

Social implications of computers in developing countries

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ICT and development: East is east and west is west and never the twain shall meet?

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ICT and national development

- Developing countries rush to adopt ICT, in the hope of achieving accelerated economic growth
- This has been driven mainly through development aid mainly from western aid agencies – e.g. NORAD
- However, studies have shown only limited correlation between investment in ICT and traditional economic growth indices
- So: Is ICT a silver bullet? Or, an enticing siren?
- ICT can play a key role in national development .. IF applied appropriately

Why little influence of ICT?

- Stakeholders, especially donor agencies have:
 - flawed conceptualisation of development
 - flawed conceptualisation of basic concepts of ICT
 - flawed conceptualisation of the interrelationship between the two
- Development and intervention strategies are ill-formulated development
- Statistics used to support various viewpoints hide key aspects
 - Donor agencies preoccupied with primary effect: substitutio
 - At best, second order effects are observed
 - Third order effects yet to be observed

Conceptualising development: current

- Modernisation perspective
 - Poorer countries mired in traditional production mode, lack know-how to break out: Developed countries escaped this by R&D and use of technology
 - To become developed: Poor countries need to emulate the developed countries; Developed countries have moral duty to help achieve this growth
 - Key intervention strategy is to create capital and a capitalist class that will lead to achieve modernisation
 - ICT can be such a catalyst: Hence aid especially ICT
- No contextual factors considered. Cultural aspects ignored

Conceptualising ICT: current

- A prime example:
 - *ICTs encompass all those technologies that enable the handling of information and facilitate different forms of communication among human actors, between human beings and electronic systems, and among electronic systems. These technologies can be sub-divided into: capturing technologies, storage technologies, processing technologies, communication technologies and display technologies. (Hamelink 2001)*
- This is “tool view”: a means to achieve something: labour substitution, productivity, communication

ICT-development relationship

- Silver bullet (*Utopian, the solution*):
 - ICT help westernise, leapfrog stages of development
 - IT as a commodity: Manufacturing computer products, offshore Software development, offshore computing
- Doom and gloom (*Dystopian, the problem*):
 - increased dependency, digital divide, social inequality increasing
- On one hand - on the other hand (*contextual*):
 - ICT has limited impact, must be accompanied by structural change
- Under dependency perspective of development
 - ICT commodities mainly feed consumerism of the richer nations
 - Rise in “global” ICT industries not indicative of transfer of technology and more importantly, transfer of knowledge

Development: Alternate

- Human development perspective is better frame. It is:
 - reducing poverty, increasing the standard of living, increasing educational and health levels
 - building a democratic society marked by involvement, participation, and transparency
 - better management of behaviour and customs, based on a better understanding of culture
- Three key and interlinked observations on development:
 - Too much colonial era approach of 'we' vs. 'them' built into thinking; not focused on local people and local development
 - All stakeholders active in development co-operation are positioned within, and bearers of unique knowledge systems
 - Overt technological appearance aside, ICT is a form of communication: a relationship between *people*

Human development

- UNDP HDR uses several indices to assess a nation:
 - Human Development Index, HDI: life expectancy at birth, level of education, and GNP per capita
 - Gender Development Index, GDI: same factors as the HDI, but looks at the differences between men and women
 - Gender Equity Measure, GEM: Looks at the possibilities for women to be part of the decision-making in economics and politics
 - Human Poverty Index, HPI:
 - **HPI-1:** (%) expected to die before the age of 40, adult literacy (%), (%) do not have access to health services and clean water, and the percentage of undernourished children
 - **HPI-2:** (%) expected to die before the age of (%) percentage with an income less than 50% of average, and percentage without a job for 12 months or more
 - Life expectancy index
 - Other implicit factors: income distribution and social mobility

ICT: Alternate

- ICT is a means of communication: a relationship *between people*
 - Modern communication is complex, and takes place between many stakeholders, often located on different levels
 - The medium is more written, increasingly electronic, and often asymmetrical
 - The content is often instrumental, and increasingly contains data without a contextual frame of reference
 - The transmission methods must be chosen with care, esp. where the aim is to mobilise populations for development
- ICT is more than tool view. It is:
 - an issue, a process, and content and goals
 - a theory of relationship between technology and development

ICT-development relationship

- Intellectual roots from Appropriate Technology theorists
 - The impact of ICT is emergent and dependant upon social context
- ICT impacts development at following levels:
 - *The level of impact.* Found at local level
 - *Impact on whom:* different stakeholders are impacted differently
 - *Impact on what.* Tertiary effects and on HD indices
- Summarising:
 - a more egalitarian approach to understanding the relations between key concepts and between the key stakeholders
 - donors and recipients can understand themselves as equal, and as bearers of cultures that both affect and are impacted
 - In more practical terms, would lead to a better-formulated strategy to guide donor agencies in planning their intervention strategies

The NORAD report: an analysis

- The background/context
- Rationale
 - Digital divide
 - Starting with the technology is wrong
- Target groups
 - Focus on private sector
 - Top down
- Conceptualization of ICT
 - modernisation & take-off focus
 - culture absent
 - does not recognize the subjective and value laden aspect of ICT-and-development

Discussion

- The traditional emphasis on disseminating aid leads to conflicts
 - As an alternative, we posit the approach of ‘studying up’, starting at the local level. This is the starting point for assessing needs, and for devising developmental goals and the appropriate means, including technology, to achieve them
- The extent to which an existing view of development can be reformed may be limited
 - But the manner in which development interventions actually play out in interaction with the context, offer valuable lessons for development efforts. Existing norms mediate and often drastically change the intended effects of the intervention
 - This is particularly relevant for ICTs: it is contextual and is a socio-technical network

Discussion... continued

- Troubling issue. What will prevent the use of ICTs to perpetuate existing imbalances?
- Answer: unforeseen effects of ICTs and the discontinuities they represent
- Answer: Indigenous Knowledge (IK) movements response to AT
 - IK does not deny existence of a dichotomy between IK systems in developing countries and the Western value-led development activities (per AT), but IK systems can bridge this divide
- ICT by facilitates development of IK, and foster autonomy for indigenous peoples
- “localised” movements and western donor agencies need to join hands

Conclusions

- ICTs should be deployed on focused and specific areas
- The emphasis should be based on how it is used, rather than on the supply side
- The impact should be assessed in terms of human development factors
- We should accept that the actual impact of ICT intervention is most likely to be different than what was intended. Local modalities will mediate its impacts
- We should accept that ICTs have unforeseen impact and that a comprehensive forecast is not possible



Some research agendas

- Policy level - NORADs strategy
- Networking (an extension of CBNRM Net)
- Dissemination and use of open source software
- Examining the ICT artefact closely
- Your suggestions