syllable – and sometimes also adds Chinese ideographs.
- Thai uses a letter-based script that contains some special features not found in European scripts, such as pre-positioned vowel signs and double accents.

The economic and educational base of these countries, together with their developed social infrastructures, allowed them to create computer usable scripts, though a small variety of different input and rendering methods continue in use until today.

However, there are serious problems with each country or language group developing separate solutions to the problems of using their scripts on computers and the Internet. Thus, the development of different computer systems, combined with the interest to achieve and maintain interoperability between different computers, especially since the Internet expanded

⁷⁵ Based on information provided to Norbert Klein courtesy of John Klensin.

the possibility of communication tremendously, led in 1991 to the creation of a special-interest group – Unicode.⁷⁶ This is basically an open industry organization, which has the major US software companies (Apple, IBM, Microsoft, Novell, Sun, Xerox, etc.) in its membership, and which aims to develop unified standards for all the scripts of the world. A second player in the drive to set international standards is a grouping of other bodies which have partly technical and partly normative functions⁷⁷, such as the ISO.

Even our own ORDIG process highlights some of the difficulties in developing awareness of the issues. The fact that the scarcity of local language software and of local language content does not receive stronger negative comments calls for some interpretation. Thirty-eight percent of the 1,243 submissions were in one of the 11 non-English languages offered⁷⁸ – so those respondents were at least satisfied with the fact that they could, in this case, submit their responses in their own languages. However, it seems likely that most of the other respondents, all of whom answered in English, are different from the mass of the people in their society in that they have mastered English. Thus, the lack of local language software and content is less of an issue for them personally. The people who could not handle any of the 12 survey languages – those to be included through the goal of “common desire and commitment to build a people-centred, inclusive and development-oriented Information Society, where everyone can create, access, utilize and share information and knowledge” – of course could not answer the survey, nor even know about it. Is there any identifiable lobby at all for those left out because of their languages? There are available declarations that aim to protect cultural diversity. As an umbrella, UNESCO has provided a space for such concerns, specifically spelled out for different fields or events. These include education⁷⁹, the International Mother Language Day⁸⁰, and the draft recommendation on the promotion and use of multilingualism and universal access to cyberspace adopted by the 30th UNESCO General Conference in February 2000.⁸¹

⁷⁶ <http://www.unicode.org>

⁷⁷ Character sets are defined also as “ISO/IEC 10646 Universal Multiple-Octet Coded Character Set (UCS)” by the multibyte charset working group (WG2) of the character set subcommittee (SC2) of the joint technical committee JTC1 of the International Organization for Standardization (ISO) and the International Electrotechnical Commission (IEC), defining international information processing standards through the votes of national delegates. - <http://czyborra.com/unicode/standard.html>

⁷⁸ These included also languages in non-English character sets: Chinese, Farsi, Japanese, Khmer, Korean, Lao, Mongolian, Pashto, Thai, and Vietnamese.

⁷⁹ http://portal.unesco.org/education/en/ev.php-URL_ID=12871&URL_DO=DO_TOPIC&URL_SECTION=201.html

⁸⁰ <http://webworld.unesco.org/imld/>

⁸¹ http://webworld.unesco.org/imld/res_en.html#37

It is quoted here in full; though the lofty goals have not yet come to reality, illustrating that more commitment, action, and funding are needed, as well as declarations.

“5. Also invites the Director-General to undertake the following concrete actions to promote multilingualism and cultural diversity on global information networks:

- (a) to strengthen activities to make cultural heritage in the public domain which is preserved in museums, libraries and archives freely accessible on the global information networks;
- (b) to support the formulation of national and international policies and principles encouraging all Member States to promote the development and use of translation tools and terminology for better interoperability;
- (c) to encourage the provision of resources for linguistic pluralism through global networks, in particular by reinforcing the UNESCO international observatory on the information society;
- (d) to pursue further consultations with Member States and competent international governmental and non-governmental organizations for closer cooperation on language rights, respect for linguistic diversity and the expansion of multilingual electronic resources on the global information networks;

6. Further invites the Director-General to submit to it at its 31st session a report on the implementation of the actions outlined above and a draft recommendation on the promotion and use of multilingualism and universal access to cyberspace.”

UNESCO is especially facilitating multilingual development for the promotion of Internet accessibility in the Arabic script. While this is a much needed initiative, it is always easier to work on larger projects in better organized contexts than poor and minority situations. The term 'minority' here includes national languages with their own scripts in smaller countries in Asia, such as Cambodia, Lao PDR and Myanmar.

Unfortunately, the list of regional or sub-regional associations that can be expected to assist in localization is quite limited. The Association of Southeast Asian Nations (ASEAN) is primarily concerned with economic integration and cooperation, and increasingly also with peace and security issues as international challenges. The English language is the natural means of communication; national languages and their development for access to the Information Society have not always been an issue.

Over the years, a variety of structures have been spawned by the Asia Pacific Networking Group (APNG). These promote the use of the Internet in different ways, but have not addressed the language situation in individual countries.

The PAN Localization project, supported by the International Development Research Centre (IDRC) and coordinated by the Centre for Research in Urdu Language Processing, National University of Computer and Emerging Sciences, Pakistan⁸² is a collaborative effort that extends to the following countries: Afghanistan, Bangladesh, Bhutan, Cambodia, Lao PDR, Nepal, Pakistan and Sri Lanka. Under the heading of Standards it covers problems of Character Set, Keyboard, Keypad, Collation Sequence, Interface Terminology, Handheld Device Interface Terminology and Locale. The eight countries collectively conduct software research in many areas ranging from key board drivers and spell checkers to mobile/PDA fonts, Optical Character Recognition (OCR) and text-to-speech systems. For some countries, the collaborative support covers localization projects on Linux, in others on the Microsoft Windows platform; ultimately, the PAN Localization project aims to support cross-platform development of local language software throughout the region.

UNDP-APDIP has also published a guide to localization and supports many related projects in the Asia-Pacific region through the International Open Source Network (IOSN), also supported by IDRC-PAN.⁸³ A number of important country-specific and language-specific initiatives also exist. In Thailand, NECTEC, a statutory government organization under Ministry of Science and Technology has established a research and development unit to develop sorting, line breaking and word breaking, and font development in Thai language software and operating systems.⁸⁴ NECTEC have also developed Thai word processors and OCR software. In Pakistan, the Centre for Research in Urdu Language Processing⁸⁵ undertakes projects in Linguistics, Script Processing, Language Processing and Speech Processing. While an exhaustive list of efforts is beyond the scope of this chapter it should be noted that significant national efforts have taken place in China, Japan, Korea, among others; and there are a number of emerging networks of localization in developing countries, e.g. MCF (Myanmar), ICTA (Sri Lanka) and ACSA (Afghanistan).

⁸² <http://www.pan10n.net>

⁸³ See <http://www.iosn.net/10n/>

⁸⁴ See <http://www.nectec.or.th/>

⁸⁵ <http://www.crupl.org>

In addition to regional and national support structures, small local initiatives may also play important roles. Investment in one country may have positive spill-on effects to others. For example, the Cambodian Open Source software initiative has provided internship experience to a person from Timor-Leste who will start another open source based localization initiative – opening the way to creating software in the national language Tetum, and at the same time, helping to save scarce financial resources by creating legally license free quality software. Such processes help to create a self-sufficient local basis for small local software corporations and related companies.

Many traditional societies consider knowledge and wisdom as goods to be shared for the healthy development of their communities. The concept of marketable ownership of knowledge is for many difficult to grasp. Software that costs a US buyer a fraction of a monthly salary may cost the equivalent of several years of a local income, if bought legally. Furthermore, many people using unlicensed software do it without considering it fraud and theft – but they would strongly and convincingly deny that they would ever intend to steal even one fruit from a market stall. A people-centred Information Society, where everyone can create, access, utilize and share information and knowledge, enabling individuals, communities and peoples to achieve their full potential in promoting their sustainable development and improving their quality of life, will need new insights, new decisions and new actions on making all peoples' native languages the primary interface to information.

Conclusion

Basic ICT policy is difficult enough of a challenge for developing states. Don MacLean summarises the key factors in the lack of developing country participation in relation to international ICT policies as: a) lack of awareness of the importance of ICT-related issues in relation to development goals; b) lack of technical and policy capacity; c) lack of easy, affordable and timely access to information; d) weaknesses in governance processes; and e) financial barriers.⁸⁶ These are not easily addressed, and greater participation in Internet governance bodies will be a long-term process for many nations and groups.

However, the issues are not always a mere lack of policy development expertise. Some countries have robust policies on information and communication with governance components, which have never been implemented. There is great potential for sharing experiences through regional groups to forge shared priorities and collaborative projects. An example would include the e-Pacifika programme implemented by UNDP and UN Office for Project Services (UNOPS), which raises awareness among leaders and decision-makers about ICTs, drives adoption of national ICT strategies, and implementing concrete programmes and projects.⁸⁷

⁸⁶MacLean, D. (2004) *Herding Schrödinger's Cats: Some Conceptual Tools for thinking About Internet Governance*. Background Paper for the ITU Workshop on Internet Governance Geneva, 26-27 February 2004. <http://www.itu.int/osg/spu/forum/intgov04/contributions/itu-workshop-feb-04-internet-governance-background.pdf>. Accessed 20 March 2005. p.8.

⁸⁷Guild, R. 2003, 'Pacific Islands Chapter', In (Ed, Saik Yoon, C.), *Digital Review of Asia Pacific UNESCO Chairs in Communications (ORBICOM)*, International Development Resource Centre (IRDC), Asia Pacific Development Information Programme (APDIP) of the United Nations Development Programme (UNDP), Ottawa.

Cultural diversity may seem an even less pressing priority with few direct benefits to be gained when compared to direct economic benefits promised by increasing ICT access. However, culture covers all of the ways that people make use of their resources, and is central to our very understanding of who we are, and even the areas in which our economies can be profitable. Increasingly, empirical economic evidence suggests that firms are not given units of coordinating ability, but are instead limited in their decisions by their capabilities, knowledge, and learning.⁸⁸ Among nation-states, trade economists have demonstrated that exports differ in the degrees of product variety and quality depending on their social organizational features – whereas a “hard line economic” approach suggests the only real distinguishing variable should be the difference in market-friendly policies.⁸⁹ This evidence suggests cultural development and economic development should be seen hand-in-hand, rather than separated. Culture is not a luxury that appears when a certain level of economic attainment has been reached. Far from being a distraction, cultural issues offer powerful ways of exploring the cross-cutting social and economic challenges raised by the Internet and networked information technologies.

Opportunities for strengthening cultural inclusion in the Asia-Pacific

To summarize, a number of specific opportunities can be identified to foster cultural inclusion in the Asia-Pacific region. While some things can be done to foster change immediately, others will require longer, more coordinated timeframes.

1. Localization: The building of Internet related software and operating systems to local languages. As language is the basis of culture, the most urgent and basic priority is to provide opportunities for all people to use their native languages with information technology. As voice and imaging technologies develop, this should also include opportunities for non-text interfaces to communications systems. Such work will entail a broad effort in adapting both open-source and proprietary software systems. Legislation has a role to play here – in India, for example, the government has mandated that computer manufacturers include fonts of major Indian languages on machines to be sold in the country. They expect to have all 22 major languages available by the end of 2005.⁹⁰

At the narrow end of Internet governance, support must be given for non-ASCII script language group participation in the Euro-US dominated forums that determine technical policies regarding the Internet, such as ICANN, IETF, and IANA. In particular, as Jean-François Morfin noted on the ORDIG discussion list, the IETF sets a definitive schema for Internet language tags through consensus of a linguistically non-diverse group, and a similarly non-representative self-constituting body approves individual tags themselves. While more fully representative bodies may establish procedures in the future (for example, bodies that support languages other than English), in the interim it is vital that Asia-Pacific stakeholders familiarize themselves

⁸⁸ Mokyr, J. 2002. *Gifts of Athena: Historical Origins of the Knowledge Economy*. Princeton, N.J.: Princeton University Press.

⁸⁹ Guillen, M. 2000. *The Limits of Convergence: Globalization & Organizational Change in Argentina, South Korea, and Spain*. Princeton: Princeton University Press.

⁹⁰ *Financial Express*. 2005. “Local language fonts to be made mandatory for computers in India.” http://www.financialexpress.com/fe_full_story.php?content_id=89025. Accessed 5 August 2005.

with the workings of these standards-setting bodies and increase their participation. The ultimate goal should be that language standards are approved by broadly representative groups of native speakers, to ensure that language diversity is not constrained.⁹¹ Given the IETF's reliance on ISO codes, which may be considered the ISO's intellectual property, there could also be serious financial implications for language groups seeking to make use of Unicode standards, and pressure should be applied to move these into the public domain.⁹²

2. Shared infrastructure for Local Content Initiatives. With many local content providers facing similar market and technical issues with respect to their initiatives, as noted above, there may be opportunities to support them at a regional level. This could be through policy vision mechanisms to develop a shared understanding of local content issues and potentials, as well as coordination bodies to share infrastructure. These initiatives could be seen as analogous to the kinds of roles multinational corporations play with respect to their regional subsidiaries, a model which has generated proven results in the Internet content market (e.g. C-Net, eBay, etc.).

3. Regional Taskforces on Intellectual Property. Intellectual Property is one of the key issues threatening cultural diversity online. This is due to the harmonization of laws, treaties, technologies, language and genre that the Internet's global network facilitates. The instruments by which this occurs are diverse, ranging from Internet bodies such as ICANN/IETF through to WIPO and the WTO. In the case of Digital Rights Management (DRM), the rules by which content travels are set by wholly private organizations and standards with little regard for legal balances of copyright negotiated within individual nation-states. The issues at play overlap many of these organizations and are interconnected in complex ways, which are only touched on in this document. There is a serious gap in regional policy analysis in this area and much could be gained by a truly multi-stakeholder body or bodies (perhaps along the lines of UN-WGIG with governmental, business, and civil society inputs) charged with forging consensus on the important questions and approaches for the region. This will be a pre-requisite to regional bodies and nation-states developing effective, proactive measures on IP.

4. Supporting Collective Ownership Mechanisms and Alternative IP Arrangements. The traffic of both concept and law in global Intellectual Property arrangements follows clear geopolitical lines: it emerges from the most developed nations to be implemented in the lesser developed. It is crucial that the diverse ways that cultures generate and circulate intellectual products can be maintained. While harmonization of particular arrangements can be useful for international cooperation, care must be taken in committing to IP agendas whose full implications for local cultures may not be clear. A strong commitment to multi-stakeholder approaches in policy development will be the surest way of gaining the diversity of local perspectives needed for responsive policy.

⁹¹ The most important discussions with respect to the IETF processes take place at <https://www1.ietf.org/mailman/listinfo/tru> and <http://www.alvestrand.no/mailman/listinfo/ietf-languages>

⁹² See for example the article by Hansen, E. 2003. New ISO fees on the horizon? 19 September 2003, 5:55 PM PDT http://news.com.com/2100-1032_3-5079256.html. Accessed 10 April 2005. Although the International Organization for Standardization (ISO) later issued a press release saying they only intended to collect royalties for commercial uses, this, to our knowledge, has not been adopted as policy and there is still the potential for IETF standards to become subject to intellectual property claims by the ISO (a private NGO).

Cultures are slow to develop and highly resilient – like the architecture of the Internet itself, cultures adapt to circumstances and make use of material for their own ends. Nevertheless, global communications media such as the Internet bring an unprecedented level of change in the cultural forms available in particular parts of the world. Combined with the securing of this content through international agreements, the potential exists for distinctive cultural forms to fail to survive. It is only through a clear vision and commitment to supporting cultural inclusion that the benefits of new media can be harnessed.

The Case of Khmer in Cambodia

The complex technical nature of the script codification and the necessity to be cooperatively involved with a number of different international organizations has led to a situation in which the scripts of economically strong language groups were able to get their scripts codified first.

However, if codification of script is delayed in a country or language group while the use of computers is growing, an ever-increasing complex of problems for the use of the local language on computers may develop. The situation in Cambodia may serve as an example. The first widely used program to write in the Cambodian language, Khmer, on Microsoft DOS based computers was “Khmer in Office”, available from around 1990. With the arrival of the Microsoft Windows operating systems, a number of Cambodian computer enthusiasts – in the country, and in various countries in North America and Europe – started to develop Khmer font systems independently from each other. As a result, in the absence of any existing norms, there are now more than 20 mutually non-compatible font systems in use.

Some well-meaning people outside of the country intended to remedy this situation by initiating a process to codify Khmer script for the Unicode and ISO systems – but without any Cambodian procedures. After these procedures had been concluded, Cambodian computer scientists and linguists in Cambodia also became aware of this – they had some fundamental misgivings about the method which had been designed to handle their script on computers. After a series of expensive international delegation visits to Unicode and ISO meetings, in April 2002 a letter was received from the President of the Unicode Consortium:

“As a result of our discussions we have learned that:

1. The encoding approach taken for the representation of the Khmer subscript letters in Unicode, the so-called “virama model”, is not the preferred approach of the Cambodian National Body or of Khmer linguistic experts, and is at odds with the way the Khmer script is perceived and taught in Cambodia.

A number of characters were added to the encoding of the Khmer script; which upon receipt of further input from the Cambodian National Body, now appear to have been clear mistakes. Those characters cannot properly be considered to be a part of the Khmer script.

A number of symbols and other characters used in the representation of the Khmer script were overlooked in the encoding.

The Unicode Consortium acknowledges and regrets that over the last several years, and especially during crucial periods when the decisions about development of the Khmer script encoding proposals were being made, insufficient efforts were made to maintain full communication and consultation with all interested parties in Cambodia. This has resulted in the current unfortunate situation where all interested parties now have to deal with a less-than-optimal outcome with respect to the Khmer encoding.

The Unicode Consortium sincerely regrets the impact that this may have on the perception of the Khmer script, as well as any confusion that may result for those who are implementing the Khmer script on the basis of the Unicode Standard.”

It is well known that the codification process in some other countries in Asia has met related difficulties – these are exacerbated as the decisions are being taken far away from the places where the languages are being used. It will probably be extremely difficult to move beyond the plea for sensitivity and arrive at firm policy and financial commitments, but even an appeal to sensitivity might have a positive effect. Small language groups, or users of a language that does not have a strong international advocate and for which software has not yet been localized, will normally not be able to do much. Indeed, they will probably not even know that there is anything to be done.

The Ministry of Education, Youth, and Sport of Cambodia invited a group together in late 2004 for a one-day brainstorming session to present a three-year draft plan for the computerization of the Ministry, of all Teachers Training Colleges, and for the Offices of Education of all provinces. The draft plan was written in English, though the meeting was otherwise held in the Khmer language. Of course this distanced many participants from being able to understand or contribute in the planning. Furthermore, the plan had no hint about the language in which this computerization would happen, but there was also no awareness that computerization in Khmer might be possible. Fortunately, there is, in fact, at present a concerted effort going on to create a whole series of different Open Source software applications – based on the Unicode standard – in the Khmer language. The Ministry is now in the process of starting to work with that software in the future.