What is The Digital Divide? [1]

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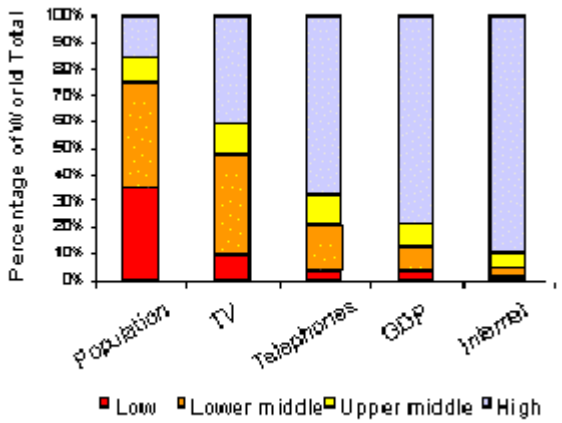
The Scope

The "digital divide," inequalities in access to and utilization of information and communication technologies (ICT), is immense. As can be seen in **Figure 1**, over half of the households in the USA own computers, compared to less than 1% in Africa (ITU, 2000).

Figure 1: Internet Usage & Other Technologies



Source: DOT Force

About 77 million computers in the USA have valid Internet addresses, while in Bangladesh, Angola, Chad, and Syria fewer than ten computers are linked to the Internet. Over time, this division between countries has increased, even as all countries have steadily increased their number of Internet users -- as illustrated by **Figure 2**.

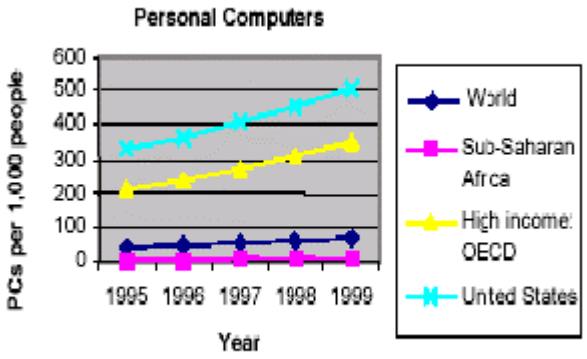
In communication technologies other than computers and Internet, the divide is significant but not as great. (**Figure 3**).

Nonetheless is estimated that 80% of the people in the world have never made a phone call (Digital Dividends, 2001).

The Information Underclass

Even though inequalities in access to ICT are most apparent across countries, there are also inequalities within countries, where there is an "information underclass." In the USA, the least connected households are those with low incomes, Black, Hispanic, or Native American, the unemployed, the

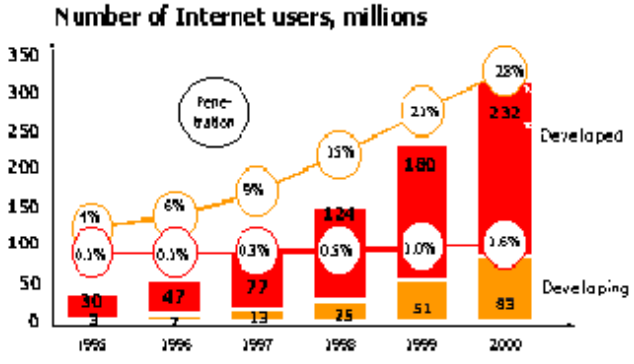
Figure 2: Growth in Number of PCs Worldwide



Source: World Bank

disabled, single parent (especially female headed) households, those with little education, and those residing in central cities or especially rural areas (NTAI, 1999). The technology gap is not simply a reflection of the choices made by individual households, but poor neighborhoods and some rural communities lack the necessary infrastructure available in affluent and more populated areas. (Benton Foundation, 1998). The digital divide in other developed countries (e.g. New Zealand) equally reflects existing disparities in race, income and location (Doczi, 2000).

Figure 3: Growth in Number of Internet Users



Source: ITU

While attention is often focused on the disadvantages to an individual, an equally important problem is the growing unattractiveness of under-wired locations to business, which can lead to "a concentration of poverty and a deconcentration of opportunity." At present, 96% of e-commerce sites are in English and 64% of secure servers are located in the USA (Bridges, 2001). Finally, while public attention often focuses on hardware and interconnectivity, the divide is equally important in terms of human resources—literacy, and people trained and capable of utilizing ICT and developing appropriate software. The underlying trend is that privileged groups acquire and use technology more effectively, and because the technology benefits them, they become even more privileged.

The Broader "Divides"

The digital divide is a sub-set of broader "divides" that characterize the world. High cost anti-malarial drugs are provided to safari-trekkers, at the same time that one African child dies every 30 seconds because of lack of basic malaria prevention services (Dunavan, 2002). Half the world's population lives on less than $2 a day. About 25% of the world's adult population is illiterate (World Bank, 2001). In 1913 the gap between the world's richest quintile and poorest quintile was 13 to 1. In 1990 it was 60 to 1. In 1997 it was 74 to 1. In 1999 the richest 200 people in the world had a combined wealth of $1,135 billion, while the total income of the poorest half a billion people in all the developing countries barely exceeds 10% of that amount (UNDP, 2000).

Any program to reduce the digital divide, therefore, has to start with poverty alleviation, since poverty is by far the greatest impediment to connections with and utilization of ICT. In Bangladesh a computer costs the equivalent of eight years' average pay. The cost for Internet connections in Africa exceeds the average income of most of the population, while it amounts to 1% of average monthly income in the USA (US Internet Council, 2000). Poverty reduction, fueled by economic and social development, depends on many factors other than ICT - political stability, macroeconomic governance, transparency and accountability of national and local administrations, physical infrastructure, and basic literacy. By no means is access to ICT a panacea or short cut for reduction of poverty.

Bridging the Divide

There are, nonetheless, compelling reasons why it is necessary to greatly increase public access to new technology. In the first place, even with the Internet "bust" of the last few years, ICT has become an enormous engine of development. It is estimated that $2 trillion US dollars were invested in ICT in 1999. It is reported that the use of ICT contributed close to 50 percent of total growth in US productivity in the second half the 1990s (Bridges, 2001). An important additional benefit of effective use of ICT is the potential for independent commercial use by local entrepreneurs, which may generate employment and economic growth. A growing ICT service sector may provide better-paid skilled employment, for example by increasing both demand and ability to pay for better education, health, and other social services. In short, affordable access to information infrastructure and the effective use of the gained knowledge are key factors for economic sustainability and improved social conditions.

The "digital divide" is based on insufficient infrastructure, high cost of access, inappropriate or weak policy regimes, inefficiencies in the provision of telecommunication networks and services, lack of locally created content, and uneven ability to derive economic and social benefits from information-intensive activities. To reduce the digital divide requires a "systems" approach broadly attacking all of these issues. But care must be taken. Good investments can make ICT an engine for development. Misguided investments in ICT can divert scarce human and financial resources from more fundamental poverty reducing measures.

Action Points

The Digital Opportunity Task Force (DOT Force), established by the Group of 8 (USA, Canada, United Kingdom, Germany, Italy, France, Japan, and Russia) has set out to define such an approach so as to increase access and use of ICT in developing countries. The DOT Force has proposed the following nine "action points" for ICT enhancement, which the G8 would support:

- Undertake national e-strategies that would establish enabling regulatory and policy frameworks for the growth of ICT.
- Improve connectivity, increase access and lower costs, through use of multiple competing technologies, public and community access points, and sharing of best practices.
- Enhance human resource development through actions such as training teachers in ICT, enhancing awareness of decision makers, and expanding ICT learning opportunities to the rural, the poor, and the disenfranchised.
- Foster enterprise and entrepreneurship through putting in place pro-competitive policies, encouraging private sector innovation, and establishing public/private collaboration.
- Examine emerging worldwide policy and technical issues raised by the Internet and ICT through a network of researchers and policy makers with participation by developing countries.
- Make specific efforts to help the countries that are furthest behind—the poorest countries, with an emphasis on Africa.
- Promote ICT for health education, HIV/AIDs, and other communicable diseases
- Develop local content through making software applica-

tions widely available, encouraging participation by local stakeholders, and expanding the languages available on the Internet.
- Prioritize assistance for ICT in the initiatives of multilateral lending and assistance agencies.

These action points constitute the basis for a comprehensive worldwide effort to reduce the digital divide.

Conclusion

In sum, ICT is not the solution to poverty or inequality. Investment in and use of ICT alone is not automatically associated with economic growth. Rather, ICT provides a link in the chain of the development process itself. This may reflect the fact that ICT requires an enabling environment of infrastructure and policies before they contribute efficiently to economic growth. The task for policy-makers, the business community, and representatives of civil society is to create conditions for building the knowledge base in a way that maximizes the benefits of ICT and reduces the risks.

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[1] This article draws mainly from two reports, BRIDGES (2001), *Spanning the Digital Divide*. http://www.bridges.org and DOT Force. (2002), *Digital Opportunities for All: Meeting the Challenge*. http://www.dotforce.org.