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Abstract

Extract:

Recent rapid advances in communication technology have changed global structural patterns and produced new concepts and poles of dynamism in international relations. One such technology, which is increasingly causing a mixed reaction across international boundaries, is that of the Internet. For the first time in history the emergence of the Internet has produced an anarchic power that is capable of influencing individuals, societies and governments on a scale previously unimaginable.

The Game of Leapfrog and the Internet:

Developing Countries and the Information-Divide

by Jill Margerison

Recent rapid advances in communication technology have changed global structural patterns and produced new concepts and poles of dynamism in international relations. One such technology, which is increasingly causing a mixed reaction across international boundaries, is that of the Internet. For the first time in history the emergence of the Internet has produced an anarchic power that is capable of influencing individuals, societies and governments on a scale previously unimaginable. By definition it comprises of a maze of information called the World Wide Web and a feature called Telnet. This allows direct access to remote databases and the provision of electronic mail. These components have generated a network which, fundamentally, is detached from any controlling body and one which seems to increasingly thrive on chaos and flexibility, as opposed to structured planning and forethought.

The emergence of the Internet has produced an anarchic power that is capable of influencing individuals, societies and governments on a scale previously unimaginable. Present day commercial Internet users across the world are tipped to number some 100 million and the opportunities that abound via commercial and non-commercial transmissions on a global scale have prompted the description of Internet as the next Silk Road. The advent of this technology is significantly enhancing e-commerce globally and also spreading democratic ideals and capitalism. Economic growth in the world is now being stimulated through a technological revolution and the 'soft political power' the Internet wields appears immeasurable. "In today's economy it is not coal, steel or oil that is the essential asset for economic growth, but information and knowledge..." With this tumultuous change, come both vast opportunities and new risks for the developed and the developing world.

As communications technology increasingly pervades the many facets of our existence in the West, how does this affect many of the least developing countries in the world, which are still struggling for basic survival? This article examines the growth and influence of Internet technologies with examples from a broad base of developing nations. The focus is upon analyzing the risks and ramifications that cyberspace technology holds for these countries and the chasm that is widening between countries that have access to technology and those who have not. There are fears that new telecommunications such as the Internet threaten to deepen the obvious social inequalities by giving the wealthy more access to information while shutting out the poor. The United National Development Program reported "with communications technologies playing increasingly vital roles in economic development, education, health care and governance, the exclusion of those who are poor, illiterate, rural or non-English speaking has broad ramifications."

Today, a large majority of the world's population have never heard a dial tone, let alone heard of downloading from something know as the World Wide Web. How can the Internet and its capabilities benefit those from developing regions? In China for instance, there is a stark contrast between the "glossy media images of Beijing residents, Web-surfing in hip Internet cafes" and the poorer, agrarian-based interior. It is not just a matter of the infrastructure not being readily available, nor the costs being too high. Even if the telecommunication resources were in place and affordable, most of the world's poor would still be excluded from the benefits of global communication due to illiteracy or the total lack of computer skills. Further obstacles arise with four-fifths of web sites being published in the English language, which although favorable to the West and global patterns of commercial transactions, ultimately excludes the majority of the people on the planet. United Nations Secretary-General Kofi Annan has warned that the process of this globalization could result in a "web of commerce, communication and cooperation (that) provides opportunities for some and

marginalisation for others."

Although these new technologies are attempting to create a more mature 'global village', in reality how vulnerable are many of the least developing economies to the communication advances such as the Internet? As with any rapid developments, there are potential repercussions for community cohesiveness, forcing a change in the expectations of society. The present international debate focuses upon whether or not the Internet will act as an economic equalizer providing a means to the idealistic visions of a global village or whether there will there be further marginalisation of those nations that cannot compete effectively. The challenge for the least developed countries is "all the more daunting that they have to apprehend this new reality from many fronts at the same time: economic, legal, social and even political." There are also concerns that the Internet is yet another attempt at cultural imperialism by the West to further exploit developing countries. It is clear that in order to accommodate these changes there must be strategic planning to develop a more even and interactive global stage for the future.

Identity, Development Decisions and Global Influence

Emerging communications technologies such as the Internet are increasingly placing the state of international affairs in flux. The traditional framework, of nation states defined in the 17th century by the Westphalian system, provided a semblance of world governance in continuity and structure by conveniently dividing the world into territorial parcels. Today, concepts of connectivity and convergence are being applied on all levels of international development with new technological advancements in communications. Increasingly international political power and global status is rapidly being defined by the access to information and communication, resulting in an increase of people acquiring "loyalties that supplement and perhaps even override feelings of national solidarity that previously lent legitimacy to state sovereignty." International barriers between nation states are being redrawn into virtual corridors and the process of "globalization has challenged the authority of nation states." Where modern communication previously helped build the nation-state, the present communications technology is now altering these national boundaries to encompass a wider network of global influences. It is increasingly becoming "less relevant to speak of separate national economies or separate national jurisdictions founded upon principles like the sovereignty of the territorial nation-state."

The focus for underdeveloped nations is generally upon trying to create a sense of practical community cohesiveness and address basic needs. Technology such as the Internet can appear too idealistic and not practically useful. Clean water, more nutritious food, better ways to raise money and pay back debt, solutions to chronic disease and improved farm-market infrastructure are more urgent issues. There are plenty of critics therefore who do not understand "why governments of developing countries should divert scarce resources from other important development objectives to stimulate the development of electronic commerce." In particular, for agrarian societies these "new ideas (are) often a threat to survival" and integration into an electronic world produces doubt which "permeates everyday life and risk and uncertainty grow." Many African governments, in particular, fear that the computer and its incumbent technology will be a drain on their treasuries and create further unemployment.

The militaristic elements of many developing societies view the Internet and its ability to promote both democracy and capitalism as a potential threat undermining the authority or profitability of their regimes. Democracy and capitalism are two forces often attributed to a sense of 'western development', which for many of the least developing countries still remain an ambiguous issue. Although "two different and sometimes contradictory" phenomena, they are considered relatively important to the well being of the global community by the West. For many developing nations, however, there are aims to censor and restrict the freedoms of the Internet through threats and force. Iran has programmed the chat rooms of its closed online network so that only two people could speak to one another at a time to cut down on widespread liberation of speech. China uses "proxy servers to

exclude a good deal of foreign content."

The sudden emergence of a virtual democracy deals with a much greater expanse of issues and offers a much deeper conceptual ideology than its original concepts. Originally, democracy was "a form of government born in the ancient world and designed to bring small numbers of individuals with consensual interests together in a self-governing community where they had the right govern themselves." According to Aristotle, "the ideal size for a democratic polity could be measured by the amount of land a man could traverse in a day...." Can Internet technology and its global reach help to create a deeper equality amongst a truly international society? Perhaps not: the irony is that whilst "capitalism produces inequality, ...democracy insists on equality." However, there is idealist conjecture that the Internet offers the key to "justice or at least a world environment where people do not exploit one another." In Latin America, it is claimed that on a practical front the introduction of the Internet is "helping to level the playing field for companies by reducing the corruption in the granting of public and private sector contracts."

For many transitional economies changed aspirations and intangible concepts such as web technology represent a threat to the status quo and the accepted norms of the community. The flow of information is such that the everyday person is able to "see for themselves what the tastes and preferences are in other countries, the style of clothing now in fashion, the sports, the lifestyles." Economic improvements and corporate advancements along with the liberalisation of telecommunications, policies of trade and the change in many political regimes around the world have contributed to more open policies and greater cooperation. "Economic networking has been made possible by the fusion of telecommunication with computer technology." There is more choice and higher consumer expectations. "Consumers in China can see on their satellite TV screens western lifestyle products which they will want regardless of their government's desire to limit foreign imports and give a boost to local producers." Better communication technology has helped bring about a greater awareness of the power of the individual. A Peruvian Amazon group, the Ashininka tribe, have a web page that for them is seen as a tool of self-identification on a global scale. Although written in Spanish, ironically rendering it inaccessible to the majority of this community, it still provides an important forum for the Ashininka to voice their demands and concerns. In least developed countries the dilemma for governments is that of attributing adequate controls to create a balanced sense of reality, whilst maintaining and developing their technological position so as not to fall behind in the globalization process.

Expectations of vast material wealth or the strength of a countries currency, however should not necessarily define development for these countries. With the speed of change in technology, development cannot be treated simply as "a linear transition from tradition to modernity." No longer should the accepted absence of defined bureaucratic and organisational structures mean that nation-building must be "the rational starting point for reconstructing African societies from tradition to modernity." According to British international relations academic Michael Edwards "there is no such thing as a universally acted definition of the good life (still less how to get there), but people everywhere aspire to have more as well as to be more - to be free from poverty and violence and the servitude these bring in their wake; to be loved and enjoy a sense of belonging; to feel more in control and less vulnerable to the vagaries of unaccountable power; and to be subjects of their own destiny rather than objects of the intentions of others." This definition for development is more in line with achieving sustainable goals for developing nations than older nation-building approaches.

The Sustainable Development Network Program is one example of efforts made by the United Nations Development Program, following the 1992 Earth Summit in Rio de Janeiro, that is helping attain these goals of development. The program is providing seed money and equipment to developing countries, "often establishing the first Internet link in the country." The impact of this introduction of Internet expansion programs can be seen globally. There are positive impacts made from planning land-use in Bolivia, to "educated lobbyists and government officials, making environmental policy in Nicaragua" and the location of supplies of rare blood types needed for transfusions in Pakistan.

Whatever help the new forms of technology and foreign cooperation bring, however, the will for development in any community must come from the people within that country. In Timbuktu, Africa, international cooperation has created a Multipurpose Community Tele-center to bring Internet technology to the local people of the Sahara. It is hoped that this will now be sustained locally. The benefits can be seen in projects involving medical research, teaching, agriculture and tourism, which are already underway at this center. The initial set up costs for the project were approximately (US) $850,000. However the center is now trying to be self-funding by running computer classes, charging people to surf the web or send and receive emails. Although the phone-line quality is poor, it is the basic principle of the center that is important for local morale. It gives these people on the sidelines of the global village "hope of a new world," and creates a center of learning.

One of the benefits of introducing Internet telecommunication technologies to developing nations is that it provides the ability to gain a voice on the international stage for self-identity, political or commercial reasons. For the Tibetan Diaspora the Internet is contributing to a greater sense of self-awareness through online publications, further strengthening their global message and identity as a people. In Peru, the indigenous Ashininka's reportedly line up at public Intent booths to peddle their crafts on the World Wide Web, cutting out the middleman. Likewise artisans in Guatemala are able to ascertain for themselves the "feedback from consumers in North America on their designs", maintaining more control over the production of their goods. For the Burmese, the Internet has become a powerful tool politically, promoting the resistance to the Burmese military government for the supporters of Aung San Suu Kyi on a world scale. Although internally the country still maintains a strict control over information and "all interactive technology is tightly regulated," via the Internet human rights groups are able to "garner attention instantly and internationally". Paradoxically however, although the Internet offers a powerful voice to the repressed, it highlights their need to rely on outsiders to make their resistance heard, increasing many developing nations fears of becoming too dependent and actually losing what is often perceived as a fragile self-identity.

Overall access to the Internet, must be considered a coup for development in the 'South.' Economic prospects and cultural dominance were traditionally set by the access to information. Historically the 'North' had a "monopoly with regard to production and distribution of information, whereas the South's role was reduced to one of passive consumer." At the Colombo Summit of the movement of Non-Aligned Movement States in 1976, strong dependence on information sources from the "North was considered an impediment to nation development in the developing world." The introduction of the Internet has helped those struggling in oppressed and financially poor regions to re- write their own history and express their identity on a global scale. In Latin America, women's movements, aggrieved over the disappearance of so many young people during the oppressive rules of the 1970's and 1980's, have been able to project their message to the world via the Internet. Now, it is hoped that the ability to access a wide range of information faster with more control will encourage people in developing nations to become more self-reliant and independent, enhancing community and regional development.

Distance and isolation are problems that have previously caused development and progress in many developing nations to stall. The contribution by the Internet to dissolving problems has been significant, altering the reaction of people en mass with the sudden immediacy of information. The practical and economic benefits in communications technology for developing economies was revealed in a 1999 report for United Nations Human Development. It stated that a 40-page document, which took five days to courier from Madagascar to Cote d'Ivorie, cost the equivalent of $75. By facsimile the cost was $45 and a the transmission time half an hour, but with electronic mail the cost was approximately twenty cents and only two minutes to transmit the 40 page document from Madagascar to anywhere in the world.

The launch of a program known as the Asia-Pacific Development Information Program has been particularly useful in helping underdeveloped regions to come to terms with the potential of Internet technology. In Mongolia there are efforts made to educate the citizens "to take up information

technology and to build a culture of open information." A country nearly three times the size of France, with a population density estimated to be one of the lowest in the world, one of Mongolia's biggest problems appears to be indicative of many other transitional economies; that is, changing the people's mindset and getting them to understand the opportunities that exist through new communication technology. In a traditional culture, change is often slow to take place and " those in power in Mongolia still have doubts...e-mail is not seen as an official document. It's not like a paper agreement that you can sign and seal." Theoretically the Internet would appear to be an ideal solution to the great internal distance problems within the country. Typically however, problems not only lie in educating the people on the benefits of the technology. In most developing countries the infrastructure is still not sufficiently in place to fully realise these solutions.

This ability to voice oneself on a global scale has also influenced the spread of 'localisation'. Now the nation-state is not only being battered by new political landscapes of globalization, but from a global medium, which allows expression of strong feelings of nationalism and the fight for self-determination. "Each time a new user acquires a TV dish or links up to the Internet, the nature of politics undergoes a subtle change." There has been a notable increase in the national pride of ethnicity within states. "With each passing day these groups are a little more independent of government (and) the influence they exercise in world affairs grows." It now appears that "from Indonesia to Scotland, and from the former Soviet Union to Southern Africa, the process most characteristic of our age is political splintering, decentralization, even disintegration." For the least developed nations however, can these influences be seen as a further threat to governments battling with already unstable ethnic mixes within their communities?

The divisive nature of Internet technology is producing serious concerns for the chasm between the emergence of new bourgeoisie class and the poor in many developing countries. In India, one of the leading software development nations in the world, technology has certainly led to a greater disparity between the rich and poor and between urban and rural societies. There has been a rise in "regionalism, religious fundamentalists, institutionalized terrorism, casteism and lastly the loss of legitimacy in the existing system." Yet no alternative has yet been established to counteract the increasing dependence on the global village and the wealth associated with technological developments has rapidly created a middle class complicating domestic matters, further intensifying the conflict within local communities. "Middle class India's appetite is booming, helping the home market to expand by 40-45 per cent a year. People want to jump on the IT bandwagon." In Latin America, the Internet threatens to "deepen the region's social inequalities by giving the wealthy more access to information and products while shutting out the poor." In China, Internet use has increased by 324 percent in 1999, yet the progress achieved due to telecommunication advances is also still "very uneven, somewhat precarious and does not invalidate the broader conclusion that the number of very poor people the 1.4 billion living on $1 per day - is still rising."

Yet despite the emergence of this new soft power on the international political landscape, there are still no multilateral organisations of governance placing global control over the Internet's decentralised power flow. For the first time in history it presents an unprecedented example of technology's ability to cross boundaries and time zones at high speed and low cost. However, this evolving new world does not provide "clear coordinates and hierarchies and (why are) there are no clear signs of what will come after?" The new standards of computer-driven capability mean that no longer can power be judged by military or economic might alone. As bandwidths increase and the popularity of Internet connection escalate on a global scale, access to information and connectivity is becoming an alternative resource and indicator of international influence. There is even debate as to whether the Internet can help solve the vast inequalities in part by helping integrate developing nations into larger regional alliances. There are also calls for the World Trade Organization and the International Telecommunications Union to implement guidelines for commercial conduct via the Internet with particular reference to safeguarding the development of more fragile economies.

The lack of international regulation for the Internet raises serious issues. Increasingly as the individual is provided with a way to "bypass gatekeepers and (take) control (of) the flow of

information and goods," the process of globalization is restructuring the global environment from a 'bottom up approach'. This emergence of a new soft power on the international stage requires some form of structure that benefits both "'information poor' as well as the 'information rich' who currently use the system."

The key to global development must come through a process of "open experimentation, rather than a fortress mentality among superpowers." In response to these sentiments both Canada and Ireland have been proactively pursuing a strategy based on building trust and developing a body of rules for the digital economy. Basic objectives have been focused on demonstrating the advantages of e-commerce and promoting an entrepreneurial culture through the strengthening of computer literacy and Internet skills. This is positive feedback providing a base for new global frameworks to be built upon.

Marginalisation, Economic Equaliser, or Alternative Developments

As the world develops stronger global alliances to simplify an array of business transactions, there are increasing economic opportunities to capitalise upon. Presently, worldwide e-commerce is estimated at bringing in about "300 billion dollars a year and it's growing faster than anyone ever expected." There is an "intensification of world wide social relations which link distant localities in such a way that local happenings are shaped by events occurring many miles away and vice versa." Recessions in the United States, for instance, have a direct relationship on the increase in unemployment in Asia. Likewise the effects of civil wars in Africa and countries in Eastern Europe have caused a recent migrant flow across Western Europe.

As the optical fibre and satellites multiply, the "capacity of telecommunication both within and between regions and countries is undergoing a phase of explosive growth." The world economy has now become reliant on information and knowledge as an essential asset for economic growth and e-commerce is now widely accepted as "a major component of cross-border flow." Improved media communications are also altering the immediacy of global reactions and igniting many capitalist changes in remote parts of the world. Obvious displays of luxurious western lifestyles and the concepts of choice are introducing a level of competition that for many in the least developed nations is considered unsustainable. There are many concerns that the spread of Internet technology strengthens the "consumerist ethos in societies (still) in the early stages of development." One Indian academic writes of the unrest and conflict that consumerism through technology has brought. "The paradigm of technology has further paved the way for both government and industry in the developing world to become part of the global framework of capitalism. (But) the dream of progress has reached a state of acute consumerism, vulgar display of material wealth, exploitation of man by man . . . to an extent where life itself is being commanded by alien forces." This increasing trend impacts heavily on environmental issues.

Yet despite concerns over consumerism and the materialistic trappings of e-commerce, Internet technology has produced the epitome of a global village in the business world. We now have "a borderless world in financial markets." Markets respond globally in seconds, proving that the "shift in power from government to the marketplace is enhanced by the speed with which information is communicated." Even in Shanghai, China, the stock exchange has been opened and capitalism is at work in a socialist setting. Indeed the Chinese take a pragmatic approach to the commercial reality of technologies such as the Internet. Confucian tradition indicates that for most Chinese entrepreneurs, "the enterprise is still a means for exerting control - and for achieving security in a disordered world." Although carefully monitored and controlled the Chinese government has actively fostered Internet development. In the words of Deng Xiaoping, "Not a single country in the world, no matter what its political system, has ever modernized with a closed-door policy." The Internet revolution is presently sweeping the Chinese state, led by government-linked companies. There is a clear resolve to attain "the best of both worlds - use the Internet to support economic growth, while making provisions for maintaining political stability."

For many of the least developed nations in Africa, however, a mixture of tribes and clans make up the

only workable political units and the lives of the people seem to be organised around their social networks as opposed to functioning markets. The levels of debt that have been accrued are becoming increasingly unsustainable: many African countries "owe more to foreigners that their economies are worth." What kind of economic miracles do we believe the Internet can promote through trade to improve the conditions of developing countries such as those in Africa? Could it be that e-commerce is a game for the relatively advanced countries only and if this is the case, what ramifications will that have for the portion of the world that is marginalised? If the significance of this new generation of technology is as "potentially important to society as the printing press or the internal combustion engine," then there must be concerted endeavours to include every nation in the leap forward, in order to avoid possible spoilage effects of nations that cannot compete effectively in this new arena of global competition.

The rapid increase in riches via electronic commerce has further intensified the rift between the former 'North and South', now identified more clearly as the gulf between the economies of the 'fast and slow'. According to United Nations Secretary-General Kofi Annan "despite all the talk of globalization, the bulk of the world remains largely untouched by it. To date, "the nascent yet burgeoning information revolution is not a worldwide phenomenon." There are still hundreds of millions of people around the world with no access to basic amenities. It is estimated that half the world's population has never even made, or received, a telephone call." Approximately three billion people make less than US $ 2 a day and the gap between the worlds richest and poorest is continuing to widen.

As globalisation continues "to move goods, information and money at ever-increasing speed, bringing ever-greater profits to those in the loop. . . . there is a growing realization that this prosperity train is passing by most of the world's people. " It seems that the very nature of globalisation creates competition and increases inequality between those nations able to keep up with the skills and technological capability and those that cannot. India is one example that in many areas is reaping the success of its investments due to the techno age whilst neighbouring Pakistan is struggling to keep up with this progress. "Pakistan's software production and exports pale in comparison to India's current and future outlook." The Pakistani government has made important policy changes to try and boost the software industry and enhance their own global competitiveness. In April this year, for example they cut the local Internet access charges to encourage the establishment of new software houses and introduced temporary tax exemption laws for IT training schools. Unlike India however, Pakistan lacks trained programmers. "The brain drain is a very real problem which defeats the purpose of improving our faculty." The need for adequate human resources will continue to be a major factor influencing the spread of technology in developing countries. Throughout the world, local technicians are quickly moving to the 'information rich north' seeking more experience and better wages.

Part of the problem with introducing electronic development into the agrarian economics of Africa and South Asia is that they are still place emphasis on the distribution of more tangible products, including job-creation and land ownership. The issue of ownership is an important one for many in developing countries. The people want basic land reform and equal access to work. They believe that these objectives will help reduce poverty and broaden the base of market-led growth for these transitional countries. "Even today, land in Mozambique and Kenya is being given to party leaders and well-connected business men in preference to rural communities." There are high levels of internal inequality, which heighten group conflict and "deny people the basic security they need to participate in governance and civic life." What kind of grassroots movements and innovative strategies can Internet technology provide to give practical "coping strategies" for the least developing nations to enhance development? To create some improvement in the developing nations, new technologies and external aid must work on providing a supportive framework at national and international levels. The importance of the Internet thus lies in harnessing these basic needs from a grass roots level.

Typically, the Internet is a tool that should be used to reinforce traditional business relationships. It must be stressed that the "introduction of electronic commercial methods does not replace the need

for personal contacts....(instead it) provides an efficient and cheap way to stay in close touch with clients and markets through electronic mail, remote online database, video links and the transaction of electronic business once trusting relationships have been formed." In many developing countries however a common problem is the total lack of basic business models to enhance through these new technological methods.

The present state of e-commerce in Africa is one example of how the inequality of the digital promise can cause a greater gulf between traditional North and South divisions, exasperating an already very serious problem. Conflicts have caused several countries to be locked in civil war for many years and "intertribal wars have left genocide as a bigger problem than poverty." With such negative realities it is apparent that, Africa is one region in the world that has many obstacles to overcome before digital success can be achieved. Will a rapid infusion of technology give citizens the breathing space to "rebuild their own societies...?" According to Kofi Annan, Secretary General of the United Nations, however even though "people lack many things: jobs, shelter, food, health care and drinkable water, today being cut off from basic telecommunications services is a hardship almost as acute as these other deprivations and may indeed reduce the chances of finding remedies to them."

The case of African development with regards to telecommunications technology must be treated as a case apart in the discussions on 'Third World' access to new technologies. Although during the 1970's and 1980's the Third World acted more or less homogeneously concentrating on achieving a New International Information Order (NIIO), today Africa faces more severe obstructions to the successful adoption of Internet technologies. In addition to the lack of basic infrastructure, the available knowledge base, extreme poverty, genocide and continued civil warfare across the continent has caused major developmental problems. Out of data from African countries able to provide statistics, it still appears that "things are so bad, eight out of ten of the world poorest countries are African." Africa is a "large section of the world where every new year means a declining in standard of living - more desert, more AIDS and more babies with fewer jobs. For this region the overall reality appears to be dismal. "There is no reason to expect African economics to improve and every reason to predict further decline."

For one of the fastest growing populations in the world, the World Bank has made it clear that many of Africa's problems lie in the lack of competitiveness in the global trade arena. With the advent of the Internet, however, there are hopes that such technologies can be used effectively to bring greater stabilisation to Africa on a wider commercial and social level. Although individuals might not be able to afford the cost of Internet technology and make personal gain through the information superhighway, it is believed that future headway can be made in African e-commerce through business-to-business transactions. Business to government e-commerce also looks likely in some regions. Some of the African countries that are presently most advanced with their adoption of e-commerce are Botswana, Egypt, Mauritius, Morocco, Namibia, Kenya, Ghana, South Africa, Tunisia and Zimbabwe. Instability is rife, however, and the recent turbulent political situation in Zimbabwe is only one example of the threat to future telecommunications investments.

Internet opportunities for many developing nations in Africa are faced with immense obstacles. Historically, telephone and telegraphic communication throughout the continent has been very problematic and today there are still fewer than 100,000 dialup Internet accounts for over 750 million people outside South Africa. Most of these are concentrated in the capital cities, meaning that dialling to the Internet constitutes a long distance call for most of the predominantly rural public. Moreover, problems associated with the Anglophone and Francophone sides of Africa often still involve a complex process of "a telephone call from francophone Africa (being) routed via Pairs and London to connect with English-speaking Africa." This lack of collaboration between the Anglophone and Francophone African countries is a major problem that needs addressing via international cooperation.

Other complexities in telecommunication problems throughout Africa range from mismanagement and state regulation, to a lack of financial means for investment, knowledge and maintenance. Indeed

most African Internet sites are hosted on servers that are situated in Europe and the United States due to the lack of infrastructure and international bandwidth. Access to computers is scarce for many and there are limited skills base, low level of economic development and small per-capita income. The geographical problems of being close to the equator, for many countries, mean that in the climate temperatures of 130 Fahrenheit and higher, computers tend to overheat and shut down. Another fundamental problem is adequate electricity supplies. In Africa there are "wide voltage spikes and brown outs that raise havoc with equipment." There is also a widespread lack of telephone sales and limited credit card use further hindering consumer based Internet transactions. Most frustrating however, for foreign workers lending their skills to development and startup projects, is the lack of local service. For much of Africa there are few trained computer professionals. Computers that don't work are more than likely to be packed up and sent half way around the world for expensive repairs to take place due to a void in service facilities. Although it is recognised that basic education programs must be put in place to compensate for this gulf and ultimately place more self-control into local hands, the process is a slow and painstaking.

The United Nations has instigated a project to link African universities. However, there are still major problems with Africa's phone lines which cannot handle high speeds and even with expert help, quite often the message is lost as the computer 'times out'. Many African Internet service providers are also attempting to compensate for the slow speed of the web with a lower cost 'email only service'. It is hoped that at least "electronic mail - e-mail - could be a communications lifeline to the developed world." A London-based company known as *Africa Online* last year came to an agreement with the Ghana Post Office to provide free email addresses upon request for use at post offices. The popularity of this service was evident in that within "the first two months of operation, 30,000 e-mail addresses were issued."

The immediate benefits of this technology for least developed nations should be manifested in this ability to participate in a global exchange of knowledge. African director for the World Health Organization, Gottlieb Monekosso, believes that "establishing reliable communications is an important priority for improving health in Africa." The Harvard AIDS Institute is another example where the Internet and electronic mail is an essential part in improving communication amongst their researchers in developing countries.

Up until now, one of the major problems for African healthcare is that health professionals are not able to freely share and collaborate on research projects. When Nobel Peace Prize Laureate Bernard Lown MD, conducted research, it appeared that a key concern for African physicians was the need for access to information and connectivity. Lown became instrumental in launching the low earth orbit satellites called Health Net, which combined the satellites with simple ground stations and radio-based and telephone based computer networks. The Boston-based Non-Government Organization Satel Life now uses modern technology to assist 23 sub-Saharan African countries in their medical affairs. Electronic messages are sent and received four times per day from the various African grounds stations and these requests and information are then transmitted to other Health net users allowing some 4,000-health workers in developing countries to learn from each other. This forum of medical information exchange was of fundamental help in coming to grips with the Ebola virus that broke out in Gabon in 1995.

Through Internet technology it is possible to consult with colleagues to exchange information, participate in patient tracking through databases, access current medical information, and in particular keep abreast of infectious and emerging diseases. This has given healthcare in Africa an enormous boost and allowed experts not just within Africa but globally, access to "the tools and information to help in the diagnosis and treatment of various diseases." In a continent that holds a very real threat to the world community in terms of health, the introduction of better means of communicating how to alert, contain and treat such diseases should be termed as paramount importance for the global community.

There is also hope that the Internet will improve the academic and commercial isolation felt through

e-mail communications and access to research databases, libraries and entire journals via the web and Telnet. Given the unrest and oppression faced in most African countries, facilities at higher learning institutions are poor and in some cases non-existent. At the University of Namibia, the library collection is in need of re-stocking but it "perennially operates at a deficit.... (meaning that) major allocations for books are unlikely." It is hoped that the Internet will improve this situation by providing contact between researchers in the North. It is also estimated that "80 percent of what is known about Africa is located not in Africa but in the libraries and government and offices of Europe and the United Sates."

In broad comparison with the African experience, the Latin American continent is a region encompassing many developing nations in which there is much greater obvious potential to be harnessed through Internet and e-commerce adoption. Technical education and the general telecommunications infrastructure is improving and the "Internet enthusiasm is infectious" with sceptics of the euphoria even "dazzled by the capability of the information super-highway." Only five years ago there would have been significant barriers to the spread of global technology. "Telecommunications simply didn't exist. You could hardly make a long distance phone call."

Today, there is a "bigger upside potential" throughout Latin American. For the Latin Americans the Internet brings a "symbol of modernization and progress", it offers immediate self-representation on the global stage. In the developing nations of Venezuela and Peru a Chamber of Electronic Commerce has also been created showing forethought and enthusiasm in adapting to new methods of business. These organisations are encouraging better coordination between international bodies, educating through seminars and strengthening the basis for future economic activities via the Internet. It is hoped that linking the various factories and supplies via the net will slash costs and boost the productivity for multinational firms that have operations in the region. In response to these developments, large technology corporations are beginning to establish Latin American arms to their operations. Despite the overall comparative optimism, however, the trend for Internet users tends to reflect the existing class, gender and regional inequalities of the region. Moreover barriers to effective e-commerce facilitation on an individual level are still faced with a population in which many do not own credit cards and access to phone lines is estimated at 1 in 10 compared with the US averaging 7 in 10.

Perhaps the greatest breakthrough for communication in the least developing countries however will come with the successful integration of Internet radios. In April 2000 a company known as Rooftop introduced the wireless Internet router. This will make it possible to combine Internet radio operating systems with the digital radio technology to create "Internet radio." Bypassing many of the present stumbling blocks, through a network of radios already used extensively through the developing world, this looks like a promising step for new innovation. Nonetheless, the introduction of technology to developing communities should not be seen as a quick fix alternative. Superimposing telecommunications projects worth billions of dollars on existing economic structures, for example, will not cure Africa's socioeconomic crisis. Instead, this technology must be used as another form of development and most critically must include the local communities and improve people's education. Preparing many of the least developed nations in Africa for the new communication order in particular "involves training their minds to incorporate Marxist-capitalist ideas into their own customs, beliefs and traditions." The development of the people needs careful preparation for full integration "so that the human resources, research and development capacity infrastructure and industrial profiles are primed for the shock of global competition when it arrives."

Fears of Arpatheid and Colonization

The influences of Westernisation through technology pervade the most basic of levels of international communication and commerce. Today the English (American) language and US culture have become popular global mediums. The Internet is a field in which the English language and consequently American influence presently dominate strongly. In 1997, it was estimated that "63% of the 16.6 million host computers connected to the Internet were in the United States, 74% in English speaking

nations and 90% of the Internet operate out of Western countries." The Internet's major code for information exchange is the American Standard Code for Information Interchange (ASCII). The original software for the technology must be written in words and this is converted to the computer software's binary coding. The development of the individual is described as having a strong dependency upon language and Einstein states that this "makes us realize to what extent the same language means the same mentality."

For developing nations, this reality demands that they either create a system of equal dimensions or adapt to the increasing global presence of Internet technology. In India there is a strong emphasis on teaching the children English to adapt successfully to globalisation. The globalising process has led the Indian middles classes to see the opportunities and distinct social advantages of "maintaining English proficiency . . . in other words the Indian middle classes seek to maintain their cultural hegemony by precisely adopting the cultural logic of globalization to their advantage." Increasingly English is being recognised as the language of the global future. For Namibia in Africa, the ruling class has also recognised the necessities of the English language, adopting it as the national language upon independence in 1990. The incredible feature of this push to globalise for this economically struggling nation, however was that no identifiable group in the country spoke English. "For a poor country in a remote corner of Africa they have set themselves a significant task" that has caused much confusion and discontent amongst the local people.

This adoption and adaptation to an all-encompassing American culture does not come without resistance and alternative developments. For many developing countries the Internet is currently "the most controversial communications technology." There is a fear that the super information highway represents a tool to promote and encourage the creation of a single world culture. In China, for instance, the authorities have been cautious about the "wholehearted embrace" of this new web culture. Although the leader of the Communist party and Head of State Jiang Zemin has "made technological development one of his top priorities for modernizing the economy and society", the trick to controlling the information environment has been to "register, monitor and censure." This means that all Internet users are registered with the Ministry Public Security. International gateways for data flows are controlled by the state and Internet cafes, now found in almost every city and town in China, are warned that they will be closed if customers are found to be downloading undesirable information via the net. Also the content of websites is censured via regulations now included in the Communist Party's Telecommunications Act. Presently the controls appear comprehensive but for how much longer can Chinese officials continue to successfully track the growing millions that explore cyberspace daily?

For the developing nations of Latin America, the Spanish language is also undergoing a cultural threat on the Internet. Many Latino users on-line are revolting "against their language's old rules and tradition", creating Cyberspanglish. English verbs are conjugated into Spanish without making major changes to the spelling or pronunciation of the root. For example to link would be 'linkear', to click would be cliquear and to e-mail is 'emailear'. There are concerns that the growth of Cyberspanglish is a further indication of the growth of new forms of dependence on the pervading American English culture.

For many in Islamic states the emergence of an Internet of Western origin is considered a potential threat, corrupting the Islamic lifestyle with Westernisation. The growth of the Internet has tended to represent democratic ideals and modernisation. In Algeria for example, "Muslim fundamentalists have ordered people to take down satellite dishes and thus cut themselves off from the pollution of Western culture." In Africa many of these Muslim states worry that the emergence of the Internet culture is just another attempt by the West at forcing Western values upon the African mind and increasing the dependency of Africans on the West. There is fear that "if this emerging global culture is promoted African values would quickly become obsolete . . ."

There is also a real threat of further colonialism through the expansion of the Internet. Historically, colonisation meant a destruction of local culture and implementation of the invaders culture. Already

"American popular culture is so potent that outside the United States some countries now attempt to ration it." It is possible that through the Internet the main institutions of Western modernity will be successfully transmitted and "industrialism, capitalism and the nation-state . . . become truly global". Colonisation was typically "characterized as the exploitation of resources to benefit the metropolitan economies - not just the raw material but human beings too. . . ." In India, the British made the destruction of indigenous education systems in India a priority and local ideas and alternatives were subjected or ignored. From colonialism has passed down a basic inequality in power relations that still drives the imposition of a standard model across the world. "Developing countries have been the instruments of a power play on a much bigger stage." Now there are critics that believe neo-colonial standards are re-emerging with the necessity of globalisation.

There are concerns that Lenin's theory of 'dependency' can be applied to the new power of communication. The Internet merely represents another medium whereby the rich in the North exploit and use the poorer and struggling South. The developing world has referred to this "for several centuries ...(as) colonization." Cecil Rhodes encapsulated the essence of colonialism with the remarks, "we must find new lands from which we can obtain raw materials and exploit the slave labor that is available." Is globalisation another word for a new pattern of neo-colonial expansionism projected via web technology?

Virtual communities of cyberspace now mean that cheap labour can be poached from almost any corner of the globe. Ironically the global era signifies that "location is not supposed to matter, judgments about globalization depend most of all on who and where you are. . . ." India has already built its success "on a large reservoir of English-speaking engineers who are well trained entrepreneurial and cheap: and a 12 hour difference with Silicon Valley that means India works when the US sleeps."

There are many reasons for the transitional economies to view cyberspace with caution. With the growth of the newly industrialised countries in both Asia and South America a new interdependence is emerging, but the concerns are still whether commercially they are convenient e-market places for surplus goods produced in Western factories." Will the Internet merely serve as another means of providing a dumping ground for Western products to enrich the economies of the North? In Latin American countries it is already "estimated that 75% of all e-sales go to business outside the region primarily in the US." International collaboration is perhaps now more than ever a key factor defining rules for a new global game to begin. Without a clear structure and the ability to participate effectively, militaristic elements to many underdeveloped countries could represent an increased threat to global security with fears of marginalisation sparking heightened authoritarian elements within those societies. As the challenge of the "catch up game is drastically increased due to the sheer pace of development of digital technology" it is essential that practical benefits from the technology be utilised by these nations to create a more even global playing field for the future.

The Internet: Developing Future Directions

The main issue for economies struggling to cope with the global world, having already experienced basic delays in development, is the adaptation of new communication technologies to transform their economies and societies in meeting the challenges of the twenty-first century. Without defined structure, for these telecommunication influences, it is believed that the world will continue to drift into a greater divide between information rich and information poor. Development is an integral part of globalisation and access to the Internet is a major tool of this progression. There is little to be gained in "clinging to old-fashioned model of autarky and refusing to integrate into the international economy." Idealistically, the hope is that in part through connectively to Internet technology developing countries can 'soft step' on to the global stage and ultimately participate more effectively.

The Internet is increasingly developing as a force that is able to influence political and economic patterns globally. With "lightening speed the simple Web-enabled Internet is becoming the technological fabric and glue of a new global society characterized by a bewildering array of virtual

remote relations." Theoretically keeping up with this kind of development should enhance their performance and boost stability in their region. With the successful integration of new means of communication, it is hoped that renewed international cooperation via the transfer of Internet technologies will help with the education, health resources and motivation of the local people. Immediate communications should also provide the ability to engage in expressing ideologies, accessing new markets and being influenced by different values. Inevitably, however, this type of development will provoke irrevocable change to the traditional norms and balance of local societies.

For the least developed states advancements in the globalisation process present both risks and opportunities. The essence of Internet and its growth capitulates the idealistic vision of a global village and there is enthusiastic response from those who see it as the greatest force on the information landscape. Yet the reality is that technology such as the Internet is far from achieving its potential reach and impact. This divide of 'haves and have-nots' in this digital age is not only significant between nations but also a contentious issue within countries, causing resentment and unrest. Nelson Mandela suggests that "justice and equity demand that we find ways of overcoming it. If more than half the world is denied access to means of communication, the people of developing countries will not be fully part of the modern world. For the 21st century the capacity to communicate will almost certainly be a key human right."

The present reality is that however effective new patterns of globalisation become, we live in a world that has vast inequalities. Many of these countries have already "learnt the hard way that simple transfers of resources do not solve their problems." The world will no doubt always be run by self-interest and there are constant tensions, environmental disasters, political and economic instabilities that obviously cannot be solved by Internet technology alone. If there is talk of a 'Global New Deal' to help countries in underdeveloped regions catch up, then the Internet is a powerful tool, which can provide a type of leverage from a local, regional and international perspective. As with any successful change, however, the will and understanding must come from within the community and the people themselves.

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