



# **The Digital Divide**

**Fundamentals and Evolution**

**Satish Babu**  
Chair, APRALO/ICANN  
& Past President, Computer Society of India

# Overview

- **Digital Divide: The definition**
- **Digital Divide 2.0: From Access to Quality**
- **Digital Divide 3.0: Towards Digital Opportunity**
- **Conclusions**

# Digital Divide: The Background

- Although the Internet has existed since the early 1980s, it was in the 1990s that it gained prominence
- Although initially recognized more as a technological innovation, the economic and social potential of the Internet (and ICTs in general) was acknowledged since the early 2000s
- Considering all its benefits, it was soon acknowledged that ICTs could be an instrument of human development

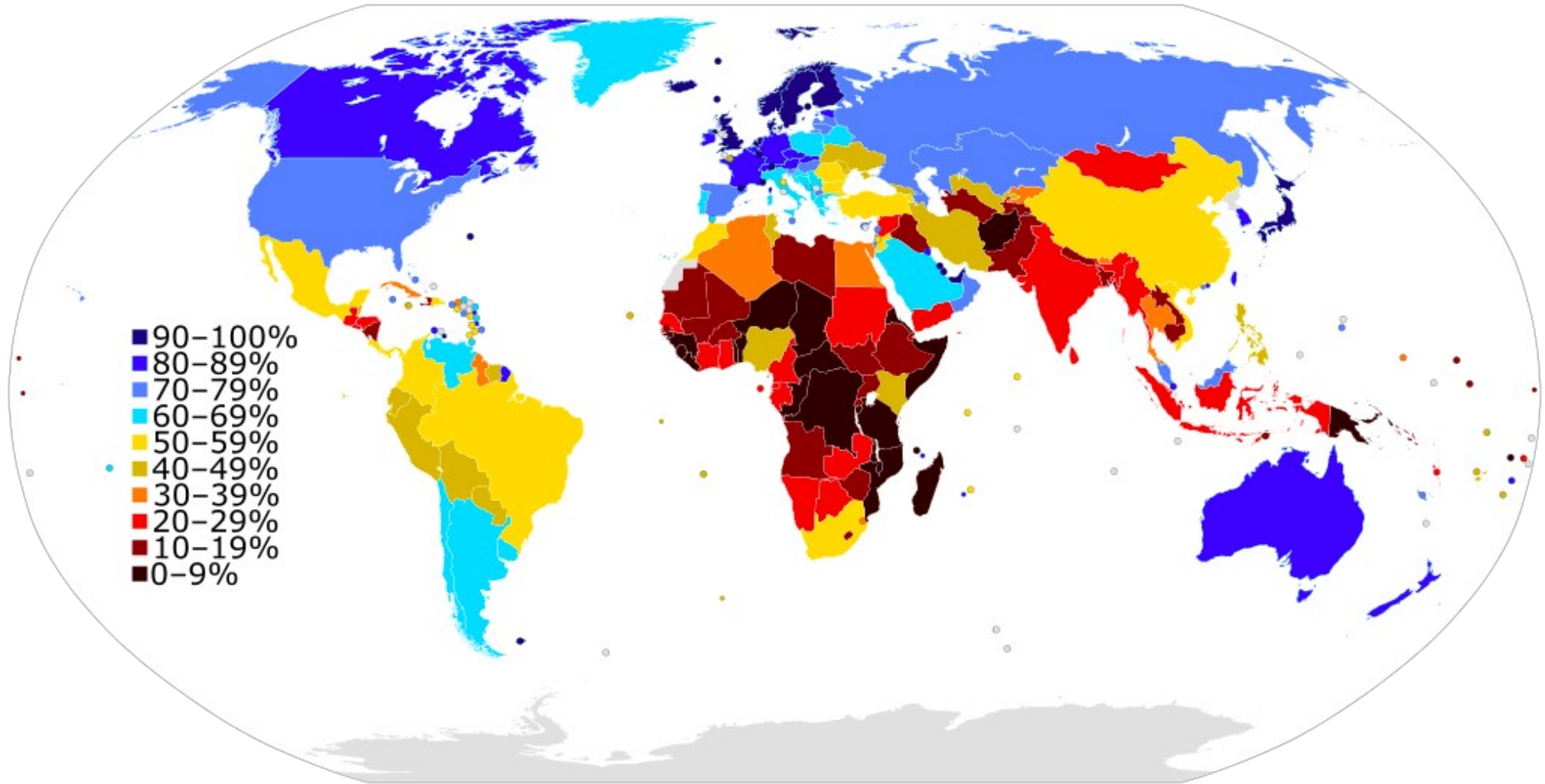
# The Digital Divide

- Once the potential of the Internet was acknowledged, the focus shifted to the fact that the benefits of Internet did not reach everyone
- The Digital Divide was initially articulated as this asymmetry or gap of access to ICTs; use of ICTs; and impact from ICTs; around the world
- The inequalities could be between individuals, households, business, governments, or nations

# Digital Divide: Indicative Factors

- Access to ICTs (ie., connectivity)
- Cost of connectivity
- Availability of suitable content
- Capacity within community to use ICTs
- Language and script
- Devices (eg., Mobile phone presence)
- Finance
- Enabling policy

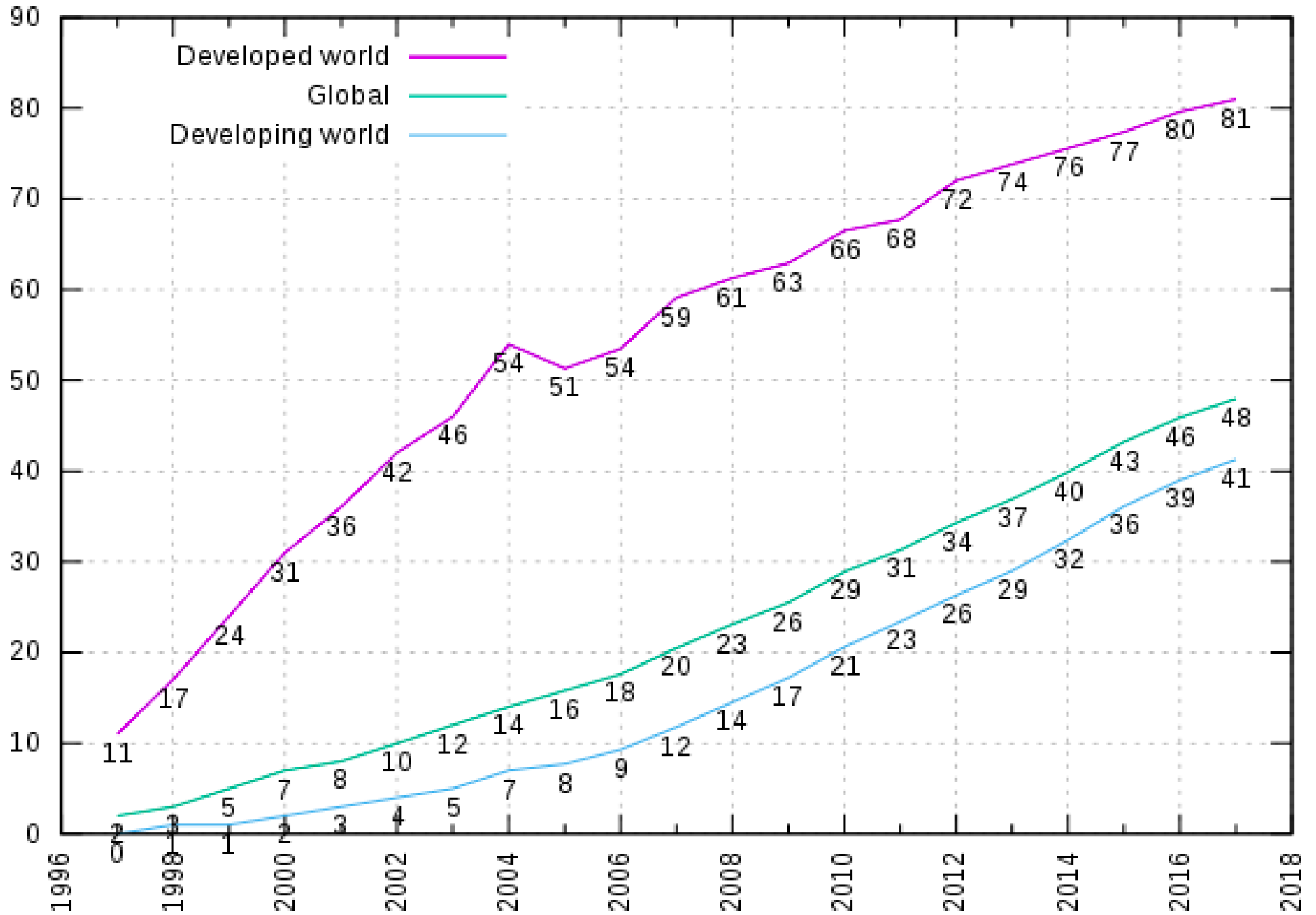
# Internet Users (% of Population)



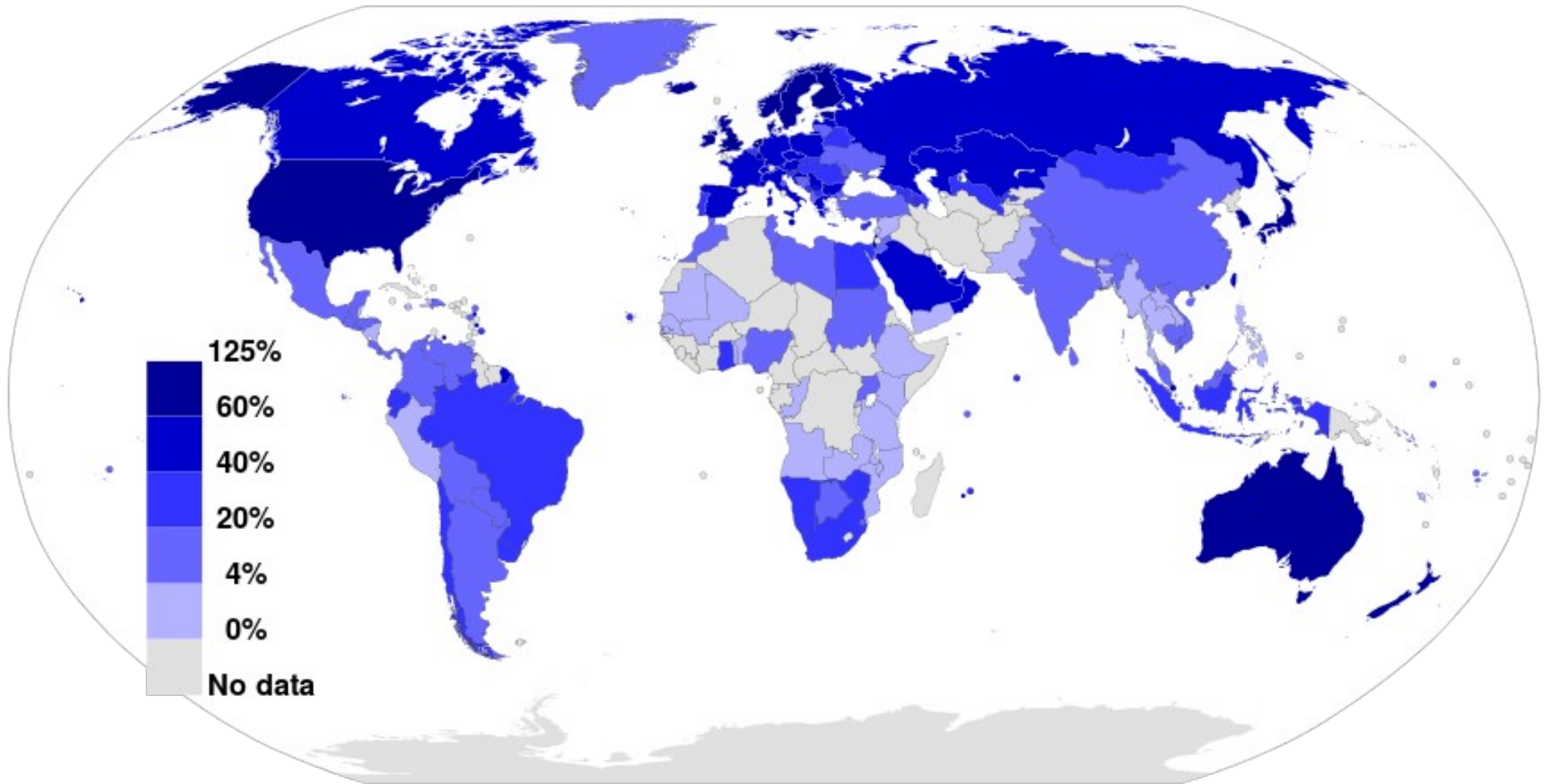
Source: ITU 2015

# Internet Users Per 100 Inhabitants

Source: Wikipedia



# Mobile coverage (% of population)



Source: ITU 2012



# Contributing Factors

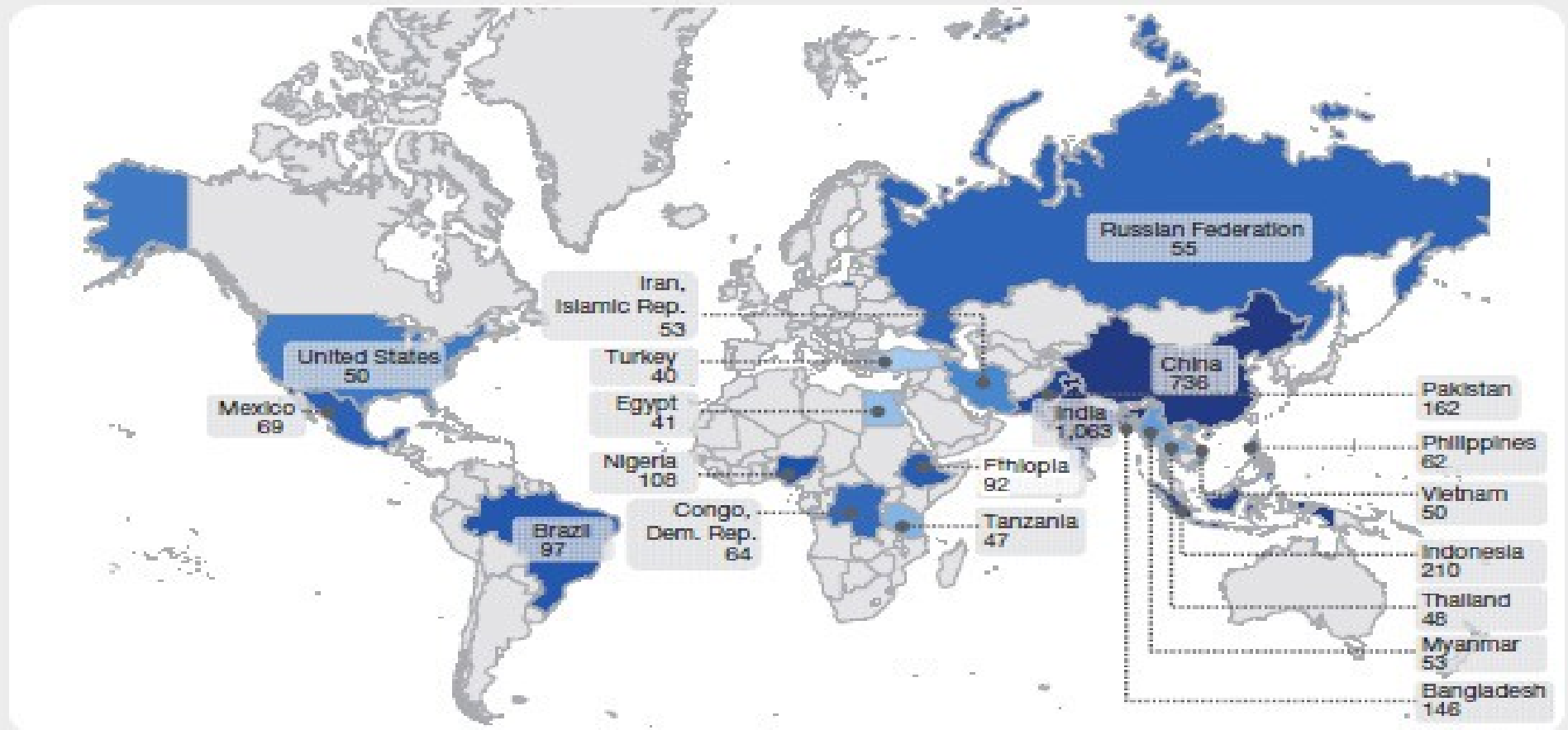
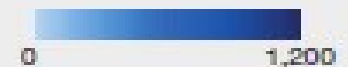
- Several factors are considered to contribute intersectionally to the Digital Divide:
  - Income, Literacy & Education, Age group, Skills
  - Gender, Race, Culture, Social Mobility
  - Disability
  - Geographic (ie., rural vs urban)
  - Infrastructure availability
  - Political/Governance policy, Democracy, Freedom of Speech
  - Poor media/social media presence

# Where are the offline individuals?

20 countries account for 3.2 billion offline individuals, ~75% of the 4.4 billion non-Internet users worldwide

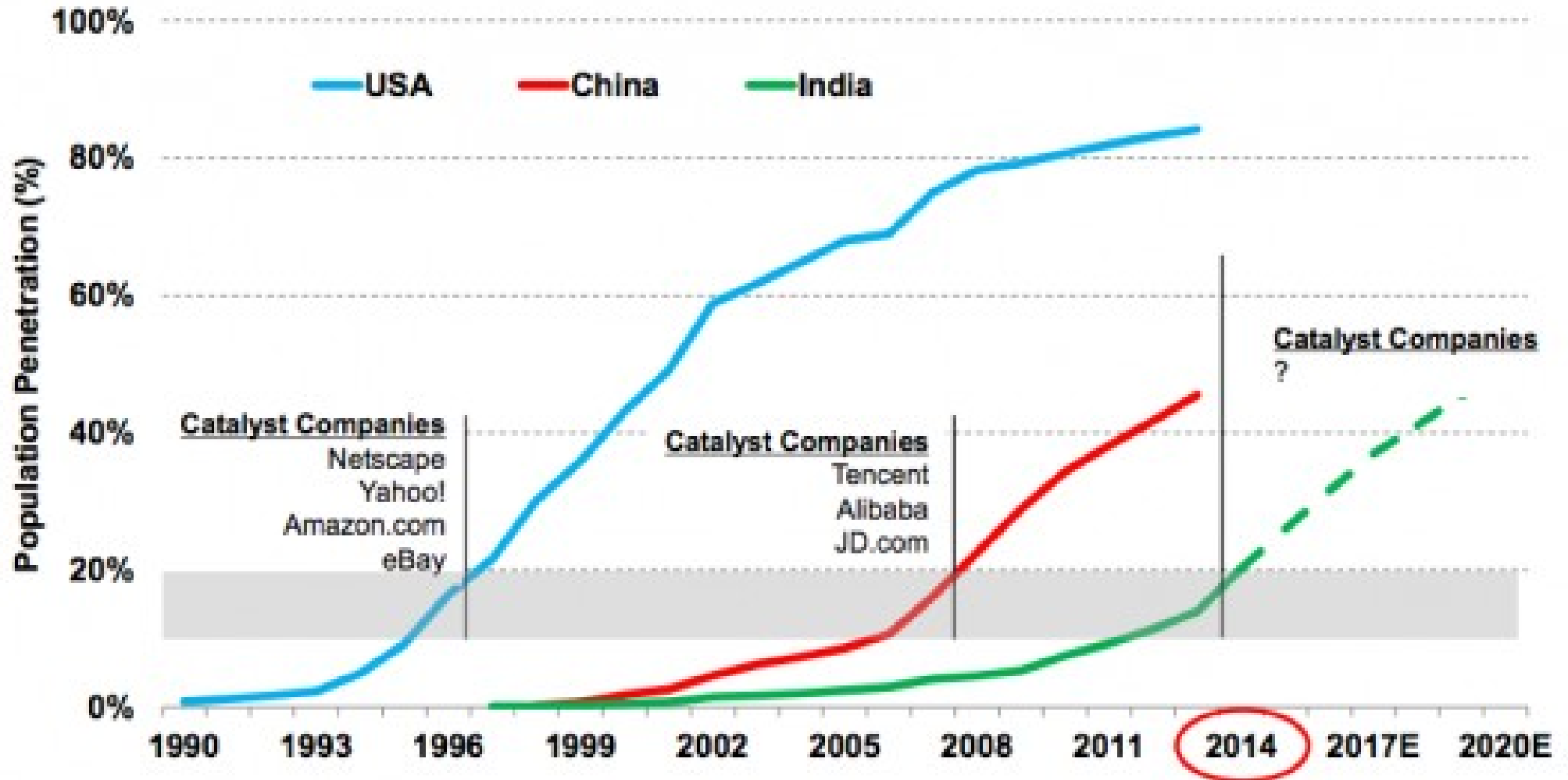
Size of offline population, 2013

Millions



# India = Appears to Be @ Internet Penetration Growth Inflection

## Internet User Penetration Curve, USA / China / India, 1990 – 2020E





# Beyond Access

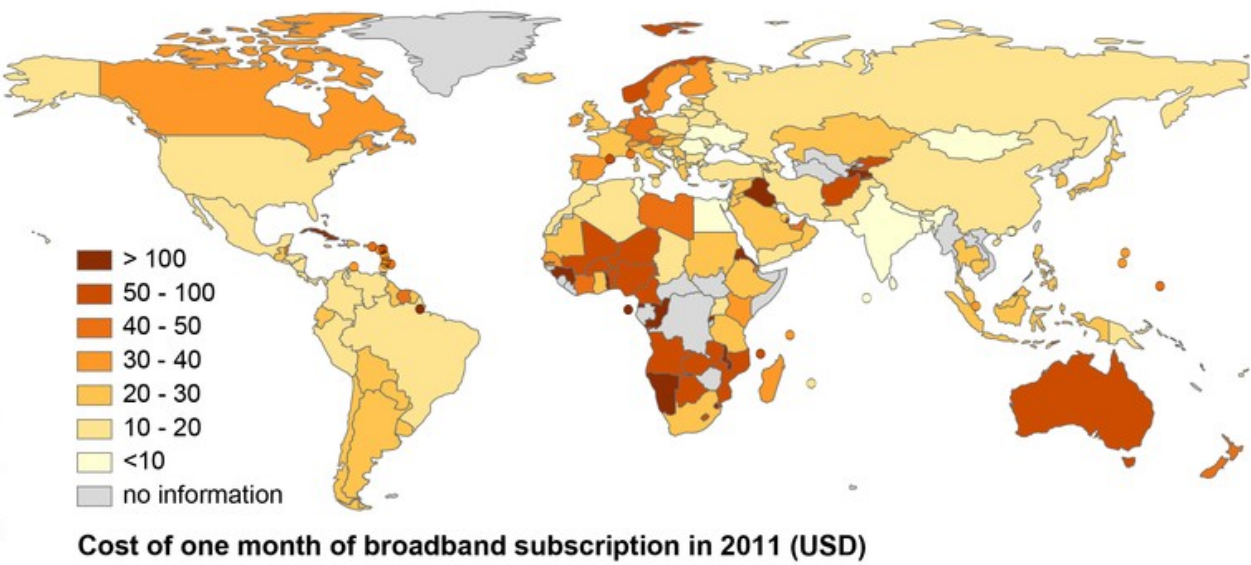
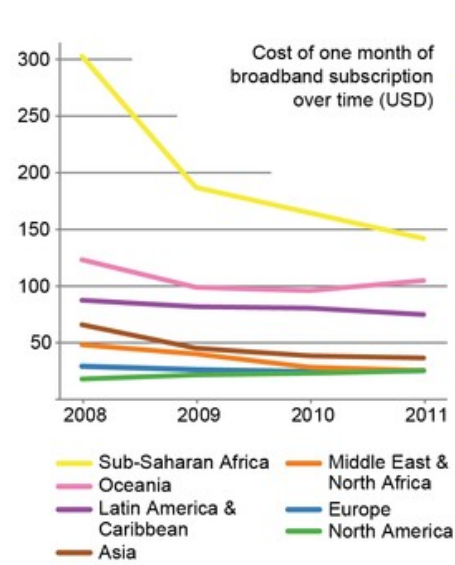
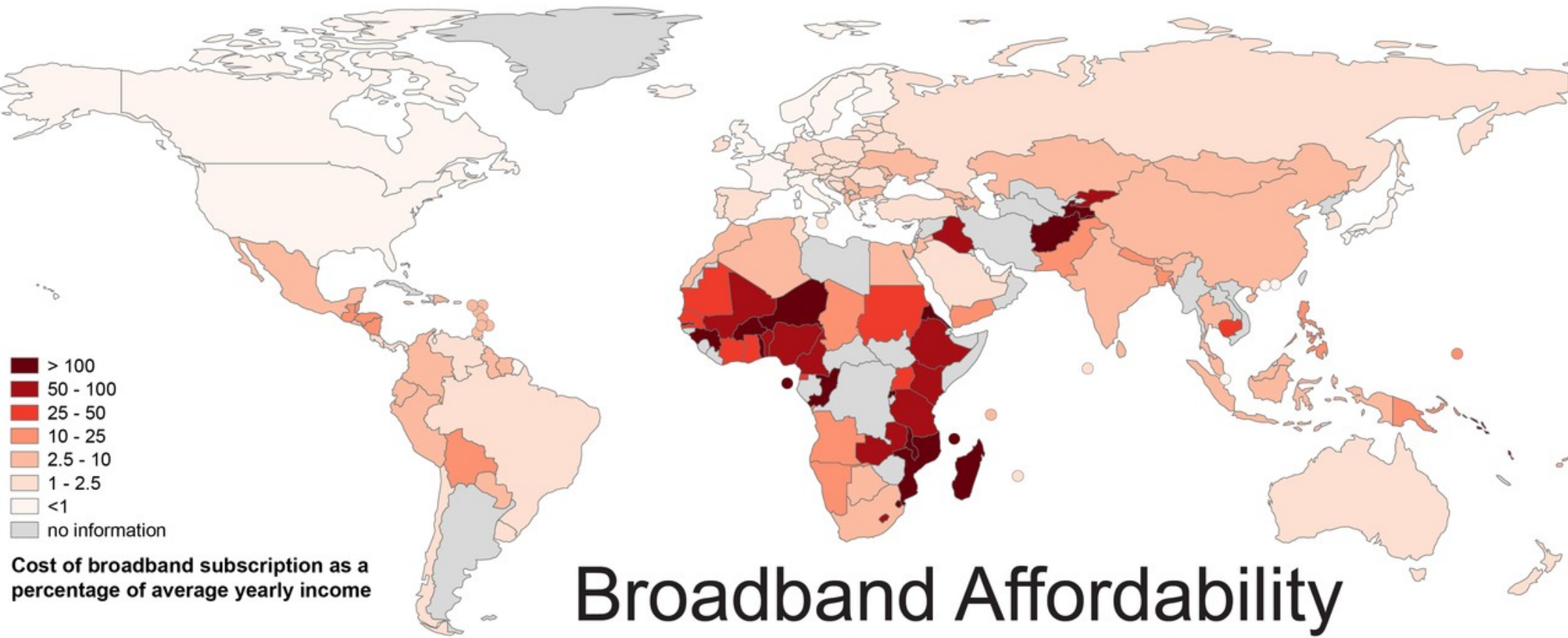
Digital Divide 2.0

# After Digital Divide 1.0

- There is widespread belief that in most parts of the world, the access problem (ie., Digital Divide 1.0) has been addressed to some extent
- Most people are connected through mobile phones
- However, not all of them have the same **Quality** of the Internet
- Digital Divide 2.0 is also about the quality of connectivity

# Digital Divide 2.0

- The quality of digital divide refers to:
  - Is the Internet available continuously (through the day and the year)?
  - Is the bandwidth good enough for most purposes (ie., email, social media, videos, voice/video over IP)?
  - Is good-quality, timely content available in your language?
  - Do you have the skills and capacity to use the Internet?
  - Is the Network content-neutral, or does it choke some types of content?



 Oxford Internet Institute  
University of Oxford

by Mark Graham (@geoplance) and Stefano De Sabbata (@maps4thought)  
Internet Geographies at the Oxford Internet Institute 2014  
[geography.oii.ox.ac.uk](http://geography.oii.ox.ac.uk)

data sources:  
ITU • [itu.int](http://itu.int)  
World Bank • [data.worldbank.org](http://data.worldbank.org)



# Digital Equity, Inclusion and Opportunities

Digital Divide 3.0



# Digital Divide 3.0

- As the quality of Internet stabilizes in many parts of the world, the focus is now on Digital Equity and the ability to use opportunities from the Internet
- The priorities under DD 3.0 are ensuring higher-end services on the Internet are available for every citizen
- The move towards DD 3.0 does not mean that 1.0 and 2.0 are fully addressed

# Digital Equity

- Although Digital Equity started off as a first-world issue, the idea is quickly spreading through the world
- It is about the purposeful use of the Internet for:
  - Low income groups
  - Ethnic, historical and linguistic Minorities
  - The Disabled, elderly and children
  - The Unemployed
- The Internet is also about “permissionless, borderless innovation”, and Digital Equity is also about such innovation

# Digital Divide 3.0 services

- To bridge DD 3.0, some or all of the following services should be available to all or most citizens:
  - Continuous Internet without shutdowns or disruptions
  - Government transactional services
  - Direct funds transfer between citizens (banking or Cryptocurrency/Blockchain-based)
  - Identity services
  - E-commerce, Microfinance and livelihoods support
  - Financial and social inclusion, education



# Conclusions

# Conclusions

- Digital Divide is a concept that first came up in the 1990s, expressing concern about digital “haves and have-nots”
- In the last 2 decades, the term has taken on additional meanings
- It is generally considered that the Digital Divide, in all its forms, is a barrier to human development, and that it must be addressed by Governments, Business and Civil Society



**Thank you!**