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TITLE: Measuring Progress: Towards Information Societies in Emerging Asia

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# Measuring Progress: Towards Information Societies in Emerging Asia

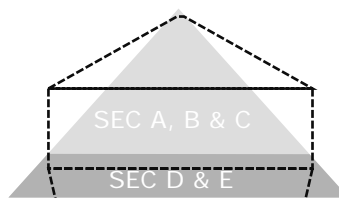
Findings from a six-country study of Teleuse at the Bottom of the Pyramid

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ITU 7<sup>th</sup> World Telecom Indicators Meeting  
Cairo, 5 March 2009



## Teleuse@BOP: background

- **Objective:** To understand how BOP interacts with ICTs (mostly phones) to better inform policy
  - Large surveys of 'BOP' conducted in 2005, 2006, 2008
    - It's not exactly a pyramid, but combining D&E as BOP makes it so.
  - Almost 20,000 face to face interviews in 6 countries since 2005
    - Bangladesh (2008)
    - Pakistan
    - India
    - Sri Lanka
    - Philippines
    - Thailand
- Funded by the International Development Research Center (IDRC) of Canada with contributions from Telenor Research and Innovation



## Why worry the BOP?

- Because if the access and usage problems for BOP can be solved, it can be solved for the TOP
- Because TOP is less of a challenge
  - closer to gaining Universal Access already
  - through market forces
  - less likely to need public sector subsidies/funding
- BOP is where policy challenges are

## Samples

	Bangladesh	Pakistan <sup>[1]</sup>	India	Sri Lanka <sup>[2]</sup>	Philippines <sup>[3]</sup>	Thailand <sup>[4]</sup>	Total
<b>BOP teleusers</b>	<b>2,050</b>	<b>1,814</b>	<b>3,152</b>	<b>924</b>	<b>800</b>	<b>800</b>	<b>9,540</b>
Margin of error @ 95% CL (%)	± 3%	± 2%	± 2%	± 3%	± 4%	± 4%	
<b>Diary Sample</b>	<b>1,025</b>	<b>900</b>	<b>1,600</b>	<b>450</b>	<b>400</b>	<b>400</b>	<b>4,775</b>
<b>Migrant workers</b>	<b>350</b>	<b>300</b>	<b>400</b>	<b>200</b>	<b>200</b>	<b>100</b>	<b>1,550</b>

[1] Pakistan: Excludes tribal regions

[2] Sri Lanka: Excludes North and East

[3] Philippines: Survey was undertaken only among SEC E

[4] Thailand: Excludes Bangkok as the SEC DE population in Bangkok is very small

## Methods

### Quantitative

- 9,950 face-to-face interviews
- 1 week usage patterns via diary method (50% of sample)
- Sep-Oct 2008

### Qualitative

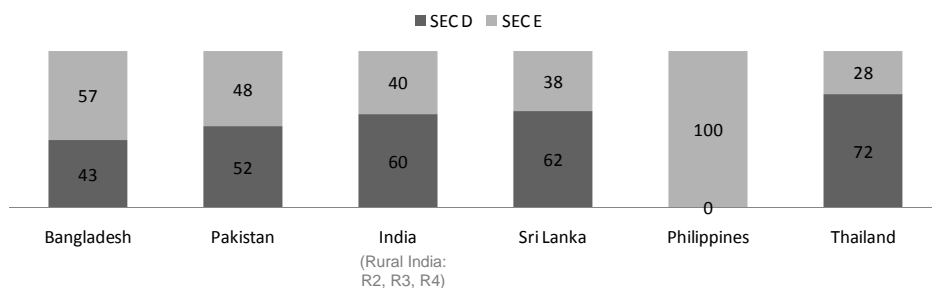
- Focused group discussions
- Mini-ethnographies
- Depth interviews with migrant teleusers
- Feb-Mar 2009

- Multi-stage stratified sampling, random selection of households and individuals
- Migrant worker teleusers at “bottom of the pyramid”
  - SEC groups C\*\* + D + E\*
  - “internal” and “external” migrants that send money home
  - Findings available in March 2009

## Representing around 518 million BOP citizens aged 15-60 in the 6 countries surveyed.

- **Teleusers** at “bottom of the pyramid”
  - SEC groups D + E
  - Aged 15-60

Socioeconomic group classification (% of sample)



## Individuals earning USD38 per month, on average

### Mean monthly income (USD)

	Bangladesh	Pakistan	India	Sri Lanka	Philippines	Thailand
Personal	36	37	38	54	45	79
Household	117	127	99	151	127	172

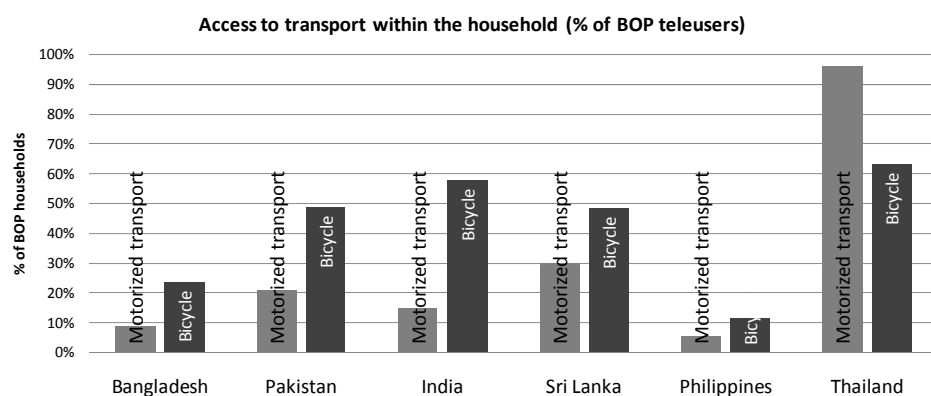
## Link between SEC D+E and "\$2 per day" definition

### Actual population proportions

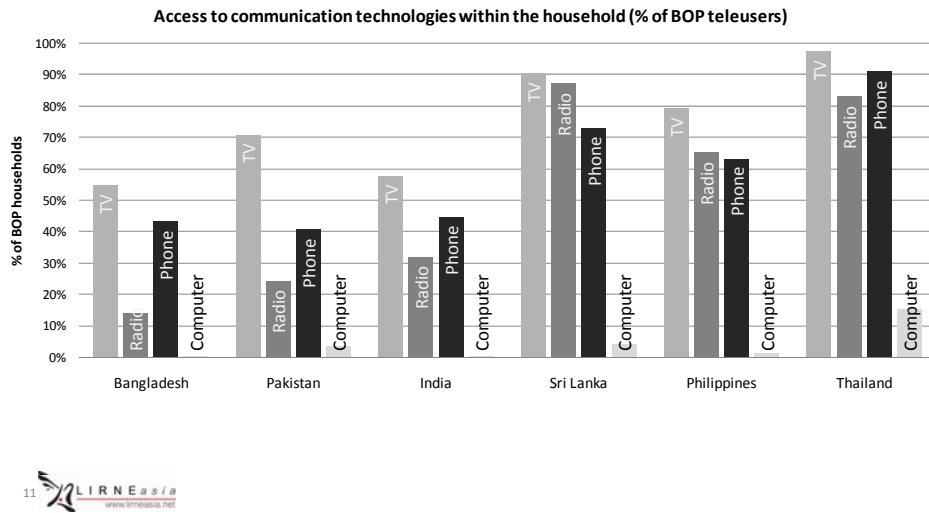
	Bangladesh	Pakistan	India	Sri Lanka	Philippines	Thailand
SEC D+E (% of population)	73	59	69	44	38 [SEC E]	33
Less than \$2 per day (% of population)	78	85	86	45	40	28

## PROFILING THE BOP

### Access to transport: mostly bicycles



## Access to other forms of communications: phones bypassing radio in South Asia. Access to computers still low everywhere



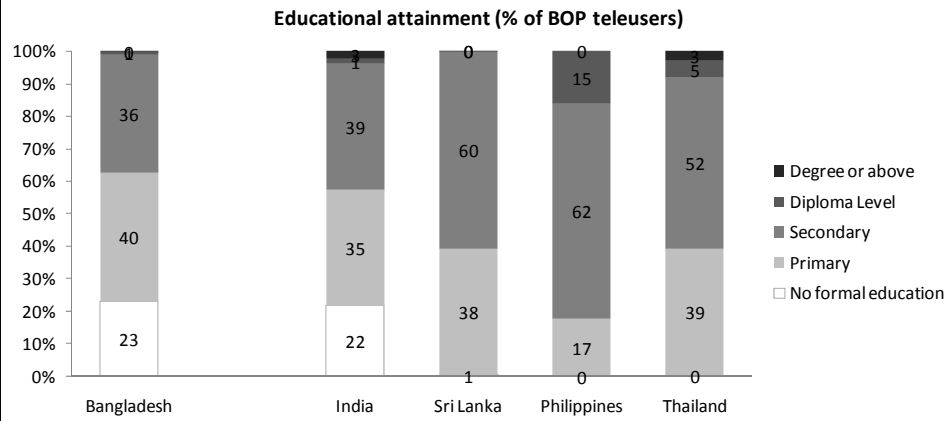
## 41% of Indian BOP teleusers' households have access to a "bank account" (broadly defined)

Access (either own or within household) to a bank account or credit card (% of BOP teleusers)

	Bangladesh	Pakistan	India	Sri Lanka	Philippines	Thailand
Bank account	31%	11%	41%	93%	13%	84%
Credit card	3%	2%	3%	10%	1%	11%



## Educational attainment does not exceed primary or secondary education



**BOP = HIGH ACCESS & USE . MODERATE OWNERSHIP**

## Most have used a phone in the last 3 months to make and receive calls. Many had used in last week

### Used a phone in the last 3 months

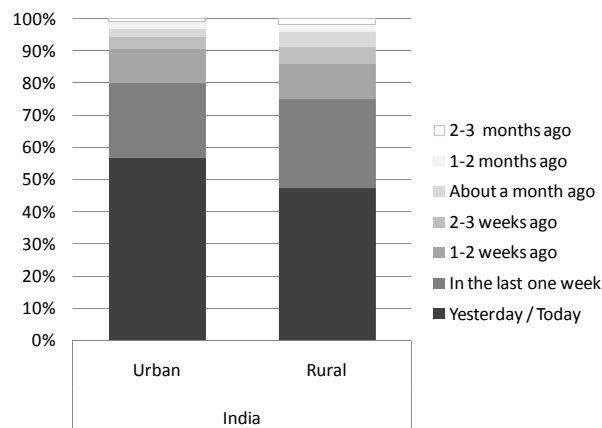
	Bangladesh	Pakistan	India	Sri Lanka	Philippines	Thailand
% of BOP (outer sample)	95%	96%	86%	88%	79%	77 %

### Used a phone in the last week

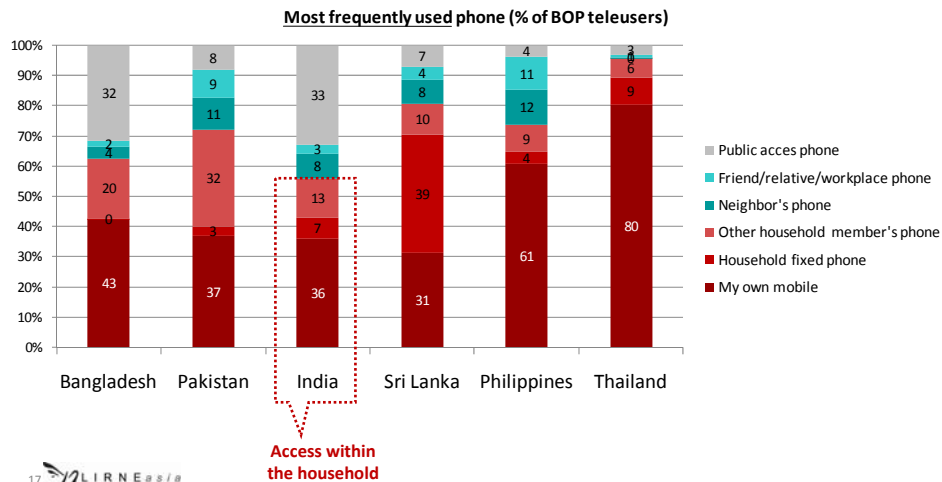
	Bangladesh	Pakistan	India	Sri Lanka	Philippines	Thailand
% of BOP (outer sample)	82%	66%	65%	77%	38%	72%

## Rural usage also high: e.g. More than **two thirds of rural BOP teleusers in India** used a phone in the last week

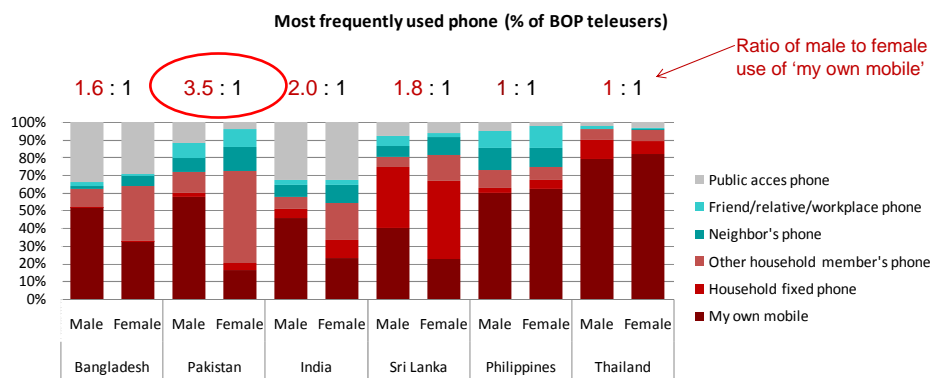
Last time respondent made/received a call (% of BOP teleusers)



## Mobiles are used most as the primary phone; public phones in second place

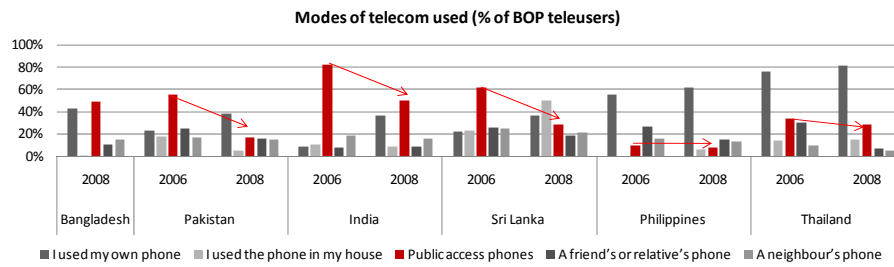


## Fewer women in South Asia use public phones. No gender difference in S E Asia



- Women less likely to use their own mobile or public phones; more likely to use other peoples' phones

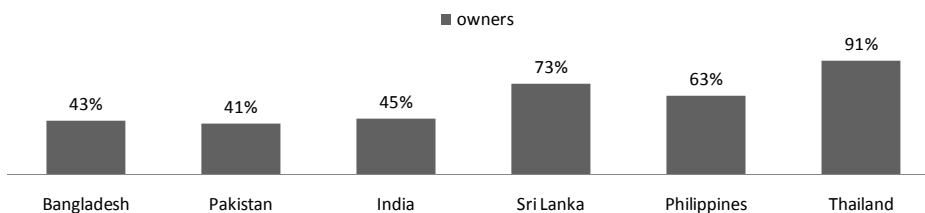
## Public access has fallen since 2006



**BOP = MODERATELY HIGH PHONE OWNERSHIP**

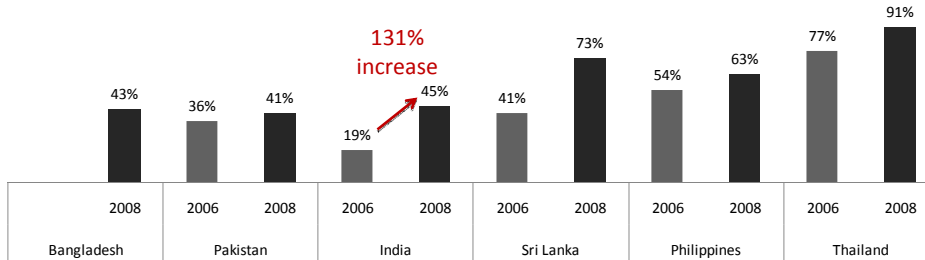
## Ownership (fixed + mobile) is high, but has room for growth

Total phone ownership (% of BOP teleusers)

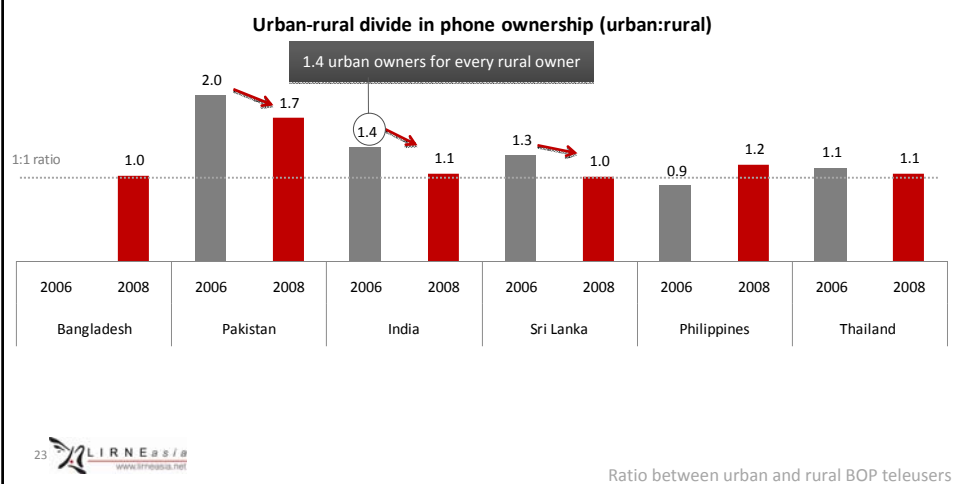


## Largest % growth in phone ownership in India

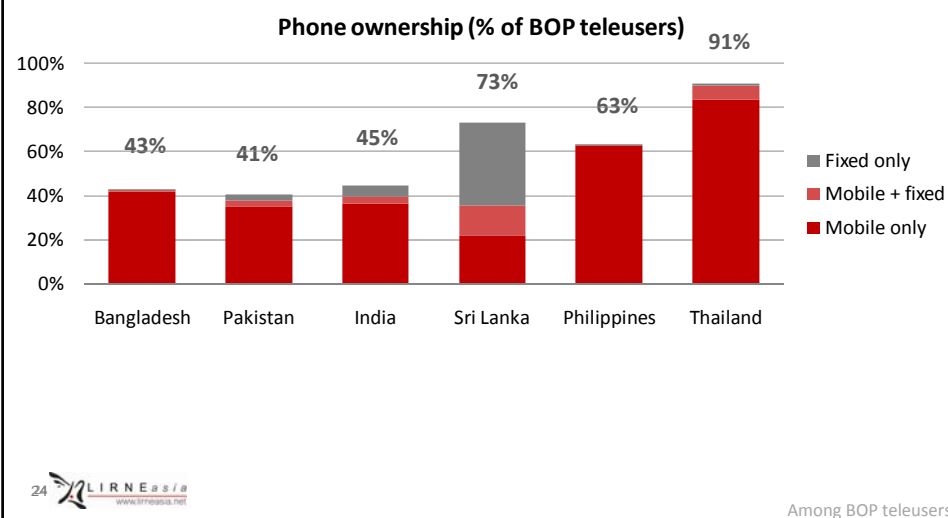
Total BOP phone ownership: 2006 vs 2008 (% of BOP teleusers)



## Urban-rural divide in total BOP phone ownership **declining**



## Mostly **mobile**: 90% BOP phone owners own a mobile



## Mobile adoption determined by: **demographics**, **household amenities** and **network effects**

LOGIT model for mobile adoption:

$$1 + e^{\frac{1}{-3.98 + 0.50A - 0.60B + 0.36C + 0.79D + 1.30E - 0.01F - 0.01G + 1.70H - 0.20I - 0.79J - 0.87K - 0.31L + 1.13M + 0.38N + 2.76O - 0.62P + 0.81Q}}$$

Where

A = ln (personal income)  
 B = female (1 if true)  
 C = primary education (1 if true)  
 D = secondary education (1 if true)  
 E = tertiary education (1 if true)  
 F = walking time to nearest town  
 G = age \* age  
 H = percentage of top five contacts with mobiles  
 I = Bangladesh  
 J = Pakistan  
 K = Sri Lanka  
 L = Philippines  
 M = Thailand  
 N = Electricity in the house ( 1 if true)  
 O = percentage of household members with mobiles  
 P = Fixed phone in the house (1 if true)  
 Q = TV in the house (1 if true)

**R<sup>2</sup> = 0.23**

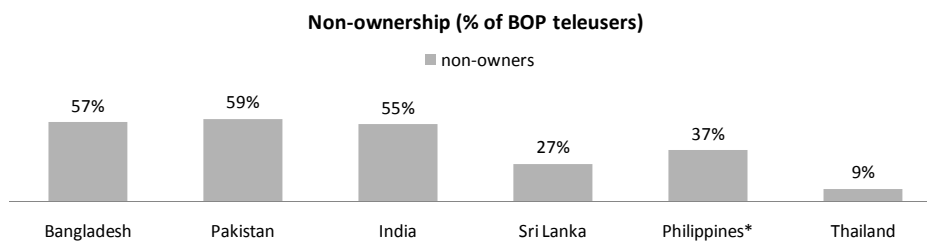
## Mobile adoption determined by **demographics**, **household amenities** and **network effects**

- Significant variables :
  - Demographics: Personal income, gender, education, age, proximity to nearest town
  - Household amenities: electricity, fixed phone ,TV
  - Network effects: % of contacts who already have mobiles, no. of household members who already have mobiles
- Insignificant variables:
  - Urban/Rural, perceptions of benefits from phone access occupation

## Own more than one (active) SIM

	Bangladesh		Pakistan		India		Sri Lanka		Philippines		Thailand	
	2008	2006	2008	2006	2008	2006	2008	2006	2008	2006	2008	
More than 1 SIM	10%	12%	23%	5%	9%	9%	16%	9%	19%	1%	13%	

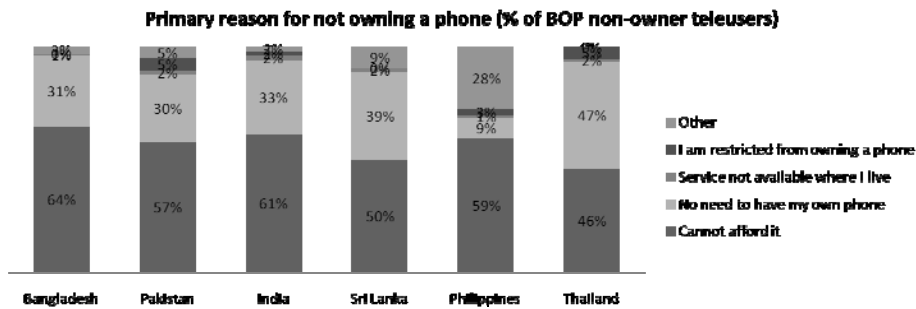
## But non-owners are still a significant proportion of users



- 76% of these non-owners can reach a phone in under 5 minutes

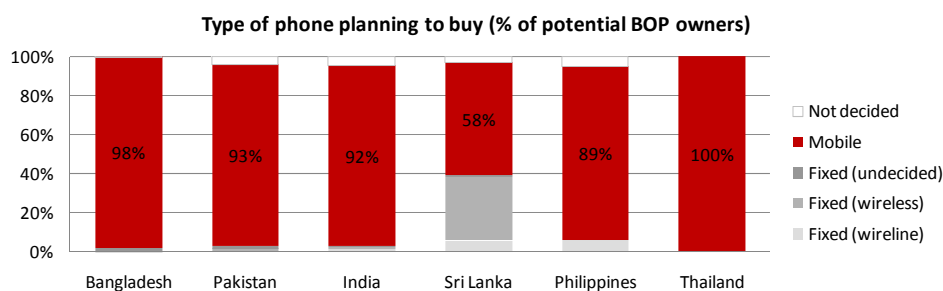


## Main reasons for not owning are affordability and the lack of a need



- Just 2% say that service is not available where they live → network rollout no longer an issue

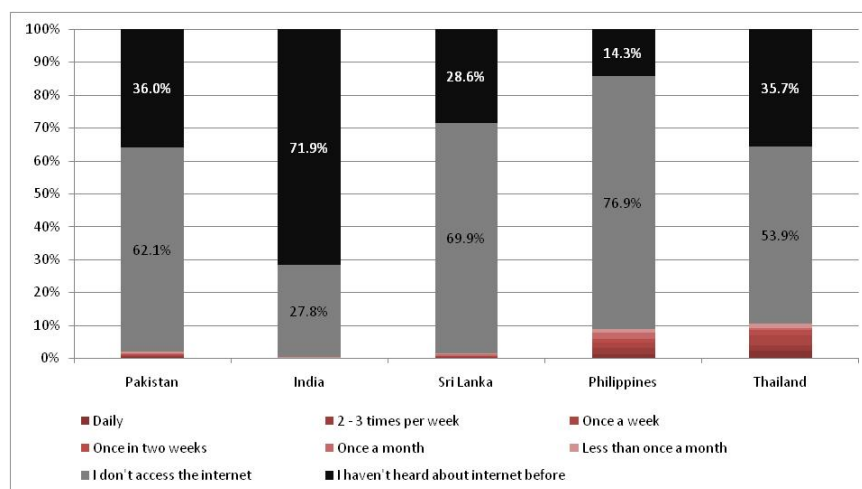
## Of those planning to buy, 92% plan to buy a mobile phone/connection



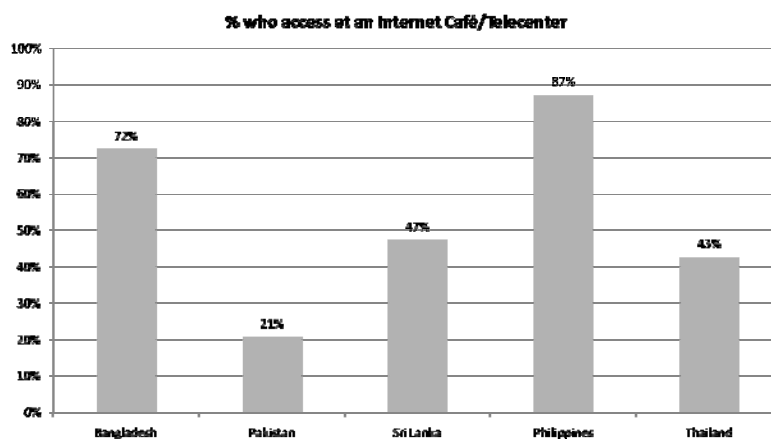
- Same picture in rural India

## BUT WHAT ABOUT THE INTERNET?

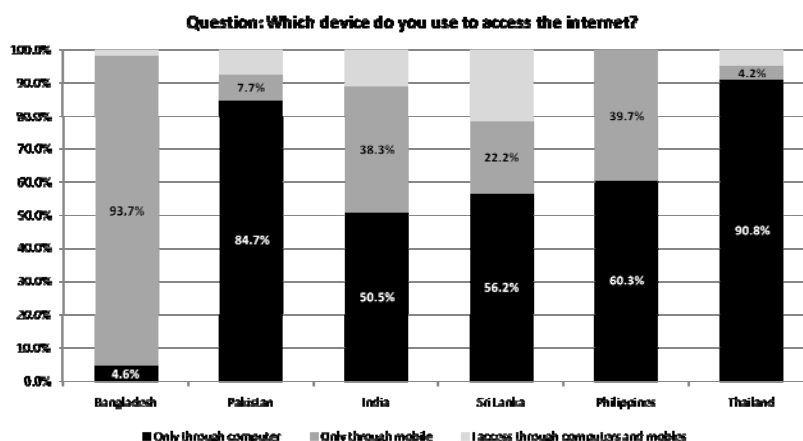
### Most of the BOP either haven't heard of, or haven't accessed the internet



## The few who DO use the internet depend on telecenters/internet cafes



## Access device (computer vs. mobile phone) linked to GDP?



## USAGE OF TELEPHONES STILL BASIC – VOICE, SMS

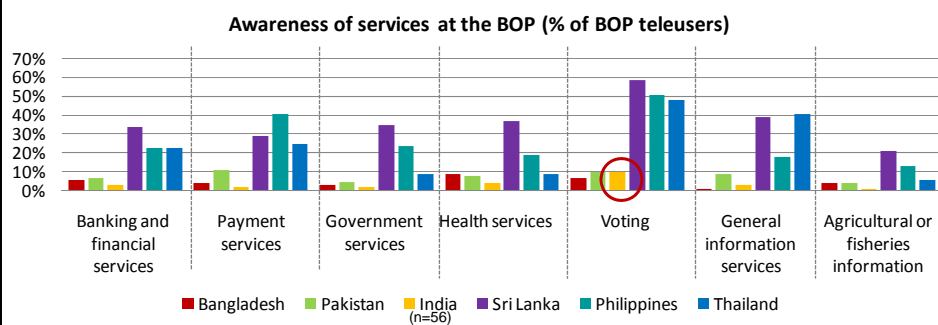
### Mostly calls, SMS, missed calls, balance checking

Among BOP mobile owners

	B'desh	Pakistan	India	S' Lanka	Ph'pines	T'land
% of BOP mobile owners						
Taking phone calls	100%	100%	99%	100%	89%	100%
Receiving phone calls	100%	100%	98%	100%	99%	100%
Sending/receiving 'missed calls'	94%	84%	84%	73%	86%	39%
Sending/receiving SMS (text messages)	32%	47%	33%	52%	100%	53%
Sending/receiving MMS (picture messages)	1%	4%	4%	6%	13%	4%
Sending/receiving emails	0%	0%	1%	0%	0%	1%
Browsing the Internet	0%	1%	1%	2%	0%	2%
Taking photos /video clips	4%	2%	1%	8%	4%	18%
To play games (individual)	13%	18%	7%	21%	14%	17%
To play games (interactive)	1%	1%	1%	1%	3%	1%
To listen to the radio	0%	7%	3%	12%	5%	22%
To listen to music (files which you have downloaded or been sent by others, not radio)	4%	5%	3%	7%	3%	22%
To share content that you have created (E.g. ringtones, wallpapers, pictures, games and video clips)	1%	2%	2%	6%	5%	3%
To send or receive or download or upload other content (E.g., ringtones, wallpapers, pictures, games and video clips)	0%	2%	3%	8%	10%	9%
As an organizer (keep appointments, reminders, alarm and clock)	1%	7%	8%	4%	9%	14%
To check my bill / credit balance	11%	40%	25%	50%	3%	39%

## POTENTIAL FOR MORE-THAN-VOICE?

### Poor awareness of More than Voice services in South Asia. Higher in SE Asia

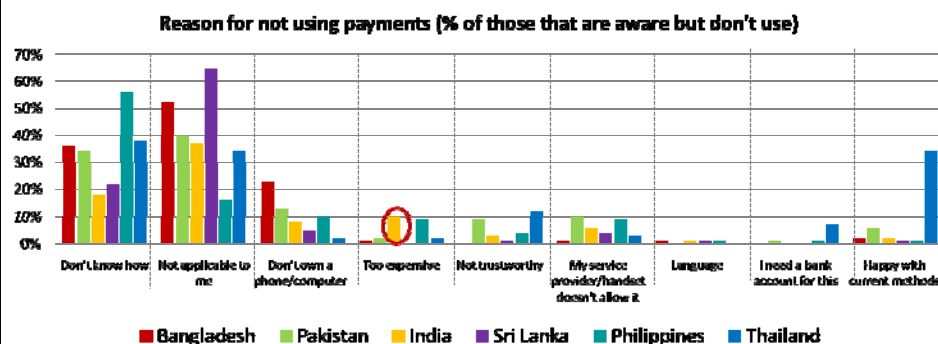


- E.g. 10% are aware of voting applications in India (competitions, real time polling, live participation in TV/radio programs, etc)

## Usage is *even* poorer

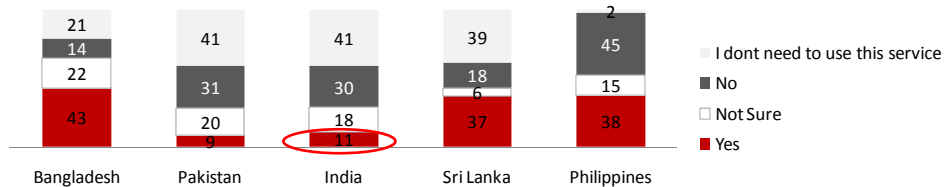
India (% of BOP teleusers who are aware of such services)	
	Use, but not regularly
	Use regularly
Banking and financial services	1%
Payment services	
Government services	
Health services	1%
Voting	1%
General information services	
Agricultural or fisheries information	

## Payments: Most who are aware don't know how or don't feel the need to use it

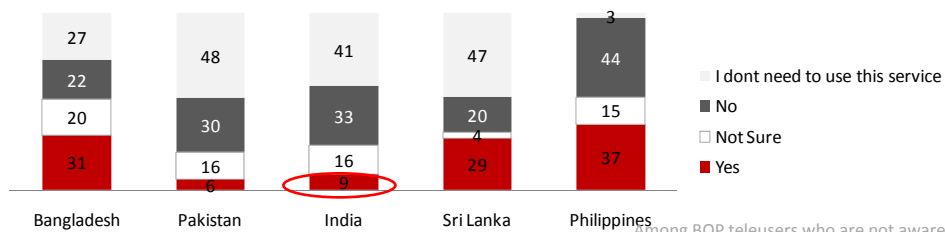


## Few of those who aren't aware would be willing to use money transfer services and govt services via a mobile

Willingness to try **sending or receiving money** (% of BOP teleusers who are currently unaware of such services)



Willingness to try **accessing government services** (% of BOP teleusers who are currently unaware of such services)

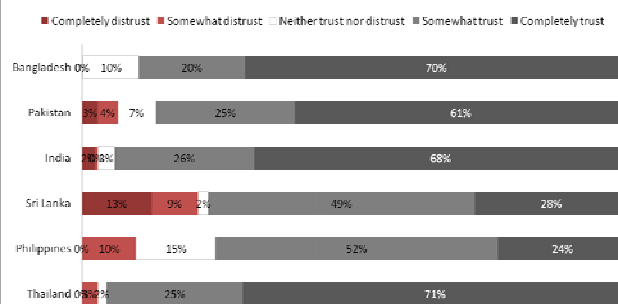


Among BOP teleusers who are not aware

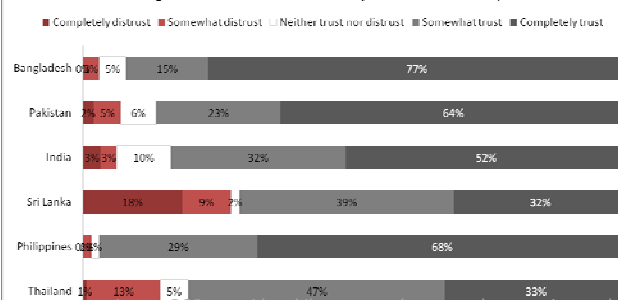
## High e-load use → potential for phone-based payments?

- 68% of Indian top-up card users "completely trust" their method
- 53% of Indian electronic reload users "completely trust" their method

Degree of trust in top-up cards (% of BOP top-up card users)

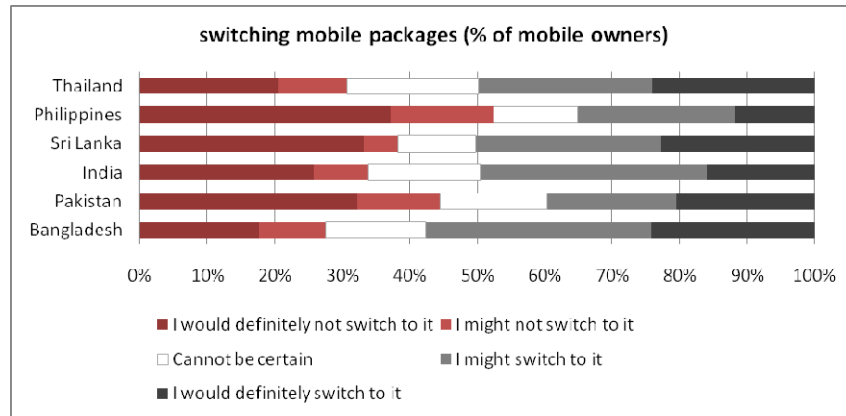


Degree of trust in electronic reloads (% of BOP e-load users)



Among BOP prepaid mobile owners who use each respective method

**Around 50% would not switch for cheaper package  
→ phone has become a “personal” device**



- 40% of those unwilling to switch state that it is important to keep the number at present → need for **mobile number portability + ability to tie in “personalized” services to phone**

Thank you

**WHAT BENEFITS DO THEY GET AT PRESENT?**



## Survey asked about perceived benefits of telecom access: *how has telecom access improved ...*

- Your ability to:
  - make more money (generally, and via sale of talk time)
  - find out about employment/work opportunities
  - access price or market information
  - save money
  - save on travel cost
  - act in an emergency
  - contact others in an emergency
- The efficiency of your day to day work
- Your relationships with family and friends
- Your social status/ recognition in the community

Economic  
benefits

Emergency  
communication

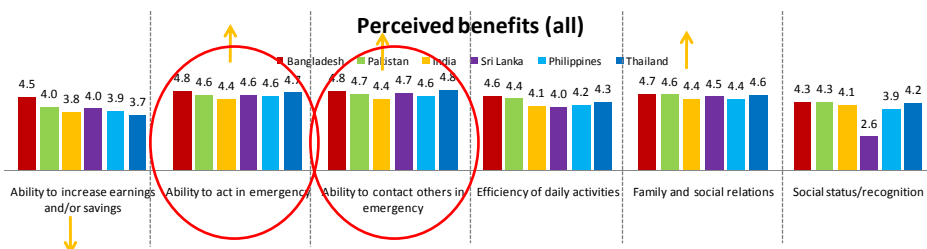
Efficiency

Emotional /  
soft benefits

Five-point scale: 1=worsened → 5=improved

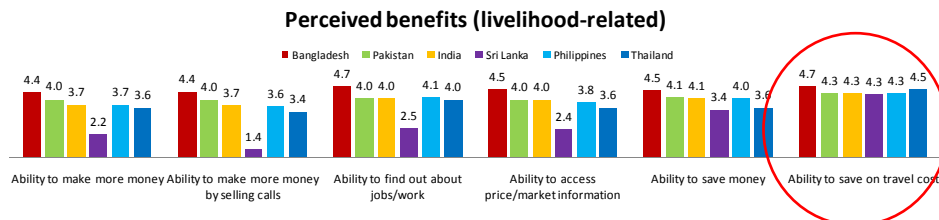
## Largest benefit in emergency communication and relationship maintenance.

1=worsened 2 = slightly worsened 3=no change 4=slightly improved 5=improved



- Smallest benefit (though still positive) on economic factors

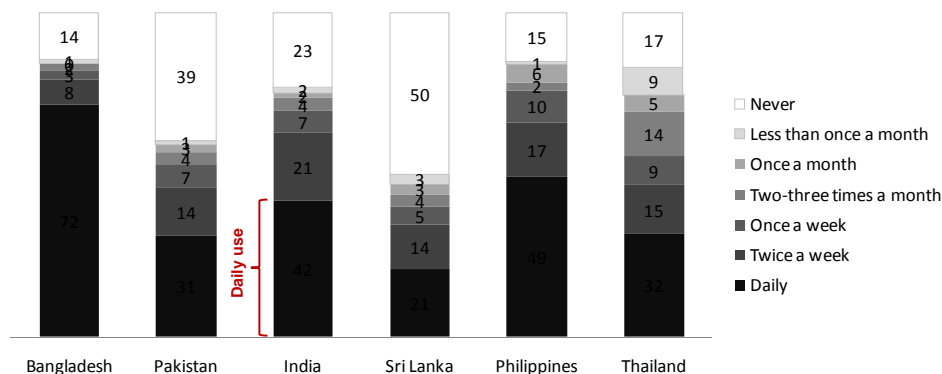
## Among economic benefits, ability to save on travel costs most prominent



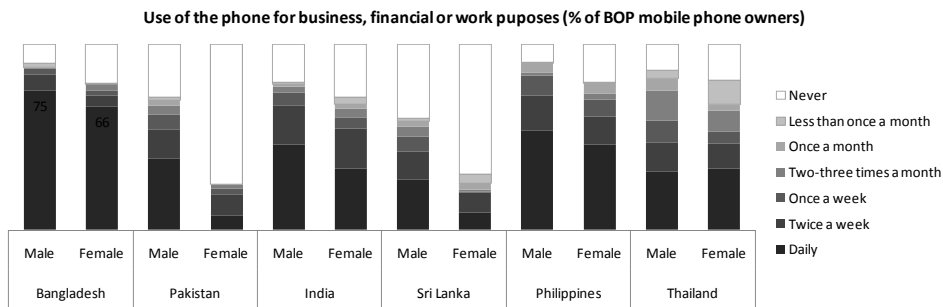
- Indian **males** see more benefit than females in:
  - finding out about employment opportunities
- Indian **females** see more benefit in:
  - saving money (in general, and in travel cost)
  - maintaining relationships

## Phone for business? **77% of Indian teleusers at BOP use their mobile for business, financial or work-related purposes**

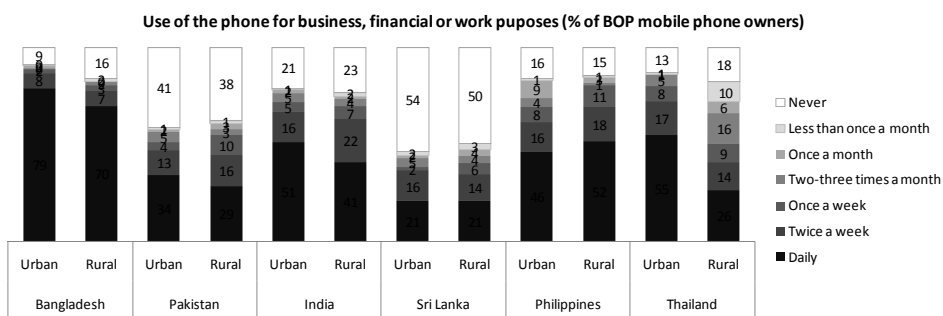
Use of the phone for financial, business or work-related purposes (% of BOP mobile owners)



## Males in Pakistan and Sri Lanka using the phone more for business/financial purposes.



## Most pronounced urban/rural gap in Thailand's BOP in using the phone for business/financial purposes



**OUR MISSION:**

*To improve the lives of the people of the emerging Asia-Pacific by facilitating their use of ICTs and related infrastructures; by catalyzing the reform of laws, policies and regulations to enable those uses through the conduct of policy-relevant research, training and advocacy with emphasis on building in-situ expertise*

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