

Connected nation

Rohan Samarajiva

rohan@lirneasia.net



This work was carried out with the aid of a grant from the International Development Research Centre, Canada and the Department for International Development, UK.

THE IMMEDIATE PROBLEM: CONDITIONS THAT ENDANGER UNITY

One reason one no longer hears about separatism in Canada . . .

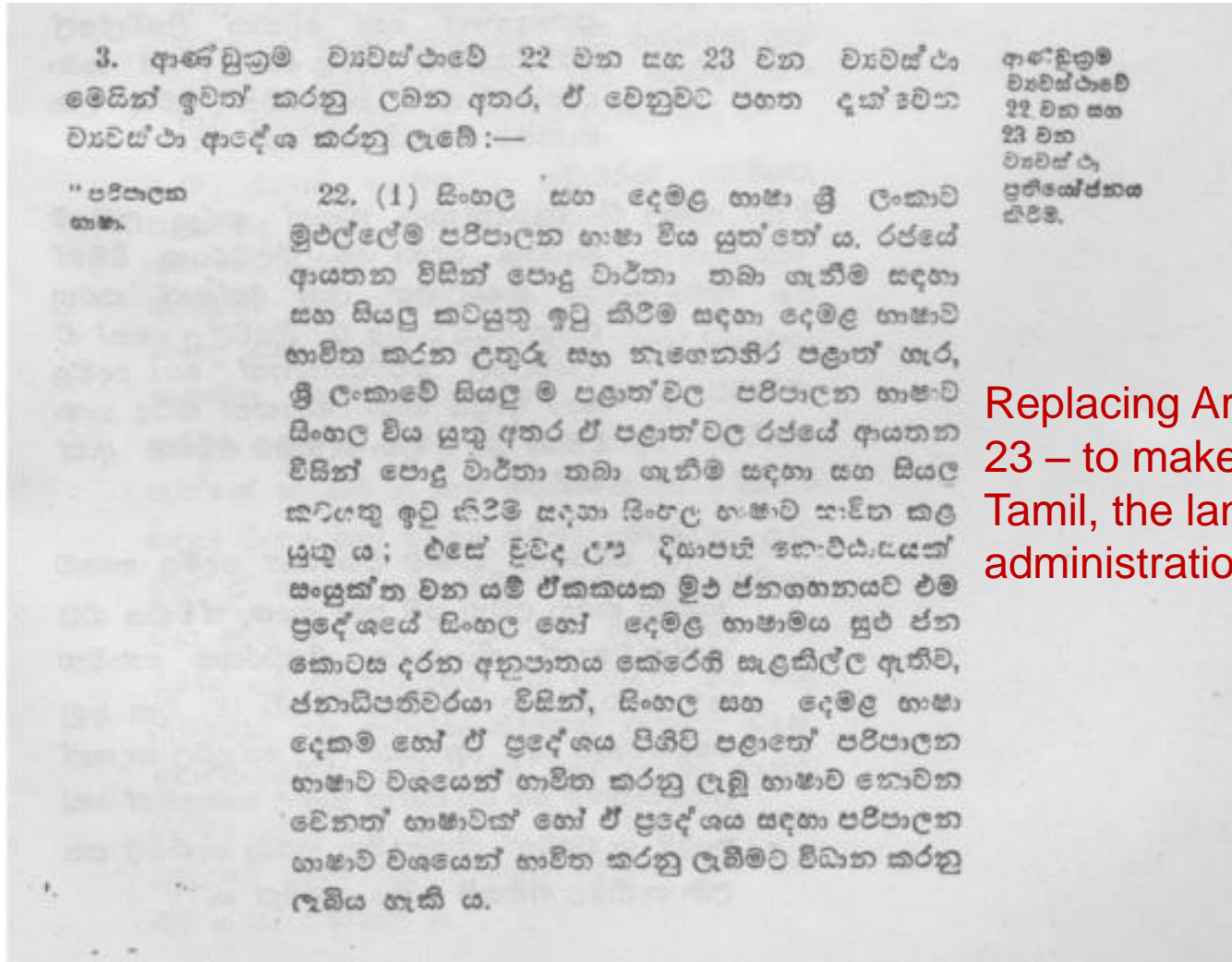
- Federal government conducts its business in both official languages and **provides government services in both languages**;
- Encourages or mandates lower tiers of government (most notably the provinces and territories, but also some municipalities) to conduct themselves in both official languages and **to provide services in both English and French** rather than in just one or the other;
- Places obligations on private actors in Canadian society to provide access to goods or **services in both official languages** (such as the requirement that food products be labelled in both English and French);
- Provides support to non-government actors to encourage or promote the use or the status of one or the other of the two official languages. This includes grants and contributions to groups representing the English-speaking minority in Quebec and the French-speaking minorities in the other provinces to assist with the establishment of an infrastructure of cultural supports and services.

But do we have the money to do all this?

Two languages, one country . . .

- It's not that Sri Lanka has not tried
 - Efficiency bar and other requirements to ensure government officials are bilingual, since before 1972
 - Official languages provisions in 1972 and 1978 Constitutions
 - 13th Amendment to the Constitution making Tamil an official language (1987)
 - 16th Amendment replacing provisions re languages of administration (1988)
 - Official Languages Commission, created by Act No. 18 of 1991
 - Presidential Directive of 1 July 2009 requiring all entering government service to be proficient in Sinhala & Tamil

16th Amendment to the Constitution: Article 3



Replacing Articles 22 and 23 – to make Sinhala and Tamil, the languages of administration

N. Ram's interview of President Rajapaksa & President's Secretary Weeratunga, 21 yrs after 16th Amendment (July 2009)

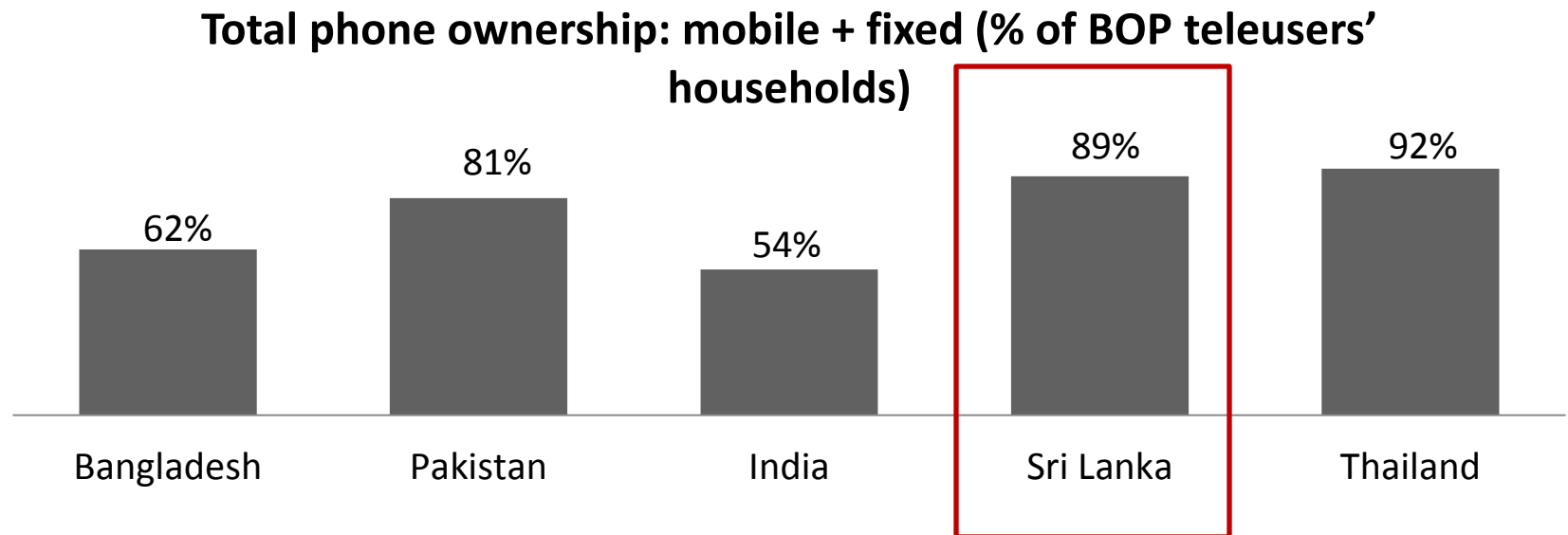
- **President:** Yes, in Parliament. And in my Parliament speech, I spoke in Tamil also. And I spoke only in Tamil when I gave a small message when we started the new ITV Tamil channel, Vasantham.
- **LW:** The public service is learning Tamil. Some are following courses of 40 hours of spoken Tamil.
- **President:** I learnt that in one school the master said: "If the President can learn Tamil, why can't you all? You are students. You must learn Tamil." We are paying people in the public service for learning Tamil, to encourage them.
- **LW:** There is a one-time payment if you pass Tamil. But if they go for classes also we pay. H.E. [His Excellency] has issued a directive that with effect from July 1 we will not recruit people to the public service unless they know Tamil – and vice versa, that is, Tamils must know Sinhala, Sinhalese must know Tamil.
- **President:** Let them learn, let them learn. I can remember that in 1970 as a young MP I said that we must teach all Sinhalese Tamil and all Tamils Sinhala. If that had happened, I think there would have been a different world.

But perception is that we have failed

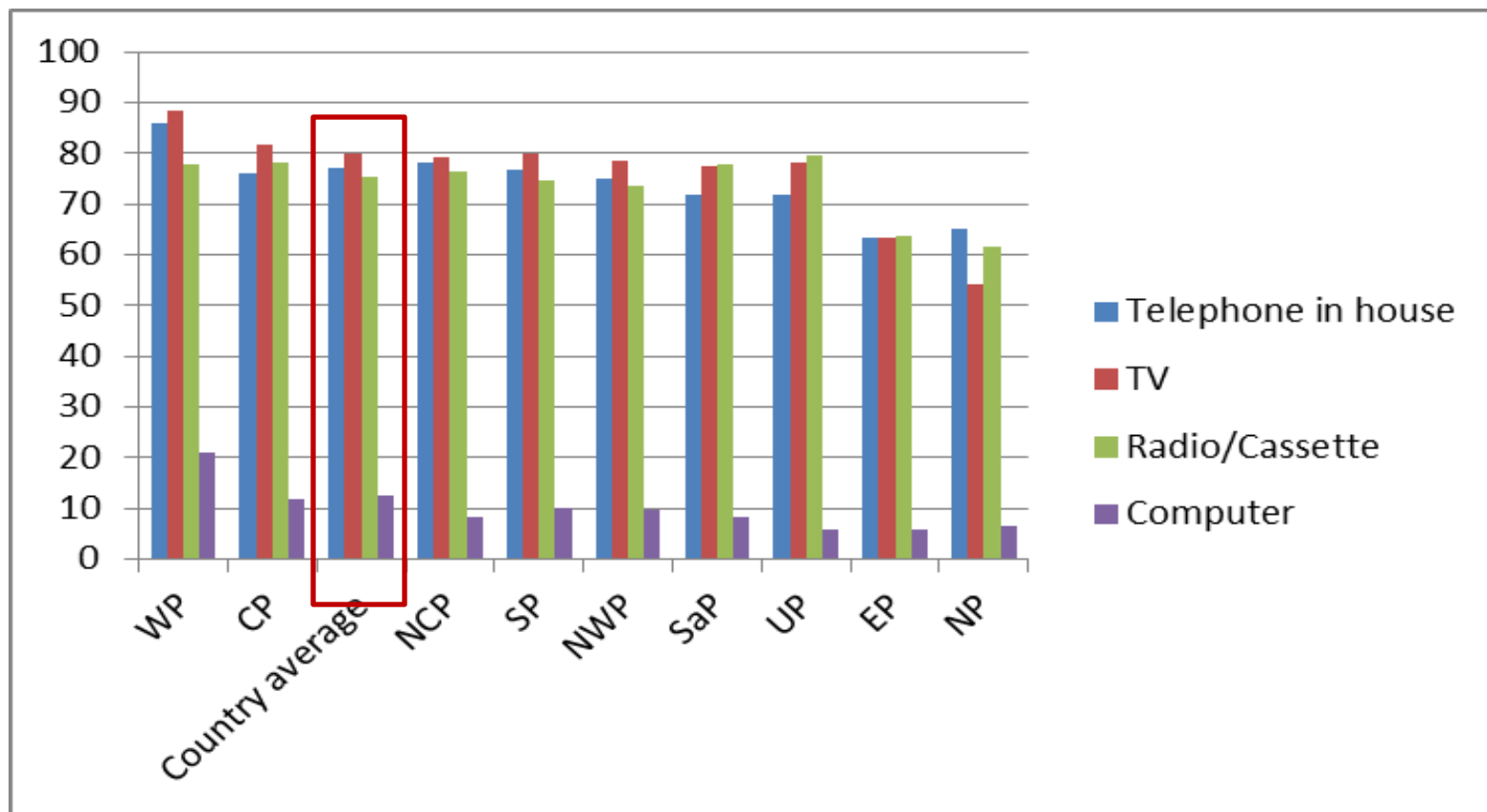
- Time to try novel solutions, in addition to conventional approaches . . .

**CAN INFORMATION &
COMMUNICATION TECHNOLOGIES
HELP, NOT ONLY WITH IMMEDIATE
PROBLEM BUT WITH MORE?**

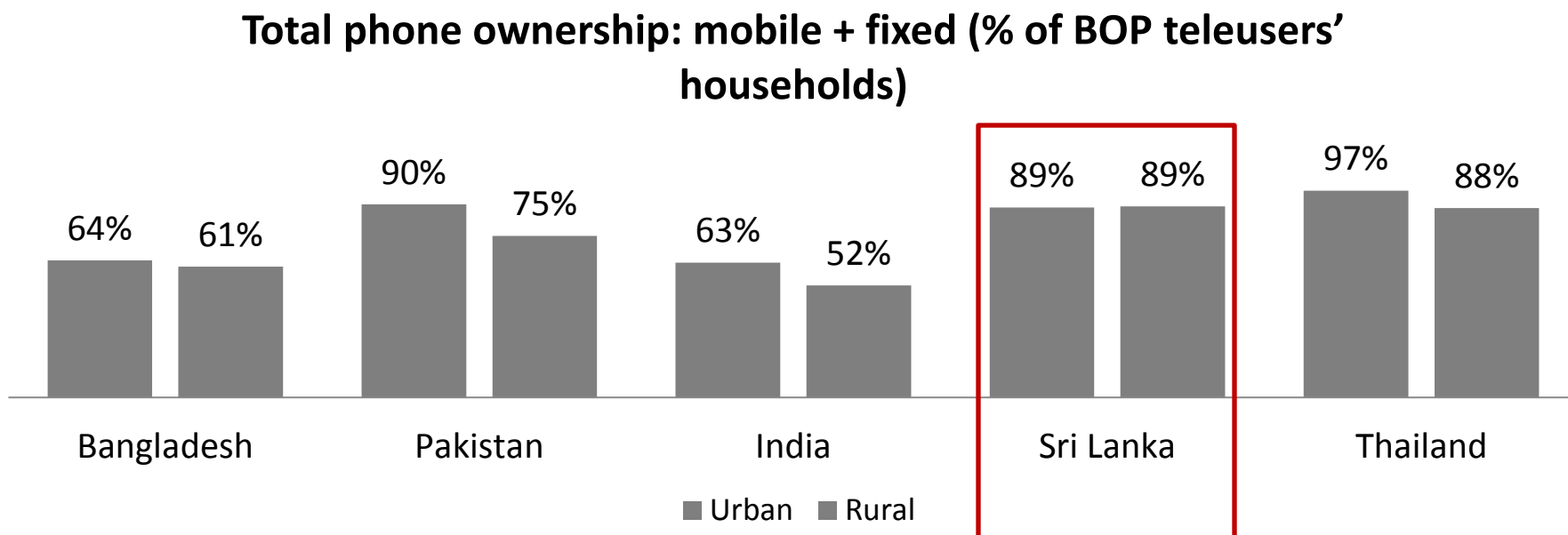
Almost all of LK Bottom of the Pyramid (BOP) households use phones; 89% own one, acc. to LIRNEasia's 2011 representative-sample survey



Regional disparities low with phones; significant with computers

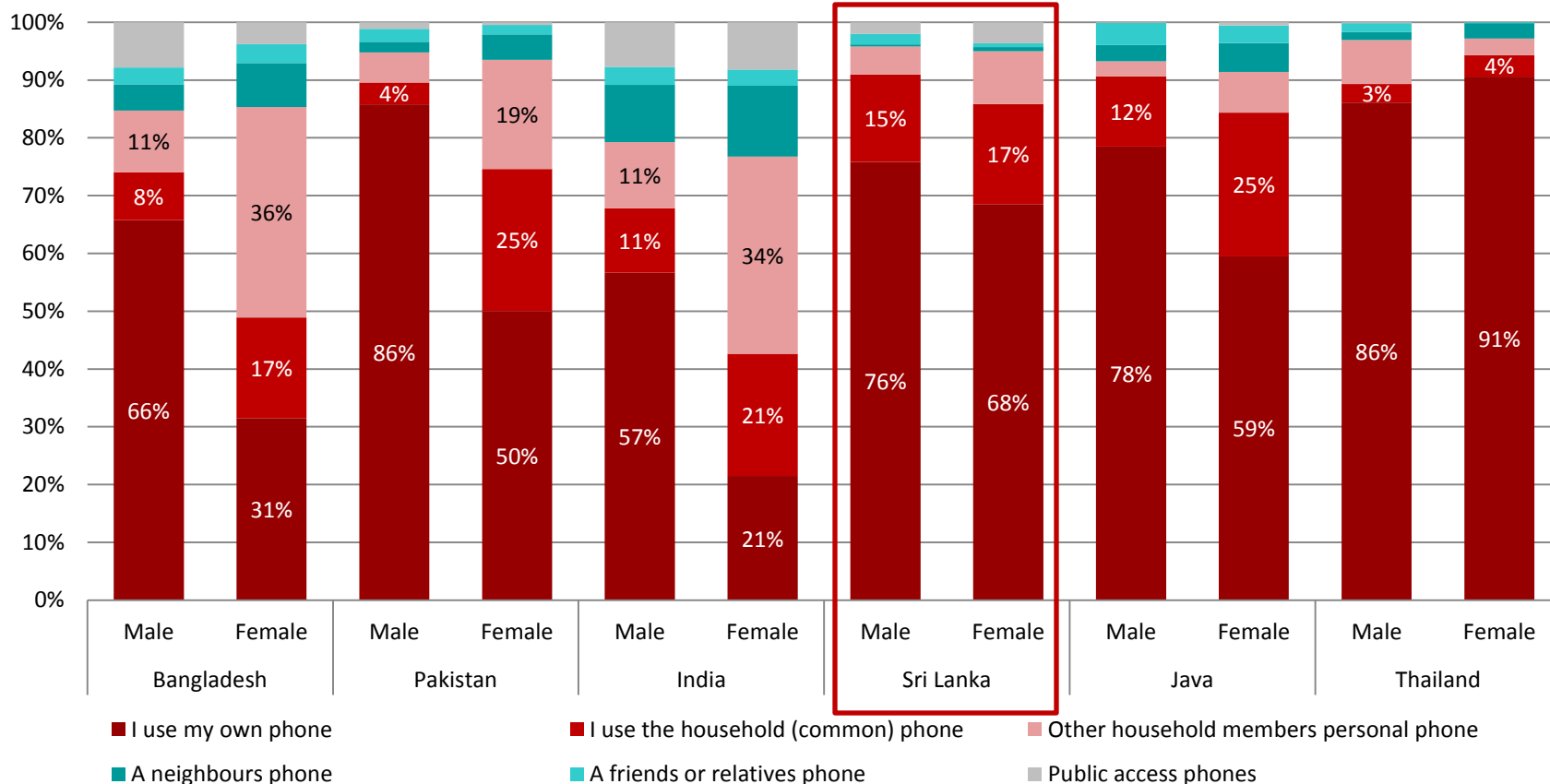


No significant difference between rural and urban phone ownership at BOP



Male v. female: Gap exists, but not too bad

Most frequently used phone (% of BOP teleusers)



Mobile prices among lowest in the world

- Nokia basket study modeled on Economist “Big Mac” cost study
 - Sri Lanka among lowest in voice
 - Sri Lanka lowest for a voice + data bundle

Nokia total cost of ownership study 2011

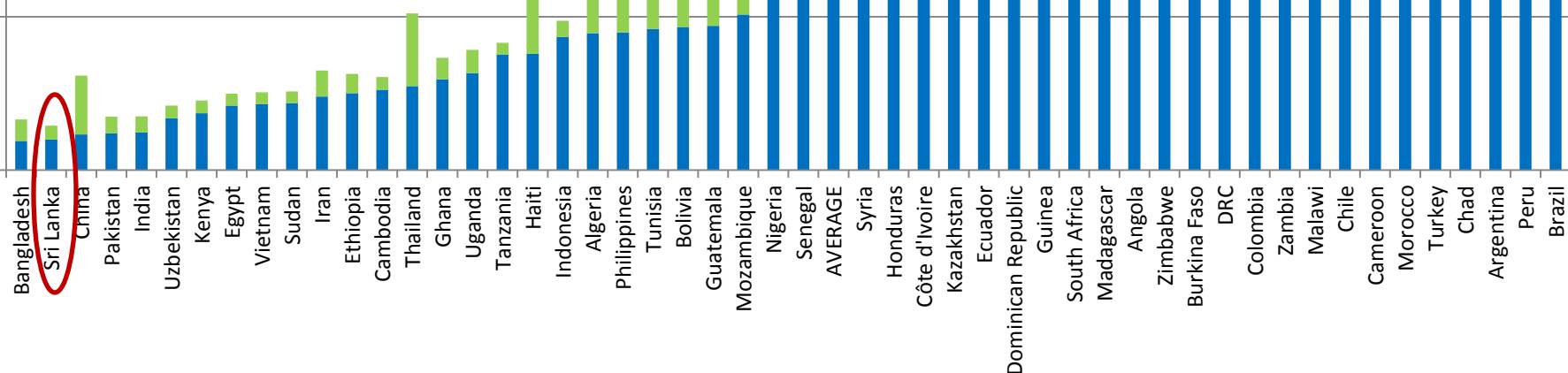
Voice + SMS TCO: Brazil = Bangladesh x 23

Voice, SMS & Internet TCO: Morocco = Sri Lanka x 57

USD per month

Ave with Internet premium: USD 15.05

Ave: USD 11.47

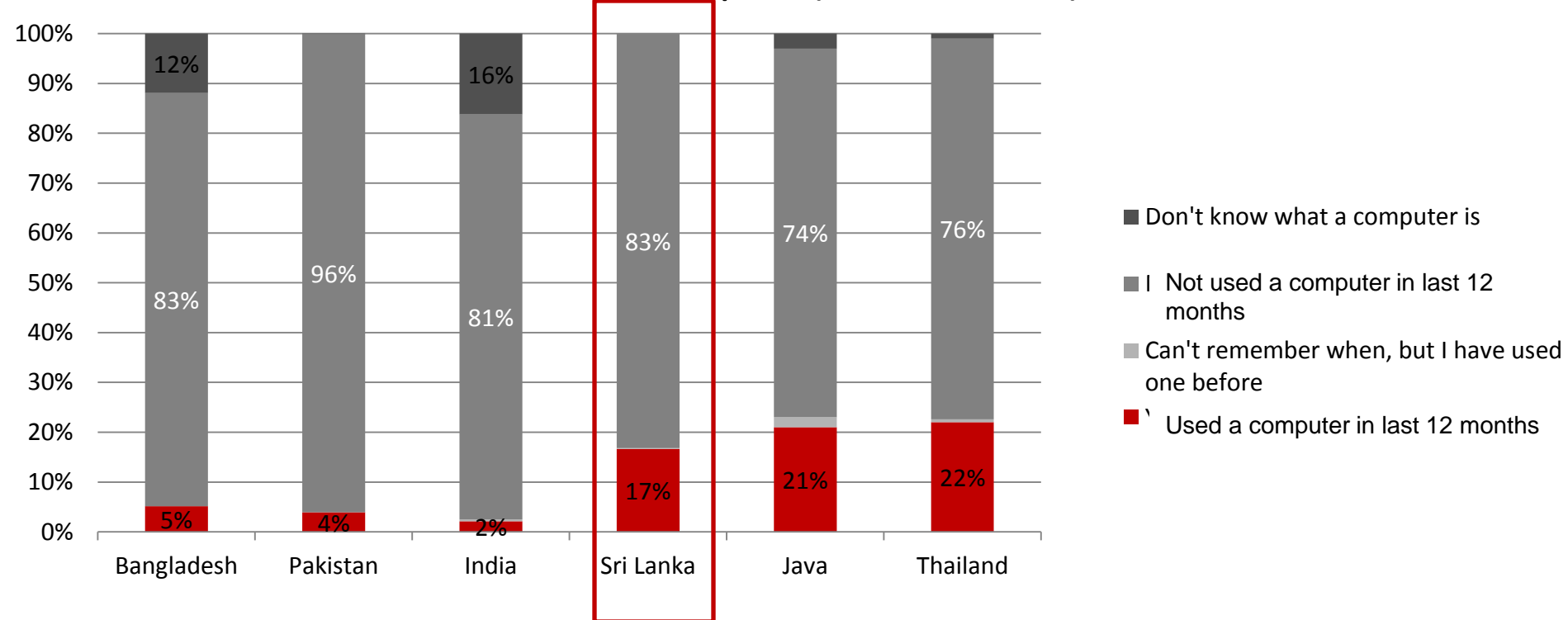


Monthly TCO (USD) Internet premium (USD)

Source: Nokia

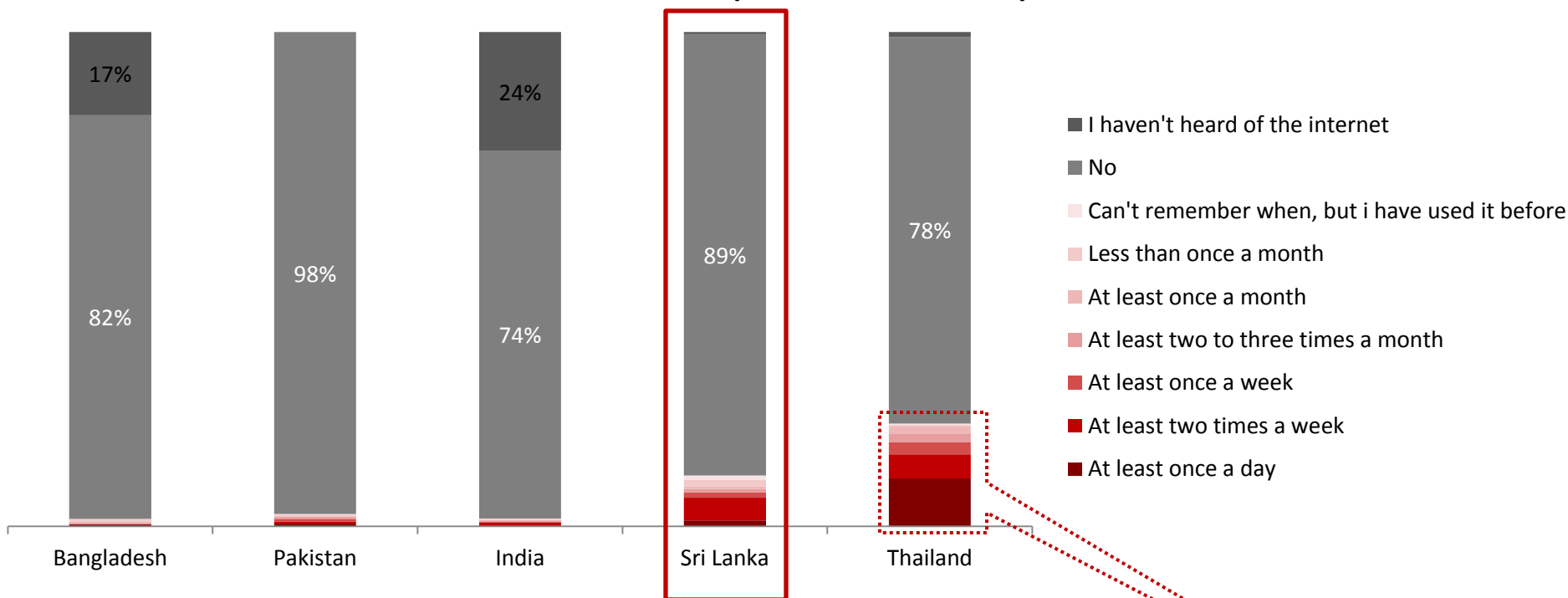
Computer use at BOP low, though better than neighbors

Use of computers (% of BOP teleusers)



Internet use at BOP is low

Internet use (% of BOP teleusers)



	Bangladesh	Pakistan	India	Sri Lanka	Thailand
Use the Internet (% of BOP teleusers)	2%	2%	1%	9%	21%

What can we conclude?

- Voice connectivity is almost ubiquitous → safe to anchor delivery of government services on voice
- Data connectivity is better than in S Asia, but much remains to be done → start on more-than-voice services while creating conditions for extending voice success to broadband

BUILD ON VOICE



1919 தென்
அமெரிக்கா, பிலிப்பைன், டி.என்.என்.



Leverage 1919 GIC for voice (information + interpretation)

- Government Information Center (1919) has been in operation for several years
 - Call at almost anytime (0800-2000 hrs), from anywhere (including outside Sri Lanka) and obtain information from a call-center agent on government-related questions
 - Currently, perhaps the government interface most in compliance with 16th Amendment
- Why not add real-time interpretation function?
 - Official interpreters on duty 0800-2000 to provide remote interpretations services to any citizen/government official
 - May be increased to 24/7, 365/year depending on demand

Two parties → three parties

- Instead of citizen and government official only, we add a government-authorized interpreter thorough the medium of the mobile phone
 - Can be three-way calling
 - Can be with toll-free number
 - Or can just be a handset passed from hand to hand
- Seoul's solution for foreigners having trouble communicating with taxi drivers
 - Started with Olympics
 - Now continued in taxis with “free interpretation” signs

Seoul Taxi



Next: Expand 1919 to voice + text interface, accessible through multiple media

- In addition to making forms available on various government sites, why not have all forms (+ support functions) integrated in to 1919?
 - Unlike in developed countries, our forms are not user-friendly and our people need help filling them up
 - Meshes with “no-door-is-wrong” design philosophy of government service delivery

Emphasize the service, not the interface

- Citizens want services, they are not interested in specific tech interfaces
- Government, being a monopoly supplier, should take extra steps to provide multiple interfaces so citizens can obtain the service in ways most appropriate for their circumstances

Need to expand government services available through 1919

- The hard work is behind the scenes, converting government processes into forms that can be easily retrieved by 1919 operators
 - Collateral effect: reduces discretion when procedures are codified → less opportunity for corruption
- 1919 has not expanded in breadth and depth adequately: must be remedied

START ON DATA

Think smartphone

- Indonesia said to have 62% smartphone penetration
- Sri Lanka's 2011 PPP GNI (USD 5,674) higher than that of Indonesia (USD 4,666)
- Given attractive applications and a few other factors, most Sri Lankan likely to become smartphone users too

Conventional routes will not do

- Getting all homes connected with wireguides will never happen
 - At most, only 18% of Sri Lankan homes have copper
- Access networks will have to be wireless, with fiber “fat pipes” coming close to communities
 - 3G, 3.5G, 4G, WiMAX
 - Make the spectrum available and create the conditions for investment
 - They will get built if companies see the business case and come under enough competitive pressure
 - Track record with Universal Service Funds has not been good, but if the funds exist, spend the money on fat pipes

Key is getting the costs down

- Reduce transaction costs
 - Prepaid broadband
- Sachet pricing
 - Enable people to pay when they want service and when they have money
 - Of course, sachet pricing can include “buckets” of minutes, MB, etc., and need not be seen as a taxi meter
- Same revenue model as mobile voice
 - Lots of small users, adding up to high volumes → high revenues and profits

Other factors

- Literacy a factor in complex interactions
 - But services designed for mobiles tend to have simpler interfaces
 - Drop down menus, but also voice interfaces likely in near future
- Authentication is a problem that has to be solved
- M-payments already solved, more or less

But the key government action in the short term is . . .

- Make available government information in computer-readable form
 - Agricultural research
 - Ship and aircraft arrivals
 - Motor vehicle registrations



1. Make Open Data, Content, and Web APIs the New Default

To lay the foundation for opening data and content efficiently, effectively and accurately, we will work with representatives from across government to develop and publish an open data policy and a web API policy for the Federal Government. This policy will leverage central coordination and leadership to develop guidelines, standards, and best practices for improved interoperability. To establish a “new default,” the policy will require that newly developed IT systems are architected for openness and expose high-value²² data and content as web APIs at a discrete and digestible level of granularity with metadata tags²³. Under a presumption of openness, agencies must evaluate the information contained within these systems for release to other agencies and the public, publish it in a timely manner, make it easily accessible for external use as applicable, and post it at agency.gov/developer in a machine-readable format.

Fueling the App

The City of San Francisco released its public transportation data, including schedules, and to-the-minute updates directly to the public through its services. This has enabled developers to write over 10 different applications to help the public use San Francisco's public transit system more effectively than the city could have done on its own. The city's focus on presentation and user experience, rather than opening the data through

An example: City of San Francisco public transport services

- “The City of San Francisco releases its raw public transportation data on train routes, schedules, and to-the-minute location updates directly to the public through web services. This has enabled citizen developers to write over 10 different mobile applications to help the public navigate San Francisco’s public transit systems—more services than the city could provide if it focused on presentation development rather than opening the data publicly through web services.”

Focusing on ICT-based delivery of government services

- Will help us address the immediate problem of offering government services anytime, anywhere in all official languages
- Will also help address the larger problem of improving delivery of government services
 - And reducing opportunities for corruption by codifying procedures and reducing discretion