D-Lab Development
2009.11.06

ICT4D w/ Victor Serraut

Information Communictation Technology
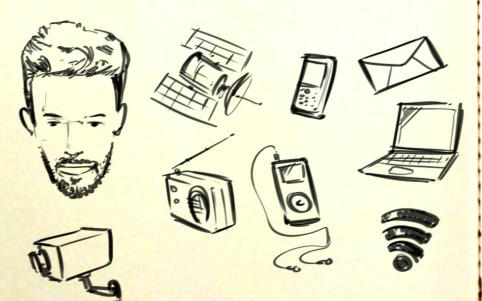What do these technologies have in common?

Devices
Cellphone / computer / Internet / satellites / radio / tv /
videorecorders / voice recorders / sensors / landlines

Software & Services
Databases / Wikis / web content / voicemail / email / SMS / GPS /
GIS

Network
Internet

Power Systems
Solar Cells

How does this relate to development?
ICT 4 D 0.0 1950s - 1990s
First computer in India in 1966
IT for back office applications in government and
private sector

ICT 4 D 1.0 1990s - 2000s
The internet appeared, and changed everything. People
went crazy. Some say that it certainly had to improve
international development.

Millenium Development Goals

Telecenters - fill a room with computers and
connectivity, show people how to use them, and put this
information at their disposal. A quick easy solution.
        Media Lab Linkos Project - shipping container
                with computers and satellite dish
        Satellite is expensive $1000/month for 4mbps
            (vs Victors Comcast for $50 at 4mbps)

ICT 4 D 2.0 2000s onwards
Cellphones (will save the world?)
        Have a critical view, will it be a big change,
            or be the next Telecenter?
        Beneficiaries as creators and consumers

Myths of ICT4D

1. Technology will save the world
    before it was telecenters
    still many people with few phones
    children of poor families unlikely to have phone
    ownership does not equal usage
            shared vs personal use
    usage does not equal sophistication
    quote from master the machine "it brings the world
together, it joins the hemispheres... born to be the herald of
piece" about the telegraph, written in 1860. The same thing can be
said of cellphones today.

2. Technology undoes "rich getting richer"
    or "the internet democratizes"
    the value that comes from technology is not
     the same, depending on where you are

3. If you build it, they will come
    human beings don't do what is best for them
    people don't save, we live for the day
    10% of curable blind don't go have surgery,
      even when its free
    Messing around on Facebook instead of doing problem sets

4. Poor people have no alternatives
    Social Networks = Free
    Government Health clinic = Free
      (may take a lot of time, and hassle)
    Government Agriculture Extension = Free
    There are alternatives, it might not be free,
      but there are alternatives

5. Automated is cheaper and better
issues of full automation
        barrier of cost, literacy, unfamiliarity
        users prefer for voice and human-mediated
systems (this is a very interesting point, where does
the research for that come from?)

6. Information is the bottleneck
        information is one of the many deficiences
        Other problems: human capacity / economy /
        infrastructure / politics
        Information doesn't equal education

EXAMPLES OF ICT4D

United Villages : Access for All
First Mile Solutions
Look it up online if you want more information
Targeting bottom of pyramid 4billion people living in rural areas
    Give them a digital identity, email/phone number/web access
Tel Cos don't reach out to rural areas because of the decrease
in population density, there is less of a pay off for addressing
their needs (don't recover costs of infrastructure)
Chart of the cost comparison of different technology
implementation options

DaKNet
    Builds on the infrastructure of the road
    A bus already travels along the road,
        so attach a "hotspot" to it
    Done in 2003?
    Types of services on this First Mile Application
            Core: Email / Cached Web browsing /
                voicemail over IP
            Supported: eGovernment / telemedicine / remote
                learning / remote / agricultural sensor /
                village commerce / microcredit
    Village Commerce is driving the business now

Store-and-Forward system is lower cost and better
    Villagers share access devices (can't afford own)
    Asynchronous form of communication
            Both parties don't have to be online at same time

How much does email and those things provide benefit?
        There are some students that use email, and
            study or go into town
        The people in the DaKnet Video, are using the
e-commerce platform to help their business. And not
using email at all.

How does this compare to sending by post?
        Technology is a small part of the system
        It is the services that are run on top
            of the infrastructure
This worked at a time when WiFi was all the rage. Now
there is movement of Daknet into cellphone utilization

Coveragemaps.com/gsmposter.com maps of GSM
(cellphone) coverage in the world

Business investors wanted to invest in service providers,
so DAKnet changed from originally viewing themselves
as a hardware provider to a service provider

Mobile Phone Revolution

Huge Change, Huge Impact

    From no computing or communication to ubiquitous
     and mobile computing and communication

    Many countries leapfrogging traditional
     technologies to cellphones

    A similar leapfrog of technology with solar power,
     some villages may never be connected to the grids

Video

    The multiple uses of a cellphone
        Emergency / commerce (fisherman) /
         money transfer
        Company examples:
        Assured Labor / Click Diagnostics / Question Box

Issues and Challenges
Technical
Social and Cultural
Economic

KEY LESSON

Technology is only part of the solution

When implementing a solution, think about the cultural, human and
economic factors that will make a project successful.

EC.701J / 11.025J / 11.472J D-Lab I: Development

Fall 2009