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development 2.0**

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ICT AND DEVELOPMENT STUDIES: TOWARDS DEVELOPMENT 2.0

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ABSTRACT

This paper calls for a more committed engagement between ICT practitioners and the development community, and seeks to make two contributions. The first is to show how it has never been more important, as the more mature discipline, for development studies to critique the operation of developmental ICT at policy level, as well as to inform and educate the increasing numbers of, usually foreign, ICT investors and practitioners who are involving themselves in these emerging markets. The second contribution is a description of the fundamental challenge that recent Web 2.0 models of networked social interaction are increasingly likely to pose to more established approaches and debates within development studies itself. Having outlined the challenge, the paper looks at how such thinking, conceived as 'Development 2.0', may contribute to four of the most pressing current debates within development studies today. Finally, the paper concludes with an acknowledgement of some of the immediate constraints to the transformational potential of Development 2.0, and outlines some work that will be required to develop these ideas further.

1. ICT AND 'DEVELOPMENT' HAVE NEVER BEEN SO MUTUALLY IMPORTANT

1.1 Development studies' challenge to ICT at Policy level: a political economy of developmental ICT

The theme of 2007's DSA conference exemplifies the unprecedented focus on the potential of technology as a catalyst for economic and social development, a focus that is mirrored by the increasing levels of interest being shown in information and communications technologies (ICT) within the developmental context (World Bank 2005), of which the launch of the \$100 laptop this summer is perhaps emblematic. It is surely instructive that ICT is seen as a crucial enabling infrastructure for future progress within four of Sen's (1999:xii) five developmental indicators: economic opportunities, political freedoms, social facilities, and transparency guarantees – and in the development of 'knowledge societies' as a key accelerator for development (UNESCO 2005). This increasing, global role of ICT as both medium and platform for cultural and economic

exchange brings a growing need for an independent and informed critique, at policy level, of its conception and operation in those areas of the world whose opportunity for such exchange is currently most limited, and where people are often least positioned to complain when the associated benefits do not materialise.

Such a policy-level critique is all the more important since, as with all forms of enabling social infrastructure, ICT has the power to create new inequities, as well as exacerbate existing ones, and as I have argued previously (Thompson, 2004), even to structure and replicate marginality itself. This can occur both at the macro-level, by structurally integrating communities into wider, uneven networks of capital, production, trade and communication (Castells 1997, 1998), as well as at the micro-level, where the frozen discourse of software can ‘smuggle’ whole, possibly inappropriate value systems into new environments (Danowitz et al., 1995).

As a discipline already familiar with such concerns, there is therefore an important requirement for the developmental community to engage with and critique the operation of ICT within the developmental context: to continue to ask often difficult questions about whether ICT initiatives are actually increasing equitable access to the freedoms and life-chances that form the basis of modern developmental initiatives – or merely creating or exacerbating further inequality. For example, Roy (2005) points out that the flow of foreign direct investment into India has not been substantial, in spite of the large multinational presence in the subcontinent, and cites research showing a skewed distribution of returns in favour of multinationals’ own home countries. Such observations call for a longer-term, more ‘structural’ analysis that looks beyond the tracking of ‘deliverables’ and short-term functional benefits so favoured by ICT projects, to include a broader political economy of developmental ICT.

An example of a more structural critique of this kind is Wilson’s (2004) questioning of automatic assumptions about the universal benefits associated with technology diffusion. Instead, Wilson emphasises the need to view ‘developmental’ technology as deeply embedded within social structures, and proposes a model of internet diffusion comprising, first, social, economic and political structures, second, institutions, third, politics, and fourth, government policy (comprising the oppositions public/private, competition/monopoly, foreign/domestic, and centralized/decentralized – all key struggles that are of particular relevance to developmental ICT). In this example, ICT could benefit directly from such a ‘policy’ critique from within development studies, by including an analysis of these factors within the business cases and investment appraisals of developmental ICT initiatives as a set of conditions to be satisfied before the release of funding – private or public.

1.1. Development studies’ challenge to ICT at Practice level: governance and sustainability

In particular, the marked growth in interest in ICT for development has resulted in an unprecedented involvement in ‘developmental’ thinking and programmes by new, external stakeholders from the ICT field, such as Cisco and Microsoft, who view their expansion into emerging markets as of increasingly paramount importance for their future growth (Hamm et al., 2004, IDG News Service, 2005). Although such new players undoubtedly bring global resources

and expertise to bear on development issues, they are likely to lack a sustained historical engagement with the development studies literature through which different models of and approaches to development are trialled and discussed – and thus risk deploying a naïve approach to the often unique challenges of implementing technology within complex or difficult social and physical infrastructures. In discussing the often problematic relationship between technology and its immediate developmental environment, in which there are usually winners and losers, development studies has succeeded in highlighting some specific and complex contradictions with which ICT practitioners, no matter how experienced, should engage. Two such examples are provided here.

The first is the mature literature surrounding the establishment and governance of complex relationships involving conflicts of interests between donors, commercial suppliers, NGOs, host governments, and participant/recipients (eg Hemmati 2002, Grimble and Wellard 1997). As an area with heavy involvement from all of these stakeholders, developmental ICT initiatives have a pressing need to manage conflicts of interest between private gain and public good attendant upon all public infrastructure and service delivery contracts – especially given the profit-centred business models of many ICT practitioners (for an example of the ubiquity of these issues, see UK Parliamentary Office of Science and Technology 2003). Thus there would appear to be a requirement for further work to relate existing developmental governance literature to the struggle for control by various interests within the developmental context over emerging ICT. This might include struggles over the sorts of enabling information architectures to be developed (e.g. internet exchange points, VOIP protocols), ISP ownership, and the extent of privatization and liberalization allowed, as well as the governance, models, and commercial bases for infrastructural delivery and support.

The second example of the need for the developmental ICT community to engage closely with development studies literature stems from the growing pressure to apply ‘managerialist’, project-based paradigms that seek to transfer ‘best practice’ from mainstream business into the developmental sector exemplified by the New Philanthropy movement, whose approach seeks to introduce the ‘know-how’ of business and the best practices of management, marketing and strategic planning into the non-profit arena (Alexeeva, 2007). With the call of such movements for the use of ‘hard’ (read Western) management approaches and techniques, there is a fresh need to ensure that such approaches do not result in any ‘new technocratic’ resurgence within developmental ICT, which would fly in the face of the considerable progress made within development studies in acknowledging the problems of cultural sustainability attendant upon the introduction of new technologies and working practices within markedly different sociocultural environments.

It is arguable that developmental ICT initiatives are no less subject to the requirement to ensure sustainability than any other type of developmental initiative – and thus that ICT practitioners should demonstrate familiarity with the considerable lessons learned in the development literature about the limitations of ‘technocratic’ approaches when seeking to implement sustainable technology (for an exhaustive bibliography, see <http://www.colby.edu/personal/t/thtieten/susdevgen.html>). As a young discipline, ICT needs to counter the recent pressure to deploy ‘hard’ approaches by investing further work, informed by

this more mature literature, to build checks and balances that strengthen the chances of implementing such technology in a culturally literate and contextually sensitive manner.

1.3 Web 2.0: ICT's comprehensive challenge to development studies

Development studies therefore has a pressing role to play at both policy and practice level in critiquing and informing the operation of a relative newcomer to the developmental field – a newcomer, moreover, that is increasingly private and external in origin (World Bank 2005, Guislain et al., 2006), and often steeped in western cultural values and business practices. However, in addition to ICT's 'answerability' to developmental critique, the reverse now also applies: 'development' is increasingly answerable to newly-emerging models and debates that originate from within the ICT community, debates that are arguably able to challenge the way in which development practitioners conceptualise longer-standing, more 'internal' discussions about the purpose and practice of 'development' itself. The remainder of this paper focuses on outlining and illustrating the extent of this challenge.

The reason for ICT's 'challenge' to existing ways of conceptualizing development is that despite the need, discussed above, for vigilance about the way in which the enabling power of ICT is deployed, it is also striking that the conception, production and use of ICT itself has never been more open, democratic or collaborative. This shift is visible in both the enabling technical architectures (interoperability, open standards, XML-based modular designs) as well as in the social behaviour that such architectures allow (peer-to-peer collaboration, social networking sites such as My Space and Bebo, volunteer-created sources of knowledge such as Wikipedia, alternative news services such as the Korean *Oh My News*, with 55,000 citizen journalists, and trading systems such as eBay, to include a small fraction). The link between ICT as technical enabler and the resulting social behaviours that are thus facilitated has never been more marked, and the shift from some early conceptions of ICT as top down, totalizing, automating 'informer' (Zuboff, 1988) to enabler of bottom-up collaboration, diversity, and multiple truths is now readily apparent. These are all examples that show clearly how such ideas, supported by a relatively basic technical platform, have been transforming social reality.

'Web 2.0' is perhaps the most definitive current expression of the open, collaborative logic uniting the networked architecture of ICT and resulting network-enabled social behaviour. The concept is defined by Tim O'Reilly, who has been most instrumental in its articulation, as follows:

"Web 2.0 is the network as platform, spanning all connected devices; Web 2.0 applications are those that make the most of the intrinsic advantages of that platform: delivering software as a continually-updated service that gets better the more people use it, consuming and remixing data from multiple sources, including individual users, while providing their own data and services in a form that allows remixing by others, creating network effects through an "architecture of participation," and going beyond the page metaphor of Web 1.0 to deliver rich user experiences" (O'Reilly, 2005).

The key insight here is that in its emerging Web 2.0 form, ICT can no longer be conceived as assemblages of hardware, software, and user behaviour. Viewed instead as an 'architecture of participation', ICT becomes an opportunity for generating, mediating and moderating a particular

paradigm of social life; and this paradigm poses a direct challenge to much of the way in which 'development', with its associated visions for social life and supporting infrastructure, has been conceptualised and delivered to date. As public goods and services, developmental initiatives are arguably subject to modern, ICT-driven critiques about the need for public service reform such as Leadbeater and Cottam's *The User Generated State: Public Services 2.0* (2007), which calls for a shift from the focus on 'delivery' during the last ten years (also seen in the developmental discourse) to a focus on 'co-creation'. The authors highlight successful business models that

"enlist users as participants and producers at least some of the time: they move from consuming content, watching and listening, to sharing, rating, ranking, amending, adding. A public sector which just treats people as consumers – even well treated ones – will miss this dimension of participation which is at the heart of the most successful organizational models emerging from the interactive, two-way internet, known as Web 2.0" (Leadbeater and Cottam, 2007)

My contention is therefore that the increasing ubiquity of ICT within development has implications that extend even beyond its role as mediator of economic, social, and political opportunity. Conceived as 'Web 2.0', a paradigm for technology-enabled social life comprising diversity, collaboration, and multiple truths, ICT now poses a direct challenge to development studies itself, demanding attention to ways in which, in the future, Web 2.0 models may drive increasing calls for a much more plural and collaborative Development 2.0. The next section discusses how, as an enabling social infrastructure, Web 2.0 behaviours are able to address and inform some of the current debates within development studies in a manner that calls for further work in developing the parameters and likely impact of a 'Development 2.0' strand of thought. Although this can only be accomplished here at a conceptual level, and there are currently obvious, access-related limitations to the transformatory potential of Development 2.0, some possible work for building on these ideas is outlined in the final section.

2 DEVELOPMENT 2.0

2.1 1950s-1990s: Parallel, but limited engagement between developmental and ICT literatures

Although an urgent need for committed interaction between development studies and ICT disciplines may have arisen only recently, there are some interesting parallels in the way in which the two have evolved. The 1950s-1970s were characterized, as described by Escobar (1995), by the 'problematization' of development, and the resulting 'solution' of professionalisation, that "refers mainly to the process that brings the Third World into the politics of expert knowledge and Western science in general" (1995:45) with a heavy emphasis on the roles of capital and technology. Although part postcolonial reaction, such a heavily technocratic worldview was surely part of the broader, '*deus ex machina*' modernist faith in the enlightenment tradition where the machine is seen as the repository of human reason (Grint and Woolgar 1997), capable of improving the operation of more fallible, less consistent human actors. Certainly early ICT implementations were characterized by a sharp distinction between technology and human context, between technical 'experts' and user-recipients, and a faith that Taylorian efficiencies and improved behaviours might successfully be 'designed in' to organisational environments.

The 1980s and 1990s saw some similar parallels between the developmental and ICT disciplines. Perhaps the most marked is the participation movement, characterized within development studies by Chambers' prolific work (e.g. Chambers 1997), and within ICT by the Scandinavian approach to workshop-based participative user design and development that culminated in the now widespread Rapid Application Development (RAD). Other parallels, however, include the increasing problematisation of development-as-construction (e.g. Escobar, *ibid*, Gardner and Lewis 1997) at the same time as the explosion in challenges to essentialist conceptions of technology such as Social Construction of Technology (e.g. Bijker 1995a), soft systems (e.g. Checkland 1981) actor-network theory (e.g. Latour 1987), and interpretivism (e.g. Walsham 1997). This last movement, based on hermeneutics, recognizes the limitations of the enquirer's access to others' unique traditions of interpretation and consequent meanings, in a manner that finds echoes in the often radical emphasis on cultural ownership and accessibility of development's New Social Movements (Touraine 1981).

From the above it appears that development studies and ICT therefore share some striking commonality in terms of their historical evolution. However, I want to argue that the ICT-enabled cluster of thought known as Web 2.0 has unprecedented implications for a particular, plural, form of technology-enabled social life of pressing relevance to four key *current* debates within development studies: participation, critical modernism, clinical economics, and new institutional theory. I address each of these areas in turn below.

2.2 How Web 2.0 can contribute to development's participation debate

The participation approach has recently come under significant fire from several development writers, most notably Cooke and Kothari (2001), who identify three sets of 'tyrannies' in the method: decision-making and control, in which they critique the role of facilitators; tyranny of the group, in which they warn of the dangers of 'groupthink'; and tyranny of method, in which they highlight a tendency of participative approaches to obscure other alternative viewpoints that might have emerged using other methods. Further significant criticisms have included participation's tendency to privilege local knowledges whilst ignoring macro-level power structures, and its simplistic view of the operation of power, exemplified in particular by Chambers' tendency to express power in terms of binary oppositions (north/south, 'uppers'/'lowers', donors/recipients, creditors/debtors, male/female, old/young, parent/child, manager/worker, patron/client, etc.: Cooke and Kothari 2001:176).

Interestingly, the key response to this criticism in the literature to date anticipates a key feature of Web 2.0. Hickey and Mohan's (2004) book *Participation: from tyranny to transformation* is a collection of essays whose uniting theme is the reconceptualisation of participation as a radicalized notion of citizenship involving a multi-scaled agency, or engagement, that spans the various binary oppositions implied by earlier versions of participation. This involves a more strategic, immanent focus on the achievement of a gradual transformation of power relations between state and citizens, and upon enabling the sorts of activities that are likely to bring such a transformation about.

Such a focus sits squarely within the conception of Web 2.0, addressed earlier, as an “architecture of participation”. Recalling O’Reilly’s earlier definition of Web 2.0 as “the network as platform”, it is interesting to note that by definition a network has no centre. Those included within such a network are therefore, by their very inclusion and participation, challenging established channels of inclusion and participation – sublimating each of the binary oppositions with which ‘participation’ has become associated within the single logic of inclusion. Although this logic arguably redefines the entire physical and social geography of which these oppositions were the previous contours, participation’s overriding emphasis on locality of course appears particularly threatened by a new structural platform located in cyberspace.

An immanent, strategic model of development-as-citizenship would therefore appear to call for enabling transformational mechanisms that are capable of bringing about the required citizen participation in the first place. Greater access to “the network as platform” would improve participation, addressing Cooke and Kothari’s three tyrannies: decision-making and control, by eliminating facilitators; tyranny of the group, by eliminating the dangers of face-to-face ‘groupthink’; and tyranny of method, by opening the network to the plurality of all who happen to be included. Furthermore, such access addresses the major criticism outlined above regarding participatory approaches’ simplistic conception of power, by collapsing macro- and micro- in the instantiation of agency - participation in the network - in a manner redolent of Giddens’ structuration theory (Giddens 1984). By replacing binary notions of ‘powerful’ and ‘excluded’, with a single node, a networked model of participation also encourages a more sophisticated view of capillary, circulating power more akin to Foucault (1995), as well as enabling a new focus on the dynamics through which views are formed and sustained within networks of people that draws on the insights of actor-network theory, where ‘powerful’ networks need continually to ‘enrol’ actors to survive.

2.3 How Web 2.0 can contribute to development’s Critical Modernism debate

A ‘Development 2.0’ view of participation therefore calls for a radically different conception of agency that acknowledges the considerable power of ICT-enabled social networks to transform the dynamics of group interaction. In similarly privileging the role of networked human agency above the seeming ‘rationality’ of formal systems and structures, the critical modernist view associated with Habermas reclaims the transformative optimism of the enlightenment from postmodern disintegration – but places it under continual probation. Gone are the certainties that characterized the modernist project and the technocratic visions of development criticized by Escobar and others, to be replaced by a call for a continual dialogue between multiple modernisms and rationalities in a manner that allows for judgement between these, and for a resulting, qualified, impulsion towards progress. This dynamic is also important to Hickey and Mohan’s vision of participation, since such continual exchange, evaluation and refinement of ideas is the ‘motor’ through which citizen engagement and subsequent structural transformation can be achieved.

Like participation, critical modernism also sits squarely within the conception of Web 2.0. Perhaps most prominent of all within the logic of Web 2.0 is the pragmatic approach to experimentation that underlies critical modernism, of which the open source movement is a good

example. Open source software is computer software which is freely available to anyone who wants it and which anyone who so wishes can update and enhance - as long as they share those enhancements for free with other users. Such software is therefore an endless 'beta version', continually 'on probation' in the critical modernist sense, blind to more formal systems and structures, and dependent on networked dialogue, as in the O'Reilly definition. The conspicuous and growing success of the open source movement (visible, for example, in the ubiquity of Linux software) demonstrates the ability of networked Web 2.0 social behaviour to continually improve and refine a central problematic using the very diversity of its participants as its key asset. Developmentalists who espouse critical modernist approaches to structural transformation must surely examine successful Web 2.0 models and ask how, and where, it might be possible and/or desirable to provide enabling platforms for similar behaviour within the developmental context.

2.4 How Web 2.0 can contribute to development's Clinical Economics debate

In addition to facilitating the free exchange of ideas required for the development of civil society and its associated transformative potential, Web 2.0 thinking is also of great relevance to thought about ways of engendering and supporting new platforms for transformative economic exchange at grass roots level. Coined by Sachs (2005), 'clinical economics' is the claim that aid has an important role to play in development through the establishment of structural linkages between health and infrastructure, which will then help to establish favourable conditions for further, 'bottom up' development. This view has been recently countered in Easterly's contention that "the rich have markets, the poor have bureaucrats" (2006:145) encapsulating the current 'clinical economics' debate – really the old command economy debate - about whether 'development' itself contains an inherent fault, or contradiction, owing to its need, at some level, for some sort of plan. Against the 'planners' of developmental initiatives, Easterly pits the Smithian logic of the 'searchers', who are able to employ locally appropriate logic and the serendipitous effects of unplanned events or unintended consequences to come up with the most cost-effective, sustainable grass roots solution to most developmental issues.

By removing bureaucracy entirely and allowing unprecedented levels of participation by actors hitherto excluded from more formal, traditional platforms of exchange, Web 2.0 models have the potential to transform economic activity in a way of which Easterly would surely approve. In a recent IPPR paper, Rowan (2004) proposes UK government action to develop an online marketplace for small transactions that will bring the smallest sellers across hundreds of sectors up to levels of market visibility and interaction usually only available to large players – enabling efficient micro-businesses across diverse sectors, and delivering transactional safety, localised supply, demand, and pricing information, and ease of market entry. One of the many examples Rowan provides is of his own frustration at his inability to find a car hire firm that would provide him with a service at a reasonable price, when there would have been many local garages with currently unused cars which, for a low transaction cost and security, might have been glad to have hired one out much more cheaply. Furthermore, there might even be a possibility of linking this transaction with someone who would be happy to drive this car for him – if only an enabling mechanism existed for stringing together the entire value chain in a way that people trusted (the need for trust and security explains the requirement for a government-backed system, albeit involving a minimum of enabling infrastructure).

Such a model might have enormous power in developing country contexts, where physical and social geographies dramatically constrain economic actors' abilities to engage in free exchange – and even to identify the opportunities for doing so in the first place. Importantly, this model should be achievable via mobile technology, which may offer greater possibilities for a basic access to the internet, via email www servers such as Agora, than has been fully acknowledged in the literature to date. Interestingly, the model involves elements of Sachs' enabling infrastructure – an element of planning – but only to create the minimum infrastructural playing field required for a firmly Easterly-esque, 'searcher'-based economy.

Although not yet on the scale of Rowan's model, there are already documented examples of entrepreneurial activity having been triggered by mobile technology in its ability to reduce transaction costs within cash-based societies, broaden trade networks and reduce the need to travel (Opoku-Mensah and Salih 2007). For example, a recent survey of mobile phone users in Kigali, Rwanda suggests that mobiles are allowing microentrepreneurs in developing countries to develop new business contacts on a peer-to-peer basis in a variety of ways (Donner 2005). In suggesting pragmatic new relationships between enabling infrastructure and localized, networked entrepreneurialism, the opportunities implied by Web 2.0 models such as Rowan's, together with emerging evidence of technology-enhanced peer-to-peer entrepreneurial activity on the ground, would seem to demand attention within both camps of the clinical economics debate.

2.5 How Web 2.0 can contribute to development's New Institutional Theory debate

To Web 2.0's ability to inform current debates on participation, development of civil society, and economic inclusion can be added institution-building. The fourth currently significant debate within development studies to which Web 2.0 can make a contribution is Moore (2000)'s contention that states can be made more legitimate by increasing their dependence upon funding by their own citizens (rather for example, than bypassing such dependence by selling commodities into international markets), and that the current emphasis on 'good governance' - *improving* existing institutions - should therefore be replaced by a focus on *challenging* such institutions by increasing their dependence on their citizens. In this view, developmental transformation stems from the establishment of light, but popularly mandated and sustained, political and institutional structures and enabling infrastructure for the private economic activity required to fund such a transformed state.

Such a transformation is, of course, not straightforward: Moore's emphasis on the difficulties of creating the institutional conditions under which powerful political interests can be made more answerable echoes Wilson's (2004) view that a liberally diffused ICT infrastructure will always be opposed by "those who calculate that the introduction of these new resources undercuts in some way their own institutional interests as regulators, ministry officials, or telephone company managers" (2004:44), and who will seek a controlled diffusion of access. Later, Wilson concludes that "the shift between private and public is at the heart of the Information Revolution" (2004:98), providing examples from Brazil and China of how network diffusion is usually the outcome of a struggle between 'informational champions' and political elites.

It its ability to generate an alternative physical infrastructure and network-enabled social life, Web 2.0 poses an implicit challenge to all existing forms of state monopoly, rent-seeking, and

cultural control – whilst providing a platform for private economic activity. In particular, established, successful websites such as the UK's theyworkforyou.com, which supports wiki-based commentary on MPs' performance and political issues, the massive popularity of collaborative sites such as MySpace and Facebook as venues for political critique as well as social networking, and China's 'Google problem' (Thompson, 2006) all demonstrate the ability of "weapons of mass collaboration" (Tapscott and Williams 2006) to threaten the most established of power structures; a recent example of this is Mzalendo (sub-titled 'Eye on Kenyan Parliament'), an active, Kenyan version of theyworkforyou.com, at www.mzalendo.com. This is, of course, even before many developing countries start to engage with the 'e-government' revolution that seeks to alter fundamentally the nature of interaction between citizens and public bureaucracy.

Perhaps most importantly however, with the increased participation by citizens in Web 2.0-based forms of interaction comes a corresponding growth in the culture of openness upon which Web 2.0 logic depends: open standards, increased transparency (which can lower transaction costs), and choice of information is arguably generating a "new economics of intellectual property" (ibid. 2006), where the defence of proprietary, closed, and restricted power structures starts to appear increasingly pointless and isolated against a tide of social and economic change where real power, influence, and value creation has begun to shift elsewhere. Within the development literature, the need to encourage greater articulation by an often disconnected state that appears suspended, balloon-like, above the 'real business' of social and economic exchange on the ground has been seen as a pressing issue for some time (e.g. Lipton 1981) – and thus Development 2.0 should examine ways in which the provision of alternative platforms of social and economic exchange can work positively to create a new economics of political and institutional interaction.

The dynamics of how such a new political economy can be generated via ICT are already beginning to emerge. In an interesting edited collection of essays examining the experiences of six African countries' first steps in engaging with the information revolution, Wilson and Wong (2007) argue that all faced "critical negotiation issues" that included policy reform (privatization, liberalization, regulation), access, national ICT policy issues, and technical issues – of which the four most difficult were access to facilities, anticompetitive behaviour, monopoly pricing, and regulation. Importantly, the authors note that "at some point in all countries where the Internet expands successfully and quickly, there emerges a small group of ICT collaborators drawn from different sectors of society who come together to advance their vision of the networked society" (2007:175). A good example of the power of such collaboration is Schoolnet Namibia (www.schoolnet.na), a 'bottom-up' organization committed to empowering children across Namibia through open source software, open content, and open access, that seems to be playing an increasing role in national policymaking (Komen, 2007). It seems that this empirical material underscores the need for policymakers to understand the, primarily institutional, issues that must be addressed if networked behaviour is to get off the ground – issues that speak directly to current debates within New Institutional Theory. Additionally, it also poses the question of how a 'community of practice' of ICT collaborators may be able to catalyse the transformation of state-society relations in the manner called for by Moore.

3 LIMITATIONS OF DEVELOPMENT 2.0 AS A PARADIGM, AND AREAS FOR FURTHER RESEARCH

3.1 Limitations of Development 2.0

Thus far I have argued that ICT and development studies have never been so relevant to one other, and called for a more conscious and sustained interaction between the two disciplines – at policy and practice level, as well as in thinking about how a new kind of networked developmental model may be able to inform the way in which developmental initiatives are currently planned and implemented. In outlining how Web 2.0 thinking may contribute to some of the current dilemmas in development studies at conceptual level – a ‘Development 2.0’ way of thinking, I am aware that such concepts may be far from the thoughts of those who dwell far from networked infrastructures in rural or possibly conflict-laden circumstances, often existing on less than a dollar a day.

Within a networked environment of social and economic exchange whose driving logic is inclusion/exclusion, access becomes the paramount issue facing the Web 2.0 model of developmental ICT; for example, less than 4% of Africa’s population is currently connected to the Web, most of these concentrated in Northern African countries and South Africa (Nixon, 2007). Wilson (2004) provides some useful insights here, arguing that access is a multifaceted phenomenon that includes physical, financial, cognitive, design, content, institutional, and political components (2004:333), access to all of which is required to participate in the information revolution.

Wilson cites recent quantitative research showing that although “the rising ICT tide lifts all boats”, the digital divide between rich and poor countries continues to grow, and that structuralist models are more powerful for explaining ICT diffusion patterns than optimist models (ICT delivers benefits for all) or pessimist models (ICT leads to civil disintegration and greater inequality). This implies that the transformational potential of Web 2.0 models will be limited without attention to broader structural inequalities within which these are trialled – and that ICT must always form part of an integrated philosophy of structural transformation. Finally, Wilson highlights the importance of such thinking for development planning as a whole, arguing that policymakers who believe in the likelihood of a widespread structural transition towards a knowledge society will pay considerable attention to ICT, but that ICT may be sidelined by those that see such transformations as unlikely – pointing out the inherent riskiness of either extreme position.

What appears perhaps most likely given such zero-sum riskiness is that policymakers will presently opt for a ‘middle way’, that takes seriously the establishment of an ICT networked infrastructure and its associated transformational possibilities, but not at the expense of other, more immediately pressing infrastructural concerns. This approach avoids any tendency for Development 2.0 thinking to become disconnected from realities on the ground, ensuring instead that it forms part of an integrated, structural approach to broader thought about how ICT can act as a catalyst, or enabler, for development.

3.2 What would an agenda for Development 2.0 research look like?

In the view presented in this paper, Development 2.0 could be a strand of research that seeks a conscious and sustained dialogue between Web 2.0 models and ways of thinking, and the broader debates and structural concerns within development studies. Deliberately interdisciplinary, such research would seek to bring together insights from the Information Systems (IS) community, engineering and technology practitioners, and the development studies community. Although from different backgrounds, such researchers would share a common interest in engendering a networked and plural form of social and economic exchange as an ‘engine’ for a form of self-determined development that relies less on donors and international programmes, than on releasing individuals’ own capacities for innovation and entrepreneurialism.

As such, Development 2.0 would not be simply about how ICT can be implemented appropriately, sustainably, or equitably within a developmental context – areas in which there is already a growing body of research within the IS community (Walsham and Sahay 2006) – although these factors would all be relevant. Rather, it would focus on a set of linked issues, all of which have the establishment of a particular, Web 2.0 enabling dynamic at their core. Although space precludes a detailed discussion of these here, an initial view of some possible issues is presented below.

Strand of research		Key focus
Theoretical	Definition and Taxonomy	Development of a set of aims and definitive features that characterize Development 2.0
	Distillation of best practice	Lessons learned from social applications of Web 2.0 models in more developed contexts, and their possible applicability within developmental context
	Critique	Political economy of Development 2.0 Ability of Development 2.0 models to broaden access to social & economic exchange Relevance of Web 2.0 models to developmental environment
	Challenge/contribution to development studies	Deepening of our understanding of how Development 2.0 can challenge and contribute to key debates in development studies, in the manner addressed in this paper
Empirical	Building a body of examples	Empirical examples of attempts to introduce Web 2.0 models to serve developmental aims
	Evaluating examples’ effectiveness in furthering developmental aims	Understanding and proving the links between enabling network infrastructure and Web 2.0-enabled social and economic behaviour

Table 1: Development 2.0: an initial research agenda

It is, of course, possible that in time the need for a consciously separate, interdisciplinary strand of Development 2.0 thought may become less marked, as development studies increasingly engages with peoples' demands to participate, peer-to-peer, in the information society, and such ideas move consequently to the mainstream of development thinking. At present, however, given the levels of attention to such models within mainstream business studies in countries with well-developed ICT infrastructures, it is surely time that conscious – and co-ordinated – attention was devoted to examining how some of these benefits can be made available to others.

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