2001 Hemispheric Social Inclusion Index (HSII)

The Information Commons or the Digital Divide? Taking Hold of the Future

Measuring Inclusion in Public Information and Space in the Western Hemisphere

By Daniel Drache and Nirmala Singh

A Project of The Robarts Centre for Canadian Studies York University
Daniel Drache, Executive Director

EXECUTIVE SUMMARY

Over the past two decades, bold advances have been made in information and communications technologies. The benefits are real and tangible and have changed the way we see ourselves. These technologies have created new virtual public spaces that have the potential to increase social inclusion. Virtual public spaces such as communicating by telephone, by Internet and email are becoming increasingly important to social inclusion as more and more people are gaining access to these technologies, which provide a broad range of information.

Yet only 8% of the world's population are online and almost half of that online community lives in Canada and the US alone. UNESCO emphasizes that the North-South divide is exacerbated when most of the world's population lacks access to a telephone, let alone a computer. Thus we need to be much clearer than we have been about whether stronger trade linkages do indeed lead to more civic engagement, by all sections of society, in the digital age.

So far, many public authorities have been slow to grasp the importance of the need to broaden and deepen access to the informational commons, a term that has become synonymous with the skills and social capital that create economic, educational and social opportunities. Information is critical to modern society because it is both a public good and a public resource.

Governments have to prepare their societies for the information age and public information and space are critical arenas that facilitate free expression and free association among citizens. Informational sites like these, both real and virtual, are important avenues within which individuals participate in all kinds of ways in society. They enable citizens to be informed, not only about their choices as consumers, but about everything from the personal to the political. But so far the information commons is failing the citizens of the hemisphere.

When assessing the informational environment of the new information economy, an analysis of key issues is required. Public information and space involves three main issues: *connectivity, content,* and the *capability* of different groups to access and use ICTs (Information Computer Technologies). Connectivity refers to the ability to access the informational commons, the availability of technology, and the ease of use. Without the ability to access the informational environment, individuals and groups are excluded from the information society.

One of the most important barriers to connectivity is cost. Purchasing computers, cell phones and pagers is financially within reach of many in Canada and the US, but even in these fortunate societies, there are many low-income people who are not able to own or buy a computer. Outside the richest countries, many new technologies are beyond the means of the vast majority of people. Although the cost of network provision and hardware equipment continues to decrease, cost remains a significant barrier to access.

Principal Findings

The principle finding of this report is that rather than bringing people together a gap between information '*haves*' and '*have-nots*' is creating a distance between citizens and nations. In the past 10 years, more people have been excluded from new social domains than have been included, particularly in Latin America.

Significantly, ICTs are still expensive and not available for most of the population in southern countries. Once Canada and the US are removed from the Index; most countries have not entered the information age. While in all countries, all groups, even the poorest, are increasing their access to and use of ICTs, the gap between the technology 'haves' and 'have-nots' creates a barrier for those who cannot use ICT as a cultural, political and economic tool.

The information ‘haves’ are increasing their access and use at such an exponential rate that, in effect, the division within countries is also actually growing as well.

Social inclusion in the information age depends on the degree of diffusion of information within the whole population. The challenge for public authority is to understand that there are ways in which diffusion is facilitate or impaired. Countries, such as Canada, which have invested in making the Internet available in schools, libraries and other arenas of public access, have broadened the point of entry for the least advantaged.

The major insight of this study is that there is a growing divide between the *information rich* and the *information poor*. In Latin America, for marginal and low-income individuals, particularly at the urban level, civil society organizations are essential conduits for learning new skills and acquiring social capital. In Canada and the US, access to information technology is more widely diffused but questions of literacy and the low educational achievement of large sections of the population are a major cause of concern.

Those who are information rich have acquired the skills, know-how, and confidence to use these new technologies to better themselves. The ability to access new information technologies, such as the Internet, is more prominent in populations that have a higher level of education and employment, and where there is government involvement in creating an information friendly environment.

To be information poor means individuals and communities are being denied access to possibly the greatest information revolution since the invention of printing. Individuals and communities who are excluded from the informational commons are generally identified with low levels of education, low levels of income and lack of employment. Moreover, those who are excluded are groups, which potentially have the most to gain from access to and usage of

information and communications technology as new technology offers the potential to level inequities.

Exclusion and The Digital Divide

The report identifies the importance of factors such as race, gender, age, and disability in determining the level of access to digital technologies such as the Internet, personal computers, and even telephone lines. When such factors interact within the information society, government and voluntary initiatives, and market considerations play a role in either facilitating or impeding inclusion.

In this report, exclusion is defined as the isolation and displacement of individuals and groups as a result of a combination of linked problems such as unemployment, low incomes, bad health, and lack of social opportunities. It involves a lack of access to power, knowledge, services, facilities, choice, and opportunity.

In recent times, securing access has been much talked about in relation to hemispheric integration and free trade. More fundamentally, access has other dimensions. To guarantee to all individuals the freedom and the opportunity to participate and share in society to the fullest extent possible. By contrast, the growth of the digital divide and the lack of political will amongst public authorities to provide an inclusive infrastructural environment makes it very difficult to have an optimal informational commons accessible to all.

Paradoxically, while interest in the Internet and email has reached unprecedented levels, involvement in the political system, through the exercise of the universal franchise, has dropped precipitously. The hollowing out of the formal political system is difficult to reconcile with the growth of the information commons and is not the expected relationship. The opting out of formal politics by large sections of the public, through absenteeism, is a major trend in a so-

called information age. Citizen participation has generally been declining in all the six countries since 1995.

A principle recommendation of our report is that policy must focus on the goal of turning digital exclusion into digital cohesion and digital opportunities. Public authorities must respond more quickly and effectively to the special training of people with disabilities, older people, or people with learning difficulties. Literacy as a barrier extends beyond reading, writing and technical literacy. It also involves social literacy or social capacity, that is an individual's ability to understand and use information in ways that are beneficial and meaningful to their everyday lives.

In the final analysis, the conclusion of the report is that no progress will be possible until the countries of the hemisphere address the need for change and the ability to link ends and means in an effective and compelling way so that the technologies are shared to the maximum extent. Much hope has been vested in information technologies to create open and democratic societies and the burden of this report is that this will not happen automatically or easily unless access to the information commons is safeguarded, broadened and deepened. This report serves as a 'yellow card' to public authority. If they want to take advantage of all the benefits of the information age, they will be required to use their political will with deliberation and effectiveness to remove the barriers to inclusion. If they do not, public authority will receive a red card warning from the public that it is failing to protect the informational commons.

The report is part of an important research project undertaken by the Robarts Centre for Canadian Studies to give greater precision and clarity to the concept of social inclusion. It is intended to create benchmarks for governments, civil society actors and policy experts to better understand whether the countries of the hemisphere are becoming more inclusive in terms of

their goals and outcomes. Nirmala Singh prepared the working draft and was responsible for the technical parts of the study. The work was undertaken as part of a research team and benefited from this input. Special thanks to Thomas Legler, for tracking down Spanish data sources, and Fernando Aloise, for researching data in Portuguese. Fernando also made all the difference in the final sprint. This study is based on primary data collected from international and national authorities. Thus while the report is accurate, we regard it as preliminary and illustrative of the general issue of social inclusion and the relationship between trade and participation in the information society. In phase two of the project, it is our intention to develop the report further using different and more comprehensive data sources.

We welcome commentary, suggestions and feedback. Please e-mail them to drache@yorku.ca. The other studies in the Hemispheric Social Inclusion Index are available on our web site at www.robarts.yorku.ca.

Daniel Drache, Executive Director
Hemispheric Social Inclusion Index
January 3, 2002

The Information Commons or the Digital Divide? Taking Hold of the Future

Measuring Inclusion in Public Information and Space in the Western Hemisphere

Daniel Drache and Nirmala Singh

INTRODUCTION

The purpose of this report is to explore the relationship between trade and social participation in the information based society and subsequently to address the question of whether increased trade leads to new levels of participation in this information age. This is the central question that all governments in the hemisphere have been grappling with and so far there is no consensus. Two positions have emerged. The first one is the optimistic scenario, it purports that with government involvement, all will automatically share in the informational commons. The pessimistic scenario holds that the benefits of trade are not automatically shared and therefore, many will not be part of this New World order. It is not difficult to see that the effects of trade are both positive and negative and the fact that there are so many contradictory consequences often prevents public authorities from successfully addressing the importance of access to the informational commons.

Information is not only a public good, it is also a public resource. There is a great deal of evidence that certain individuals and groups are being excluded from the informational commons. In MERCOSUR countries, many people still do not have access to telephone lines, let alone personal computers. Furthermore, access to the Internet is limited by linguistic barriers, since English is the predominant language of the Internet. There is much work to be done by public and private entities to address the less-than-universal access to information.

The informational commons, defined as all the information that is accessible to citizens as a matter of right, has many components. Public authorities have a responsibility to ensure that its citizens have access to these informational sites, as they are required for optimal learning and governing. Another aspect to public information is the physical places where people congregate, discuss and exchange ideas, information and opinions. Such places include streets, parks,

schoolyards, and shopping malls. These spaces are called the public domain, an older concept of political economy that highlights the importance of the public in its different elements to a democratic society. Public information and space are much valued and protected by legislation throughout the hemisphere. Still many continue to be excluded from basic public services due to retrenchment in government provision of goods and services. What can be seen is that despite the universal appeal of the information age, its promise is marred by the fact that many do not have the means to be part of it.

Exclusion from the digital commons is more pronounced than one would expect. Without access to information technology skills and literacy, many in the hemisphere have found themselves left behind by the momentous changes triggered by new information technologies. This is particularly the case for women. Many women in the hemisphere lack the specific skills and knowledge that would allow them to access the information that is available. If however, there is political will to create and maintain a strong and robust informational commons, governments everywhere will be able to provide the infrastructural environment to overcome the barriers which currently exclude many from the information age. This is the challenge before us.

A strong infrastructural environment, which provides the basis for social development and well-being, must be accompanied by accessible and usable information and communications technologies such as the Internet. The task is to bridge the informational divide and make the informational commons a universal town hall. In countries, such as Canada, which have invested in making the Internet available through schools, libraries, and other arenas of public access, the point of entry for the least advantaged has been broadened. In other countries of the hemisphere, like Mexico and the US, ICTs have successfully restructured the economy, creating well-paying jobs that require the ability to use computers and telecommunications technologies. Internet

access and digital literacy are becoming necessary for finding and retaining a job. Therefore, access to information in a knowledge-based society is critical. Social inclusion in the information age depends on the degree of diffusion of information within the population as whole. The challenge for public authority is to understand that there are effective ways in which diffusion is facilitated.

The first part of this report will concentrate on measuring social inclusion in public information and space. The second part will present some of the principle findings of the Public Information and Space sub-index. The third part will discuss the principle findings in the context of hemispheric integration and the relationship between trade and civic participation. And finally, the fourth section will present key recommendations for policy makers and stakeholders to facilitate an inclusive informational and spatial environment.

PRINCIPLE FINDINGS

The information society promises many benefits to the countries of the hemisphere: enhancing access, broadening participation, and promoting sharing. Unfortunately, the reality is less that this ideal and there are social divisions, which create communities of exclusion. Figure 1 below describes the effect of social divisions and digital technologies in the information society. Factors such as race, gender, age, and disability determine the level of access to digital technologies such as the Internet, personal computers, and even telephone lines. When such factors interact within the information society, government initiatives, voluntary initiatives from civil society, and the positive and negative effects of the market all play a decisive role in either facilitating or impeding inclusion.

Government initiatives include programs and policies aimed at increasing the diffusion of information that is important to the public interest. *Voluntary initiatives* involve activities of non-governmental organizations as well as participation by individuals in philanthropic activities. *Market initiatives*, both positive and negative, include factors such as employment levels and productivity. Optimally, these three considerations should be mutually reinforcing and when they are, the processes of inclusion will outweigh the effects of exclusion, as Figure 1 indicates.

Figure 2 depicts the net effect trend lines for each of the countries as well as the hemisphere, NAFTA, and MERCOSUR. Higher positive scores indicate a higher level of inclusion, while higher negative scores indicate a higher level of exclusion. Inclusion reflects the level of political will and commitment to facilitate social inclusion in public information and space. Exclusion, on the other hand, is measured by barriers to access and participation in the informational and spatial environment. In 1985, NAFTA scored -40 on the net inclusion scale and MERCOSUR countries scored –55. By 2000, NAFTA had improved dramatically rising to –

30, while the equivalent figure for MERCOSUR was –51, a very modest improvement. NAFTA countries, despite Mexico's poor showing, are much better positioned to benefit significantly from the public information age. Significantly, the informational commons is at risk in all MERCOSUR countries and Mexico.

Figure 1: The Informational Commons as a Model of Development and Inclusion

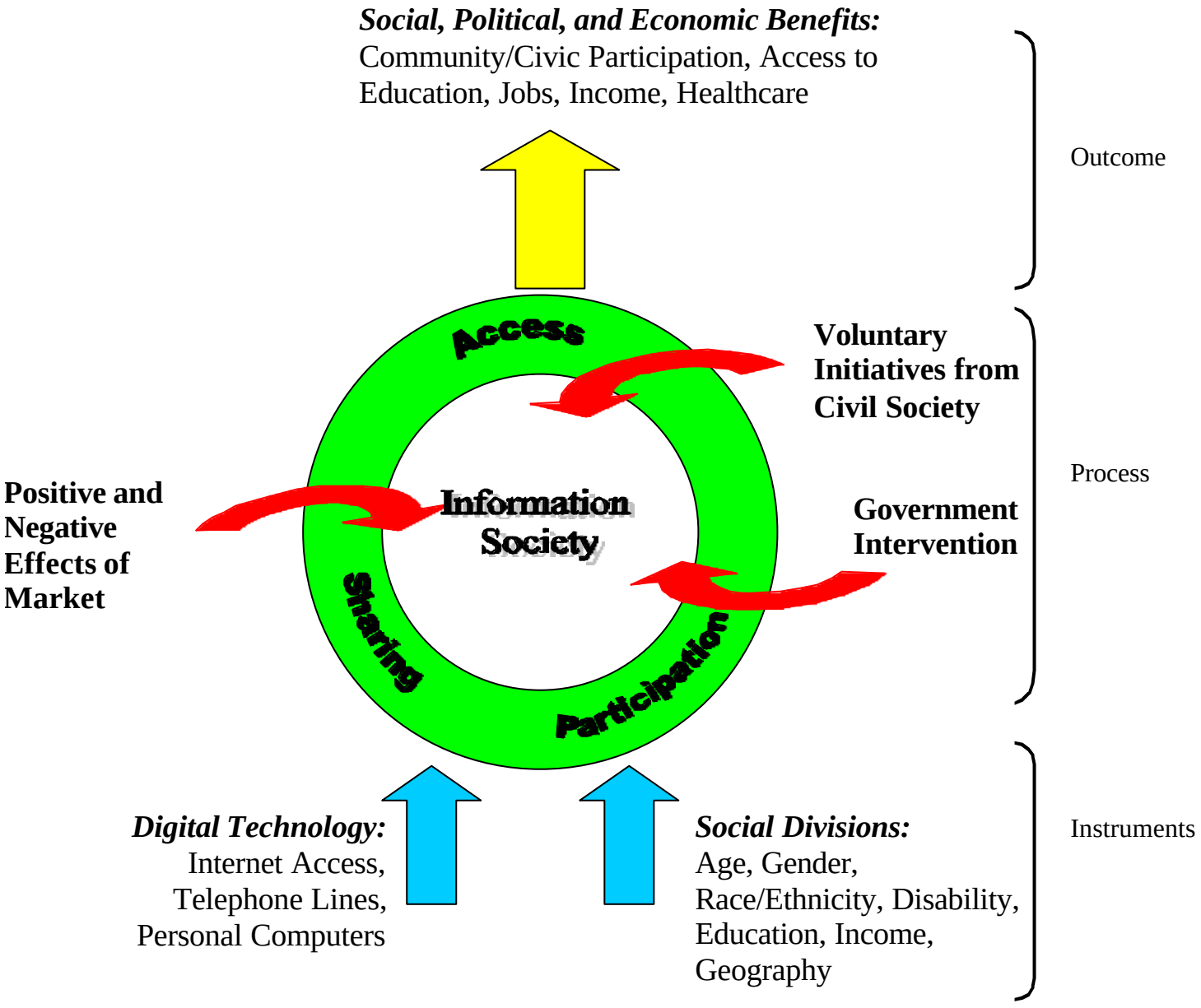
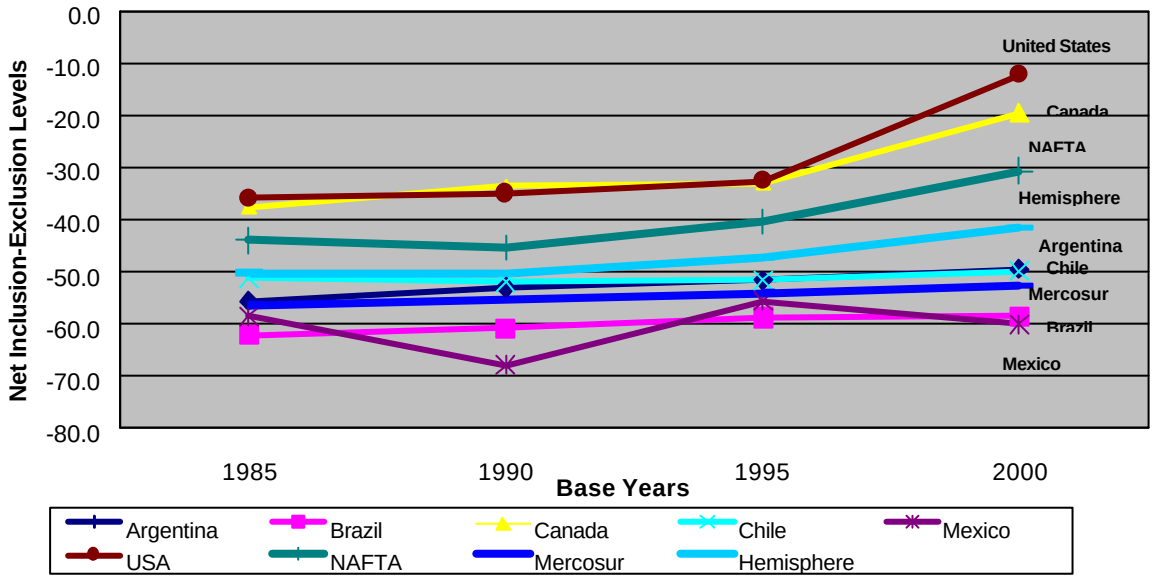


Figure 2: Net Inclusion-Exclusion in PUBLIC INFORMATION & SPACE: Argentina, Brazil, Canada, Chile, Mexico & USA



Source: Robarts Centre For Canadian Studies, 2001

HEMISPHERIC TRENDS

The principal findings for the six countries examined in the report are:

- **Access**

The persistence of structural obstacles continues to block people from participating and sharing in the information society. These include economic disadvantages such as unemployment, as well as social divisions such as gender and race. In many societies, there is no consensus on how the Internet should be used other than for commercial purposes. This has increased the depth and scope of the digital divide because while public authorities have been unable to make up its mind, competitive market pressures have reduced the ability of citizens to gain access to information. One of the most effective ways to promote social inclusion is to give people access to the informational environment because this provides job opportunities, facilitates educational attainment, and strengthens community networks.

- **Broadening**

The Internet appears to spread spontaneously, but in reality it does not. The only way to broaden involvement in public life is to facilitate the ability of citizens to gain information. Chat groups, email listservs and multi-user domains represent a new public space within which to exchange ideas, debate issues and mobilize opinion. The Internet provides a distinctive structure for opportunities that have the potential to revive civic engagement, especially for many peripheral groups currently marginalized from mainstream politics. Unfortunately this is not happening to the degree that it should and must.

- **The appearance of the digital divide and measures taken to limit its effects**

The growth of the digital divide makes it very difficult to have an optimal informational commons. For instance, the US government has been very supportive of information technology in which the private sector has benefited the most. As a result of the rapid diffusion of information technologies and falling access and user costs, the US has maintained the highest inclusion score among the six countries examined in the area of access to ICTs. In response to the growing digital divide in each of the trade blocs, many countries in the hemisphere have implemented policies and programs aimed at improving access in the informational commons. For example, Canada has been a leader in putting computers in all schools and libraries. Two basic public access points are: community access points located in schools and libraries, and commercial access points such as Internet cafes, telecottages, and electronic village halls. When computers are available in the public domain, they are free and open to anyone. And often, when they are available in libraries, librarians will help people to acquire the skills necessary to use the Internet. This needs to happen in a planned way more often and on a larger scale if there is to be an inclusive informational commons.

- **The health of civic engagement**

Participation at all levels of society is seen as vital to civic culture. An informed individual is more likely participate in the many different fora that are open to him or her. One measure of participation is voter turnout. Participation in voting would seem to be a logical beneficiary of the kinds of empowerment that access to information generates. However, this is not the case. Unlike a decade ago when the vanquishing of illiteracy went hand in hand with the broadening of the franchise, throughout the hemisphere there seems to be an inverse relationship to the increase of information flows and voter participation rates. Society throughout the hemisphere

has been preoccupied with participation and the digital divide, but many groups have overlooked the fact that there are other aspects of participation both political and civic.

Normally, political participation refers to voter turnout rates while civic participation refers to other networks of participation such as voluntarism, or involvement in non-governmental organizations or civil society movements. Mexico and Argentina are democratic nations where both forms of participation have been very significant in recent times. There has been an enormous growth in civil society activity in both countries during the last decade. The new politics have created tensions between formal and informal institutional arrangements. Civil society movements often have very different agendas in Latin America compared to their North American counterparts. In Latin America, for marginal and low-income individuals, particularly at the urban level, civil society organizations are essential conduits for learning new skills and acquiring social capital. In Canada and the US, access to information technology is more widely diffused; particularly in schools and local communities, still questions of literacy and low educational achievement remain a cause of concern.

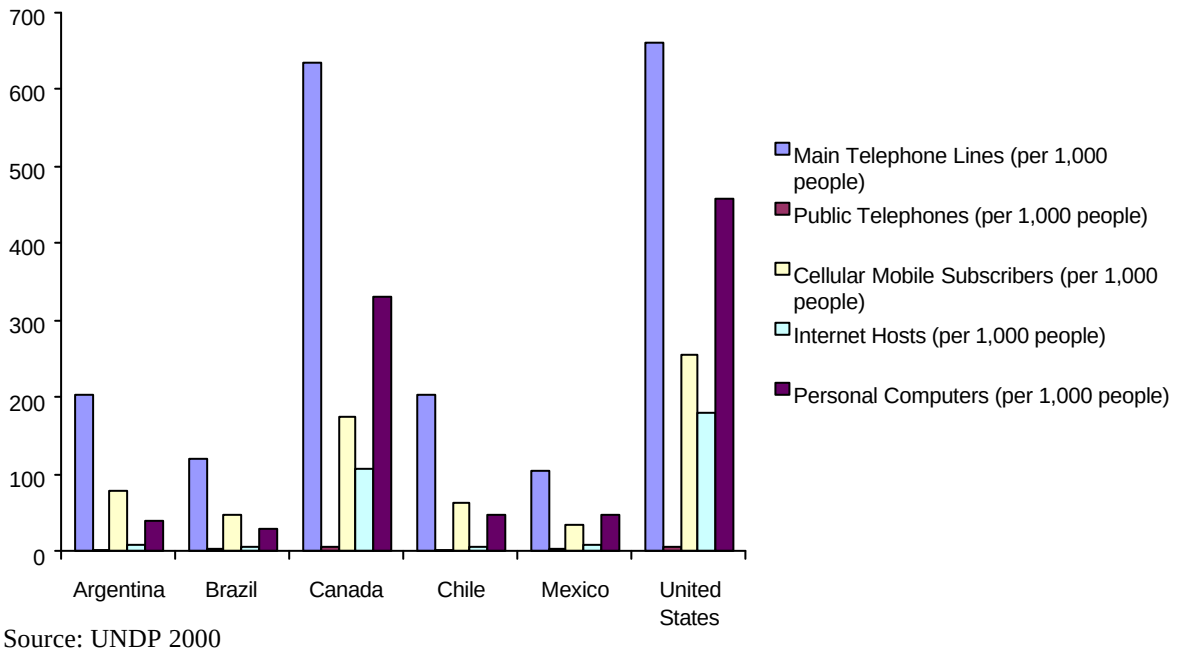
- **The crisis of public infrastructure**

The informational commons is not only composed of the Internet, but also public transportation, postal services and public spaces. The availability of public spaces, to meet in, discuss, and identify positively with the rest of society, is crucial for low income, first nations and disabled people. This report finds that throughout the hemisphere, universal access to public transportation has not improved and in many instances, has deteriorated as a result of the privatization of railways, highways, and airports.

ACCESS TO INFORMATION AND COMMUNICATIONS TECHNOLOGIES

The most glaring illustration of the digital divide is the level of access to information and communications technologies. Figure 3 below illustrates the diffusion of technology among the countries studied in 2000. Canada and the United States by far outnumber others in the level of access to telephone lines and personal computers. Internet hosts are predominantly North American-based. Cellular mobile subscribers are on the rise in each of the countries, but the United States and Canada remain in the lead. Canada and the United States achieved positive net inclusion scores in this area, 5.8 and 10.3 respectively. The remaining four countries achieved negative scores mainly due to lack of communications infrastructure and investment in information and communications technology. Mexico had the lowest amount of inclusion in this area in the year 2000, scoring –26.1.

Figure 3: Access to ICTs 2000



Source: UNDP 2000

This data again underscores the point made earlier that there is a divide between information-haves and have-nots, due to a lack of universal access to information and affordable communications technologies.

CONNECTIVITY, CONTENT AND CAPABILITY: THE THREE C'S OF THE INFORMATIONAL COMMONS

When assessing the informational environment of the new information economy, an analysis of key issues is required. Public information and space involves three main issues: *connectivity, content,* and the *capability* of different groups to access and use ICTs. *Connectivity* refers to the ability to access the informational commons, the availability of technology, and the ease of use. Without the ability to access the informational environment, individuals and groups are excluded from the information society. One of the most important barriers to connectivity is cost. Purchasing computers, cell phones and pagers is financially within reach of many in Canada and the US, but even in these fortunate societies, there are many low-income people who are not able to own or buy a computer. Outside the richest countries, even though the cost of network provision and hardware equipment continues to decrease, for the vast majority cost remains a significant barrier to access.

Content refers to the type and nature of information communicated and the way it can be used to facilitate social and economic processes. Content includes variables such as language, appropriateness and relevance of information, and literacy. Content is what makes access worthwhile by providing meaningful information that has economic, social, and political value. ICTs must provide content that is relevant to everyone, and that can assist in actively overcoming social exclusion. One of the most important factors currently affecting access to information is that one must be fluent in English. Another frequent complaint is that online content is focused on commercial interests and that the 'net' is male-dominated. Historically, when women

remained in the home they had less opportunity to acquire the skills necessary to understand and take advantage of new technologies. Older women in general have less computer experience and are more hesitant than men to use computers and the Internet. For men and women under 30, the gender differences disappear. Where women have access to secondary and higher education, women are as present in the ranks of computer programmers and graphic artists as men. In addition, a frequent criticism from other communities is that the content is totally outside of their cultural universe. People in MERCOSUR countries are disadvantaged because their predominant languages are Spanish or Portuguese. The informational commons needs to reflect the multicultural and linguistic diversity of the hemisphere.

The *capability* of different groups to have recourse to ICTs is contingent upon many variables including education, race, gender, age, issues of disability and level of income. Companies increasingly use the Internet to announce jobs and organizational information. Differential access may stratify individuals and worsen economic disparities between those with and those without computer and Internet technology. Middle income families in the hemisphere have learned to exploit its potential; by contrast low-income families miss the opportunity to reap similar benefits.

Inclusion also depends on the ability to function comfortably and with confidence in the public arena. There are numerous arenas in the public domain including institutions like libraries, schools and universities where individuals are free to come and go and access information. A willingness to participate is an integral part of maintaining a strong democratic society. For the elite, such participation has broadened their intellectual and cultural perspectives. But it is difficult, at present, to see the same effects for low-income populations.

In Latin America, even when people want to participate, too many material obstacles exist for this to happen easily and on a regular basis. Going to an Internet café is one point of entry to the information society, but access to chat lines and e-commerce only scratches the surface of the information age's potential. A far more important determinant of how a society moves toward inclusion is the political will of the state to set priorities and benchmarks. For example, governments have the ability to provide cheap telephone rates to ensure that all have the ability to pay for computer related services.

DEMOCRACY AND THE INFORMATION AGE: A COMPLEX SET OF DYNAMICS

In the language of many social theorists, the digital commons is a special place. This inclusive informational and spatial environment must be responsive, democratic, and engaging. One of the goals of democracy, ideally, is to protect and enlarge the informational commons because civic vitality demands a high level of accountability and transparency from governments. Societies need aggregators, dedicated institutions and groups, which champion and protect the many different notions of the public. Social movements, by mobilizing civil society, function as levellers that remove structural obstacles and overcome social divisions. An inclusive informational environment values democracy and social cohesion. It will be designed and managed to serve the needs of its users for democratic ends. Protecting the rights of user groups, by providing accessibility to all and allowing people to make strong connections between the informational commons, their personal lives, and the larger world, is essential.

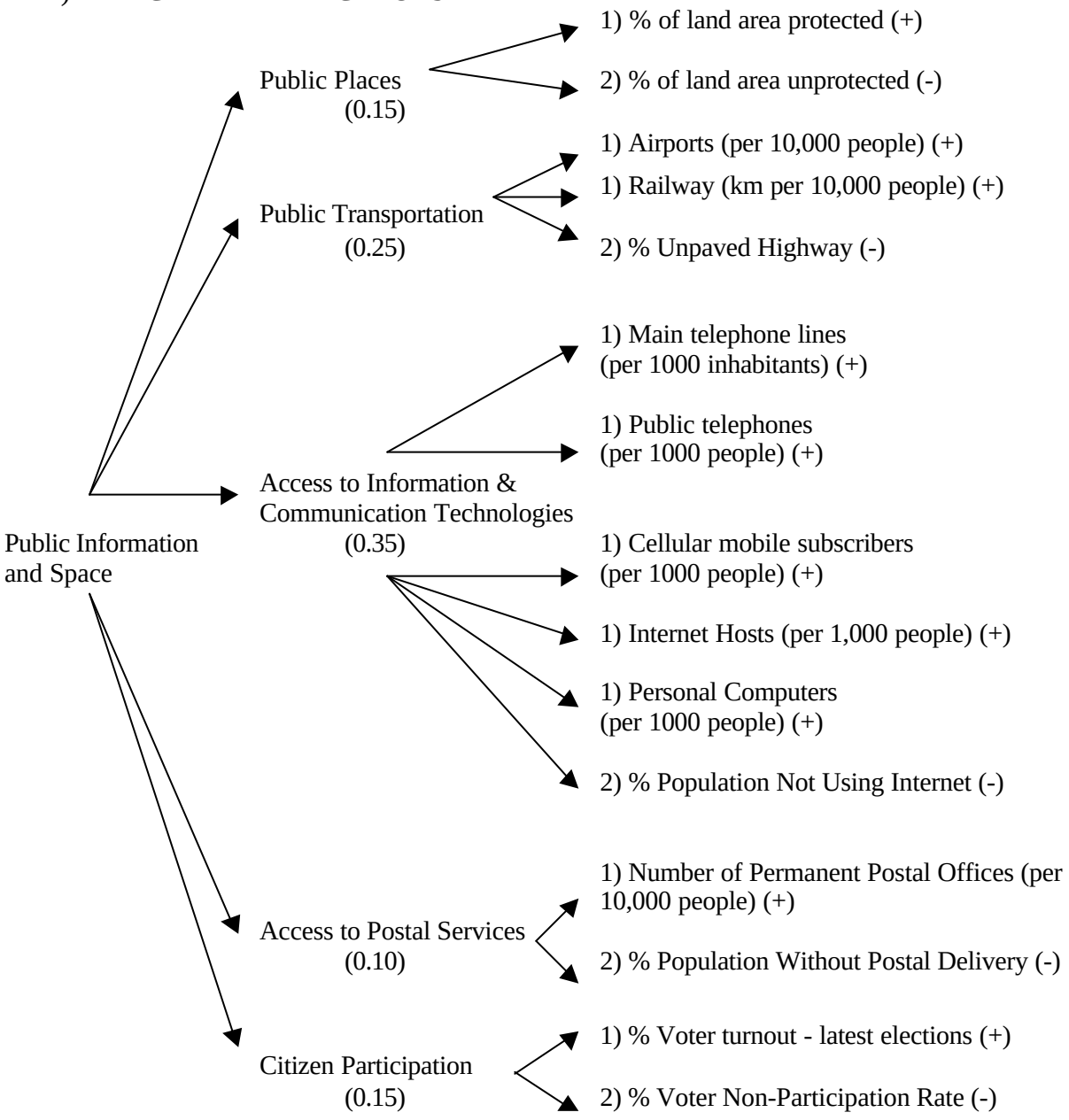
Often this vision of the information commons remains just that a vision not grounded in reality. In many countries in the hemisphere, there are formidable barriers to access, sharing, and participation in the informational commons. One of the most important is the scourge of illiteracy that remains all too prevalent for those at the margins of society. Illiteracy not only

refers to the inability to read or write, but also to computer illiteracy and information illiteracy. Many people do not acquire the skills to operate a computer and software. Statistics show that disadvantaged individuals and those from low-income groups often do not posses basic computing skills.

The relationship between the importance of connectivity, the significance of content, and effect of capability is illustrated by Figure 4. It shows the way each of the indicators fall into the broader categories of public information space, how each indicator is weighted and categorized into prioritization or benchmark indicators. The key areas of public information and space include public places, public transportation, access to ICTs, access to postal services, and citizen participation. Each of these areas works to increase or decrease social inclusion in the informational and spatial environment. The indicators are weighted according to their relative importance in increasing or decreasing inclusion and exclusion, taking into account the reliability of the data and data sources. Table 1 presents a summary chart of the definitions, rationales and relevance of each indicator to social inclusion, and data sources used in the public information and space sub-indices.

Figure 4: BENCHMARKING THE INFORMATION ENVIRONMENT

1) PRIORITIZATION INDICATORS
2) BENCHMARK INDICATORS



Public Information & Space =	Public Places + Public Transportation + Access to ICTs + Access to Postal Services + Citizen Participation

Table 1: Summary Overview of Public Information and Space Indicators

SUBSTITUTE: (Within the public domain, the informational and spatial environment has several key areas that are essential to human well-being and social development. Environmental policies and practices that guard the sustainability of air, water, energy and land and ensure safe waste management are essential to human life and population health. The following proxies (indicators) cover six areas of environmental inclusion that need to be addressed.)

Index of Human Services Inclusion = 1.00						
Indicator	**Definition**	**Weight**	**Balance**	**Rationale**	**Relevance**	**Data Source**
Public Spaces	Land Area Protected	0.15	Positive (+)	An area of land and/or sea dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources.	**Political Will** indicator of commitment to facilitate Human Services	World Conservation Monitoring Centre (www.wcmc.org.uk)
	Land Area not Protected		Negative (-)	Level of unprotected land indicates low priority to protect public places for recreational, cultural, or environmental purposes.	**Negative Outcome Benchmark** indicator to denote structural barriers to inclusion	World Conservation Monitoring Centre (www.wcmc.org.uk)
Public Transportation	Railway (km per 10,000 people)	0.25	Positive (+)	Indicates level of access to transportation infrastructure. Transportation is important to social inclusion in that it allows mobility and exchange of information and cultural values.	**Political Will** indicator of commitment to facilitate Human Services	CIA World Fact Book, 2000.
	Airports (per 10,000 people)		Positive (+)	This indicates level of access to transportation infrastructure, which is important to social inclusion as it allows move of information and cultural values.	**Political Will** indicator of commitment to facilitate Human Services	CIA World Fact Book, 2000.
	Unpaved Roads (% of Total)		Negative (-)	The higher the percent of unpaved roads in a country, the lower the amount of mobility the population will experience.	**Negative Outcome Benchmark** indicator to denote structural barriers to inclusion	CIA World Fact Book, 2000.
Access to ICT	Main Telephone Lines (per 1,000 people)	0.35	Positive (+)	Telephone lines are a key method for Internet access. Telephone lines also indicate the degree of telecommunication development in a country.	**Political Will** indicator of commitment to facilitate Human Services	United Nations Human Development Indicators
	Public Telephones (per 1,000 people)		Positive (+)	The total number of all types of public telephones including coin and card operated.	**Political Will** indicator of commitment to facilitate Human Services	United Nations Human Development Indicators
	Cellular Mobile Subscribers (per 1,000 people)		Positive (+)	This indicator measures the level of use of wireless communications technology.	**Political Will** indicator of commitment to facilitate Human Services	United Nations Human Development Indicators
	Internet Hosts (per 1,000)		Positive (+)	Internet hosts is the most commonly used indicator to compare Internet development between countries is the number of host computers.	**Political Will** indicator of commitment to facilitate Human Services	Poor indicator of accessibility since it does not measure the number of users.
	Personal Computers (per 1,000 people)		Positive (+)	Measures how widespread computers are among the population. This is an important indicator because most people access the Internet through personal computers	**Political Will** indicator of commitment to facilitate Human Services	Poor indicator of accessibility since it does not measure the number of users.
	Population not using Internet (%)		Negative (-)	Access to information is increasingly dependent upon one's ability to use the Internet.	**Negative Outcome Benchmark** indicator to denote structural barriers to inclusion	Nua Internet Surveys, United Nations Development Program.

Access to Postal Services	Number of Permanent Postal Offices (per 10,000 people)	0.10	Positive (+)	Permanent offices offer a full range of services. They are post offices at which customers can obtain any postal service.	**Political Will** indicator of commitment to facilitate Human Services	Universal Postal Union (www.upu.int)
	Population Without Postal delivery (%)		Negative (-)	Indicates lack of access to basic postal service	**Negative Outcome Benchmark** indicator to denote structural barriers to inclusion	Universal Postal Union (www.upu.int)
Citizen Participation	Voter Turnout (%)	0.15	Positive (+)	Voter participation indicates a level of commitment people has to the political system and the extent to which all segments of society participate in key decisions.	**Political Will** indicator of commitment to facilitate Human Services	International Institute for Democracy and Electoral Assistance
	Voter Non-Participation Rate (%)		Negative (-)	Percent of population not participating in voting process. Non-participation indicates a lack of interest and political attachment	**Negative Outcome Benchmark** indicator to denote structural barriers to inclusion	International Institute for Democracy and Electoral Assistance

WHEN THE INFORMATIONAL COMMONS FUNCTIONS AS IT SHOULD

The public information and space sub-index consists of five key areas: public places, public transportation, access to ICTs, access to postal services, and citizen participation.

- **Public Places**

These are important for providing people with areas in which to interact, communicate, and participate in political discourse. Land area protected for recreational, cultural, or environmental purposes is important for creating and maintaining a socially inclusive environment. Lack of adequate public places may deny many people their right to receive, discuss and produce information. The accessibility of public places is important for excluded groups such as the disabled, women, or children. For example, accessible public places, for the disabled are those in which people with mobility, vision, hearing, or intellectual disabilities can use the facilities, venues, and services independently, equitably, and with dignity.

- **Public Transportation**

As part of society's transportation system, trains, airports, and road networks play an important role in facilitating the civic engagement of citizens. Transportation brings people together, it gives people their communal focus and fulfils their shared needs. As such it plays an important role in providing the foundation for a healthy, vibrant, and sustainable community. Access to ICTs is essential in the information age as this affects a citizen's ability to participate in the economy and society, their educational success, and their interactions with government. Computers and the Internet provide access to information and resources that can affect skills and employment, educational opportunities, and community or civic participation.

- **Postal Services**

Access to postal services is essential in any society as a basic and inexpensive form of communication. They represent an indicator of the level of political will or state commitment to providing basic public services. In many countries, the growth of the public domain is often related to the growth of citizenship. Citizenship needs, rather than the price mechanism, determines allocation of public goods. A well-developed public domain also supports public sanctuaries, which are not subject to commercial interest and private property.

- **Citizen Participation**

Citizen participation is measured by voter turnout rates and indicates the level of trust and political participation. Collective engagements of responsibility are a measure of social capital and the extension of the franchise was one of the most powerful building blocs of civic engagement. The universal franchise was both strongly democratic and anti-elitist in challenging the existing power structure. The current decline in voting in many countries can be interpreted as a loss of public trust in public services and a decline in the moral ethic of the common good. Significantly, the emergence of social movements throughout the hemisphere indicates that citizenship participation is not the only measure of political participation. Social movements are redefining political boundaries as citizenship participation takes new forms and directions.

THE NITTY-GRITTY OF THE DIGITAL DIVIDE AND ITS CONSEQUENCES

The Organization for Economic Co-operation and Development (OECD) defines the digital divide as “the gap between individuals, households, businesses and geographic areas at different socio-economic levels with regard to their opportunities to access information and

communications technologies (ICTs) and to their use of the Internet for a wide variety of activities."[1] NUA, an online source of information on Internet demographics and trends provides the most comprehensive unofficial estimates based on combining survey data from different companies. A sample of the general population is most commonly asked whether they have online access at home or at work. Their survey evidence suggests that world-wide the number of Internet users has exploded from about 26 million in 1995 to approximately 513 million by August 2001. Although this represents a remarkable rise, it remains the case that at present only 8% of the world's population is online. Globally, the regional disparities are marked. In August 2001, NUA estimated that approximately one third of the world's online community (180 million) lives in the United States and Canada alone.[2]

It is often accepted without question that economic growth supports human development, well-being, and social prosperity. This is the case when economic growth reduces inequality, increases the standard of living and enables more people to be secure from the swings of the business cycle. But as this reports emphasizes, market-led development has often threatened the well-being and livelihood of low income earners throughout the hemisphere, and markets have often created substantial barriers, some regulatory in origin and others price driven, to the free movement of information. As a result, there are many more information have-nots in MERCOSUR countries than there are in the wealthy countries of Canada and the US. The public information and space sub-index underlines this growing digital divide between the information haves and have-nots. In addition to the digital divide, there are observable parallel gaps in access

[1] OECD, Understanding the Digital Divide (2001) 5.
[2] NUA Internet Surveys, How Many Online? Available online at: www.nua.ie/surveys/how_many_online/world.html.

to basic postal services and public transportation. Moreover, voter participation rates have not positively increased with increased trade as expected.

Significant gaps in access to public transportation between the countries are apparent. The United States led the index with a net inclusion score of –11.5 in this area in the year 2000. In the same year, Canada followed the United States, scoring –18.3. Argentina, Mexico, Brazil, and Chile followed, illustrating the gap in public transportation infrastructure between the developed and developing countries. Brazil, Chile, and Argentina have the highest percentages of unpaved roads, as these countries experience the least amount of political will to provide universal access to public transportation and more initiatives to privatize highways, railways, and airports.

Access to postal services has been assessed by looking at the number of permanent postal offices per 10,000 people as well as the percent of the population not receiving postal delivery. In the year 2000, Canada achieved the highest amount of inclusion in this area, scoring 6.3, followed by the United States with 1.4, Argentina with 1.1, Chile with 0.4, Brazil with –0.5, and Mexico with –2.6. Mexico ranked at the bottom due to the high percentage of its population without postal delivery.

Citizen participation is reflected in voter turnout rates. Paradoxically, while interest in the Internet and email has reached unprecedented levels, involvement in the political system, through universal franchise, has dropped precipitously. The hollowing out of the formal political system is difficult to reconcile with the growth of the information commons and is not the relationship expected. Depoliticization of large sections of the public through their absenteeism in the voting booth is a major trend in a so-called information age. Citizen participation has generally been declining in all the six countries since 1995. The United States appears to have

the highest level of inclusion in this area, scoring –12.3 in the year 2000. In the same year, Canada scored –19.5 and was followed by Argentina, Chile, Brazil, and Mexico.

It has become commonplace to suggest that the public in many countries in the hemisphere have become more and more disenchanted with the traditional institutions of representative government, detached from political parties, and disillusioned with older forms of engagement and participation. As a result, new digital technologies have provided a fresh way to engage in political discourse and interaction for individuals but not for the collective whole. This is true for all countries, but particularly so in Brazil, Argentina, and Mexico where there has been an exponential growth in technologies that have had marked effects on the urban population. Yet, despite the explosion in the information technologies, the level of political participation in these countries has not increased. Lack of political participation is partly due to the fact that civil society groups have been excluded from decision-making in many countries and are often viewed with suspicion and distrust. In MERCOSUR countries, voting is an obligation by law and although there are very high voter turnouts, this reflects an artificial sense of political participation, as politics is frequently controlled by the political elites.

SOME KEY SOCIAL ASPECTS OF THE INFORMATIONAL COMMONS

This brings us to consider the social aspects of the informational commons. The informational commons is a space in which people are able to create, share, and manage information. ICTs have become integrated into the social, economic, political, and cultural realms of society. They have the capacity to foster the dissemination of information and knowledge irrespective of geographic boundaries and allow remote communities to be included in global networks. In both North and South America, despite high rates of urbanization, there

are still many living outside of urban areas. In the far north of Canada, the Inuit are linked to the rest of the hemisphere through Internet services. These small isolated communities also have local community television stations that provide essential information and aid in times of distress. [3]

The idea of an informational commons has been developing for the last half century. At its core is the idea that all may draw from the free flow of information to use enhanced knowledge in the most satisfactory way. It has always been difficult to prevent the public domain from being appropriated for private ends but public authority has been ready to ring-fence elements of intellectual property that are ineligible for private ownership. A private domain, which allows information to be owned and controlled by its owner, is very different from the informational commons. For the informational commons to function, as it should, it requires institutions, practices and political will. It needs places to store facts, information and knowledge for the public. This entails having sites for reference books, libraries, schools, government documents and the news media. Even this is not enough; the informational commons, in the final analysis, is a repository of society's stories, myths and public talks.

Many see the Internet as a powerful new force capable of facilitating new forms of public engagement and communication, which may ultimately lead to the development of a global civil society. The Internet provides new points of access into the political system, creating new possibilities for social mobilization, organizational linkage across distances, and informal networks. The World Wide Web has the potential to foster transparency and efficiency in government and in communication and information sharing among people and public

[3] ICTs have become so important that the International Telecommunications Union makes reference to the right to communicate. Thus access to basic communication and information services is often thought of as a human right but there is no consensus on this fundamental point as yet.

organizations. In theory, it allows every person the same opportunity to be part of a discursive worldwide movement of citizens who are active locally, nationally and regionally. In this putative global village barriers such as race or gender disappear. But so far, this virtual understanding of the new informational commons has not provided people with the capacity to monitor the activity of governments and corporations anywhere in the world. Government secrecy laws and social and economic conditions continue to restrict public access to information. As well, elites have been able to assert property rights over the new information economy.

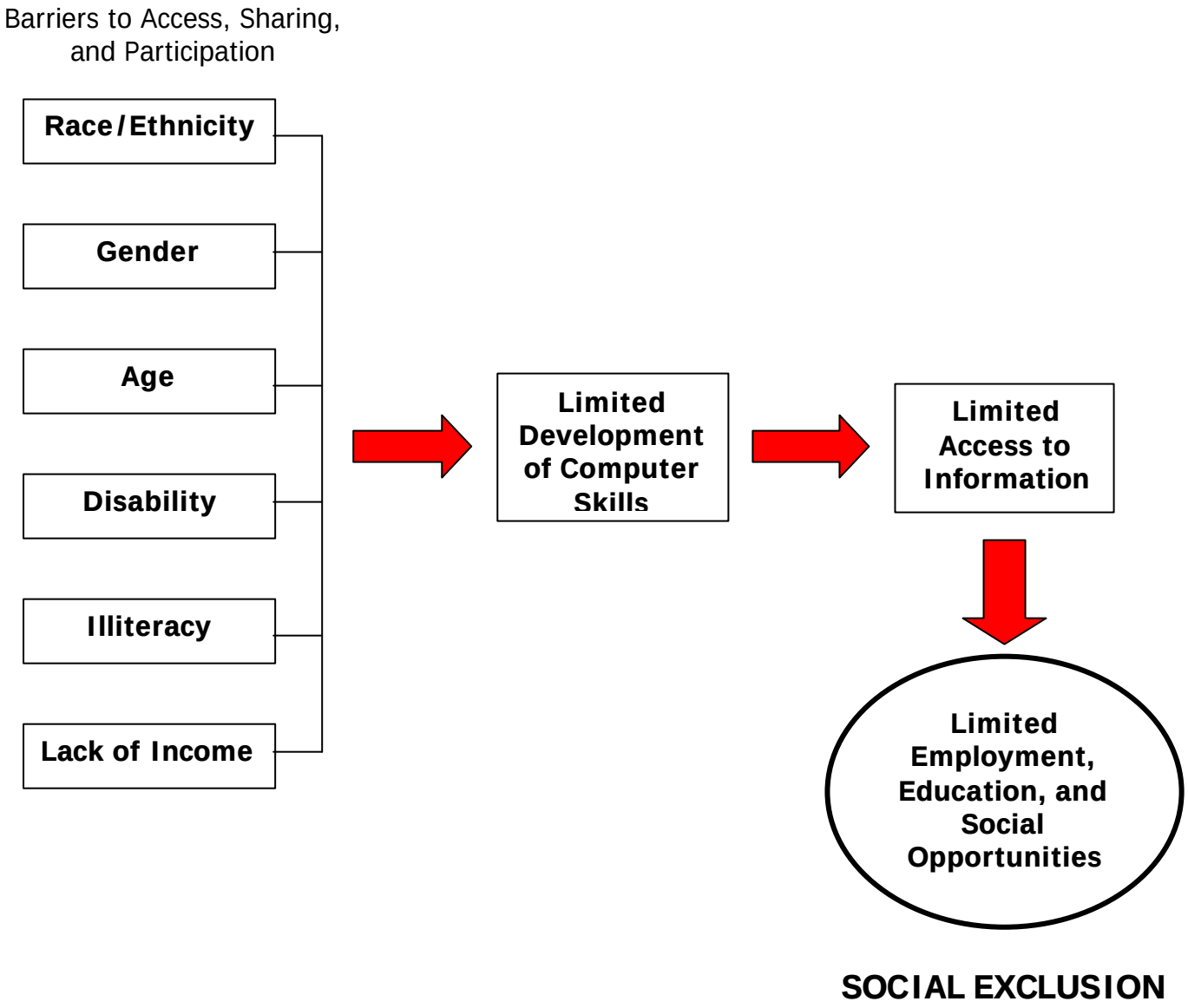
THE DIGITAL DIVIDE: A CONCEPTUAL MODEL

A particularly vivid example of the failure to broaden access to information is what is currently called the digital divide. The digital divide, as can be seen in Figure 5, is the opposite of the informational commons. It is the result of various barriers to access, sharing and participation such as lack of income, geography, age, gender and race/ethnicity. As a result of these barriers, certain individuals and groups are not able to develop the skills necessary for participation in the information society. Access and participation in the information society are necessary perquisites for getting and retaining a well paid job, learning and participating in the community. Many experts refer to this as acquiring human capital skills and for too many of the most vulnerable and least integrated in society, this does not occur. When the forces of inclusion are not sufficient to reduce the effects of these barriers exclusion results.

Different groups lack access for very different reasons. One major determinant of access is the affordability of technology, including the cost of hardware, software, Internet service providers and telephone services. Unaffordable access is probably the single most important reason for low use of ICTs in MERCOSUR countries. In addition, literacy and the ability to

work with computers and the Internet are becoming fundamental to participation and work in society. Those most often excluded are women, the elderly, racial and ethnic minorities and those with low levels of education and income. Many whose first language is not English are at a disadvantage because some knowledge of English is required even for ‘surfing’ the Net. The cost of improving access for all individuals remains prohibitively high in MERCOSUR countries where there are more immediate concerns such as providing public housing, clean water, and pensions. Unfortunately, many countries in the hemisphere have not understood that improved access to the informational commons can reduce isolation, inequality and exclusion.

Figure 5: The Digital Divide: A Conceptual Model



Barriers to access, participation, and sharing in the informational and spatial environment will affect a citizen's ability to participate in the economy, in his or her educational success, and his or her interactions with government.

THE STATE OF PLAY OF INFORMATION TECHNOLOGY IN THE HEMISPHERE

So far the global information society, in which information is the cornerstone of democracy and the promotion of human rights, is only an incipient trend line. A principle reason for this is that while more educated people have quickly adapted to new innovations many others have been left behind and many corporations have used new information technology to gain economic advantage for themselves but not others. Freedom of information is still not a citizen's fundamental right. While many countries are quick to exhort the advantages of information technology, they have forgotten the pivotal role that education plays in contributing towards basic literacy. Reading and writing skills are essential for pushing back the boundaries of the informational commons.

If basic illiteracy represents an important barrier to access then, even if computing equipment became more widely available through Internet cafes, schools, public libraries and community centres, most of the world's poor would still be excluded from the information revolution because they lack the technology fluency essential for full participation. The disabled community often finds itself lacking basic Internet tools because of limited investments in assistive technologies development.

There are also important economic dimensions to the informational commons and a danger that MERCOSUR and NAFTA countries will become increasingly polarized between the information rich and the information poor. The United Nations Development Report warned that gains in productivity produced by new technologies might widen differences in economic growth between the most affluent nations and those that lack the skills, resources, and infrastructure to invest in the information society. "The network society is creating parallel communications systems: one for those with income, education and literally connections, giving plentiful

information at low cost and high speed; the other for those without connections, blocked by high barriers of time, cost, and uncertainty dependent upon outdated information."[4] These disparities are exacerbated when most of the world's population continues to lack basic access to a telephone, let alone a computer. As a result, societies at the periphery of global communication networks are becoming increasingly marginalized. MERCOSUR countries often seen themselves as peripheral to NAFTA North, and the imbalance in information flows between the North and the South pose great risks for the stability of the hemisphere.

POLICY RECOMMENDATIONS

Although the number of people with access to computers and the Internet continues to grow annually, the digital divide also continues to grow as those sections of society already connected are adopting newer technologies faster and are connecting even more. It is important to recognize that the three MERCOSUR countries in this report can be classified as middle-income countries that are sharply polarized. Thus, it is wrong to see the divide as resulting only from North-South tensions. There are also strong gender and socio-economic dimensions to the digital divide that are not geographically determined. All over the hemisphere, many groups with lower rates for Internet and computer usage continue to lag far behind. An even more disturbing trend line is that the gap is widening along already strained economic and racial lines.

A principal finding of this report is that throughout the hemisphere, both NAFTA and MERCOSUR countries are increasing their access to and use of ICTs. Within all countries, all groups, even the poorest, are increasing their access to and use of ICTs. But within each of these countries, the information-haves are increasing access and use at such an exponential rate

[4] UNDP, Human Development Report 1999: Globalization With a Human Face (New York: Oxford University Press, 1999) 63.

that in effect the division within countries is also actually growing as well. This is particularly the case in Mexico and Brazil. What we have learned is that while all countries in the study are getting more access to information, the gaps between the information haves and have-nots are growing in alarming ways.

Democracy is ill-served by the weakening of the informational commons and public authorities need to protect it from intrusive forces. New measures are required that will lead to a levelling-up in the participation and access to ICTs. At a minimum these include:

- **Broadening Access**

  Increased funding is needed to include community technology centres in economically disadvantaged neighbourhoods, in libraries, schools, post offices, employment officers, and elderly centres. These community-based networking services create opportunities to effectively address some of the core issues of public access, training and content development. This can also be done by lowering the costs of Internet access by direct subsidies for monthly Internet connection. Access to information technology and the information commons requires the removal of barriers to access and a way to focus political will on digital opportunities for all.

- **Facilitate Digital Literacy**

  Public authorities must respond more quickly and effectively to the special training of people with disabilities, older people, or people with learning difficulties. Literacy as a barrier extends beyond reading, writing and technical literacy. It also involves social literacy or social capacity, which involves individuals' abilities to understand and use information in ways that are beneficial and meaningful to their everyday lives.

- **Inclusive Content**

Diverse, socially and culturally relevant content at the local, regional, and national levels is necessary for individuals to meet their daily social, economic, and cultural needs. Online content must be relevant for excluded people. Information must be available in many languages. The dominance of the English language creates uniformity rather than diversity by excluding non-English speaking people.

- **Awareness Raising**

Many people, particularly those from less privileged groups, are unaware of the positive impact which ICTs, particularly the Internet, can have on their educational, employment, social opportunities. Awareness of potential personal benefits is a powerful incentive to motivate people to overcome the barriers and obstacles to digital exclusion.

The public domain and informational commons remain threatened by the inability of public authorities to develop policy measures to safeguard the commons. Integration has promoted the idea of sameness when in fact we live in a world of diversity. Increasingly, citizens look to their governments to develop policies that reflect their own needs and values. But in the hemisphere, it is increasingly difficult for Spanish-, Portuguese- and French-speaking countries to develop the full potential of their informational commons when so much is expressed in English. In addition, there are challenges from the World Trade Organization, which treats information technologies as trade investment opportunities rather than as part of a country's cultural heritage. Its commercial emphasis often ignores other essential aspects of information technology, such as its role in combating illiteracy and in local and community development.

Countries need to do better, they can and must. In the digital age many continue to fall through the social net no less than the Internet. Information is empowerment and a right of

citizenship. Learning to maximize diffusion of information nationally and globally needs to be tackled with vigour and foresight.

BIBLIOGRAPHY

Atwell, Paul A. "The First and Second Digital Divides." *Sociology of Education* 74.3 July 2001): 252-259.

Bimber, Bruce. "Measuring the Gender Gap on the Internet." *Social Science Quarterly* 81.3 (September 2000): 868-876.

Castells, Manuel. *The Rise of the Network Society.* Malden, MA: Blackwell Publishers, 2000.

Central Intelligence Agency. *The World Factbook 2001*. Available on CIA website: www.cia.gov/cia/publications/factbook/index.html.

Crow, Barabara and Graham Longford. "Digital Restructuring: Gender , Class and Citizenship in the Information Society in Canada" in *Citizenship Studies*, 4:2 (2000): 207-230.

Crystal, David. *Language and the Internet*. New York: Cambridge University Press, 2001.

Ishaq, Ashfaq. "On the Global Digital Divide." *Finance and Development* 38.3 (September 2001): 44-47.

Lax, Stephen. *Access Denied in the Information Age*. New York: Palgrave, 2001.

Longford, Graham and Barbara Crow. *From the "Electronic Cottage" to the "Silicon Sweatshop": Social Implications of Telemediated Work in Canada*, unpublished paper, 2000.

Norris, Pippa. *Digital Divide: Civic Engagement, Information Poverty, and the Internet Worldwide*. New York: Cambridge University Press, 2001.

NUA Internet Surveys. *How Many Online*? Available on NUA website: www.nua.ie/surveys/how_many_online/world.html.

Organisation for Economic Co-operation and Development, Centre for Educational Research and Innovation. *Learning to Bridge the Digital Divide.* Paris: 2001.

Organisation for Economic Co-operation and Development. *Understanding the Digital Divide.* 2001.

Roberts, Alasdair. "The Informational Commons at Risk" *The Market or the Public Domain: Global Governance and the Asymmetry of Power*, Daniel Drache (ed), New York/London: Routledge, 2001.

United Nations Development Programme. *Human Development Report 1999: Globalization With a Human Face*. New York: Oxford University Press, 1999.

United Nations Development Programme. *Human Development Report 2001: Making New Technologies Work for Human Development*. New York: Oxford University Press, 2001.

APPENDIX I:

PUBLIC INFORMATION AND SPACE INDICATORS

Indicators

Public Information and Space = Public Places + Public Transportation + Access to ICTs + Access to Postal Services + Citizen Participation

Public Places (15%)

POLITICAL WILL INDICATOR

Indicator Name and Abbreviation: % of Land Area Protected (LA)

Definition: An area of land and/or sea dedicated to the protection and maintenance of biological diversity, and of natural and associated cultural resources. This includes nature reserves (protected area managed mainly for science), wilderness areas (for wilderness protection), national parks (for ecosystem protection and recreation), natural monuments (managed mainly for conservation of specific natural features), habitat/species management areas (managed mainly for conservation through management intervention), protected landscape/seascape (protected area managed mainly for landscape/seascape conservation and recreation), and managed resource protection (protected area managed mainly for the sustainable use of natural ecosystems).

Rationale: Public places provide people with an area for public dialogue, communication, and interaction. A high level of protection indicates political will in protecting land area for the recreational, cultural, and environmental purposes.

Data Source: World Conservation Monitoring Centre (www.wcmc.org.uk)

Limitations: Data is incomplete for certain countries and certain years.

Inference Procedures: 1985 and 2000 estimated based on 1990 and 1995 data.

Calculation of Score: (% of Land Area Protected/100)15

NEGATIVE OUTCOME BENCHMARK

Indicator Name and Abbreviation: % of Land Area Unprotected (ULA)

Definition: Land and/or sea unprotected for the purposes of biological diversity, and of natural and associated cultural resources.

Rationale: Level of unprotected land indicates low priority to protect public places for recreational, cultural, or environmental purposes.

Data Source: World Conservation Monitoring Centre (www.wcmc.org.uk)

Limitations: Same as above.

Inference Procedures: Same as above.

Calculation of Score: (% of Land Area Unprotected/100)15

Public Transportation (25%)

POLITICAL WILL INDICATORS

Indicator Name and Abbreviation: Number of Airports (AP)

Definition: Total number of airports per 10,000 people.

Rationale: Total number of airports per 10,000 people indicates level of access to transportation infrastructure. Transportation is important to social inclusion in that it allows mobility and exchange of information and cultural values.

Data Source: CIA World Fact Book, 2000.

Limitations: N/A

Inference Procedures: 1985 data inferred from 1990 to 2000 data.

Calculation of Score: (Number of Airports/255)25

Indicator Name and Abbreviation: Railway (RL)

Definition: Total railway kilometers per 10,000 people.

Rationale: Indicates level of access to transportation infrastructure. Transportation is important to social inclusion in that it allows mobility and exchange of information and cultural values.

Limitations: N/A

Data Source: CIA World Fact Book, 2000.

Calculation of Score: (Railway kilometers per 10,000 people/255)25

NEGATIVE OUTCOME BENCHMARK

Indicator Name and Abbreviation: Unpaved Roads (UR)

Definition: Unpaved roads as percent of total road network.

Rationale: Total unpaved road is a negative indicator illustrating government commitment to provide the population with paved roads for easy access. The higher the percent of unpaved roads in a country, the lower the amount of mobility the population will experience.

Data Source: CIA World Fact Book, 2000.

Limitations: No data available for 1985.

Inference Procedures: 1985 inferred from 1990 to 2000 data.

Calculation of Score: (% Unpaved Roads/100)15

Access to Information and Communication Technologies (ICTs) (35%)

POLITICAL WILL INDICATORS

Indicator Name and Abbreviation: Main Telephone Lines (TL)

Definition: Main telephone lines per 1,000 people.

Rationale: Telephone lines are a key method for Internet access. Dial-up Internet access requires a telephone line and a personal computer with a modem. Telephone lines also indicate the degree of telecommunication development in a country. It indicates the level of access to communications at the most basic level.

Data Source: United Nations Human Development Indicators

Limitations: Not disaggregated.

Inference Procedures: 1985 inferred estimation, inferred 1998 data for 2000.

Calculation of Score: (Main telephone lines per 1,000 people/2110)35

Indicator Name and Abbreviation: Cellular Mobile Subscribers (CM)

Definition: Cellular mobile subscribers per 1,000 people.

Rationale: This indicator measures the level of use of wireless communications technology.

Data Source: United Nations Human Development Indicators

Limitations: Not disaggregated.

Inference Procedures: 1985 inferred estimation, inferred 1998 data for 2000.

Calculation of Score: (Cellular mobile subscribers per 1,000 people/2110)35

Indicator Name and Abbreviation: Public Telephones (PT)

Definition: Public telephones per 1,000 people. The total number of all types of public telephones including coin and card operated. Cellular mobile subscribers refers to users of portable telephones subscribing to an automatic public mobile telephone service using cellular technology.

Rationale: Public access to telecommunications.

Data Source: United Nations Human Development Indicators

Limitations: Not disaggregated.

Inference Procedures: 1985 inferred estimation, inferred 1998 data for 2000.

Calculation of Score: (Public telephones per 1,000 people/2210)35

Indicator Name and Abbreviation: Internet Hosts (IH)

Definition: Internet hosts per 1,000 people.

Rationale: Internet hosts is the most commonly used indicator to compare Internet development between countries is the number of host computers. A host is any computer system connected to the Internet. Hosts can be a useful infrastructure indicator of the number of computers in a nation that are connected to the Internet.

Data Source: United Nations Human Development Indicators

Limitations: Poor indicator of accessibility since it does not measure the number of users.

Inference Procedures: 1985 and 1990 inferred data from 1995 and 2000.

Calculation of Score: (Internet hosts per 1,000 people/2210)35

Indicator Name and Abbreviation: Personal Computers (PC)

Definition: Personal computers per 1,000 people.

Rationale: The number of PCs in use for every 1,000 persons is a measure of how widespread computers are among the population. This is an important indicator because most people access the Internet through personal computers.

Data Source: United Nations Human Development Indicators

Limitations: Poor indicator of accessibility since it does not measure the number of users.

Inference Procedures: 1985 data inferred estimation, 1998 data used for 2000.

Calculation of Score: (Personal computers per 1,000 people/2210)35

NEGATIVE OUTCOME BENCHMARK

Indicator Name and Abbreviation: Population Not Using the Internet (NI)

Definition: Percent of population not using the Internet.

Rationale: Access to information is increasingly dependent upon one's ability to use the Internet.

Data Source: Nua Internet Surveys, United Nations Development Program

Limitations: Poor indicator of accessibility since it does not measure the number of users. Unreliable data sources.

Inference Procedures: 1985 and 1990 inferred data.

Calculation of Score: (% population not using Internet/100)30

Access to Postal Services (10%)

POLITICAL WILL INDICATOR

Indicator Name and Abbreviation: Permanent Postal Offices (PO)

Definition: Number of permanent postal officers per 10,000 people. Permanent offices offer a full range of services. They are post offices at which customers can obtain any postal service.

Rationale: Access to basic postal service. Indicates state commitment to provision of public service.

Data Source: Universal Postal Union (www.upu.int)

Limitations: Unreliable data.

Inference Procedures: 2000 data inferred from preceding years.

Calculation of Score: (Number of Permanent Postal Offices per 10,000 people/10)10

NEGATIVE OUTCOME BENCHMARK

Indicator Name and Abbreviation: Population Without Postal Delivery (NP)

Definition: Percent of population without postal delivery.

Rationale: Indicates lack of access to basic postal service.

Data Source: Universal Postal Union (www.upu.int)

Limitations: Unreliable data.

Inference Procedures: Some years inferred.

Calculation of Score: (% population without postal delivery/100)20

Citizen Participation (15%)

POLITICAL WILL INDICATOR

Indicator Name and Abbreviation: Voter Turnout (VT)

Definition: % of population voting at election.

Rationale: Voter participation indicates a level of commitment people have to the political system and the extent to which all segments of society participate in key decisions.

Data Source: International Institute for Democracy and Electoral Assistance

Limitations: Voter turnout rates had to be calculated according to the latest elections which is different for each country and had to be inferred in most cases.

Inference Procedures: Data taken from year of nearest election data.

Calculation of Score: (Voter turnout/100)15

NEGATIVE OUTCOME BENCHMARK

Indicator Name and Abbreviation: Voter Non-Participation (VN)

Definition: Percent of population not participating in election.

Rationale: Percent of population not participating in voting process. Non-participation indicates a lack of interest and political attachment.

Data Source: International Institute for Democracy and Electoral Assistance

Limitations: Voter turnout rates had to be calculated according to the latest elections which is different for each country and had to be inferred in most cases.

Inference Procedures: Data taken from year of nearest election data.

Calculation of Score: (Voter non-turnout/100)15

PROBLEMS IN SUB-INDEX CONSTRUCTION

The major problem faced in construction of this sub-index is the lack of reliable indicators. Public information and space is a relatively new area that has only received serious attention in the last decade. With the growth in information and communications technologies, the availability and quality of statistical information will continue to improve. As a result of the lack of available statistical data, the public information and space sub-index underwent major changes in its development and as a result, many key indicators were omitted from the sub-index. Some of these indicators include:

- % schools with Internet access
- volunteer participation rates
- freedom on the Internet
- telephone average cost of local call (US$ per three minutes)
- public expenditure on intercity transportation

The percentage of schools with Internet access would have been a strong indicator of political will or state commitment to increasing access to ICTs for children and facilitating digital literacy at an early age. Many countries have implemented policies to increase Internet access in schools in conjunction with programs aimed at increasing the number of PCs in schools and homes. Such programs and policies help to increase access to the Internet to excluded individuals and groups.

Volunteerism is an important aspect of participation within a community. The distinction between volunteering and paid employment is that a volunteer does not undertake the activity primarily for financial gain and the act is undertaken by free will. Voluntary organizations, community groups, civil society organizations, third sector associations, non-governmental and

non-profit organizations – are all terms describing the variety of organizational structures which occupy the space outside the state and market.

There are two major benefits of volunteering. First, volunteering makes an economic contribution to society. Activities carried out by volunteers would otherwise have to be funded by the state or by private capital. Volunteering reduces the burden on government spending. The second benefit is that volunteering helps build strong and cohesive communities. It fosters trust between citizens and helps develop norms of solidarity and reciprocity, which are essential to stable communities.

Volunteering also has benefits for the volunteer. Volunteering leads to personal satisfaction through enabling people to meet new friends, learn new skills, gain confidence and self-respect. Volunteering brings particular benefits to those suffering from social exclusion. For people with disabilities, participating in volunteering can aid social integration and challenge negative stereotypes of disabled people as passive recipients of care. For unemployed people, volunteering can improve employability by providing essential work-experience and opportunities for skills development and training. For young people, volunteering offers opportunities for self-development and risk-taking and provides a valuable grounding in the practice of citizenship. For older people, volunteering has a positive contribution to make to the process of “active aging” by helping the newly retired adjust to life without the structure of the workplace, by providing opportunities for life-long learning and by improving physical and mental well-being. For volunteering to contribute most effectively to social integration it is essential that opportunities for greater involvement are opened up to people from excluded groups.

APPENDIX II:

PUBLIC INFORMATION AND SPACE DATA SHEET

Social Inclusion in PUBLIC INFORMATION AND SPACE Indicators Data Table

INDICATOR	SOURCE	YEAR	ARGENTINA	BRAZIL	CANADA	CHILE	MEXICO	UNITED STATES	MAX
PUBLIC SPACES: (15% weighting)									
POSITIVE POLITICAL WILL INDICATOR Land area protected (%)		1982	4.35	1.89	6.48	17.74	4.93	10.88	100
		1998	4.35	1.89	7.40	18.80	4.93	11.00	
		1999	1.57	2.78	8.32	18.36	4.93	11.12	
		2000	1.57	5.67	9.24	18.52	4.93	11.24	
NEGATIVE OUTCOME BENCHMARK INDICATOR Land area not protected (%)		1982	95.65	98.11	93.52	82.26	95.07	89.12	100
		1998	95.65	98.11	92.60	82.80	95.07	89.00	
		1999	98.43	96.22	91.68	81.74	95.07	88.88	
		2000	98.43	94.33	90.76	81.48	95.07	88.76	
PUBLIC TRANSPORTATION: (25% weighting)									
POSITIVE POLITICAL WILL INDICATOR Railway (km per 10,000 people)		1982	18.67	1.76	30.27	6.69	2.30	10.85	50
		1998	18.60	1.85	30.20	6.60	2.40	10.80	
		1999	18.10	1.90	27.30	5.50	2.60	9.10	
		2000	18.40	1.61	11.30	4.30	3.10	8.70	
POSITIVE POLITICAL WILL INDICATOR Airports (per 10,000 people)		1982	0.63	0.34	0.58	0.39	0.10	0.67	200
		1998	0.56	0.25	0.51	0.30	0.20	0.62	
		1999	0.47	0.20	0.49	0.28	0.22	0.57	
		2000	0.37	0.20	0.45	0.24	0.18	0.53	
NEGATIVE OUTCOME BENCHMARK INDICATOR Unpaved Roads (% of total)		1982	88.53	102.86	76.83	88.71	70.44	42.06	5
		1998	77.18	91.69	71.73	87.46	89.03	41.70	
		1999	72.64	91.33	70.13	86.20	83.00	41.80	
		2000	71.30	91.70	64.70	86.20	70.30	41.20	
ACCESS TO ICT'S: (35% weighting)									
POSITIVE POLITICAL WILL INDICATOR Main Telephone Lines (per 1,000 people)		1982	94.93	64.91	564.93	65.91	64.90	544.95	1000
		1998	95.00	65.00	565.00	66.80	65.00	545.08	
		1999	159.90	74.80	589.70	132.00	95.80	621.78	
		2000	203.00	121.00	634.00	205.00	104.08	661.08	
POSITIVE POLITICAL WILL INDICATOR Public Telephones (per 1,000 people)		1982	0.65	1.31	6.27	1.21	0.90	7.65	10
		1998	0.70	1.60	6.20	1.30	1.00	7.60	
		1999	2.02	2.27	6.03	1.31	2.68	5.72	
		2000	2.70	3.00	6.10	0.90	3.50	6.50	
POSITIVE POLITICAL WILL INDICATOR Cellular Mobile Subscribers (per 1,000 people)		1982	0.33	7.76	21.53	0.91	0.90	20.95	200
		1998	0.40	7.88	22.80	1.00	1.00	21.00	
		1999	9.85	7.95	87.47	13.82	6.99	128.48	
		2000	73.00	49.00	176.00	63.80	13.00	256.08	
POSITIVE POLITICAL WILL INDICATOR Internet Hosts (per 1,000 people)		1982	0.06	0.03	17.27	0.87	0.10	21.00	200
		1998	0.13	0.13	17.44	0.78	0.10	21.05	
		1999	0.20	0.20	17.30	0.70	0.00	21.10	
		2000	8.70	7.20	108.00	6.20	9.20	179.18	
POSITIVE POLITICAL WILL INDICATOR Personal Computers (per 1,000 people)		1982	6.93	2.91	106.93	10.91	7.90	216.95	500
		1998	7.00	3.00	107.00	11.80	8.00	217.08	
		1999	24.27	12.99	195.80	27.83	36.13	327.99	
		2000	59.00	38.00	330.00	46.80	47.00	458.08	
NEGATIVE OUTCOME BENCHMARK INDICATOR Population Not Using Internet (%)		1982	100.00	94.53	82.13	93.87	89.82	93.40	100
		1998	100.00	94.44	82.86	93.78	89.72	93.35	
		1999	98.95	94.36	82.80	98.7	89.62	93.30	
		2000	97.82	94.30	67.80	85.88	87.51	48.00	
ACCESS TO POSTAL SERVICES: (10% weighting)									
POSITIVE POLITICAL WILL INDICATOR Number of Permanent Postal Offices (per 10,000 people)		1982	1.33	0.74	5.06	0.62	0.31	1.63	10
		1998	1.37	0.78	6.19	0.84	0.30	1.69	
		1999	1.63	0.69	6.25	0.41	0.31	1.87	
		2000	1.76	0.70	6.30	0.37	0.97	1.37	
NEGATIVE OUTCOME BENCHMARK INDICATOR Population Without Postal Delivery (%)		1982	3.00	1.00	0.00	0.10	4.52	0.00	100
		1998	1.30	0.50	0.00	1.20	10.00	0.00	
		1999	0.00	0.20	0.00	0.60	5.00	0.00	
		2000	3.07	6.00	0.00	0.00	10.00	0.00	
CITIZEN PARTICIPATION: (15% weighting)									
POSITIVE POLITICAL WILL INDICATOR Voter Turnout (%)		1982	77.30	81.90	67.90	90.70	65.90	53.10	100
		1998	82.80	79.40	66.30	86.30	42.00	53.20	
		1999	79.80	78.90	56.20	81.90	65.90	47.20	
		2000	76.80	74.40	46.20	77.30	80.00	47.00	
NEGATIVE OUTCOME BENCHMARK INDICATOR Voter Non-Participation Rate (%)		1982	22.30	18.10	32.10	9.30	34.10	46.90	100
		1998	17.20	20.60	33.80	13.70	58.00	44.80	
		1999	20.20	20.10	43.80	18.10	34.10	52.80	
		2000	100.00	100.00	100.00	100.00	100.00	100.00	

POPULATIONS	1985	1990	1995	2000
ARGENTINA	30,305,000	32,527,000	34,768,000	37,032,000
BRAZIL	135,224,000	149,002,000	169,015,000	169,302,000
CANADA	25,042,000	27,791,000	29,402,000	30,679,000
CHILE	12,047,000	13,099,000	14,210,000	15,211,000
MEXICO	75,465,000	83,226,000	91,145,000	98,881,000
USA	241,656,000	254,106,000	267,115,000	277,825,000

1982 data
1983 data
1984 data
1988 data
1989 data
1992 data
1993 data
1994 data
1996 data
1997 data
1998 data
1999 data
inferred estimation