

## M4D Context

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Speaker bio: <http://www.col.org/about/staff/Pages/vbalaji.aspx>

Also: <http://m4d.colfinder.org/node/347>

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Narration:

Spread of mobile phones in the developing world has been THE story in technology in recent times. They have spread faster than the broadcast medium and devices such as radio and the television. What does that mean in terms of human development? In terms of poverty alleviation? In terms of improved food security for a human being? Or in terms of increasing access to learning?

About fifteen years back, many international development reports frequently mentioned that “half of human beings have never made a phone call”. This is no longer stated that way.

Digital Divide was a very important topic until about 10 years back. Every major international development agency had at least one project for bridging the digital divide. Not anymore.

Very rapid spread of mobile technologies and devices among billions of people in about ten years has changed all that. We should really be talking about the dividend rather than the divide now.

The ITU ([www.itu.int](http://www.itu.int)) is a very important source of statistics in information and communication technology matters. To get data on developing world and ICT, this is probably the important, one-stop source.

Here is a figure from the ITU (Slide 1). This is a graph that shows a trend based on very precise information. This graph shows the number of telephones per 100 inhabitants. It is called tele-density. What you would note is that over the last twelve years, the reach of mobile telephony among people has moved from about 15 to just over 96. In terms of number of mobile phones, Africa has experienced about 500% increase in tele-density in about seven year.

In the same period, the fixed-line or wired telephones have not grown at all.

Tele-density has grown very rapidly over the last twelve years. For example, India had a tele-density under 5 in the year 2000. It is about 78 now. This rapid growth is the trend in almost all developing countries. This is what you see in an aggregated form in the ITU figure we just saw.

The ITU figure also shows that access to Internet is on the increase (red line), from about 8 persons out of 100 to about 39. This is not as spectacular as the trend in mobile phones. It is yet a very large increase in a span of 12 years.

What you would also note is a very recent trend: since 2007, there are more and more people using wireless broadband services to access the Internet. This growth is also a rapid one. It is comparable with the way use of mobile phones grew from about 2004.

Mary Meekers is a well-regarded business analyst with the investment firm KPCB. Her analysis of Internet trends is published annually and is considered a highly reliable source for data by many in the academic as well as in the business world.

Mary Meekers' analysis shows that the Internet traffic originating from mobile devices is steadily increasing over the last five years. This is captured in the ITU stat as well. What Mary Meekers' data shows is that the rate of increase is spectacular. It is likely increase at a rate of 15% from now onwards (<http://www.kpcb.com/insights/2013-internet-trends> Slide 32).

In fact, in a large developing country such as China, the Internet traffic from the mobile has exceeded that from the PC (Slide <http://www.kpcb.com/insights/2013-internet-trends> Slide 33). This trend is the same for South Korea when one looks at the number of queries from mobile as compared to PC (<http://www.kpcb.com/insights/2013-internet-trends> Slide 34).

This trend is visible among countries in Africa. According to ITU statistics, the number of wireless broadband connections has moved from just about 1 per 100 in 2008 to about 10 now. This represents an increase by almost 1000%. It is accelerating, reflecting the global trend.

Another fact noted from this analysis is the rise of Tablet computers. These are increasingly preferred over smartphones (<http://www.kpcb.com/insights/2013-internet-trends> Slide 45) notebook and laptop computers (<http://www.kpcb.com/insights/2013-internet-trends> Slide

46). In COL, we have been able to source good quality Tablets that cost about fifty dollars. These are game changers too.

A number of factors are responsible for spectacular increases of this kind. Affordability and accessibility are key factors and both appear to be turning more and more favorable.

Underlying these factors are technological advances and policy measures. The speed with which technologists were able to convert many mobile R&D products into consumer products is a very important consideration. The other is the persistence of supportive policy environments. The importance of policy in technology spread is not always clear but its importance cannot be underestimated.

We are in a situation where there are lots of mobile technologies that can be rolled off the shelf in support of human development. Development activists and researchers may not be aware of them all. At a popular level, many development activists consider voice and text to be the most optimal channels available to reach masses of people using mobile devices. However, technologists have far more personalisable techniques for mass outreach even while using these channels. Supportive policy measures such as Universal Service Obligation funds or USO exist in many countries.

When development activists and researchers are able to converse with technology developers, a lot of new developments beneficial for human development can be quickly rolled out. The policy context is not unfavorable. One of the purposes of this course is to help facilitate that conversation.

Data Sources:

ITU <http://www.itu.int/en/ITU-D/Statistics/Pages/stat/default.aspx>

KPCB <http://www.kpcb.com/insights/2013-internet-trends>

Digital Divide:

The Wikipedia page on this topic has a (surprisingly) good entry:

[http://en.wikipedia.org/wiki/Digital\\_divide](http://en.wikipedia.org/wiki/Digital_divide)

Also: <http://firstmonday.org/ojs/index.php/fm/article/viewArticle/1107/1027> (Mike Gurstein thinks that the Digital Divide discussion was a set up by Internet Service Providers to augment business).

***Discussion questions:***

1. Tele-density has certainly increased in every country. Has it increased significantly in rural areas? Or communities living in remote areas able to take advantage of this increase?
  - a. Take a developing country you are familiar with and assess if there is data available to disaggregate rural from urban growth or remote areas from city/metro areas.
2. Universal Service Obligation started with postal system. Please visit online resources to check if your country has a USO policy and mechanisms.
3. Have you seen or worked with a low-cost Tablet? Some of us work with devices such as iPads or Google Nexus or Samsung Galaxy Tablets but these may be out of reach for most users in developing countries because of cost. Visit sites such as Alibaba.com or Geekbuying.com and look for Tablets 7" or 9" or 10" and compare their features and prices. What do you think is the likely future trend?