# Warning Concerning Copyright Restrictions

tion paradigm that still remains committed to the exclusion of 'lay people' outside the institutionalized expertism we have come to accept as the only source of research.

## *Public-Private Partnerships*

Following the growth of private-sector involvement in public infrastructure projects across the globe, corporate investments have often become a substitute for public funding formerly provided by intergovernmental agencies, international aid organizations, and governments. Usually considered in terms of a pooling of private and public resources, public-private partnerships aim at a cooperative provision of services and products to exploit synergy effects. Public institutions are expected to become more 'proactive' in terms of their engagement with private actors, the development process as a whole more equitable and sustainable.

Such official pronouncements aside, assessments from the ground tend to give the relatively new tool of PPP a much more ambivalent review. While major info-corporations are indeed offering themselves as 'partners in development' and support ICT development as vehicles for 'effective service delivery' and 'e-governance', they also take advantage of the newfound enthusiasm for Public-Private Partnerships to stake out their own commercial claims, crowd out public-sector alternatives, and actively discourage alternative forms of development cooperation. Dedicated to PPP - including its latest transformation, the notion of Multi-Stakeholder-Partherships (MSP) -, 'PPP in ICT' will be the focus of another project by members of the Incommunicado network, soon at http://pppwatch.org.



# Digital Capitalism and Development:
## the Unbearable Lightness of ICT4D

Jan Nederveen Pieterse

The application of information and communication technologies (ICT) in development policies—in short, information-for-development or ICT4D—follows ideas of digital divide and cyber apartheid. This discussion situates ICT4D in critical development studies and global political economy and argues that information-for-development is primarily driven by market expansion and market deepening. As the latest accumulation wave digital capitalism generates information technology boosterism and cyber utopianism with the digital divide as its refrain. This discussion criticises the discourses and policies of bridging the digital divide and views information-for-development as part of a package deal in which cyber utopianism is associated, not exclusively but primarily, with marketing digital capitalism. The actual task of information-for-development is to disaggregate ICT4D and to reconsider ICT in development policy in this light. Less emphasis on Internet and more on telephone, radio and television would normalise and ground the discussion. I conclude by arguing that the ICT4D discussion should move away from development aid, NGOs and externally funded digital projects to the central question of disembedding technology from capital.[1]

1 I have benefited from a Communication and Development workshop in Malmö (http://www.k3.mah.se/comdev, http://www.thirdspaceseminar.org) and the Incommunicado 05 conference on Information for Development in Amsterdam (http://www.incommunicado.info/conference) in May and June 2005. I thank Linda Aitio for research assistance. But I claim the mistakes in this treatment.

## Bridging the Digital Divide

The digital divide, the theme of a dazzling outpouring of literature,[2] is typically portrayed in statistics, for instance 'the fact that half the world population has yet to make its first telephone call, or that the density of telephone lines in Tokyo exceeds that of the entire continent of Africa' (Campbell 2001: 119). Or, Manhattan has more Internet providers than all of Africa (Fors and Moreno 2002). 88 percent of Internet hosts are in North America and Europe and 0.25 percent in Africa (half of which are concentrated in South Africa). With 13 percent of the world population Africa has only 0.22 percent of landline telephone connections and less than 2 percent of global PC ownership (Ya'u 2004: 14).

The digital divide is a deeply misleading discourse: the divide is not digital but socioeconomic but representing the divide in technical terms suggests technical solutions. It suggests digital solutions for digital problems (Warschauer 2003: 298; Cullen 2001). With the digital divide comes reasoning that correlates connectivity with development performance—'Area A is rich, integrated into market relationships, and has a lot of telephones; area B is poorer, less integrated into market relationships, and has fewer telephones: therefore, a telephone rollout will make B richer and more integrated' (Wade 2002: 450). The next step is to equate connectivity and economic development and to view ICT as key to bridging the rich-poor gap and 'national "e-readiness" as a cornerstone of capacity building... the discourse surrounding ICT has thus become part of developmental discourse itself' (Thompson 2004: 105).

Hence follows the policy of bridging the digital divide. Since digital capitalism doesn't go where profit margins are low such as rural areas and developing countries, the rationale of bridging the digital divide is that development intervention can make up for market imperfections and jumpstart connectivity on a non-profit basis.

Bridging the digital divide has become a keynote of development policy, heavily promoted by major institutions. The World Bank and its Global Information and Communication Technologies Department launched the Development Gateway, InfoDev, the Global Knowledge Partnership, the Global Development Learning Network, World Links for Development, the African Virtual University and a host of other initiatives (Luyt 2004; Thompson 2004; Wade 2002). The G8 launched the Digital Opportunities Task or DOT Force, which is endorsed by the UNDP (Shade 2003). The UNDP started the Sustainable Development Network Program and the Global Network Readiness and Resources Initiative and has teamed up with Cisco to offer ICT courses in developing countries (McLaughlin 2005). The UN is involved via the World Intellectual Property Organization (WIPO). Following the

2 Google gives 6,260,000 entries for 'digital divide' (in 0.08 seconds) in August 2005.





1997 Basic Telecommunications Agreement, the WTO looks further towards e-commerce (Shade 2003: 116). The World Summit on the Information Society meets in Tunis in 2005. Development cooperation in Australia, Canada, the Netherlands, Scandinavia and Switzerland among others sponsors digital projects in developing countries. NGO initiatives include Computer Aid International, World Computer Exchange and the International Development Research Centre (Ya'u 2004: 23).

In Thomas Friedman's book *The World Is Flat*, information technology is the key to bridging the development gap between the United States and India and to bridging the rich-poor gap. 'Three billion people—from India, China, and the former Soviet empire—walked onto a "flattened playing field." They can now "plug and play, connect and collaborate, more directly with your kids and mine than ever before in the history of the planet."' (Friedman 2005) The combination of rising educational levels in developing countries (at a time when the American educational system is showing weaknesses) and the business strategies of multinational companies, with ICT as an enabling factor, creates economic opportunities for developing countries. On the downside is a troubling message to Americans—over the next ten years up to 11 percent of the American workforce may be outsourced (cf. Luyt 2004).

Call centres are opening from Argentina to Kenya and Russia. But are teleworking and teleservices beneficial to India and other information processing countries? They offer jobs to a new middle class segment, but already after a few years the attrition rate in India is 30 to 35 percent. 'Indian staff is required to keep odd hours, adopt American accents, and have few options for career advancement' (Luyt 7). Call centres are a dependent economy geared to patrons and clients in the North to the point that Indians must adopt American names and fake identities. They are a pseudo transfer of technology, which only transfers end-user capability (cf. Tandon 2005).

With the exception of some groups (like software programmers), it seems that most teleworkers who are predominantly women are receiving extremely low wages; and some of them work in the kind of modern-day sweatshop conditions that characterised export oriented manufacturing throughout the developing world. (De Alcantera, quoted in Ya'u 21)

At times information-for-development comes with an extraterrestrial optimism (for example, Sims 2002) that is oblivious to the checkered history of international development efforts. Suddenly technology becomes a development shortcut even though this flies in the face of obvious constraints. First, 'Relative to income, the divide today hardly exists' (Wade 444), so bridging the digital divide is actually about bridging income gaps, and here the evidence is that they are generally growing. Second, 'the digital divide is increasing rather than decreasing' (Ya'u 24), which is plain given the rapid changes and competitive drives in the ICT field. Third, research suggests that 'the digital divide will never be bridged': 'it would take Africa about 100 years to reach the 1995 level of Ireland' (ibid.). Bridging the digital divide is mopping up with the tap open. This presents us with the unbearable lightness of ICT4D and the illogical nature of bridging the digital divide.

Unpacking this approach, an obvious and often discussed problem is technological fetishism.[3] Some discussions argue that connectivity should be addressed not as a technological fix but as part of a capabilities approach and in terms of social capabilities. This is true and by the same token implies certain priorities: 'Once the illiteracy problem is solved (as in Kerala, India), cheap books are a great boon, but giving illiterate people cheap books does not solve illiteracy' (Wade 2002: 443).

## *ICT4D as a Package Deal*

The wider issue is the package character of ICT4D and the interrelated nature of ICT components and the constellation it is part of. This suggests that the means of bridging the digital divide contradict the very idea of bridging: 'efforts to bridge the digital divide may have the effect of locking developing countries into a new form of dependency on the West. The technologies and "regimes" (international standards governing ICTs) are designed by developed country entities for developed country conditions' (Wade 443).

From the package character of ICT4D emerges the actual task of ICT4D, which is to unpack ICT4D so its development potential can be diagnosed and possibly harnessed.

Contemporary globalisation is a package deal and ICT is deeply wired into this cluster. Information technologies and microelectronics-based telecommunications since the early 1980s created the possibility for the globalisation of supply: the information and communication revolution cheapened long-distance communication and enabled plant relocation and outsourcing to low wage areas. Information technology also enables providing global product information or the globalisation of demand. While flexible production has come with growing research and development cost it also comes with a shorter shelf life of products and thus pressure to expand market shares to amortise the

3 'The digital divide is often portrayed in crassly reductive terms as a mere technological access problem that can be ostensibly addressed by providing cheap computing and communication technologies to the poor. However, the digital divide is not merely a technological problem due to the absence of connectivity or access to cyberspace. This instrumentally informed discourse on digital divide is a modernist tendency to unreflectingly categorize and compartmentalize complex sociotechnological changes into one-dimensional social problems in a bid to resolve them through simple technological fixes.' (Parayil 2005: 41) Cf. Hand and Sandywell 2002.





cost of technology investments, in the process generating incentives for global marketing and creating global brand recognition. With the global advertising boom (and advertising growing three times faster than trade) comes the political economy and culture of branding and logos. Information technology is also tied up with the globalisation of competition; the changing dynamics of global inter-firm competition involve inter-corporate tie-ups, networking and mergers and acquisitions to manage the cost and risks of research and development and global marketing. Corporate mergers both downsize companies and seek to make brands stronger. ICT further provides the technical means for financial globalisation, as in 24 hour electronic trading, which has come together with financial deregulation and 'securitisation' or the dilution of the separation between banking and non-banking forms of corporate finance, which, in turn, enabled corporate globalisation and the wave of corporate merger activity from the 1980s onward. One form this takes is the spread of new financial instruments such as options and derivatives.[4]

In global political economy these trends are discussed under headings such as flexible accumulation and post-Fordism and as a mode of production. A mode of production or regime of accumulation combines systems of production (technologies and the organisation of firms) and forms of regulation (political and legal regulation of business and capital). This suggests that we cannot pick and choose elements from this configuration without in effect activating and transplanting the entire constellation or much of it. This is already apparent at a technical level.

> Complex ICT systems have "layers" of components—including PCs, computer hardware, telecommunications, cables, software—and decisions made about standards for one layer in one part of a large organisation can easily interfere with decisions about standards for another layer made in another part of the organisation. Compatibility can take years to achieve at a huge cost, by which time new incompatibilities may have arisen. (Wade 448)

What is at stake in contemporary globalisation is both different national capitalisms, each of which is dynamic and in flux, and the interaction of capitalisms, which is mediated through complex layers of technology, international finance, international trade, international institutions, macroeconomic policies, knowledge systems, legal standards and proprietary arrangements. Development policy is part of the interaction of capitalisms. The terms of this interaction are generally set by hegemonic powers and institutions.

Accordingly what matters too is with which perspective we approach these questions—from the inside (the advanced countries) looking out or from the outside looking in

4 Cf. Dicken 2003; Nederveen Pieterse 2004: Ch 1.

(from the point of view of developing countries). The development approach suggests the latter while the realities of power and privilege imply the former. The trade-offs involved in investing in ICT tend to be viewed differently in developed countries than in developing countries: 'it does not make sense to have hospitals connected to the Internet when there are no drugs in the hospitals, or for schools that have no chairs to be connected to the Internet' (Ya'u 26). ICT4D reworks several familiar problems in development policy, some of which are sketched below.

*Development policy is incoherent.* Surely education is more important to development than digital access and is also a condition for digital literacy. Uneven education worries organisations such as UNESCO, which calls on states to devote as much as 26% of their budgets to education (Ya'u 19). Yet the structural reform policies advocated by the IMF and World Bank require cuts in public spending including education. It does not make sense to cut education spending *and* argue for ICT4D, to erode basic capabilities and advocate fancy digital capabilities.

*ICT4D implies the imposition of a development model.* According to techno determinists the spread of technology = development. This recycles conventional modernisation thinking, which ranges from Enlightenment positivism (and Lenin's formula of progress as Soviets plus electricity) to post-war modernisation theory. In this series, ICT4D is Modernisation 2.0 (Shade 2003: 14). Second, for neoliberal economists and entrepreneurs the spread of market forces = development. Both these discourse communities make an instrumental use of information-for-development: what matters is technological transformation and market expansion. What these views share is at minimum development naivety, which may be both genuine and deliberate (involving not just the sociology of knowledge but the sociology of ignorance). In defining poverty as the absence of technology and market forces they lack awareness of social development. In the process these views present the disease as the remedy and hegemony as freedom (cf. Shade 117). More precisely, what is at issue is the imposition of a development model.

Time and again technological modernisation has served as a means to effect political and economic reforms. Information technology also functioned this way in western countries—making reforms seem inevitable and thus selling the Reagan and Thatcher reforms in the US and UK ('There Is No Alternative') to trade unions and labour constituencies. ICT indeed is wired in many directions.

*ICT promotion serves as a rationale for trade and investment liberalisation in developing countries.* As Ya'u notes, 'African countries that have undertaken the liberalisation of their telecommunication sector have ended one form of monopoly—state monopolies—and found themselves saddled with a new monopoly—that of foreign investors' (19).

ICT support also undergirds changes in development institutions. ICT promotion fits





the World Bank's new career as Knowledge Bank. Joe Stiglits's theory of information asymmetry as a cause of market imperfection provides the World Bank with a rationale to improve the functioning of markets by remedying information gaps; which sidesteps critiquing markets themselves (Thompson 2004).

*ICT raises the question of appropriate technology.* Questions that are seldom asked are 'which technology is appropriate, are low-tech more appropriate than high-tech options, and for what are the technologies going to be used?' (Fors and Moreno 2002: 199).

ICT is designed according to the requirements of the prosperous markets. 'Developing countries are placed at a growing disadvantage by the software-hardware arms race in the global market for savvy computer users. (...) The effect of this technological arms race is to keep widening the digital divide between the prosperous democracies and the rest of the world.' (Wade 452)

*ICT privileges western content.* While ICT places the emphasis on the channels of information in the process it privileges western content. 'What does it mean that people have access to information or channels that they do not own? Citizens are provided access to channels over which they have no control. Increasingly, also, they are offered little or no real choice over content.' (Ya'u 24)

*Intellectual property rights presuppose Western legal norms.* Intellectual property rights and the harmonisation of patent law are a major frontier of contemporary globalisation (Drahos and Braithwaite 2002; Drahos 2003). As Ngenda points out, 'The international intellectual property model is a product of Western legal norms' (2005: 60). It carries the imprint of individualism and proprietary individualism such as the droit d'auteur (66). The incentive for reward principle has become enshrined in the World Intellectual Property Organization (WIPO) along with the view that 'patent protection is an indispensable incentive to creative and inventive work' (67-8).

> 'Like too much of all good things, too much IP protection does not reward society. The intensification of intellectual property benefits the owners of the innovations, while society at large suffers welfare loss due to rent-seeking or monopolistic behaviour of knowledge economy firms that depend on patents, copyrights, and other IP rights regimes as their source of profit.'
>
> *- Parayil 2005: 48*

ICT manufacturing does not necessarily add up to ICT diffusion. Latecomer nations lack the financial resources to invest in new technologies, which also presuppose a business infrastructure in soft social capital such as appropriate institutions (Wong 2002: 168). While East and Southeast Asian countries have been strong in electronics manufacturing they have been weak in services, especially financial services and knowledge based services of the kind that use ICT. This was a factor in the 1997 Asian crisis. Disparities in ICT diffusion are significantly higher among Asian countries than among non-Asian countries; Japan and the four Asian NIEs rank above the norm in ICT diffusion while the six Asian LDCs underperform, especially with regard to Internet use (Wong 185). Thus there is a significant digital divide between the five more advanced countries of the region and the other developing Asian countries. Wong concludes that high involvement in ICT production has little or no spillover effect in ICT diffusion.

## *Digital Capitalism: Cyber Utopia*

The digital divide theme is unusual because it is quite ordinary for new technology to spread unevenly, so why should digital technology be different? Now, however, cyber apartheid and information apartheid looms and according to a flood of studies, all have to get wired: schools, libraries, community centres, senior citizens in retirement homes, and the homeless to meet their information needs (e.g. Stansbury 2003; Wicks 2003).

The boundary between ICT4D and ICT marketing is thin. ICT4D may be a terrain in its own right but it is also part of general ICT boosterism in which ICT is the latest major wave of capital accumulation—think railroads, electricity and chemical industries in the nineteenth century and automobiles and telecommunications in the twentieth century. Each accumulation wave comes with its own 'boosterism': it is not sufficient for new products to be made; they must also be invested in, sold and used. They must be the talk of the town.

In the series of capital accumulation waves the ICT wave is a special case in that it is a highly capital intensive sector that has not delivered on its promise; it has absorbed multibillion dollar investments in infrastructure (such as the Fiberoptic Link around the Globe and satellite systems) that are vastly underused. ICT has been in the forefront of TNC operations; in the 1990s typically up to a third of American TNC investments in developing and emerging markets from Mexico to Russia went to the telecom industry (Schiller 1999). It is a prime terrain of transnational mergers and acquisitions and mega corporations such as WorldCom, Vodafone, Viacom, MCI and Mannesmann. ICT is both a dream space of multinational capital (according to President Clinton the Internet should become a free trade zone), the spearhead of market-led development in a world-to-come of minimal regulation, and typically faces preferences for national regulation of telecoms.[5]





In Schumpeter's analysis of capitalism new technologies and inventions are the motor of capital accumulation. This also looms large in the long wave approach to capitalism. But to boost entrepreneurial activity new technologies and inventions also require cultural changes.

Accumulation boosterism is an exercise in the economy of appearances, which is as much about conjuring up economic opportunities as reflecting them, and in the process opens up frontiers (Tsing 2004). It is about the *aura* of innovation, the *creation* of markets, the effervescent *buzz* of entrepreneurial dynamism and expansion. The general propensity to drama in capital accumulation is enhanced in ICT because ICT *is* and is *about* the communications business. Just as broadcasters typically broadcast the gospel of broadcasting ICT communicates the wonders of communication and preaches the ICT gospel. According to this accumulation script ICT is essential to opening up new business opportunities, unprecedented translocal and global horizons and vast empowerment opportunities.

ICT4D is a strategic part of ICT expansion: ICT4D is digital capitalism looking South—to growing middle classes, rising educational levels, vast cheap labour pools, and yet difficult regulatory environments. It is about *market expansion* and converting unused capacity into business assets on the premise that new technology is the gateway to hope. And it is about the *deepening of the market* by pressing for liberalisation, opening up spaces for competition and investment, bypassing regulations or devising new regulations that will shape the future.

One might view this as a marketing campaign for Internet service providers (Gurstein 2003) but probably more is at stake. Brendan Luyt asks 'Who benefits from the digital divide?' (2004) and identifies several beneficiaries of cyber utopianism: information capital, elites and states in the global South, the development industry, and civil society groups and NGOs. Information capital stands to gain new markets and cheap labour. 'If the South increasingly assumes the role of information processor for the North and acts as a lucrative market for the new products of informational capitalism, this is not due to chance' (Luyt 5). Measures against software piracy are a significant part of its interest: 'The Business Software Alliance, an organisation initially established by several of the biggest names in the industry ... with the express purpose of fighting software copyright infringement, has been especially active in the developing world...'(4).

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5 'It was symbolic that, in many of the world's capital cities, postal or communications ministries were physically situated near the seat of power' (Schiller 1999: 48).

For elites and states in the global South where economic development is essential to state legitimacy, ICT4D serves as another development tool. For the development industry ICT is a strategic tool around which to fashion new public-private partnerships, matching the growing corporatisation of development. Traditionally about 30 percent of World Bank disbursements have gone to infrastructure projects in transport and communication, which also aid transnational capital. Civil society groups and NGOs find in ICT a low cost instrument to communicate with like-minded groups.

Thus, ICT4D is a prism in which key profiles and problems of neoliberal globalisation are refracted. It stands at the crossroads of today's major forces in private, public and social spheres: telecoms, international institutions, states and civil society groups and cyber activists.

If we take a step back it is clear that cyber utopia is an unlikely project. Digital capitalism has been in the forefront of the neoliberal globalisation of the past decades. The telecom industry and the dot.com economy have been central to the economic expansion of the 1980s and 1990s (Schiller 1999). For Susan Strange telecoms were a key instance in the making of casino capitalism (1996). Although the telecom industries don't rank among the Fortune 100, they include mega conglomerates. Telecoms have been a major force in the worldwide neoliberal turn and have also played a key part in the conservative turn.[6] As the saying goes, the media do not defend corporate capitalism, they *are* corporate capitalism. That the media are part of the problem is keenly understood in the United States.

From the early 1900s on the United States has developed the world's most extensive communication infrastructure. Because of its large geography and thin population radio, telephone and later television play a large role in American society and also information technology is more developed than anywhere else. So should ICT be able to bridge rich-poor gaps the United States would be the leading case. Digital divide arguments have led to providing local community Internet access in schools and libraries (Menou 2001). But this has been to little or no effect, n'en déplaise techno determinism, public-private partnerships and silicon snake oil. Social inequality in the United States has *grown* significantly precisely since the 1980s and along with the ICT wave (Nederveen Pieterse 2004). In the United States ICT has either been indifferent to or has contributed to increasing social inequality.

6 Media tycoons such as Rupert Murdoch and Conrad Black have habitually backed conservative politics. Rupert Murdoch funds the *Weekly Standard*, the house magazine of the American neoconservatives. Silvio Berlusconi in Italy and Thaksin Shinawatra in Thailand emerged as entrepreneurs through the telecom or information industry.





American telecoms have typically practiced 'two-tier marketing' plans, polarising products and sales pitches to reach 'two different Americas'—rich and poor. ... 'Nobody puts as much effort into dual marketing as the telecommunications industry', stated *Business Week*.' (Schiller 53) This has resulted in sharply polarised provision of services, from telephone to Internet access, privileging *power users*: 'Evidence mounted that the corporate-sponsored build-out of high capacity networks was systematically evading poor neighbourhoods in order to concentrate on well-off suburban residences and business parks' (Schiller 54). Internet access among blacks and minorities in the United States varies by income, so inequality is *social*, not digital. As Mark Warschauer notes, 'just as the ubiquitous presence of other media, such as television and radio, has done nothing to overcome information inequality in the United States, there is little reason to believe that the mere presence of the Internet will have a better result' (2003: 297; cf. Davis 2001; Schiller and Mosco 2001).

## ICT4D and Development Studies

From the point of view of development studies we can situate ICT4D at various levels. First, technology represents knowledge and capability and as such it forms part of a capabilities approach to development, notably the human development approach. Second, the new technologies are embedded in capital and as such they evoke development from above; most public-private partnerships around ICT are typically too technical and capital intensive in nature to be participatory. Third, technology is a means of control; witness the surveillance capabilities of ICT (such as global positioning systems aligned with cell phone signals) and the corporate campaigns against software piracy and open source software. Fourth, ICT revives the old debates on appropriate technology and dependent development (Hyder 2005; Tandon 2005).

The digital projects sponsored by foreign aid and implemented by NGOs display the usual dilemmas of alternative development; most projects are not locally owned and not sustainable and fold when the funding runs out (discussed below).

ICT is wired into contemporary accelerated globalisation, which in development has meant structural adjustment and rolling back the developmental state in favour of market forces. Digital divide discourse is reminiscent of previous techno fixes that stressed the need for mechanisation and tractors, infrastructure development or the construction of large dams, prioritising capital needs over local needs. Software, the second digital divide, involves intellectual property rights, cognitive frameworks, cultural styles and vernaculars (such as English) that raise questions of knowledge monopolies and cultural imperialism. 'Humanware', the third digital divide, forces us to return to the basic questions of education and human development, the familiar terrain of capability and inequality. Yes, education is a leveller *if* it is available and *if* it comes with other reforms—land reform, social provisions, etc. A brief précis of general development implications of ICT4D is in Table 1.

1. ICT4D and development policy: overview

| *ICT4D* | *Dimensions* | *Development* |
|---|---|---|
| Technology | Capability | Human development |
| | Embedded in capital | Development from above |
| | As means of control | Dependent development |
| Digital divide | Technological fetishism | Development as techno fix |
| Accumulation | Neoliberal globalisation | Structural adjustment |
| Development aid | NGO projects | Alternative dependency |
| Software | Intellectual property rights | Monopoly rents |
| Human ware | Education | Human development |

## *ICT4D and Development Policy*

A contributor to a discussion on the implications of technological change noted: 'Poverty is a choice the world has made. It is a political choice. The information revolution will be another instrument to implement that choice. Only a governance revolution would represent a real change. And to link the information revolution with democratisation is naïve in the extreme, parallel to the current leap of faith linking democratisation and open markets' (quoted in Hedley 1999: 86). Govindan Parayil offers a more benevolent view:

What is most urgent is to find ways to integrate informational economy with traditional economy in a fair manner such that the asymmetric relationship between the two could be overcome... While information and communications technologies, like any other general-purpose technology cluster, have the potential to benefit all, it is the unfair political economic context within which they are developed, deployed, and diffused that needs to be reformed or better reconfigured for equitable development... (2005: 49)

It's just that changing 'the unfair political economic context' is a tall order. The weary succession of development decades shows that it takes a lot more than technology and capital inputs to achieve development. Development policy is a terrain of hegemony and struggle and policy compromises among hegemonic forces and institutions shape and





obfuscate the terms and nature of this struggle (Nederveen Pieterse 2001). Hegemonic compromises introduce development fads and shibboleths—such as good governance, transparency, democracy, civil society, participation, empowerment—which when all is said and done usually sustain business as usual. ICT4D in most of the senses in which it is used is another development fad and part of the process of obfuscation. The problem is not just that many info development projects are under funded and ill conceived or that ICT4D is driven by corporate interests; the deeper issue is that ICT4D is a Trojan horse that locks developing countries into everlasting dependency.

The instrumental approach according to which information technology can be used and appropriated towards diverse ends and serve either utopia or dystopia is contradicted by more complex assessments of the nature of information technology such as actor-network theory (Hand and Sandywell 2002).

First, from the point of view of development policy the emphasis on the Internet is inappropriate and reflects class bias and is inspired by commercial interests. Of course, information technology is meaningful for social movements, as in the Zapatistas' use of Internet and the Filipinos' use of cell phones in their people power interventions (Castells 1996; Léon et al. 2005) and enables 'organised networks' of many kinds (Lovink 2005). Yet the Internet is principally a middle class medium; as a medium, essentially an extension of the typewriter, it presupposes literacy and the ability to absorb or create content and digital literacy. This may be termed a Starbucks approach to ICT4D.

From the point of view of development policy it would be appropriate to place more emphasis instead on television, radio and telephone. For instance in Indonesia the Internet is minuscule but radio and television are huge. Of eleven or so TV channels only one is a public channel, the others are commercial. Looking at the ordinary communication technologies grounds and normalises our discussion: if some of the digital debates are over our heads because of novel technical and legal issues we are all quite familiar with the problems of ordinary mass media—problems of ownership, unequal services and access, commercial bias, and questions of content. Obviously this is not a development shortcut; rather it can serve development ends only after several hurdles have been passed. Then media such as community radio allow more local input and have greater outreach and development potential than the fancy digital media.

Another question is who is the agent of information-for-development? Here the role of development aid and NGOs may be overplayed. The digital NGO projects display the usual characteristics of alternative development: reliance on project funding; uneven NGO unaccountability (to donors more than to communities); authoritarian or non-participatory management styles; non-replicable projects because they rely on specific capabilities and social capital, so most projects are not locally owned and not sustainable; and insufficient attention to the problems of 'scaling up' (Wade 2002; Sorj 2003). While the projects run they produce alternative dependency and when the funding dries up so do most projects.

Government supported information projects with government providing inputs of content (making access to government forms and licenses available online) may be more viable than foreign aid projects but usually fall short of their promise (Wade 2002; Weerasinghe 2004;Gupta 2005). India offers several good examples of developmental uses of Internet such as nonprofits that bring agricultural extension and other information to farmers in rural India,[7] for instance *e-Choupal*.[8] The government of India supports several. Government supported initiatives such as *Drishtee* use a kiosk based revenue model to bring IT enabled services to the 'rural masses'.[9] Other projects focus on village level e-education.[10] However, as Sanjay Gupta (2005) notes, 'E-governance is limited to e-government or e-services. Little participation is granted to the beneficiaries in decision-making or the design of the initiatives. Few cater to the needs of the poorest of the poor; Drishtee, for example, does not even consider the lowest 25% income-wise as its clients.'

If we look to ICT4D as a new threshold in development policy rather than as another

7 See http://www.indiagriline.com, http://www.mahindrakisanmitra.com, http://www.agriwatch.com and http://www.mssrf.org. A website that gives comprehensive information on ICT initiatives in India is http://www.bytesforall.org. I owe these examples to Sanjay Gupta (2005); cf. Arifa 2002; Chandra 2002; Singh 2002; Wade 2002; Ashraf 2004.

8 'e-Choupal is a web based initiative of ITC's International Business Division, offers the Farmers of India all the information, products and services they need to enhance farm productivity, improve farm-gate price realisation and cut transaction costs. Farmers can access latest local and global information on weather, scientific farming practices as well as market prices at the village itself through this web portal - all in Hindi. Choupal also facilitates supply of high quality farm inputs as well as purchase of commodities at their doorstep.' (http://www.echoupal.com)

9 'The services it enables include access to government programs and benefits, market related information, and private information exchanges and transactions.'(http://www.drishtee.com)

10 This involves projects such as 'Every Village a Knowledge Centre', http://www.mssrf.org/special_programmes/ivrp/ivrpmain.htm. 'Breaking the traditional confines of a school, Hole-in-The-Wall Education Limited takes the Learning Station to the playground, employs a unique collaborative learning approach and encourages children to explore, learn and just enjoy!' (http://www.niitholeinthewall.com). Cf. http://www.trai.gov.in





round of business as usual, then development aid on the part of bilateral or multilateral aid agencies or foundations, and also government provided services may not be the first place to look. Realistically, the first place to look is at IT services that are provided by the private sector.

In many developing countries village phone networks such as *n-Logue* in India and *Grameenphone* (http://www.grameenphone.com)[11] in several countries have a considerable impact. Consider for instance the mobile phone coverage of *Safaricom* in Kenya (http://www.safaricom.co.ke). Many, often low-key private sector enterprises and also entrepreneur networks (http://www.tie.org) use IT. There is no reason to overstate or exaggerate the significance of these initiatives; their purpose and reach are limited. But these private sector enterprises are not financially dependent upon external sources of funding and operating at low profit margins they have a greater reach and are more sustainable than donor or public sector projects. India may have an edge among developing countries in digital literacy (high education levels, English language, development as a national priority, decentralised state, local developmental states); yet Sanjay Gupta notes:

... only 10,000 of the over 600,000 villages have seen some Internet-based ICT for development initiatives, most of which have important ingredients missing: social focus, community-driven, need-based and local initiative. ... Their business strategy has been primarily focusing on certain type of transactions: related to land and agriculture or the provision of government services. They are mostly undertaken by the private sector with the intention of making them financially sustainable and profitable. Few have the empowerment of the socially and economically underprivileged groups as an objective. ... Benefits for women in such initiatives are scarce, and little effort is made to encourage the use of services by women. Part of the problem is that most kiosks are operated by men, which discourages women from using them, given the social milieu in most parts of India. Also, content and services are more geared towards the needs of men rather than those of women. Most initiatives suffer from problems such as power cuts or lack of adequate power, and low-quality connectivity (Gupta 2005).

But it is important to look beyond the attempts to bridge the digital divide by repli-

11 'With the assistance of n-Logue and the financial support from the State Bank of India, the LSPs recruit local entrepreneurs to set up and run village-based information kiosks. These kiosk owners are typically locally-based men or women who have at least a 12th Standard education, and demonstrate the ability and motivation to run their own business. Marketed under the brand name 'Chiraag', which means enlightenment, these kiosks offer a variety of services aimed at providing benefit to rural areas while contributing the kiosk's sustainability.' (http://www.n-logue.com)

cating and extending existing hardware and software technologies. Digital capitalism presents more pressing issues. Robert Wade notes that 'LDC governments should not take technological and international regimes as given... They need more representation in standard setting bodies and more support in the ICT domain for the principle that "simple is beautiful"' (2002: 444). What matters is to shift the discussion away from the assorted applications of information technology to the technologies themselves.

The core problem that ICT4D poses is *disembedding technology from capital*. This is the real challenge of information-for-development and it brings us back to old questions of technology transfer and to full technology transfer rather than pseudo or adaptive transfer (Tandon 2005). During the Cold War years South Korea and Taiwan could disaggregate products and obtain their embedded technologies through reverse engineering and by redesigning them bypass property rights and acquire intellectual property. The current regime of intellectual property rights (TRIPS in the WTO) and the talks on the harmonisation of patent laws seek to forestall and limit these options. China now follows a different avenue and uses its market power and bargaining clout to disaggregate foreign direct investment packages to obtain not just end-user capability but design technologies. But this route is not open to the smaller developing countries.

Digital capitalism poses the problem of technology dependency anew, in both hardware and software. Efforts to develop appropriate IT hardware include developing a simple low-cost computer (simputer). Entrepreneurs in China, India (Arifa 2002) and Brazil are developing low cost designs that may provide 'Southern high-tech alternatives'. Whether they compete in these efforts or will at some point converge is at this stage not the most important question.

The second major frontier is software and the free and open software systems (FOSS) movement. This is of special importance because intellectual property rights are a major and will likely become the central site of North-South negotiation and contestation. With the advanced economies increasingly losing their edge in manufacturing to the emerging economies and seeing their lead in services and research and development shrinking as well due to outsourcing and teleworking, intellectual property rights are their main remaining advantage (leaving aside the ongoing international trade talks on agriculture and textiles).

In software development many corporations large and small have a stake in outflanking Microsoft monopolies and instead developing and fine-tuning the Linux operating system and other open source systems because these allow reprogramming of core features and may thus offer greater flexibility, stability and security. Developing country governments such as Brazil and other emerging information economies increasingly use Linux in government administration also with a view to savings (Sugar 2005). Cyber activists





and other 'organised networks' (Lovink 2005) are also active in this domain.

It would be a fantasy to think of a 'digital Bandung' or an 'IT Cancún' (similar to the walkout from the WTO talks in Cancún in November 2003 initiated by China, India, Brazil and South Africa and the Group of 21 developing countries). This assumes more policy cohesion than is now available. But there is room to strengthen this general approach and the convergence of interests of various stakeholders with a view, ultimately, to fashioning an alternative digital political economy.

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