Research in ICT4D: the convergence of social sciences and technology

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In the recent months, a debate has re-gained momentum on whether the field Information and Communication Technologies for Development (ICT4D) is a discipline or not, what topics should it cover and what approaches and methodologies would be the most appropriate. The topic is not new and there already is a growing collection of interesting literature about it. On the other hand, Richard Heeks has performed a most useful reflection on researching ICT4D, providing insights on where and how to plublish (1,2,3,4,5,6) also providing some insights to the debate.

The technological approach

In Understanding our Knowledge Gaps: Or, Do we have an ICT4D field? And do we want one?, Michael Best listed four main research problems— à la David Hilbert— of ICT4D (please refer to the source for the definitions):

1. Post-conflict computing.

2. HCI4D.

3. Appliances.

4. Sustainability.

Though I agree with the topics within these categories, I would reshape/rephrase them a little bit, like this:
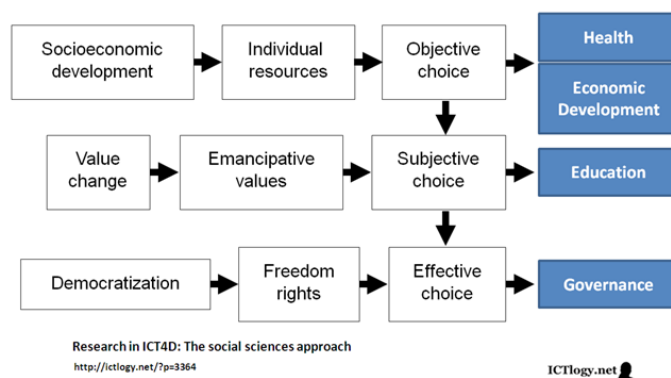
1. Infrastructures: including most of the "Post-conflict computing" category to gather not only post-conflict or emergencies, but all kind of infrastructures.

2. HCI4D: as is in Michael Best's terms, that is, the part of the user, their competences, their personal needs and characteristics, etc.

3. Appliances: again, as is in Michael Best's terms, though also including content and all the ways it can be delivered, software and applications, etc. In other words, the user's end of technology.

I think sustainability has to be embedded in the former categories: if it is technological or environmental, most probably in the first one, as part of the infrastructures; if it is financial, probably as part of the design of services and appliances.

The social sciences approach

Independent, completely orthogonal to the previous approach — i.e. not better, not worse, just different — would be my own conception of ICT4D research. My approach goes relies heavily on the philosophies and reflections of people like Sen and Freire or the findings characterizations of development of Welzel and Inglehart.

The focus of a social sciences approach is not technologies themselves — as is the case of the technological approach — but where are they applied. Thus, revisiting the **values and rights based approach** that we drafted in *Three approaches of ICTs in development and an alert on leapfrogging*, we can make evolve that model picturing, on the far right, the four key areas where ICTs should be applied for development:

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http://ictlogy.net/?p=3364

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Note that **Health** would include all aspects related to personal well-being, from physical health strictly speaking to psychological health, including food and nutrition. **Education** includes all kind of intellectual and ethical emancipation. **Governance** goes from the exercise of free will to engagement and participation in public matters.

The convergence of social sciences and technology approaches

Is it possible to cope with both approaches? Of course it is. I here below try to pick some examples in the crossroads of the different categories for each approach. The table is, by no means, a comprehensive representation of all the "sub-fields" or "applications" of ICT4D whatever the approach:

A last reflection on multidisciplinarity

I personally do not think that a pure multidisciplinary approach is possible, though sometimes we will see transdisciplinary researches that travel from one discipline to another one to provide several points of view at once, or provide several analyses with several methodologies to cover the same topic. Sometimes either the knowledge of the researcher (even of the research team) or the intended audience of a specific research will shift the focus towards social sciences — and within them towards anthropology, sociology, economics, political sciences... — and sometimes the focus will be shifted towards technology — and within technology towards hardware, software, user experience, networks... —; and most of the times it will be both, personal background and intended audience, the pushing forces towards a specific discipline.

While the later is most of the times unavoidable and even desirable for the sake of clarity and focus, ignoring the adjacent disciplines will, in my opinion, become less of an option.

	Infrastructures	HCI4D	Appliances
Health	Hardware for disabled people Telediagnosis devices	First level digital divide	Online health systems
Economic Development	Last Mile solutions Low cost hardware Low cost connectivity Asynchronous connectivity M4D	Knowledge gap in organizations Business Intelligence and organizational change	e-Commerce: B2B, B2C… Free/Libre Open Source Software
Education	Cheap educational laptops Interactive blackboards Educational mesh networks	Second level digital divide Knowledge gap in education	e-Learning for Development FLOSSE Open Access Open Educational Resources
Governance	e-ID RFID	Profile of the refusenik Knowledge gap in politics	Electronic voting systems Open databases e-Government: G2C, G2B…

I would personally mistrust an ICT4D economist that cannot tell the difference between Wi-Fi and WiMAX, as I would mistrust an ethnography of the blogosphere by someone without a blog. Of course you do not need to know all the technical specificities, but at least the rough differences and the different fields of application.

On the other hand, I would mistrust an ICT4D software engineer working in education that knows not the main research trends in digital literacy or the main criticisms against Seymour Papert.

In other words, our hands are limited and we cannot play all the keys, but our ears have to be able listen to all musics. At once.

References

Best, M. L. (2010). Understanding our Knowledge Gaps: Or, Do we have an ICT4D field? And do we want one?. Cambridge: Publius Project.

Sen, A. (2001). What is Development About?. In Meier, G. M. & Stiglitz, J. M. (Eds.), Frontiers of Development Economics: The Future in Perspective, 506-513. New York: Oxford University Press.

Sen, A. (1980). Equality of What?. In The Tanner Lecture on Human Values, I, 197-220. Cambridge: Cambridge University Press.

Freire, P. (1970). Pedagogia do oprimido. São Paulo: Paz e Terra.

Inglehart, R. & Welzel, C. (2009). How Development Leads to Democracy. What We Know About Modernization. In Foreign Affairs, March/April 2009. New York: Council of Foreign Relations.

Welzel, C., Inglehart, R. & Klingemann, H. (2003). The theory of human development: A cross-cultural analysis. In European Journal of Political Research, 42 (3), 341-379. Oxford: Blackwell.

Peña-López, I. (2009). Three approaches of ICTs in development and an alert on leapfrogging. In ICTlogy, #74, November 2009. Barcelona: ICTlogy.