Introduction and context

Helani Galpaya

27 May 2014

New Delhi

LIRNEasia

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

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About LIRNEasia…

- Our mission:
  - *"Catalyzing policy change through research to improve people's lives in the emerging Asia Pacific by facilitating their use of hard and soft infrastructures through the use of knowledge, information and technology."*

Countries that we engage with

The research team

- Here today
  - Usha Ramachandra, PhD and Rajkiran Bilolikar (ASCI; India Electricity research)
  - Rohan Samarajiva, PhD (LIRNEasia; Project Advisor)
  - Helani Galpaya (LIRNEasia; Project Leader)
- Rest of the team
  - CKS (New Delhi; Innovation consultancy: user centric design; Solutions for all 3 countries
  - Vignesh Illavarasan, PhD (IIT-Delhi; ME survey design)
  - Pial Islam (Pi Strategy Consulting, BD; BD electricity research)
  - Subhash Bhatnagar, PhD (IIM-Ahmadabad; IN & BD e-Gov research)
  - Roshanthi Lucas Gunaratne, Shazna Zuhyle (telecom)

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About the group that's not here…

- Urban, low-income, micro-entrepreneurs (MEs)
- Why low-income MEs?
  - A group that is not visible to many service providers
  - 'Lost' between the Bottom of the Pyramid users and large corporates
- Why urban?
  - A decade of urbanization. Continues

Studied three services consumed by Micro Enterprises

- With different levels of competitive provision
  - Telecom: high levels of competition
  - Electricity: low competition/monopoly
  - (Municipality Delivered) Government Services (e.g. business registration): monopoly provision by govt.
- Different levels of ICT use
  - Telecom: high use
  - Electricity, Govt services: lower

How can MEs be better served?

- What are current levels of customer-centricity in each sector?
- Can we identify 'best-fit' practices from one sector that could work in the other?
  - E.g., Telecom seems to use ICTs to manage customer relationships. Can electricity do the same?
- Can practices from one country be adapted to work in another?
  - Three countries: Sri Lanka, India, Bangladesh

Research methods

- First: from supplier point of view
  - How are customers served? How is the relationship managed?
  - Interviews with service providers + Desk research
- Then: from user point of view
  - What is used? What are problems? Satisfied?
  - Quantitative: Sample survey of 3,180 MEs
  - Qualitative: in-depth interviews/focus group discussions of 76 participants and 12 ethnographies at sites of service provision

Why do we care?

- SMMEs large % of a nations employed citizenry
- Not all MEs remain MEs for-ever
- Some grow
  - Into SMEs (small/medium enterprises)
  - Even into large enterprises
- Economic growth happens when this journey takes place
- What can we do to catalyze it?
  - Response by Policy makers, regulators, service providers

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Plan for the rest of the afternoon

- Setting the stage
  - Rohan Samarajiva, PhD
- Supply-side perspectives
  - Rohan Samarajiva, PhD
  - Usha Ramachardra, PhD and Raj….
- User perspectives: results from ME survey
  - Helani Galpaya
- Proposed solutions
  - Some solutions
- Critique of research and solutions; The Indian experience & challenges; How do we move forard
  - Invited panelists + audience

Customers in the doldrums

Rohan Samarajiva

New Delhi, 27 May 2014

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Professor Stephen Littlechild on consumer protection

- "Competition is indisputably the most effective - perhaps the *only* effective – means of protecting consumers against monopoly power. Regulation is essentially the means of preventing the worst excesses of monopoly; it is not a substitute for competition. It is a means of 'holding the fort until competition comes.'"

1983 Report to UK Government, Para 4.11

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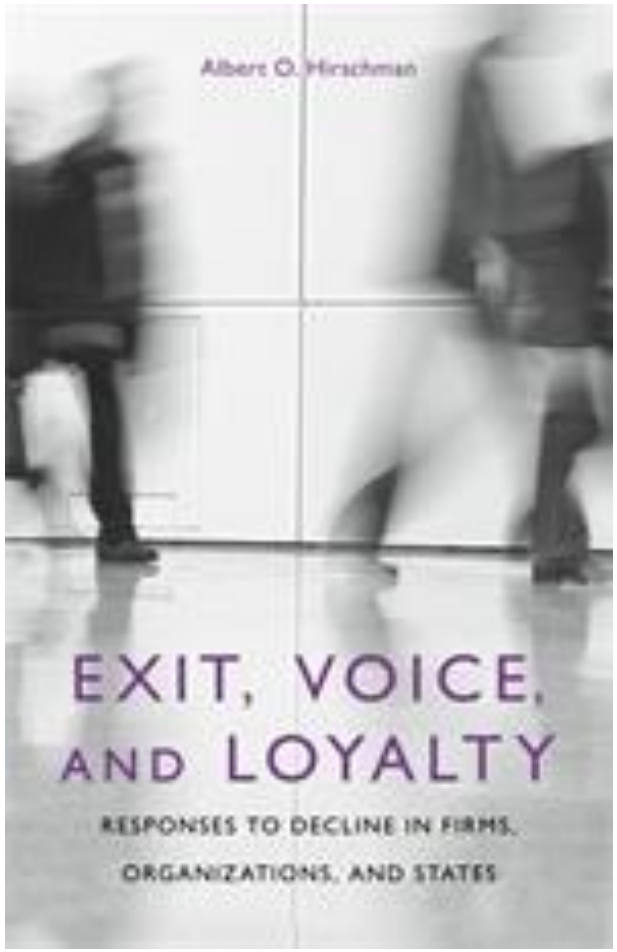
Best economist not have received a Nobel: Albert Hirschman, 1915-2012



- Economics privileges exit; Politics voice
  - But increasingly cross-overs occur
- Very useful framework for thinking about quality of service in electricity and telecom

Consumer protection in context of a single supplier (e.g., electricity)

- In a monopoly environment, government has major responsibilities with regard to consumer protection
- When there are no exit options (alternative suppliers), voice is only option (other than doing without)
  - Voice can be direct: consumer speaks/complains to supplier
  - Voice can be directed to 3rd party (consumer protection agency/utility regulator) who has power over supplier
  - In extreme cases, voice can lead to anti-supplier ➔ anti-government agitation

Load-shedding riots in Punjab, Pakistan

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Consumer protection under competition

- *Caveat emptor* (Let the buyer beware) is the starting position
  - Assumes homogenous products and costless exit options
  - Assumes perfect knowledge of competing products
    - Obviously unrealistic; For all markets, but especially for markets in infrastructure services
- Government actions in absence of assumptions
  - Reduce information asymmetries
  - Regulate suppliers proportionate to deviation from competitive market (e.g., differential treatment of fixed v mobile telephony)

A low-quality "equilibrium" even in presence of multiple suppliers?

- Customers unhappy with quality in Supplier 1 move to S2; S2's disaffected move to S3; and so on; but S1 gets an equal number of unhappy customers from Sn
- No supplier receives the feedback postulated by theory
  - Does this change with business analytics that allow operators to see who is leaving and joining?
  - Or do they see, and do nothing?

Does exit mute voice?

- Does the possibility of satisfaction through exit, weaken incentives to give voice?
- Is it thus necessary for both suppliers and regulators to seek to reduce transaction costs of complaining, using ICTs?

When voice is valued, does exit decline?

- In service industries, perfection is never possible
- If voice is valued
  - Customers may not exit
  - Also, customer complaints are a valuable resource for improving service

View from the supply side

Telecom

Rohan Samarajiva

New Delhi, 27 May 2014

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Understanding Customer Services Management in the Telco sector: LIRNEasia Research

2012-13 studies in India, Sri Lanka and Bangladesh

- Supply-side research: Interviewed mobile operators (from Chief Customer Care Officer to call centre agents) to understand current Customer Relationship Management processes
- Demand-side research: Surveyed urban Bottom of the Pyramid (BOP) micro-entrepreneurs (MEs)
  - Described in next presentation

Focused on key steps of Customer Lifecycle Framework from both supply- & demand-sides

Source: Michael W. Starkey, David Williams, Merlin Stone, (2002) "The state of customer management performance in Malaysia", Marketing Intelligence & Planning, Vol. 20(6), pp.378 - 385

Supply Side: TOP, MOP & urban markets saturated. Telcos target rural, BOP and SME customers through media and word of mouth

Targeting	IN	LK	BD
Social Network Analysis	-Customers are being offered various group schemes targeting family/friends' networks.	-Customers from rival networks have been approached, but it is not the status quo	-Network Analysis used to find most valuable customers of rival networks and special offers are made to them
BOP / SME Targeting	- Operators sell cheap operator branded handsets with SIMs	- Door-to-door sales of data packages in villages to encourage data use by BOP - Designated teams to handle SMEs	- Special plans offered in areas that host the lowest revenue generating BTS - Some operators sell cheap operator branded handsets with SIMs - SME teams actively search for SMEs and give them customized bundled SIM offers.

Customer Lifecycle Framework

Source: Michael W. Starkey, David Williams, Merlin Stone, (2002) "The state of customer management performance in Malaysia", Marketing Intelligence & Planning, Vol. 20(6), pp.378 - 385

Supply Side: Operators in all three countries use behavioral analysis to design targeted campaigns

	IN	LK	BD
Segmentation	Mainly through monthly usage and Age on Network (AoN). Some by age	Mainly by monthly usage and Age on Network (AoN). Some on prepaid / postpaid	Mainly by monthly usage and AoN
Behavioral analysis	Use predictive models based on call data to segment customers and design campaigns	Some campaigns based on consumer behavior, e.g., deals for dormant users	Micro segmentation based on usage. Pilot campaigns run to understand the behavior of the customers. Extend effective campaigns to the whole customer base, e.g., 'Pay for me'
Customer satisfaction measurement	Customer satisfaction surveys are commissioned by TRAI and operators	Customer satisfaction surveys by operators (SMS post complaint resolution and face-to-face)	Customer satisfaction surveys are commissioned by operators. CxOs randomly call customers with complaints and takes responsibility to solve problem at leadership meetings

Customer Lifecycle Framework

Source: Michael W. Starkey, David Williams, Merlin Stone, (2002) "The state of customer management performance in Malaysia", Marketing Intelligence & Planning, Vol. 20(6), pp.378 - 385

Supply side: Customers are treated differently according to profitability

- Contact Points
  - Operator owned and run flagship stores; Franchised stores ; Retailers; Contact Centers: (Voice, IVR, USSD, Live Chat, Skype, SMS, eMail, Facebook, etc.)
    - Operator owned Contact Points differentiate among customers based on
      - high value, AoN, importance etc.
      - Waiting is time varied (e.g. <10s highest value, <20s medium value, <30s everyone else) based on star rating
- Most operators have a unified view of the customer through their CRM system.

	IN	LK	BD
Call Charges for call centre	Regulator mandates a toll-free call centre	Post-paid – Free Pre-paid – charged after 3rd call. LKR3 per min	Some MNOs charge for all calls, while others offer free calls to postpaid customers. Charge is 2 taka /min while cost to MNO is 16 taka. (BTRC wanted to offer it free but the call centre calls increased from 2000-26000 calls per day).

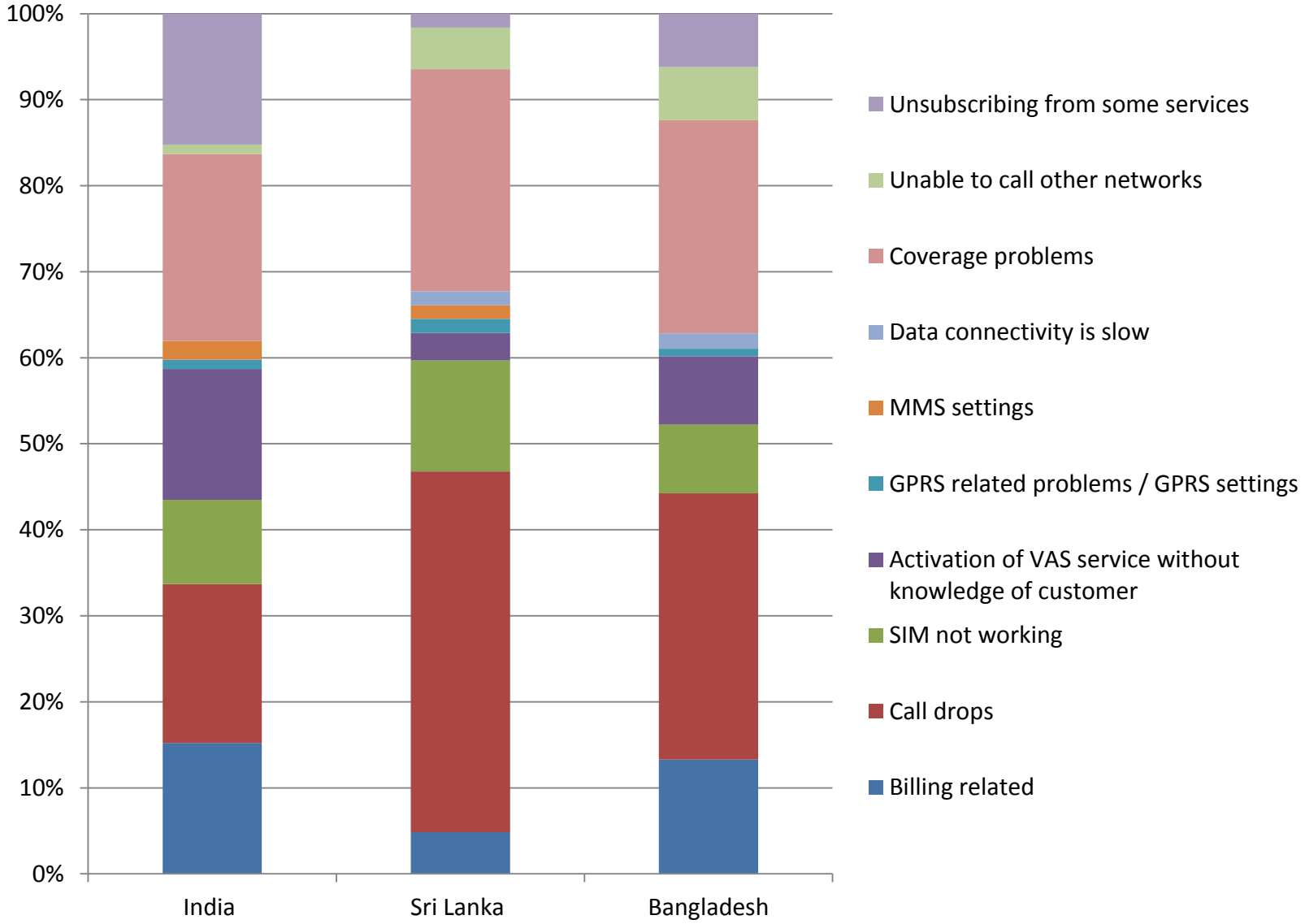
Customer Lifecycle Framework

Source: Michael W. Starkey, David Williams, Merlin Stone, (2002) "The state of customer management performance in Malaysia", Marketing Intelligence & Planning, Vol. 20(6), pp.378 - 385

Supply Side: VAS activation/ deactivation is one of the most common problems

	IN	LK	BD
Common complaints	-VAS activation/ deactivation - Billing disputes -Fraudulent Fair Use Policy: for example keeping broadband meters "deliberately" faulty	-VAS activation/ deactivation -Recharge card pin erased -Non-receipt of bills -Payments not updated in system	-VAS activation/ deactivation -Billing disputes (many due to not understanding dynamic pricing) -EDGE/GPRS speeds too low

Demand Side: VAS activation is a common issue in India… but overall coverage and call drops are the biggest concerns



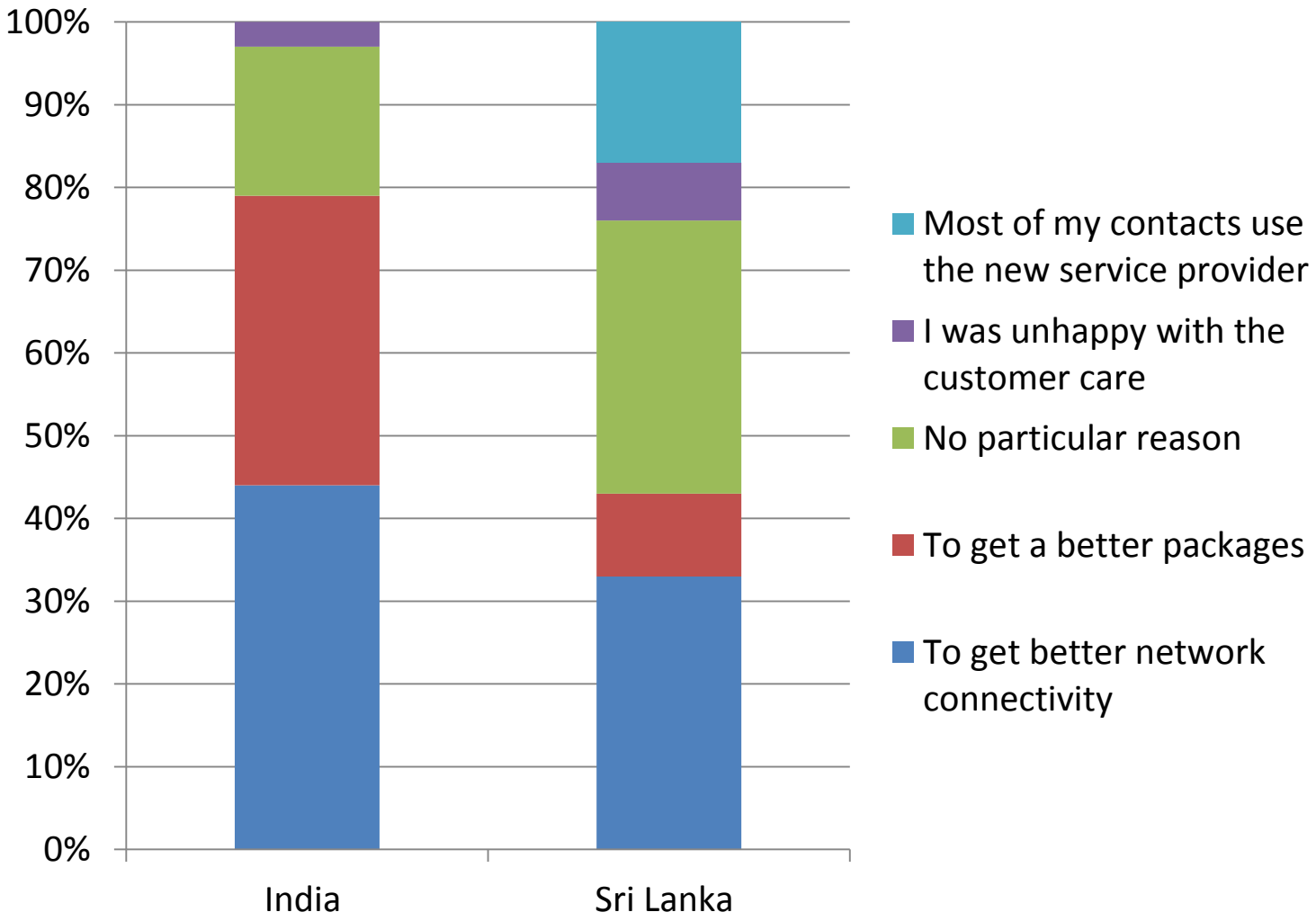
Customer Lifecycle Framework

Source: Michael W. Starkey, David Williams, Merlin Stone, (2002) "The state of customer management performance in Malaysia", Marketing Intelligence & Planning, Vol. 20(6), pp.378 - 385

Supply side: Operators' attempts to win back customers

	IN	SL	BD
Method of retaining/ win back of customers	Conducts predictive analysis to identify unsatisfied customers about to disconnect before they leave the network and make special offers.	Some operators have specialized units for customer win back. Disconnecting customers are contacted and efforts made to resolve issues (e.g., waiving some charges to ensure customer remains on the network). Success rate: 25%-30% a month	Reactive: don't predict before a customer leaves, for prepaid send SMS to customers with expiring connections.

Demand side: Better Network Connectivity is the main reason MEs changed their Service Provider



Around 5% of the surveyed MEs had changed their service provider in both SL and IN. In BD the % was too small

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Summary

- Research shows that suppliers are chosen based on friends and family and network coverage
  - If existing customers are unhappy ➔ new customer flows may dry up
- Minimum levels of CRM are a condition for functioning in strongly competitive markets
- Low-quality equilibrium is understandable with the low prices and high network loading characteristic of Budget Telecom Network business model
- Regulatory action is thus required: Service benchmarks must be set
  - But benchmarks should be set high enough to avoid situation in India (all operators meet the standard; but no differentiation in quality)
- Operators can help the public by making pricing more transparent and becoming easier to contact
- Quality problems are symptoms: Necessary to address the symptoms in short term, but also address the underlying causes

CRM Practices in Electricity Distribution in India –

Supply Side Perspective

Dr Usha Ramachandra and

Rajkiran V Bilolikar

27 May 2014

New Delhi, India

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Leadership through Learning

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Overview

- Distribution Companies in the Context of Power Sector Reforms
- Policy, Legal and Regulatory Support to CRM
- CRM Initiatives and ICT linked CRM
- Observations

Power Sector Reforms in the context of Distribution Utilities

- Unbundling in most states so that distribution companies can focus on core business
- Unbundled discoms are corporatized – both state owned and private
- Although the Electricity Act 2003 allows for second distribution licensee, in actual fact, only Mumbai has the system of parallel distribution licensee i.e. customer choice

Power Sector Reforms in the context of Distribution Utilities

- Most discoms are state owned – exceptions are
  - Pre reforms – old private discoms in Ahmedabad, Mumbai, Kolkata
  - Post reforms – Delhi, Orissa privatised as joint ventures
  - Franchisee system being experimented in Maharashtra, and UP
- Discoms are, by and large, local area monopolies – there is NO customer choice

Discom reforms

- Reforms have focused largely on technical upgrades
- Change management is yet to occur especially in state owned discoms
- The state where customers will dictate the challenge to the sector – is yet to come
- Hence the Customer Relationship Management (CRM) will be essential

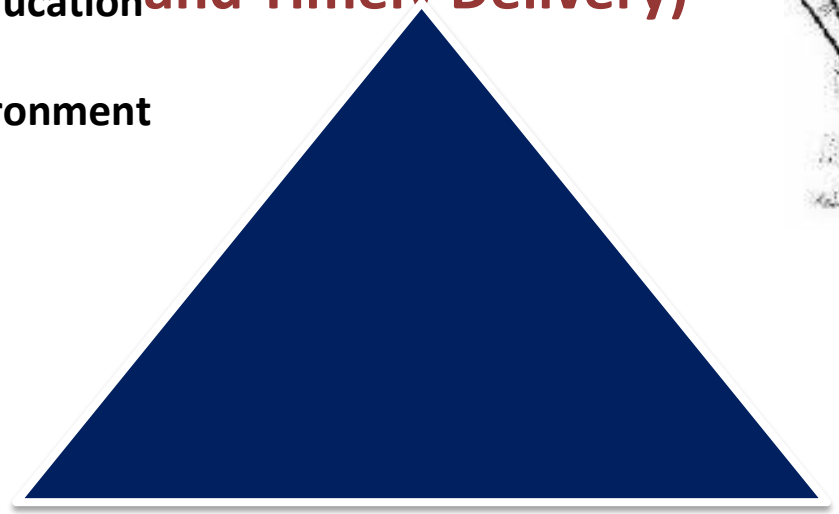
Discom reforms - 2

- Studied the following for comparative analysis of CRM practices:
  - One private sector Discom
  - One joint venture – newly privatised Discom
  - One state government owned Discom

Consumer Expectations

- ✓ Right to Safety
- ✓ Right to be Informed
- ✓ Right to Choose
- ✓ Right to be Heard
- ✓ Right to Seek Redressal
- ✓ Right to Consumer Education
- ✓ Right to Basic Needs
- ✓ Right to healthy environment

Reliable Power (Adequate and Timely Delivery)



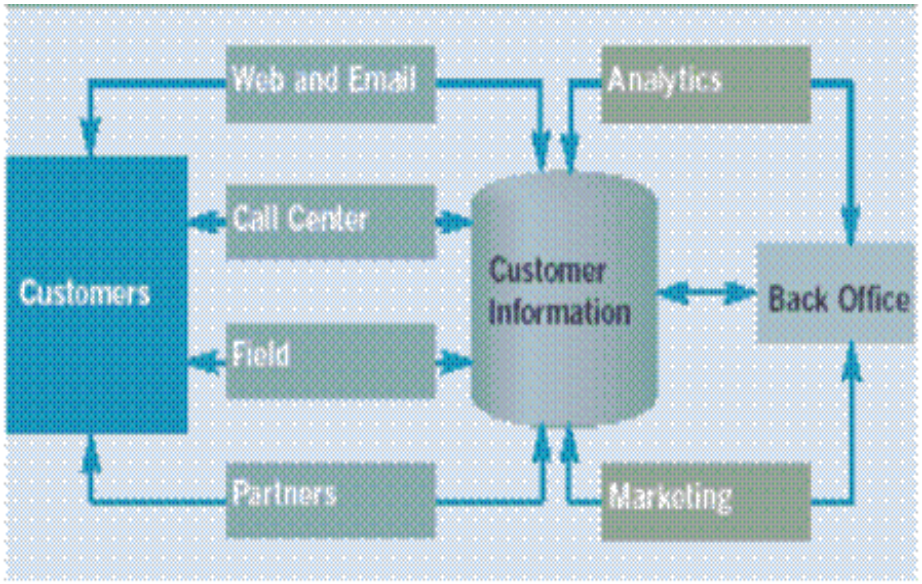
Reasonable Tariff

Good Service Quality

Regulatory Interface

- ✓ Define **norms and standards for service quality** that utility must comply with
- ✓ Establishing **grievance redressal mechanism** that is simple, easy to access, quick in response and economical for consumers
- ✓ Establish **monitoring mechanisms** to ensure **compliance** of standards and regulations and effective grievance redressal

CRM Architecture



- Consumer approach
- Profit Centre
- Modern Customer Care Centres
- Customer Facilitation Centres/Call Centres
- SCADA/ EMS, DMS
- OMS & MWFM (Mobile Work Force Mgmnt)
- Near Real-time Information, analysis and actions
- Data Handling, GIS, NW Apps
- Integrated Process applications etc

ICT Opportunities

1. Basic groundwork has already been done
2. Government support through EA 2003 and various regulations
3. Need enhancements in CRM – Interface
    i. GIS
    ii. AMR/SPOT Billing
    iii. Website
    iv. Payment gateways
    v. Prepaid servers
    vi. IVRS
    vii. OMS etc

ICT Opportunities - 2

4. Major Process improvements in electricity distribution management (MIS, SAP etc)
5. Robust Customer Portal Development (Interactive)
   i. Customer Queries and Notifications (New Conn., Load/Category/Name Change, Reading, Billing & payment Queries)
   ii. Change Billing address, Phone nos., email
   iii. Activate/Deactivate Paper Bill, Email, SMS Alerts
   iv. Check reading, Billing and Payment history
   v. Duplicate Bill & Demand Note
   vi. Bill Payment

ICT Opportunities - 3

6. Customer Information System
   - Customer Factsheet (Reading, Billing, Payment, Notification, Disconnection, Enforcement & legal Details)
   - Customer Search (Account no, ID proof, DOB, Phone, email, name, address)
   - Notification Creation and follow up
   - Outbound calling (resolution, follow up and recovery calls)
   - Spot Resolution (Bill of email, On demand Bill, due date revision, reading correction)

ICT Opportunities - 4

7. SMS Gateway

- Notification creation intimation
- Customer visit Intimation
- Customer Feedback
- Resolution/Cancellation Intimation
- Bill and payment Intimation
- Planned and Unplanned outage Intimation
- SMS based Escalations

Summary of CRM interventions (R-infra D, TPDDL, APDCPDCL) - I

Parameter	R Infra D	Tata Power - DDL	APCPDCL
ICT Architecture for CRM			
ERP	√	√	√
GIS based consumer indexing	√	√	√
GIS based network mapping	√	√	√
SCADA & Distribution Management System	√	√	√
Web Based Services	√	√	√
Use of Mobile Services	√	√	X
WAP enabled websites for CRM	√	x	x

Summary of CRM interventions (R-infra D, TPDDL, APDCPDCL) - I

Parameter	R Infra D	Tata Power - DDL	APCPDCL
Metering, Billing and Payment Initiatives			
Automated Meter Reading	√	√	√
Meter data Logging System	√	√	√
Pre Paid Metering	√	√	√
TOD Meters	√	√	√
Any time Payment machines	√	√	X
Multiple Payment locations	√	√	√
Information Kiosks	√	√	X
Web based payment mechanism	√	√	√
ECS clearing for Payment	√	√	√
SMS Reminders regarding billing and payment	√	√	X
Bar Coding facility on Bills to facilitate payment	√	x	X

Summary of CRM interventions (R-infra D, TPDDL, APDCPDCL) - I

Parameter	R Infra D	Tata Power - DDL	APCPDCL
Complaints and Response Systems			
IVRS Consumer Call Centre	√	√	√
IT enabled consumer service centres	√	√	√
Web based response	√	√	X
Emails	√	√	√
Online chats	√	x	X
SMS for rectification of faults	√	√	X
SMS regarding information on outages	x	√	X
SMS for pulling out information from customer	√	√	X

Summary of CRM interventions (R-infra D, TPDDL, APDCPDCL) - I

Parameter	R Infra D	Tata Power - DDL	APCPDCL
Monitoring of CRM			
Integrated CRM with Supply management system	√	√	X
Calculation of Reliability Indices	√	√	√
Data on Compliance to SOP	√	√	√
Monitoring of nature of complaints and time taken to address them	√	√	X
Monitoring of complaints that go to CGRF & Ombudsman	√	√	X

Summary of CRM interventions (R-infra D, TPDDL, APDCPDCL) - I

Parameter	R Infra D	Tata Power - DDL	APCPDCL
Outreach			
Citizen's charter	√	√	√
Customer Friendly Kiosks	√	√	√
Publicity on SOP	√	√	√
Communication with customers through Electricity Bill	√	√	**X**
Communication with customers through e-newsletters	√	√	**X**
Communication regarding Grievance Handling Mechanism	√	√	√

Summary of CRM interventions (R-infra D, TPDDL, APDCPDCL) - Observations

- GIS based network mapping is there in all utilities but its use in fault location and outage management system is limited. Constraints are skilled man power to access the system and use it.
- SCADA in place but its use limited - R-APDRP is enabling SCADA implementation
- Pre paid meters – R Infra D supplies prepaid meters to Slum dwellers in Mumbai, TPDDL to Delhi – Government offices and APCPDCL to BOP
- Calculation of Reliability Indices – sporadically done and a mechanism to which nobody pays attention for improvement

Summary of CRM interventions (R-infra D, TPDDL, APDCPDCL) - Observations - 2

- Data on compliance to SoP – compliance reports have become a routine activity particularly for government owned utilities. There is no validation by the ERC in this regard.
- Customer friendly kiosks are there in every utility but number matters – density and whether they are in working condition or not at least in the urban areas
- Communication regarding Grievance handling system is present in almost all three utilities but less effective in in govt owned utilities - Channels of this communication are very limited In government owned utility
- The private utilities have a far more robust CRM mechanism in place

CRM Initiatives for BOP/ME

Customer Category	R Infra D	Tata Power DDL	APCPDCL	Comment
BOP	**X**	**√**	**X**	• R-Infra D conveyed that in the city of Mumbai, even the customers living in the slums were technologically savvy and had mobile phones and they did not see a need to have specific programmes for BOP customers. • Tata Power DDL had specific BOP interventions to improve collections e.g. medical camps to those who could produce a receipt for the electricity bill paid etc. • APDPCL has no specific interventions for BOP customers even in the rural areas. • There is a GoI scheme that supports single bulb households with a subsidy and that is applicable to BPL households in the rural areas.
ME	**X**	**X**	**X**	• Micro entrepreneurs as a specific category do not exist in all the three discoms. Mircro entrepreneurs would come under commercial or LT industry.

CRM for BOP/ME - Observations

- No distribution utility defines ME customers with regard to connected load and the usage of electricity for commercial purpose - **No specific customer category for ME**

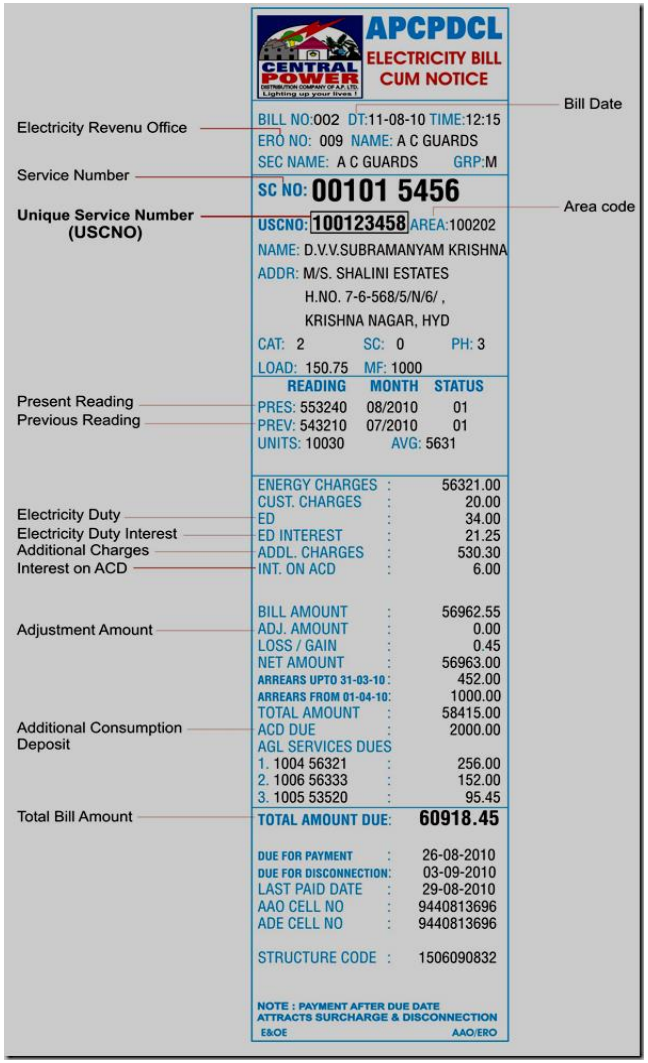
- TPDDL has a unique approach to integrating CRM with CSR. The only discom which has separate category of JJ (Jhuggi Jhopdi) to deal with BOP not necessarily ME

- Some ME customers who have small entrepreneurial ventures like selling snacks from their houses etc continue to use residential connections as their requirement of power over and above their household use is meagre. Neither the discoms nor the ERCs insist on a re-categorisation.

Status of Regulator – Discom Interface for CRM

- All ERCs have committed to put in place a Regulatory Information management System (RIMS) which would assist the monitoring mechanism regarding CRM practices and adherence to SOP.
    - RIMS would have to be supported by input of data by the distribution utilities.
    - None of the ERCS have established RIMS. Even though few Commissions are trying to put RIMS in place, distribution utilities are not submitting data in the prescribed formats.
- ERCs have all the required regulations and guidelines in place. However, there is a very poor mechanism of monitoring compliance to the regulations particularly that of SOP. There are no penalties on the Discoms for poor adherence to the regulations or guidelines
- Although the SOP Regulations provide for compensation to customers for non adherence to SOP, all utilities stated that the compensation is not automatic and is given only when the customer requests for the compensation

Some Bills - APCPDCL



APCPDCL
CENTRAL POWER DISTRIBUTION COMPANY OF A.P. LTD.
Lighting up your lives !
ELECTRICITY BILL CUM NOTICE

Bill Date
Electricity Revenu Office
Service Number
Unique Service Number (USCNO)
Area code

BILL NO:002 DT:11-08-10 TIME:12:15
ERO NO: 009 NAME: A C GUARDS
SEC NAME: A C GUARDS GRP:M
SC NO: 00101 5456
USCNO: 100123458 AREA:100202
NAME: D.V.V.SUBRAMANYAM KRISHNA
ADDR: M/S. SHALINI ESTATES
H.NO. 7-6-568/5/N/6/ ,
KRISHNA NAGAR, HYD
CAT: 2 SC: 0 PH: 3
LOAD: 150.75 MF: 1000

Present Reading
Previous Reading

READING	MONTH	STATUS
PRES: 553240	08/2010	01
PREV: 543210	07/2010	01
UNITS: 10030	AVG: 5631	

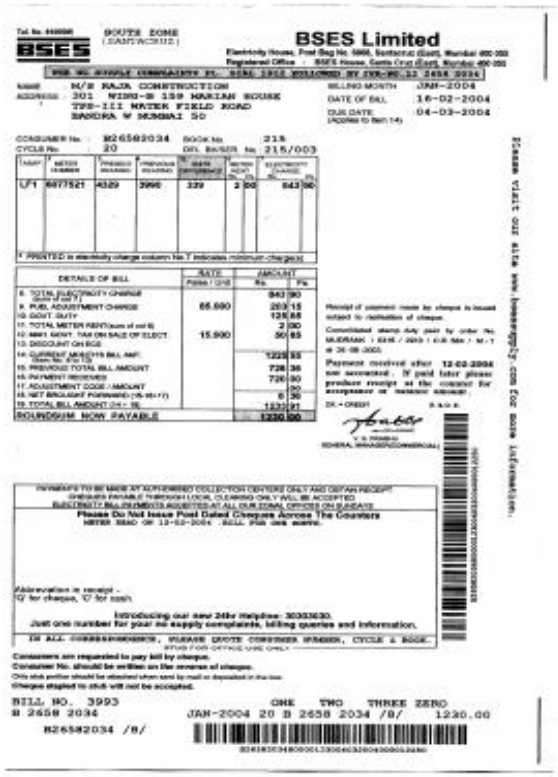
Electricity Duty
Electricity Duty Interest
Additional Charges
Interest on ACD
Adjustment Amount
Additional Consumption Deposit
Total Bill Amount

ENERGY CHARGES :	56321.00
CUST. CHARGES :	20.00
ED :	34.00
ED INTEREST :	21.25
ADDL. CHARGES :	530.30
INT. ON ACD :	6.00
BILL AMOUNT :	56962.55
ADJ. AMOUNT :	0.00
LOSS / GAIN :	0.45
NET AMOUNT :	56963.00
ARREARS UPTO 31-03-10 :	452.00
ARREARS FROM 01-04-10 :	1000.00
TOTAL AMOUNT :	58415.00
ACD DUE :	2000.00
AGL SERVICES DUES	
1. 1004 56321 :	256.00
2. 1006 56333 :	152.00
3. 1005 53520 :	95.45
TOTAL AMOUNT DUE:	60918.45
DUE FOR PAYMENT :	26-08-2010
DUE FOR DISCONNECTION :	03-09-2010
LAST PAID DATE :	29-08-2010
AAO CELL NO :	9440813696
ADE CELL NO :	9440813696
STRUCTURE CODE :	1506090832

NOTE : PAYMENT AFTER DUE DATE ATTRACTS SURCHARGE & DISCONNECTION
E&OE AAO/ERO

Some Bills – Reliance Energy

Then



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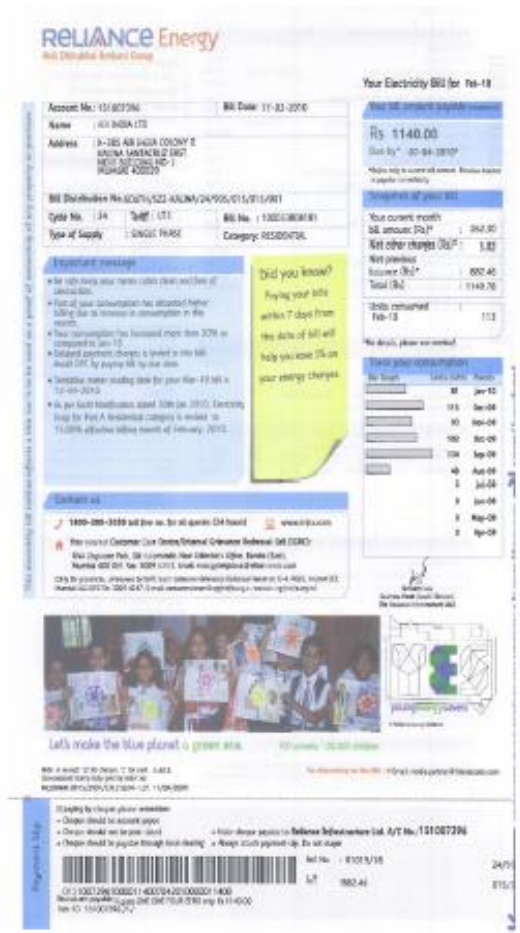

Stories from the field: studying urban, poor micro-entrepreneurs

Helani Galpaya

India, 27 May 2014

LIRNEasia

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Definitions

- Micro-entrepreneurs (MEs) = those employing 0 -9 employees
  - paid part or full time workers
  - inclusive of family members
- Low income = MEs in socio-economic classification (SEC) D and E
  - SEC based on education and job of chief wage earner
  - Close correlation to income
- Urban = definition used by the National Statistics Office in each country

A ‘weak city’ and ‘strong city’ in each country identified

- Strong/weak determined by proxy indicators
  - India: Human Development Index 2006 (1) by state + City Competitiveness Report 2012(2)
  - Sri Lanka: various poverty measures by province
  - Bangladesh: poverty + literacy + electrification rates
- India:
  - Strong city: Delhi
  - Weakcity: Patna (Bihar)
- In Sri Lanka:
  - Strong = Colombo (Western Province); Weak = Kurunegala, Kuliyapitiya, Puttalam & Chilaw (North Western province)
- Bangladesh
  - Strong = Dhaka; Weak = Ghaibanda+ Kurigram

1. *GoI (2006). HDI and GDI Estimates for India and the States/UTs: Results and Analysis. Ministry of Women and Child Development. Govt. of India*
2. *IFC (2012). India City Competitiveness Report 2012. Institute for Competitiveness, Gurgaon*

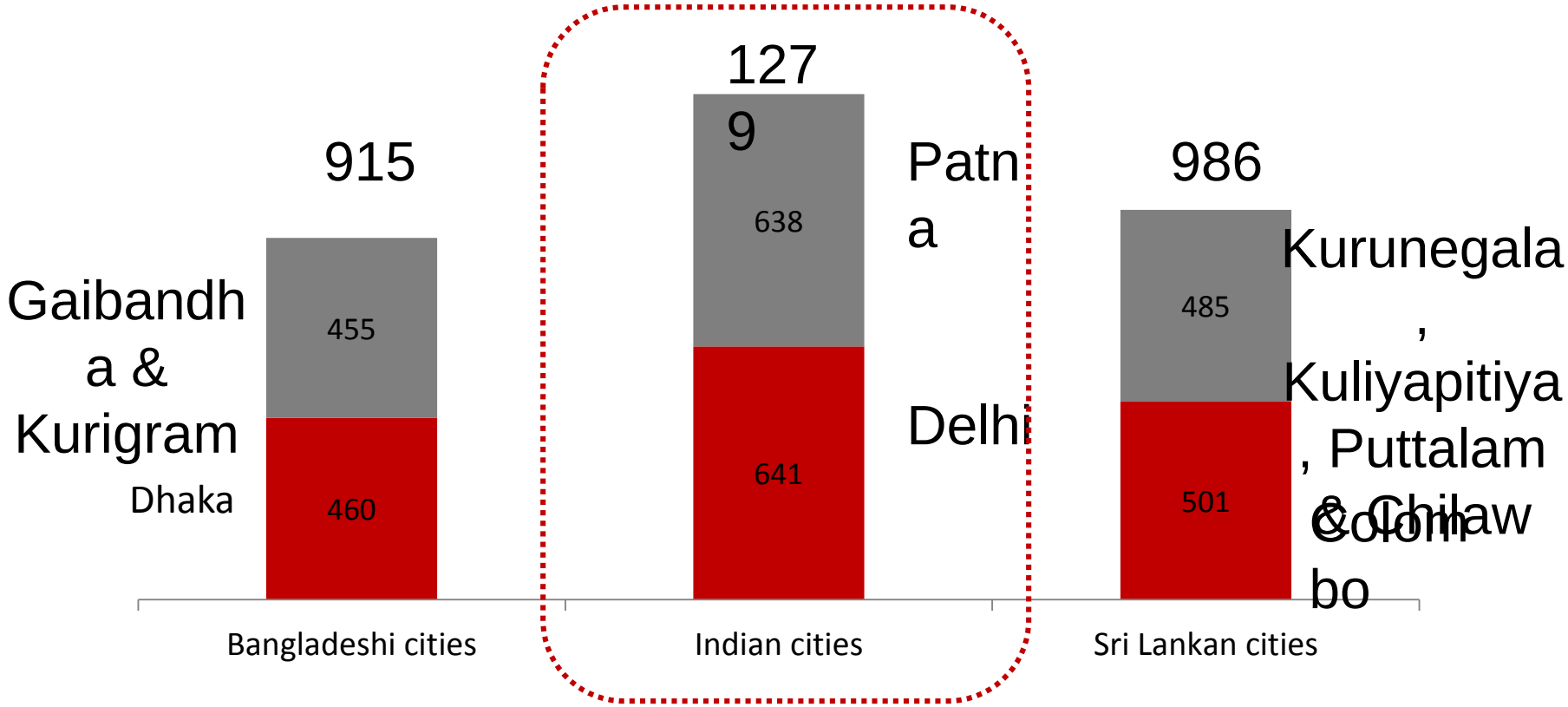
No country had registry of MEs. Closest possible data used to determine quotas

- India : National Sample Survey Organisation, Non-agricultural Enterprises in the Informal Sector in India 1999 – 2000.
  - Sector distributions (manufacturing, service, trade)
  - With and without hired workers
  - Businesses with male and female proprietors
- Bangladesh: Economic Census (BD Bureau of Statistics)
  - Number of small establishments (of <10 employees) in manufacturing, trade, services
  - Number of small establishments based on employment (0, 1-3 and 4-9 employees)
- Sri Lanka: Census of Industry (2003/2004) and Census of Trade and Services (2003/2006) by Department of Census and Statistics
  - Used to determine enterprise size and sector distributions

More on sampling method

- A Snowballing sample was also used to achieve some difficult quotas (e.g. females or MEs having 4-9 employees)
- Adjustments in the middle of field work
  - SEC C allowed in Delhi to achieve quotas for MEs employing 4-9 people
  - SEC B2 allowed in Patna to achieve quotas for MEs employing 1-3 and 4-9 people
- India
  - Cities divided into wards by Election Comnission of India: 16 selected
  - Within each ward, streets listed alphabetically; every third street selected
- See METHODLOGY NOTE for much more detail

Quantitative study: 3180 MEs surveyed. 1279 from India (IN)



LIRNEasia
Pro-poor. Pro-market.

Qualitative research after the survey to understand why and to re-design

- The survey: answers the WHAT questions
- Qualitative research:
  - answers WHY questions
  - for envisioning (better) solutions
- 88 protocols
  - Day ethnographies at sites of service provision
  - In-depth interviews with service providers
  - In-depth interviews with MEs
  - Community group design activities

Pro-poor. Pro-market.

Pro-poor. Pro-market.

India (IN) sample similar to Bangladesh (BD) in age & female participation. IN least literate compared to BK and Sri Lanka (LK)

	Bangladeshi cities	Indian cities	Sri Lankan cities
Average age	36	36	42
Female micro-entrepreneurs	9%	12%	26%
Illiterate or primary schooling only	39%	87%	29%

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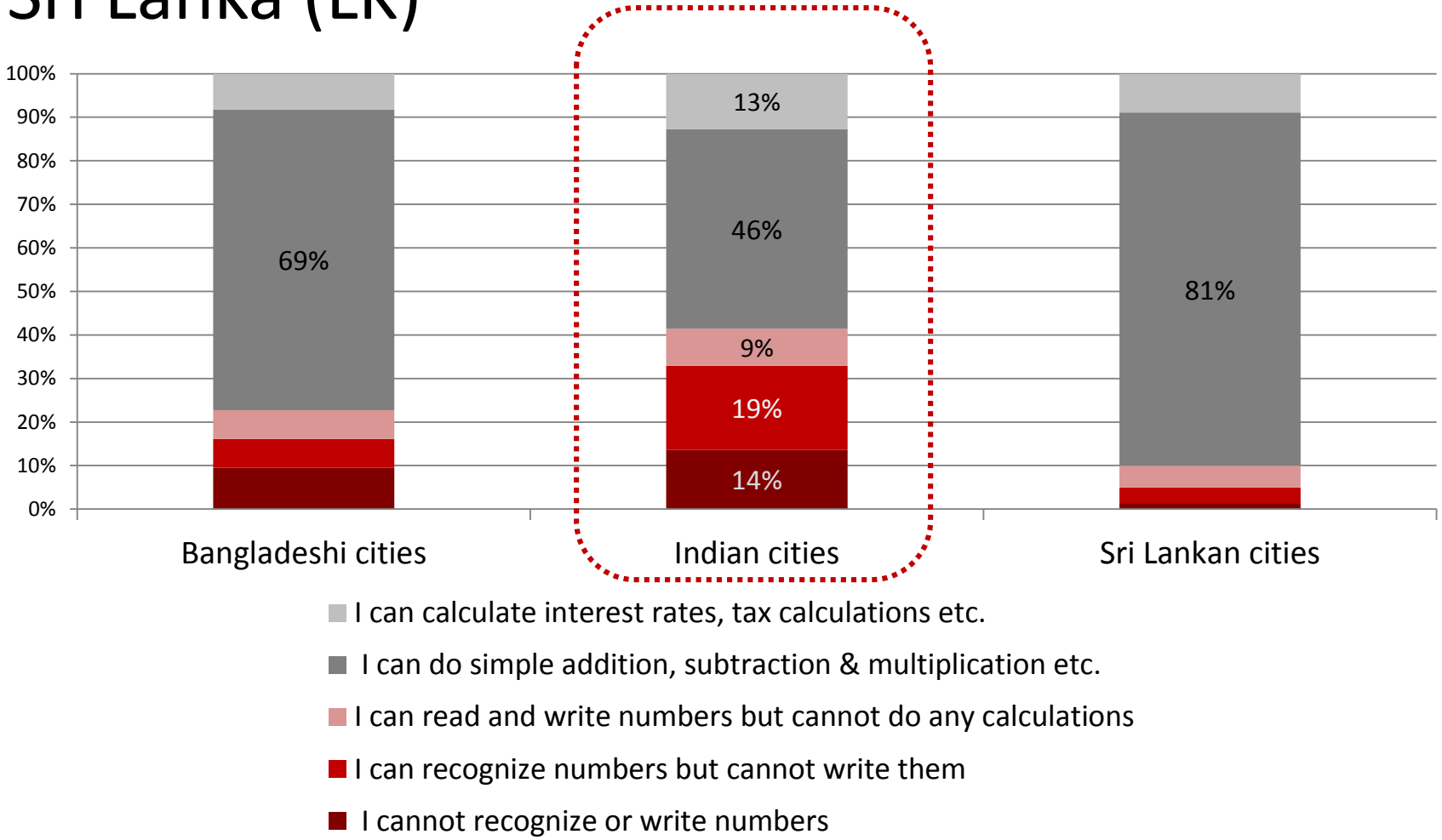
59% of MEs in IN can do calculations. But less numerate compared to Bangladesh (BD) and Sri Lanka (LK)



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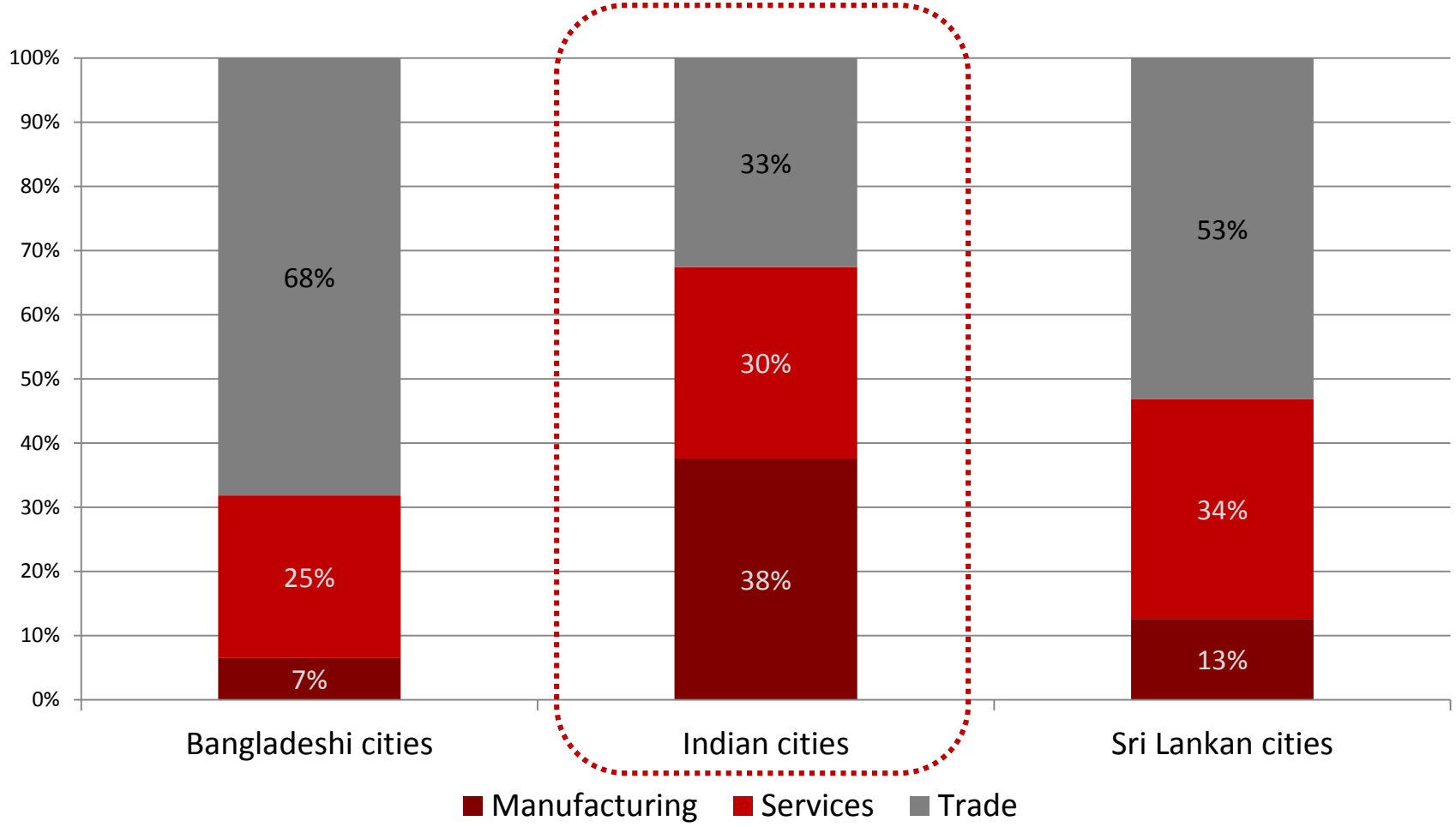
Please tell me about your numerical abilities

Broadly even distribution of MEs in Trade, Services & Manufacturing compared to BD, LK



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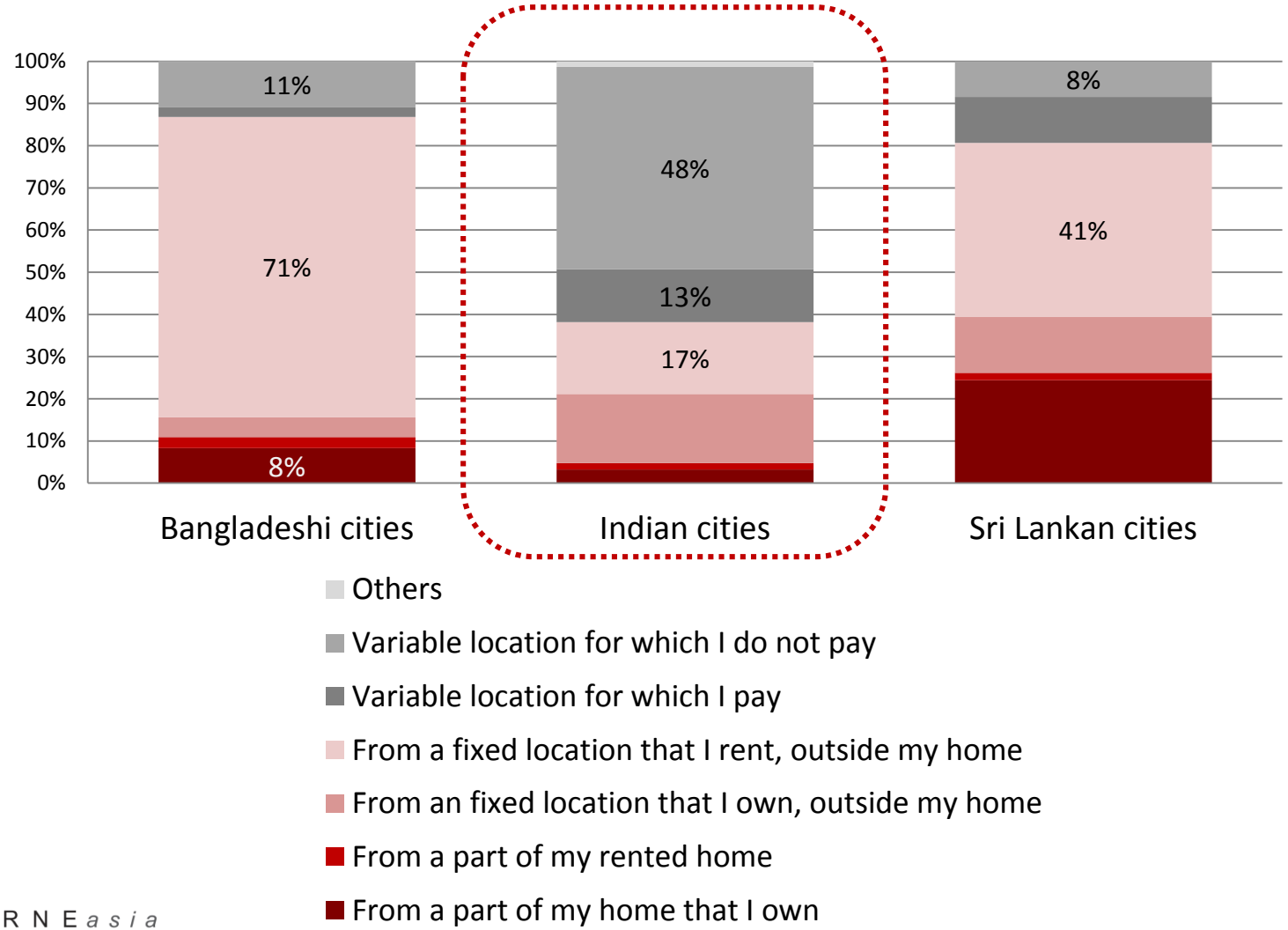
Type of business (as % of

61% of MEs in IN have a variable location



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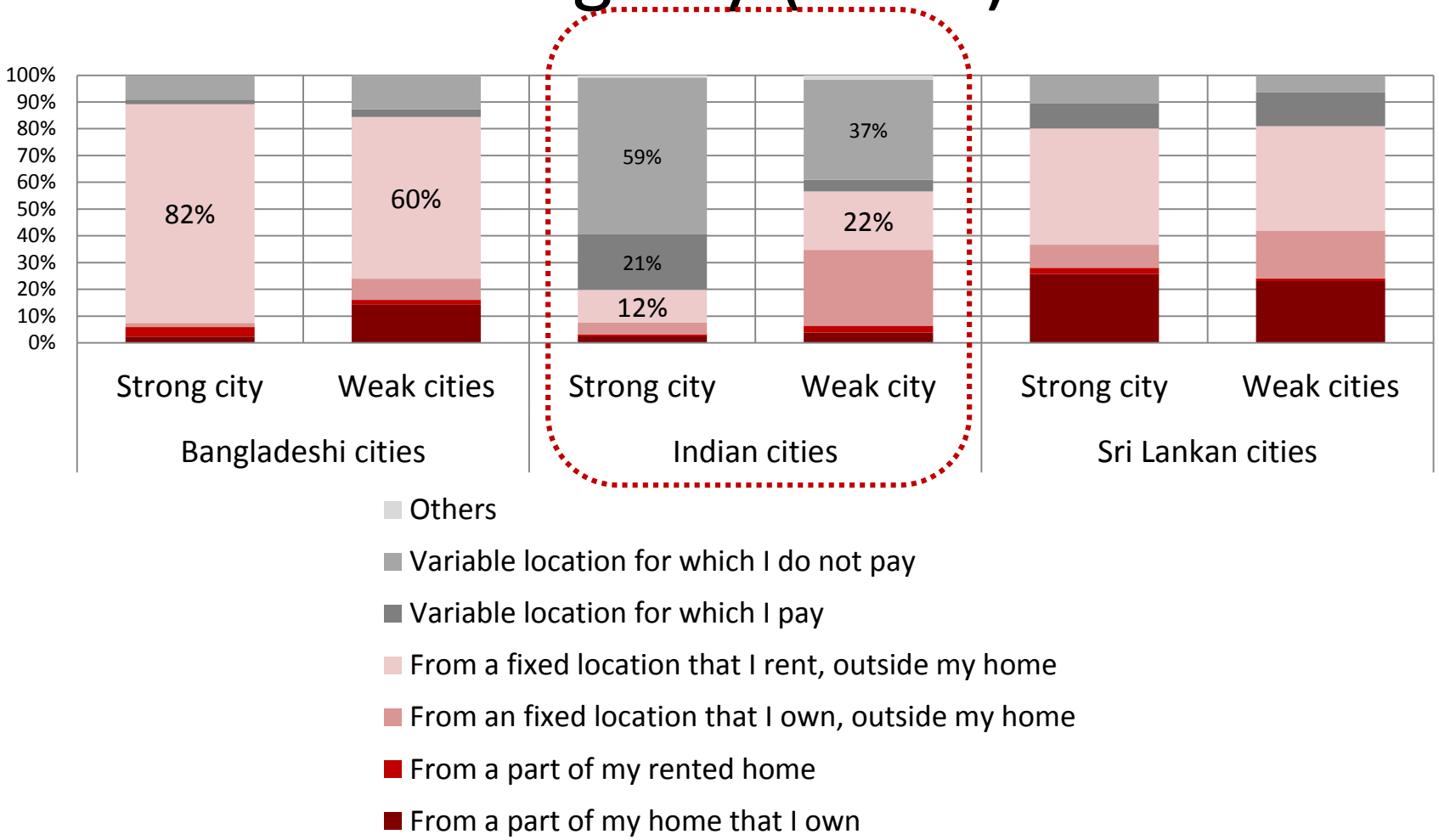
Could you tell us where your business is located? (as % low-income MEs)

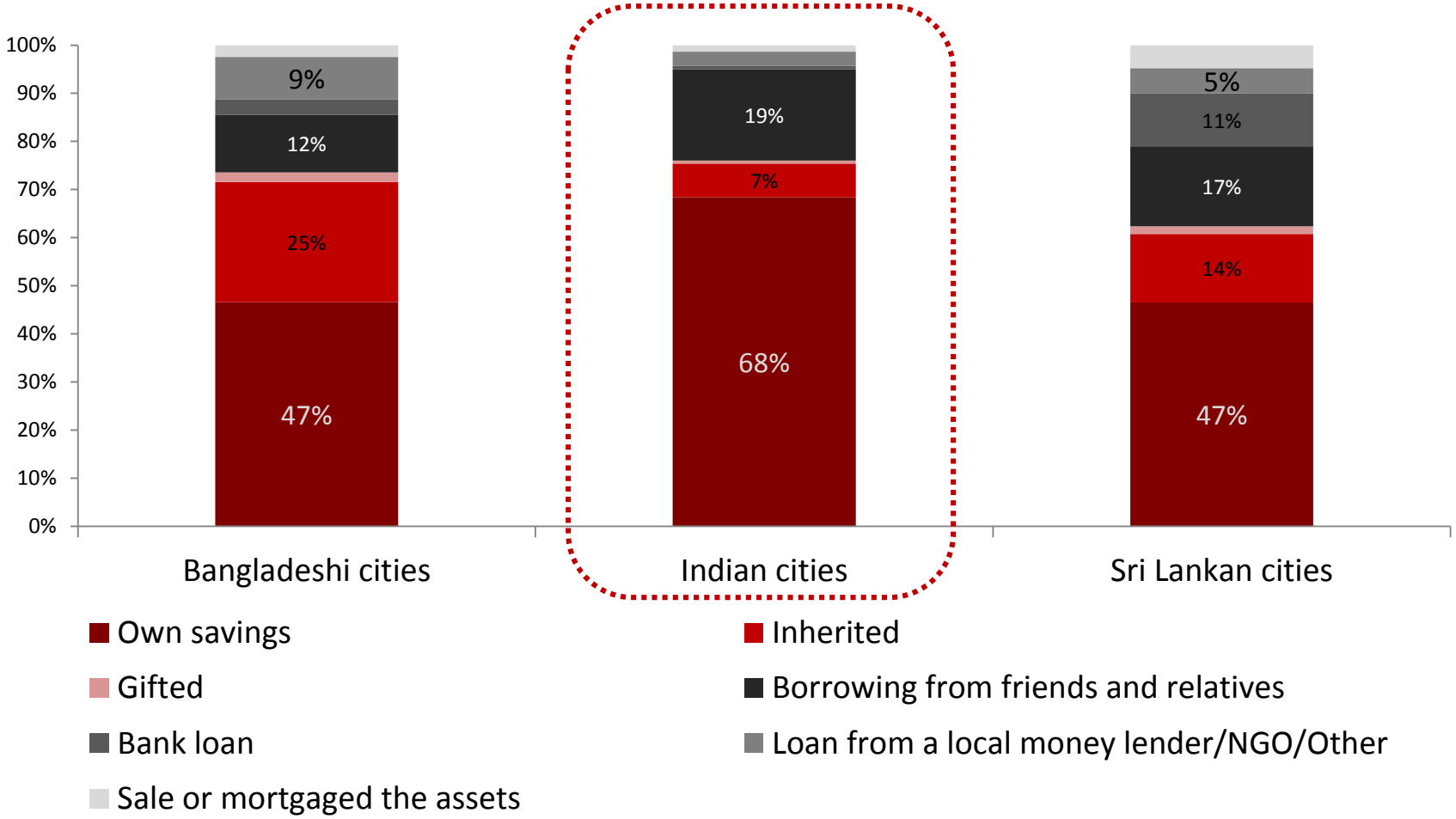
More MEs operate from a variable location in strong city (Delhi)



LIRNEasia
Pro-poor. Pro-market.

Could you tell us where your business is located? (as % low-income MEs)

Most businesses started using savings
Few used formal loans in IN



How did you get the money to start your business? Tell the main source (as % of low income MEs)

45% have a bank personal account. No business accounts

Does your business have a separate bank account to use just for business purposes? (as % of low-income MEs)

Do you have any bank account in your name? (as % of low-income MEs)

LIRNEasia
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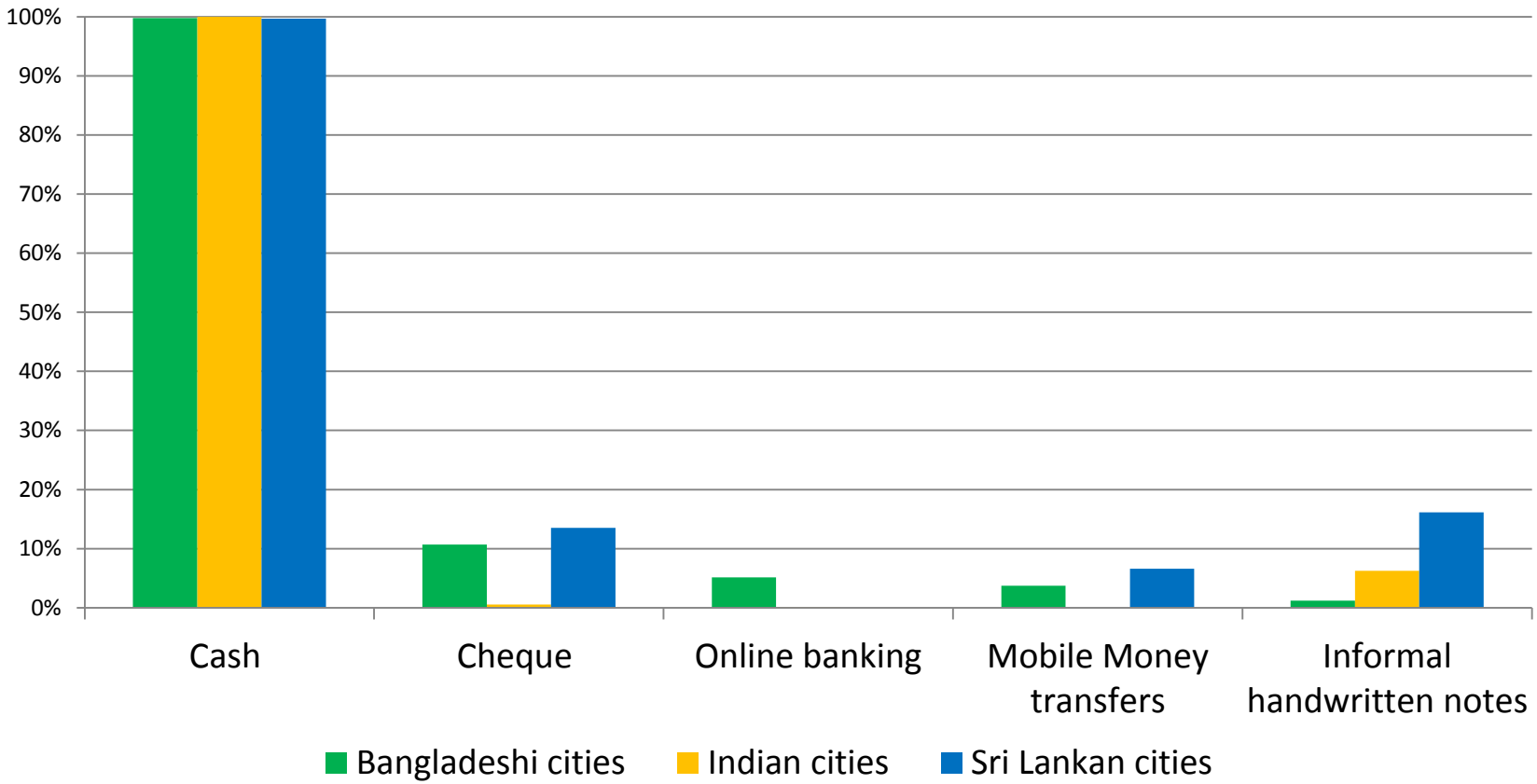
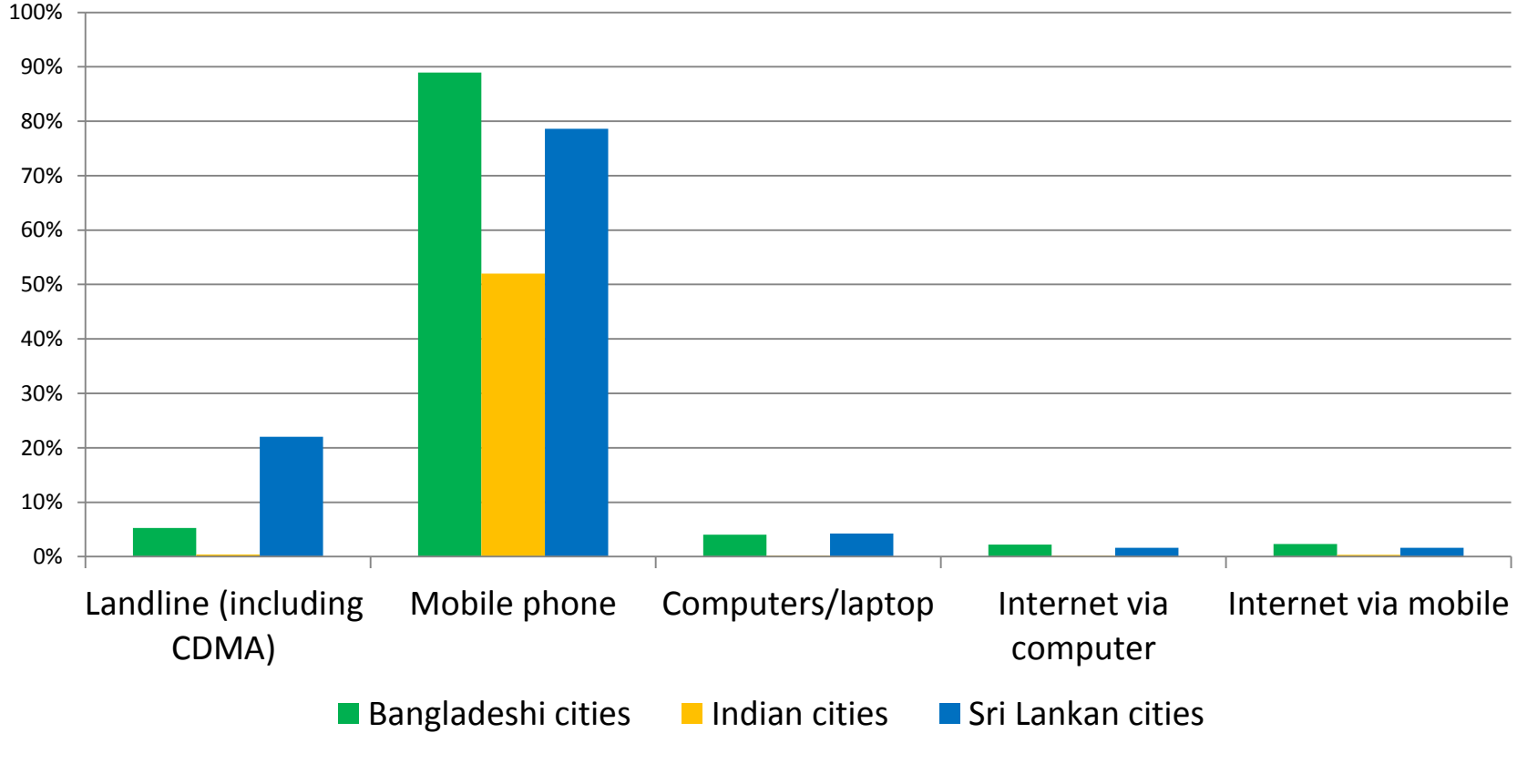
All MEs normally deal with cash



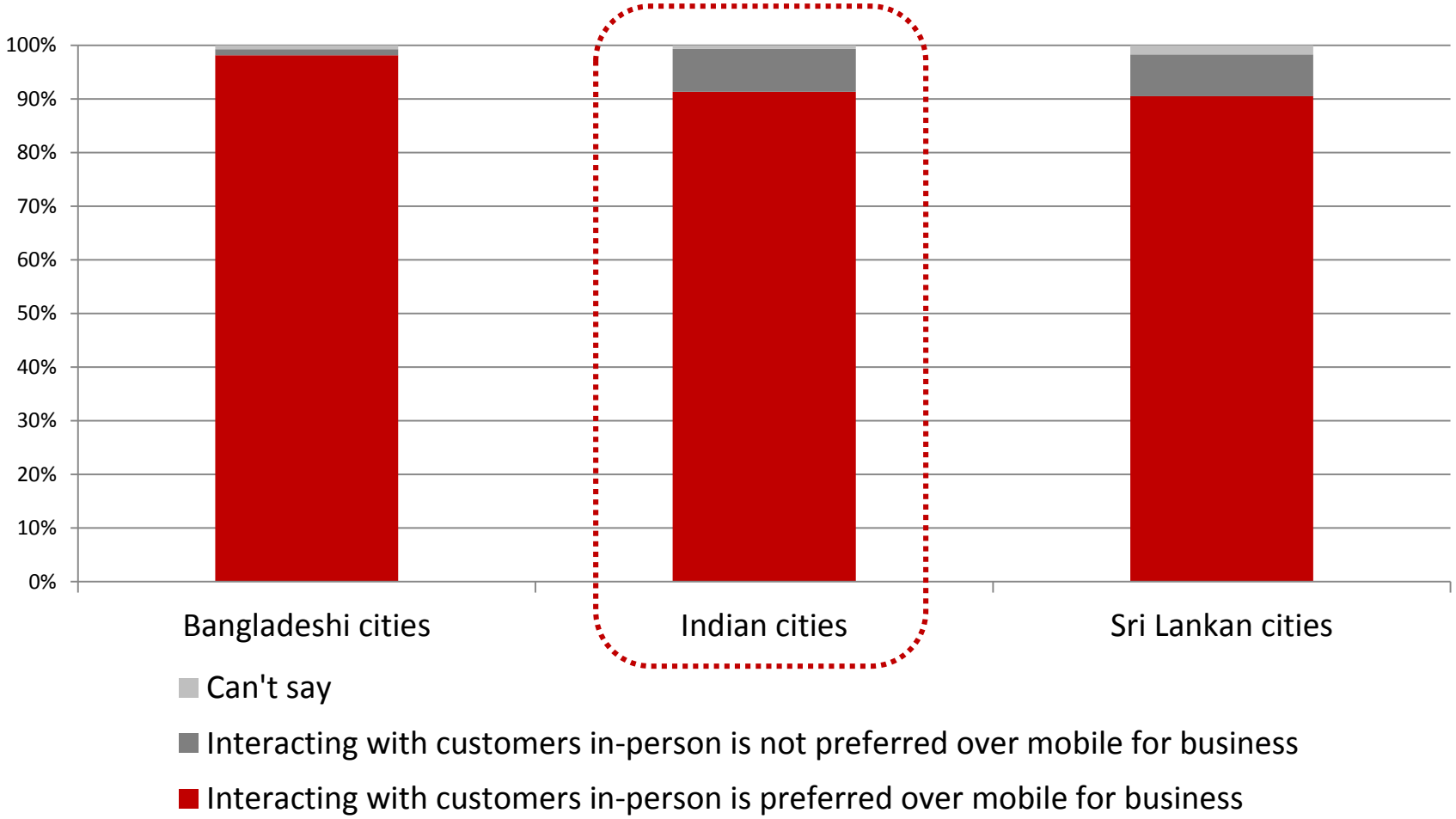
How do you normally do make or receive payments in your business? [MC] (as % low-income MEs)

Mobiles only form of ICT used for business in IN. 50% use their mobiles for business



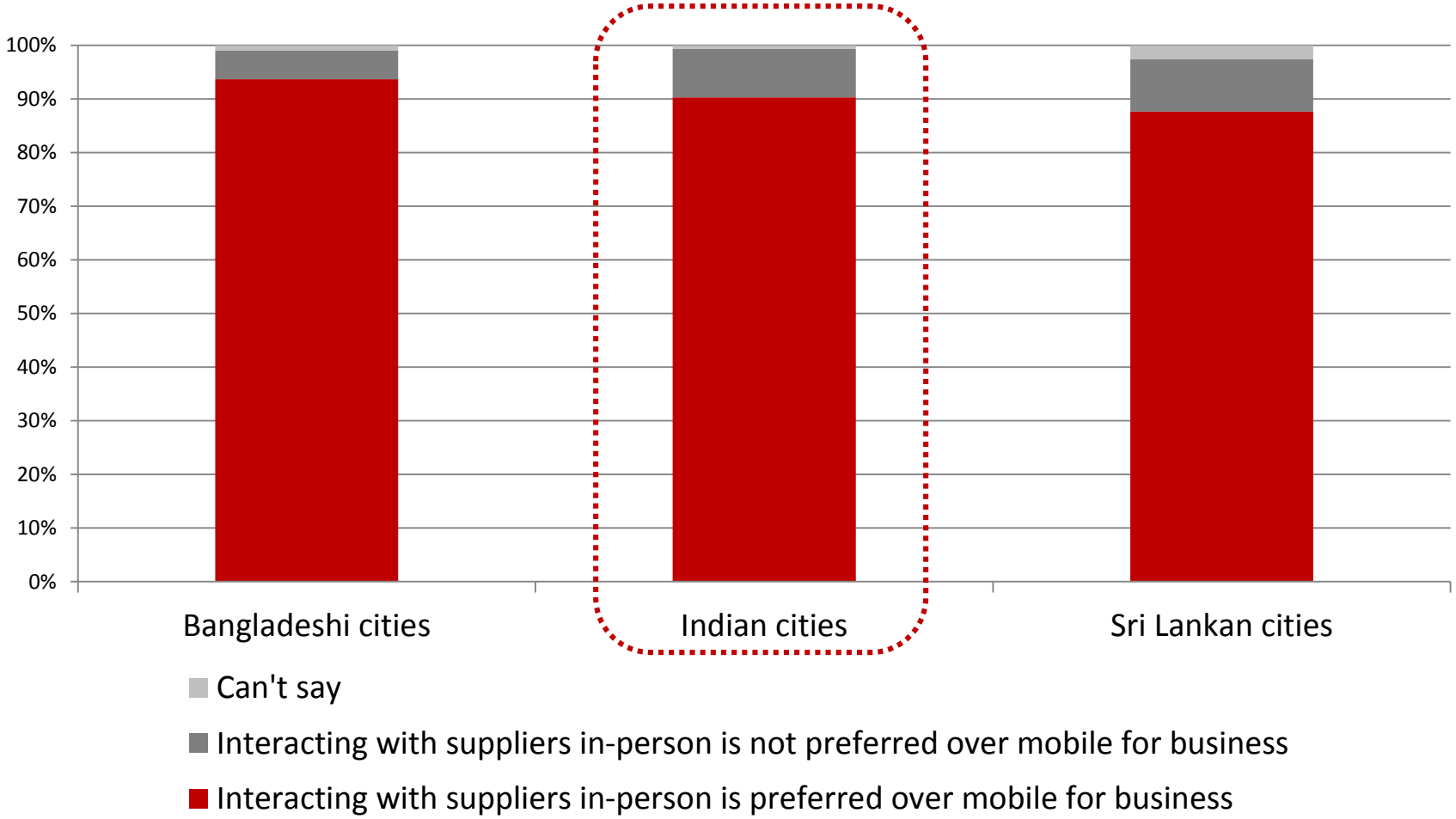
Do you use _____for your business related activities? (

In–person preferred to mobile phones when interacting with customers



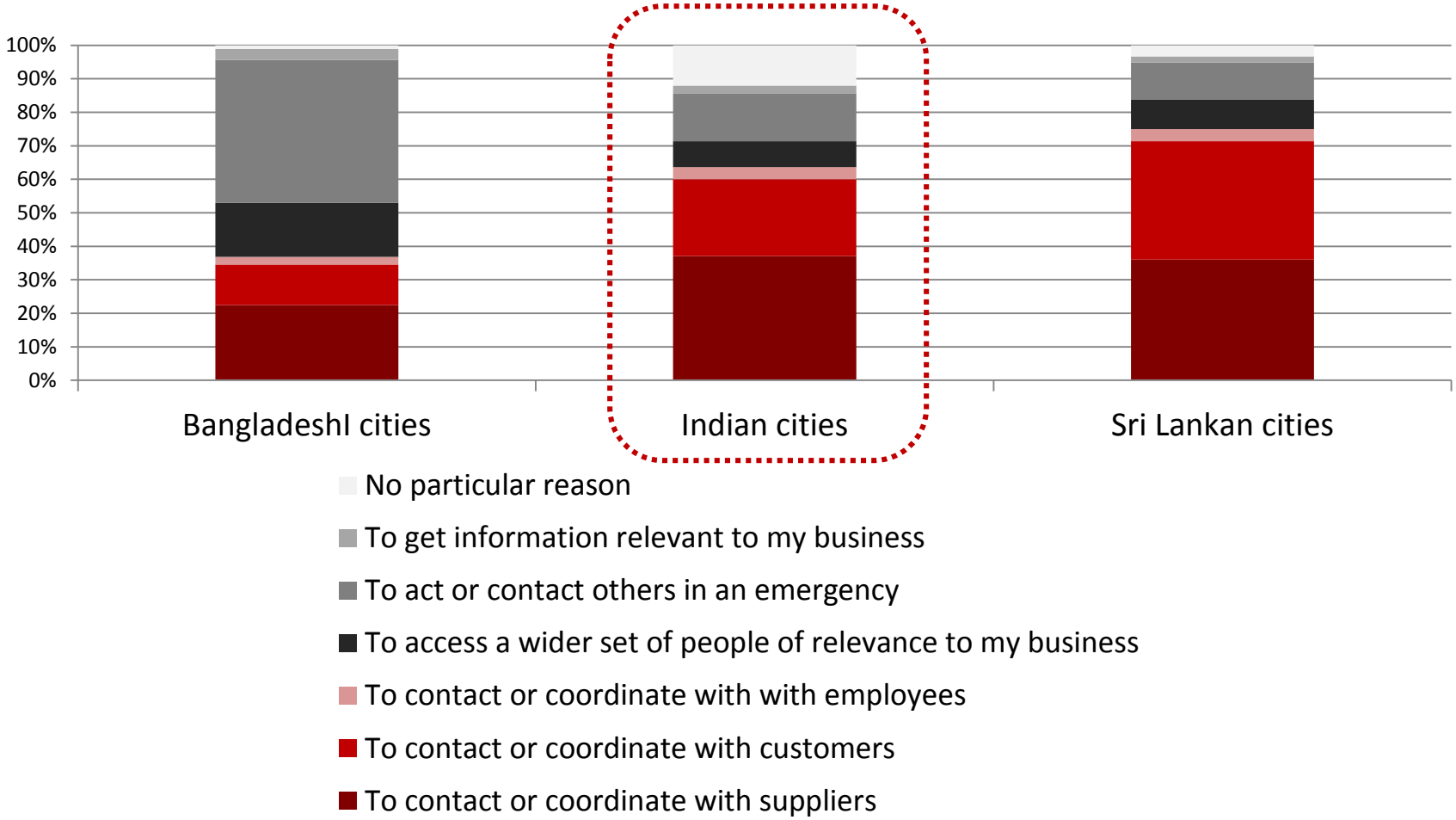
Do you think: interacting with customers in-person is preferred than mobile phone in your business? (as % low-income MEs)

In–person also preferred to mobile when interacting with suppliers



Do you think: interacting with suppliers in-person is preferred than mobile phone in your business? (as % low-income MEs)

But mobiles mostly used to contact or coordinate with customers and suppliers



Please tell us the most important reason to use a mobile phone for business (% low income MEs who use mobiles for business)

Low income MEs recharge more than other BOP

Average recharge per month (USD)			
	Bangladeshi cities	Indian cities	Sri Lankan cities
BOP pre-paid mobile owners (2011)	1.61	1.99	3.18
Low-income MEs who use pre-paid for business (2013)	8.91	6.21 [INR 334]	10.67

	Indian cities	
	Strong city	Weak city
Average recharge per month in Rupees (INR) (Low-income MEs who use pre-paid for business)	386	236

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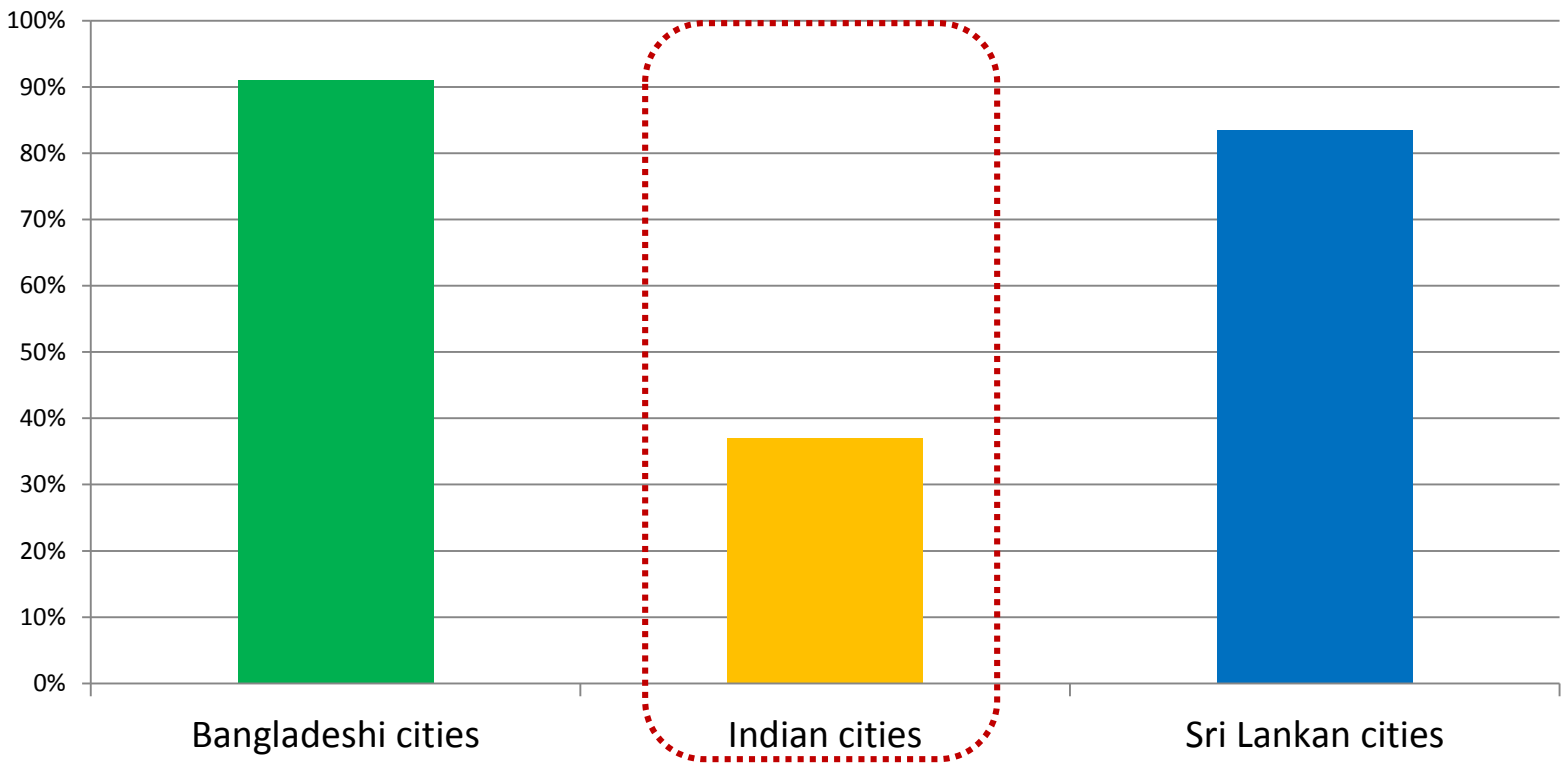
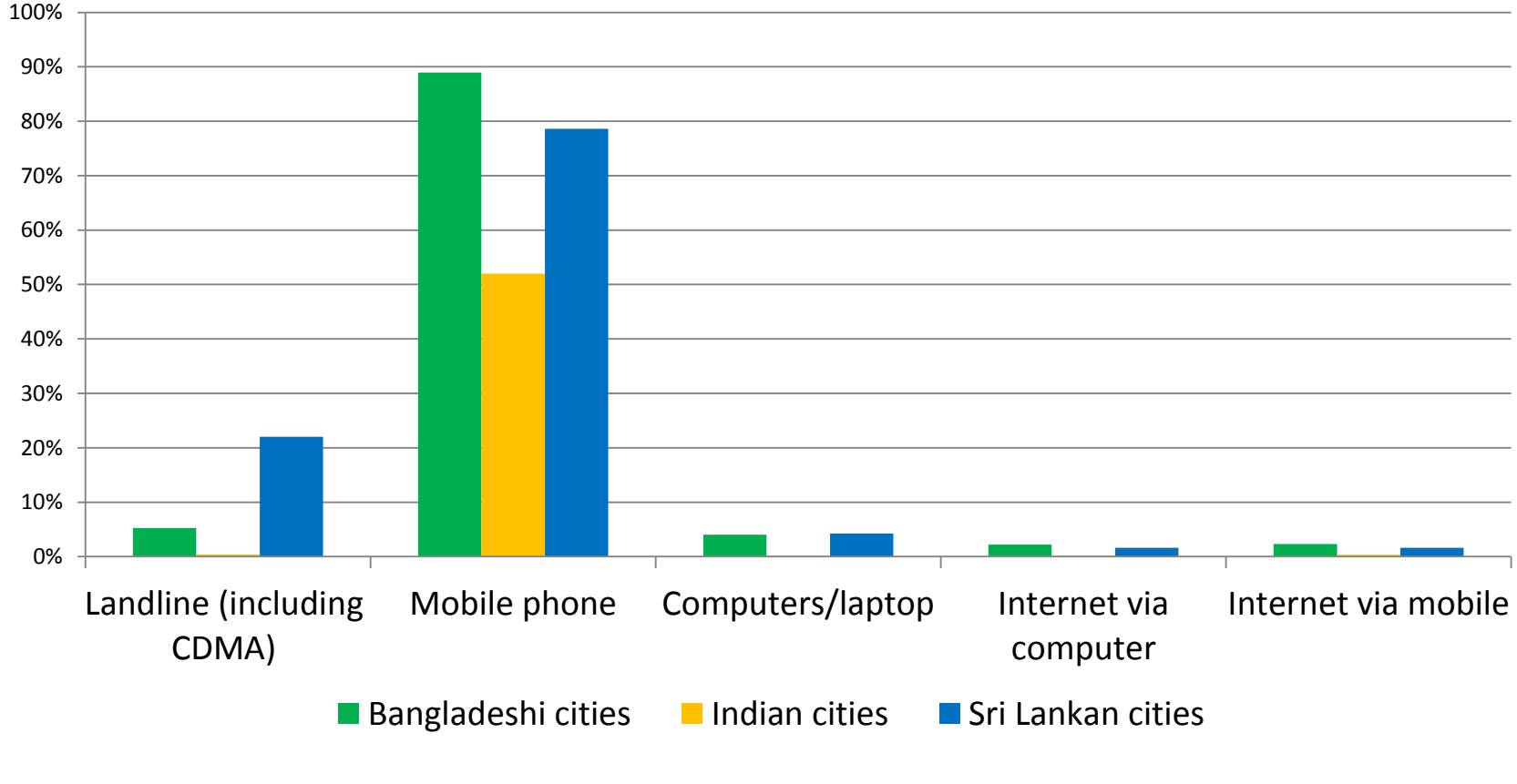
ELECTRICITY & TELECOM USE BY MICRO-ENTREPRENEURS

Only 37% in IN have an electricity connection which they use for business



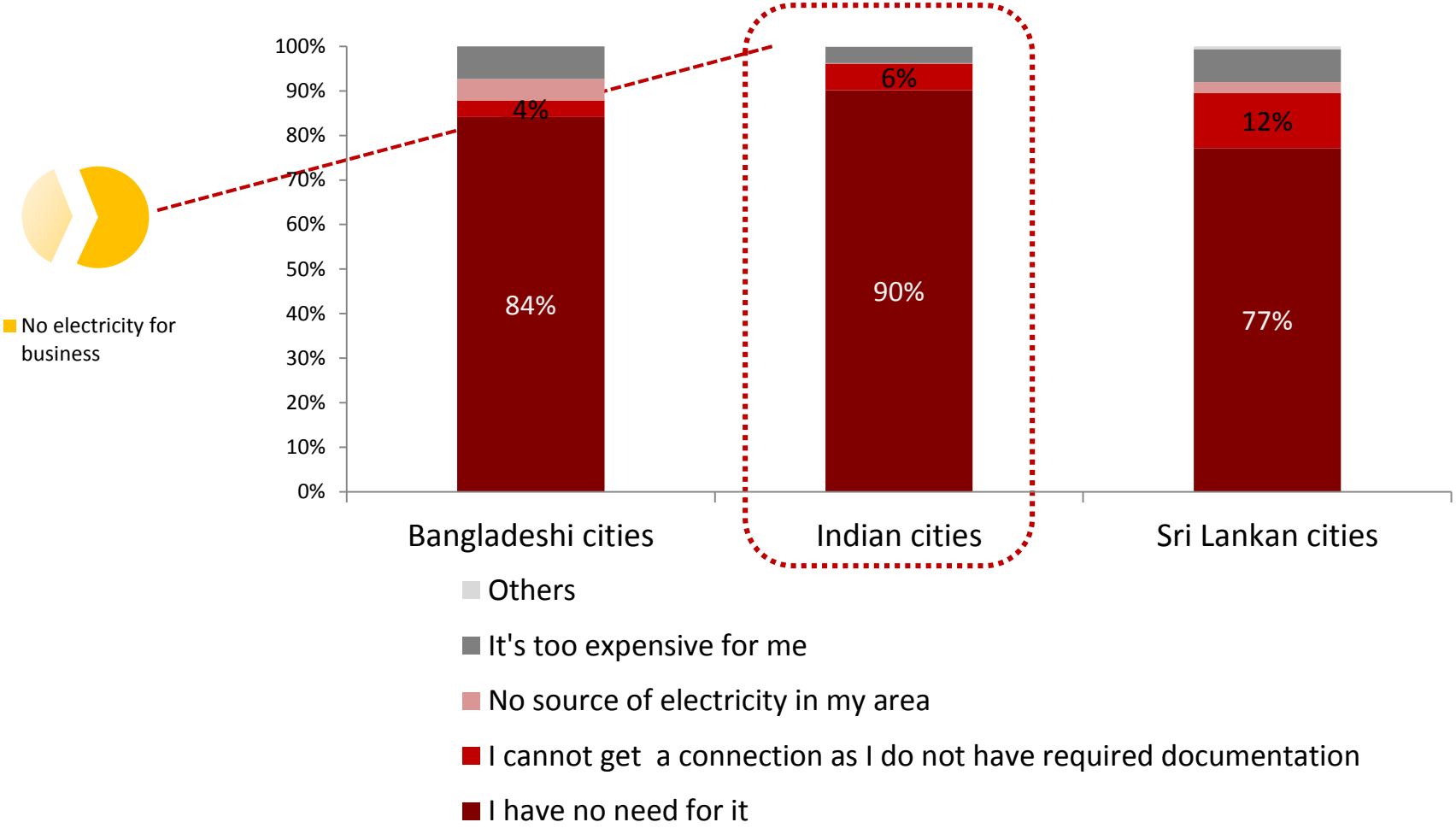
Do you have an electricity connection which you use for business purpose? Where electricity can be, from the grid

Compared to 50% of MEs who use their mobiles for business



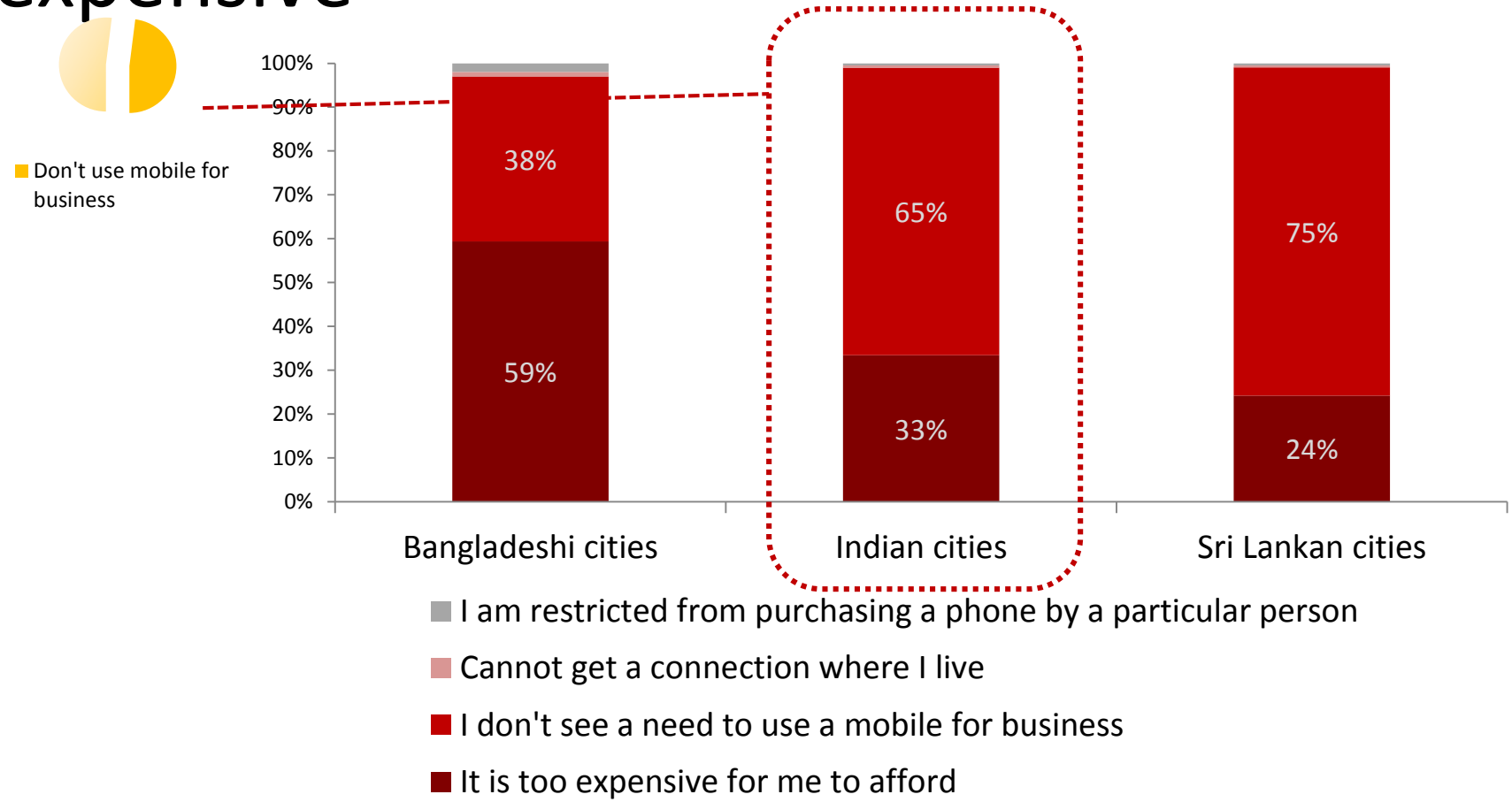
Do you use _____for your business related activities? (

Most (90%) who don't have electricity don't need it. 6% don't have necessary documents



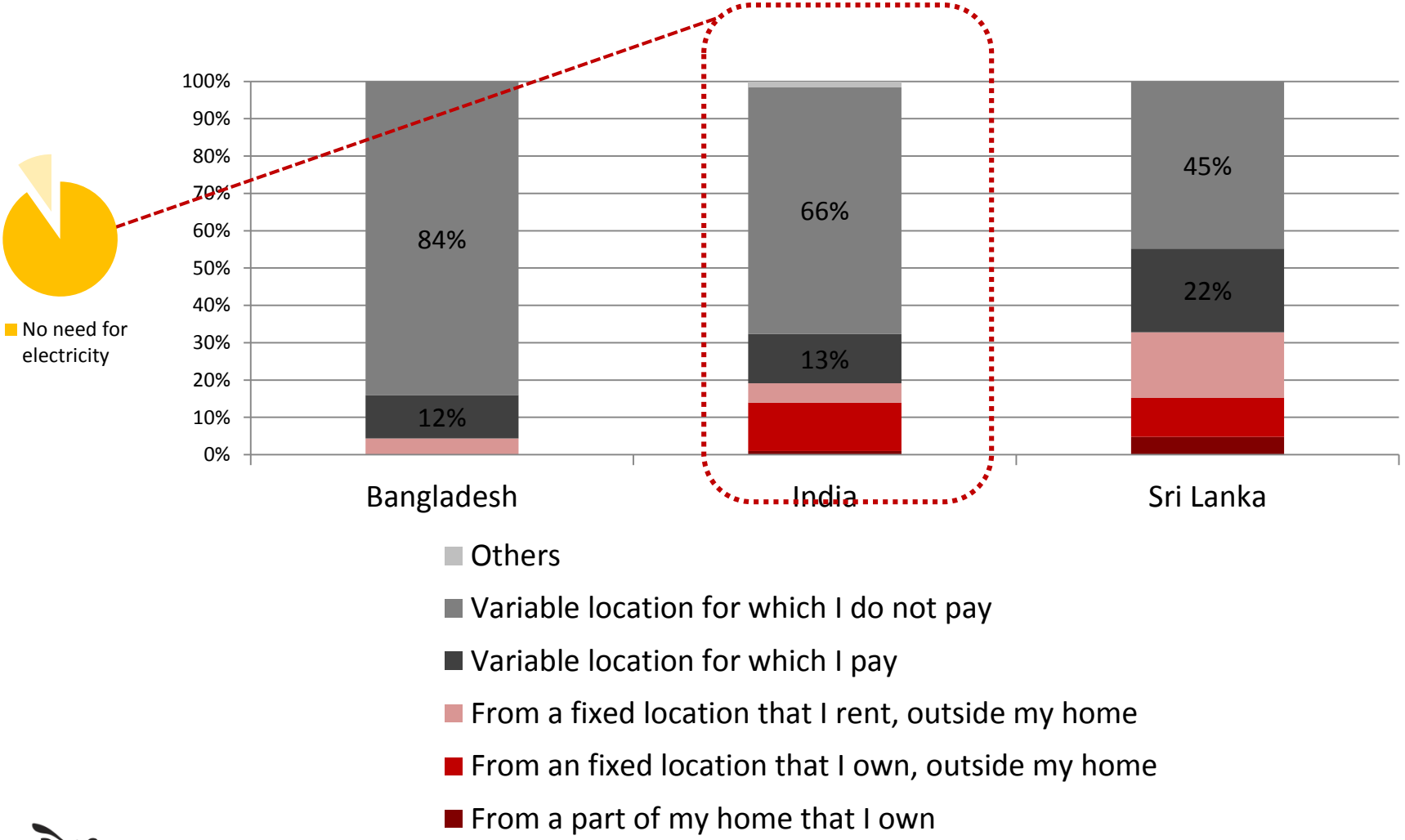
What is the main reason for not having electricity connection for business? (% low income MEs who do not have electricity

Compared to 65% who don't need a mobile for business & 33% who find mobiles too expensive



What is the main reason you don't use a mobile phone for business?

Majority of those without a need for electricity operate from a variable location



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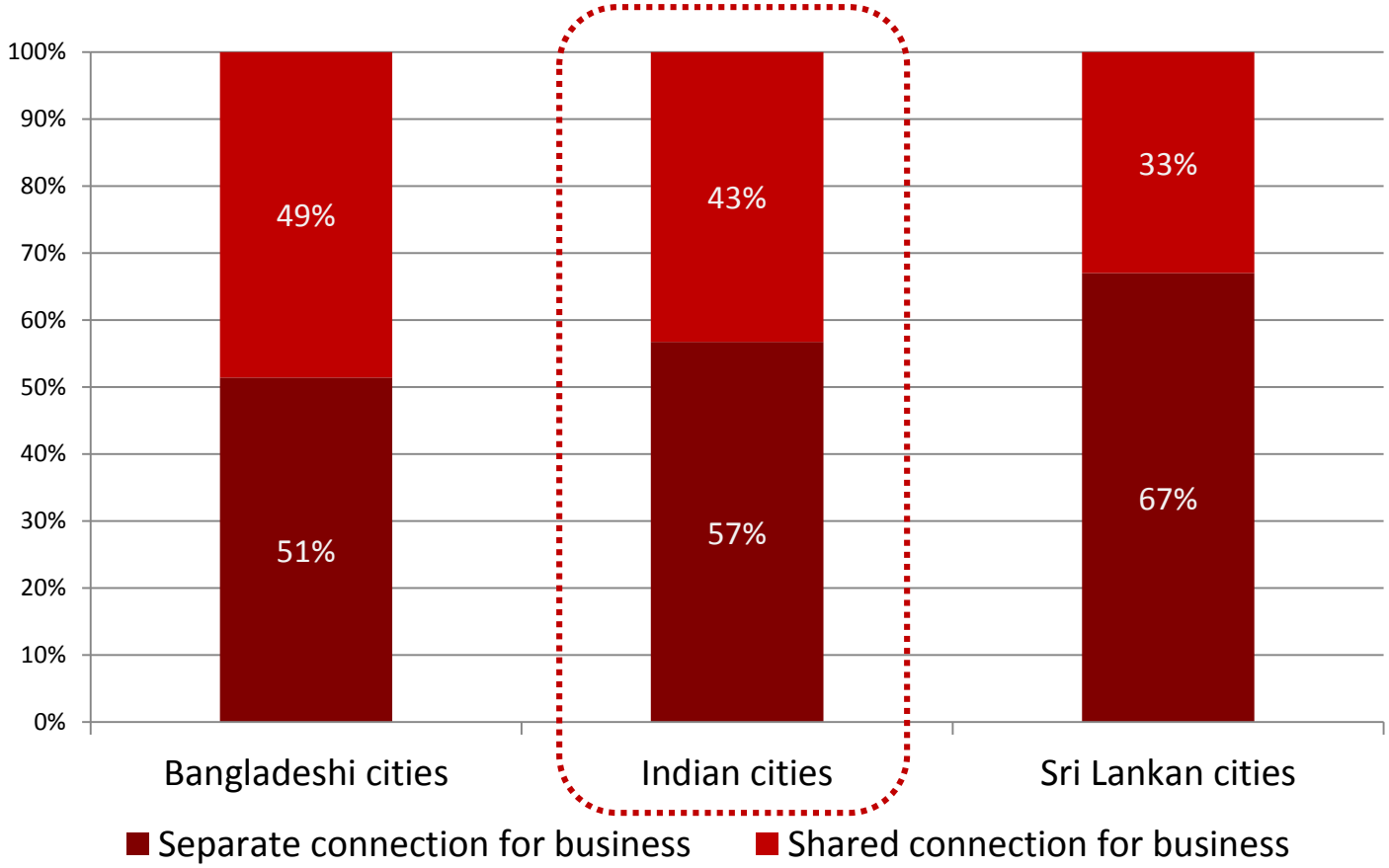
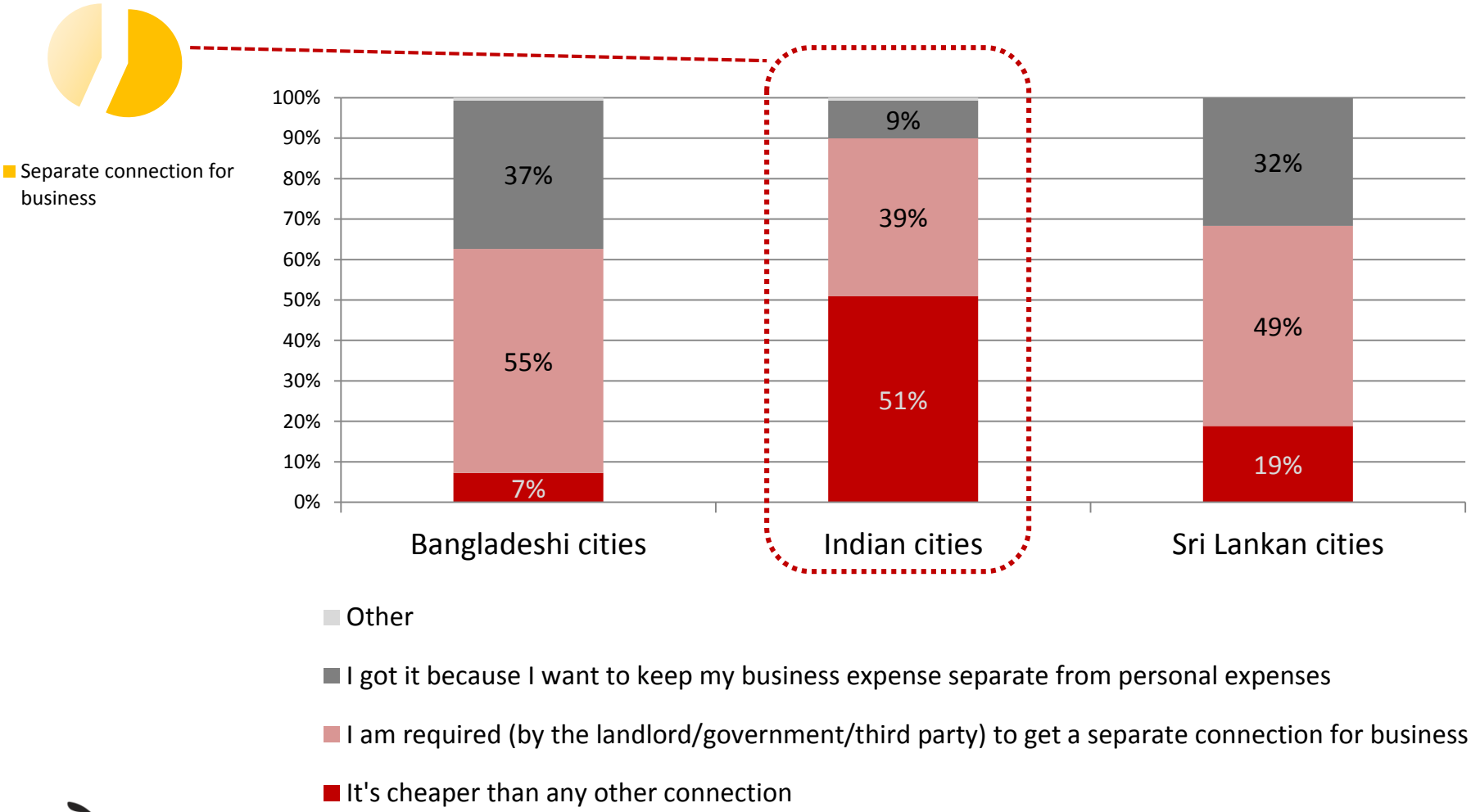
Location of the business (%BOP who don't need

57% of those who have electricity have a separate connection in IN



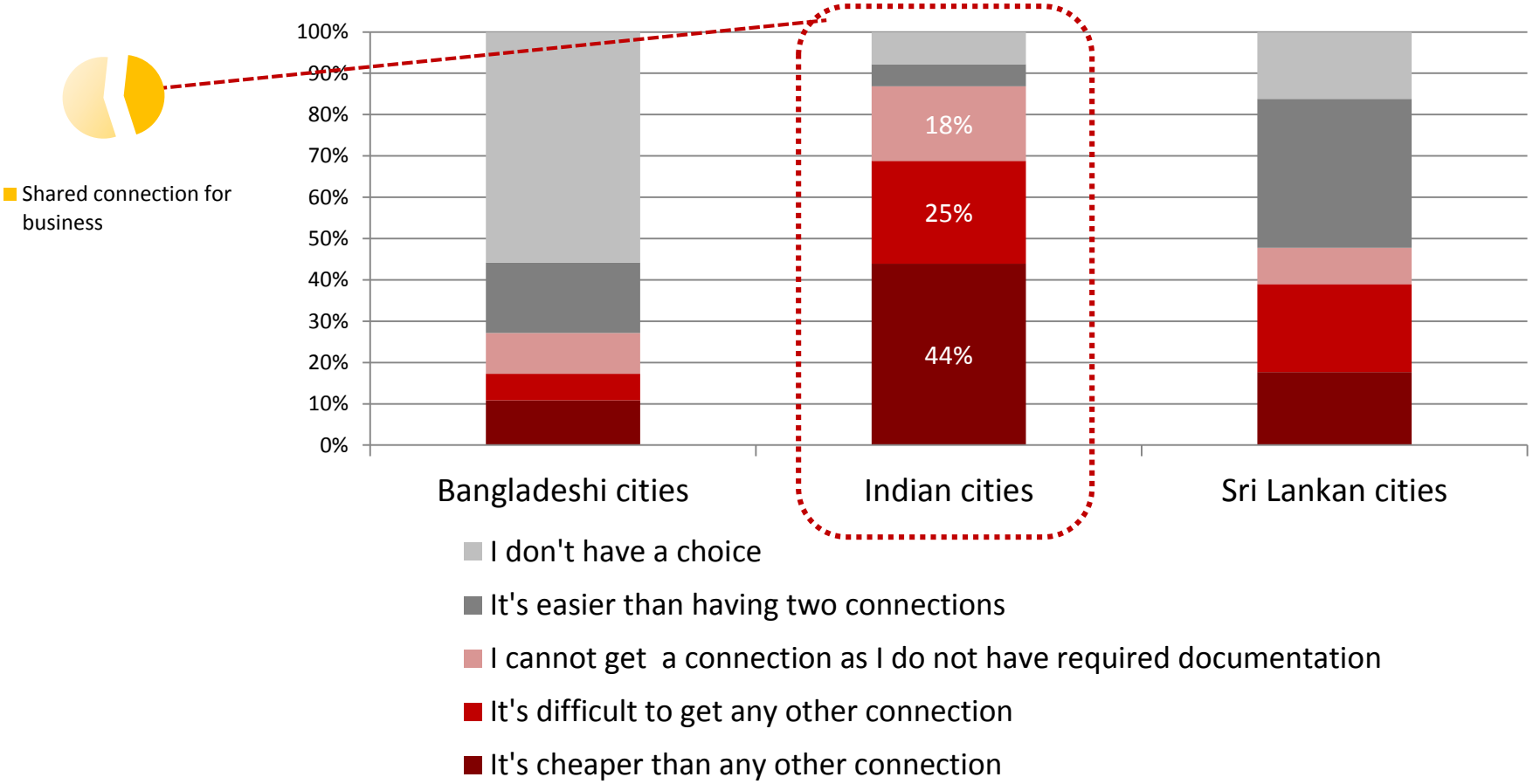
Do you have a separate electricity connection separate for your business?

51% in IN have a separate electricity connection for business because it's cheaper



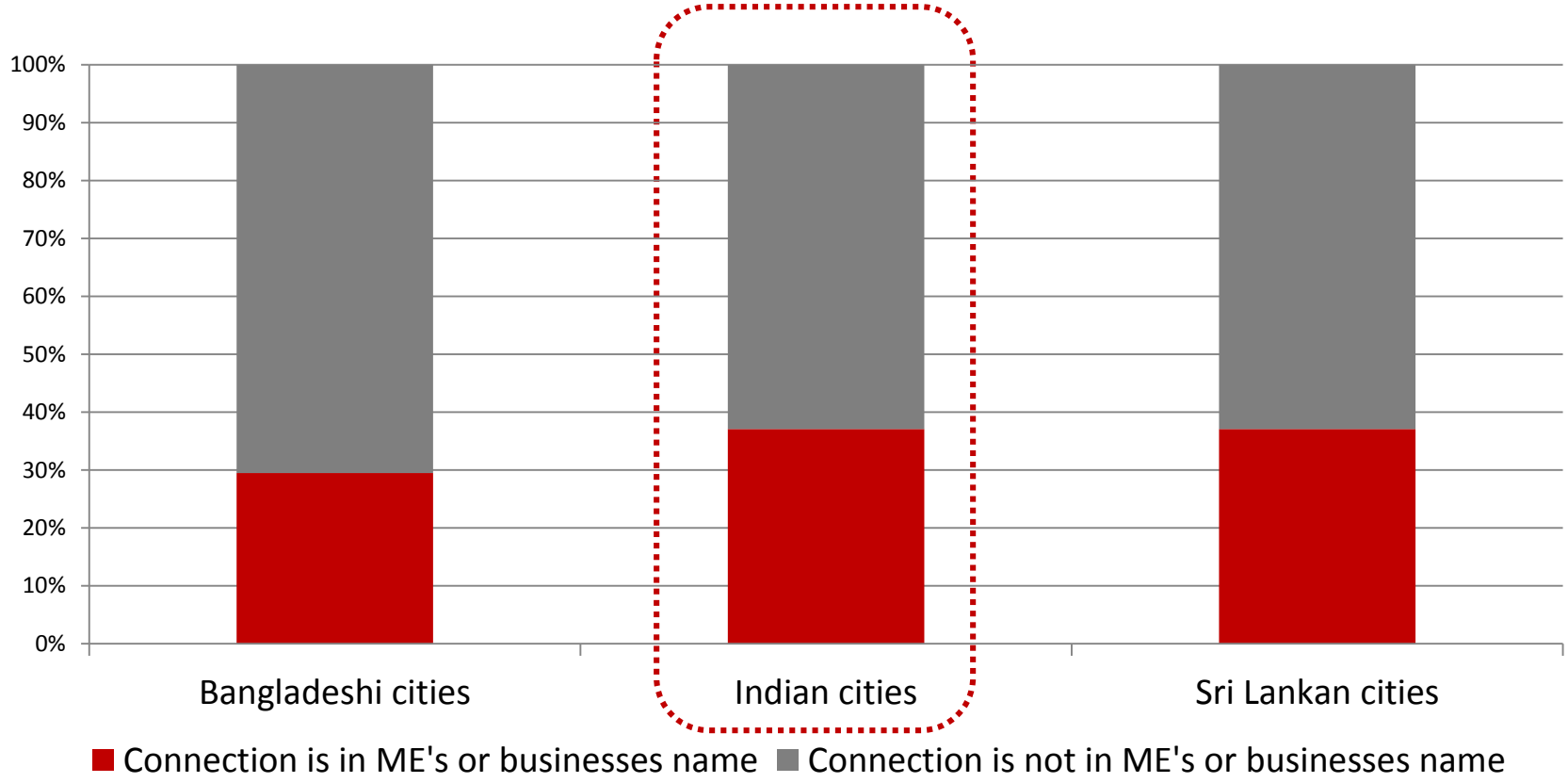
Please tell us the most important reason for having a separate electricity supply for your business? (%, low income MEs who

Shared electricity connection used due to perceived cost, difficulty in getting a separate connection or lack of required documents



Please tell us the most important reason for having a shared connection [as a part of home or somebody's

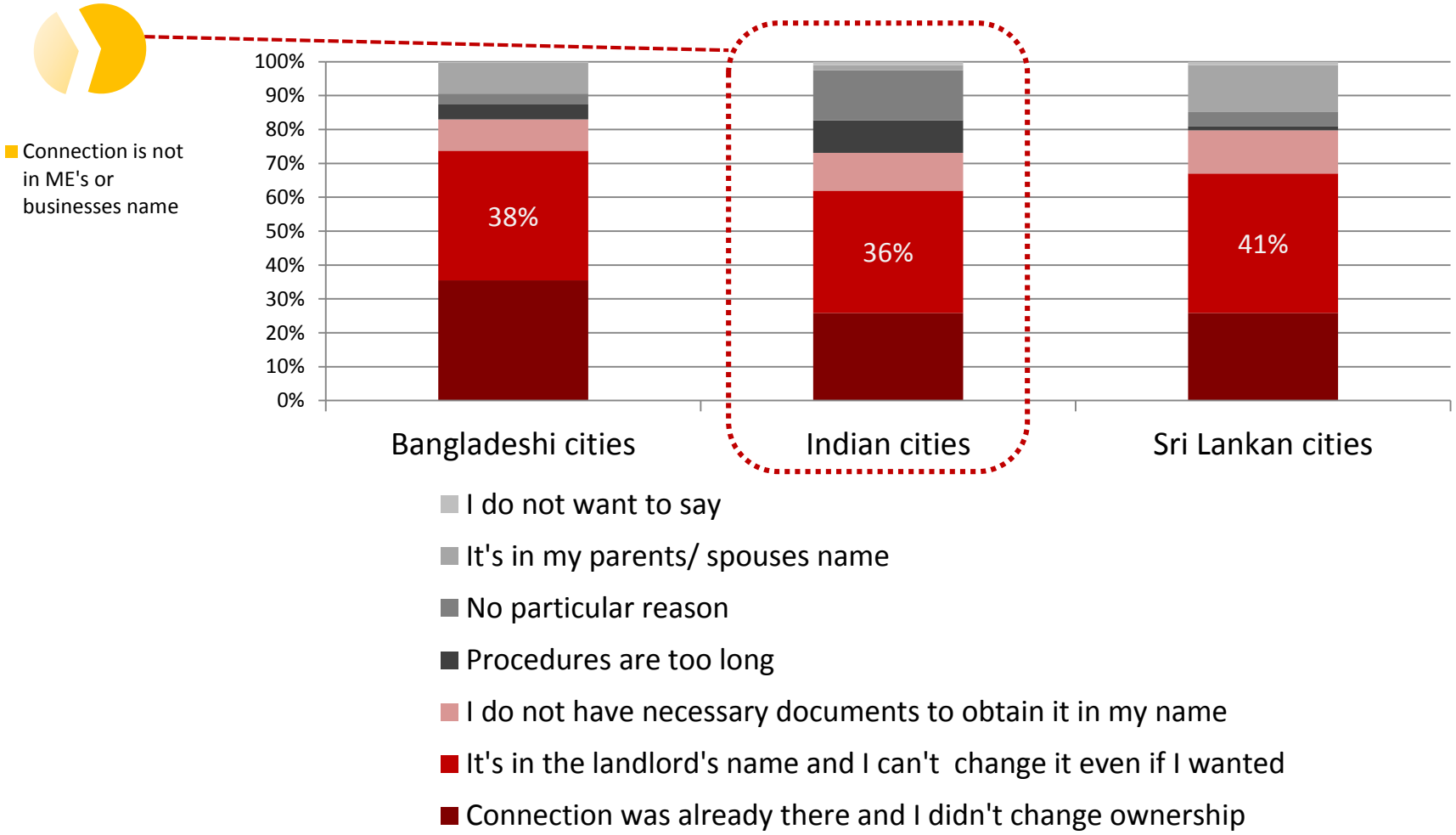
63% of IN MEs don't have the connection in their/their business's name



Is the electricity connection in your/or your business's name?

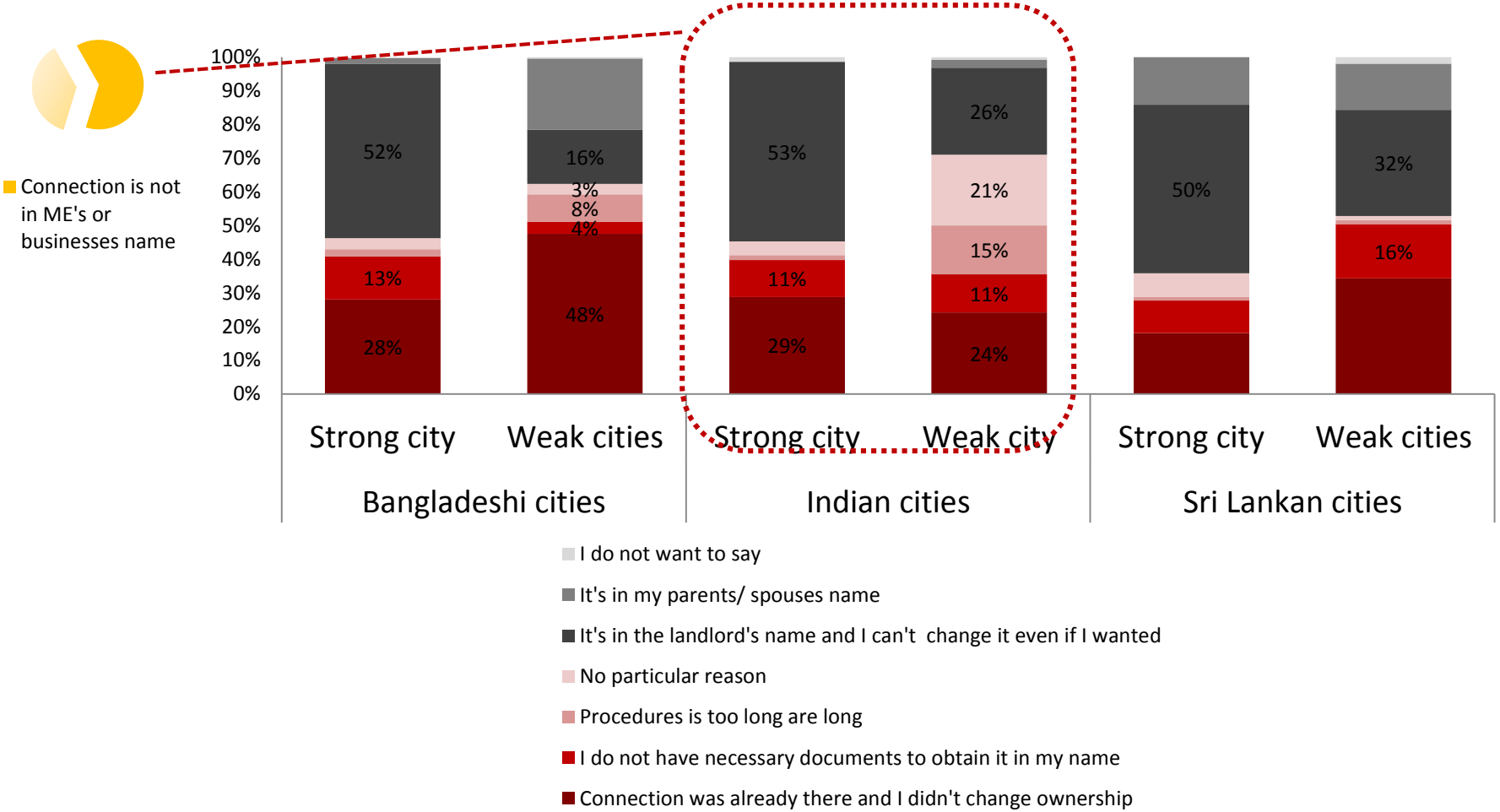
(% low income MEs who use electricity for business with

Many can’t change the name because connection is in landlord’s name; 13% lack of documents



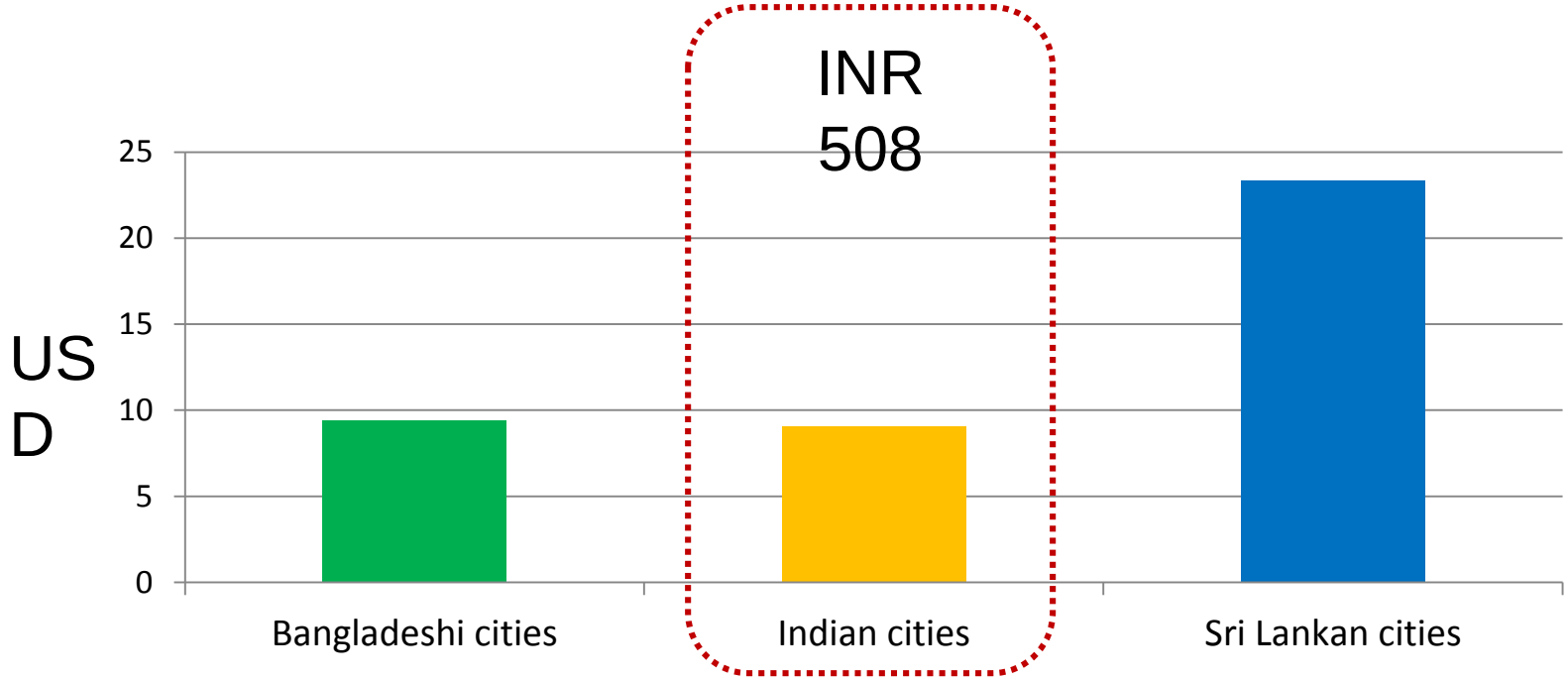
Please tell us the most important reason for not having connection in your name

Long procedures cited more frequently as a problem in weaker city (Patna)



Please tell us the most important reason for not having connection in your name

Sri Lankan MEs pay the most for grid electricity. Nearly double that of IN, BD



	Strong city	Weak cities
Average monthly bill in India (INR)	773	336

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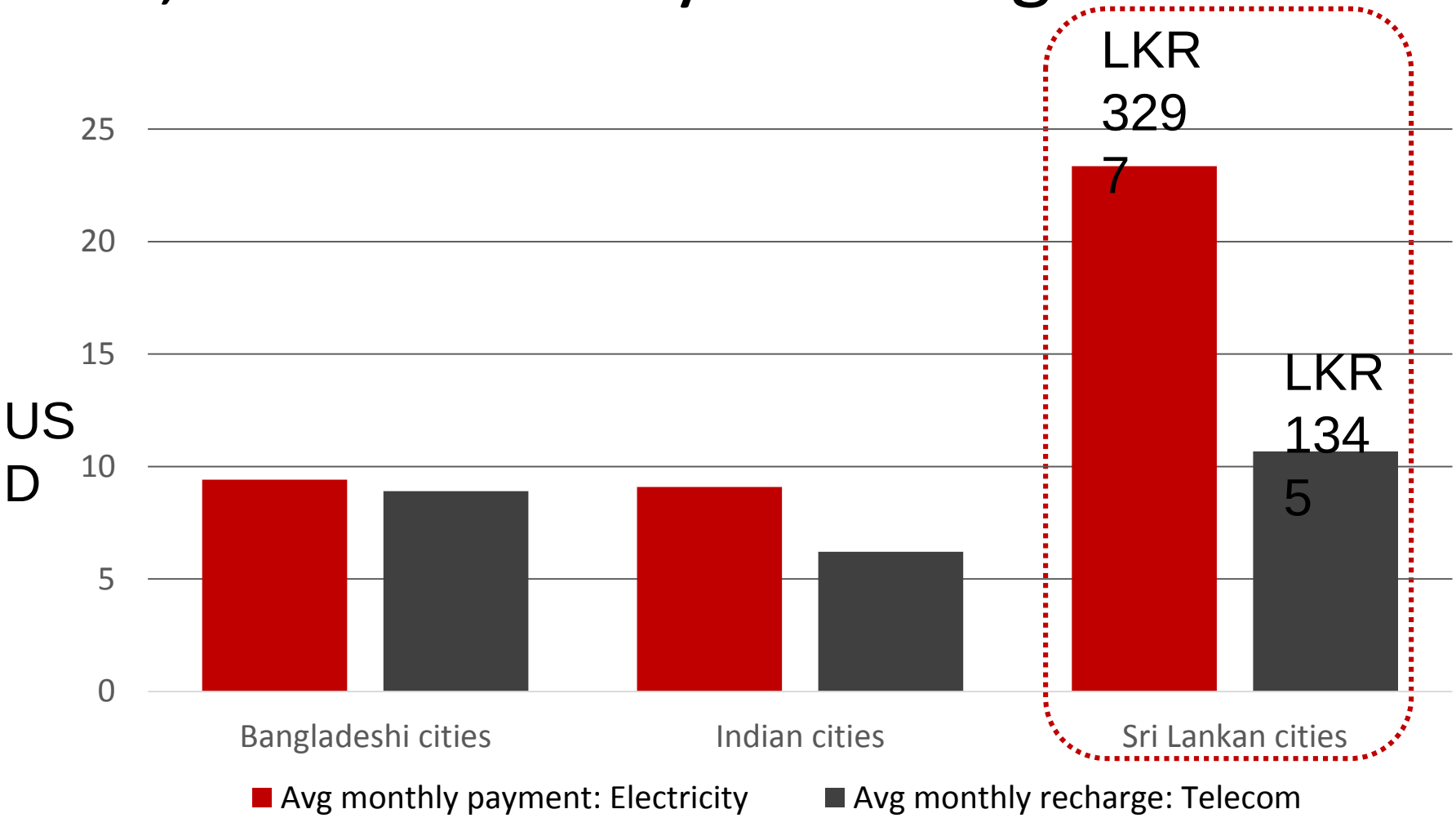
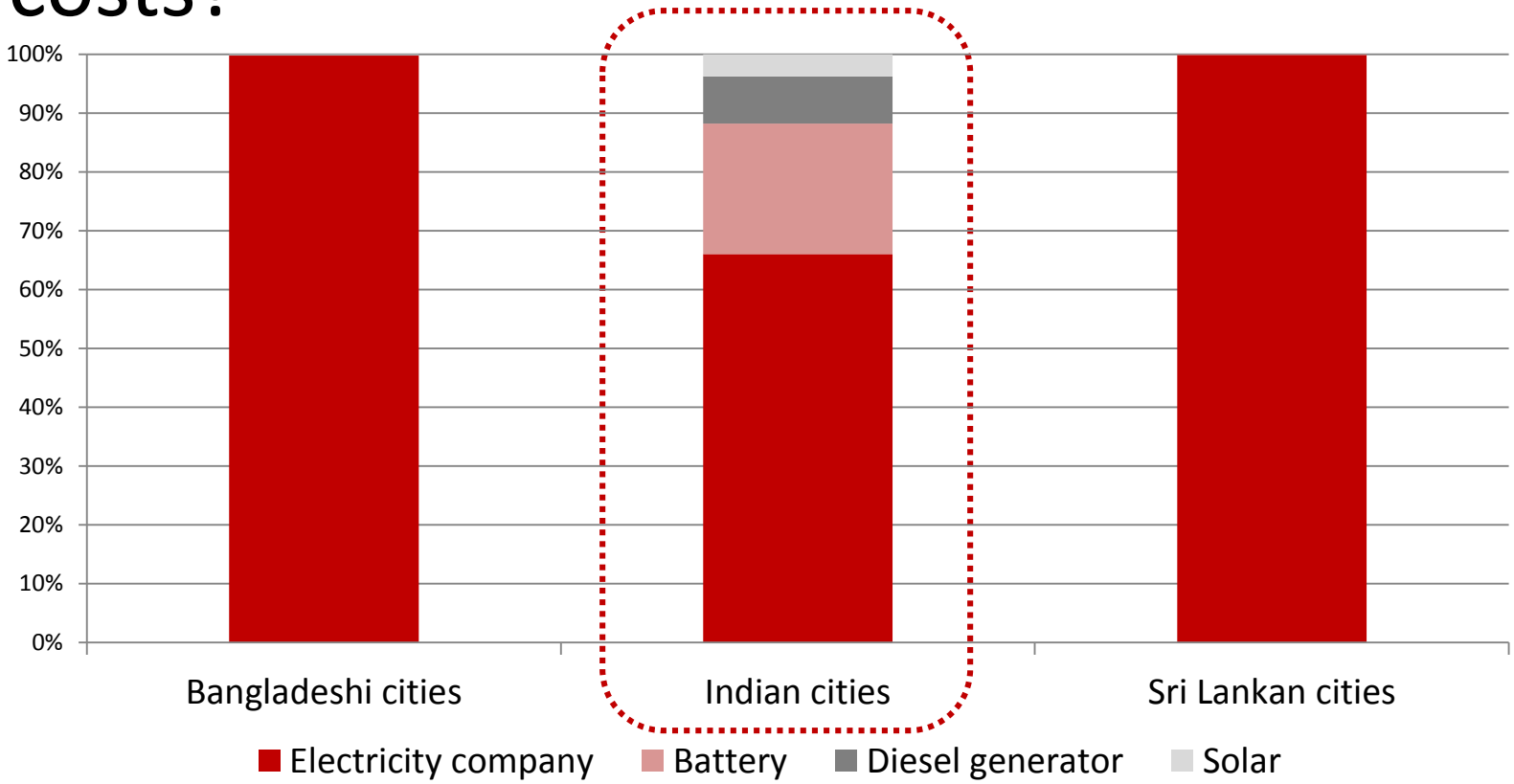
How much is your average monthly electricity bill?
(% low income MEs who use electricity for business with supply from electricity co.)

LK telecom expenditure comparable to IN, BD. Electricity much higher



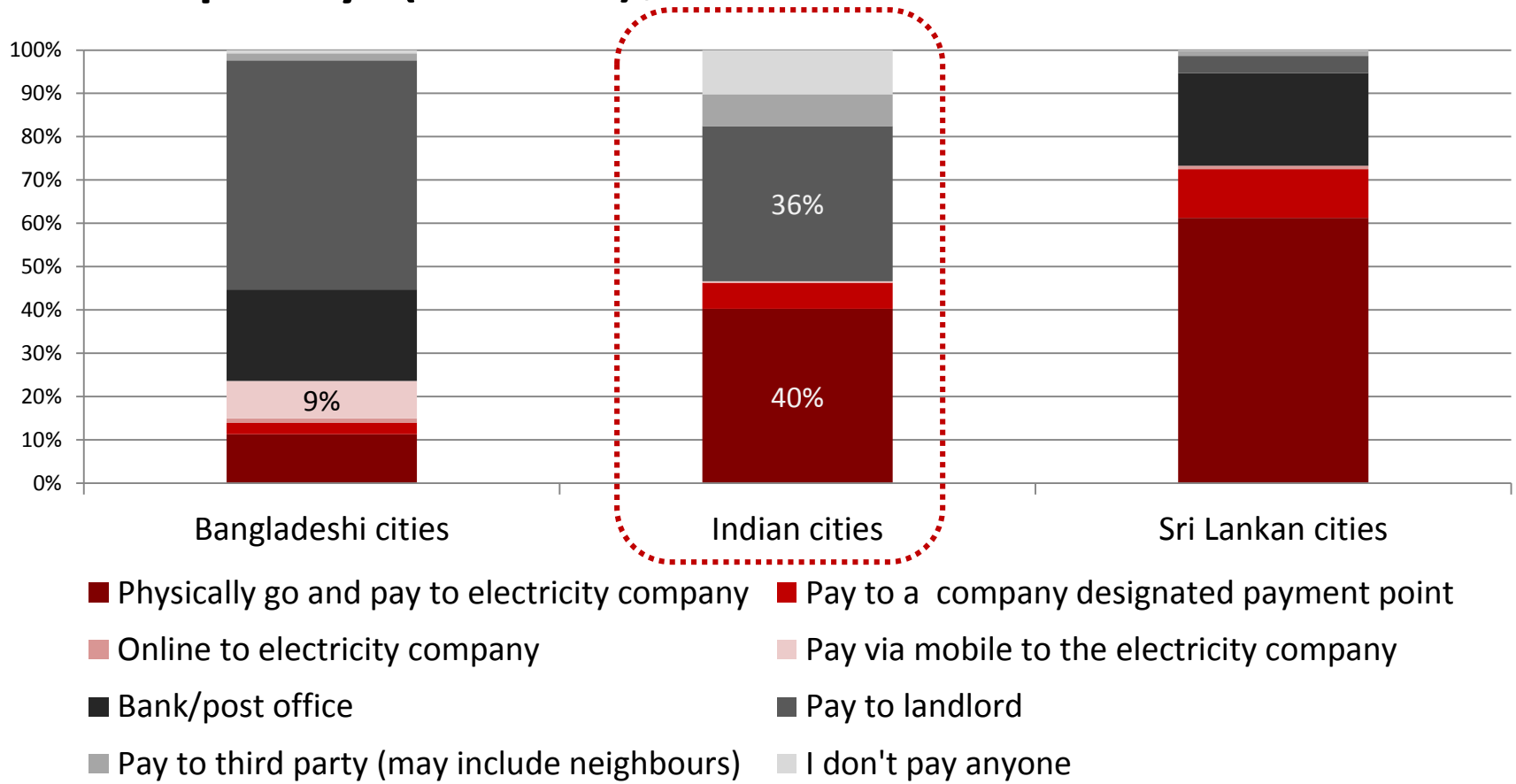
How much is your average monthly electricity bill and mobile recharge (prepaid)? (% low-income MEs who use electricity and telecom for business with supply from

Battery/ generators mainly used in IN. LK and BD have grid connectivity. Hidden costs?



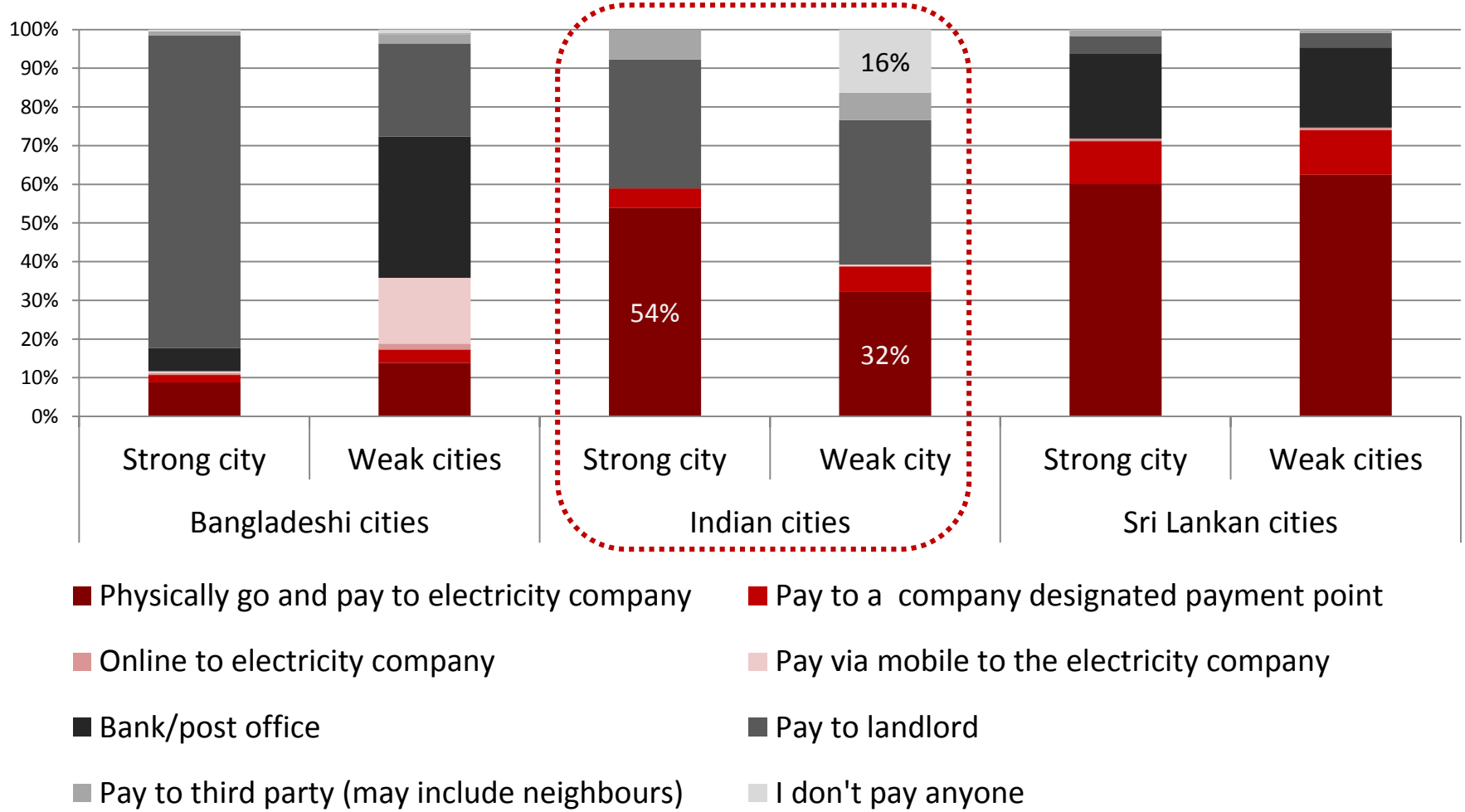
Who is the main supplier of electricity to you? (% low income MEs who use electricity for business)

Most IN MEs pay to the electricity company (Disco), or to the landlord



What is the most frequent used method of payment for your electricity consumption?

16% of MEs in weak IN city do not pay anyone



What is the most frequent used method of payment for your electricity consumption?

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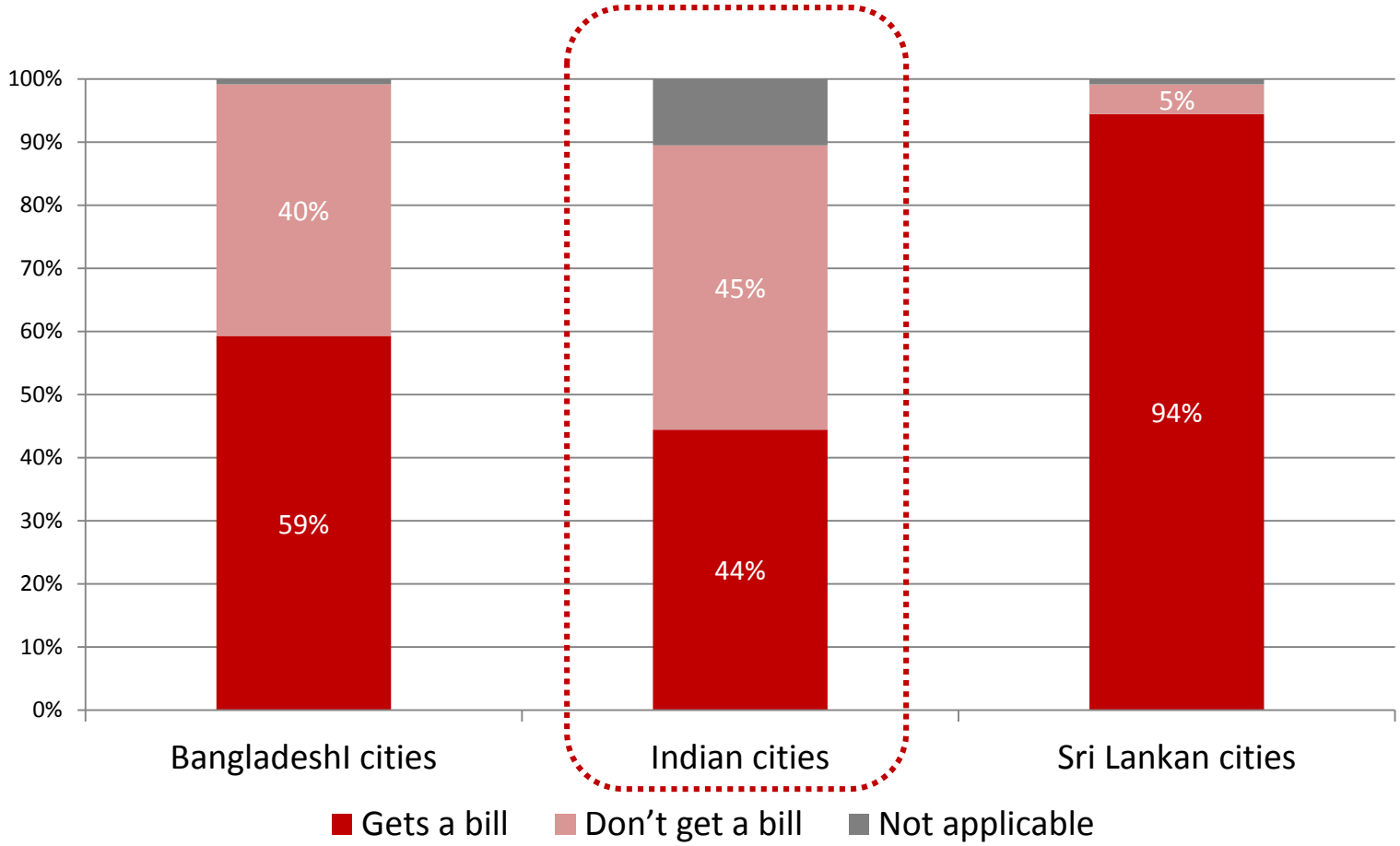
Only 44% of MEs in IN get a bill.

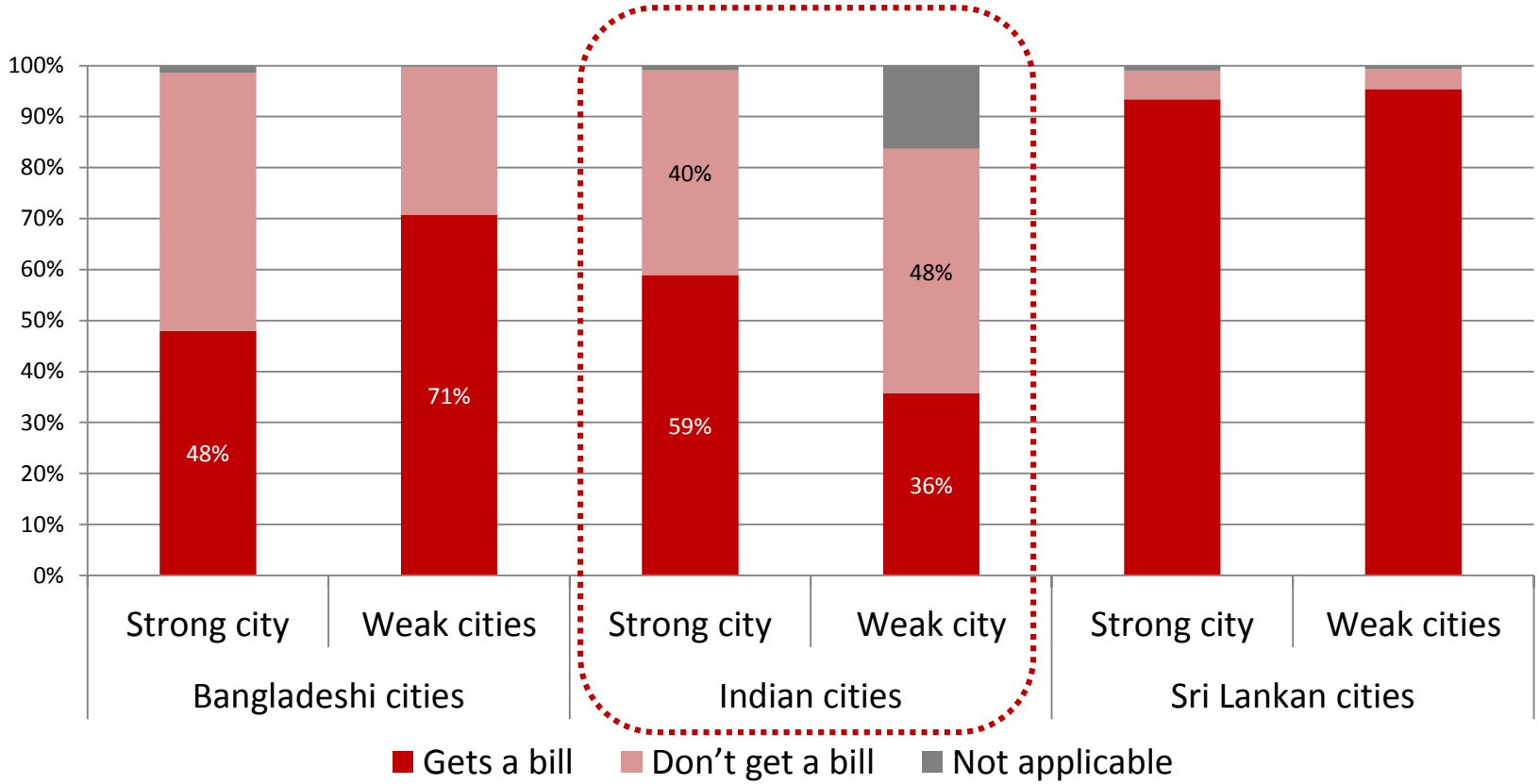


LIRNEasia
Pro-poor. Pro-market.

Do you get an electricity bill?

(% low income MEs, who use electricity for business with

Fewer MEs in the weaker city (Patna) get a bill compared to stronger city (Delhi)



LIRNEasia
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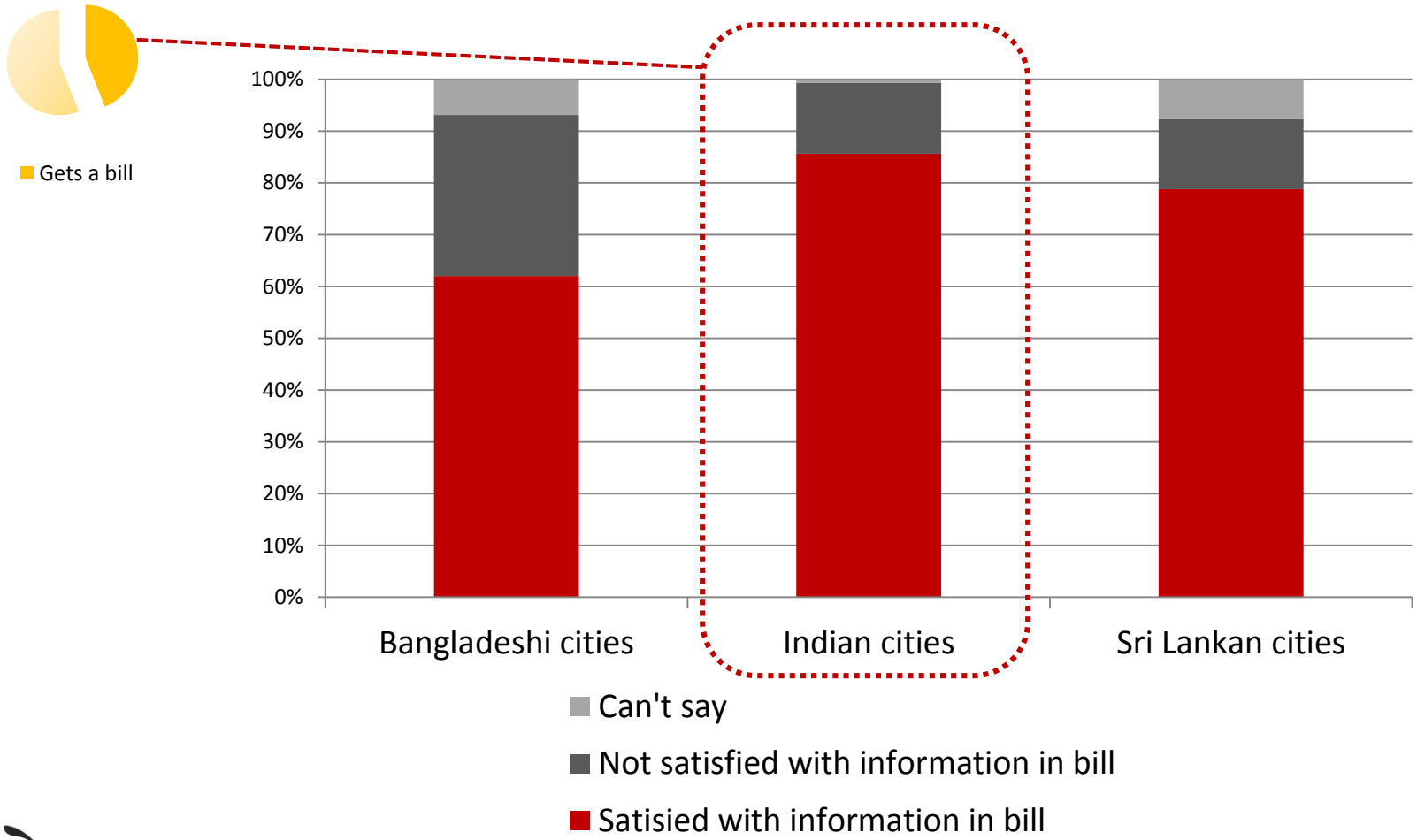
Do you get an electricity bill?

(% low income MEs, who use electricity for business with

Most are satisfied with information on the bill



LIRNEasia
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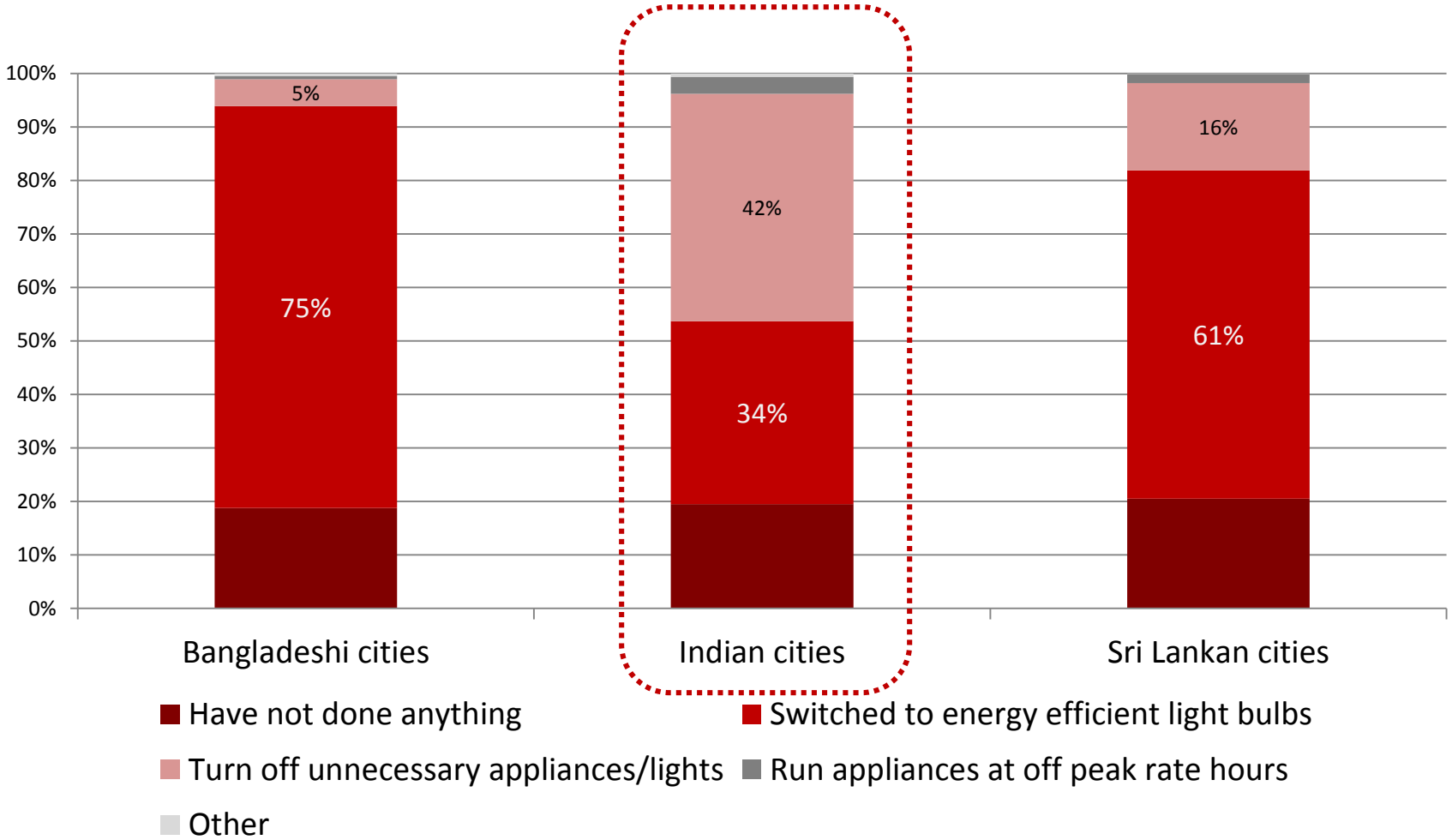
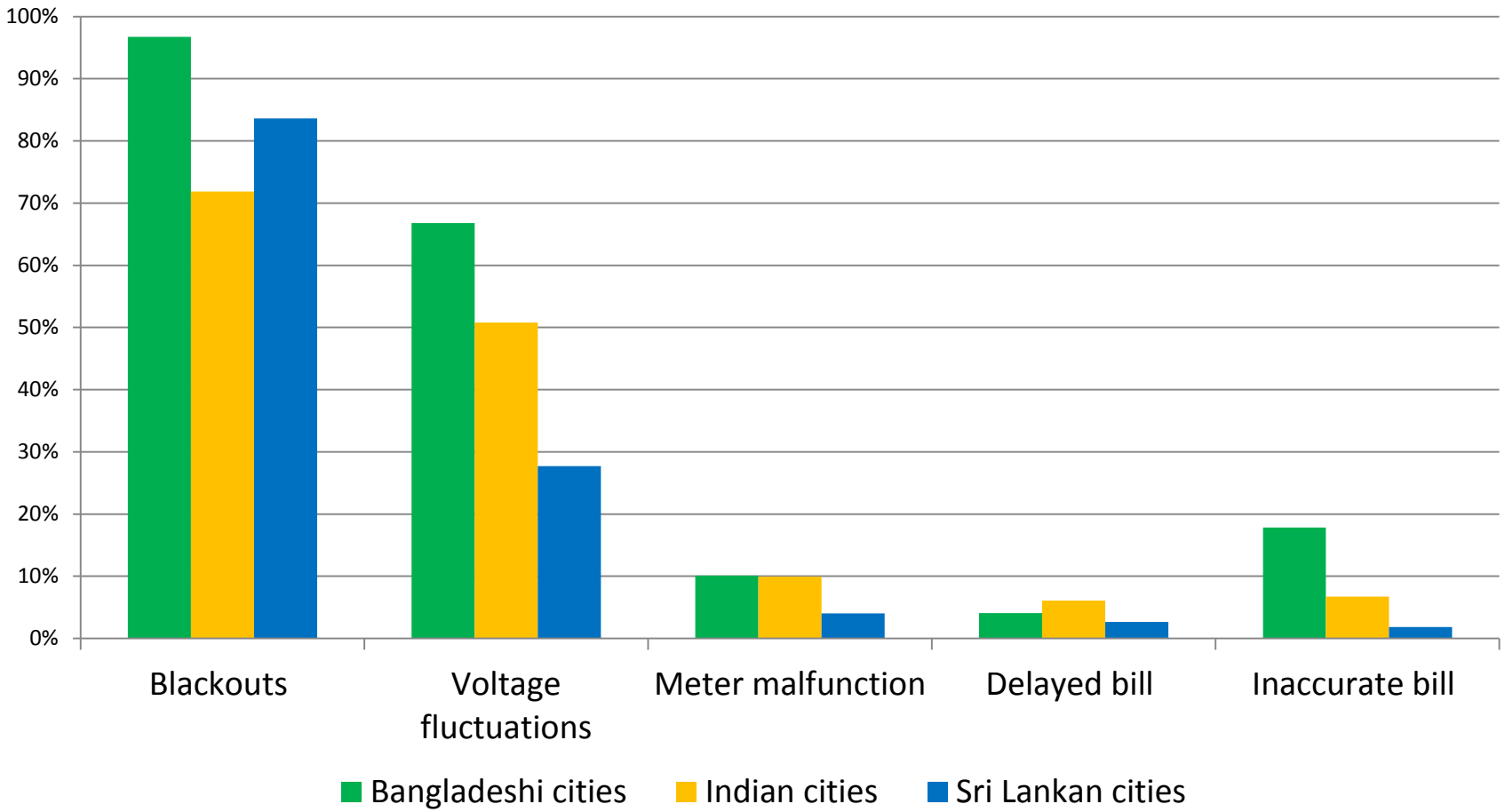
Are you satisfied with the information in your bill? (% low

Lower use of energy efficient lighting to save money in India. Turning off appliances common



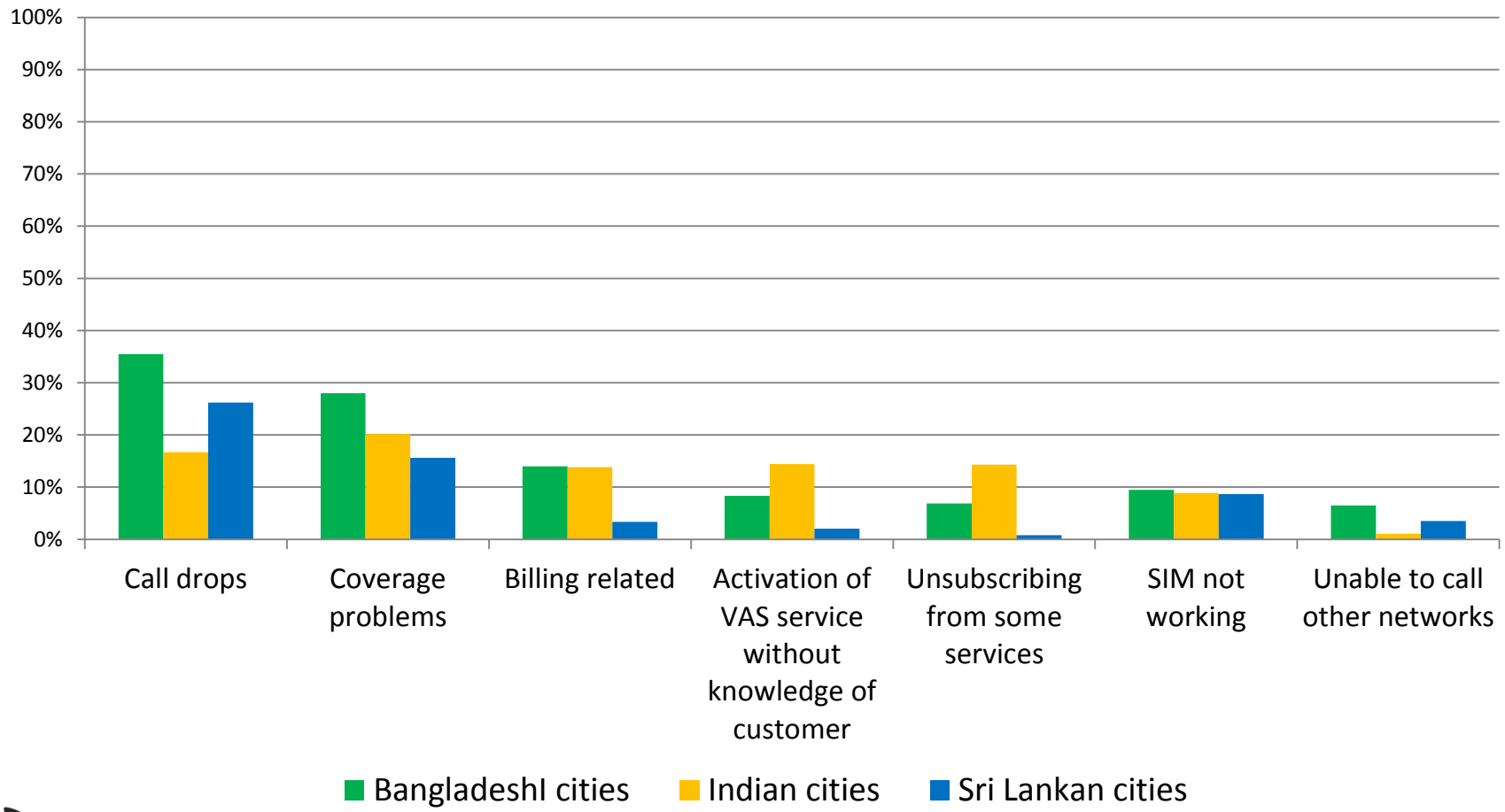
Please tell us about your most important step in conserving energy [reducing electricity bill] you have been following?(% low income MEs who use electricity for business with supply from electricity co.)

Outages and voltage fluctuations most common problems in IN electricity



Did you face this problem? (% low income MEs who use electricity for business from electricity co.)

Compared to call drops & coverage problems in telecom (that are less often cited). VAS related problems exist

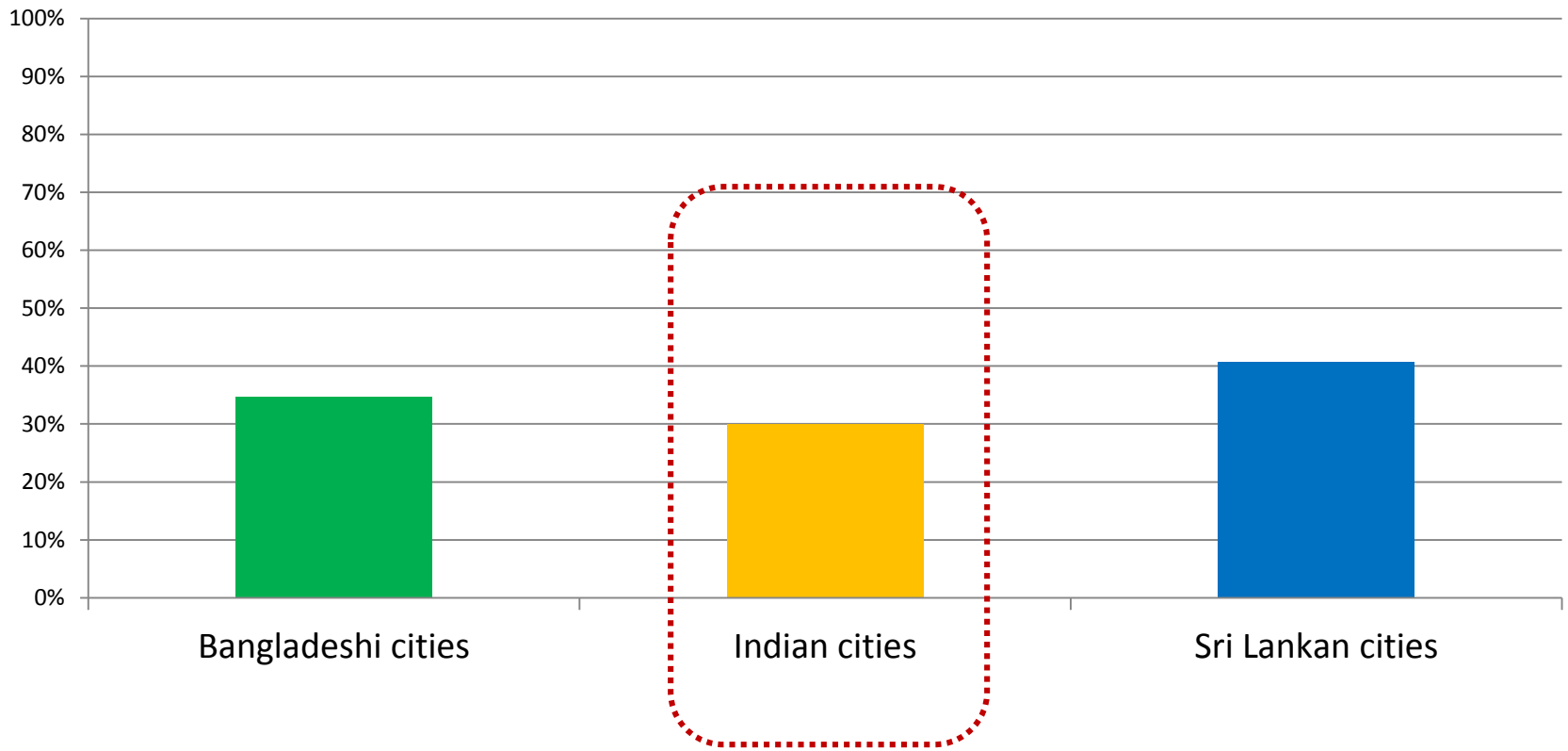


Please tell me the mobile phone related problems you have faced

67% MEs say outages affect their business severely

Do blackouts affect your business severely? (%BOP

Compared to 30% of MEs who say telecom network dis-connectivity / call drops affect their business



Does network dis-connectivity / call drops affect your business?

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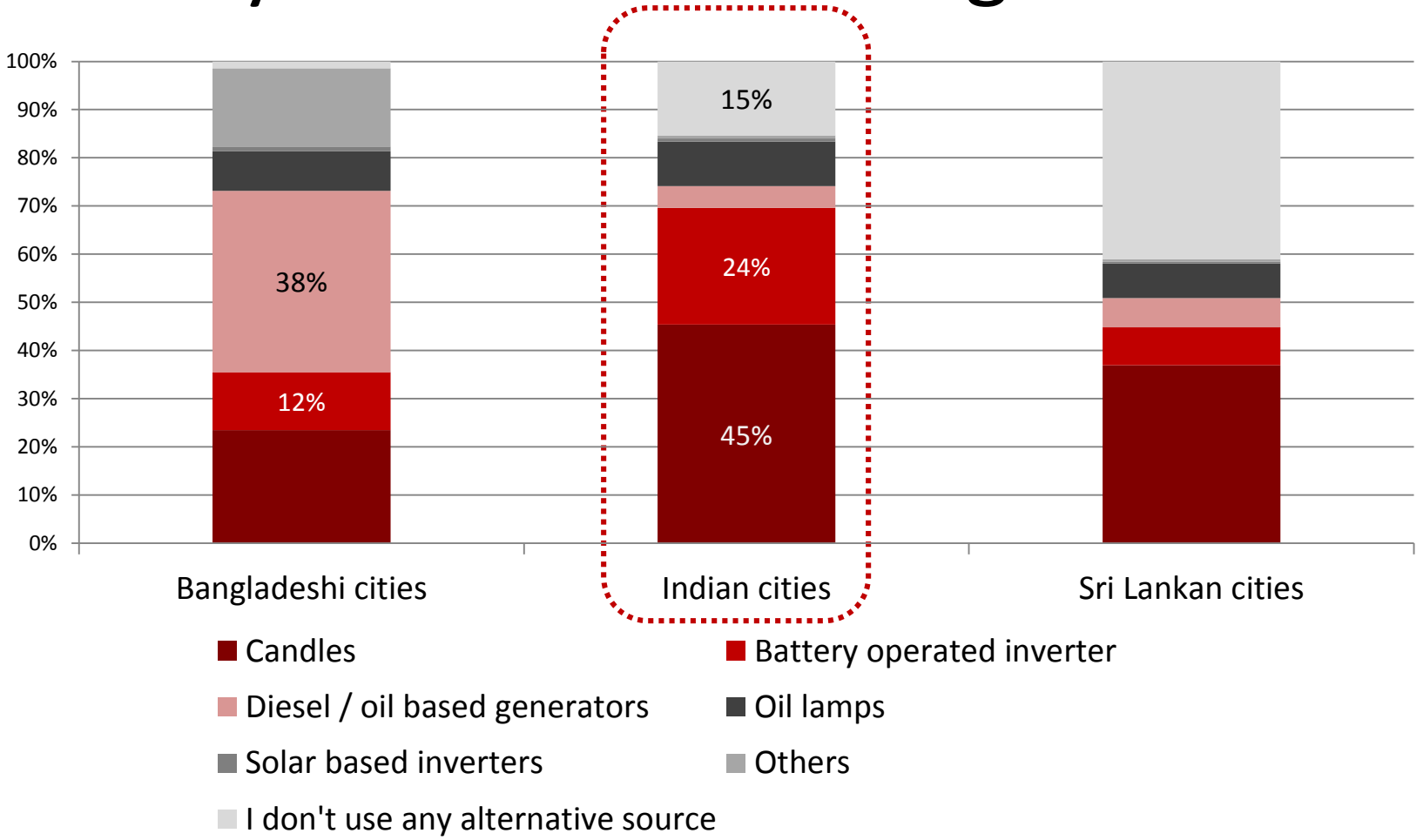
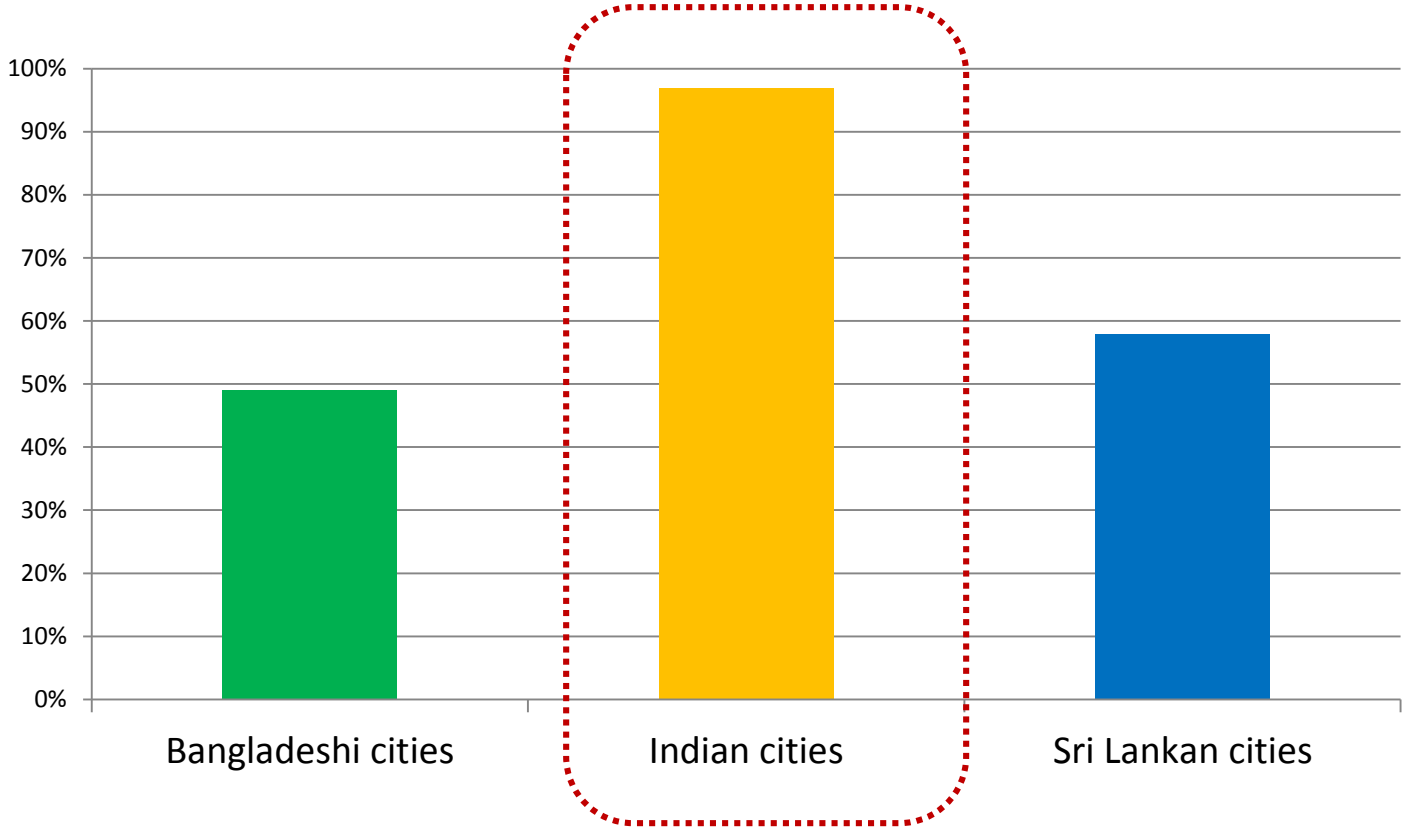
45% of IN MEs use candles, 24% use battery inverters to manage blackouts



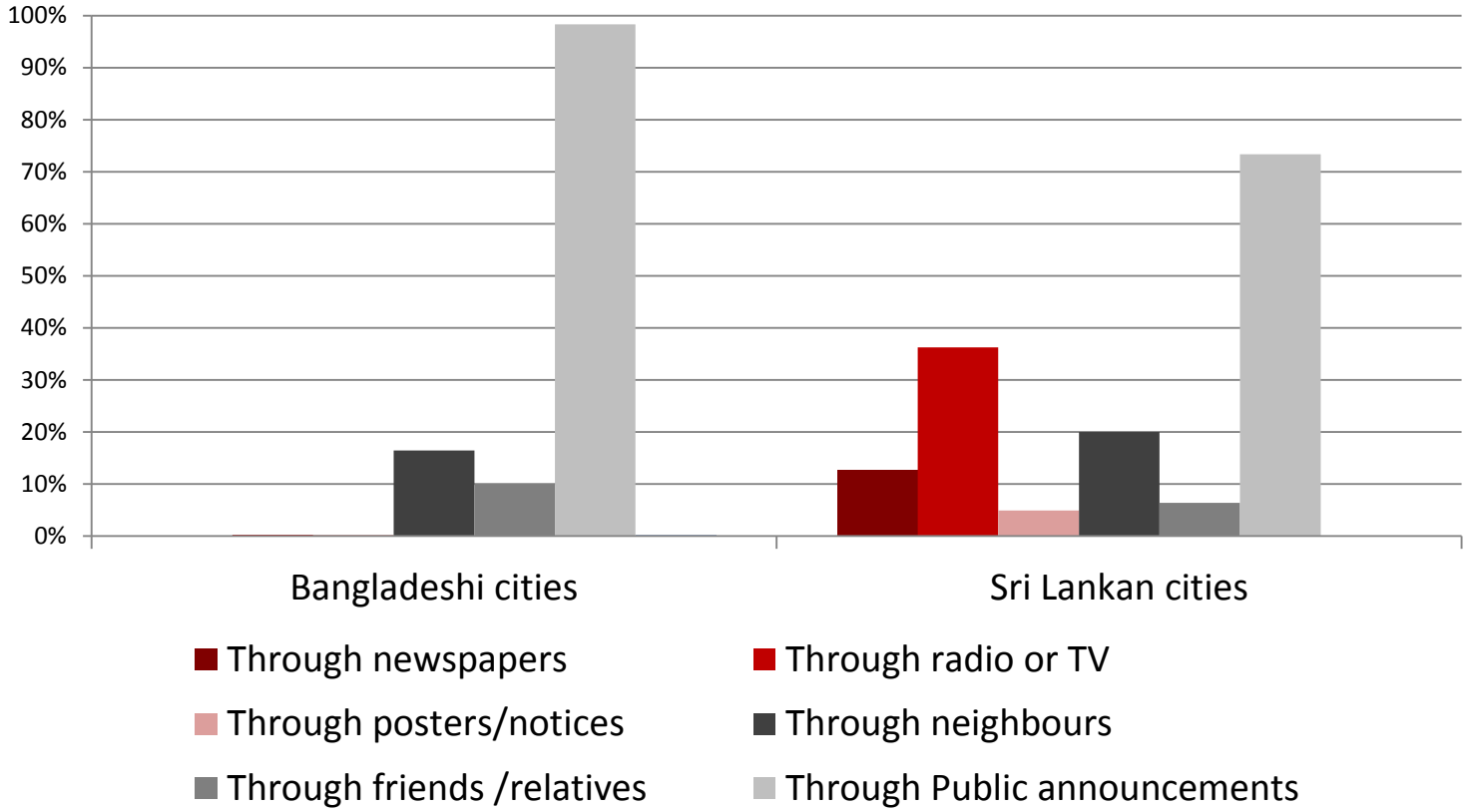
How power black outs are managed for business purposes? (% low income MEs who use electricity for

97% in IN do not get an advance notice about power cuts



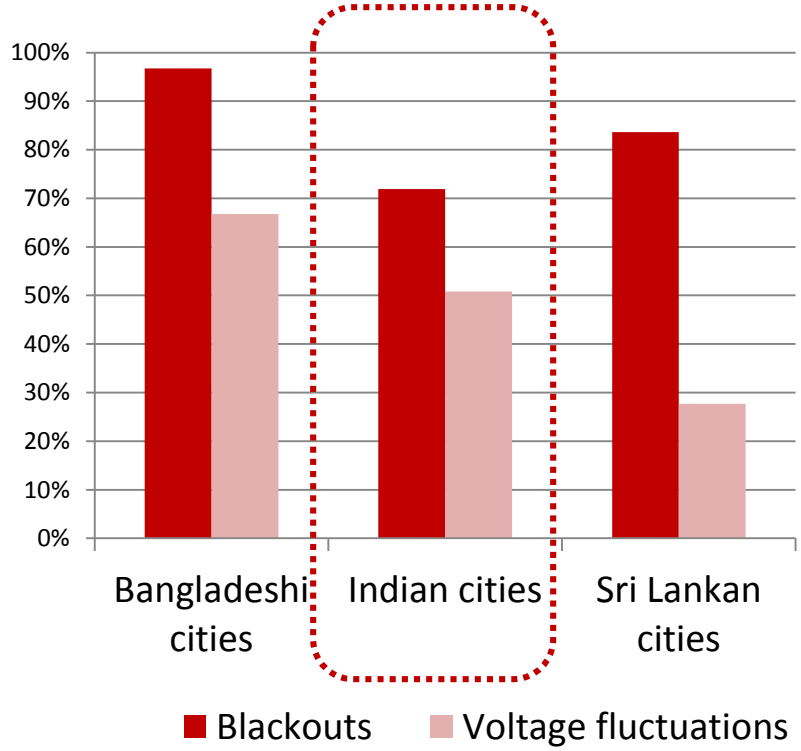
Do you get advance notice about power blackouts? - NO (% low income MEs who use electricity for business)

Compared to BD, LK where MEs receive advance notice about power cuts in various ways

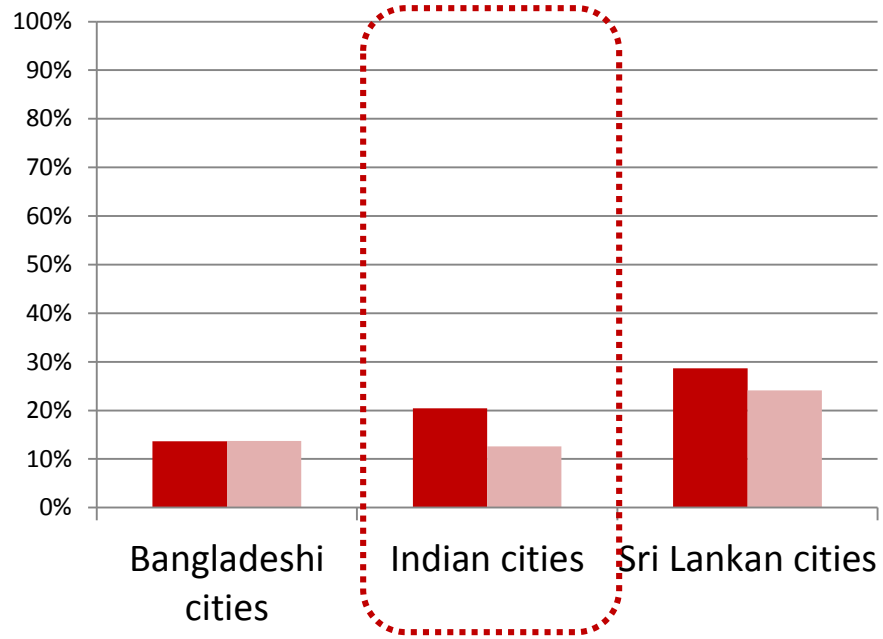


How do you get advance notice about power blackouts? [Multiple Answers] (% low income MEs who get advance

Outages and voltage fluctuations most common problems



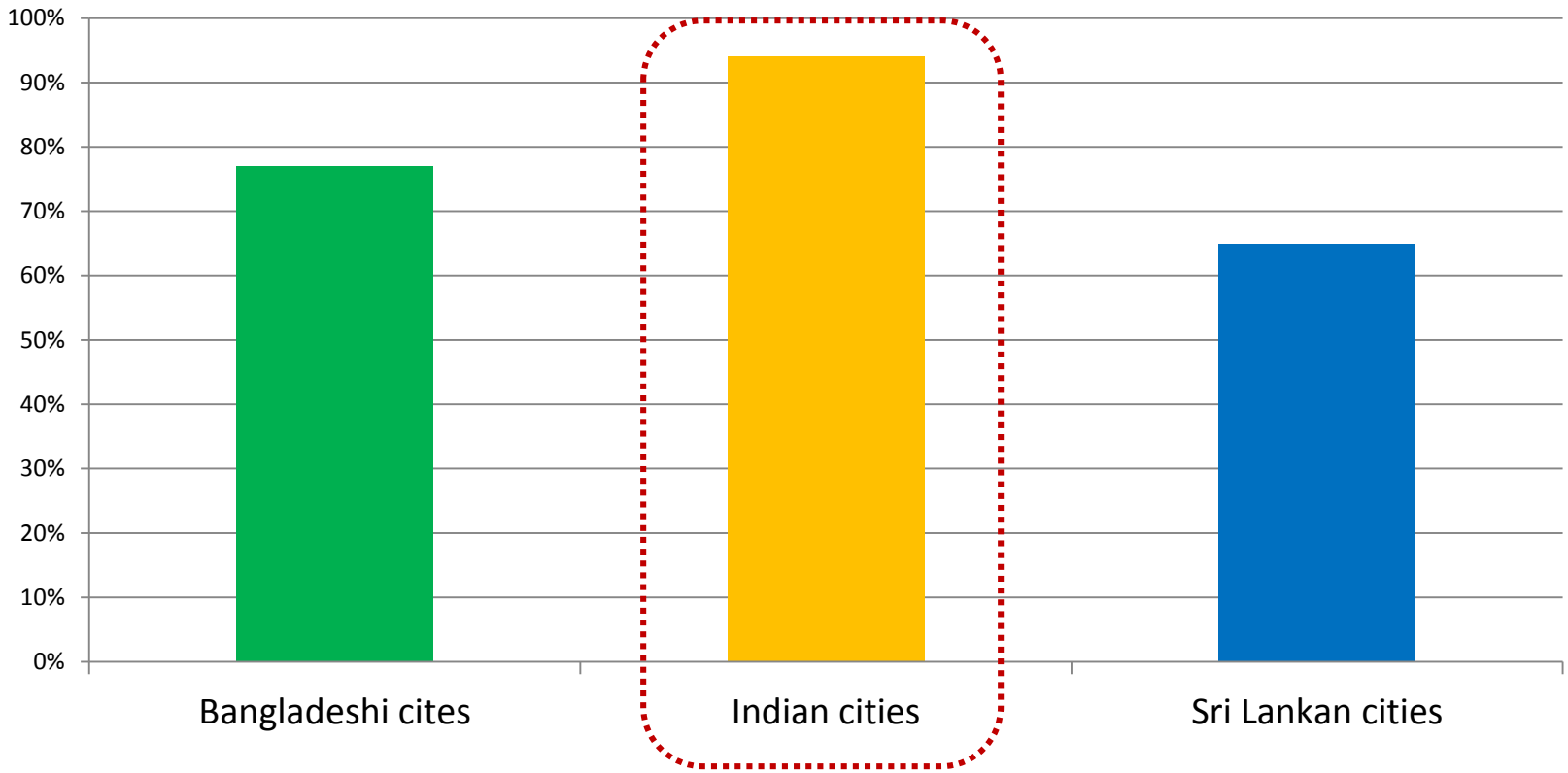
However few complained about it



Please tell us whether you faced these problems in the last 2 years. (% low

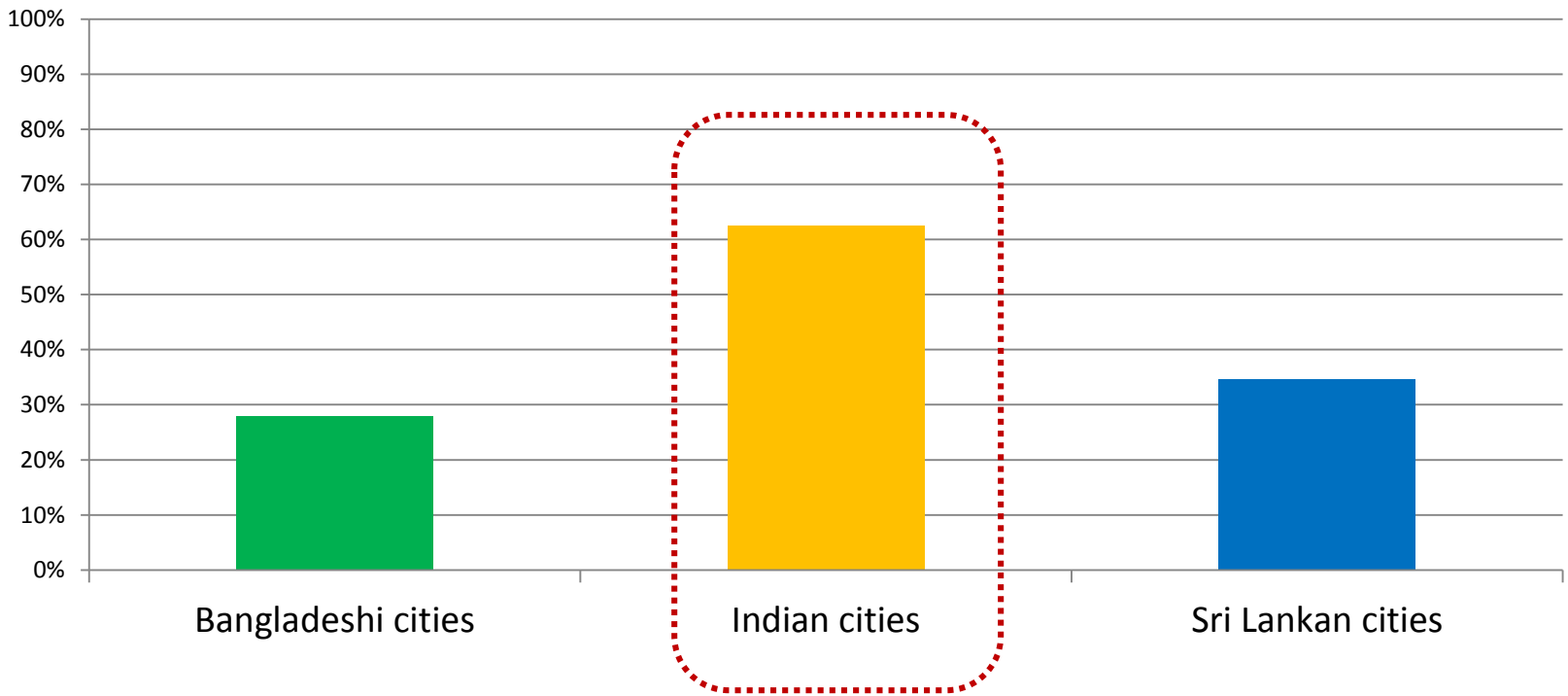
Did you complain about this problem? (% low income MEs

94% in IN have not interacted with the electricity service provider



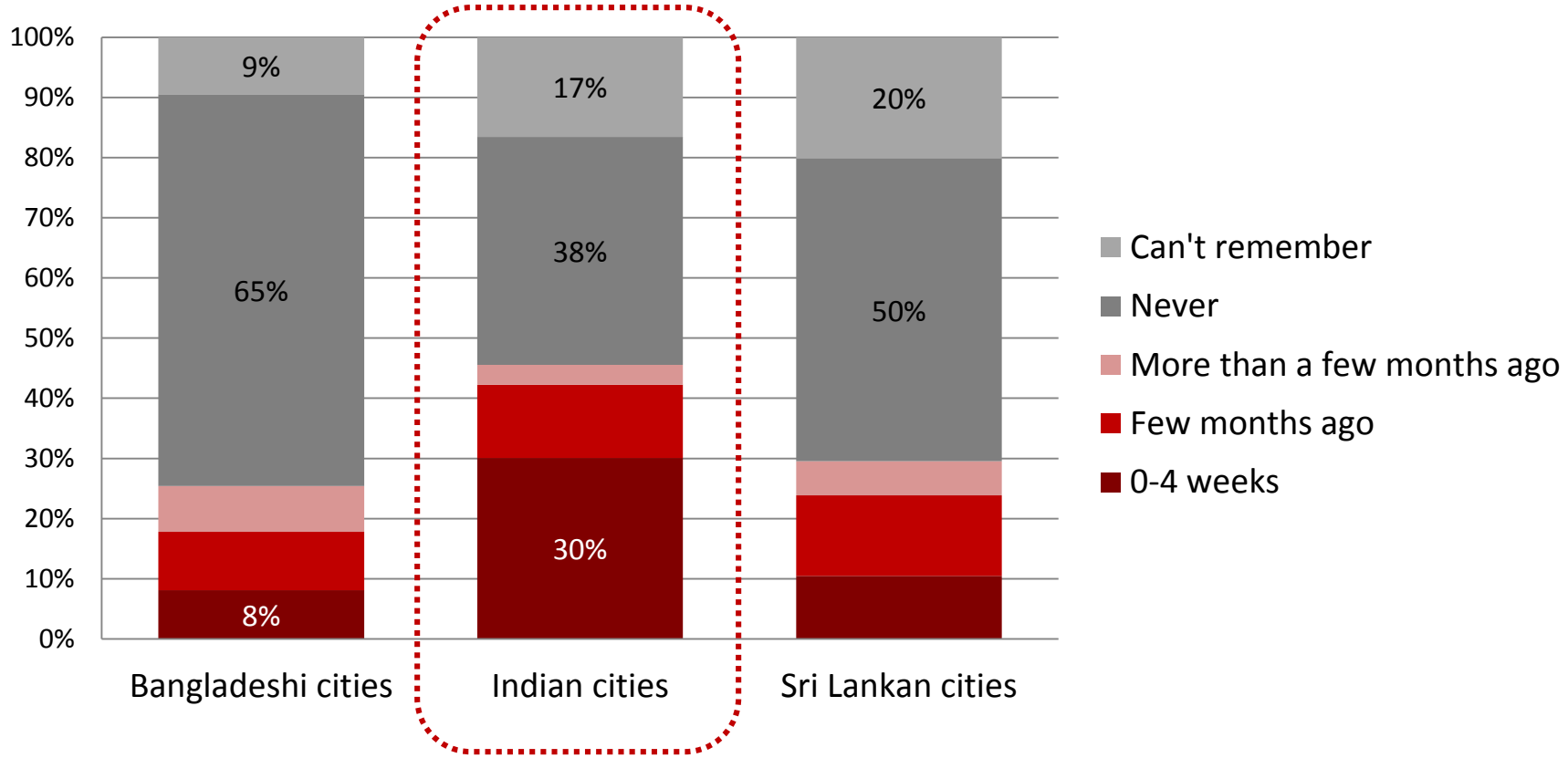
Have you ever interacted/talked with the electricity service provider? NO

Compared to 63% who complain about telecom network problems to telco



Have you complained about these problems to the telecom service provider?

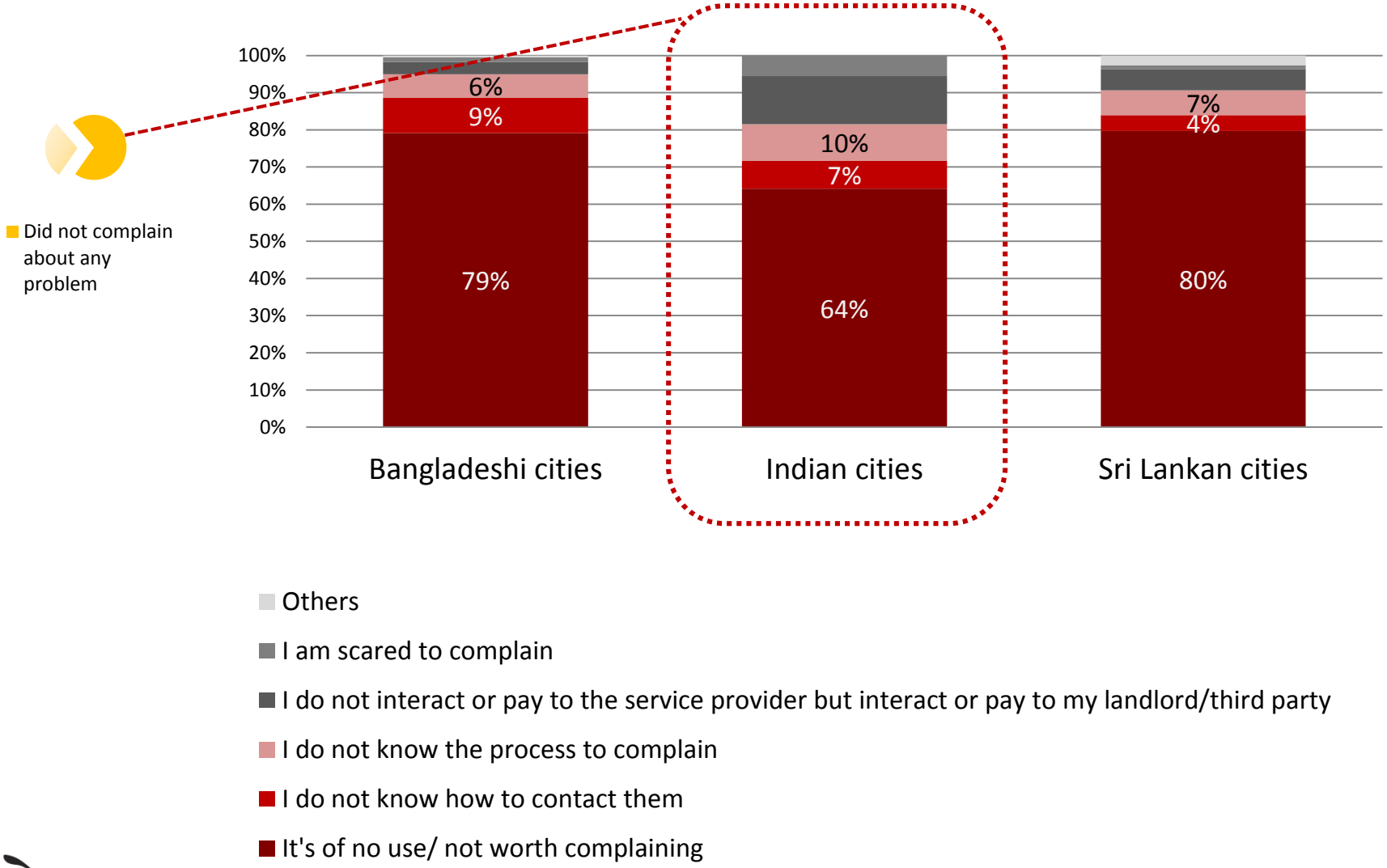
And had more frequent interaction with telecos



When was the last interaction with the service provider?
(% low income MEs who use mobiles for business)

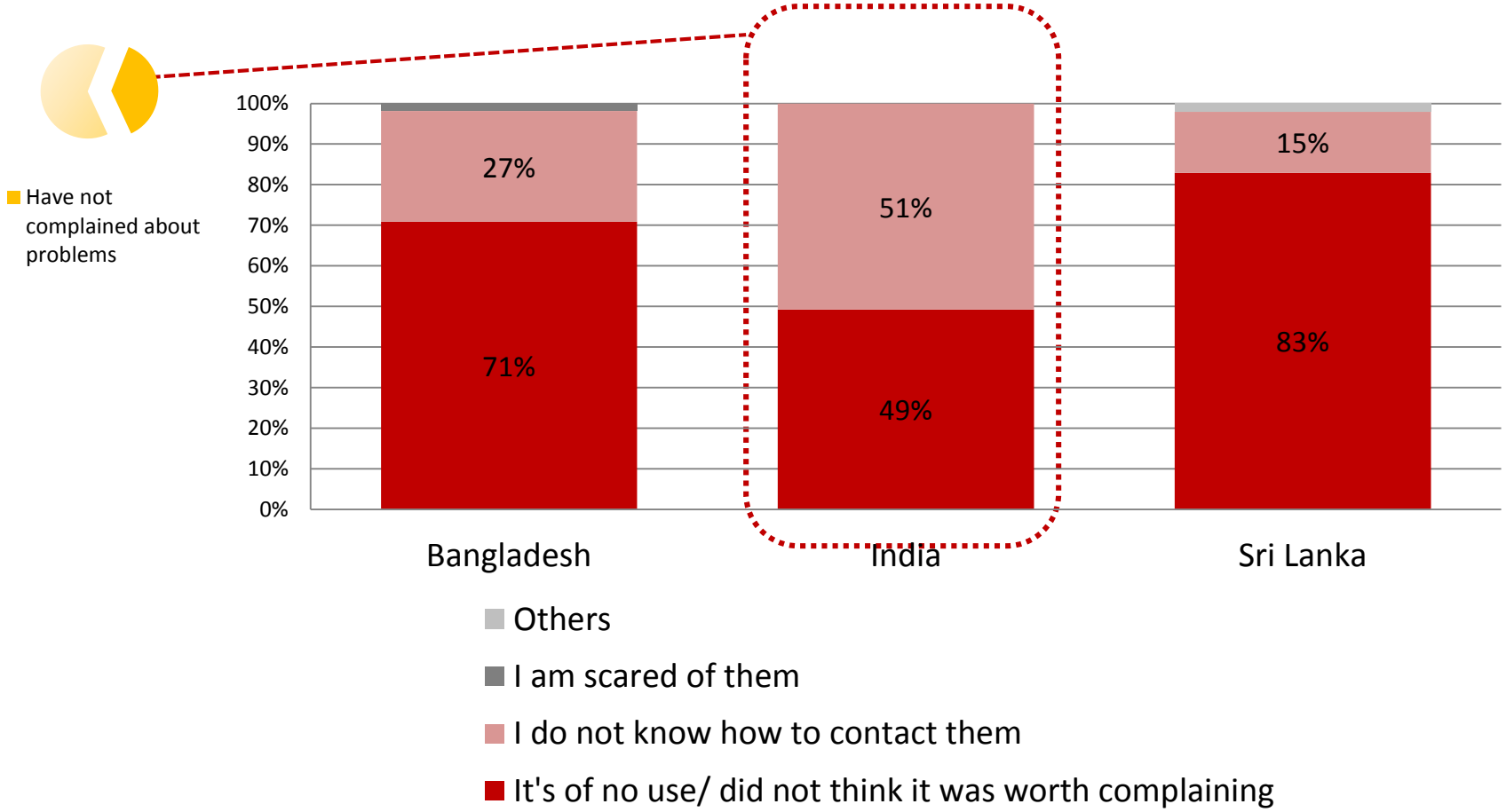
LIRNEasia
Pro-poor. Pro-market.

64% see no use of complaining. 7% do not know how to contact Disco; 6% scared to.



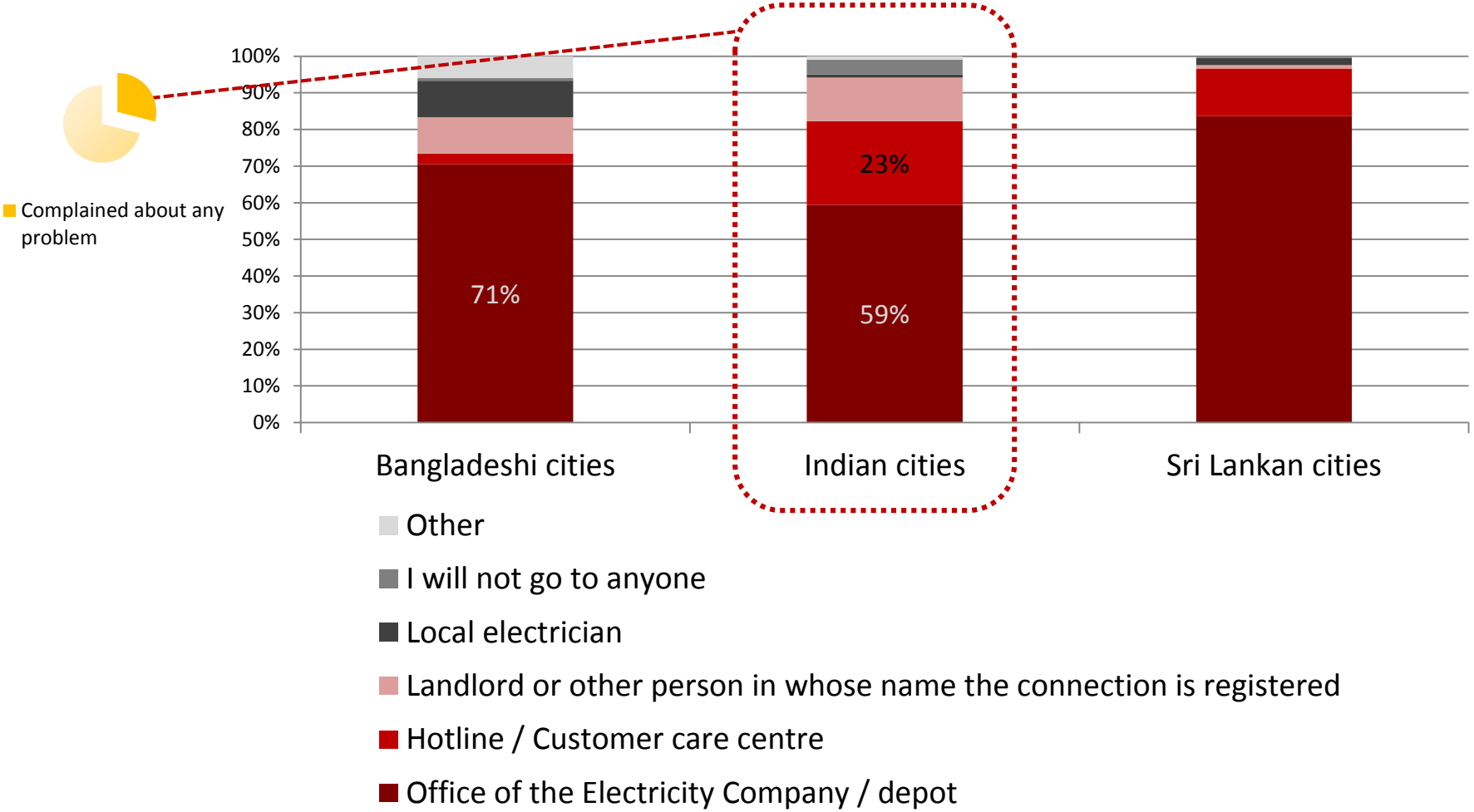
Why did you not complain to the service provider? (% low income MEs who use electricity for business)

In telecom, only 49% thought it not worth complaining. But 51% didn't know how to contact telco.



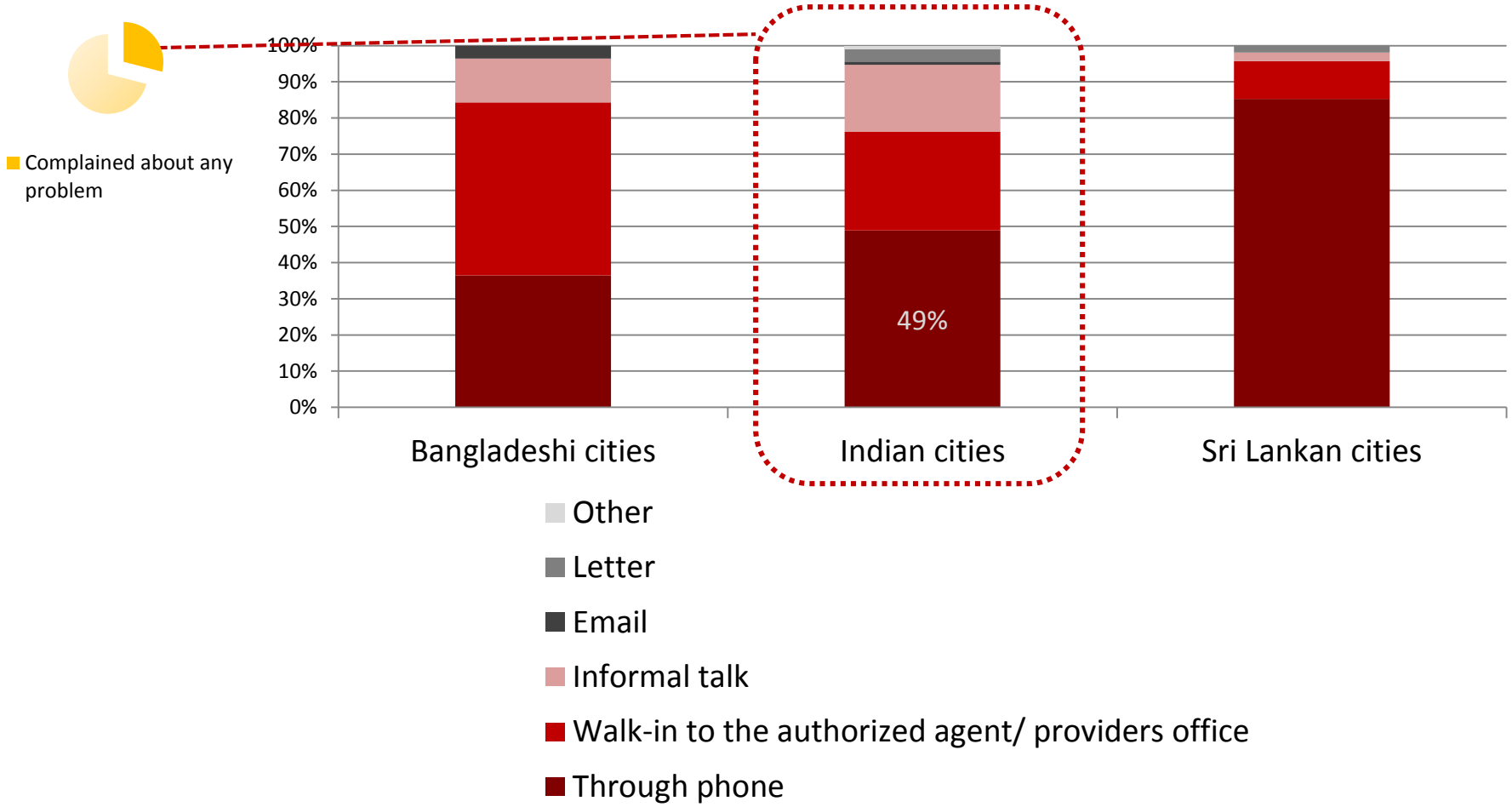
Why did you not complain to the service provider? (% low income MEs who faced problems but didn't complain)

82% of those who DID complain about electricity, did so to the DisCo



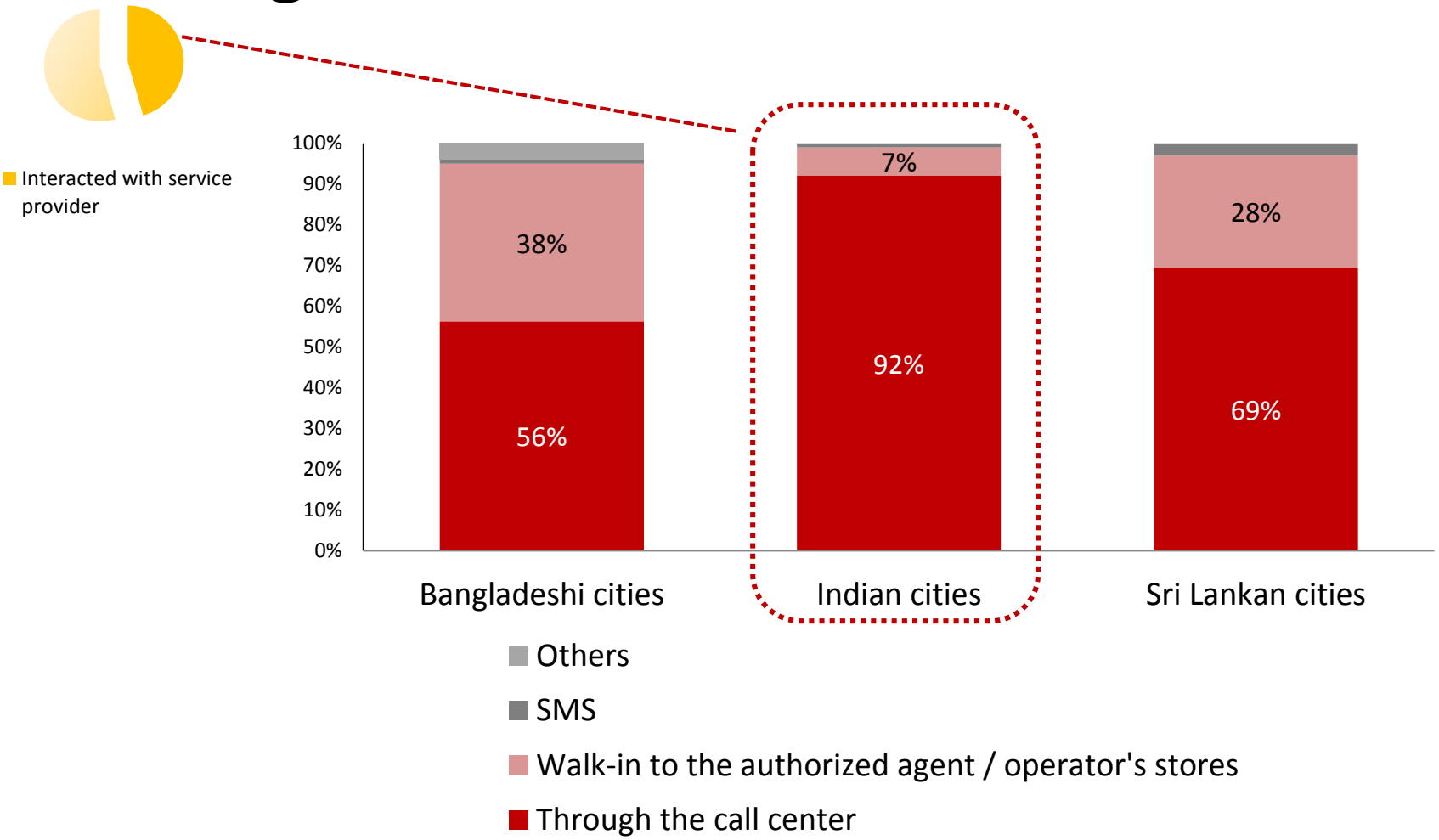
For the main problem with electricity you complained about, whom did you complain to? (% low income MEs

Complaints to Disco were using phones and walk-ins



For the main problem with electricity you complained about, how did you complain? (% low income MEs who complained)

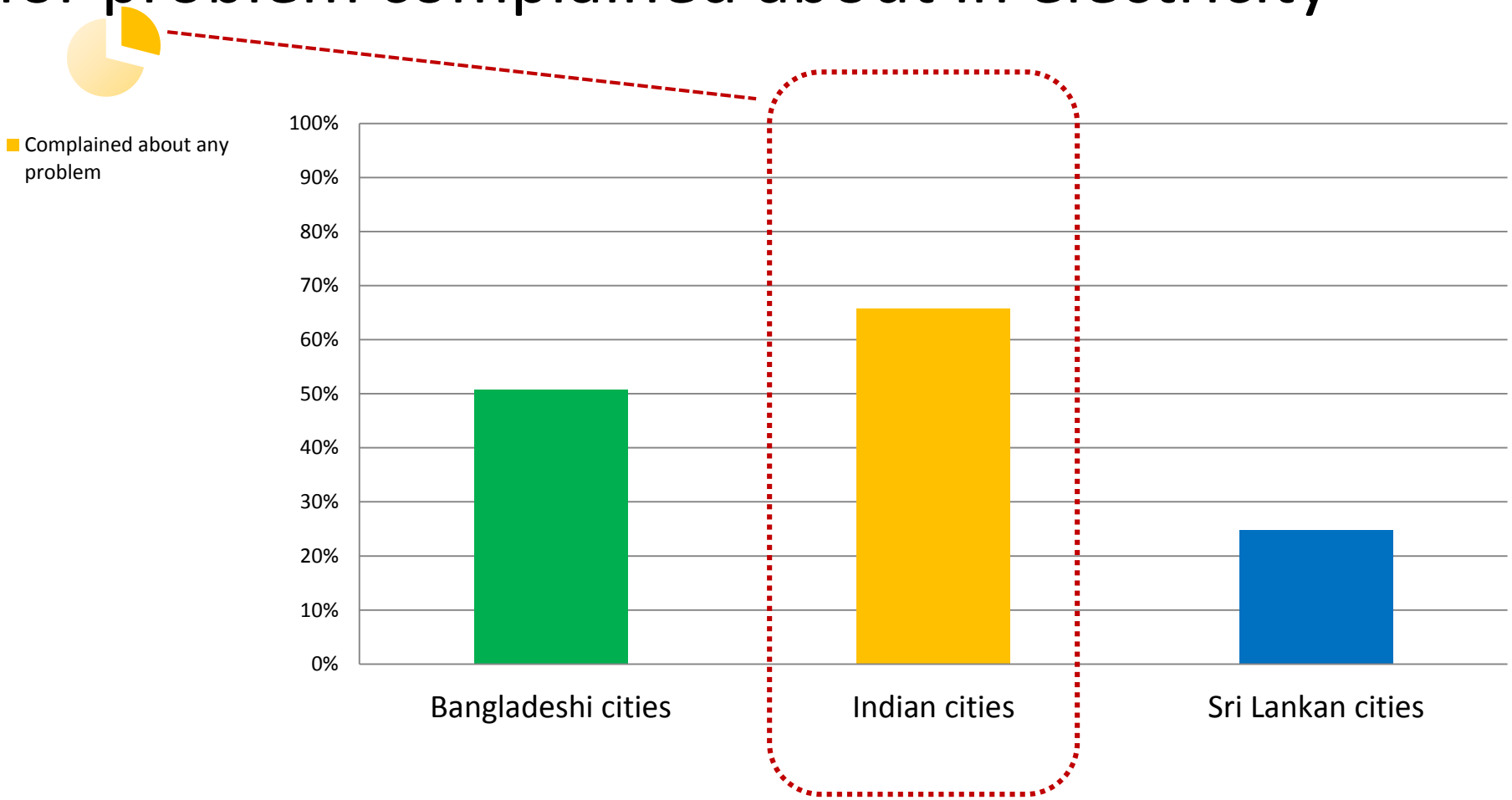
In telecom, interactions were mostly through call center of telco



How do you normally contact your telecom service provider? (% low income MEs who have interacted with service provider)

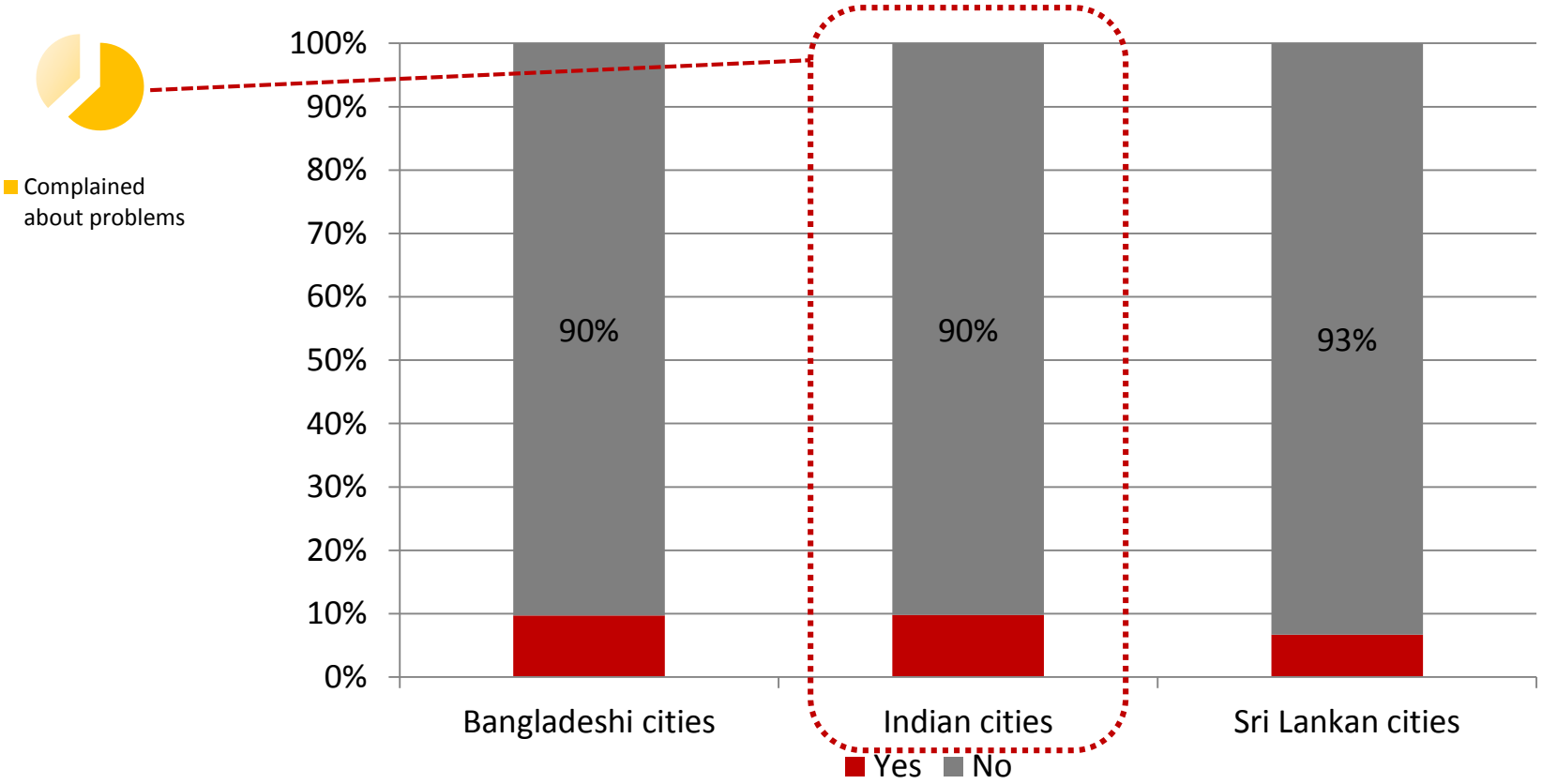
LIRNEasia
Pro-poor. Pro-market.

More than 2/3 unsatisfied with the action taken for problem complained about in electricity



For the main problem with electricity you complained about, were you satisfied with the action taken? -NO

Compared to majority in telecom who say complaints have been attended to



Have any of your major complaints NOT been attended by the service provider?

MEs More satisfied with interactions with IN Telecom operators than with IN Electricity Discos

Indian cities	Telecom	Electricity
I was treated politely by the office / call center personnel	91%	72%
The waiting time to reach the concerned officer was satisfactory	73%	56%
I find the automated responses (IVR) in call center helpline are clear	58%	29%
Information on how to contact the service provider is /was readily available	44%	54%

Perceived performance of Discos better than in BD & LK. In contrast to actual sector performance

Interaction with the electricity service provider	BD cities	**IN cities**	LK cities
Information on procedures and documents to get new connection was readily available	49%	**62%**	55%
The amount of time I need to wait to get a new connection is satisfactory	39%	**62%**	44%
Information on procedures to reconnect was readily available	39%	**52%**	45%
Information on how to contact the service provider is /was readily available	51%	**54%**	46%
Information about the procedure for changing ownership of a connection was readily available	29%	**50%**	32%
The amount of time taken to reconnect was satisfactory	33%	**44%**	39%
It is easy to find the locations where payment can be made	66%	**88%**	66%
The amount of time I need to spend to change the ownership of the connection satisfactory	19%	**48%**	30%
I was treated politely by their office / call center personnel	75%	**72%**	55%
The waiting time to reach a concerned officer was appropriate	50%	**56%**	38%
if needed, Tracking my application or complaint through a phone/internet was possible	25%	**39%**	30%
I find the automated responses in call center helpline are clear	47%	**29%**	34%
Service provider wants me to contact through phones only	34%	**9%**	25%
Service provider wants me to obtain information through self service	19%	**5%**	12%
The interaction with the office was carried out in my language	89%	**92%**	48%

What can be done?

Telecom

Rohan Samarajiva

New Delhi, 27 May 2014

LIRNEasia

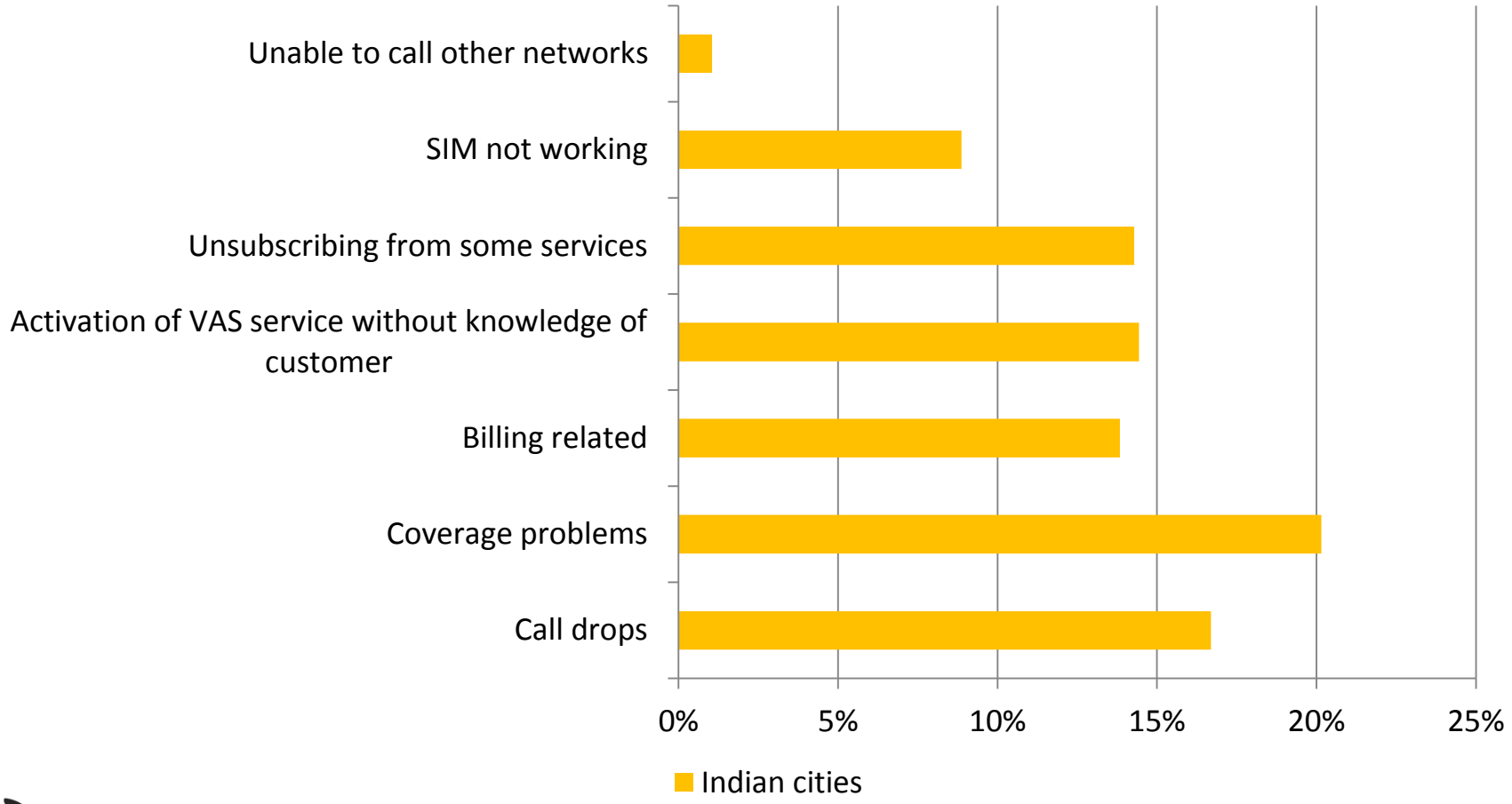
Pro-poor. Pro-market.

IDRC CRDI

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

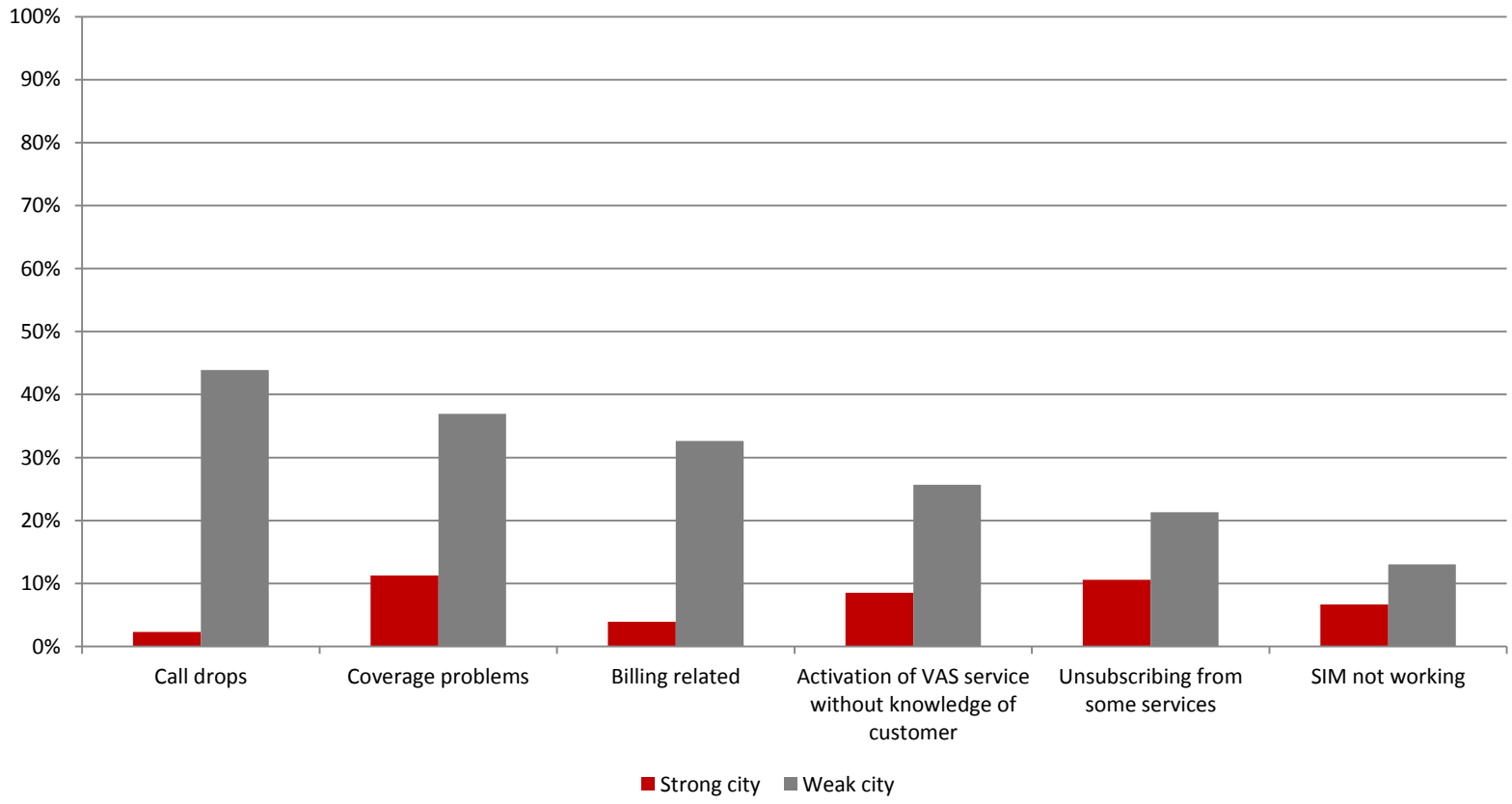
Canada

Biggest problems in IN are call drops & coverage; VAS related problems also exist

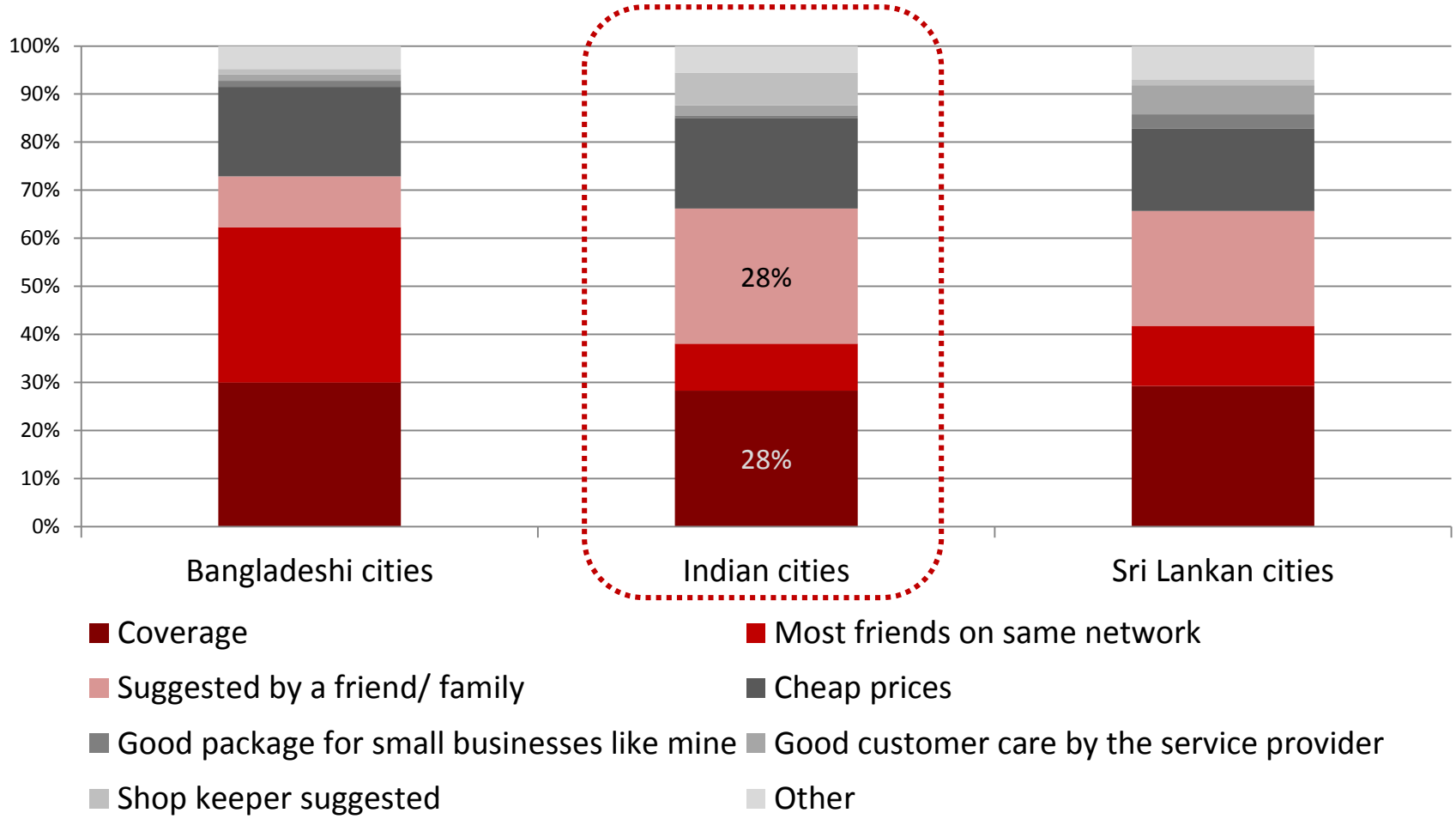


Please tell me the mobile phone related problems you have faced (% low income MEs who use a mobile for business) [MC]

Different problems in Delhi and Patna



Coverage & friends factor in choosing the service provider



What is the most important reason for selecting the service provider?
(% low income MEs who use mobiles for business)

Problem: Network Coverage / Frequent Call Drops

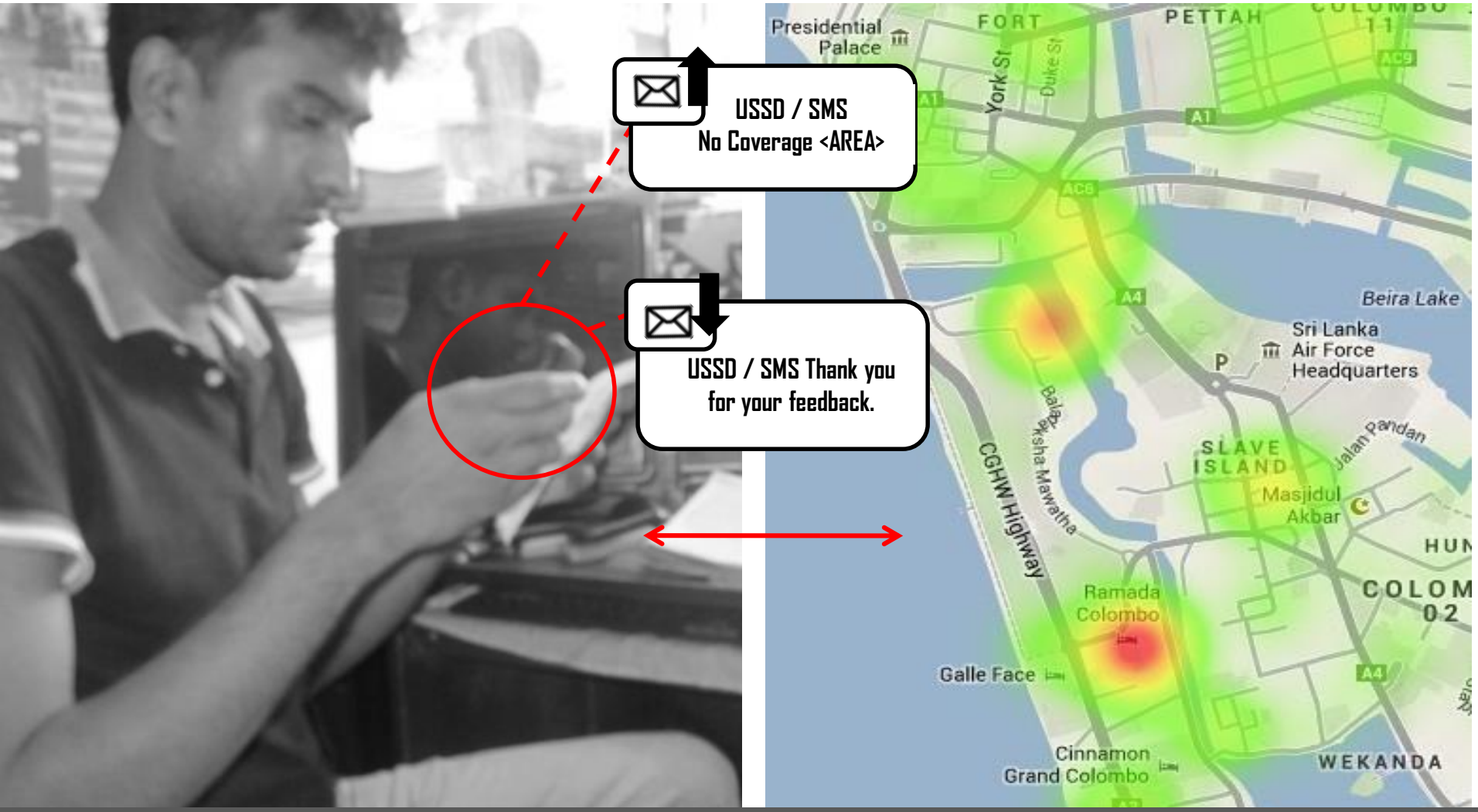
"There are times when there is no network coverage because of which I lose out on my business. I wish there was a way to resolve this instantly."

70% in LK use mobiles for business purposes
40% in LK say connectivity issues affects their livelihood

Name: Asif Ali
Age: 56 years
Education: Grade 9
Occupation: Rental company dealing with furniture, cutlery, glassware
Number of Employees: Four (Family members)

I have been running my business for the 15 years and I need good telecom service for my business. I need to be constant touch with my customers to follow up with them about their requirements and my payments.

Solution: Crowd Sourced Map of Problem Areas



Enable customers to log problems pertaining to coverage through USSD/ SMS. Operators can use this information to optimize the network and improve network connectivity.

Win-win solution

- Reduces transaction costs for consumers by making it easier to inform operators about call drops and coverage changes
- Benefits operators by providing them with crowd-sourced information on the changing coverage

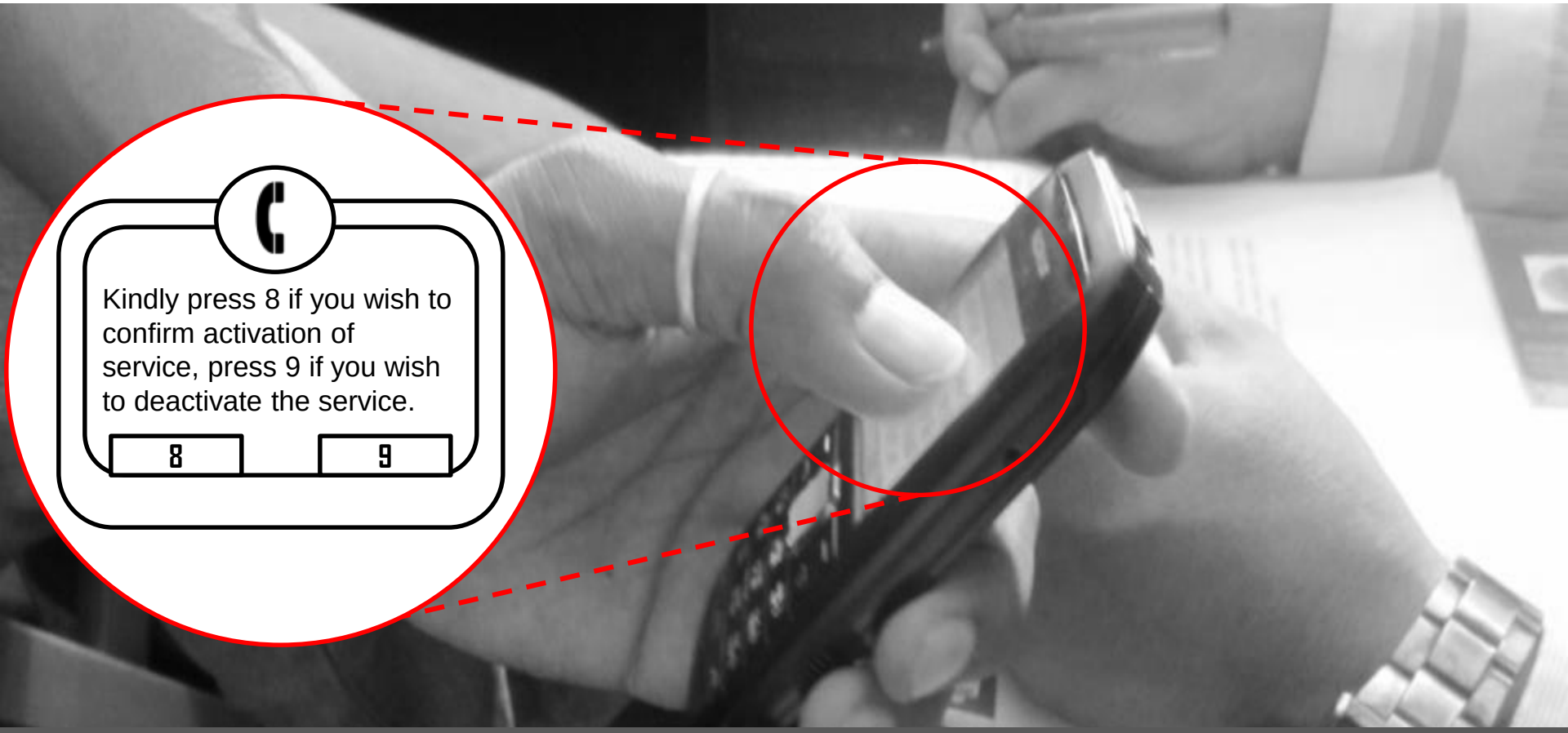
Unintended VAS activation: One of the top reasons to call contact centre

Name: Supun Fernando
Age: 38 years
Education: Grade 9
Occupation: Shoe Seller
Number of Employees: Two

I have been running my business for the past seven years and I tend to get irritated with the messages I get from my telecom company.

In addition, MNOs send too many SMS; Most are ignored. In LK, SMS is not in local script; Cannot be understood.

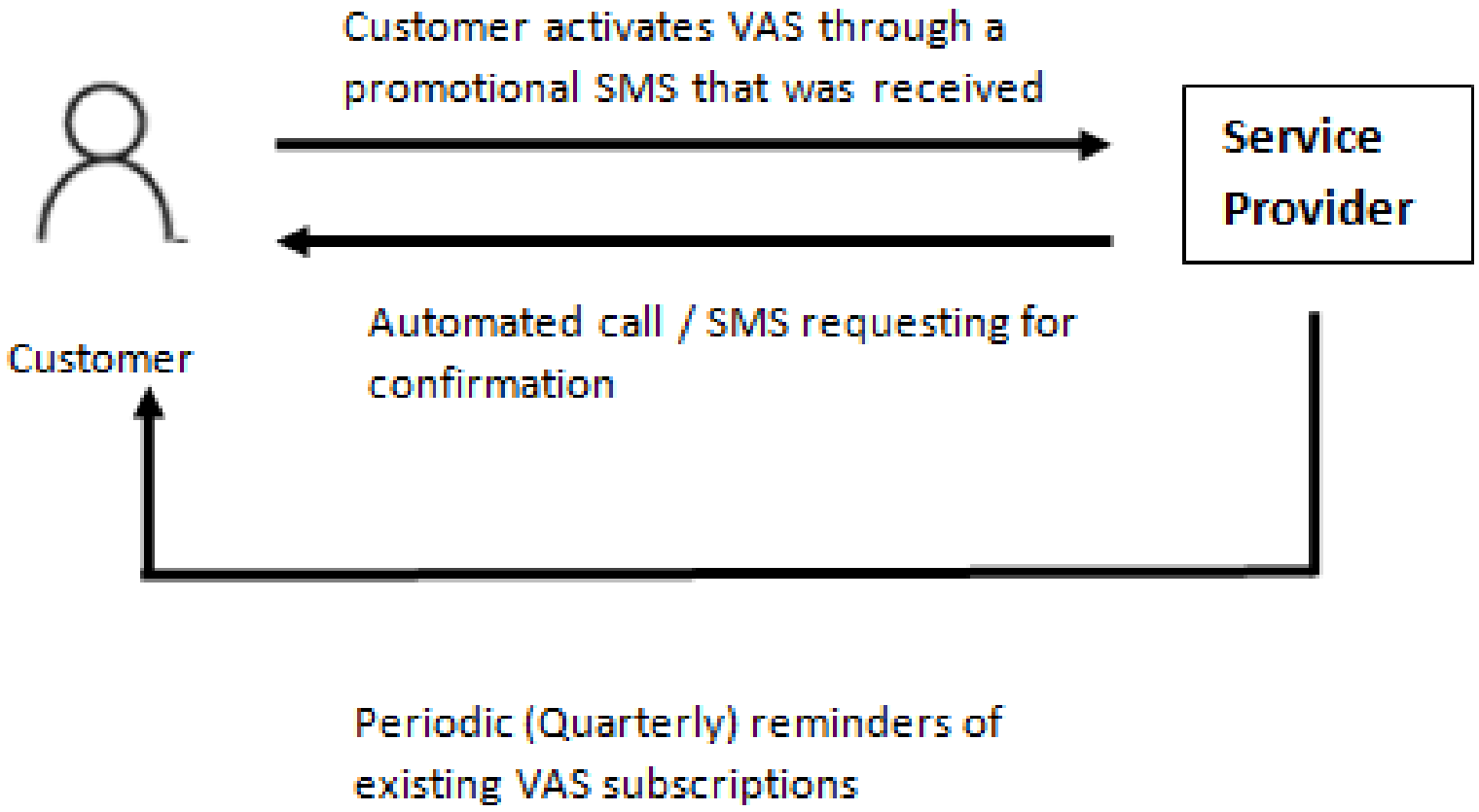
Solution: Active reconfirmation



Solution: On activation of VAS, the ME receives a confirmation (automated call or SMS) requesting them to confirm their activation.

OR

Reconfirmation request sent through SMS or IVR about VAS activated on phone at a given frequency (every 3-4 months). If VAS is not confirmed, it will get automatically deactivated.


Customer activates VAS through a promotional SMS that was received
Service Provider
Automated call / SMS requesting for confirmation
Customer
Periodic (Quarterly) reminders of existing VAS subscriptions

May not seem like it, but this too is win-win

- The great majority of complaints operators receive are connected to VAS activations
- If they implement active reconfirmation, these complaints are likely to subside
  - Reducing workload for call center staff, and
  - Increasing trust among customers

Essential to look beyond symptoms to identify & address causes of quality problems

- Call drops are not caused solely and always by operator negligence; it is possible that spectrum congestion or difficulties in erecting enough antenna may be contributing
- Government rules re taxes (e.g., tax on tax) may be unnecessarily opaque leading to customer confusion

Nigerian Telecom Minister at MNP launch, April 2013

- *"That doesn't stop the quality of service issue because we have a nationwide quality of service issue at this moment. We are doing a number of other things to work on quality of service issues, making it easier for our network operators to rollout infrastructure without the bottlenecks of multiple taxes and multiple regulation, the cost of Right of Way (RoW), the vandalisation of ICT infrastructures among others,"*

What can be done?

Electricity

Dr Usha Ramachandra

27 May 2014

New Delhi, India

LIRNEasia

Pro-poor. Pro-market.

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

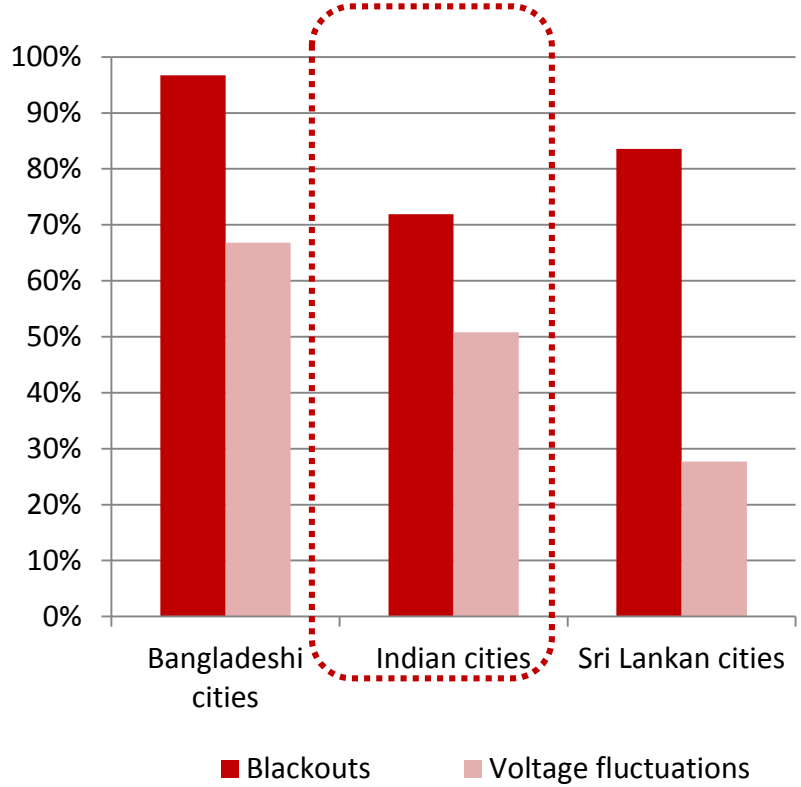
IDRC | CRDI

International Development Research Centre

Centre de recherches pour le développement international

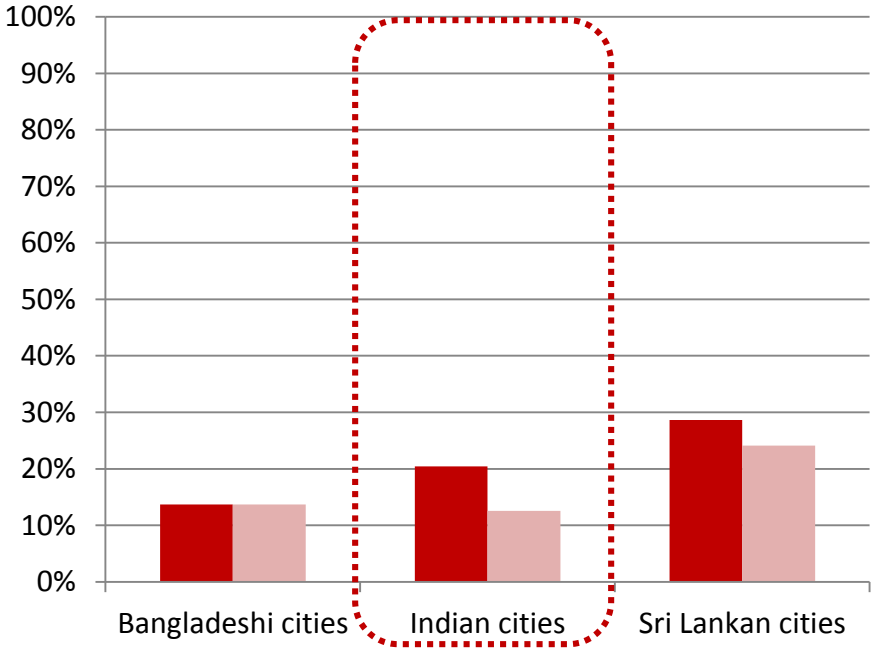
Canada

Outages and voltage fluctuations most common problems faced



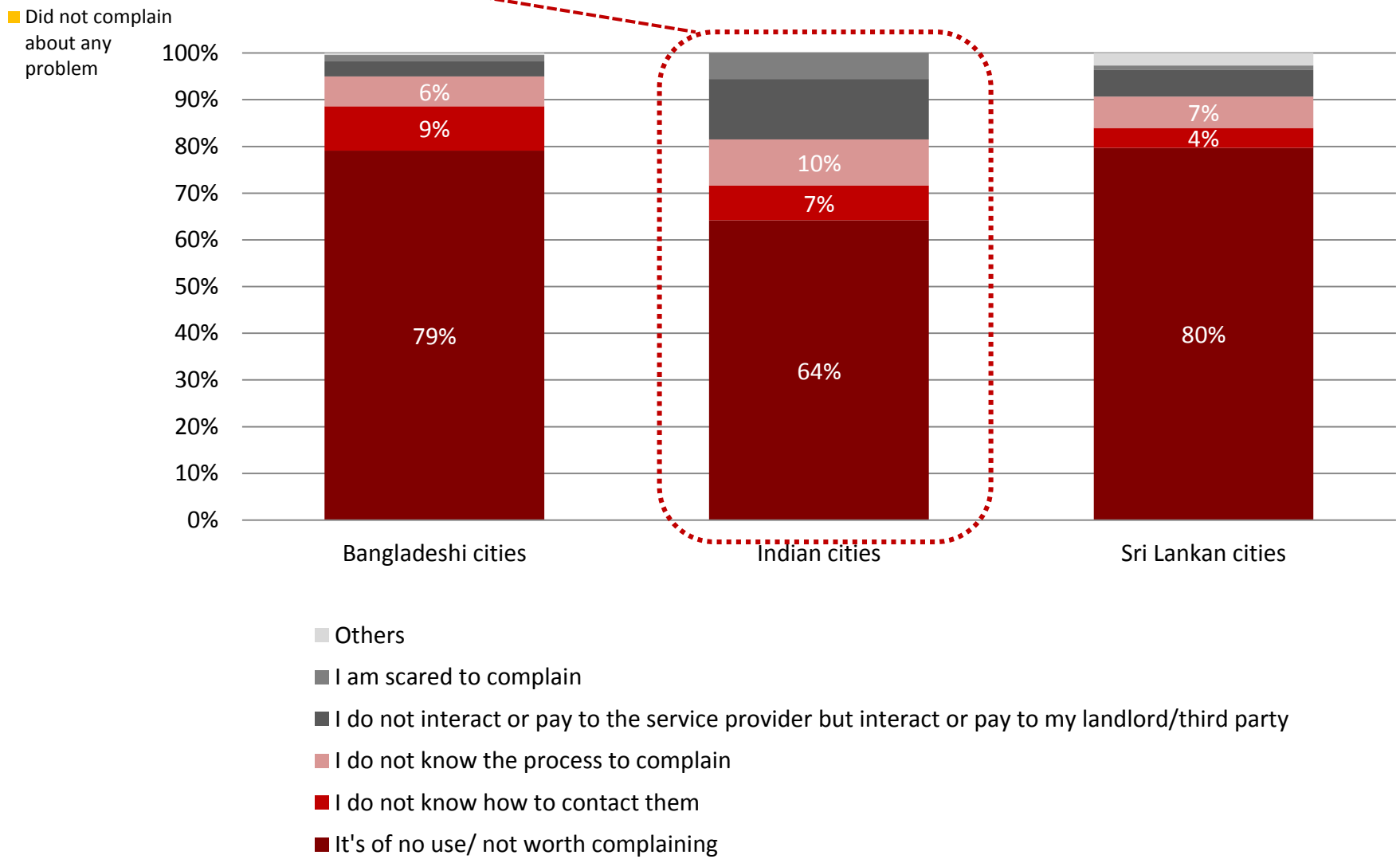
Please tell us whether you faced these problems in the last 2 years. (% low income MEs who use electricity for business from electricity co.)

However few complained about it



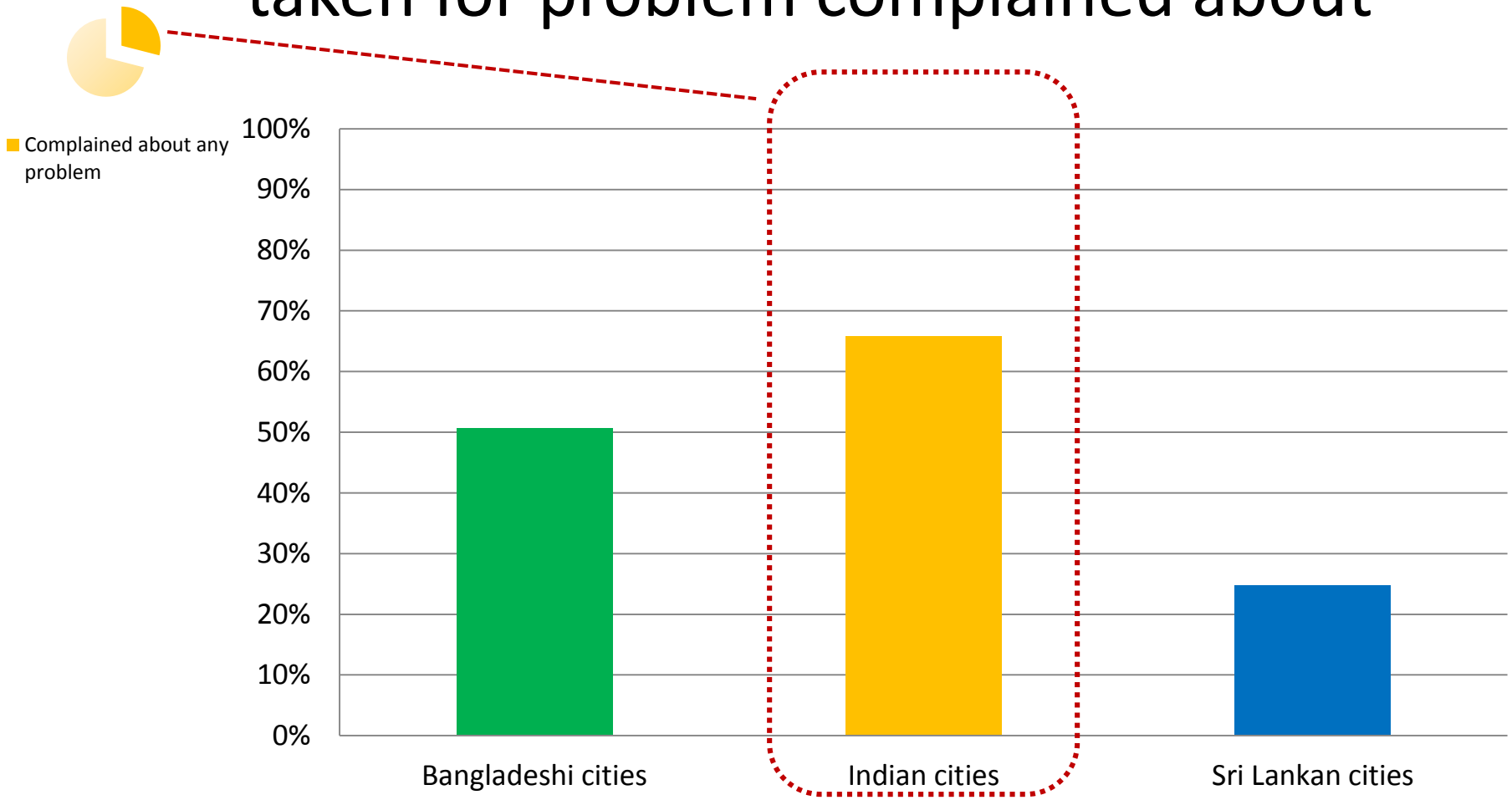
Did you complain about this problem? (% low income MEs who faced those problems)

Most see no use of complaining



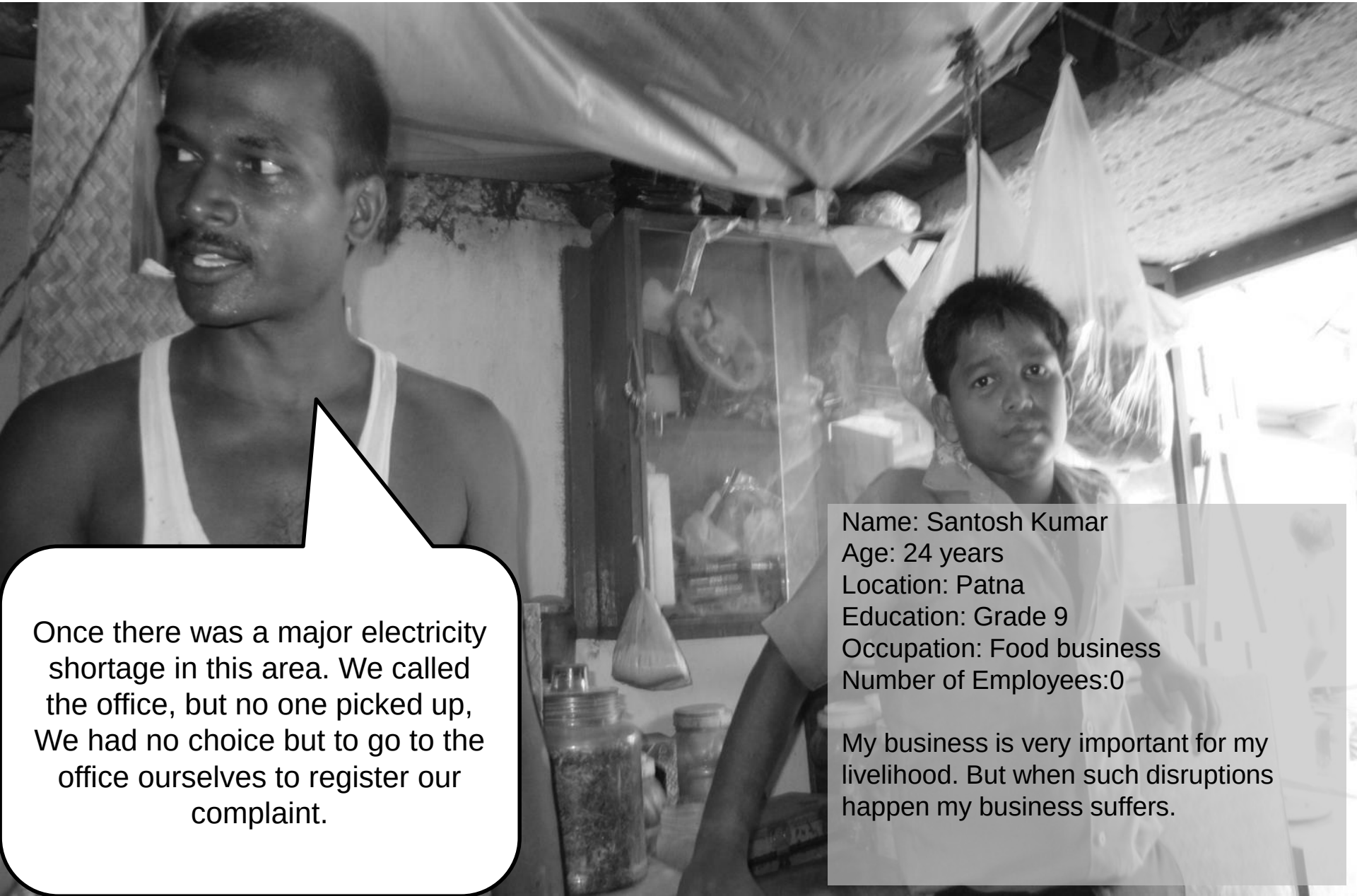
Why did you not complain to the service provider? (% low income MEs who use electricity for business)

More than 2/3 unsatisfied with the action taken for problem complained about



For the main problem with electricity you complained about, were you satisfied with the action taken? - NO (% low income MEs who use electricity for business who complained about a problem)

Problem: Called but no response…

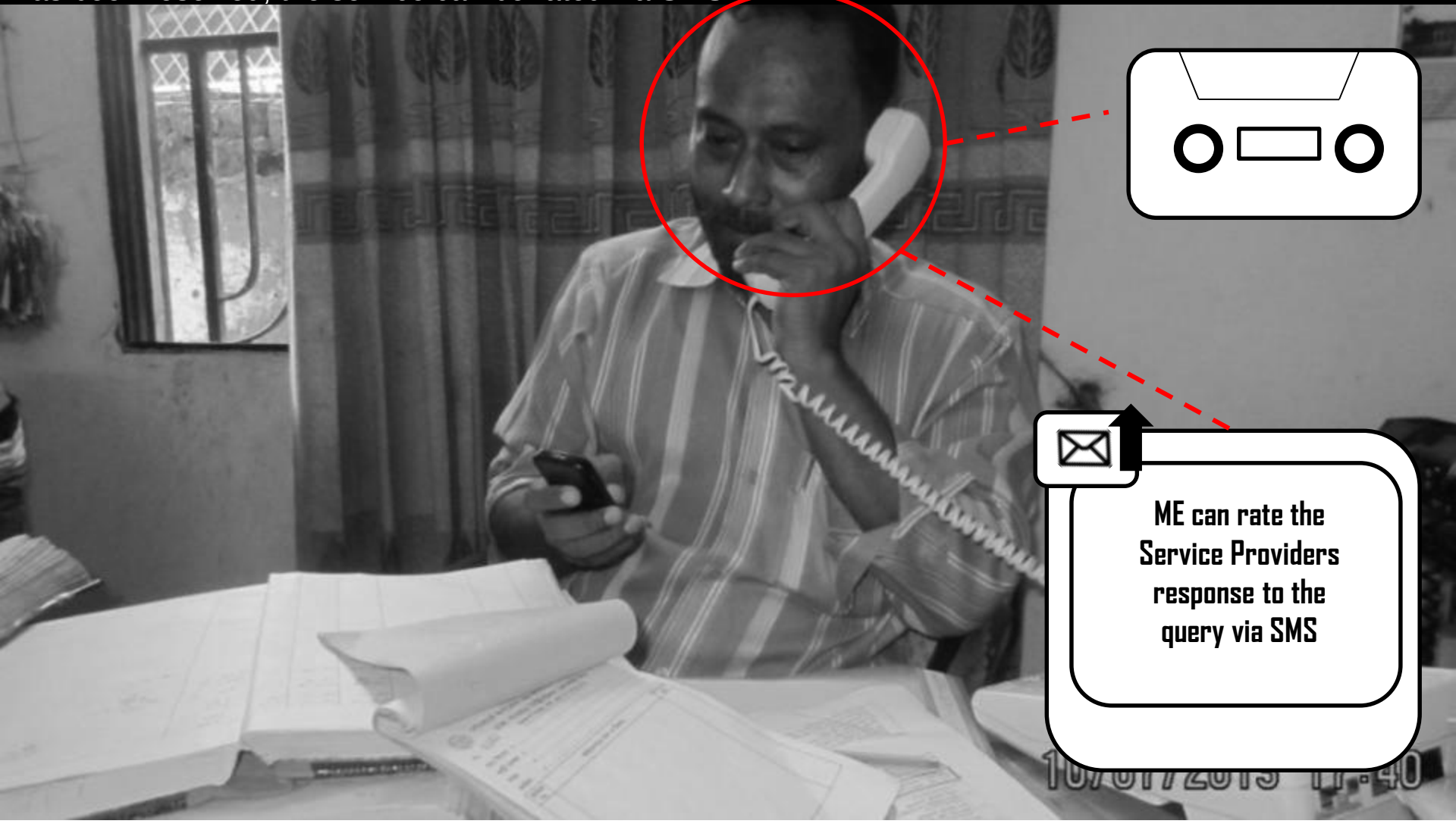


Name: Santosh Kumar
Age: 24 years
Location: Patna
Education: Grade 9
Occupation: Food business
Number of Employees:0

My business is very important for my livelihood. But when such disruptions happen my business suffers.

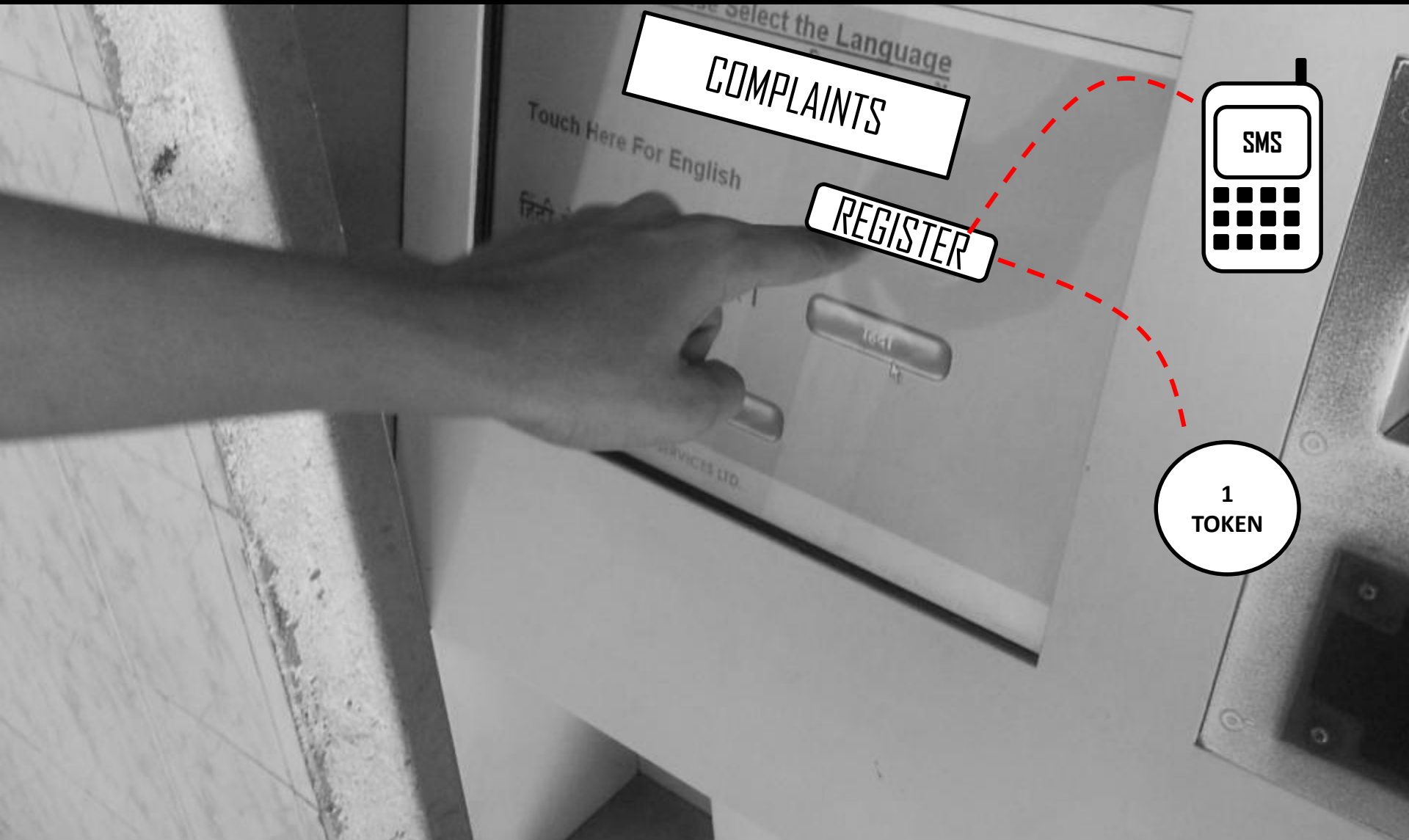
Solution: Tracking & Recording - Call Me Please

Solution: A call service to be established for receiving consumer complaints. Remove discretion by ensuring all complaints are accepted, logged and issued a reference number. Non resolution of a complaint will entitle a consumer for compensation in his next months bill. Consumer calls made to the electricity office should be recorded so that the Supervisors can keep track of interactions. After the query has been resolved, the service can be rated via SMS.

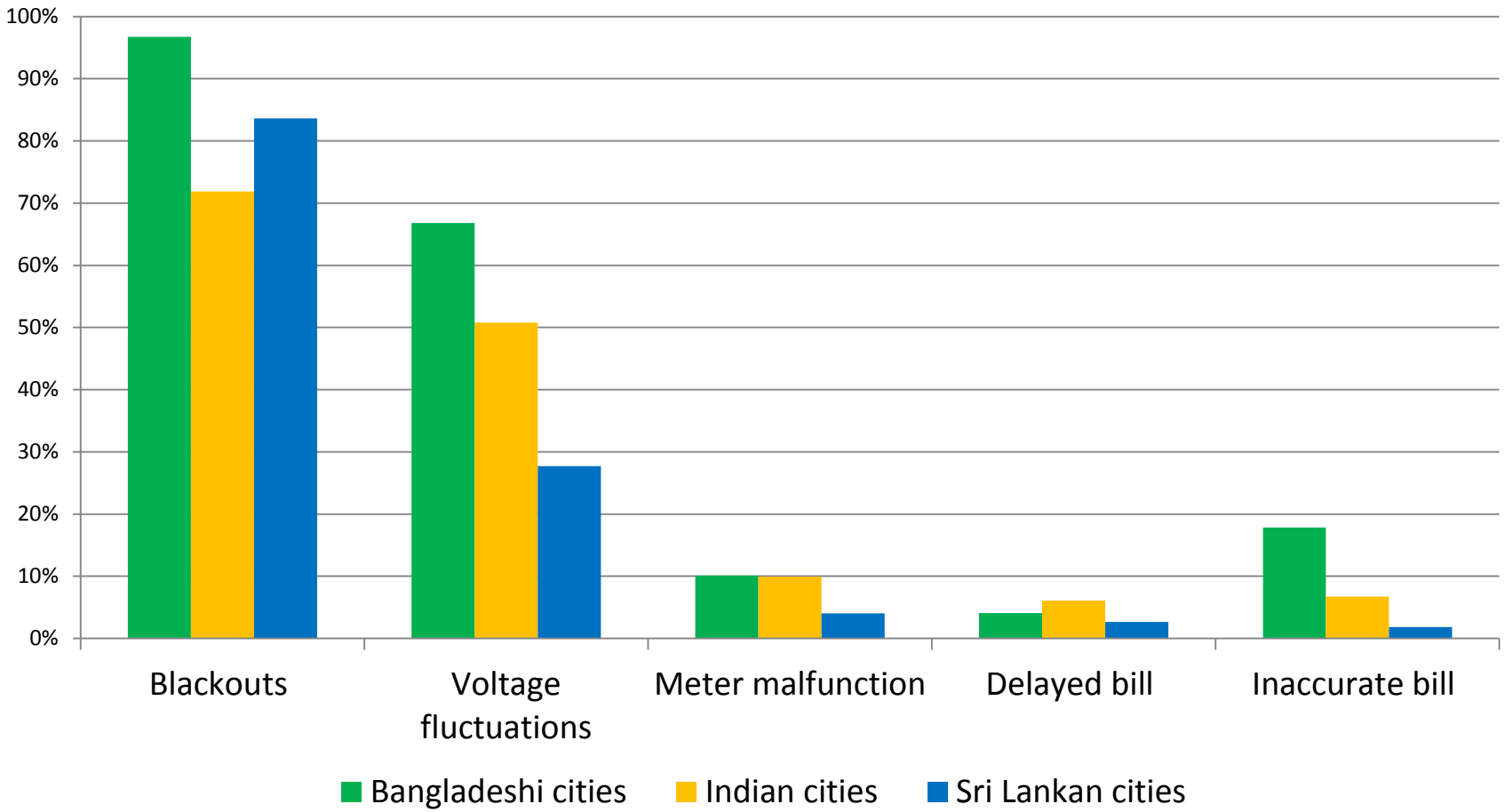


Solution: Tracking and Recording - Insta-Complaint

Solution: Provision of an any time payment (ATP) machine to register electricity complaints. The ME gets a confirmation about his complaint being registered via SMS. In case of a mandatory meeting with the SP, the ME is given a token.

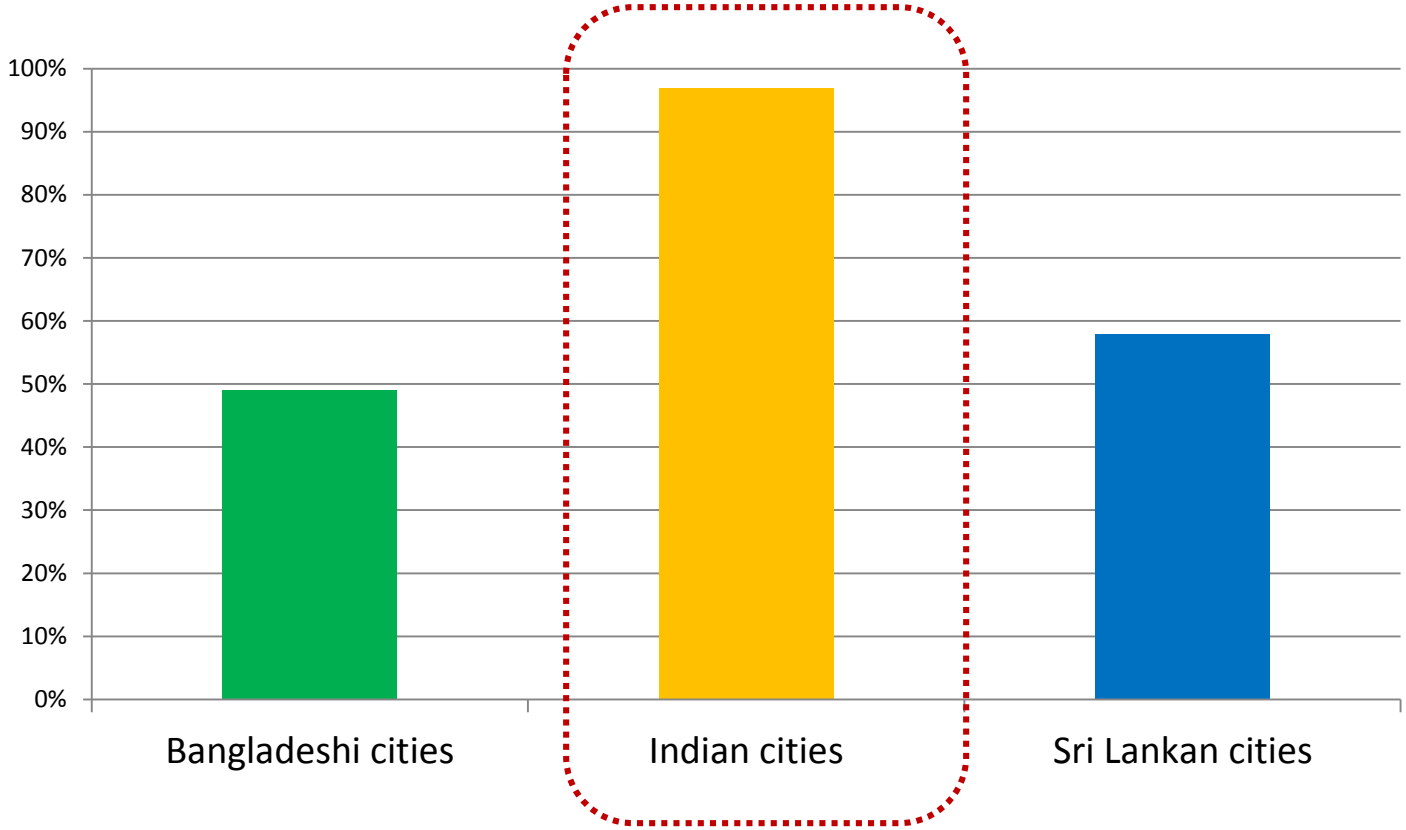


Outages and voltage fluctuations most common problems in IN



Did you face this problem? (% low income MEs who use electricity for business from electricity co.)

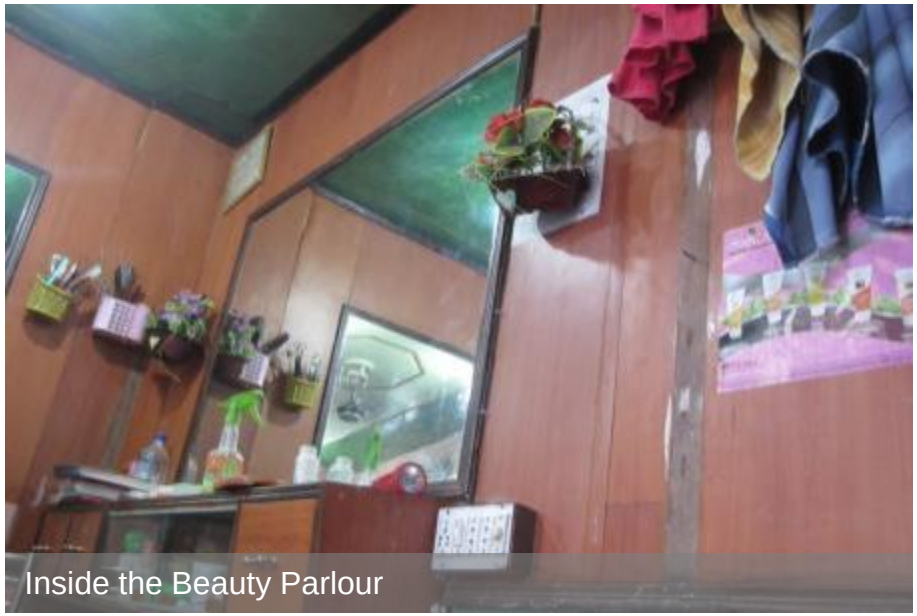
97% in IN do not get an advance notice about power cuts



Do you get advance notice about power blackouts? - NO (% low income MEs who use electricity for business)

Lack of information on outages can be detrimental to livelihoods

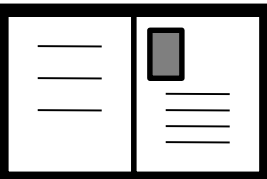

The Beauty Parlour Owner


Inside the Beauty Parlour

Name: Mihiri
Gender: Female
Age: 30 years
Education: Secondary Education
Business: Services– Beauty Parlor
Employees: None
Years of Service: 3

- Runs her business from rented accommodation
- Has an electricity connection.
- Electricity is essential for her business.
- Unable to serve her clients if there is no electricity.
- Lack of information on power-cuts has an adverse effect on her livelihood.

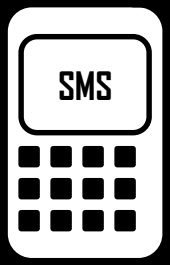
Solution: Provide Information on Outages



When setting up SMS services ensure that the sign up processes are not complicated

Ensure the services receive sufficient publicity to enable sign up

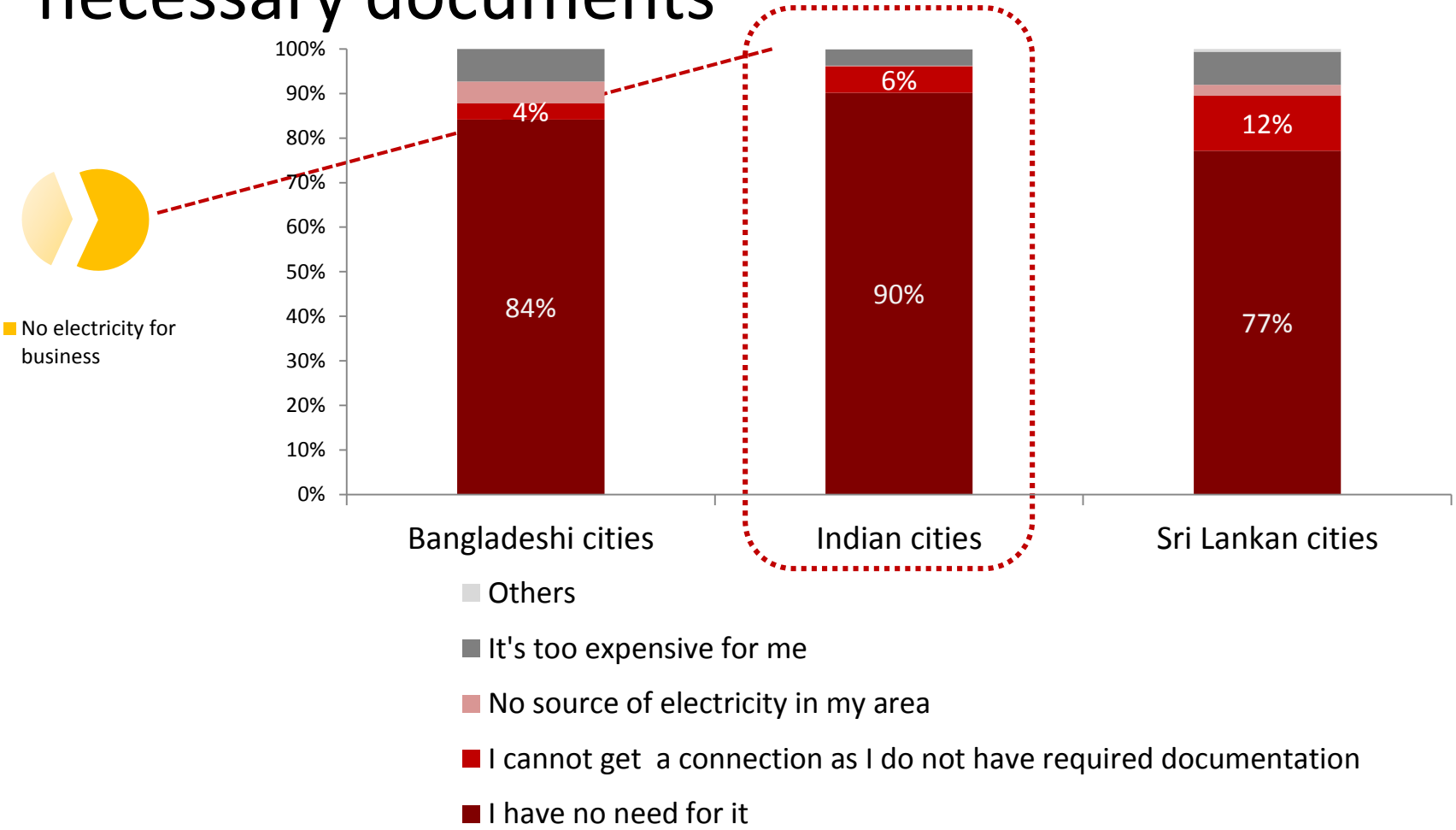
Use the bill as a method of sending information



The consumer being made aware of planned outages through multiple methods such as public announcements, newspapers, SMS and electronic media.

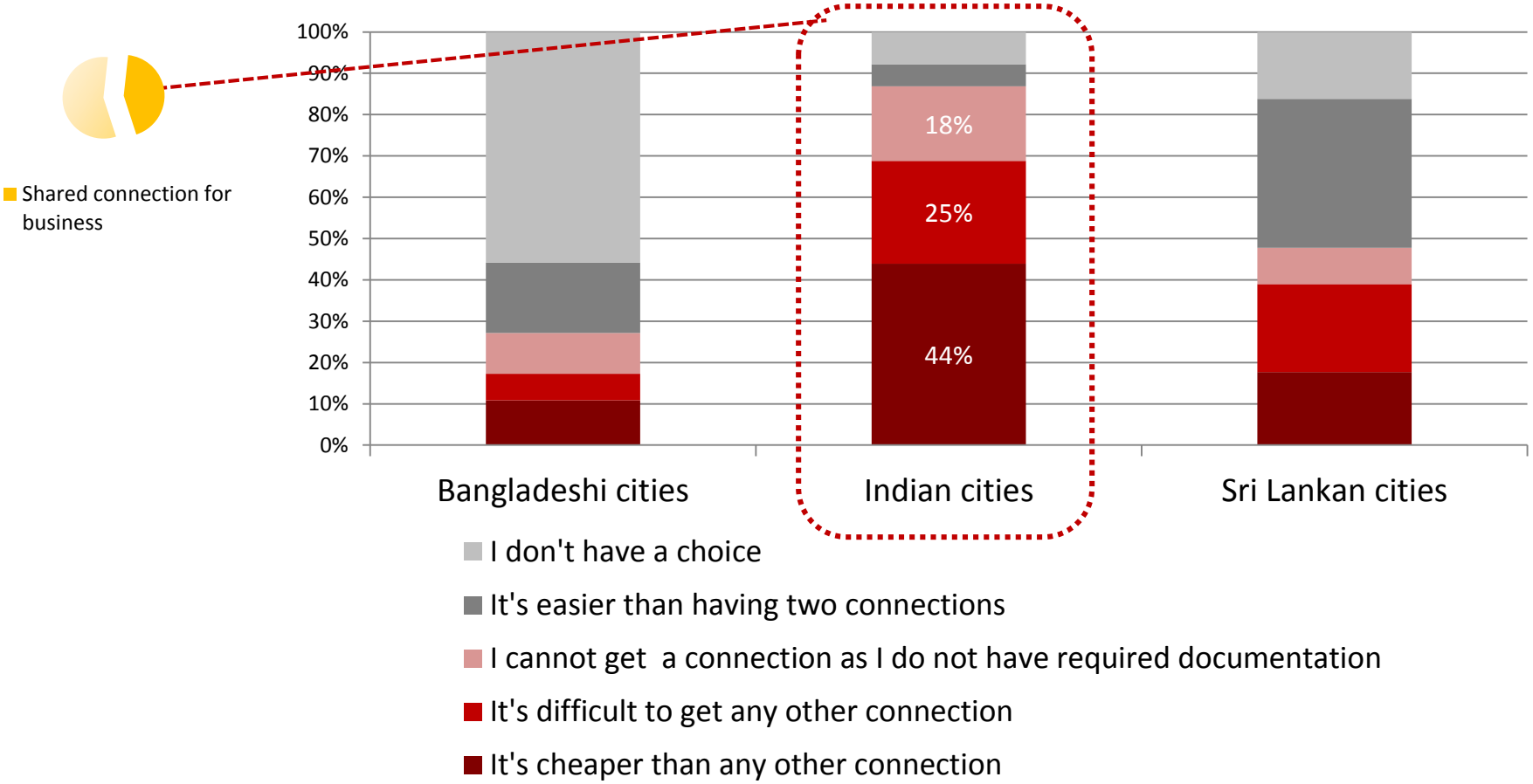
If unplanned outage, use medium such as SMS to convey the information to consumer

Most (90%) who don't have electricity think they don't need it for business. 6% don't have necessary documents



What is the main reason for not having electricity connection for business? (% low income MEs who do not have electricity

Shared electricity connection used due to perceived cost, difficulty in getting a separate connection or lack of required documents (18%)



Please tell us the most important reason for having a shared connection [as a part of home or somebody's

Problem: Inability to establish ownership/occupancy of property to get an electricity connection

“To ensure my temporary connection is not disconnected, I bribe the SP with food at my shop”

- Gopal Sharma, Tea stall Owner, Delhi

“I pay Rs. 50 every month to a local electrician for my temporary connection at my shop”

- Pinku Prasad, tea stall owner, Patna

Solution: Delink Electricity Provision From The Purity of Tenure

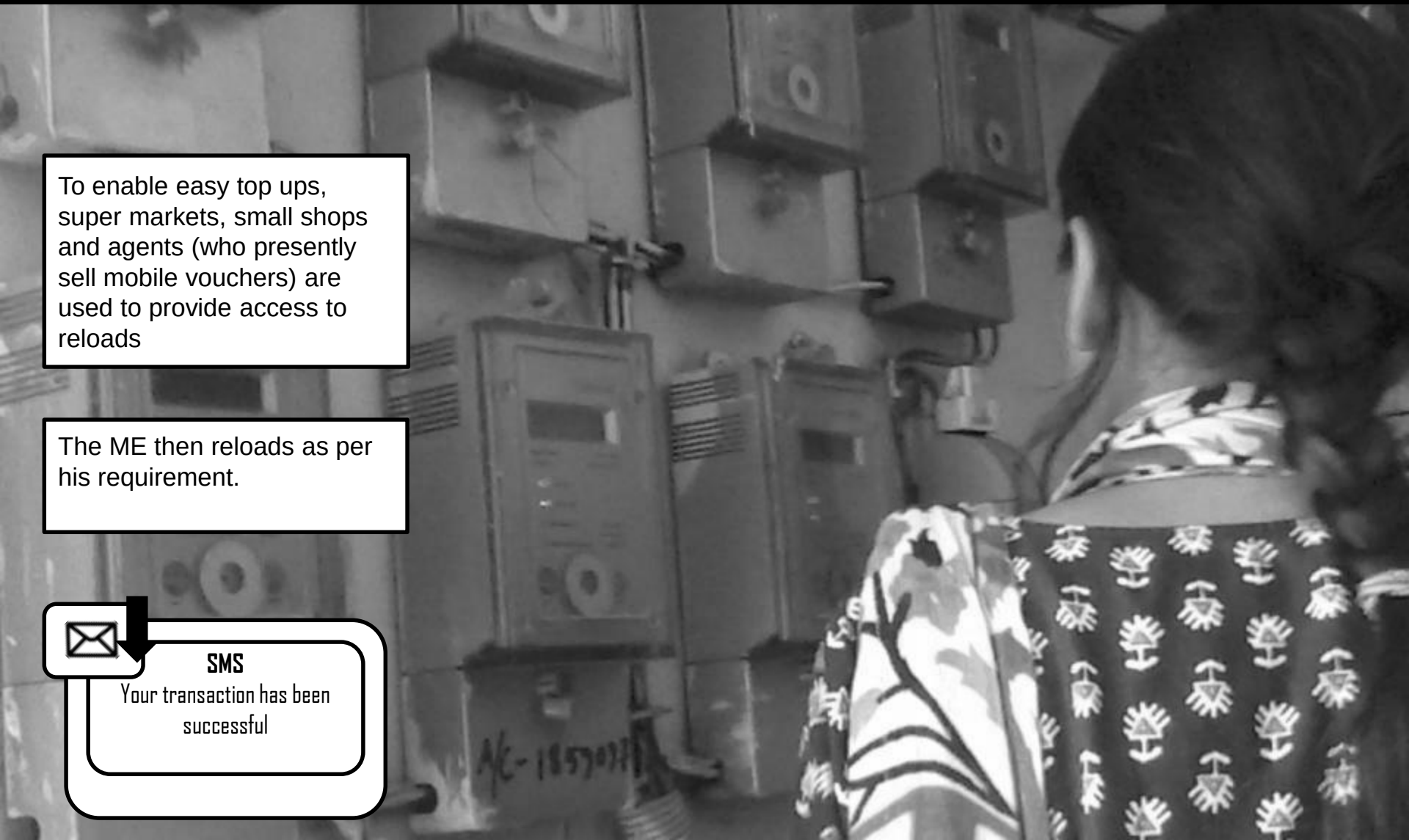
Solution: Delink electricity from property rights by initiating a change in law. This will ensure that having an electricity meter does not automatically entail property rights over time. This will remove the need to submit property papers in order to get an electricity connection.

Relaxing existing document requirements to enable MEs with temporary structures to acquire an electricity connection

Prepaid meters can be provided to these MEs in order to reduce the financial liability of the service provider

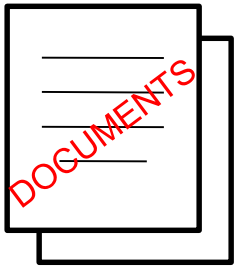
Solution: Use of Prepaid Meters

Solution: Incorporate the use of smart prepaid meters, in which the meter functions on the basis of a key. For a top up, the consumer take the key to a local vendor for a reload thus reducing costs for the electricity board due to non involvement of the meter reader and bill prints.



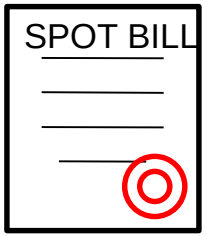
Solution: Trolley Your Power

Solution: Issue trolley meters to shops with temporary structures.

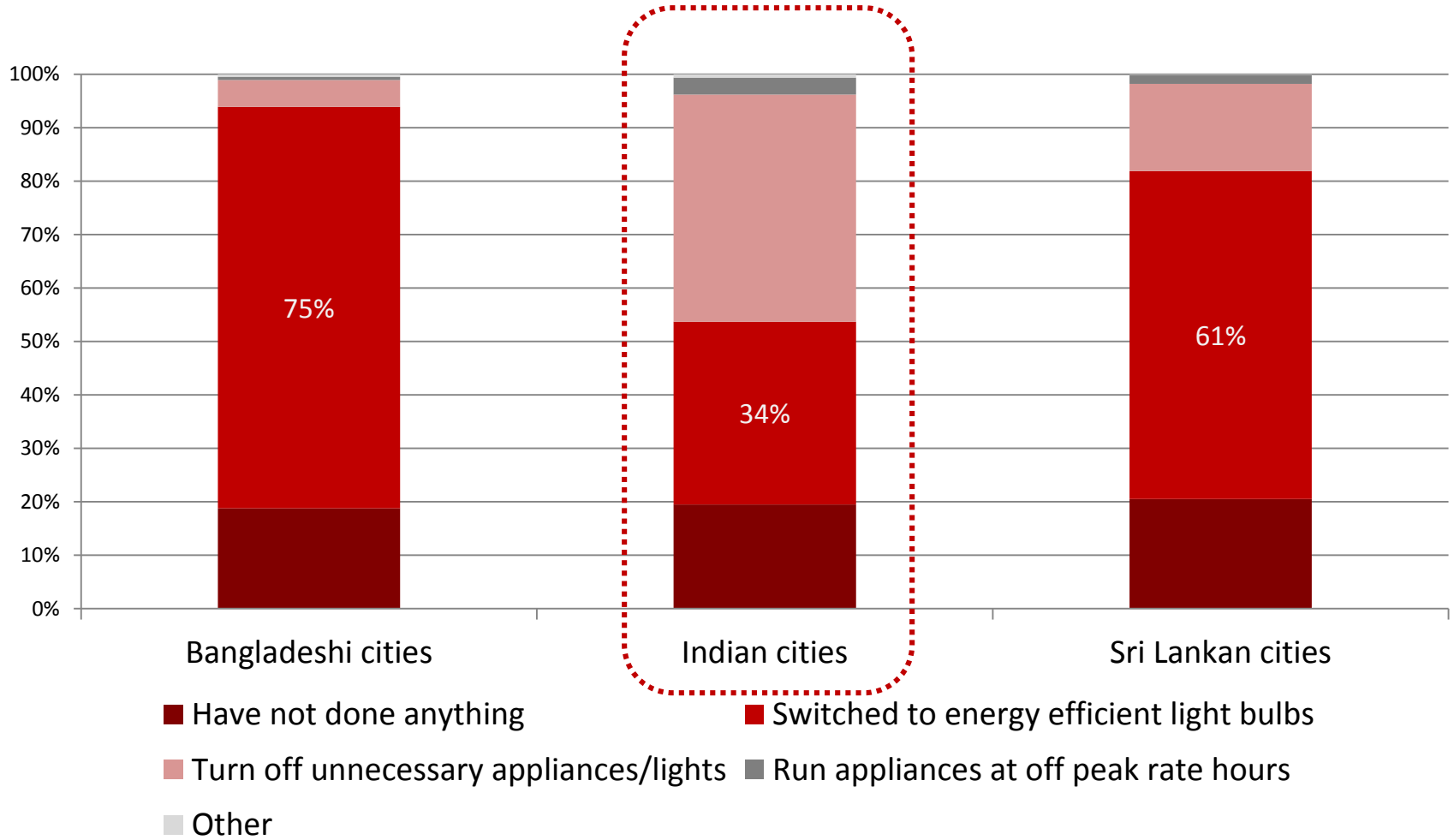


ME gives documents and security deposit for temporary connection

ME is then provided with a temporary trolley meter and is provided with a spot bill



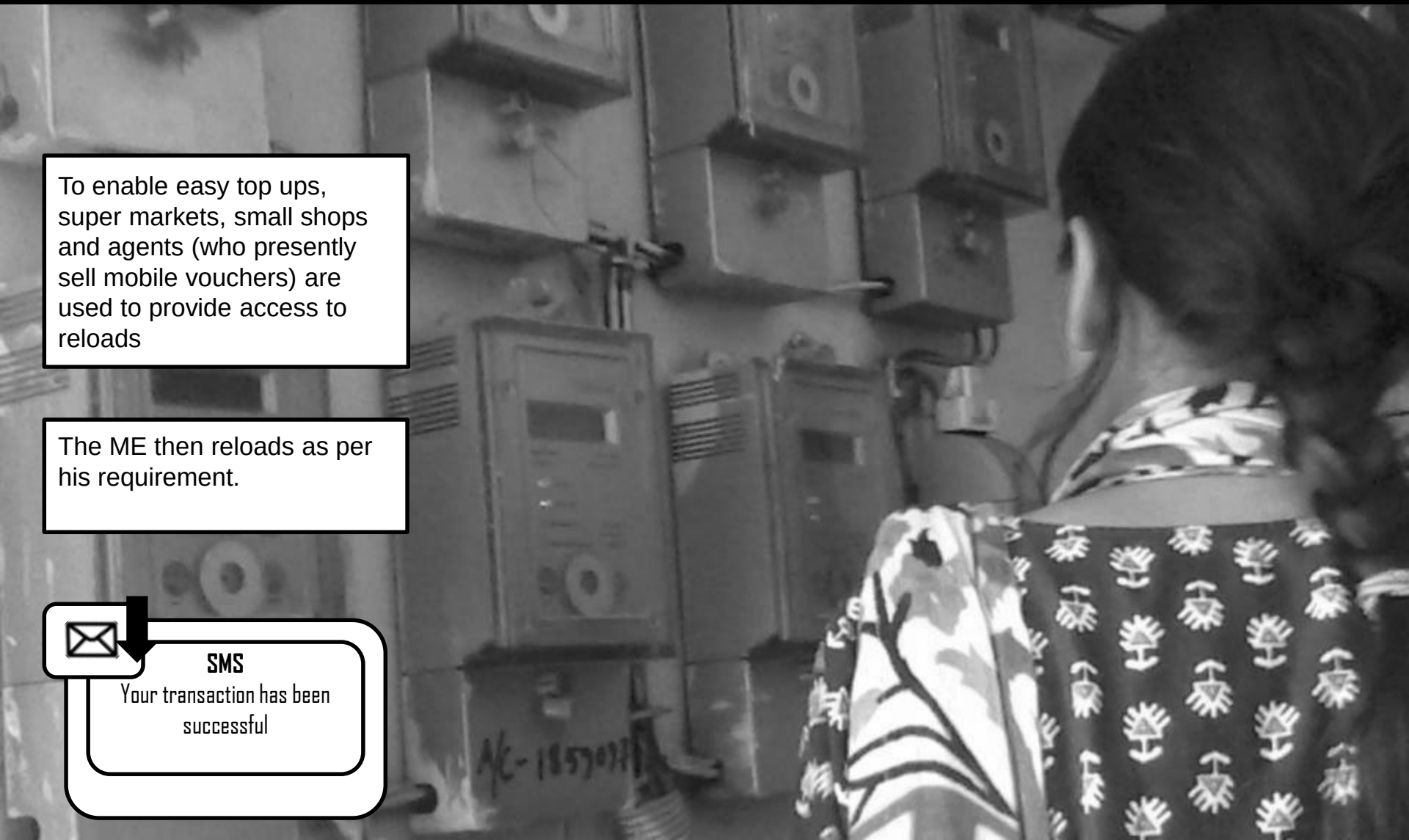
Lower use of energy efficient lighting to save money in India…… Lack of information???



Please tell us about your most important step in conserving energy [reducing electricity bill] you have been following?(% low income MEs who use electricity for business with supply from electricity co.)

Solution: Use of Prepaid Meters

Solution: Incorporate the use of smart prepaid meters, in which the meter functions on the basis of a key. For a top up, the consumer take the key to a local vendor for a reload thus reducing costs for the electricity board due to non involvement of the meter reader and bill prints.



Solution: Know the amount payable through the phone

A basic solution

Text number of units and number of days since the last billing date to designated number

→

Receive current amount payable

- The format of the SMS has to be specified and printed on the monthly bill or put up as a sticker on the meter

An advanced solution

Do a one time registration with the distribution company

<Mobile phone number gets linked with the electricity account number>

→

Text in current meter reading

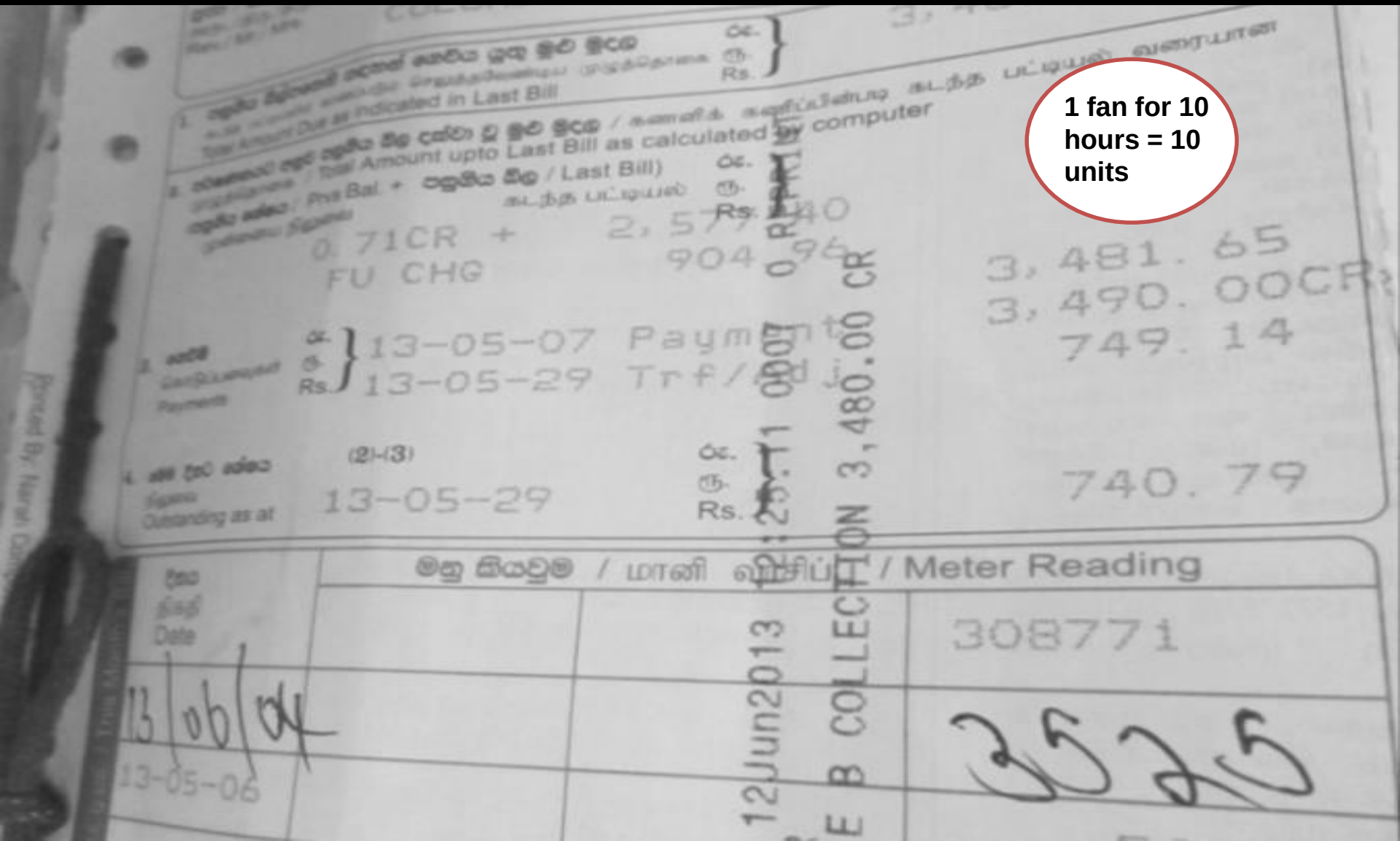
<Utility has information about the last billing date and the last meter reading>

→

Receive current amount payable

Solution: Information through bills

Solution: MEs are given an approximate consumption for various appliances because MEs are completely dependent upon the bill to understand their usage.



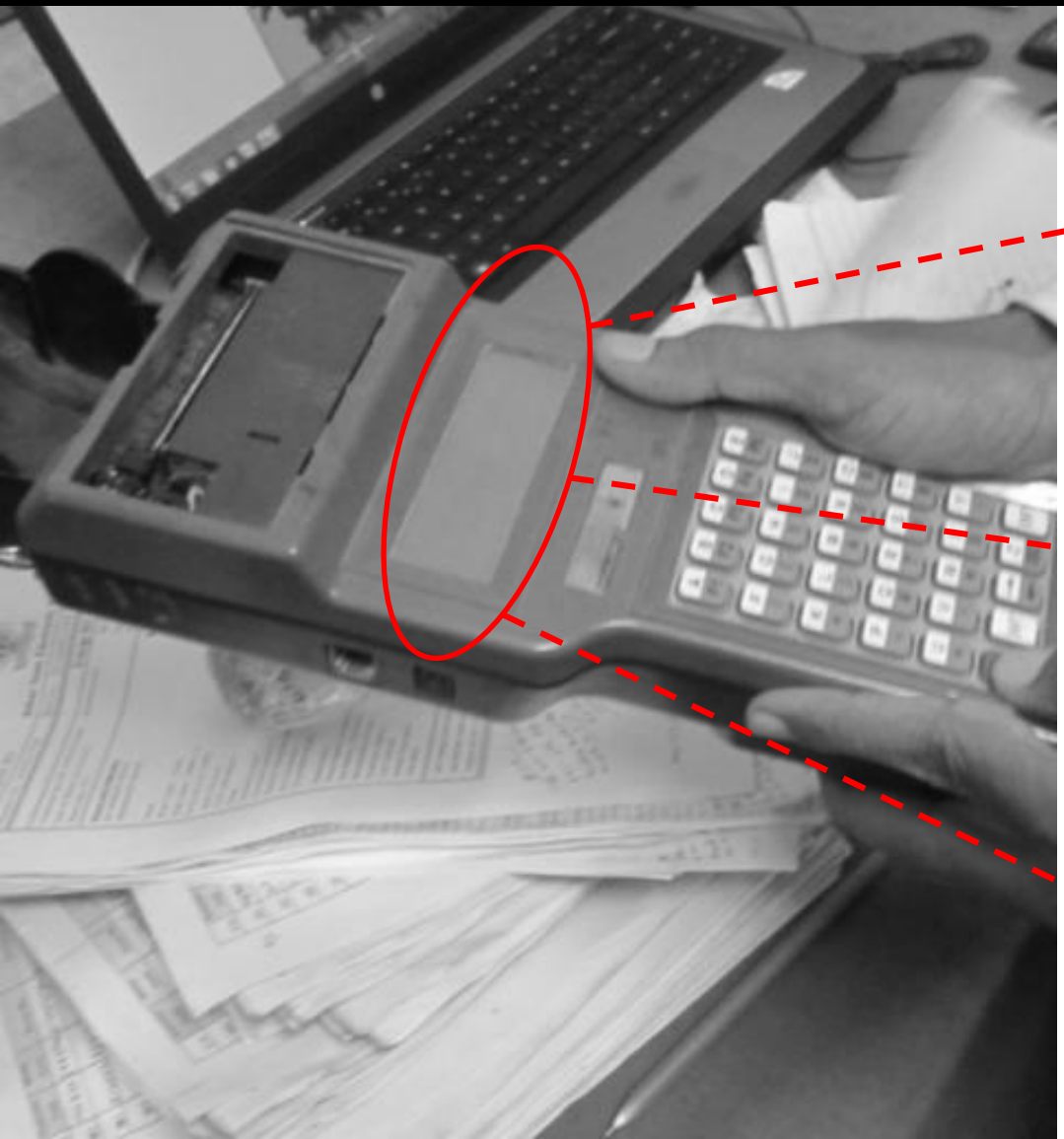
Problem: Incorrect meter readings

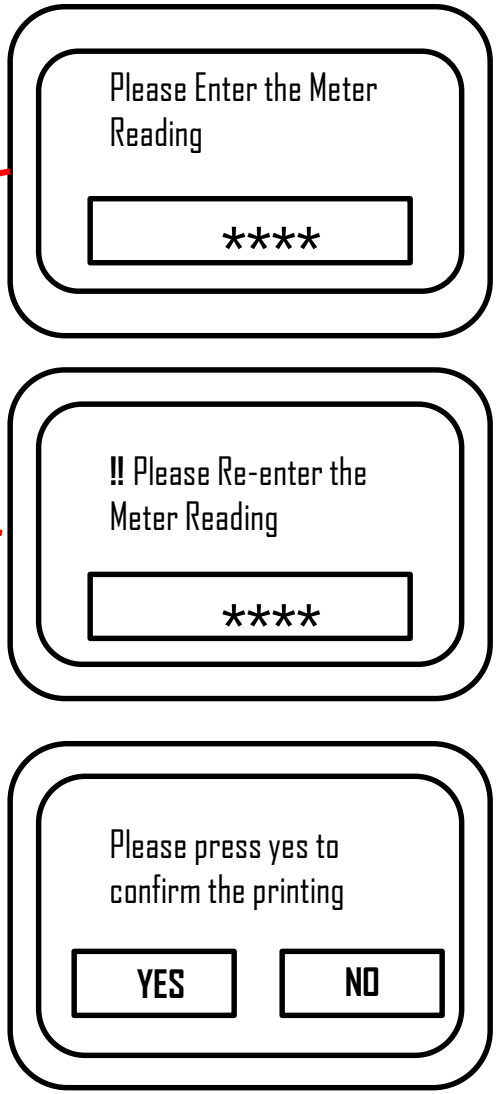
- *“If I feel that the meter reader has taken wrong reading, I do not pay for that month. I pay the following months bill with the interest amount*

- Deepika Devi, Tailor, Patna

Solution: Double entry to minimize billing errors

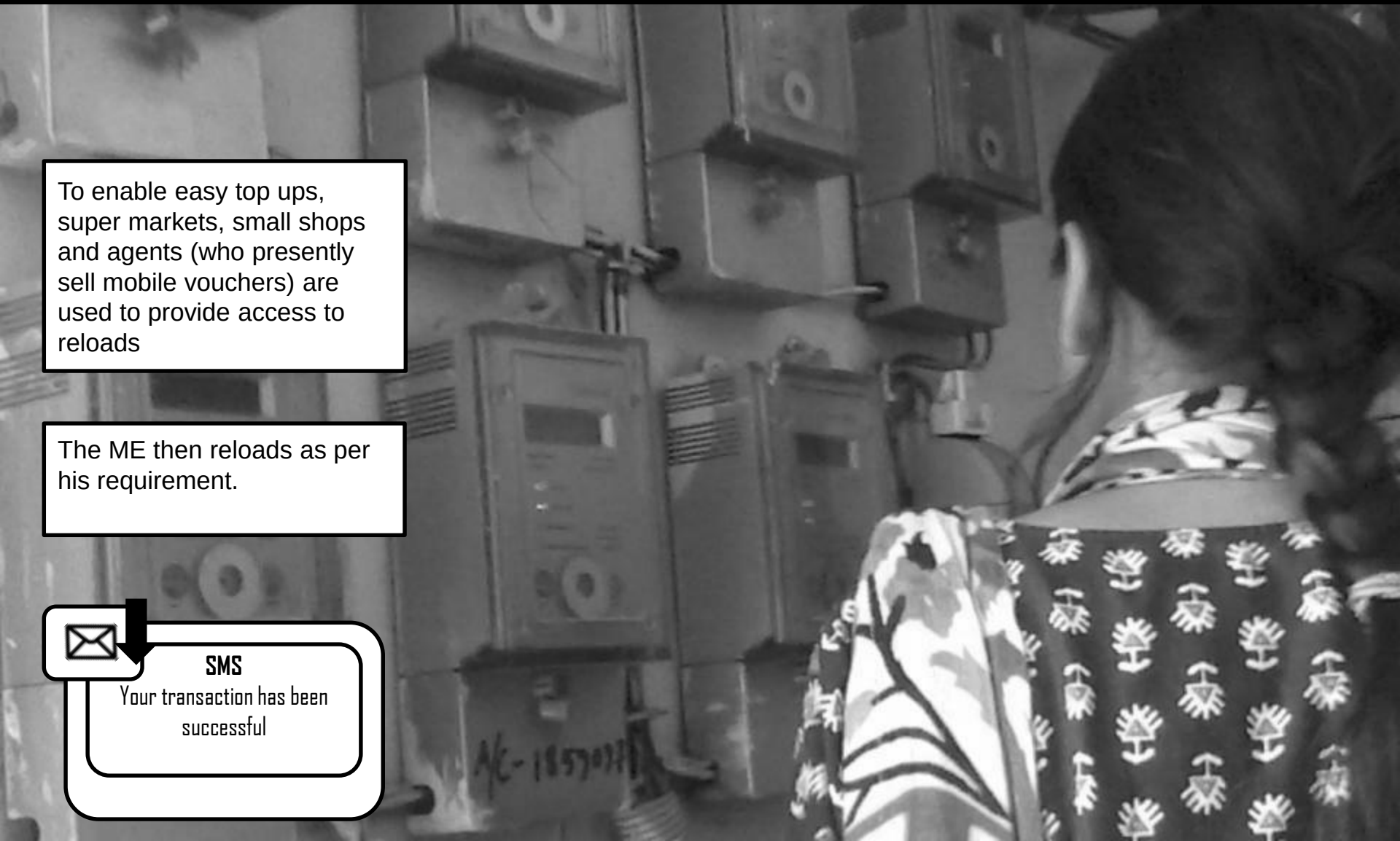
Solution: The machine carried by the Meter Reader, prompts the meter reader to re-enter the bill amount after entering it the first time. It will then ask for a confirmation for print.





Solution: Use of Prepaid Meters

Solution: Incorporate the usr prepaid meters. For a top up, the consumer take the key to a local vendor for a reload thus reducing costs for the electricity board due to non involvement of the meter reader and bill prints.



Solution: Enable Part-payments

Solution: Through computerization reduce the transaction costs of receiving a payment from consumers thus enabling consumers to make part payments as and when possible. In addition this will result in better cash flow for the electricity board. Removal of SPs discretionary power will enable consumers to pay their electricity bill in phased frequent payments.

In summary

Quick wins

Channel all complaints/inquiries to call centre

planned and unplanned outages more

Little more time

Send bold, repeated messages via bills

SMS system to find current amount

Begin programs for effective DSM

Streamline document requirement

Long term

Meters (& TOD pricing) and pre-

document requirements for those who lack

Customer Centric Reforms Process – Issues Highlighted

1. Reference No for complaints and a call back when resolved – service providers in other sectors such as banking, etc have it
2. SMS for planned and unplanned outages giving information – currently who reads newspapers where the maintenance and load shedding schedules are given?
3. Efficiency of Electricity Use
4. Delink Property Rights to Service Delivery – will also reduce corruption
5. Bill rectification process must be made easier
6. Discoms should conduct customer surveys and publicize them

Thank You!

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