

# 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*

# Telease@BOP3

## A six-country study of Telease at the Bottom of the Pyramid: Bangladesh findings

26 June 2009



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, with contributions from Telenor Research & Development Centre Sdn. Bhd., Malaysia.

**IDRC**  
International Development  
Research Centre



**CRDI**  
Centre de recherches pour le  
développement international

**DFID** Department for  
International  
Development

Teleuse at the Bottom of the Pyramid: 3

**TELEUSE@BOP 3**

# 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
  - 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, the Department for International Development (DFID), UK with contributions from Telenor Research and Innovation, Malaysia

# 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
  - Overseas and domestic migrants that send money home

# Samples

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

[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

# Sampling logic

- Multi-staged stratified sampling by probability proportionate to size
  - Regions (states/provinces/districts) randomly selected in 2006; kept the same for comparison in 2008 (except BD)
  - Stratification of cities within state, province etc
  - Geographical ordering of cities, villages
  - PPS selection of cities, villages
- Within PSU
  - Random starting points
  - 10 HH per starting point; right hand rule
  - KISH grid to select respondent in HH

# Agenda

**WHO ARE THE BOP?**

**BOP TELECOM EXPANSION**

ACCESS

OWNERSHIP

**MARKET POTENTIAL**

WHAT THOSE AT BOP DO WITH THEIR MOBILES?

POTENTIAL FOR MOBILE 2.0?

BENEFITS?

THE UNCONNECTED...



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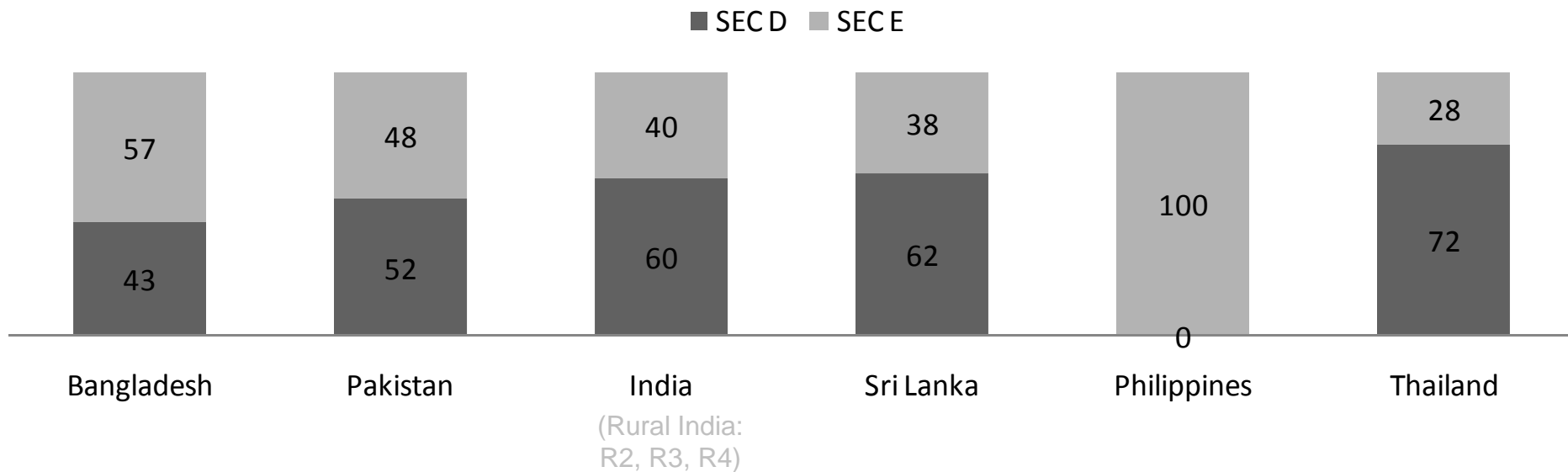
BENEFITS?

THE UNCONNECTED...

# The study represents approx. **62 million** in Bangladesh

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

Socioeconomic group classification (% of sample)



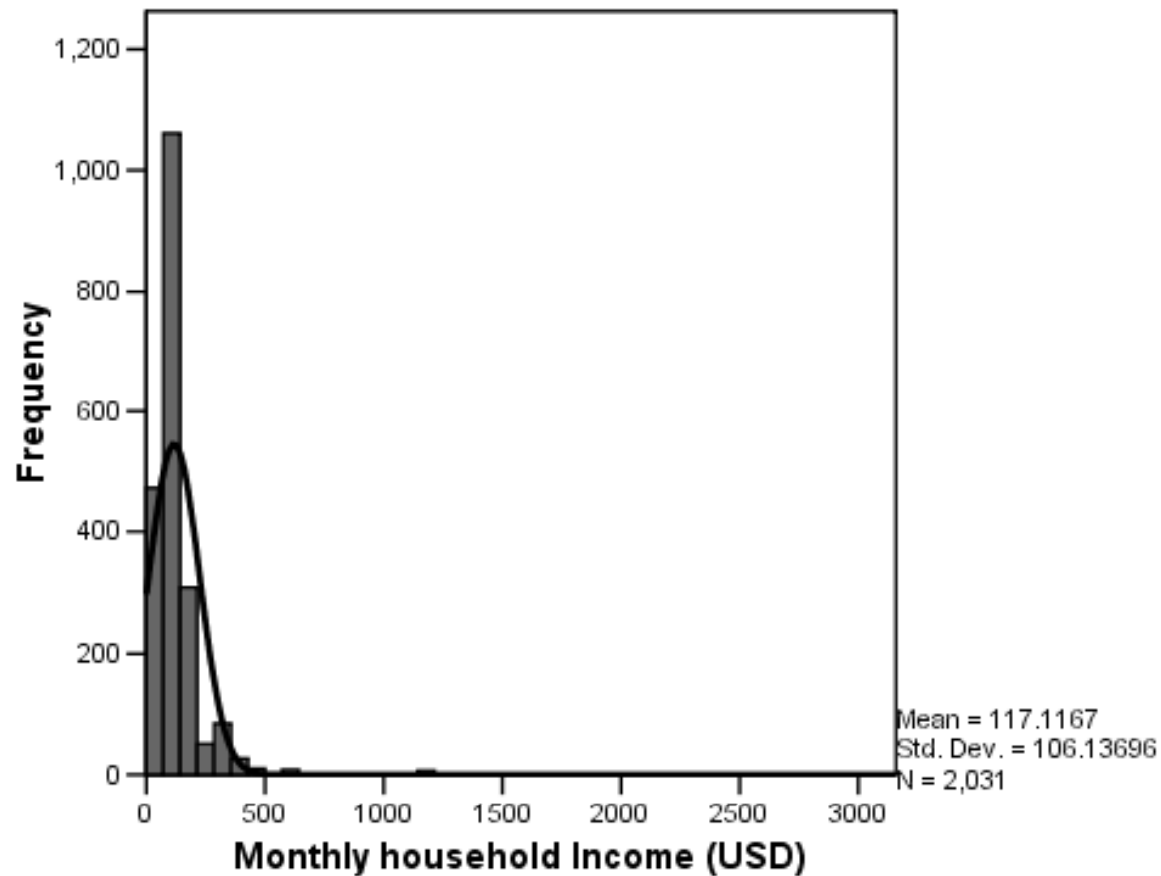
# Link between SEC D+E and "\$2 per day" definition

## Actual population proportions

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

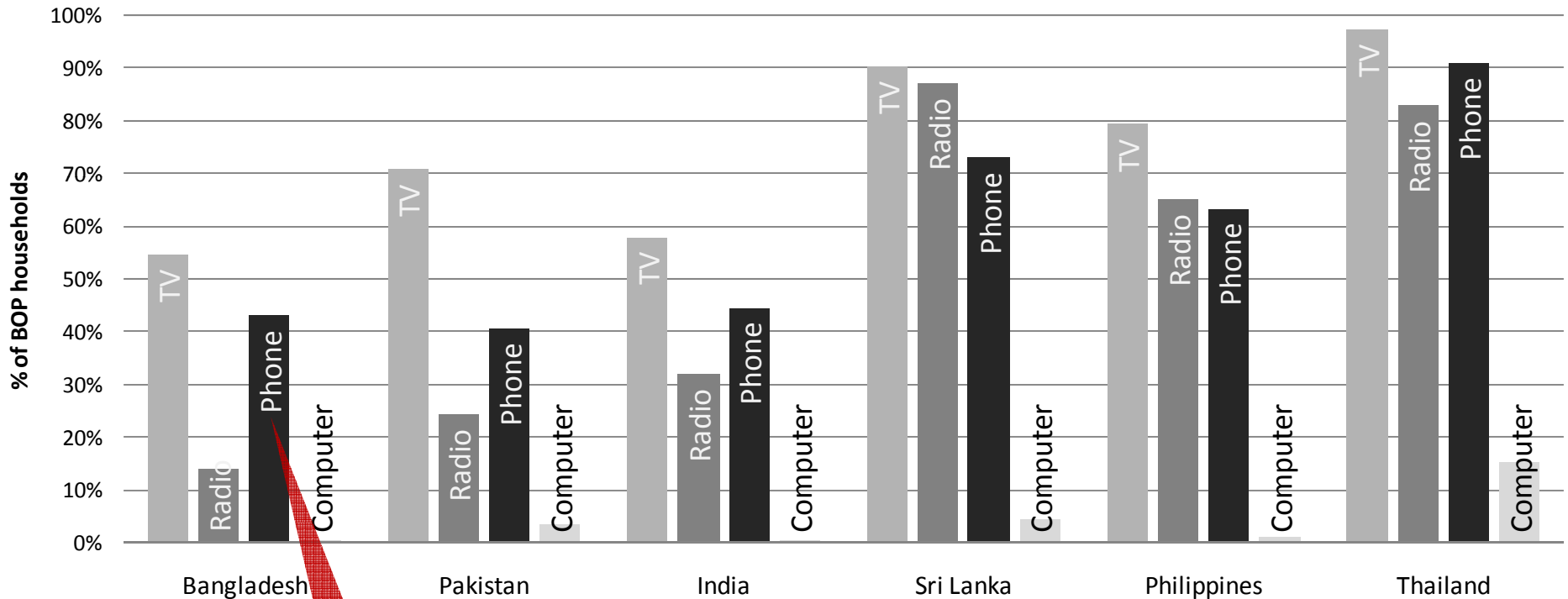
# Households earning ~USD71-143 per month (on average)

Monthly household income (USD) Bangladesh



# More phones than radios at BD BOP

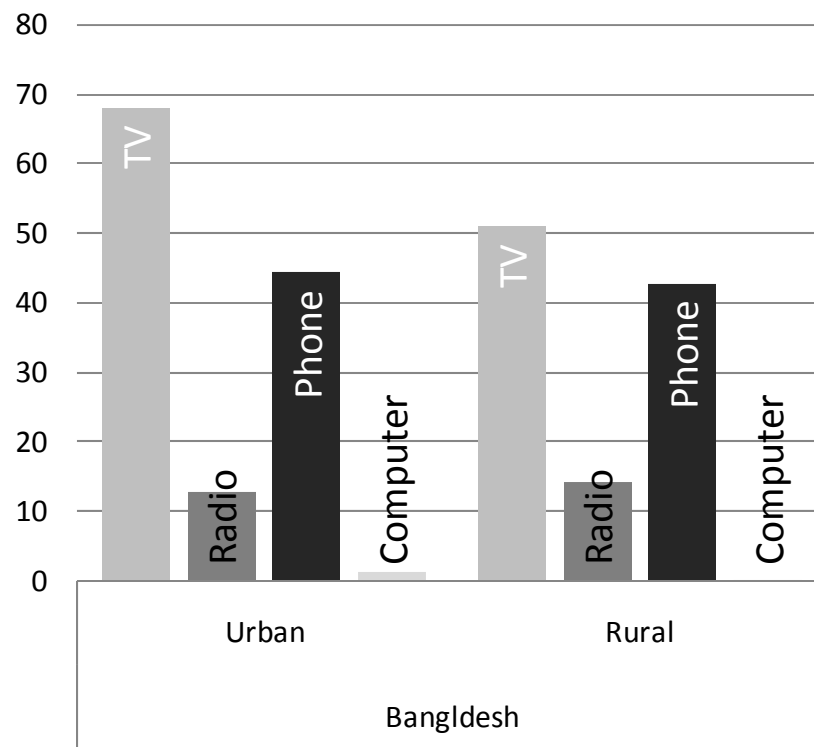
Access to communication technologies within the household (% of BOP teleusers)



Mobile or fixed phone

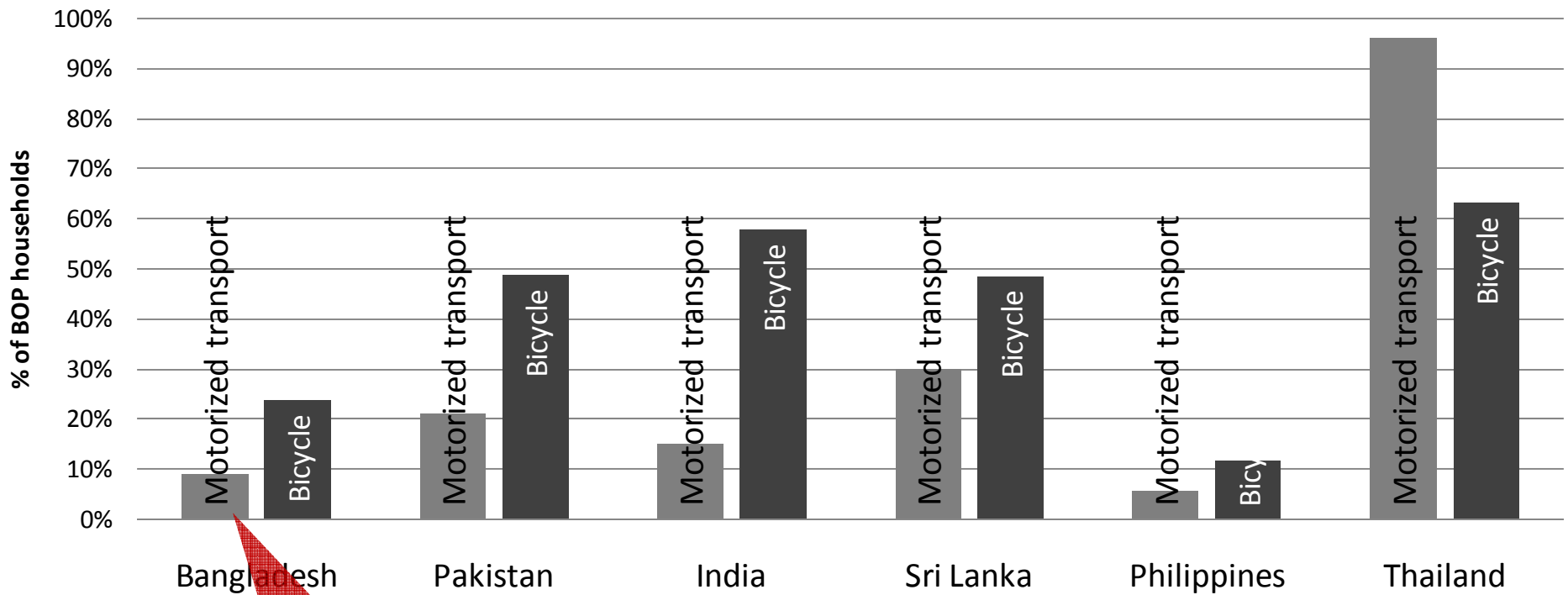
# No difference between urban and rural Bangladeshi BOP

Access to communication technologies within the household (% of BOP teleusers)



# Access to transport

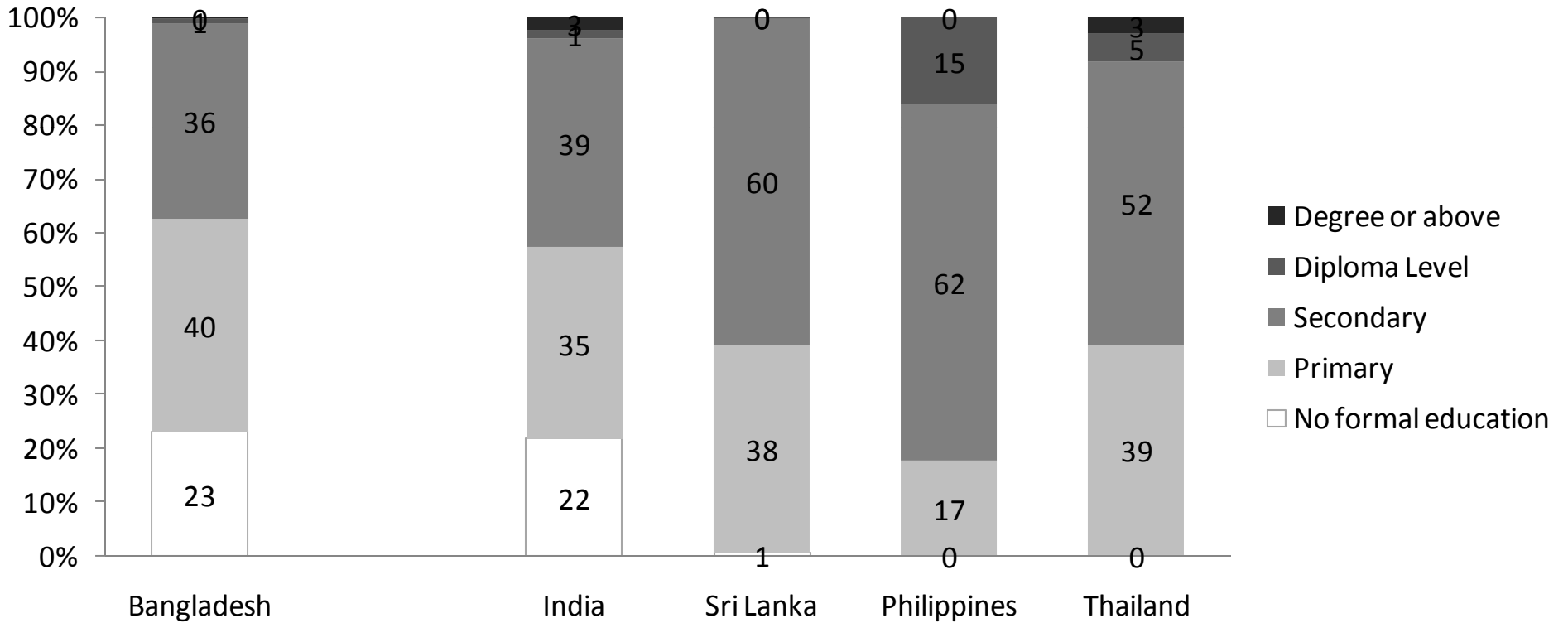
Access to transport within the household (% of BOP teleusers)



Incl. motor bike, trishaw, scooter, tractor, etc

# Educational attainment does not exceed primary or secondary education

Educational attainment (% of BOP teleusers)





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# Larger % of BD BOP used the phone in recent past

## Used a phone in the last 3 months

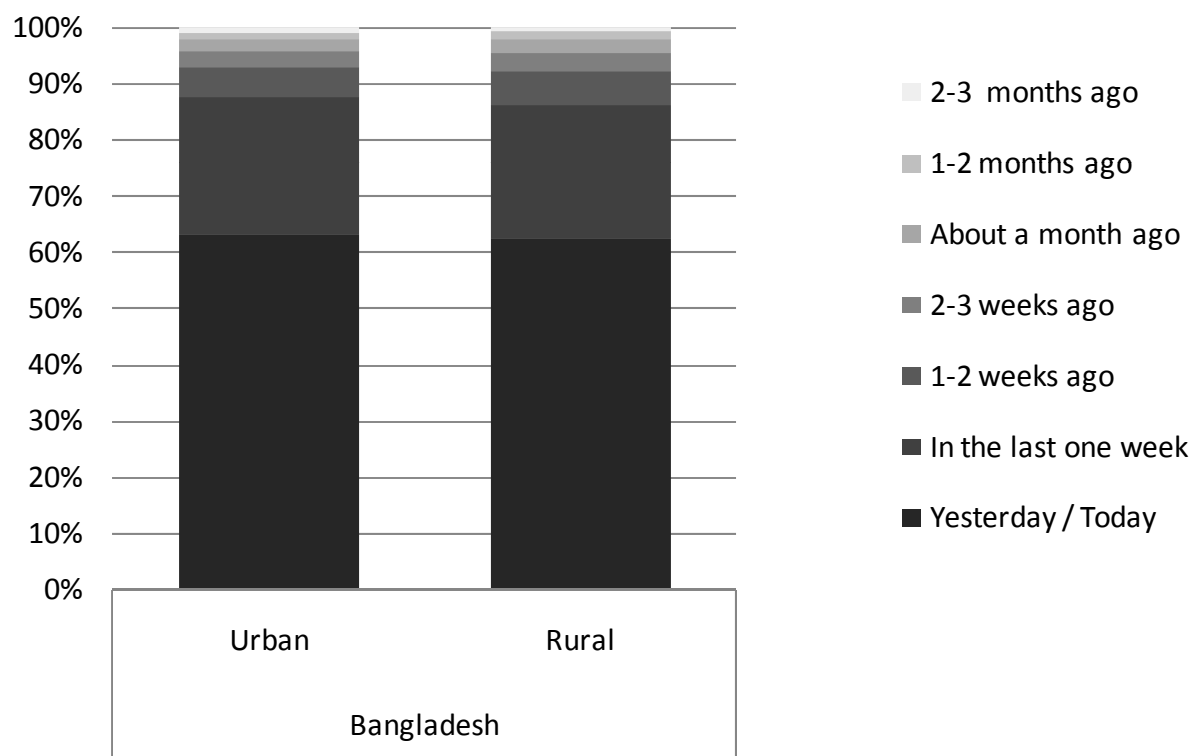
|                         | Bangladesh | Pakistan | India | Sri Lanka | Philippines | Thailand |
|-------------------------|------------|----------|-------|-----------|-------------|----------|
| % of BOP (outer sample) | 95%        | 96%      | 86%   | 88%       | 79%         | 77%      |

## Used a phone in the last week

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

# > 80% rural BOP teleusers in Bangladesh used a phone in the week before the study

Last time respondent used a phone (% of BOP teleusers)



# 32 percent of BD BOP rely on public phones

Most frequently used phone (% of BOP teleusers)



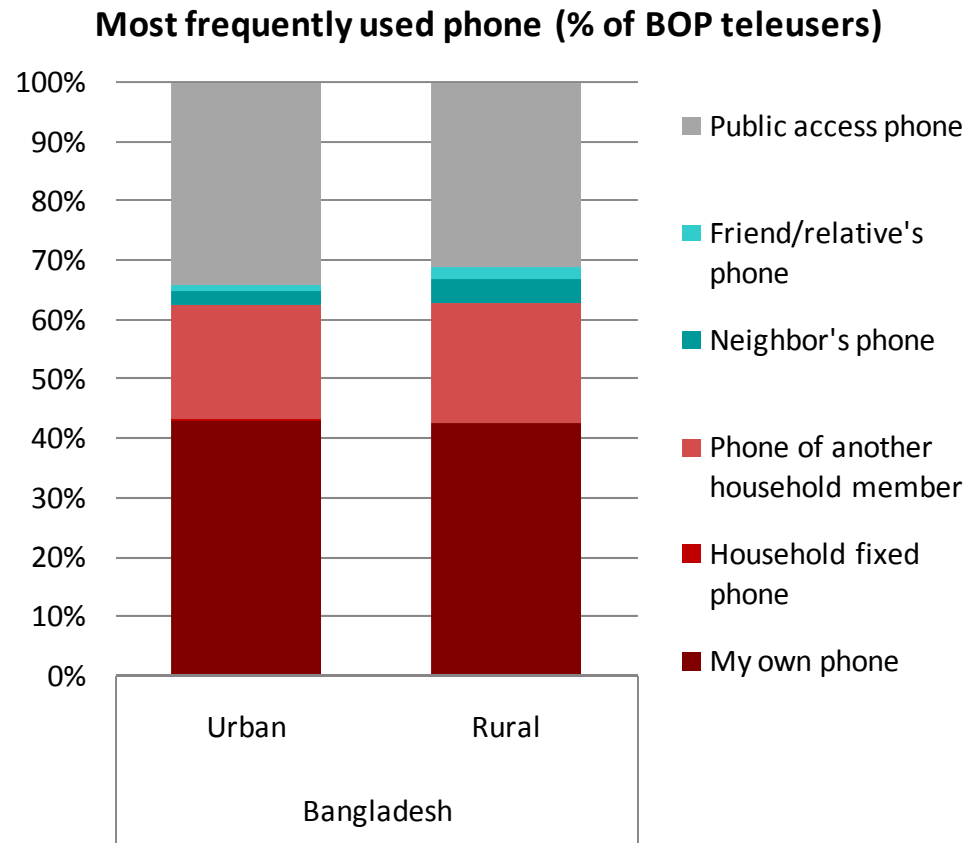
Access within the household

- 25% of BD mobile owners also use public phones; mostly when they run out of credit on their mobiles

# 100% of BD BOP public phone users say the public phone is a mobile

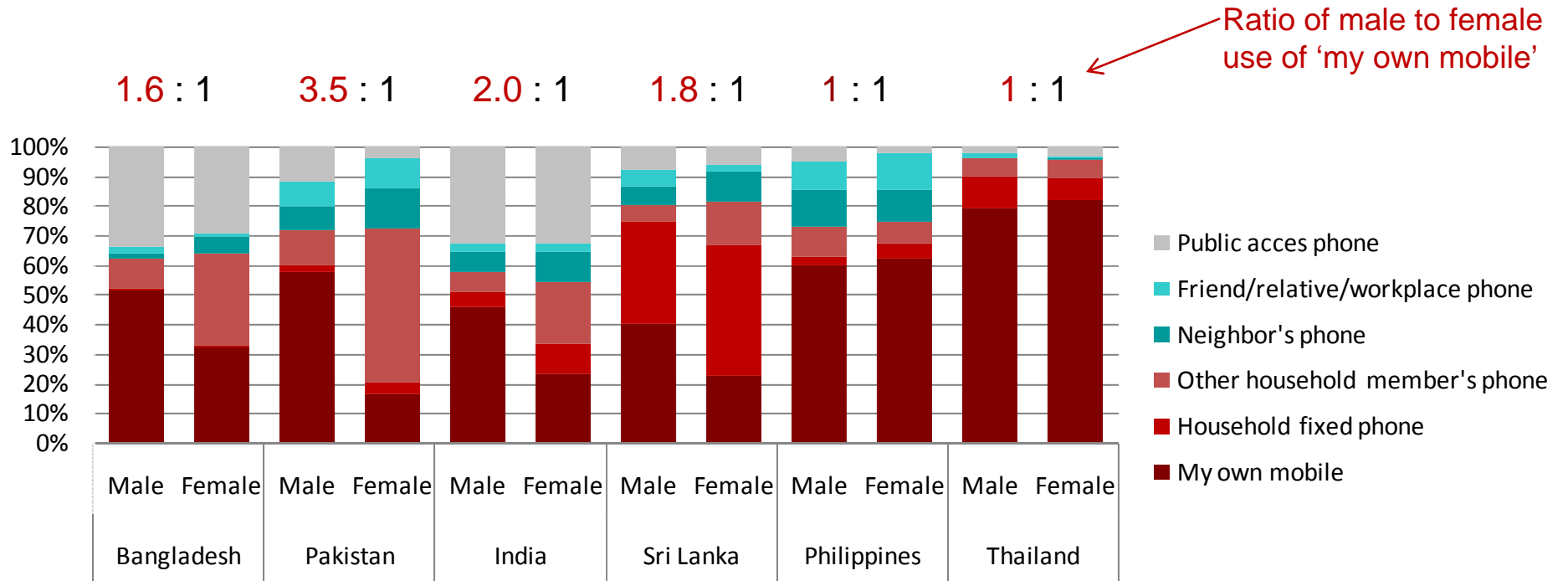
|  | Bangladesh | Pakistan | India | Sri Lanka | Philippines | Thailand |
|--|------------|----------|-------|-----------|-------------|----------|
| % of BOP teleusers that use public phones as a primary phone |            |          |       |           |             |          |
| Fixed  |            | 67       | 91    | 100       | 96          | 90       |
| Mobile   | 100        | 33       | 9     |           | 4           | 10       |

# Little difference between BOP in urban and rural Bangladesh



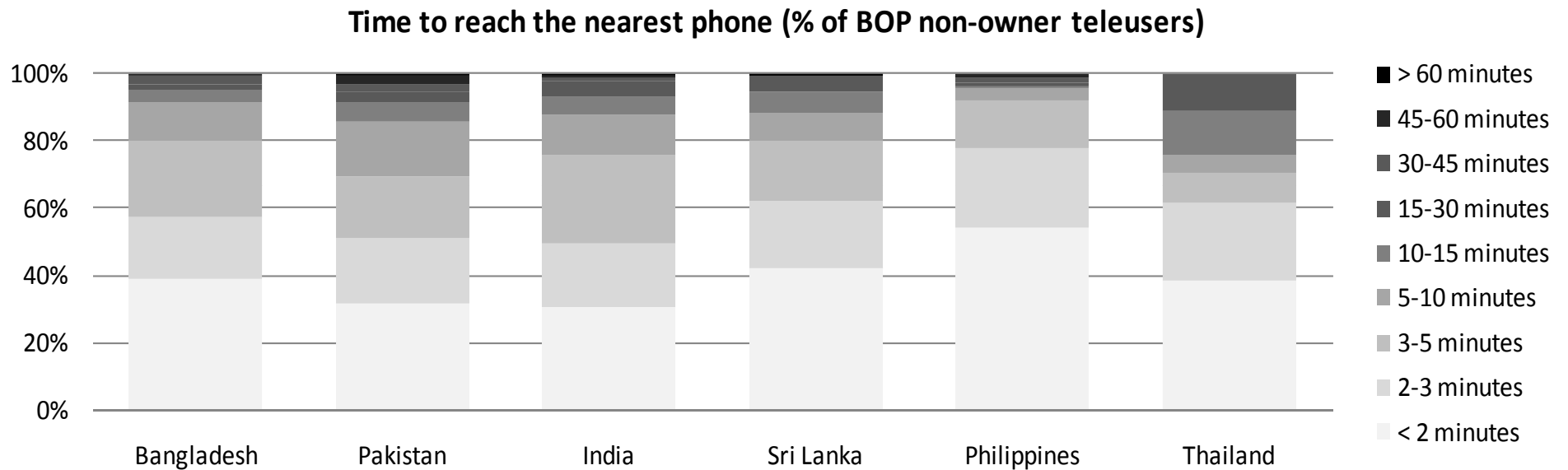
# Bangladeshi BOP women less likely to use own mobiles, more likely to use other people's phones

Most frequently used phone (% of BOP teleusers)



- 18% of BD female mobile owners said a male member of the household made the decision for them to get connected

# ~80% can get to a phone in under 5 minutes



Most non-owners walk to the nearest phone



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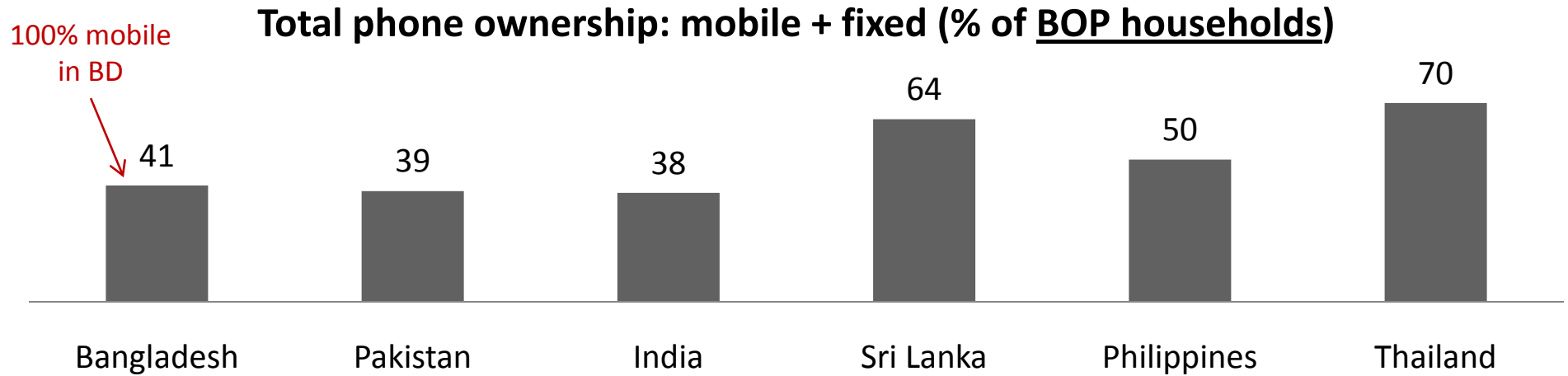
POTENTIAL FOR MOBILE 2.0?

BENEFITS?

THE UNCONNECTED...

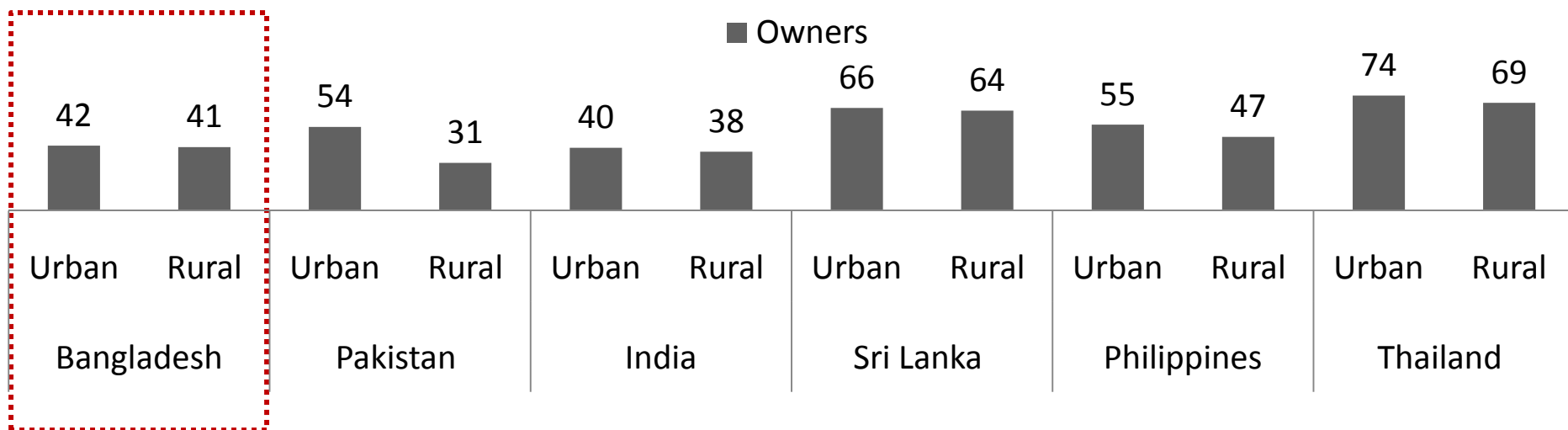
# Almost all of BD BOP uses a mobile, but only 41% own one

41% BOP = 43% of BOP teleusers



# No difference between rural and urban phone ownership

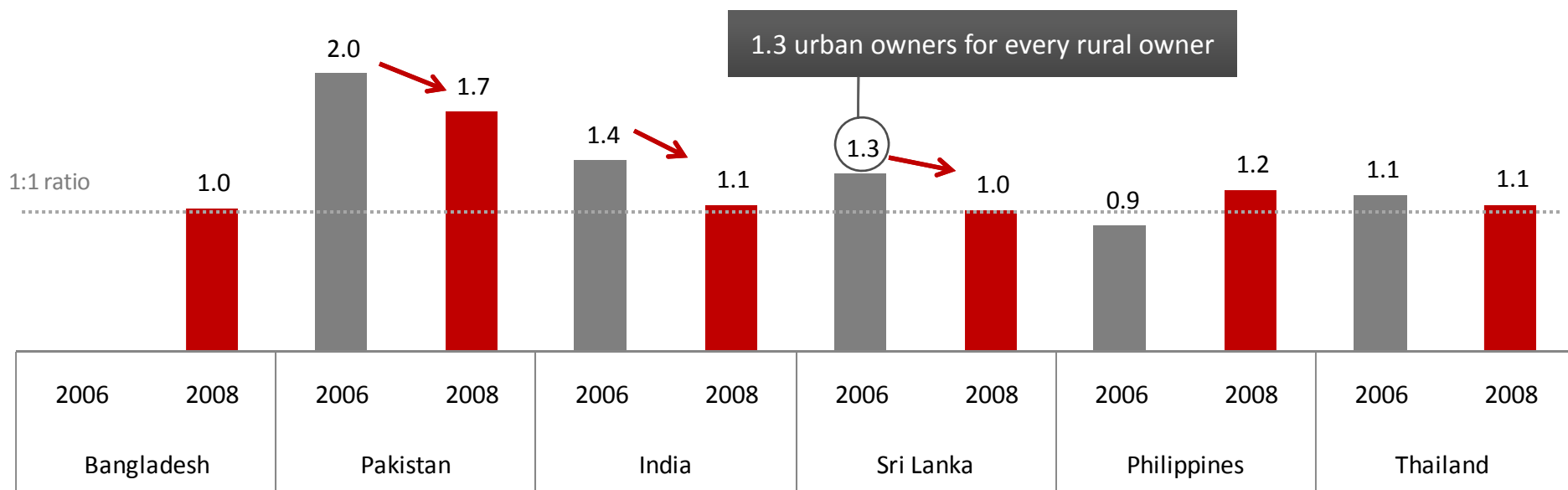
Total phone ownership: mobile + fixed (% of BOP)



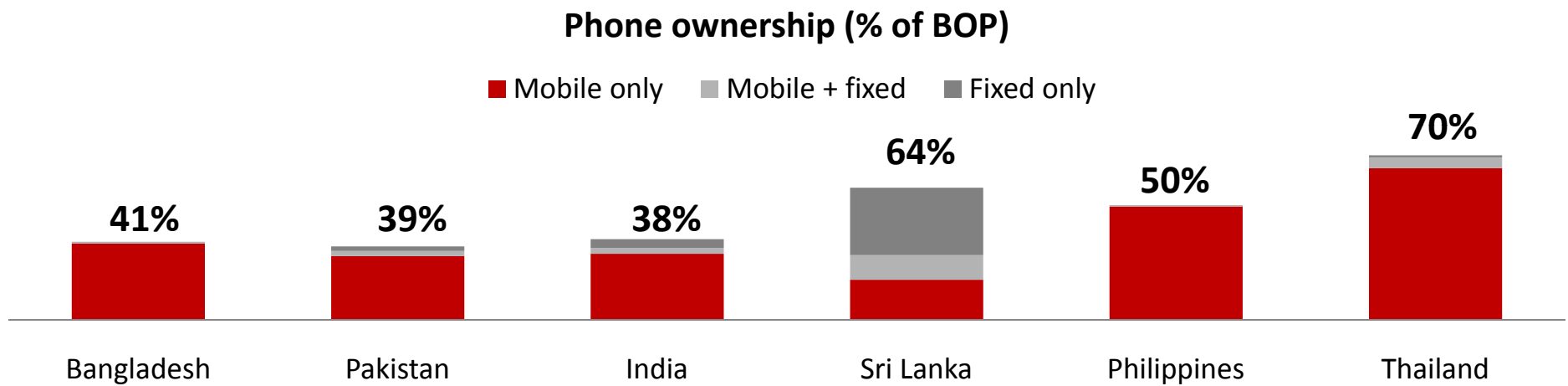
# Urban-rural divide in total BOP phone ownership **declining** in other South Asian countries; BD has closed the gap

no trend data for BD available

### Urban-rural divide in phone ownership (urban:rural)

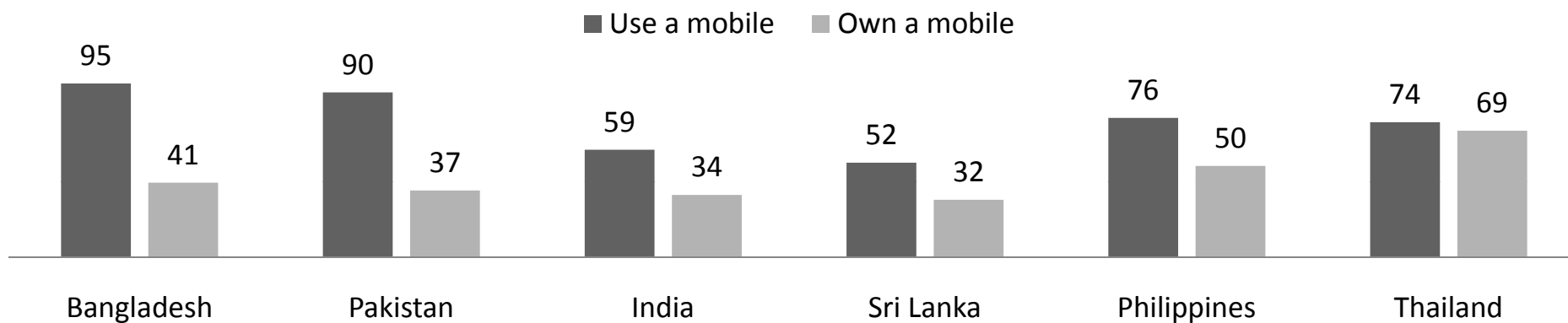


# BD BOP is 99% mobile



# 95% of BD BOP use a mobile, even if they don't own one

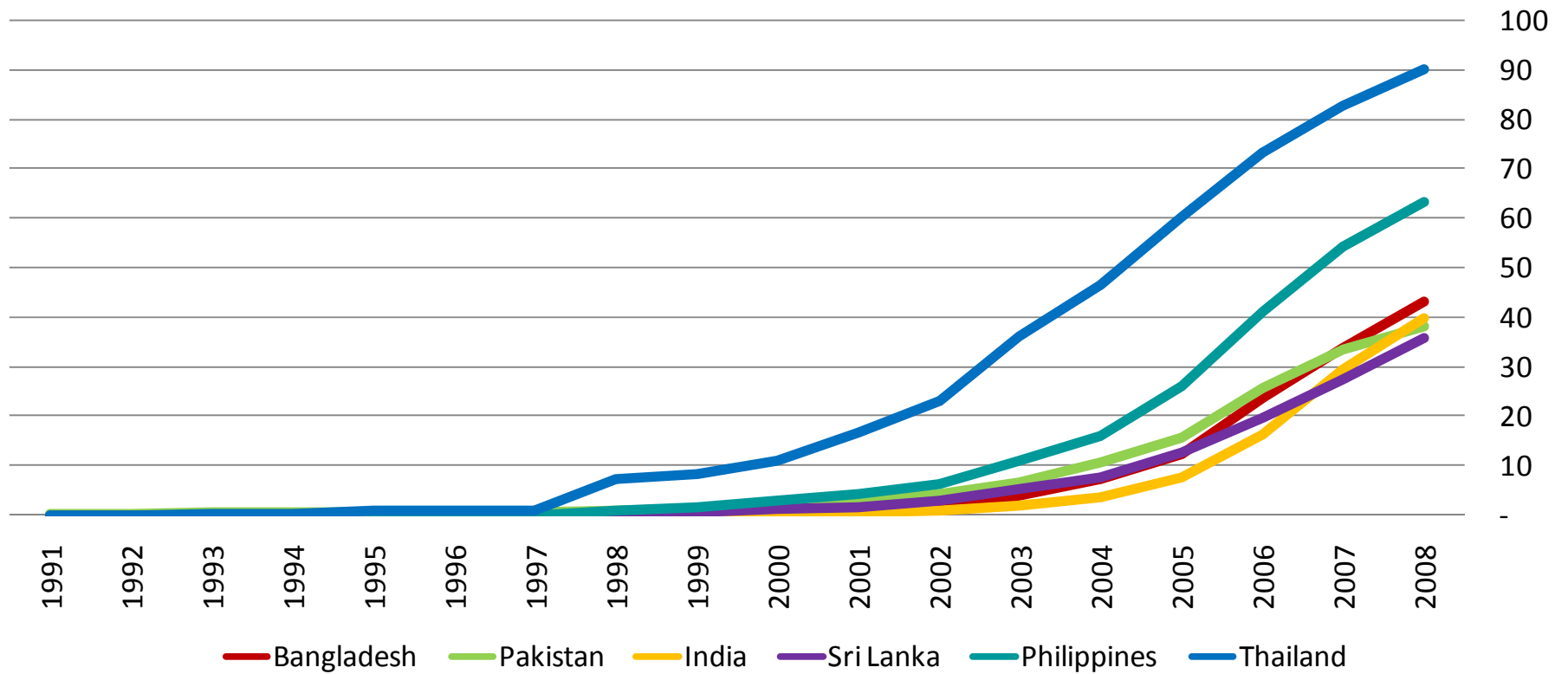
## Mobile use and ownership (% of BOP)



# When did the BOP get connected to **mobile**?

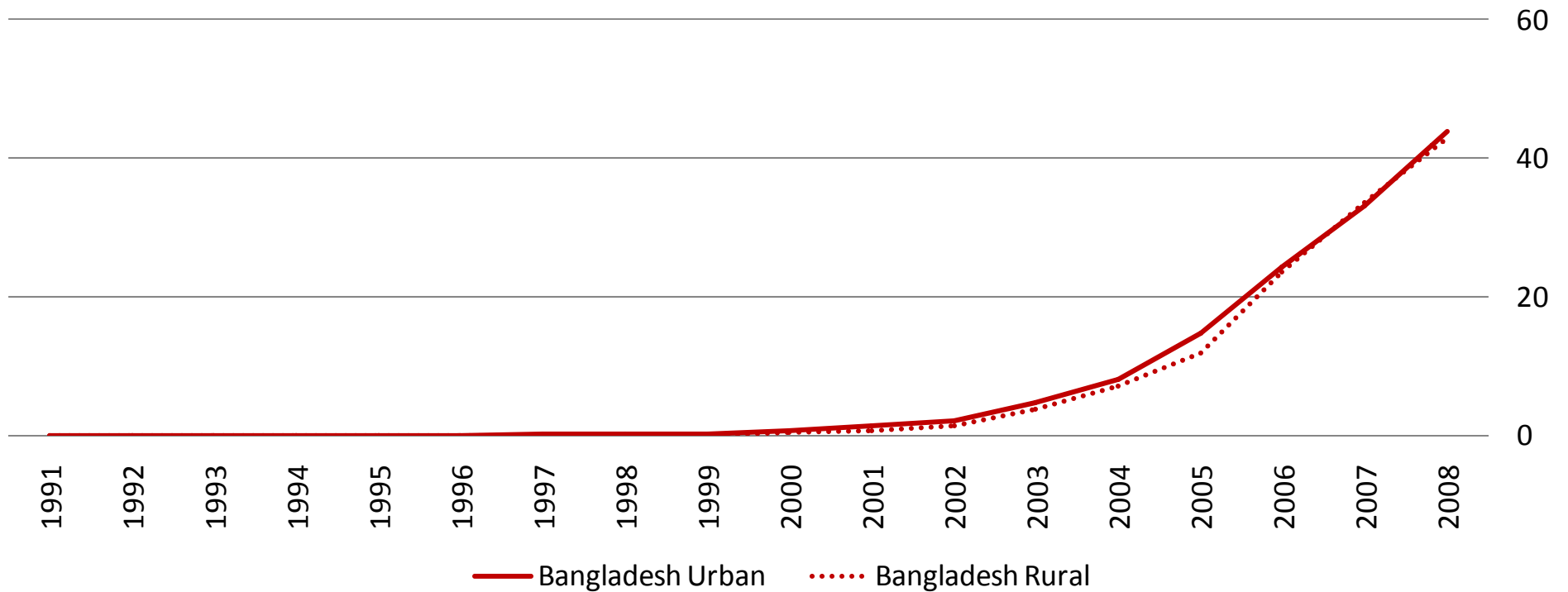
## Overview

Growth in mobile ownership (% of BOP teleusers)



# BOP mobile has grown at same pace in urban and rural BD

Growth in urban and rural mobile ownership (% of BOP)

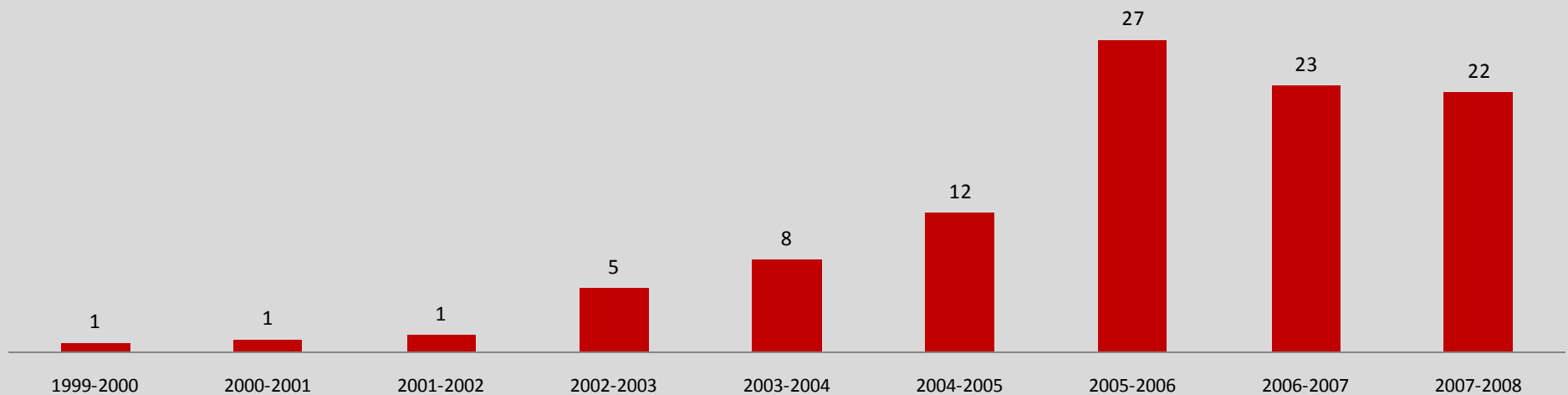




# Bangladesh: Most (72%) got connected after 2005

Bangladesh (% of BOP mobile owners)

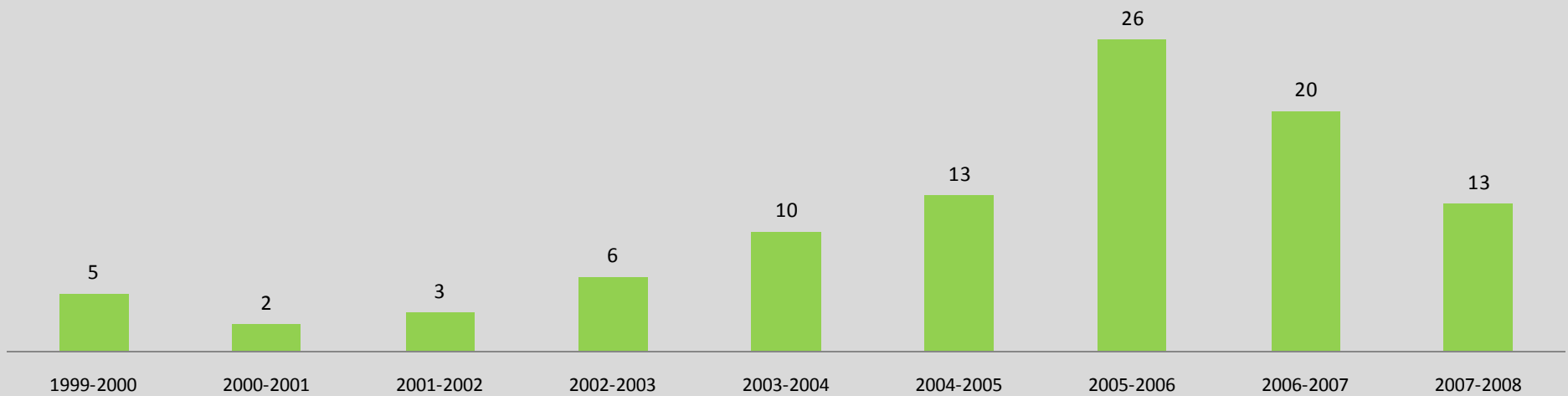
■ Bangladesh



# Pakistan

**Pakistan**(% of BOP mobile owners)

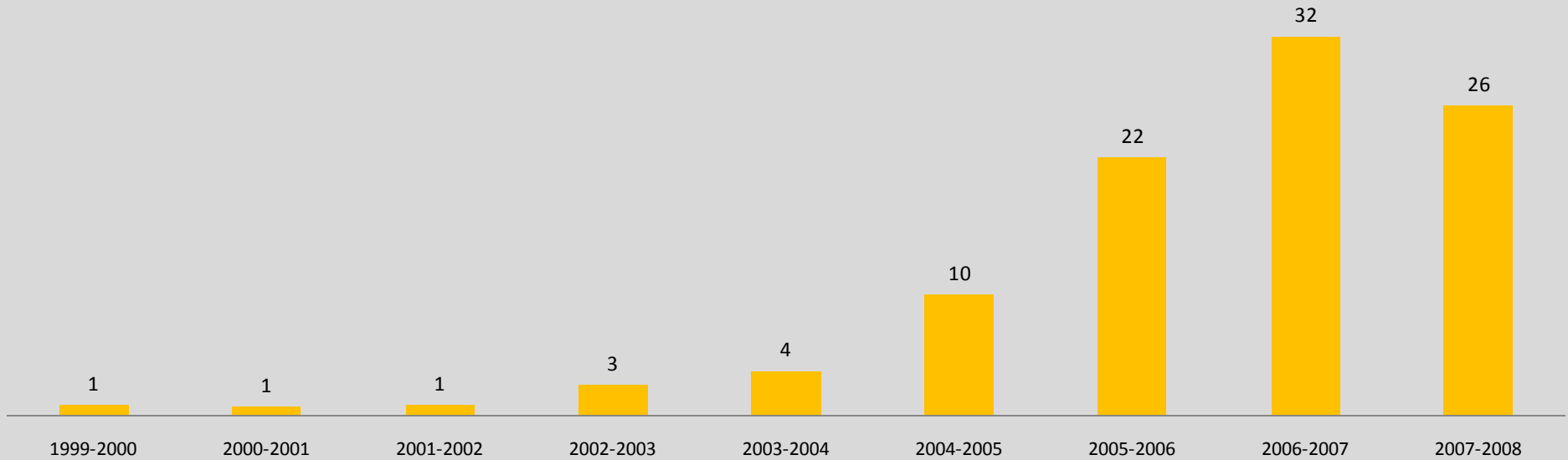
■ Pakistan



# India

## India (% of BOP mobile owners)

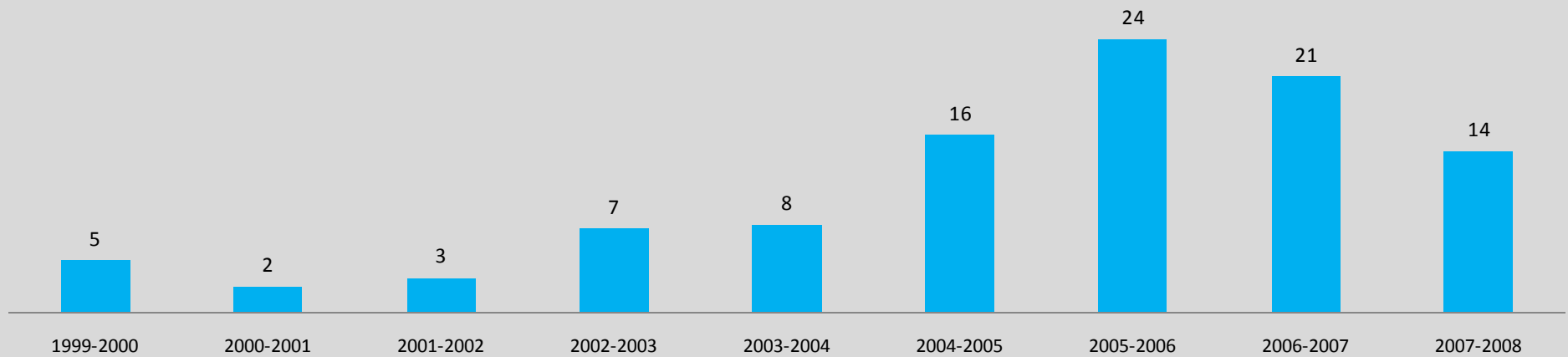
■ India



# Philippines

## Philippines (% of BOP mobile owners)

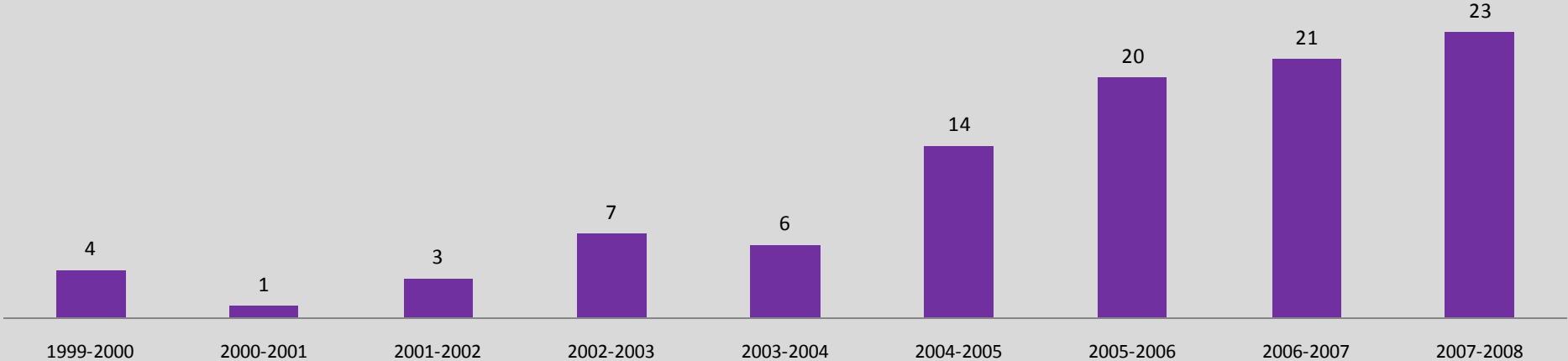
■ Philippines



# Sri Lanka

Sri Lanka (% of BOP mobile owners)

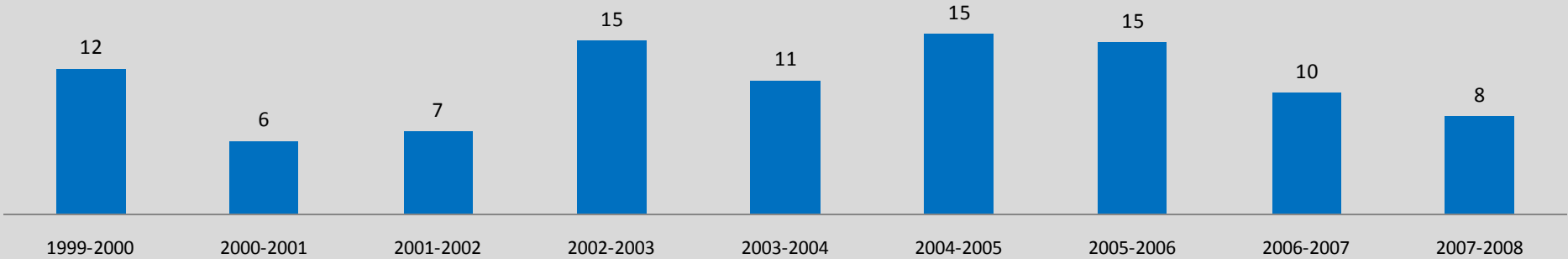
■ Sri Lanka



# Thailand

Thailand(% of BOP mobile owners)

■ Thailand



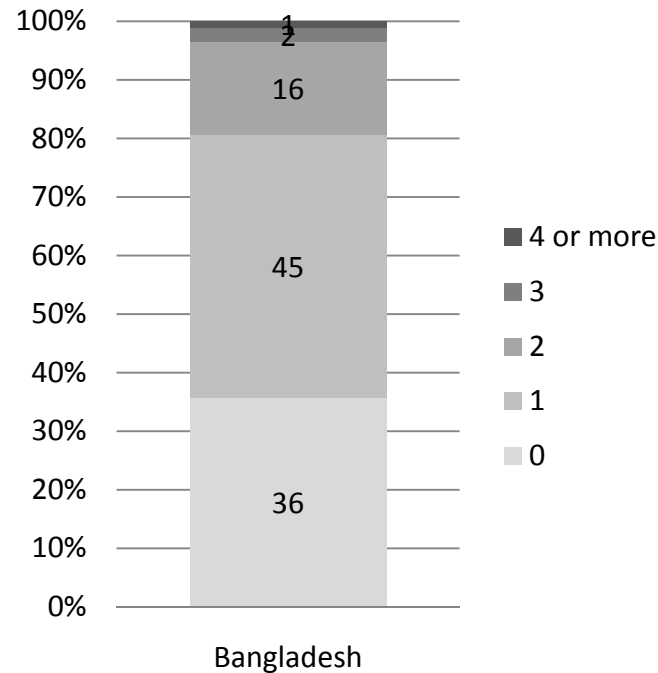
## 10% of BOP mobile owners have more than one (active) SIM

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

- Key reasons:
  - Minimizing communication expenditure (on-net calling)
  - Poor network coverage on some networks
  - To keep contact lists separate (e.g., boyfriends/girlfriends, etc)

# 19% of Bangladeshi BOP teleusers have more than 1 mobile in their households

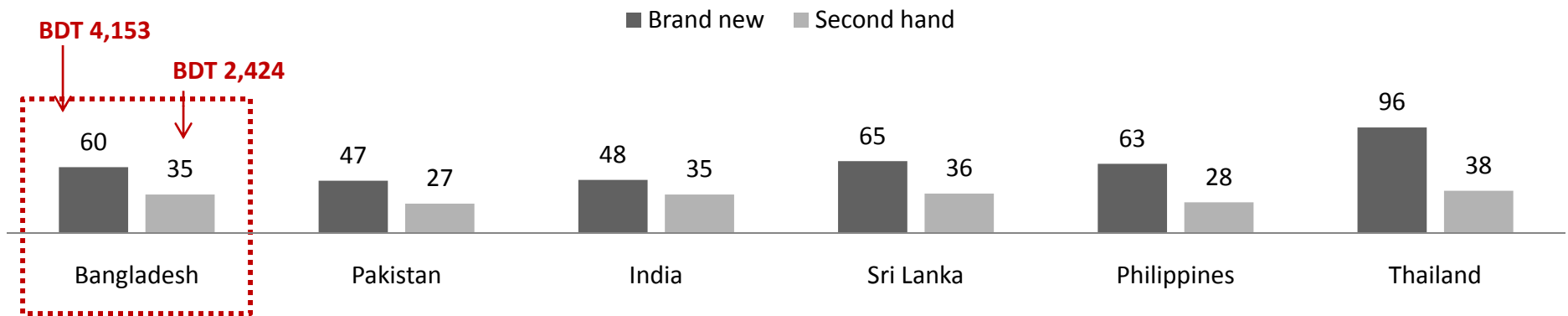
Number of mobiles in the respondent's household, including own (% of BOP teleusers)





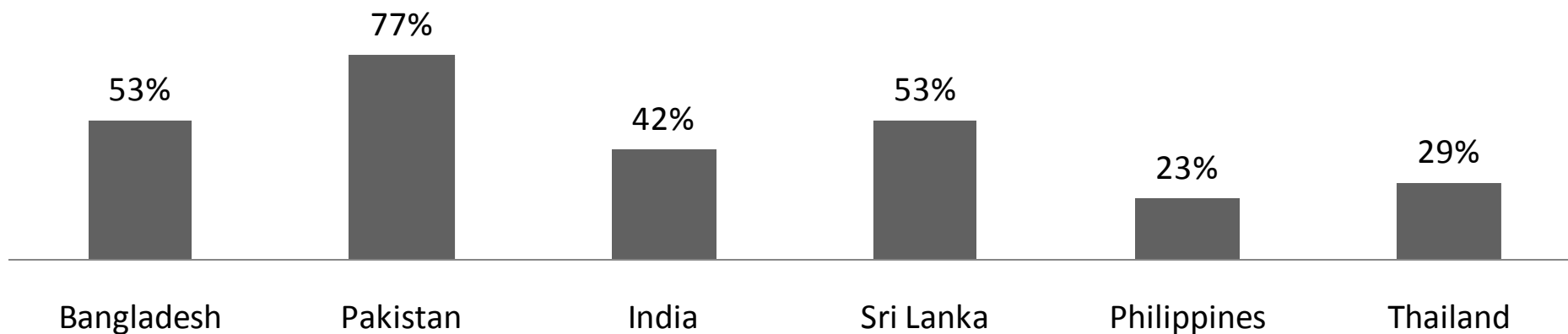
# Second hand handsets bought for almost half the price of brand new handsets

Mean price paid by mobile owners for their handset (USD)



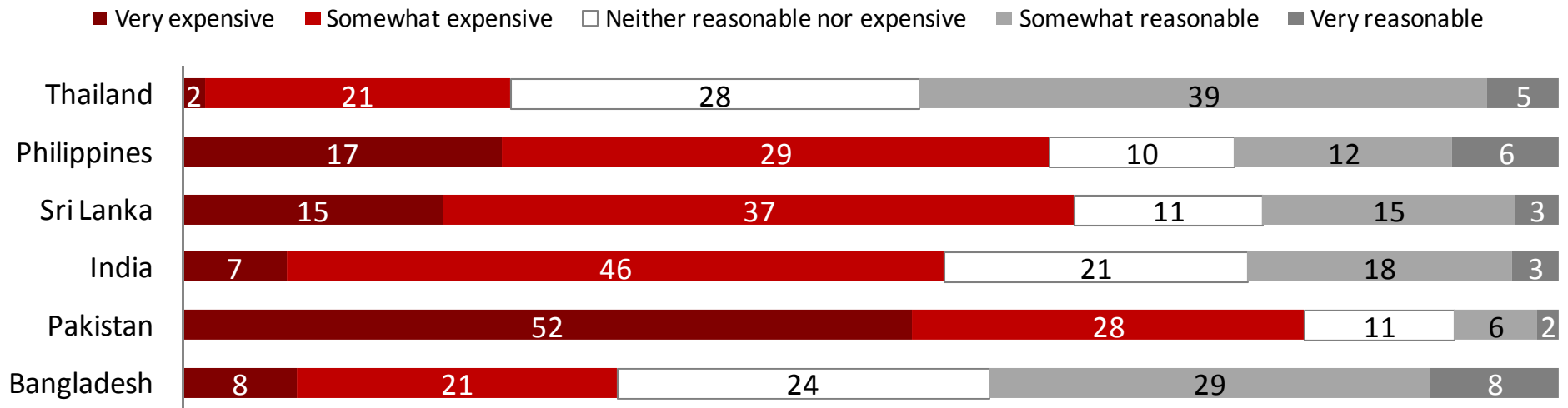
# Just 53% are aware of the tax component on their phone use

Are aware of the tax component on their phone charges (% of BOP phone owners)



# 29% of those who are aware say it's expensive

How reasonable the level of tax is(% of those who are aware)



| Bangladesh | Pakistan                         | India | Sri Lanka<br>(from 1 January 2009) | Philippines | Thailand |
|------------|----------------------------------|-------|------------------------------------|-------------|----------|
| 15%        | 21% (prepaid);<br>33% (postpaid) | 12%   | 27%                                | 12%         | 7%       |

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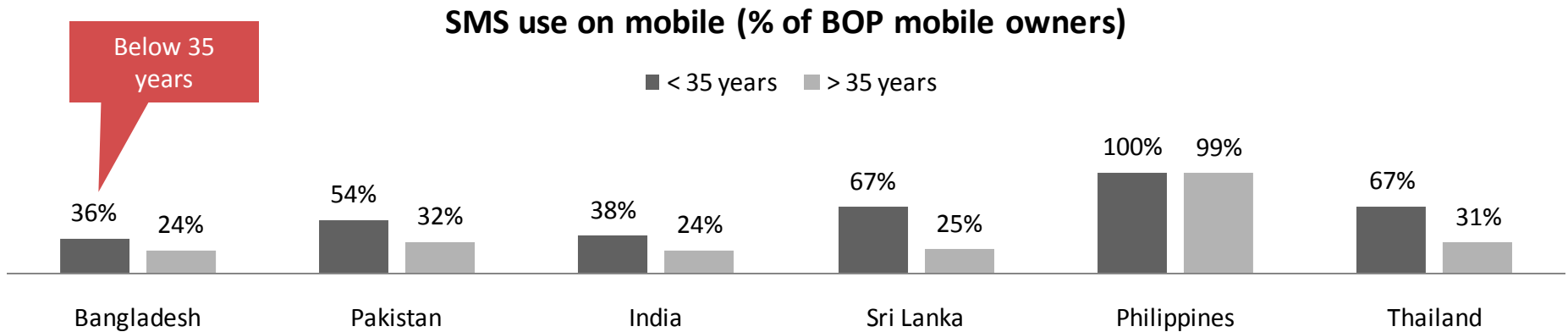
THE UNCONNECTED...

# What the BOP does with mobile phones: 95% use missed calls

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%    |

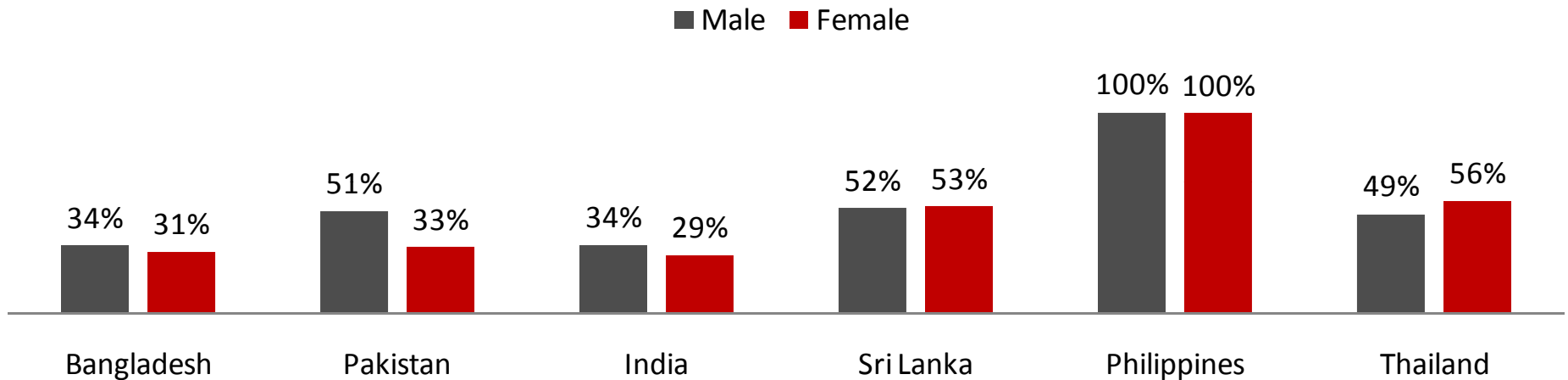
# SMS popular among youth



- Similar pattern seen with regards to missed calls

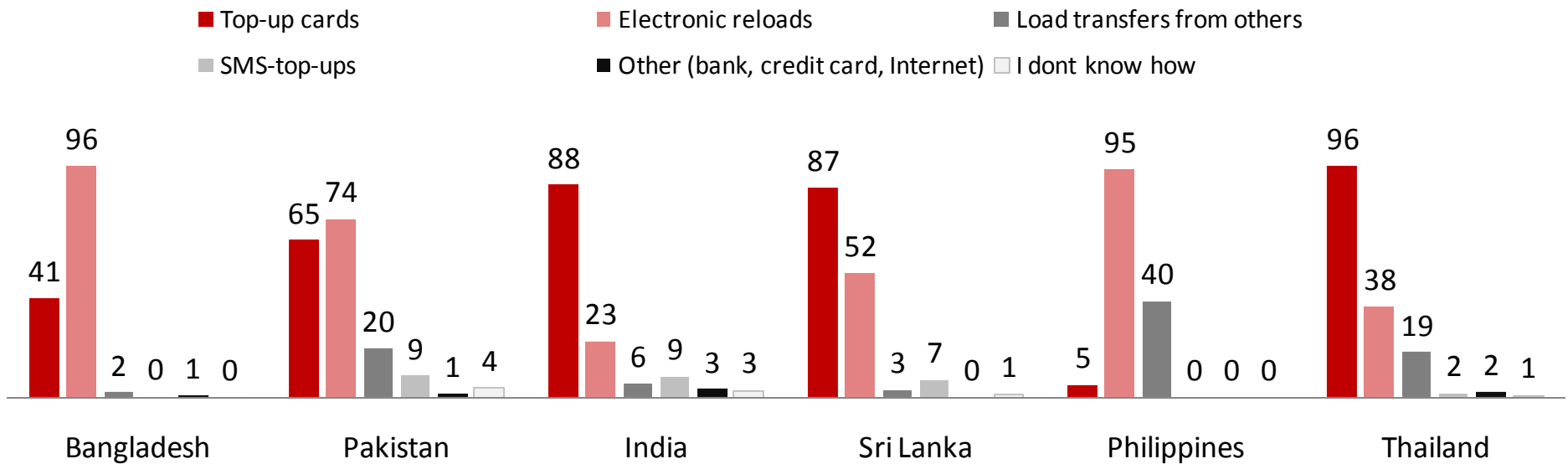
# SMS more popular among males in Pakistan and India (literacy?); not much difference in Bangladesh

SMS use on mobile (% of BOP mobile owners)



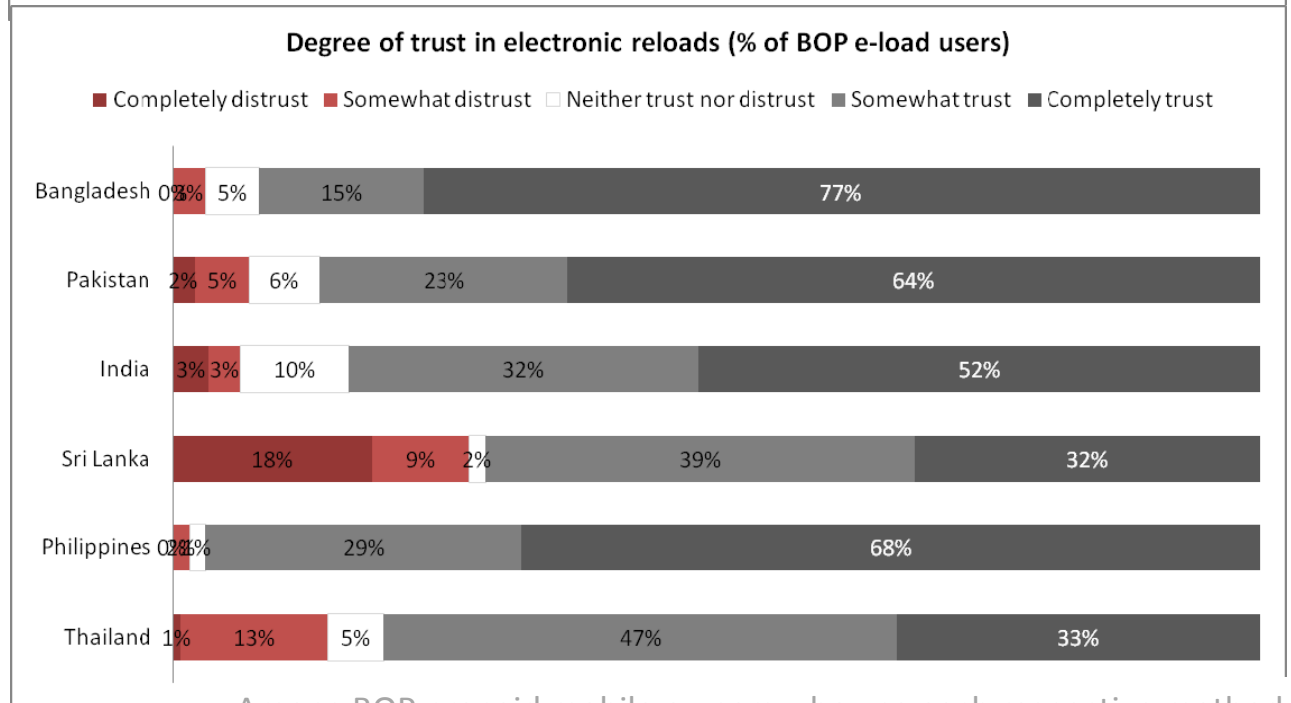
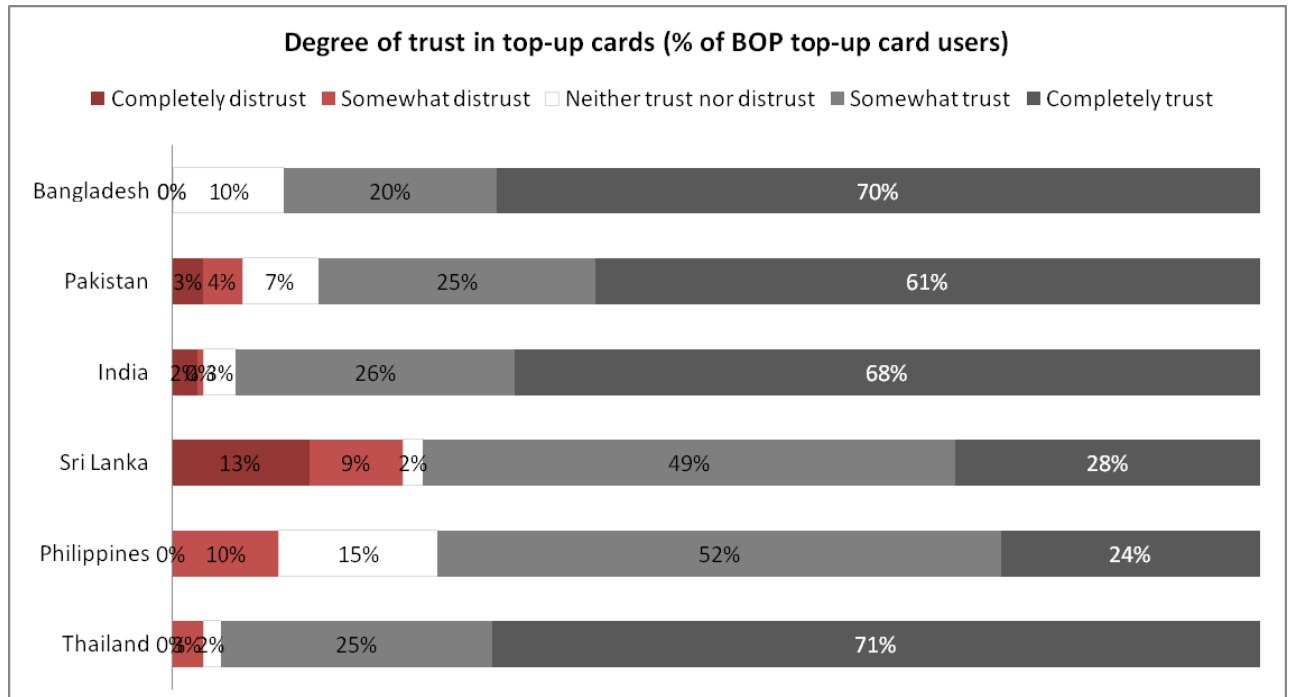
# Electronic loads used most by BD mobile owners

Top-up method (% of BOP prepaid mobile owners)



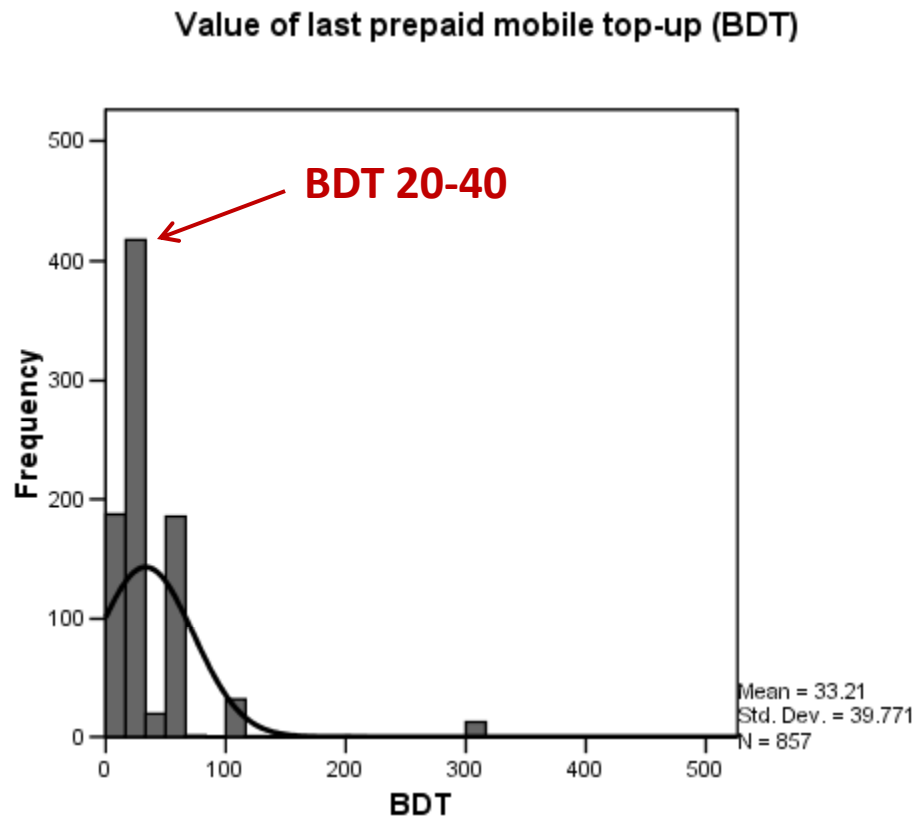


# Bangladeshi BOP has high trust in top-up methods used



Among BOP prepaid mobile owners who use each respective method

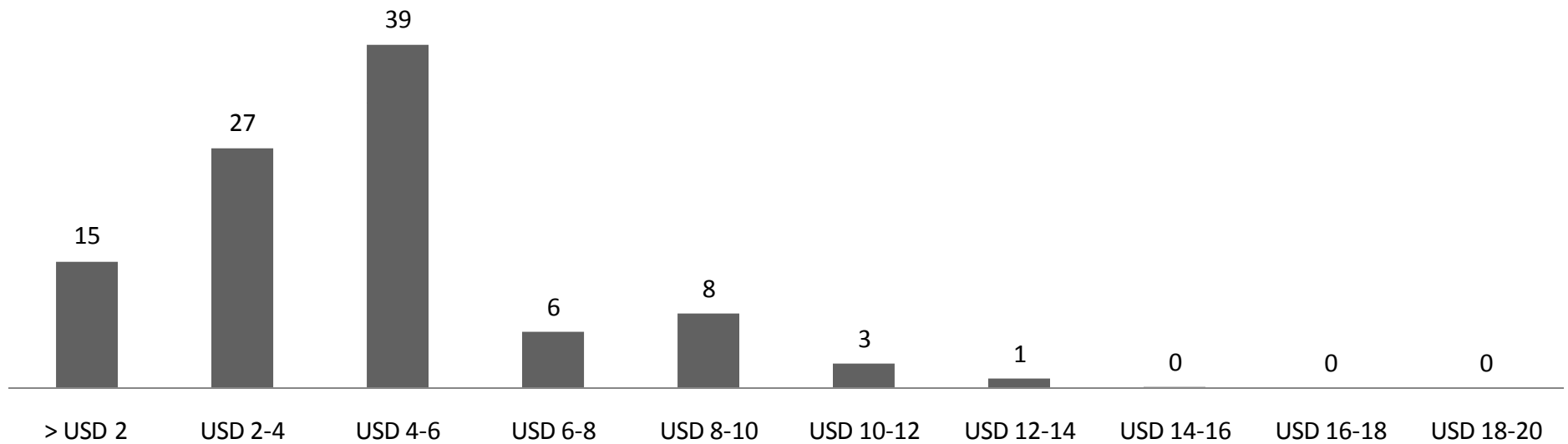
# Mobile prepaid owners mostly top up for BDT20-40 at a time



# Mean monthly prepaid mobile expenditure USD 4.27(s.d. 2.54)

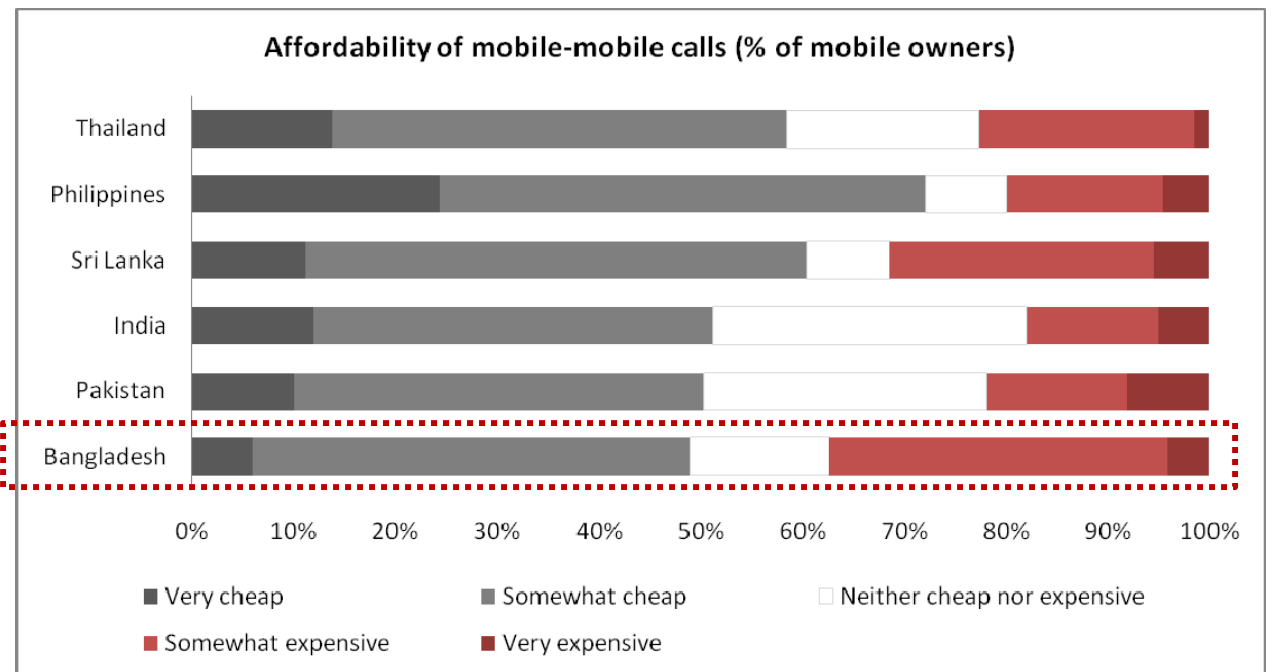
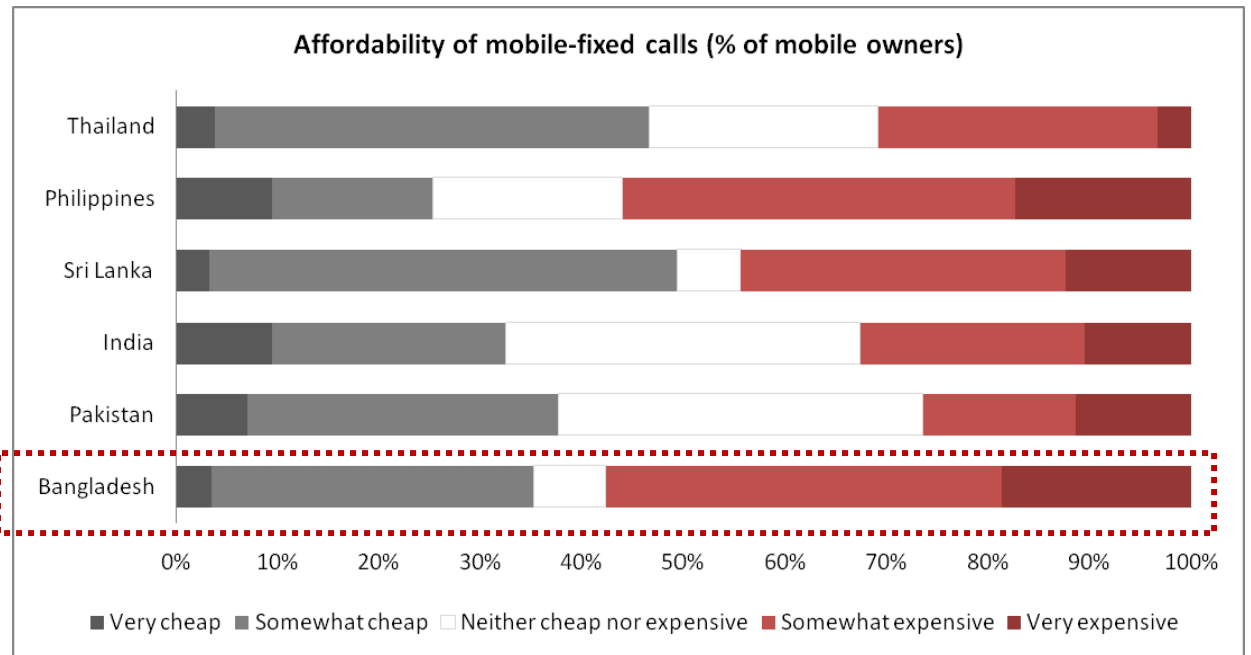
Mode: USD4.31

Distribution of monthly expenditure on prepaid mobile (% of BOP prepaid mobile owners)

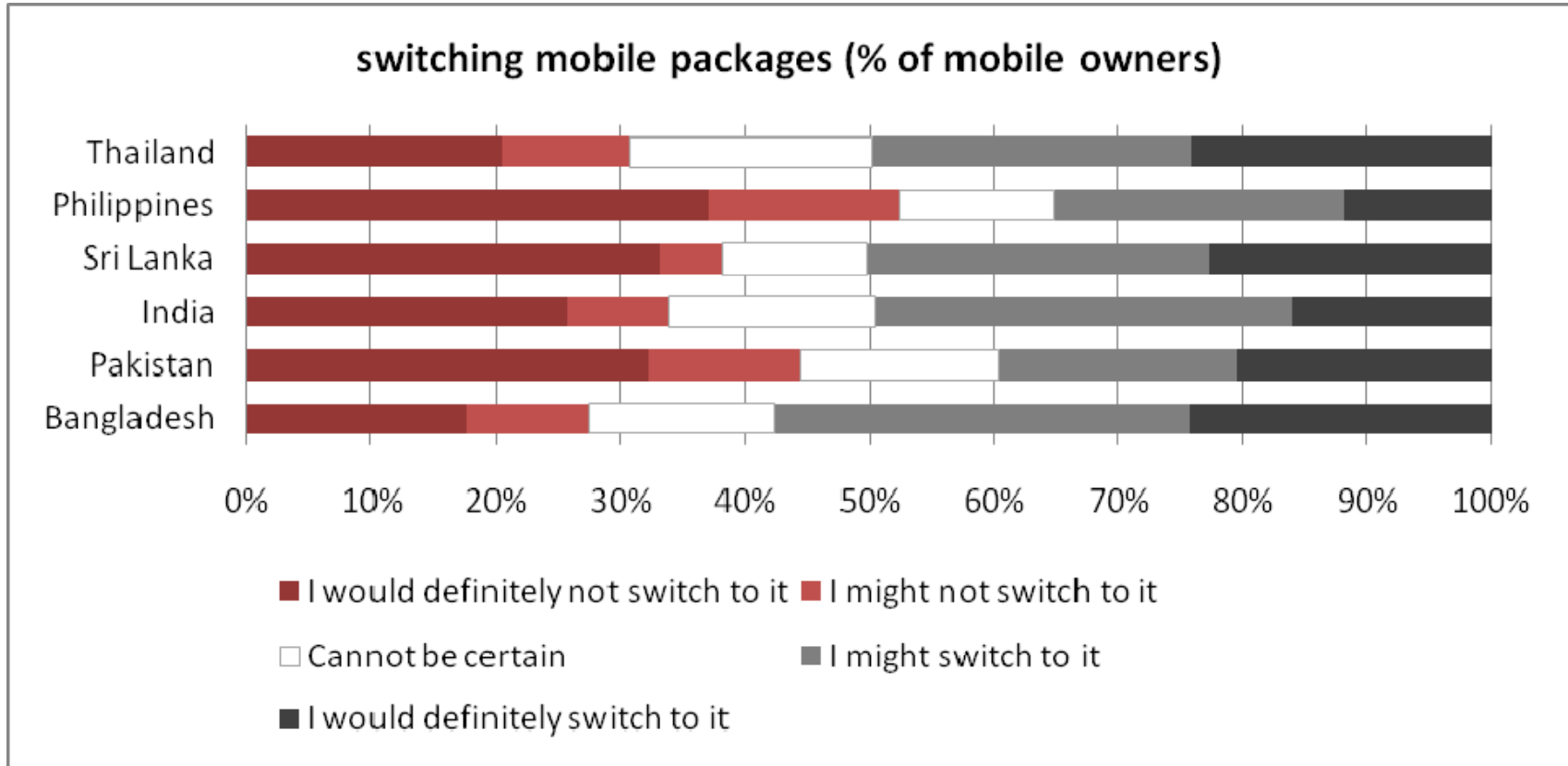


Based on amount of last top-up and how long they expect it to last

# Significant numbers say calls are expensive



# 18% of BOP mobile owners in Bangladesh would *definitely not* consider switching to a cheaper package



- 55% of those unwilling to switch state that it is important to keep the number at present
  - Given MNP + cheaper package, 69% of BD mobile BOP owners will switch

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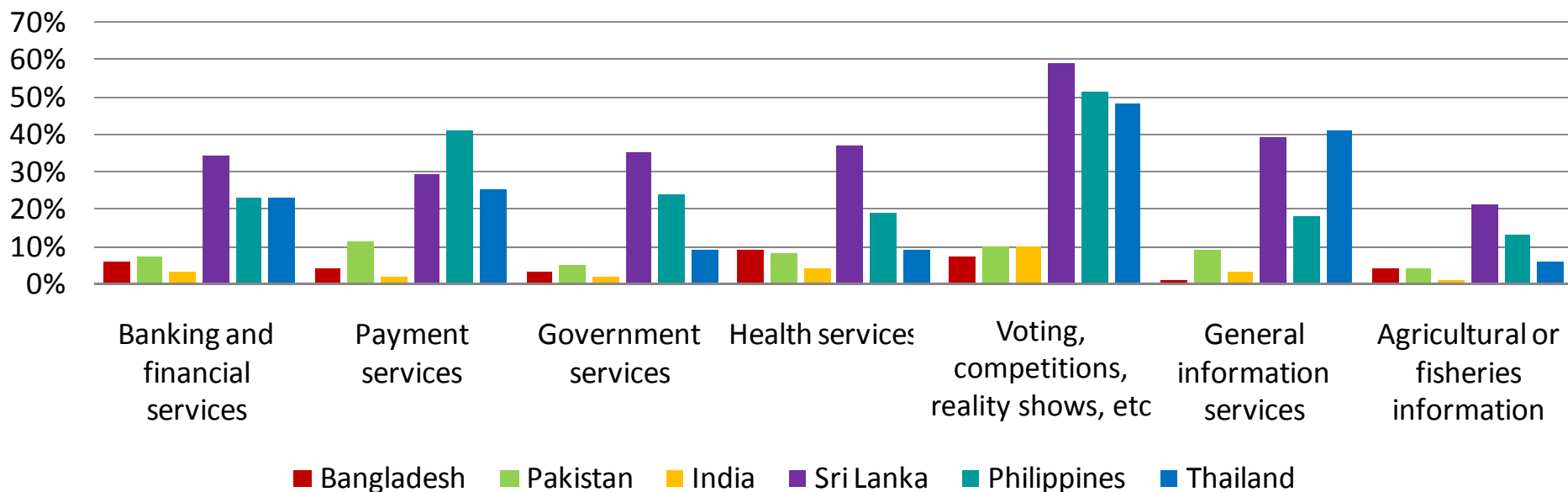
POTENTIAL FOR MOBILE 2.0?

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# Awareness among Bangladeshi BOP is poor

Awareness of services available on phones and computers (% of BOP teleusers)



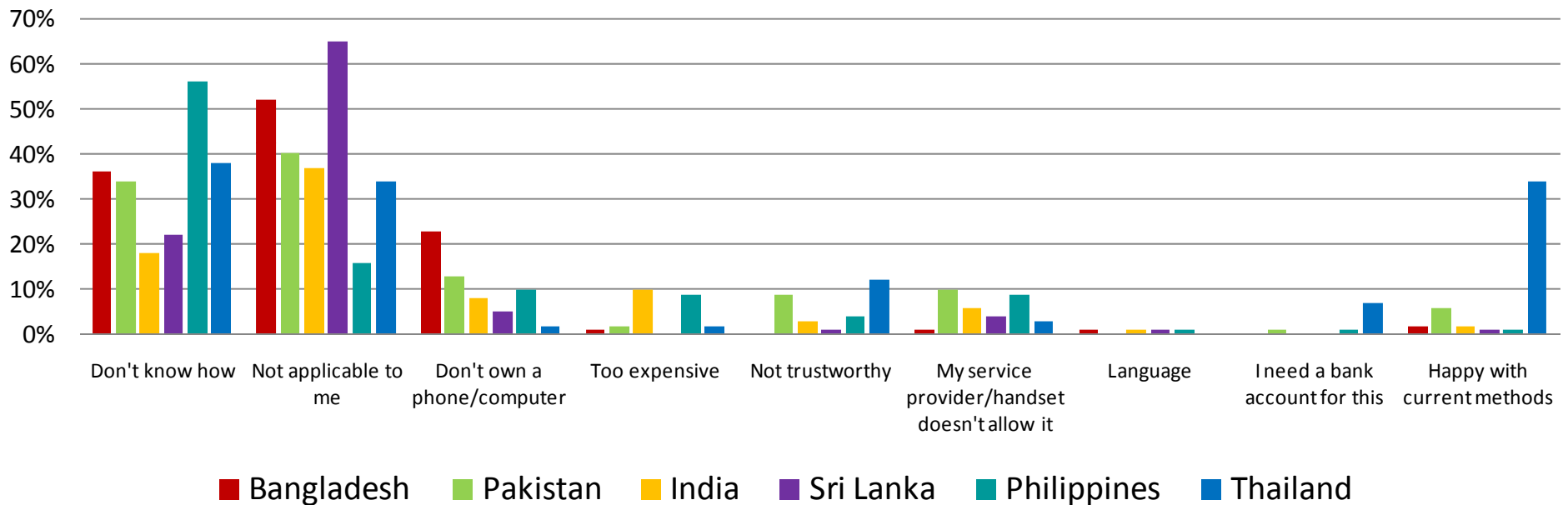
# Almost zero-usage among those aware

|  | BD                            | PK                            | IN                            | LK                            | PH                            | TH                            |     |    |    |
|--|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-------------------------------|-----|----|----|
|  | Regularly<br>regularly<br>Not | Regularly<br>regularly<br>Not | Regularly<br>regularly<br>Not | Regularly<br>regularly<br>Not | Regularly<br>regularly<br>Not | Regularly<br>regularly<br>Not |     |    |    |
| Banking and financial services           |                               |                               | 1%                            | 2%                            | 1%                            | 3%                            |     |    |    |
| Payment services                         |                               |                               |                               | 3%                            | 2%                            | 3%                            | 1%  | 4% |    |
| Government services                      |                               |                               |                               | 2%                            | 2%                            |                               |     |    |    |
| Health services                          | 1%                            |                               | 1%                            | 8%                            | 1%                            | 2%                            |     |    |    |
| Voting, competitions, reality shows, etc |                               |                               | 1%                            | 1%                            | 1%                            | 5%                            | 7%  | 1% | 8% |
| General information services             | 1%                            | 1%                            |                               | 3%                            | 2%                            | 5%                            | 11% |    |    |
| Agricultural or fisheries information    |                               |                               |                               | 1%                            |                               |                               |     |    |    |



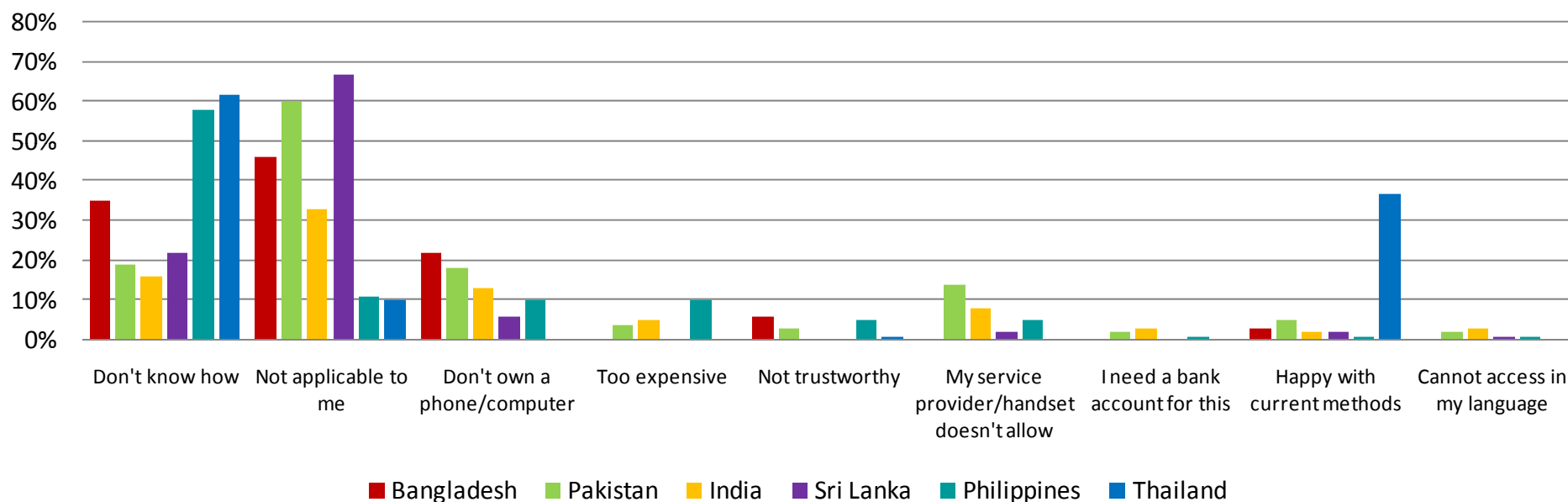
# Payments: Most who are aware don't know how or don't feel the need to use it

Reason for not using payments (% of those that are aware but don't use)



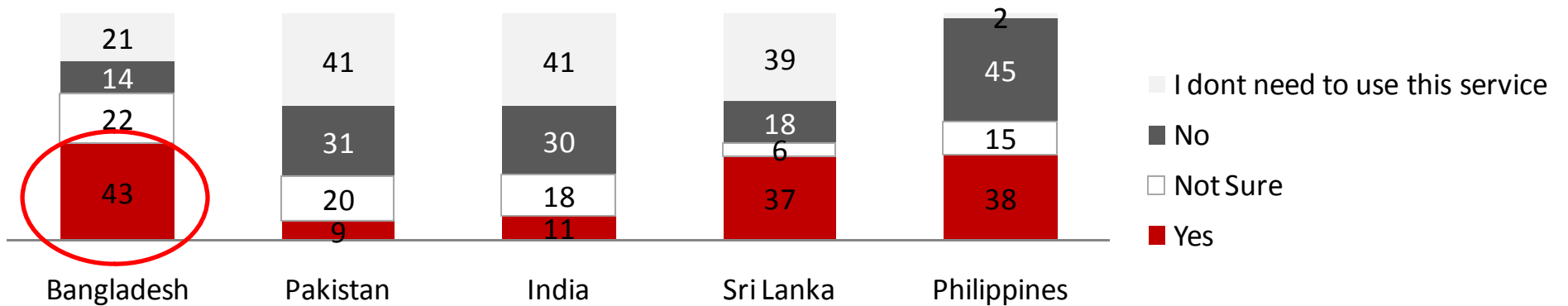
# Government services: Most who are aware don't know how or don't feel the need to use it

Reason for not using government services (% of those who are aware but don't use)

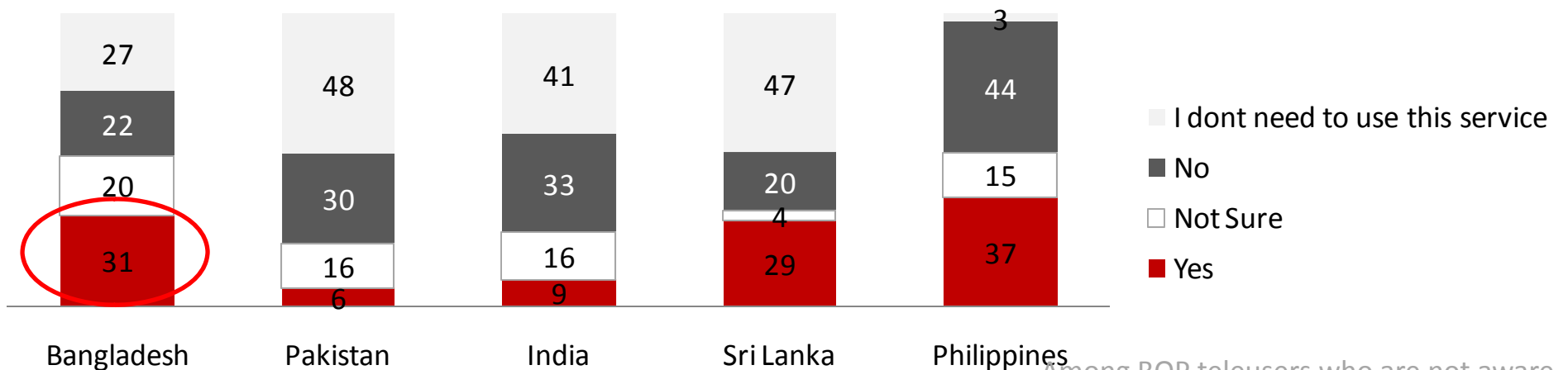


# Willingness to try money transfer services and govt services via a mobile exists

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

# Agenda

**WHO ARE THE BOP?**

**BOP TELECOM EXPANSION**

ACCESS

OWNERSHIP

**MARKET POTENTIAL**

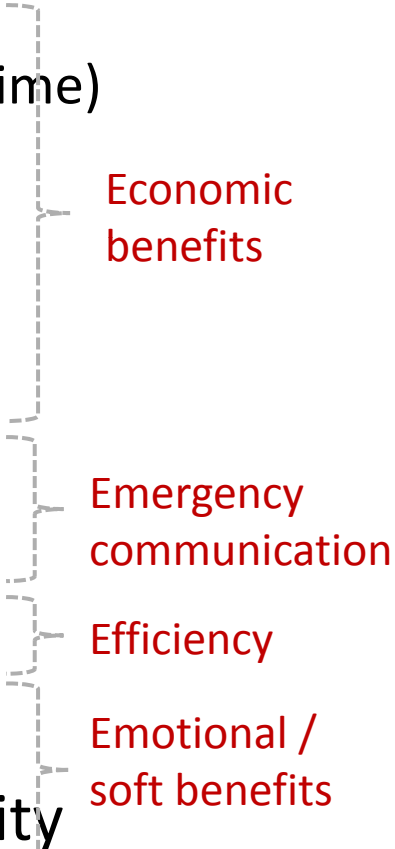
WHAT THOSE AT BOP DO WITH THEIR MOBILES?

POTENTIAL FOR MOBILE 2.0?

BENEFITS?

THE UNCONNECTED...

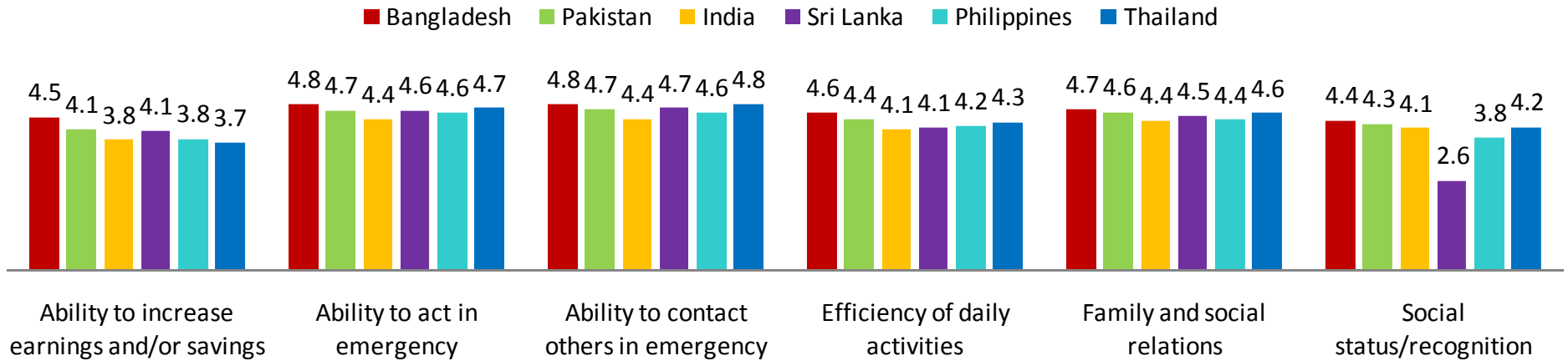
# Survey asked about perceived benefits of telecom access: *how has telecom access improved ...*

- 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

# Largest benefits perceived in emergency communication and relationship maintenance

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

## Perceived benefits of telecom access: General

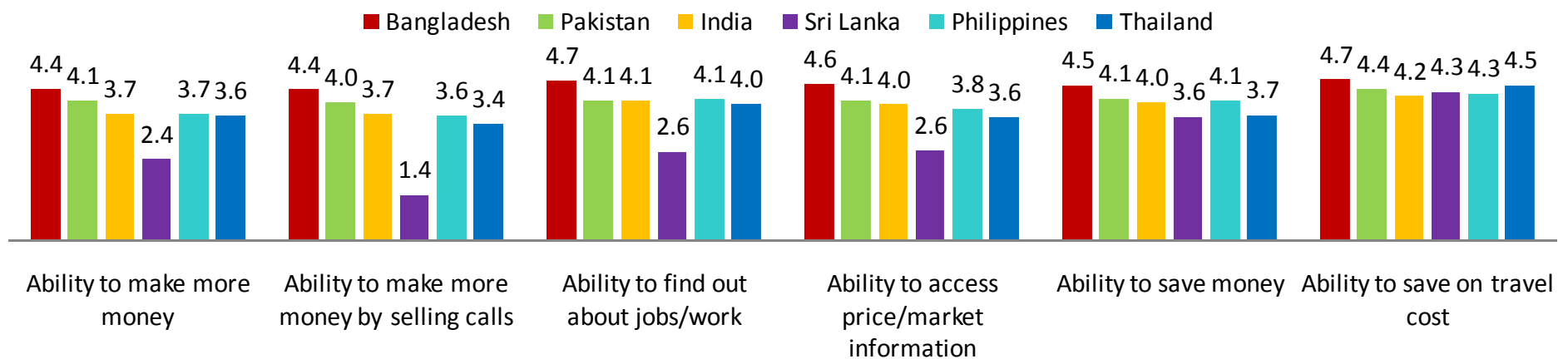


- Bangladeshis see greater benefits on average

# Bangladeshi BOP sees the most economic benefits in phone use

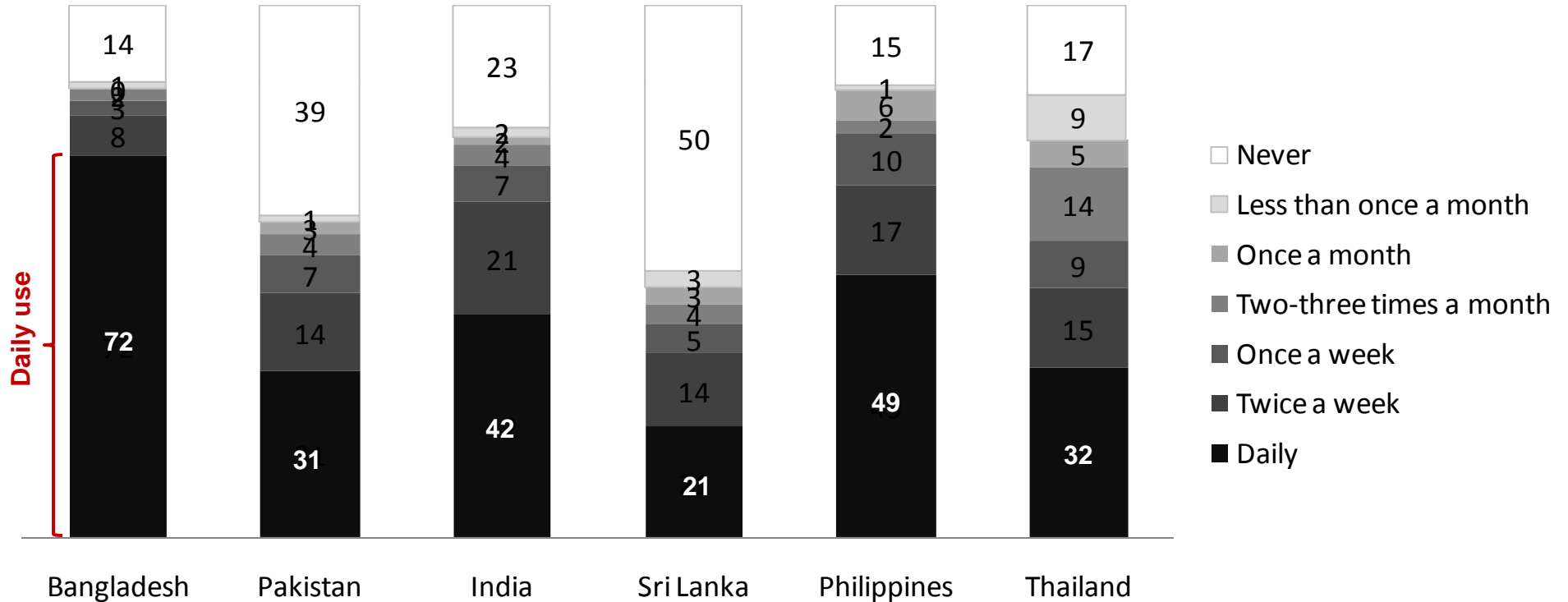
1=worsened 2 = slightly worsened 3=no change 4=slightly improved 5=improved

## Perceived benefits of telecom access: Livelihood-related



# 72% Bangladeshi mobile owners at BOP use their mobile for business, financial or work-related purposes; more than elsewhere

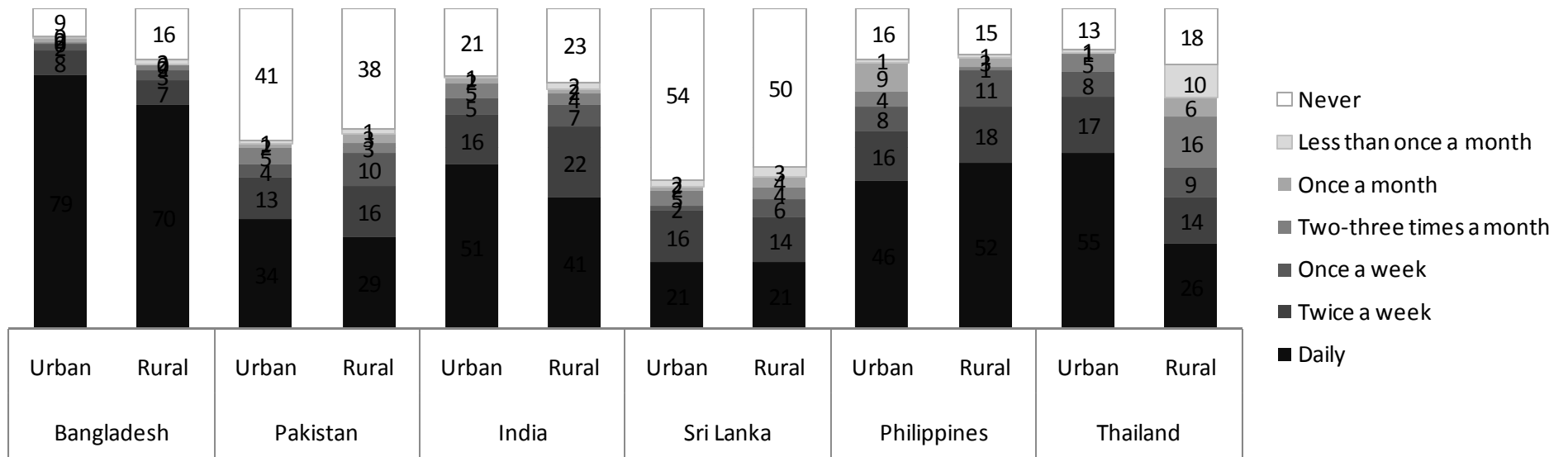
Use of the phone for financial, business or work-related purposes (% of BOP mobile owners)





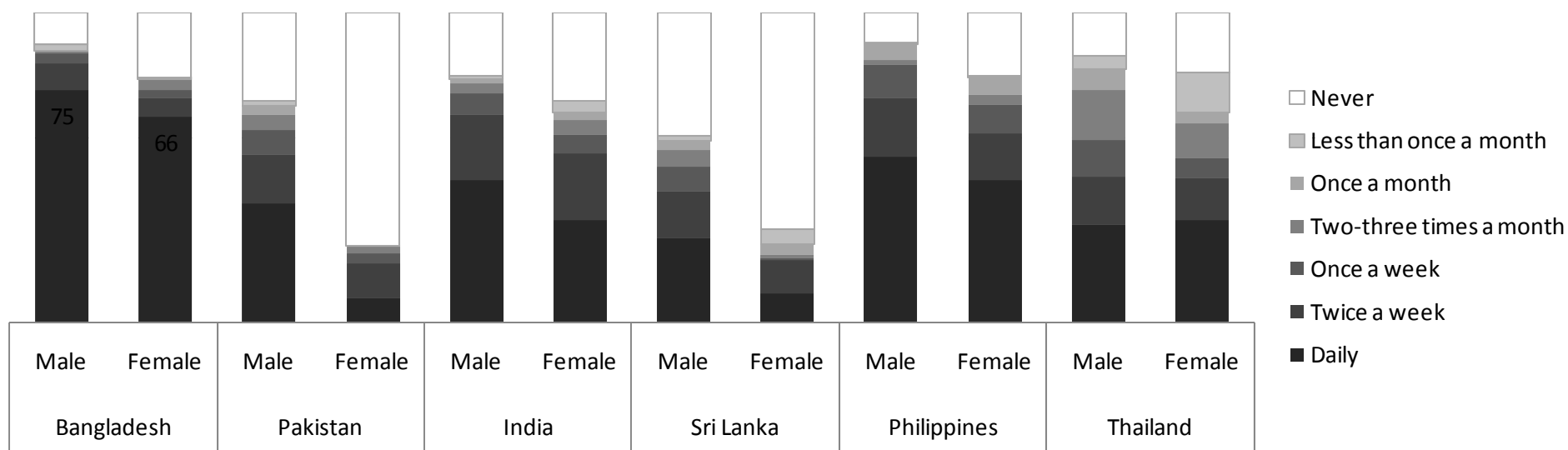
# Little difference between urban and rural mobile owners

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



# 66% Bangladeshi BOP female mobile owners use their mobiles for these activities on a daily basis

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



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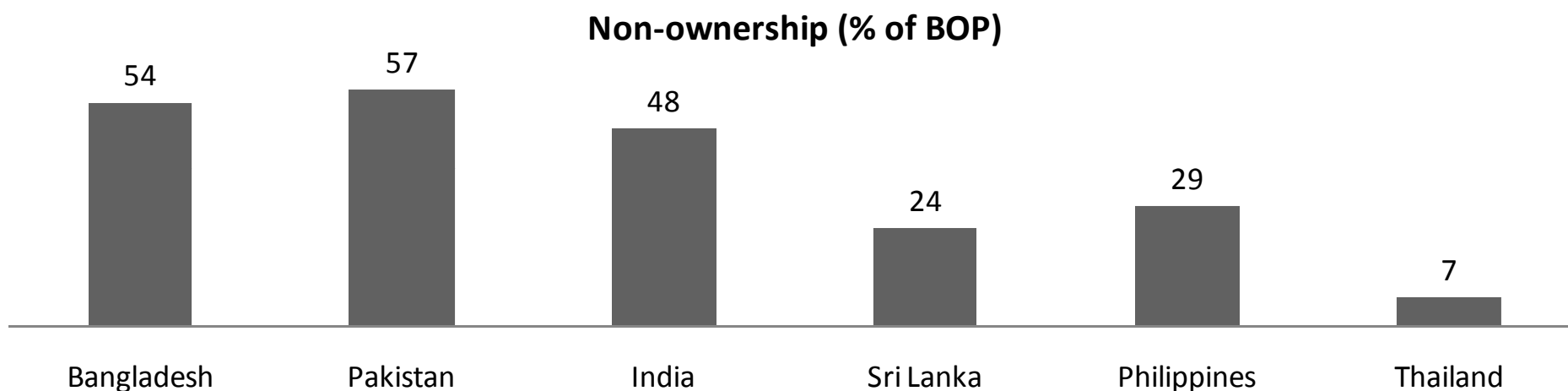
POTENTIAL FOR MOBILE 2.0?

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# 54% of Bangladeshi BOP households don't own a phone

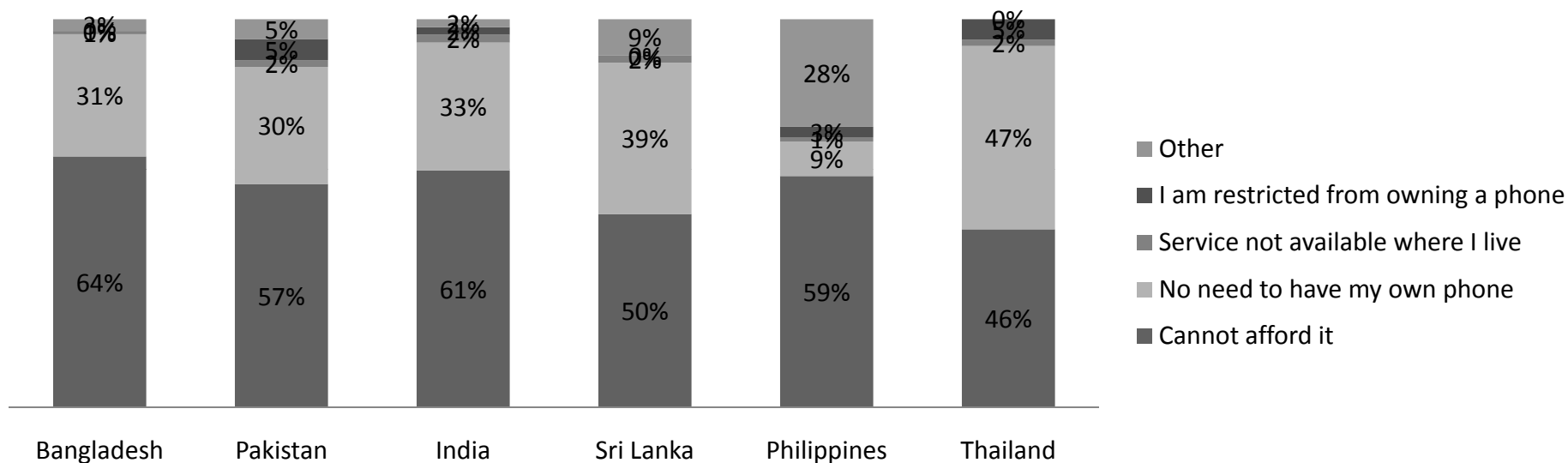
54% BOP = 57% of BOP teleusers



- 80% of these non-owners can reach a phone in **under 5 minutes**
  - Urban: 89% can reach a phone in under 5 mins
  - Rural: 78% can reach a phone in under 5 mins

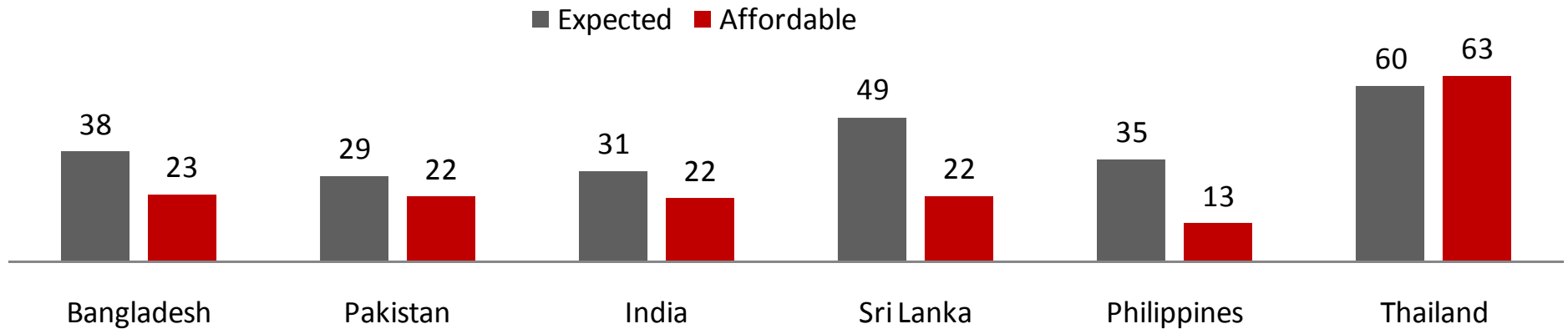
# Main reasons for not owning are affordability and the lack of a need

Primary reason for not owning a phone (% of BOP non-owner teleusers)

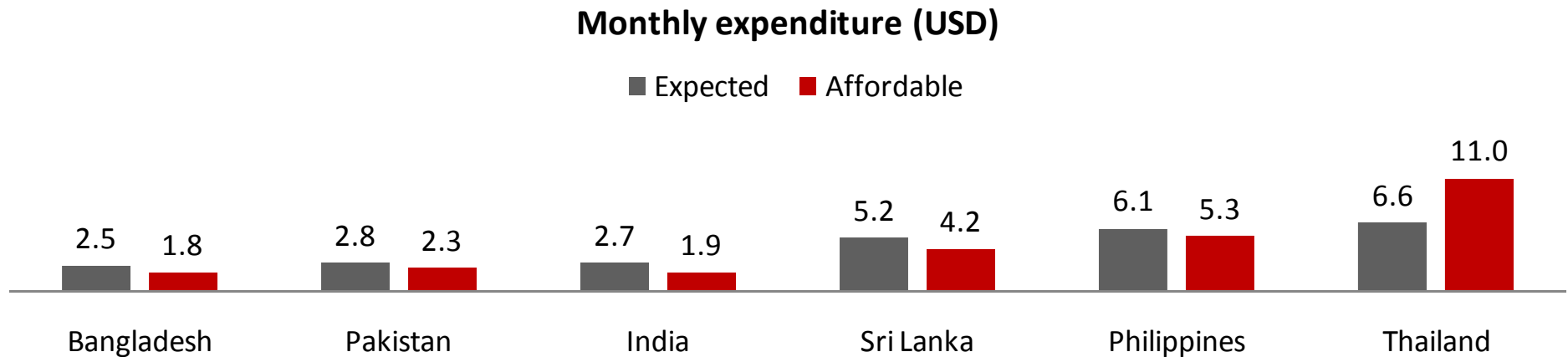


# Bangaldeshi BOP can afford **USD23** to get connected, but think that it will actually cost them **USD38**

Initial cost of getting connected (USD)



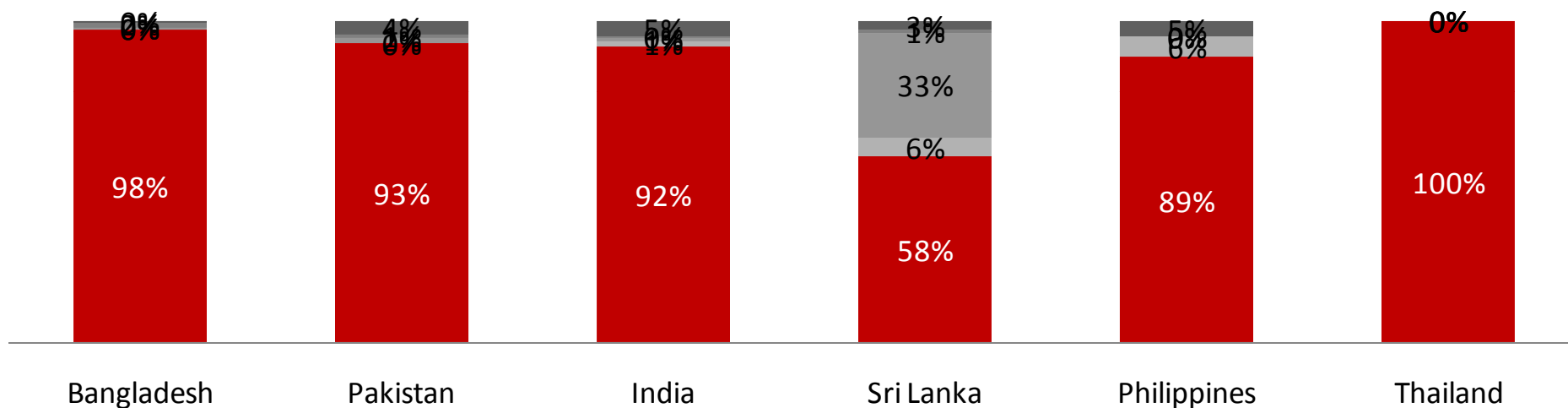
**Once connected they can afford to spend USD1.80 per month on communication costs, while they think it will actually cost them USD2.50**



# 31% of the current unconnected BOP in Bangladesh plan to get connected; 98% through a mobile

Type of phone planning to buy (% of potential BOP owners)

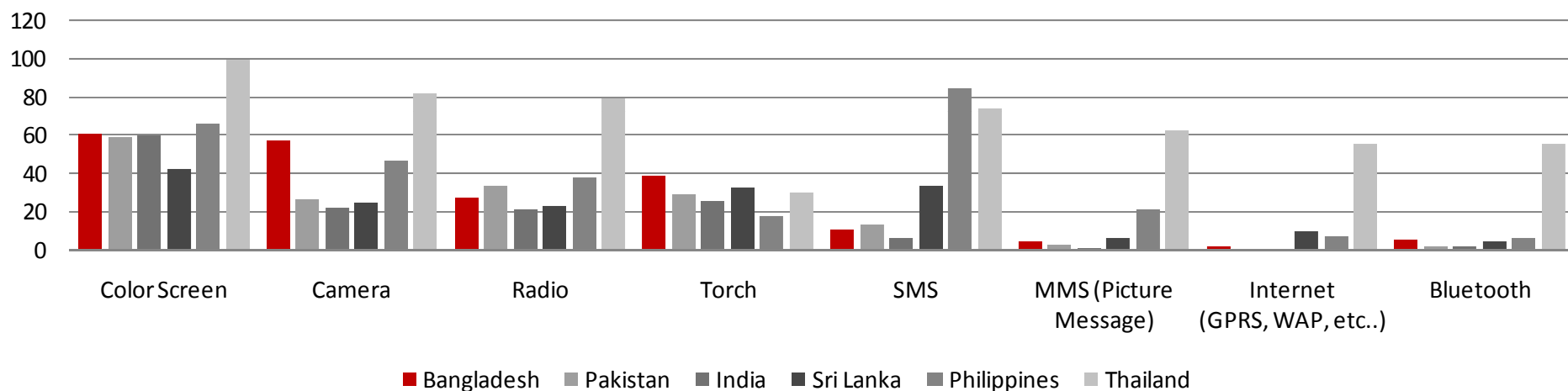
■ Mobile ■ Fixed (wireline) ■ Fixed (wireless) ■ Fixed (undecided) ■ Not decided





# Color screen, camera & torch are the most sought after phone features

Desired phone features (% of potential owners)



# Takeaways

- Bangladesh doing well on access; but could do better
  - Urban BOP and rural BOP are not that different
- Tariffs perceived to be high; only 53% know about taxes
- Heavy use of e reloads; high level of trust
- Low Mobile2.0 awareness, trial and use
- Willingness to try payments and government services
- High entrepreneurial orientation
- Cost expectations of getting connected vs. affordability vs. reality still out of line

[www.lirneasia.net](http://www.lirneasia.net)

**search term: BOP**

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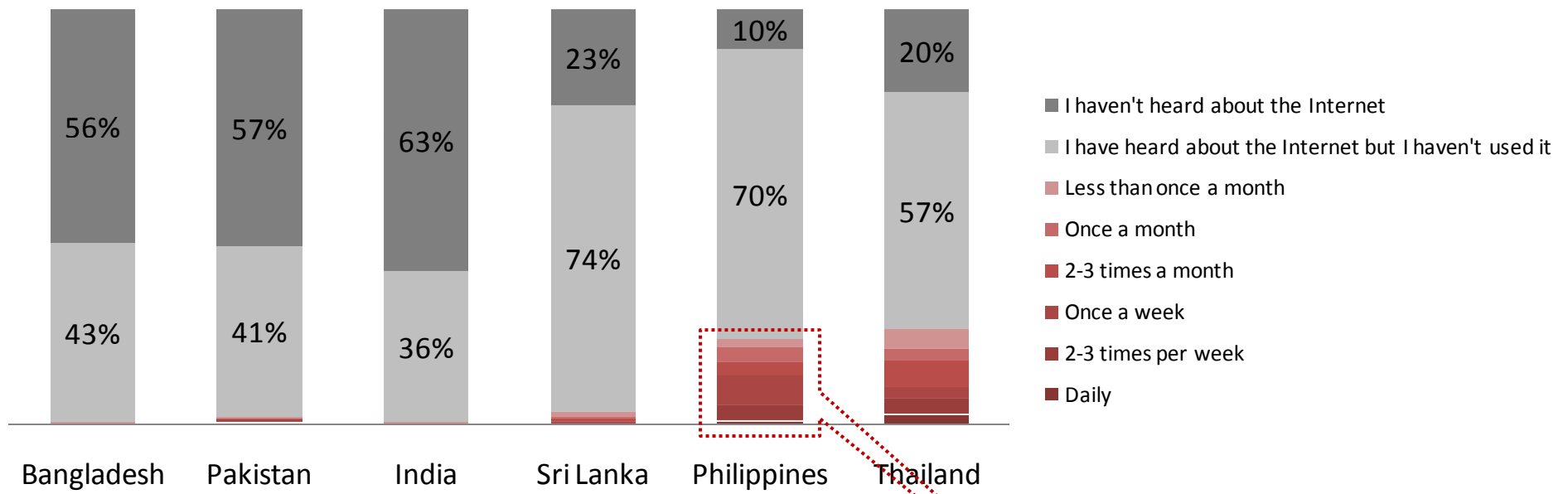
POTENTIAL FOR MOBILE 2.0?

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# The hardest problem: Internet use and awareness in 2008

Internet use (% of BOP teleusers)



|                  | Bangladesh | Pakistan | India | Sri Lanka | Philippines | Thailand |
|------------------|------------|----------|-------|-----------|-------------|----------|
| Use the Internet | 0.6%       | 2.2%     | 0.8%  | 3.2%      | 20.7%       | 23.0%    |