

D-Lab Development

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ICT4D w/ Victor Serraut

Information Communication Technology
What do these technologies have in common?

Devices

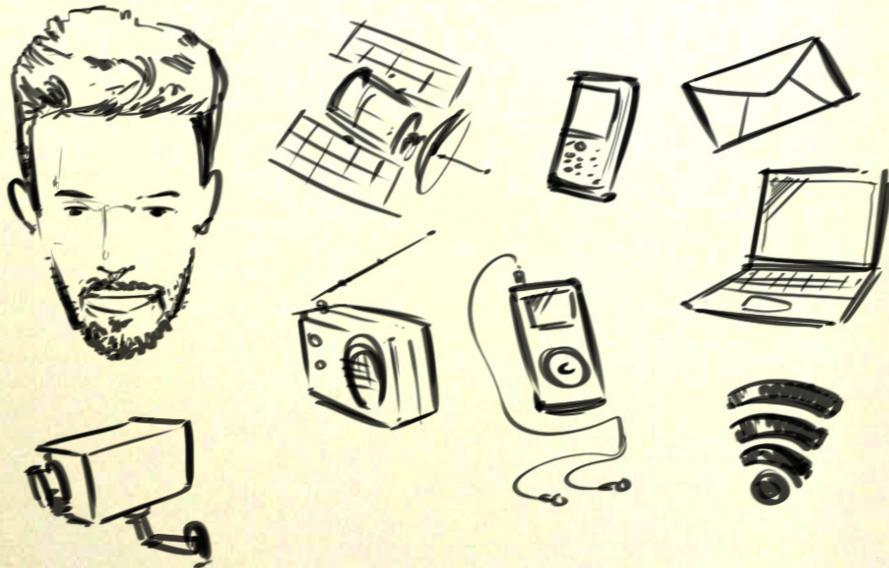
Cellphone / computer / Internet / satellites / radio / tv /
videorecorders / voice recorders / sensors / landlines

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.

Millennium 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 Victor's 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 deficiencies

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 4 billion 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/gsm poster.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.



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