

Introduction and context

Helani Galpaya

29 May 2014

Colombo



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
 - Helani Galpaya (LIRNEasia; Project Leader)
 - Rohan Samarajiva, PhD (LIRNEasia; Project Advisor)
 - Nilusha Kapugama (Research Manager; LK electricity)
- Rest of the team (electricity)
 - CKS (New Delhi; Innovation consultancy: user centric design; Solutions for all 3 countries)
 - Usha Ramachandra, PhD and Rajkiran Bilolikar (ASCI; India Electricity research)
 - Vignesh Illavarasan, PhD (IIT-Delhi; ME survey design)
 - Pial Islam (Pi Strategy Consulting, BD; BD electricity research)

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

Plan for the rest of the afternoon

- Setting the stage
 - Rohan Samarajiva, PhD
- Supply-side perspectives
 - Rohan Samarajiva, PhD
 - Usha Ramachandra, 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 forward
 - Invited panelists + audience

Customers in the doldrums

Rohan Samarajiva

PUCSL, 29 May 2014

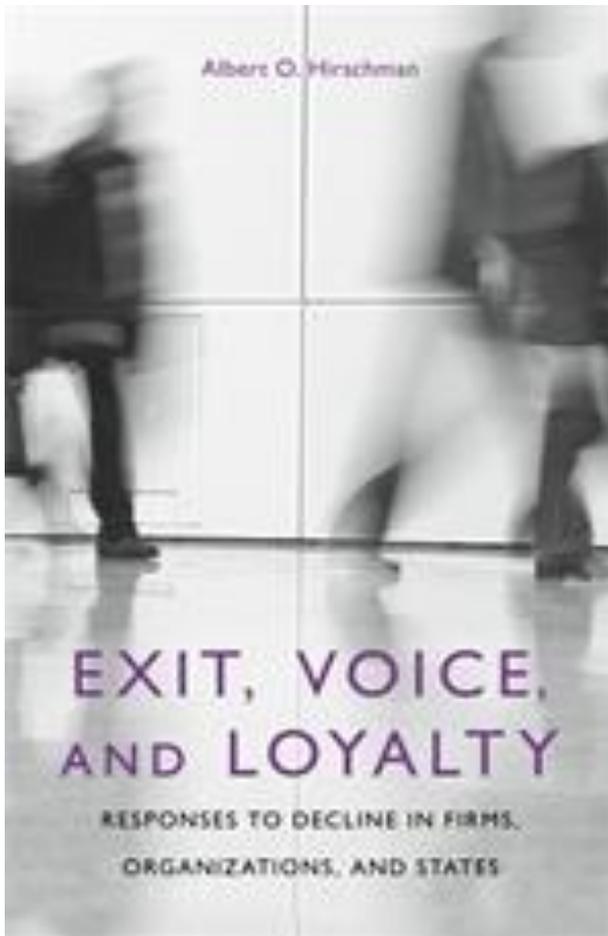


Professor Stephen Littlechild on consumer protection

- “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

Best economist not to 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



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 S_n
- 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

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

Helani Galpaya

Colombo, 29 May 2014



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International Development Research Centre
Centre de recherches pour le développement international



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

1.  Poverty Headcount Index and Poverty Gap Index

2. Economic and Social Statistics of Sri Lanka, 2012, Central Bank of Sri Lanka;

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

- Sri Lanka: Census of Industry (2003/2004) and Census of Trade and Services (2003/2006) by Department of Census and Statistics⁽¹⁾
 - Number of small industrial establishments
 - Number of businesses in Trade and Services
- India : National Sample Survey Organization, 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)

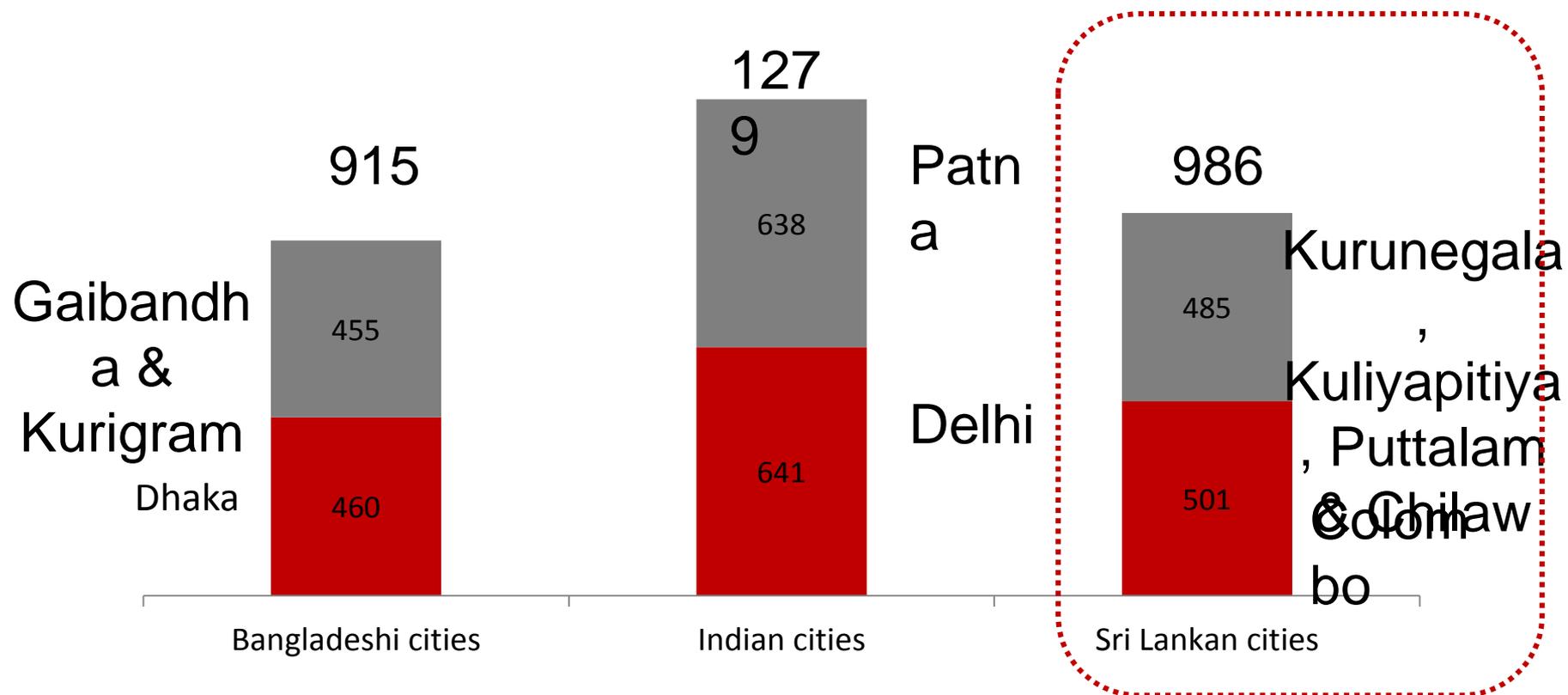
1. ~~Census of Industry~~, 2003/2004, Department of Census and Statistics, Page 90, 101, 206

2. ~~Census of Trade and Services~~, 2003/2006, Department of Census and Statistics, Page 29

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 B1, B2, C allowed in Sri Lanka to find sufficient number of MEs employing 1 -3 and 4-9 employees
- Sri Lanka
 - Map book by Survey Dept.: divides province into square blocks.
 - Blocks randomly selected.
 - Sample MEs starting at the NW corner, etc.
- See METHODOLOGY NOTE for much more detail

Quantitative study: 3180 MEs surveyed. 986 in Sri Lanka (LK)



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



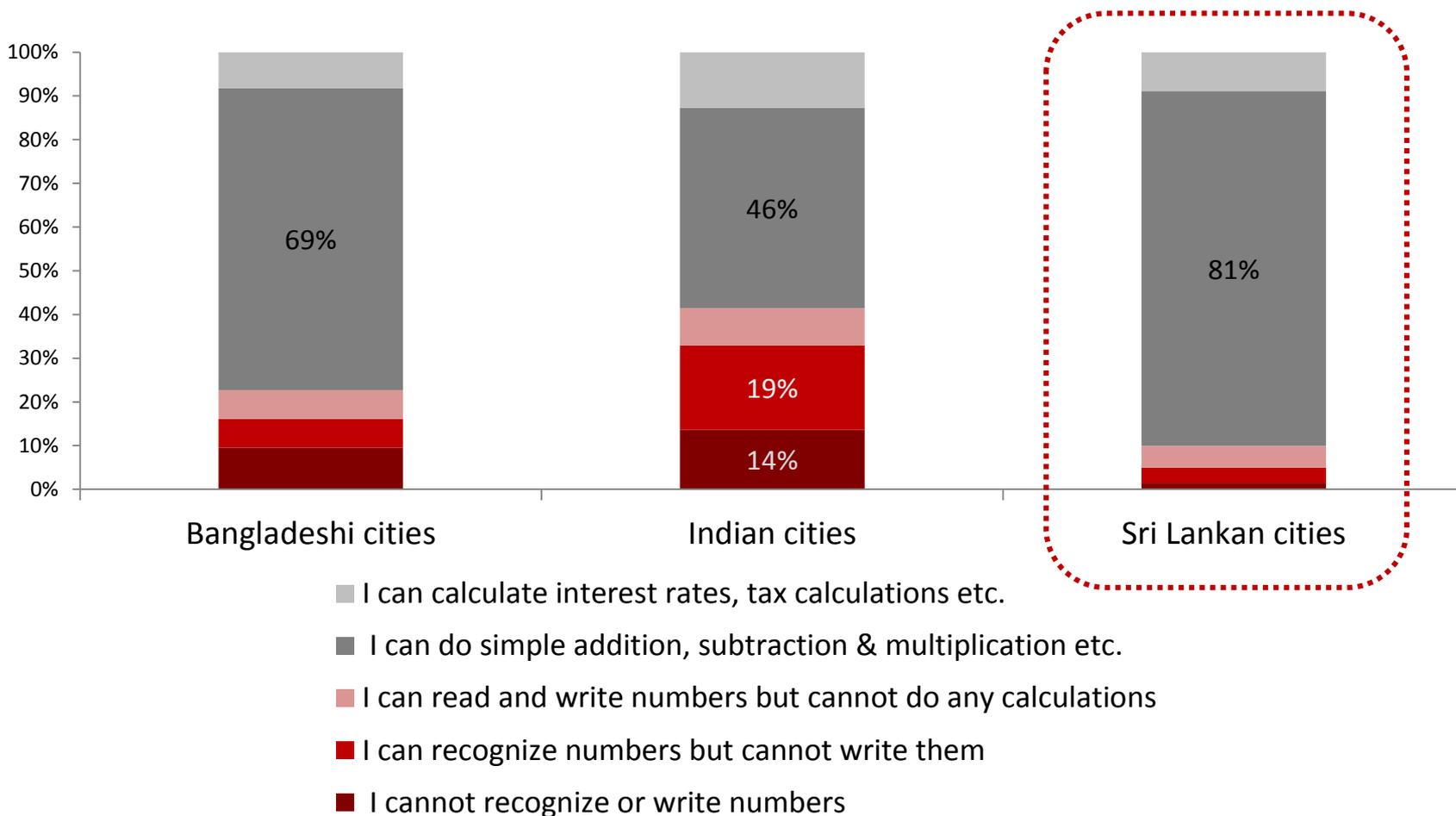


The Sri Lanka (LK) sample older, more educated and more female compared to India (IN) and Bangladesh (BD)

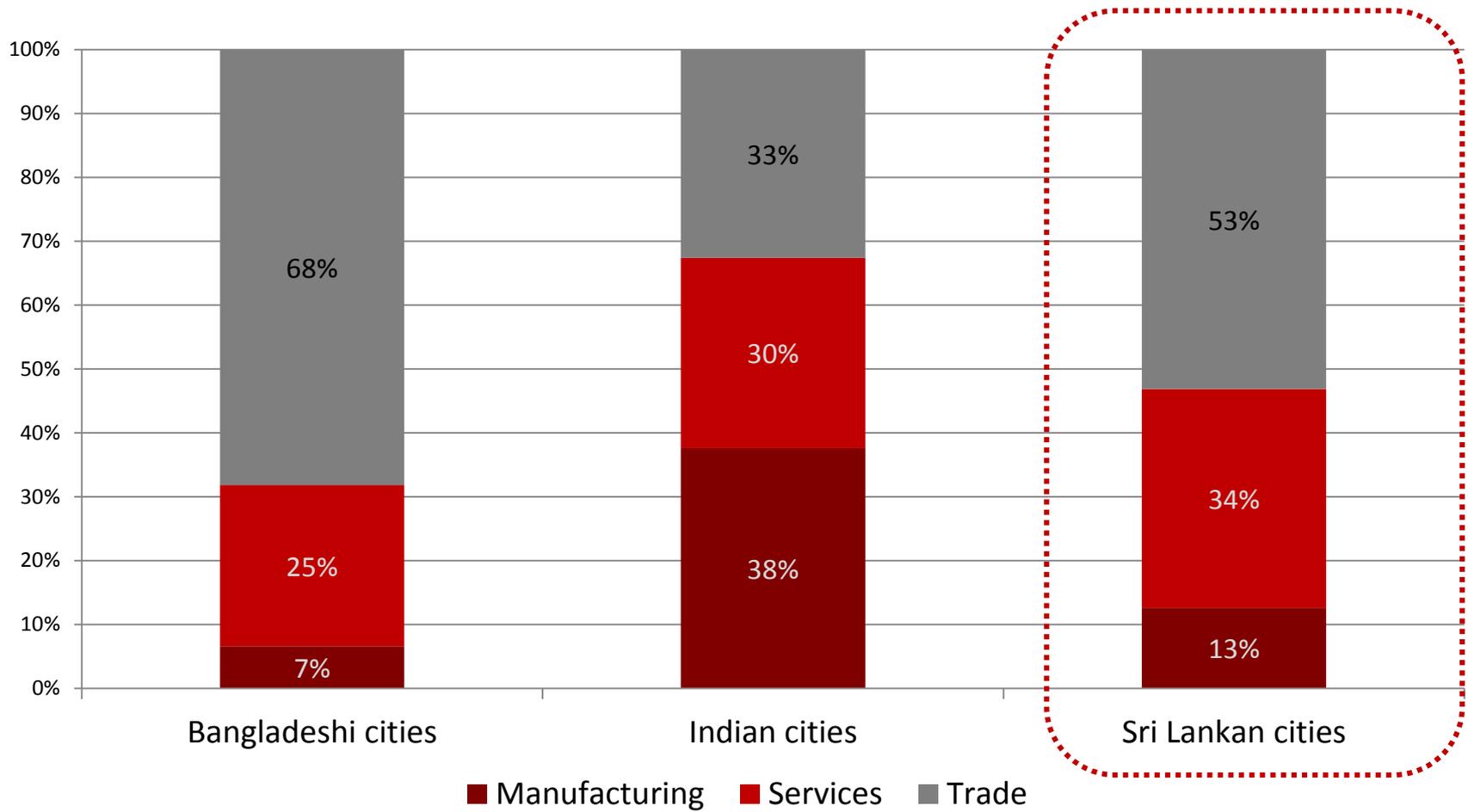
	Bangladeshi cities	Indian cities	Sri Lankan cities
Average age	36	36	42
Female micro-entrepreneurs	9%	12%	26%
Illiterate or primary schooling only	39%	87%	29%



LK had the most numerate MEs. Over 90% can do calculations

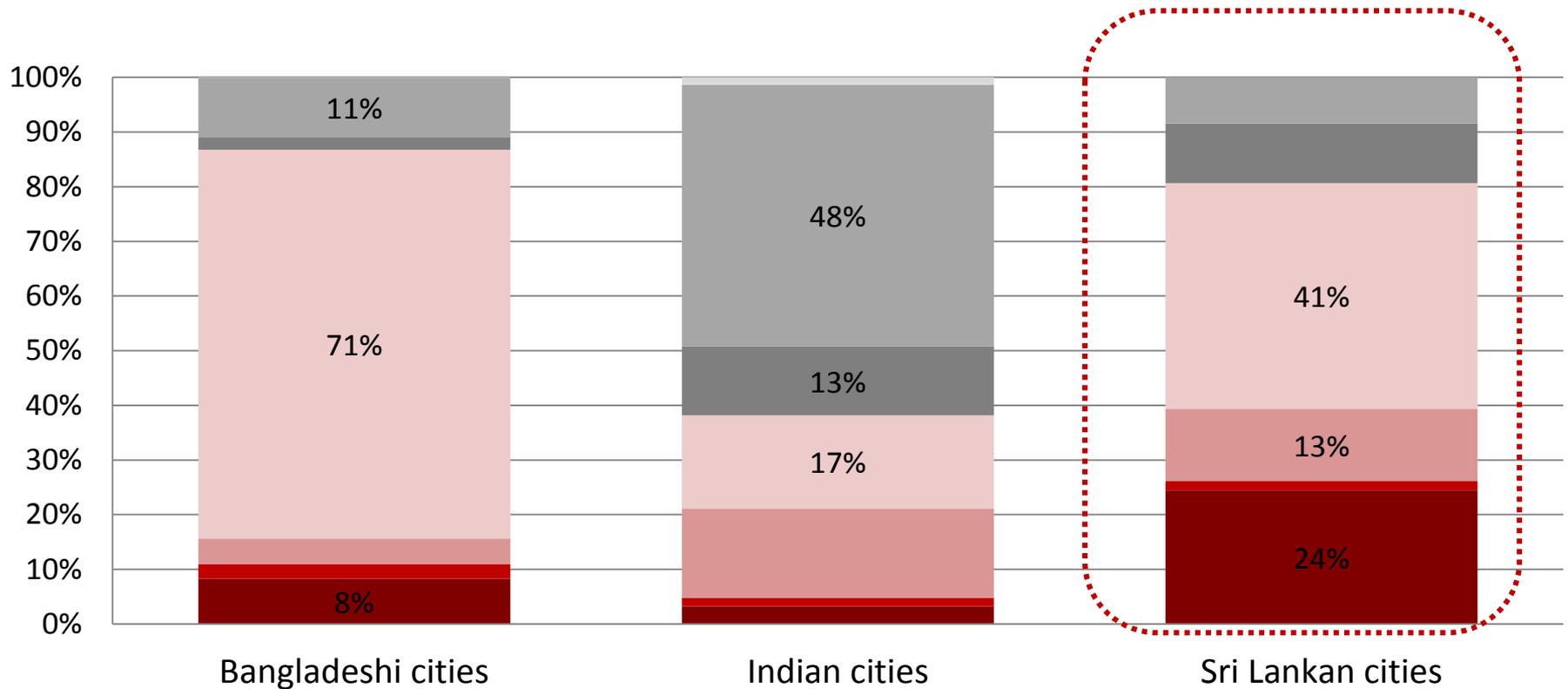


More than half the MEs in LK are in trade



Type of business (as % of

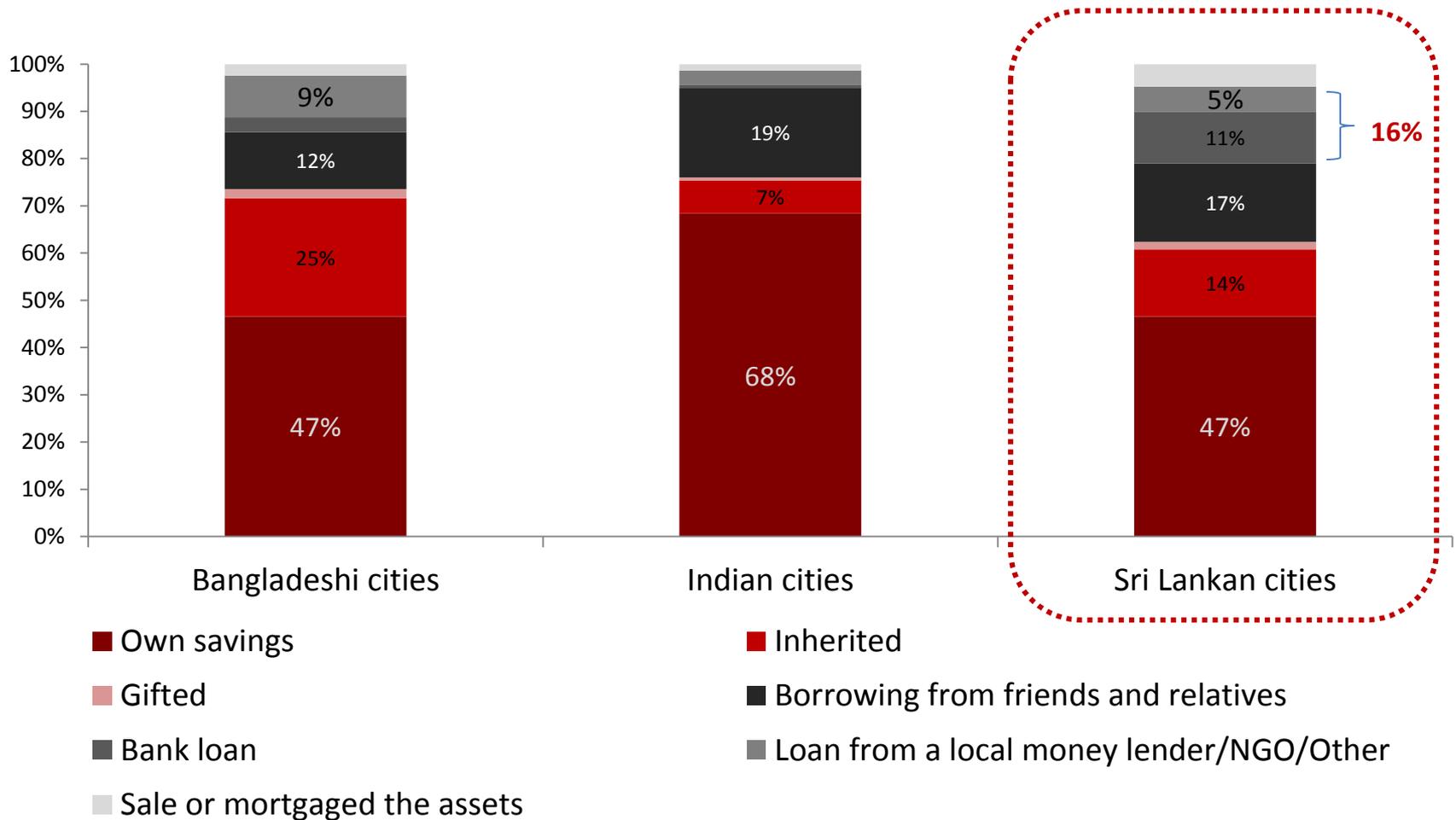
81% of MEs in LK have a fixed location



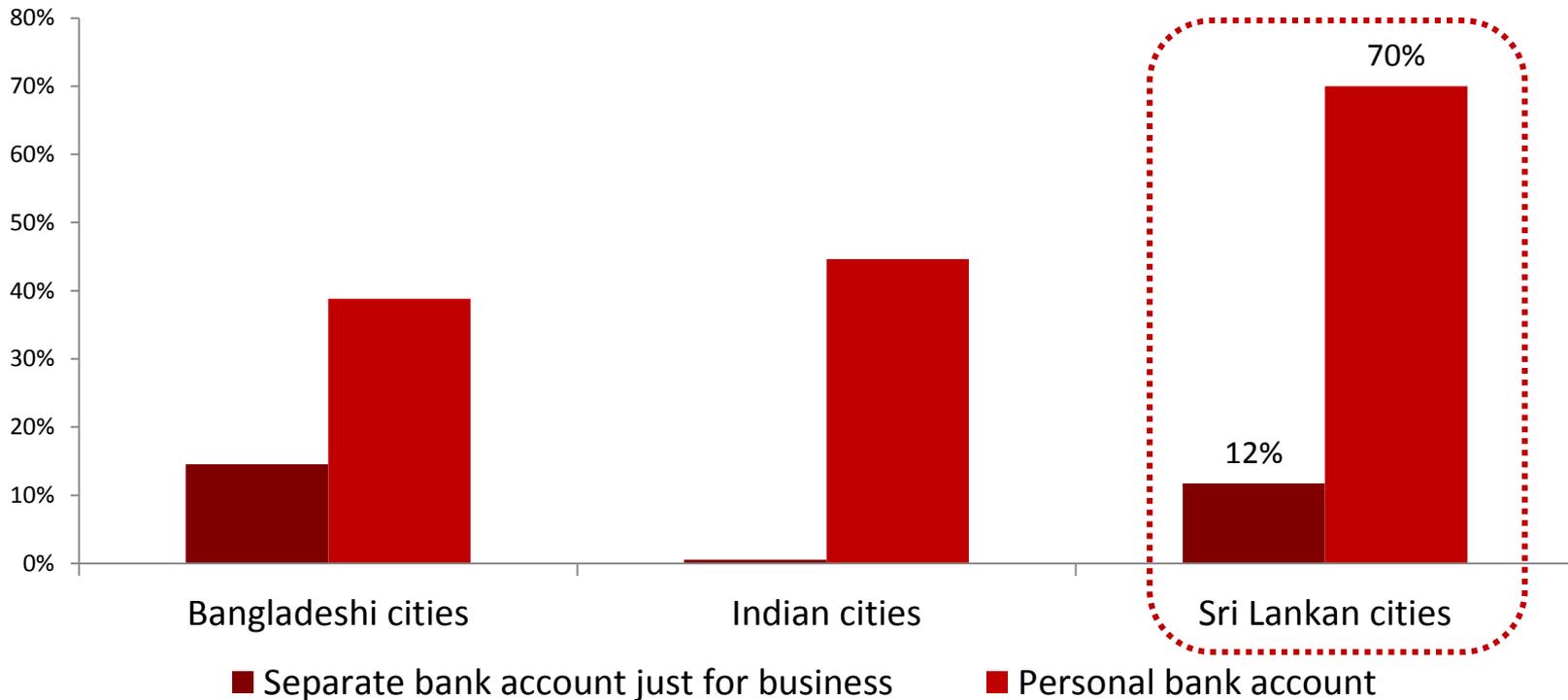
- Others
- Variable location for which I pay
- Variable location for which I do not pay
- From a fixed location that I rent, outside my home
- From an fixed location that I own, outside my home
- From a part of my rented home
- From a part of my home that I own

Most businesses started using savings.

Formal loans most common in LK



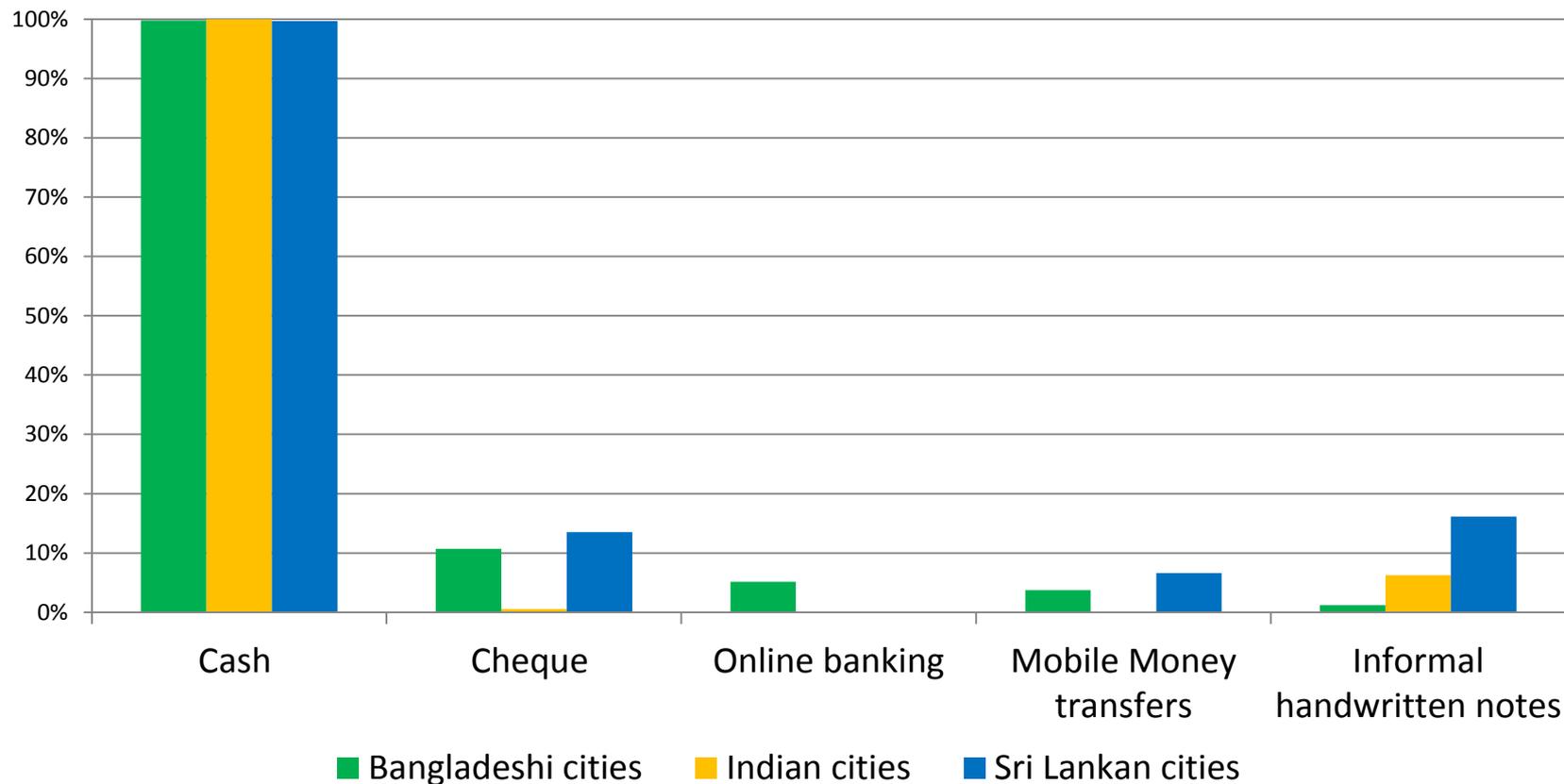
Access to bank accounts highest in LK



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

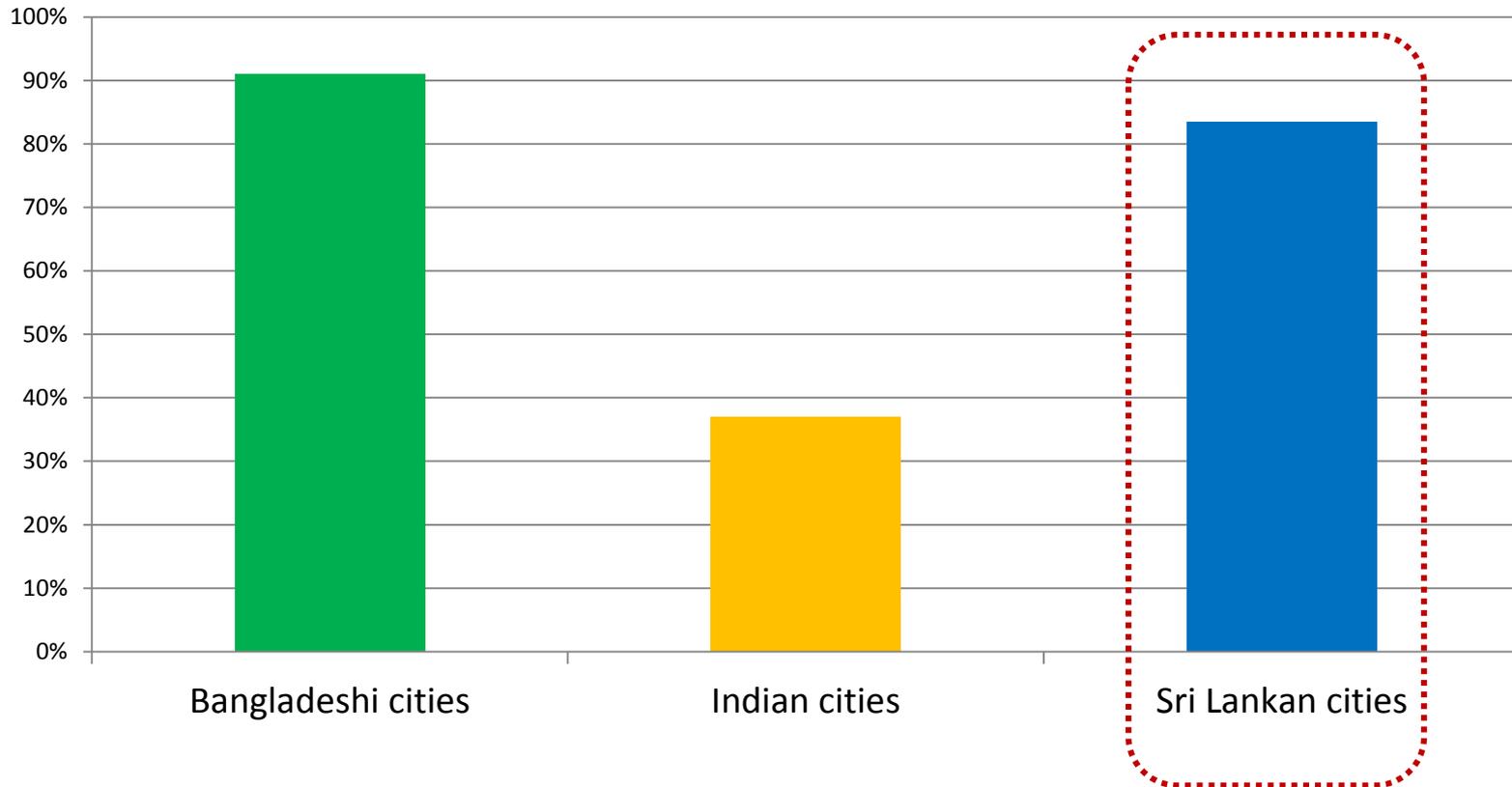
Do you have any bank account in your name? (as % of low-income MEs)

All MEs normally deal with cash



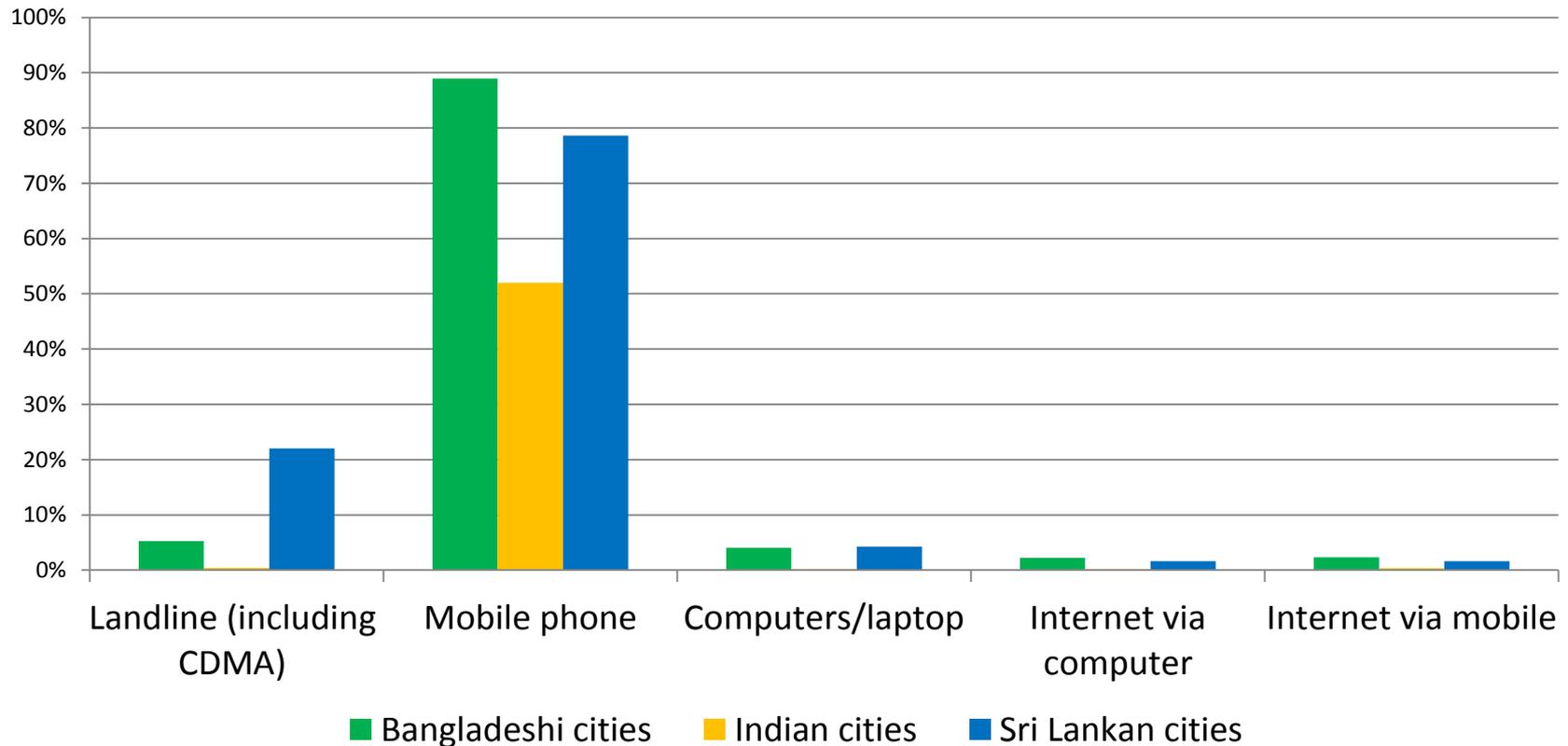
ELECTRICITY AND TELECOM USE BY MICRO-ENTREPRENEURS

84% of LK MEs have an electricity connection which they use for business

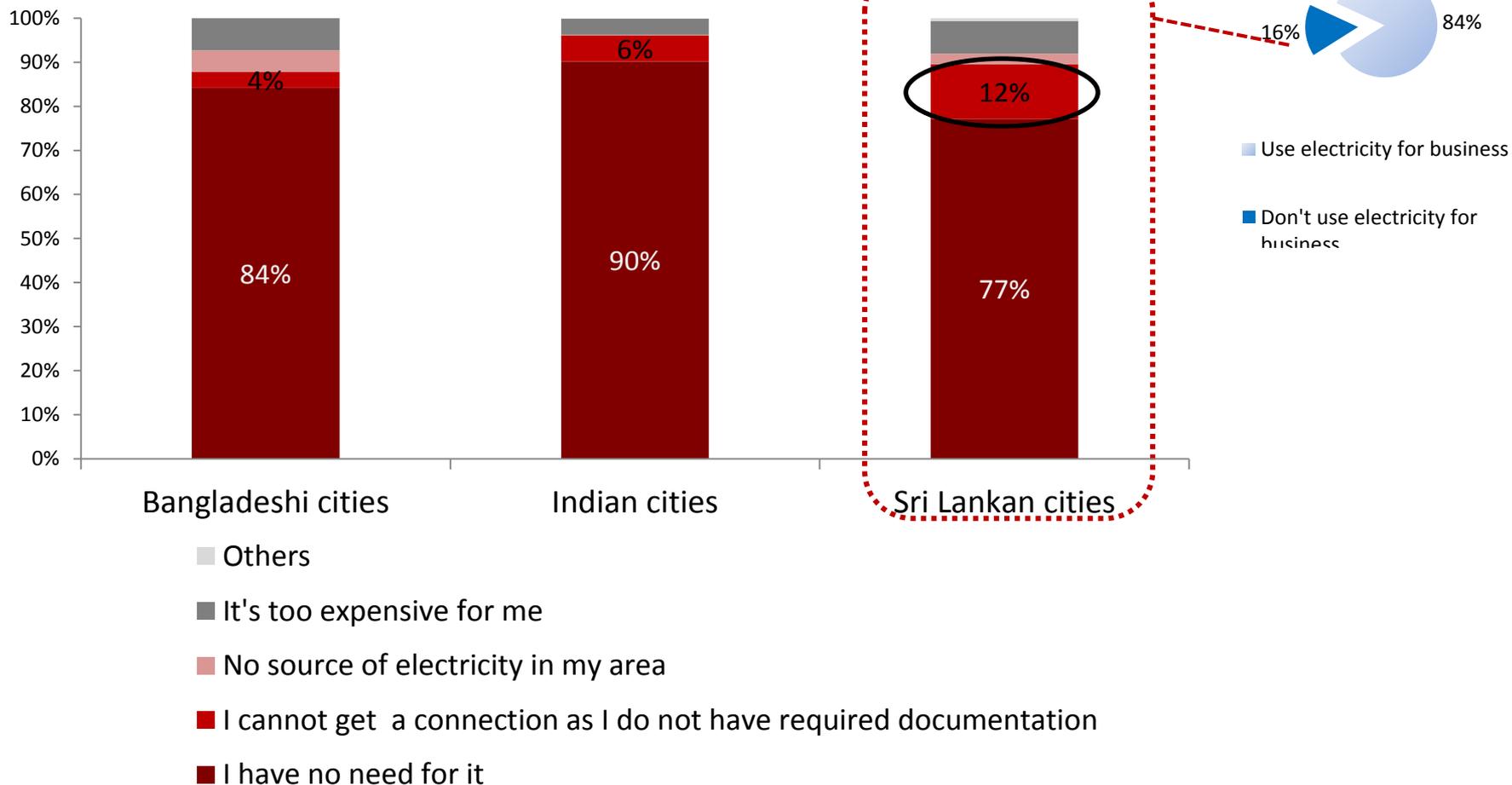


Do you have an electricity connection which you use for business purpose? Where electricity can be from the grid

Comparable to telecom: 79% use a mobile and 20% use a fixed line for business

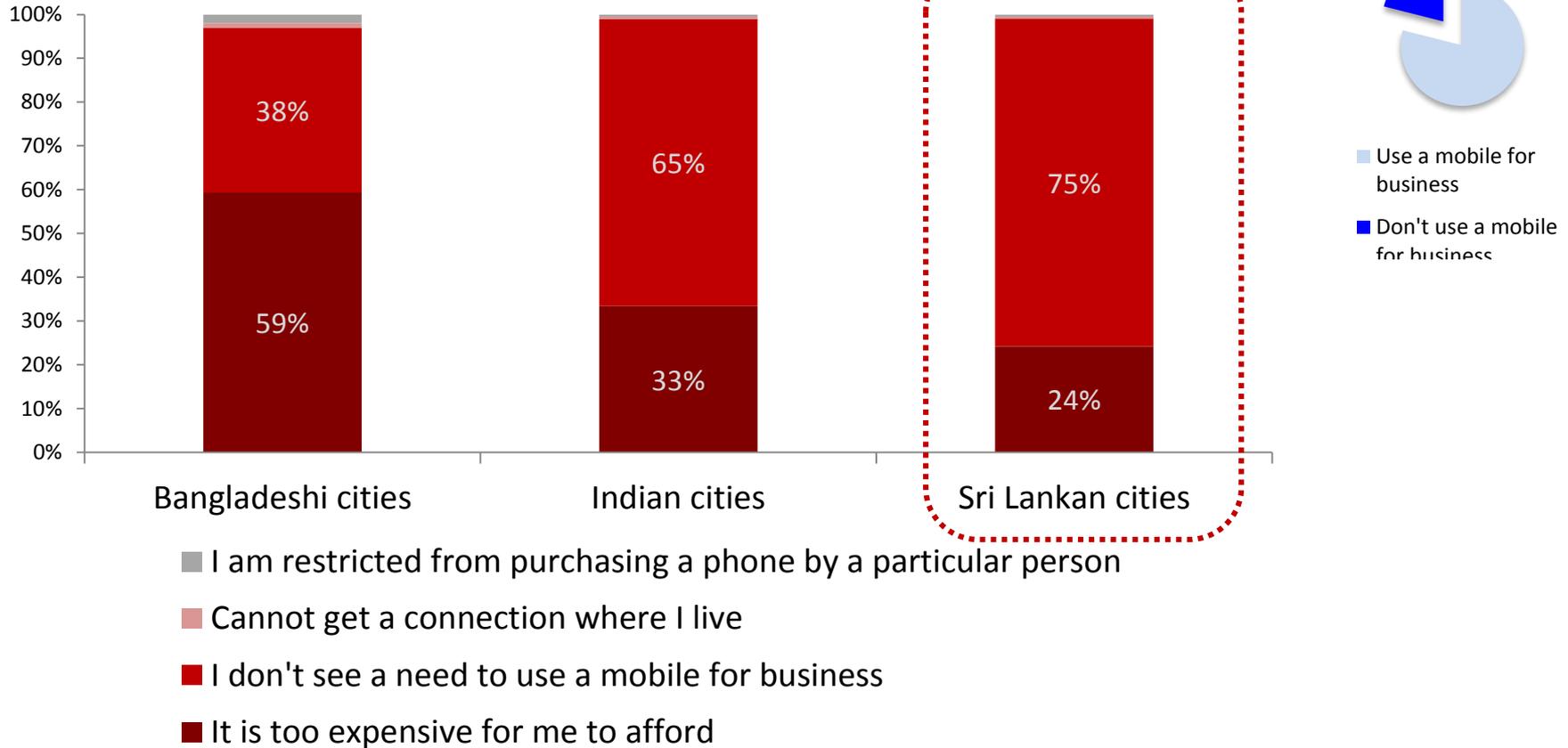


77% who don't use electricity don't see need for it; But 12% don't have necessary documentation; 7% say its too expensive

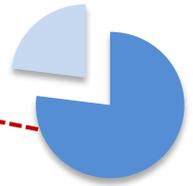


What is the main reason for not having electricity connection for business? (% low-income MEs who not have electricity for

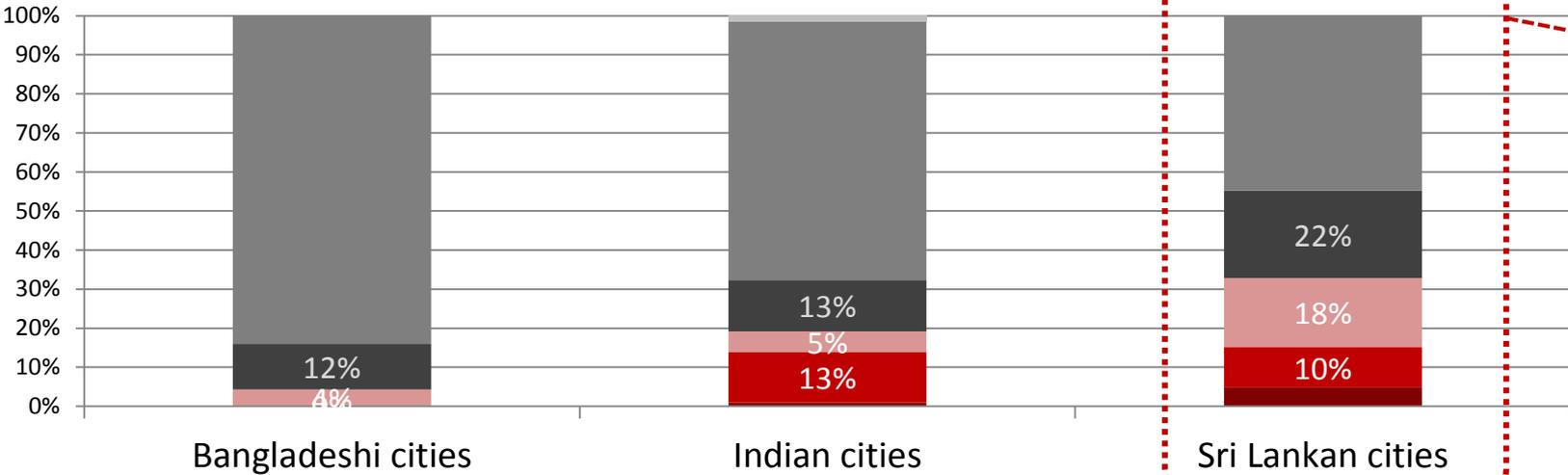
Comparable to telecom: 75% say they don't need a mobile for business. 24% cite expense



Some (22%) without a need for electricity operate from a variable location. But 28% with a fixed location also don't use electricity

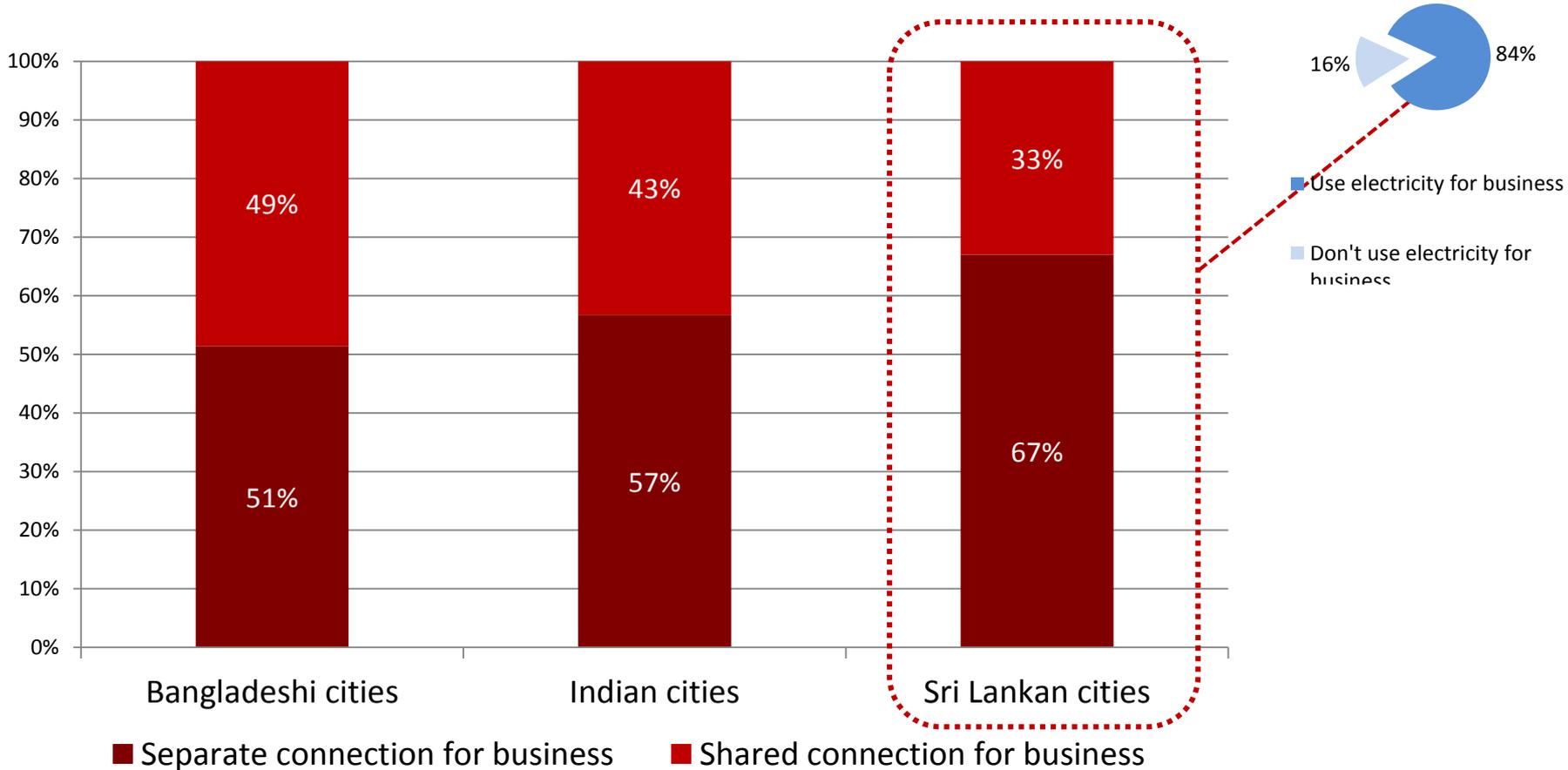


■ Don't need electricity for business
■ Need electricity/other



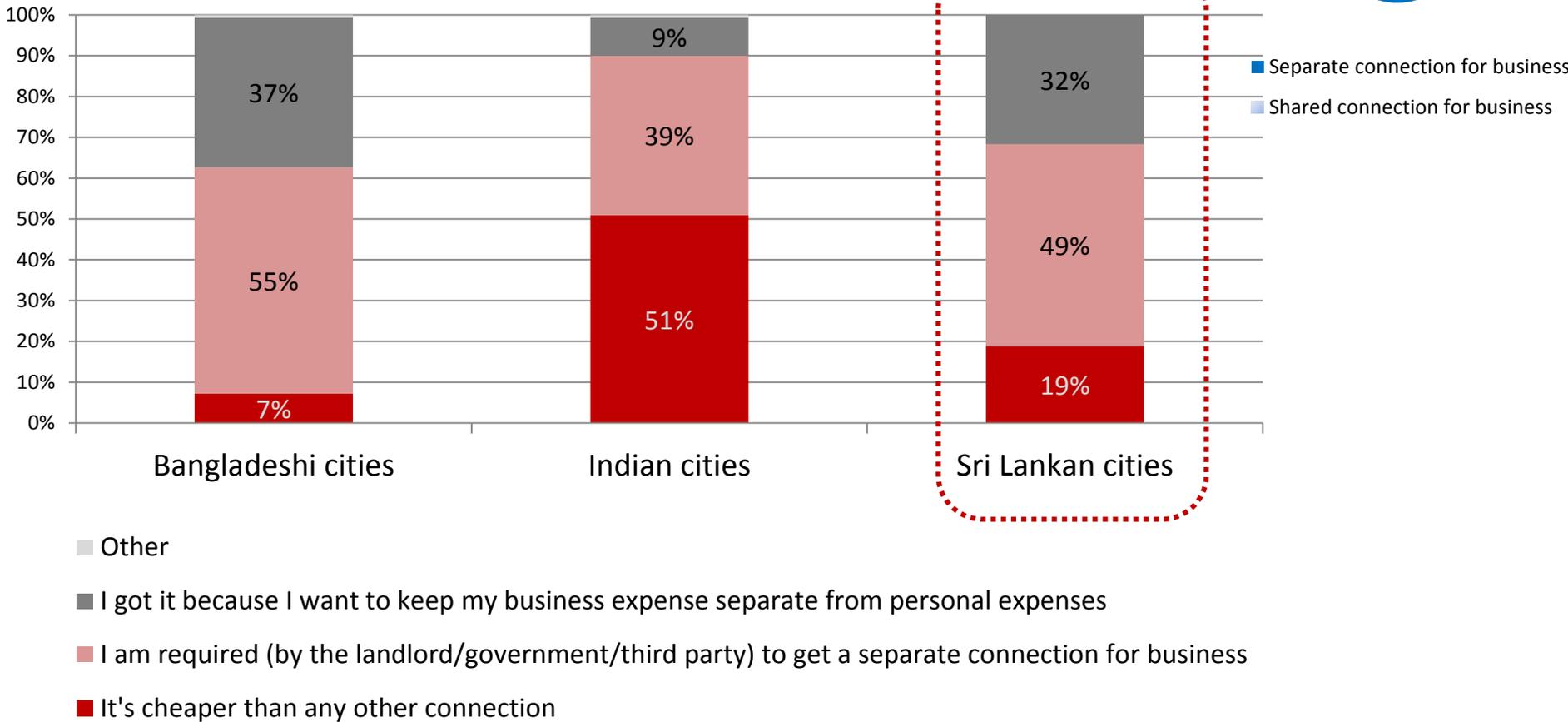
- Others
- Variable location for which I do not pay
- Variable location for which I pay
- From a fixed location that I rent, outside my home
- From an fixed location that I own, outside my home
- From a part of my home that I own

67% of those who have electricity have a separate connection in LK



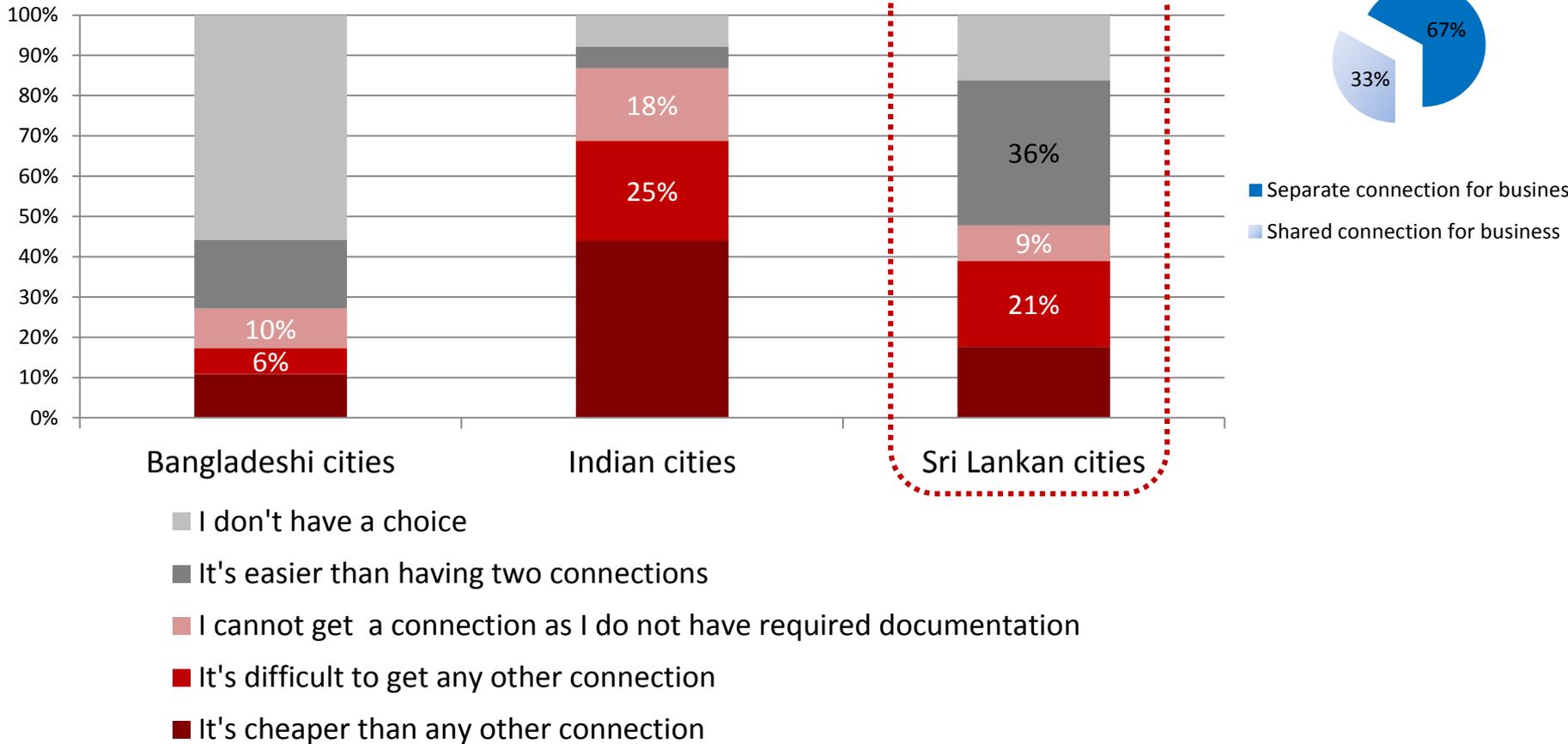
Do you have a separate electricity connection separate for your business?

49% in LK have a separate connection for business because it is a requirement; 32% to keep business expenses separate



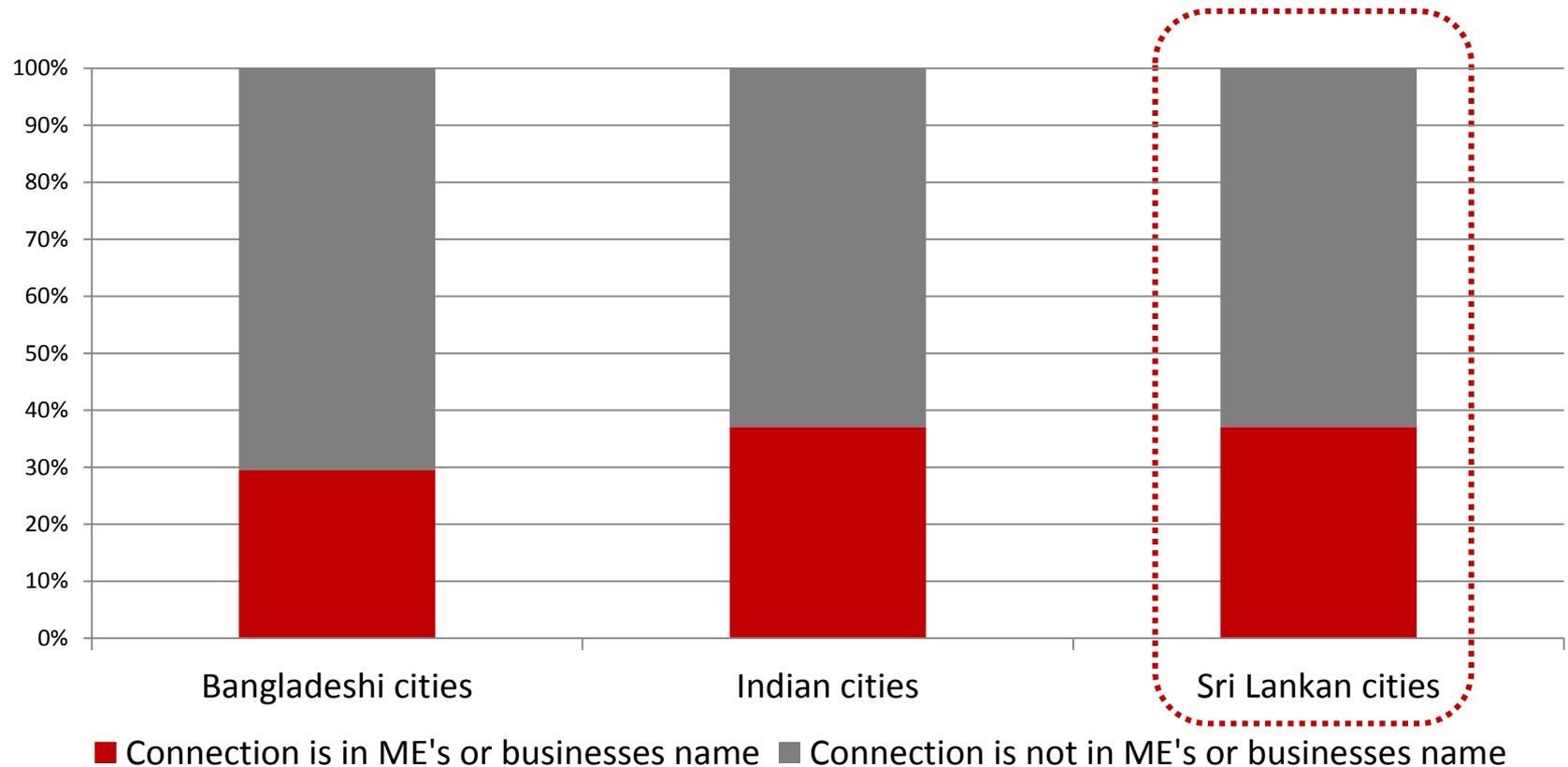
Please tell us the most important reason for having a separate electricity supply for your business? (% low-income MEs who

Many in LK have a shared electricity connection because of ease. But 30% cite difficulties in getting a separate connection

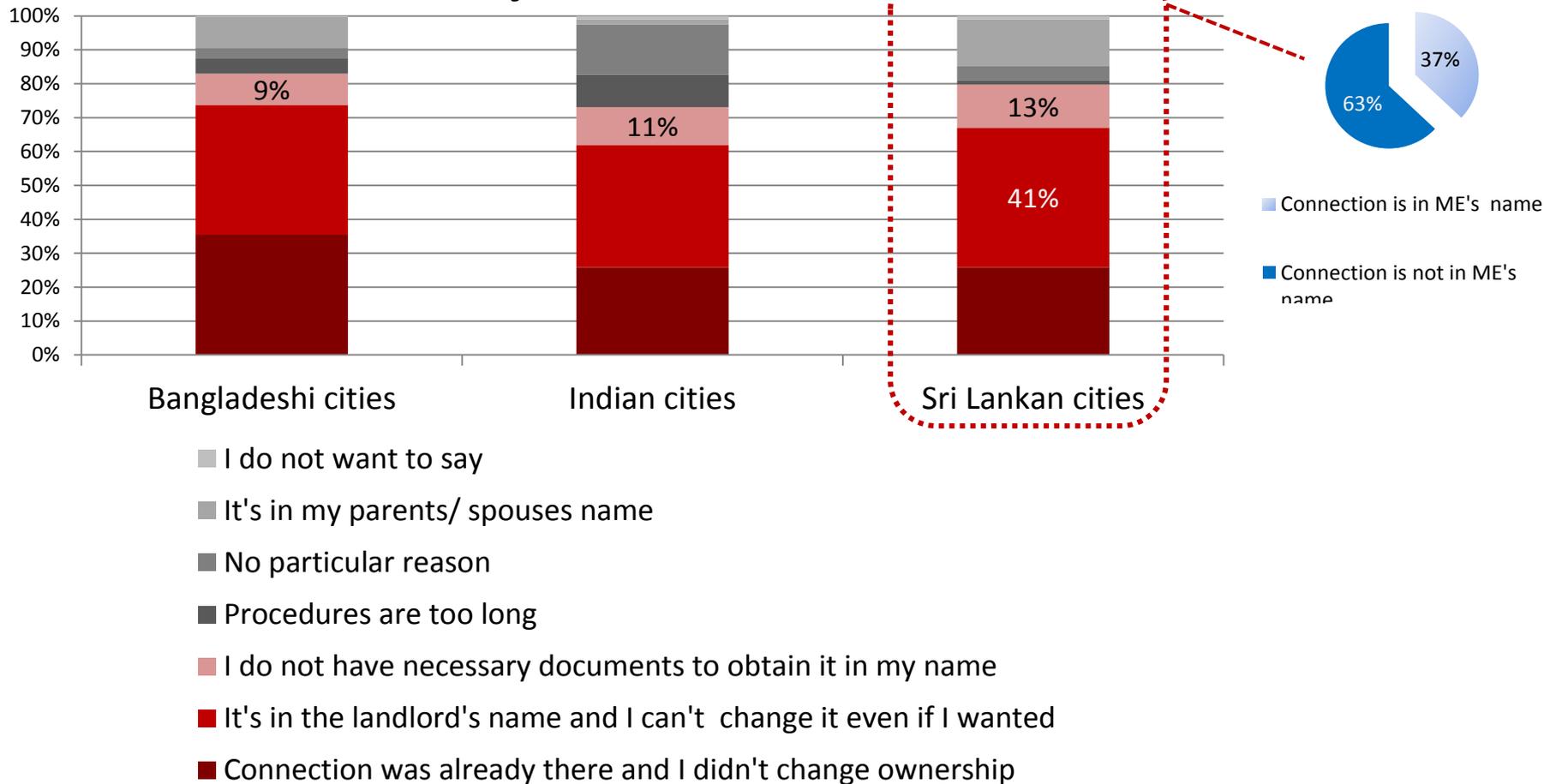


Please tell us the most important reason for having a shared connection [as a part of home or somebody's

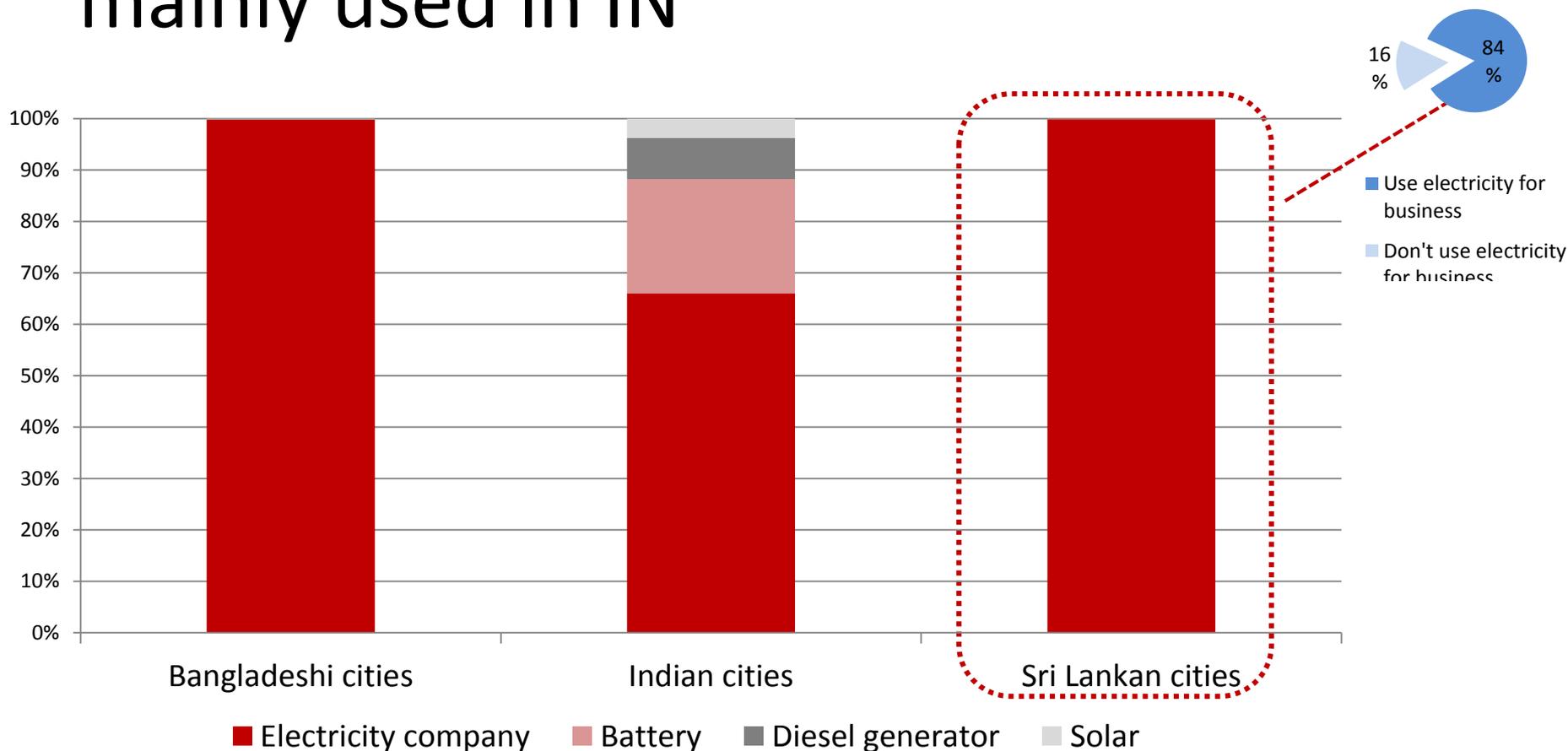
37% of LK MEs have the connection in their name



Most can't change the name because connection is in landlord's name; 13% cite lack of necessary documents

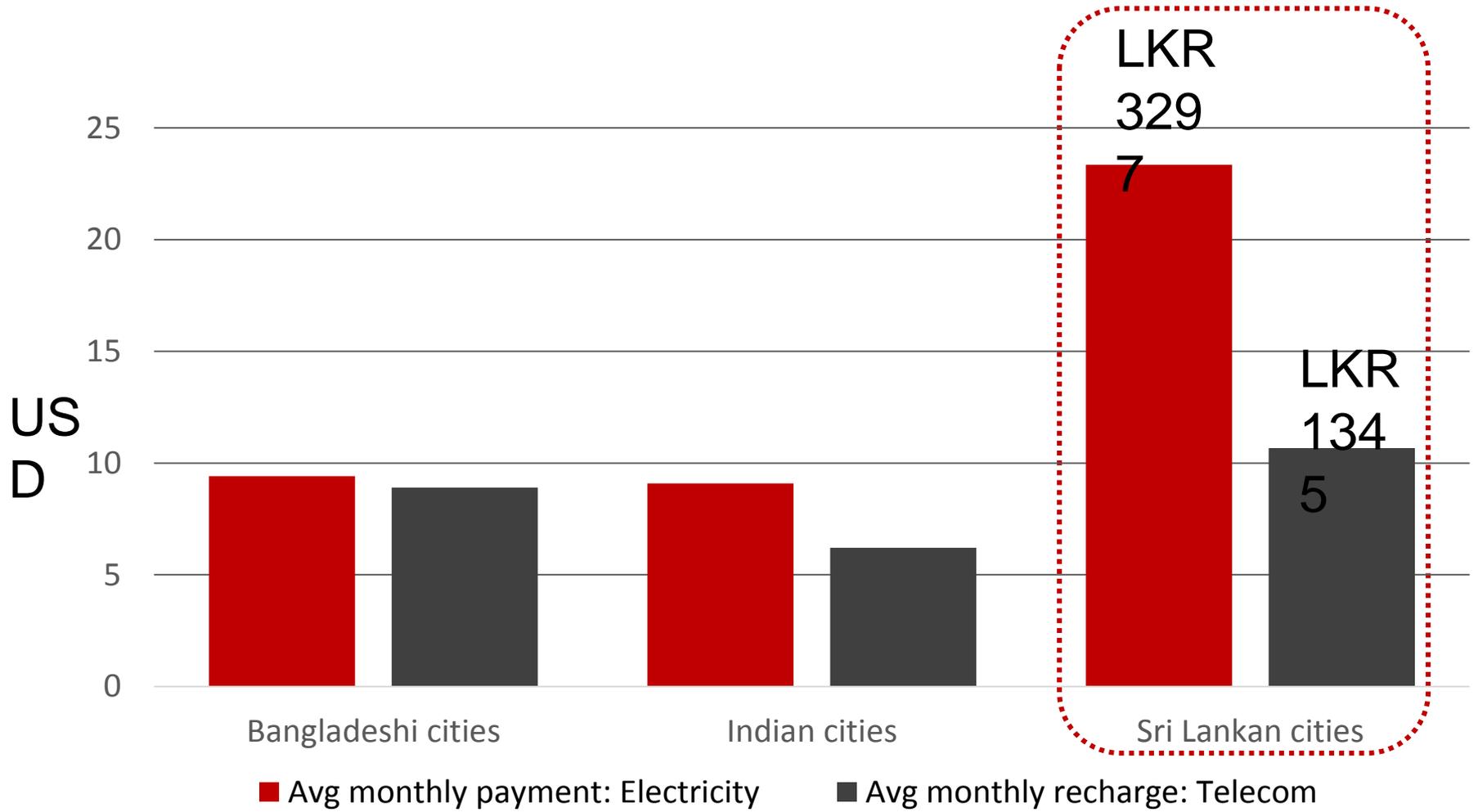


LK MEs on the grid. Battery/ generators mainly used in IN



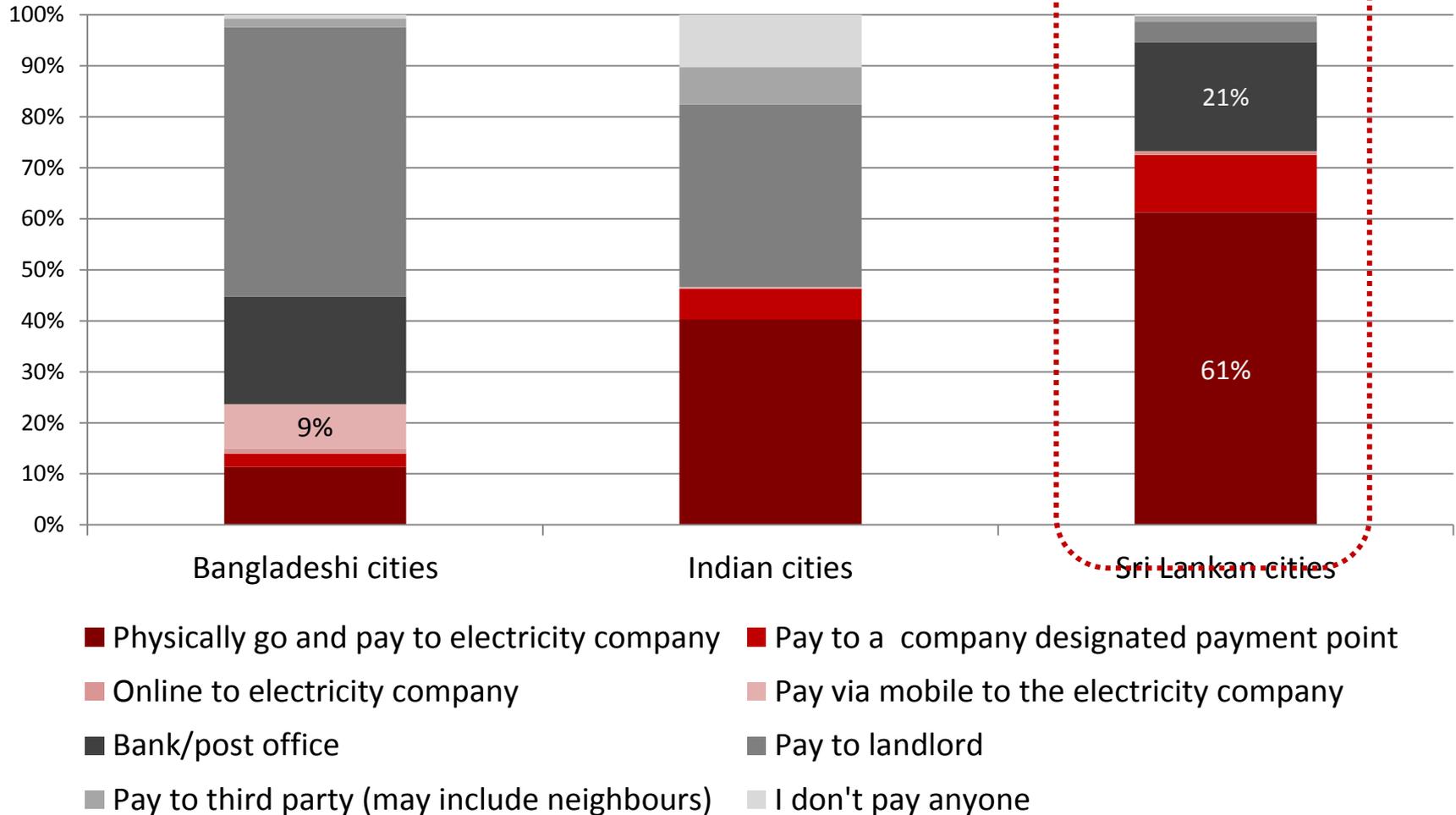
Who is the main supplier of electricity to you? (% low-income MEs who use electricity for business)

LK MEs pay more than double what those in BD, IN pay for electricity



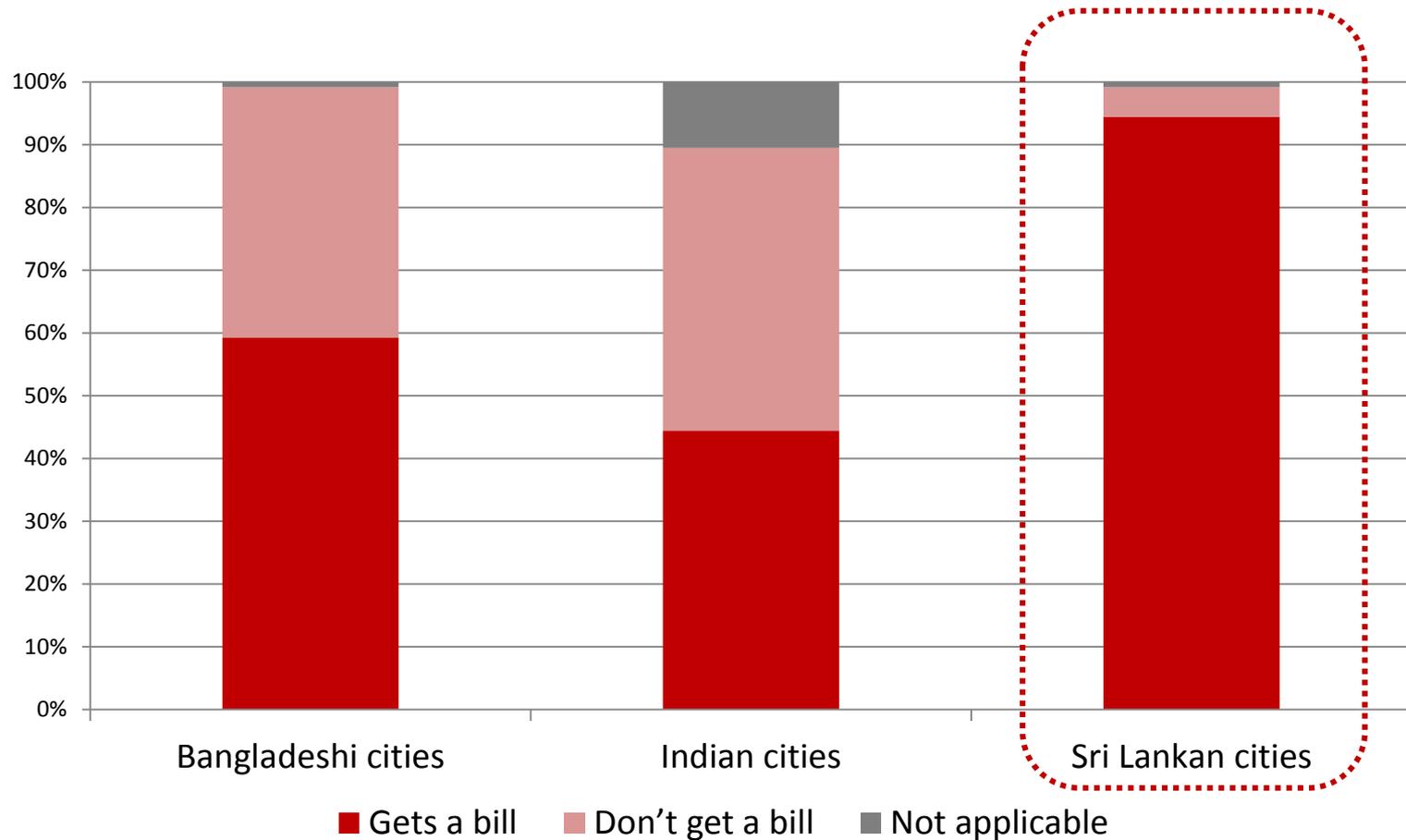
How much is your average monthly electricity bill and mobile recharge (prepaid)?
(% low-income MEs who use electricity and telecom for business with supply from...)

Most LK MEs pay to the company itself. Banks/post offices are next common

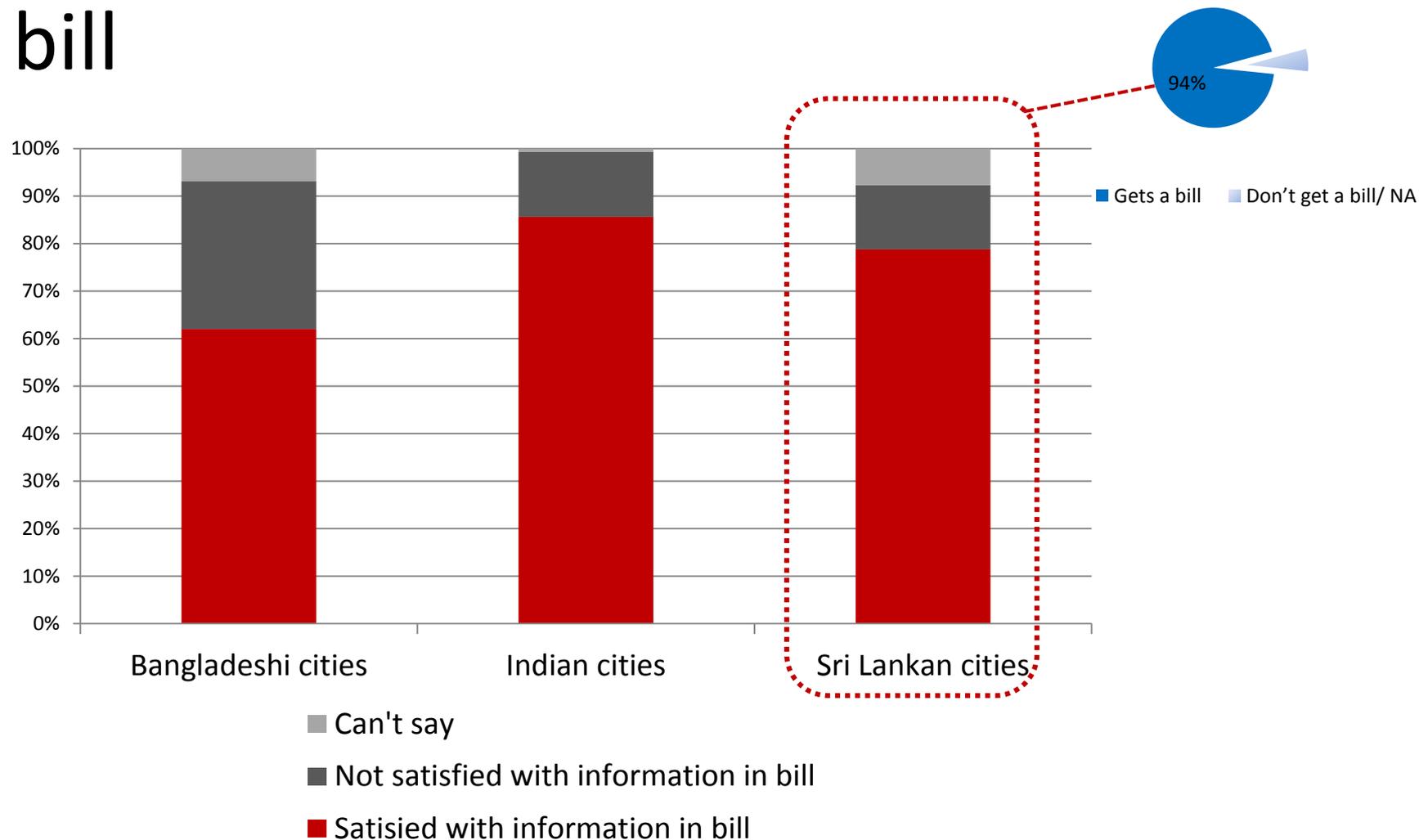


What is the most frequent used method of payment for your electricity consumption?

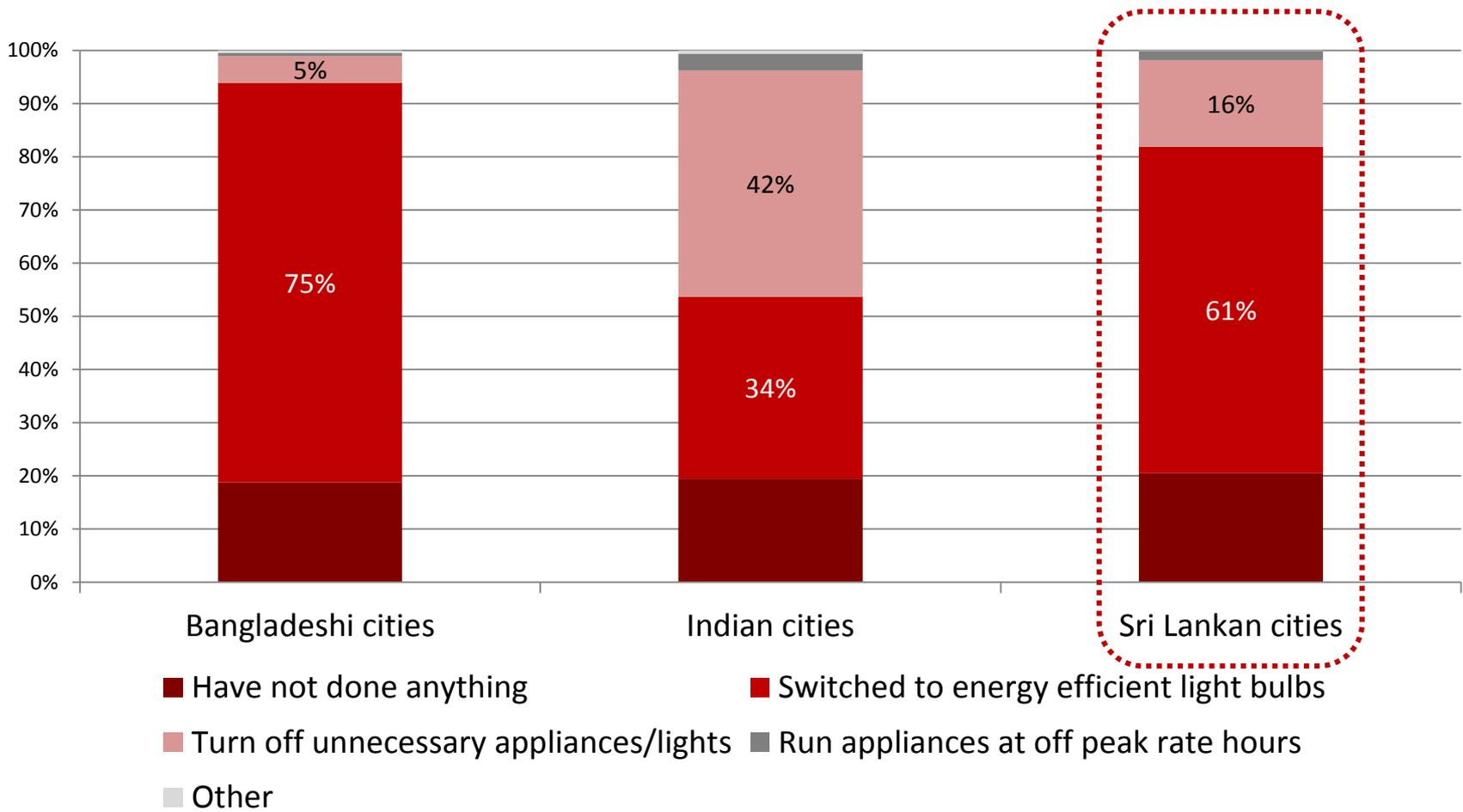
94% of MEs in LK get a bill



79% in LK satisfied with information in bill

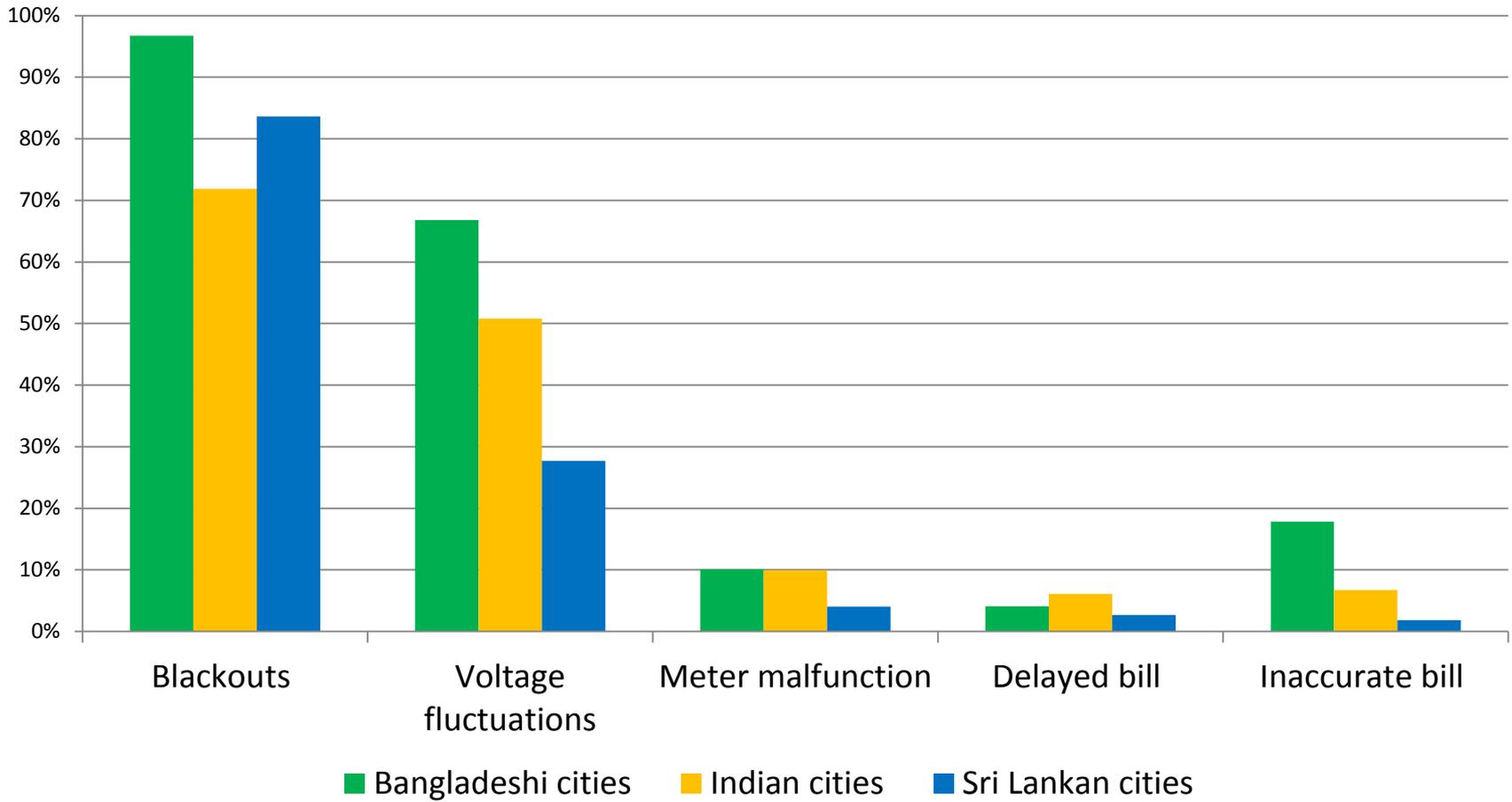


Energy efficient lighting: most popular money saving method. 16% turn off equipment



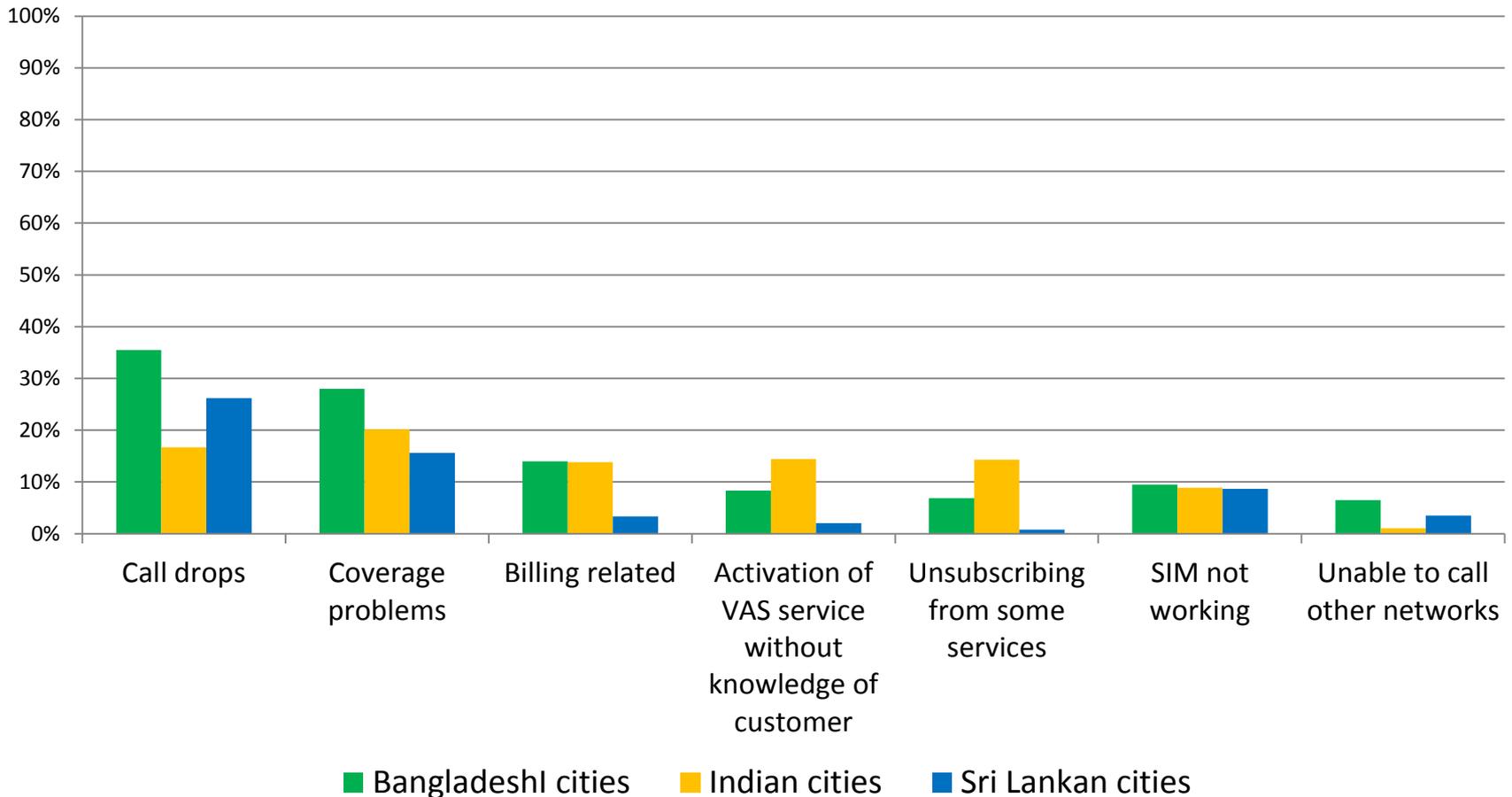
Please tell us about your most important step in conserving energy [reducing electricity bill] you have been following? (% low-income MEs who use electricity for business with supply from electricity co.)

Outages and voltage fluctuations most common problems in LK

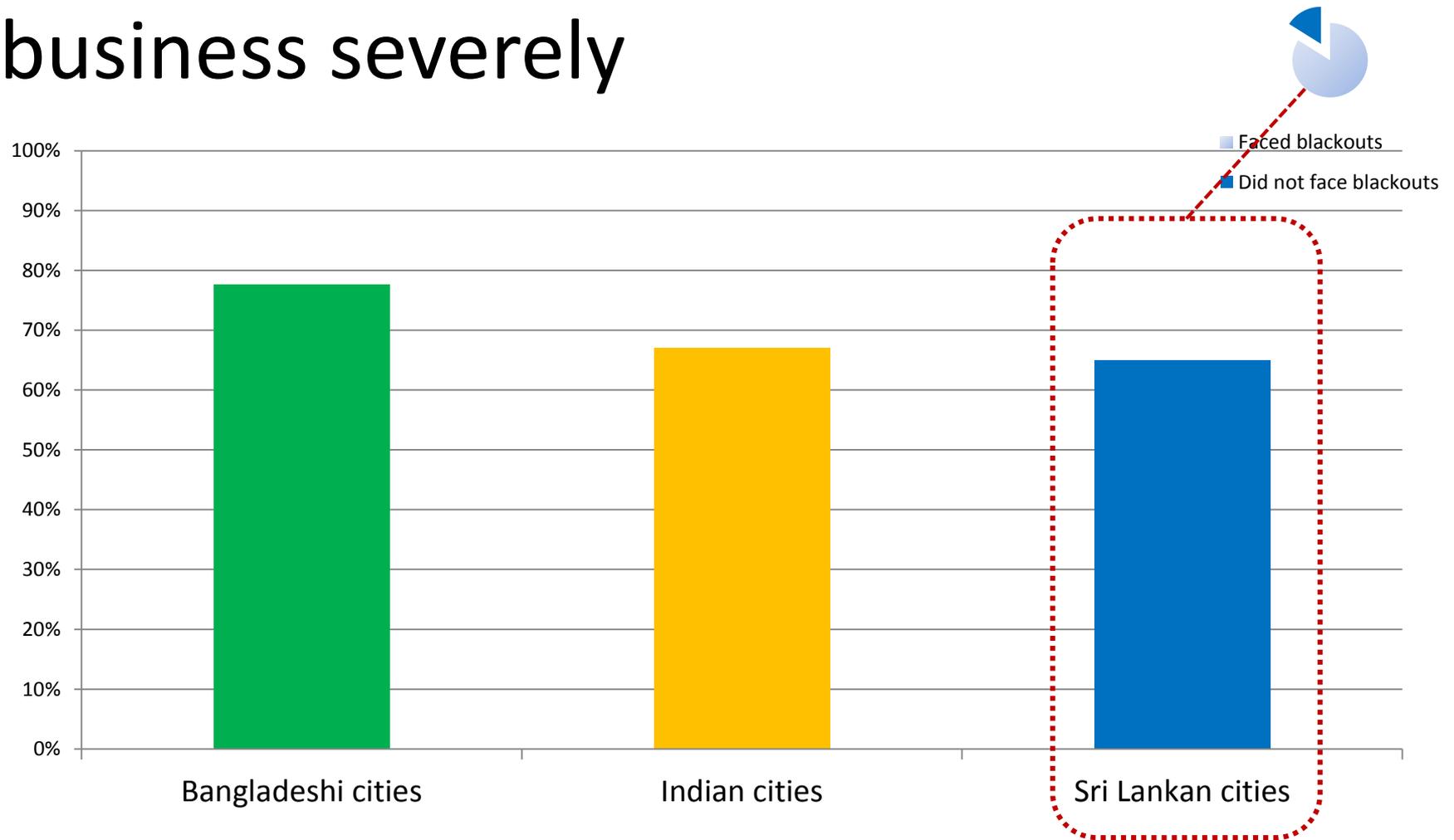


Did you face this problem? [Multiple Answer] (% low-income MEs who use electricity for business from electricity co.)

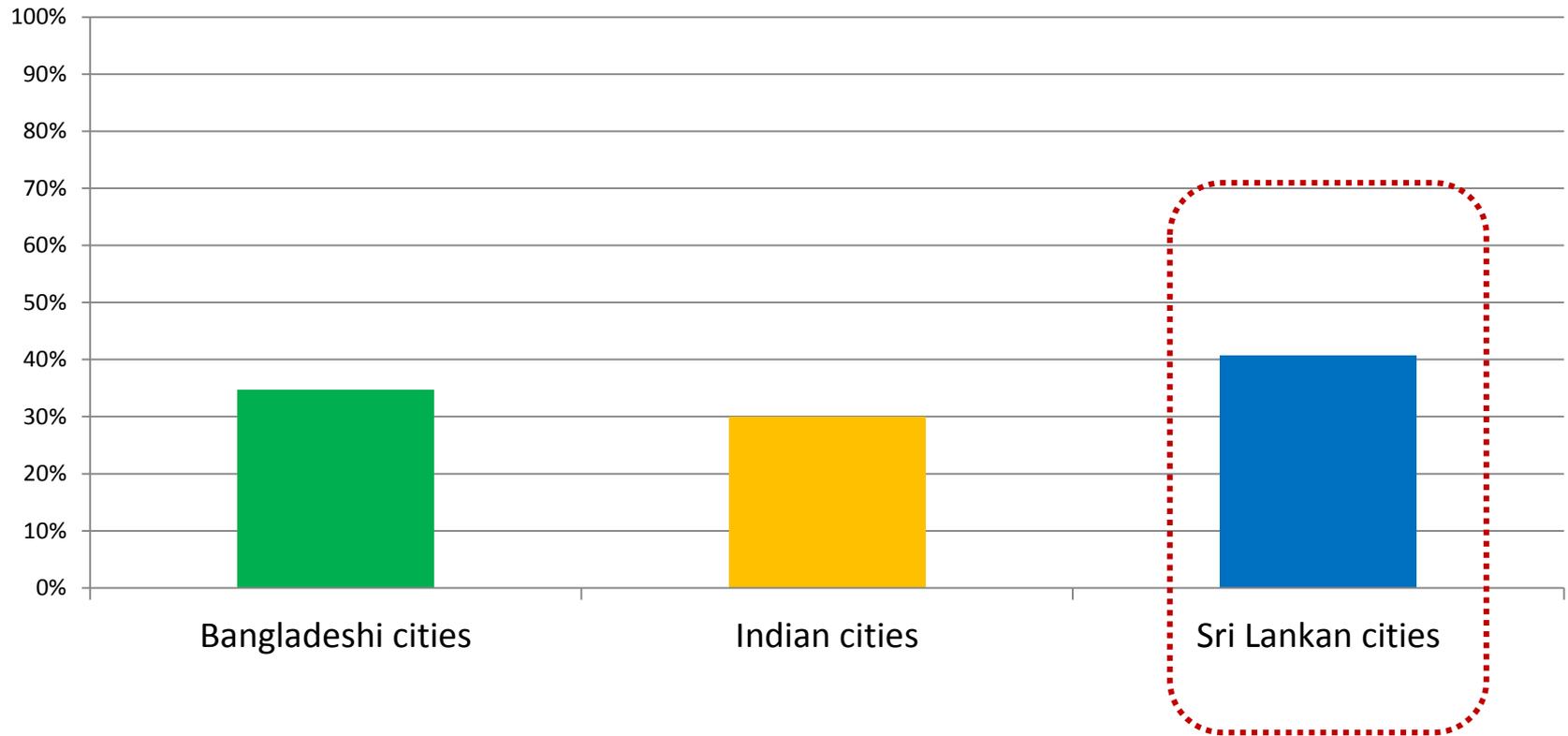
Compared to call drops & coverage problems in telecom (that are less often cited)



65% MEs say outages affect their business severely

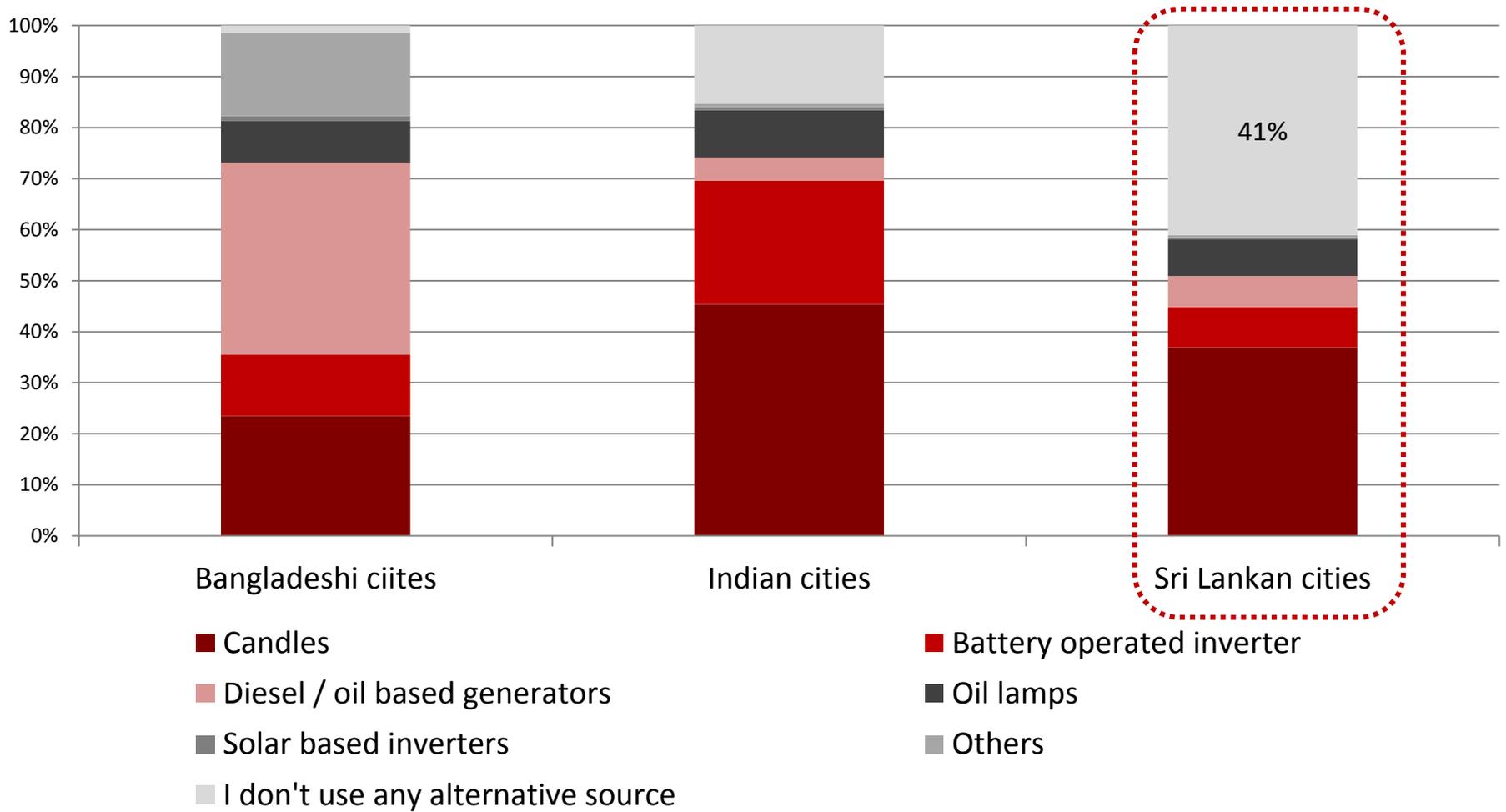


Compared to 41% of MEs who say telecom network dis-connectivity / call drops affect their business

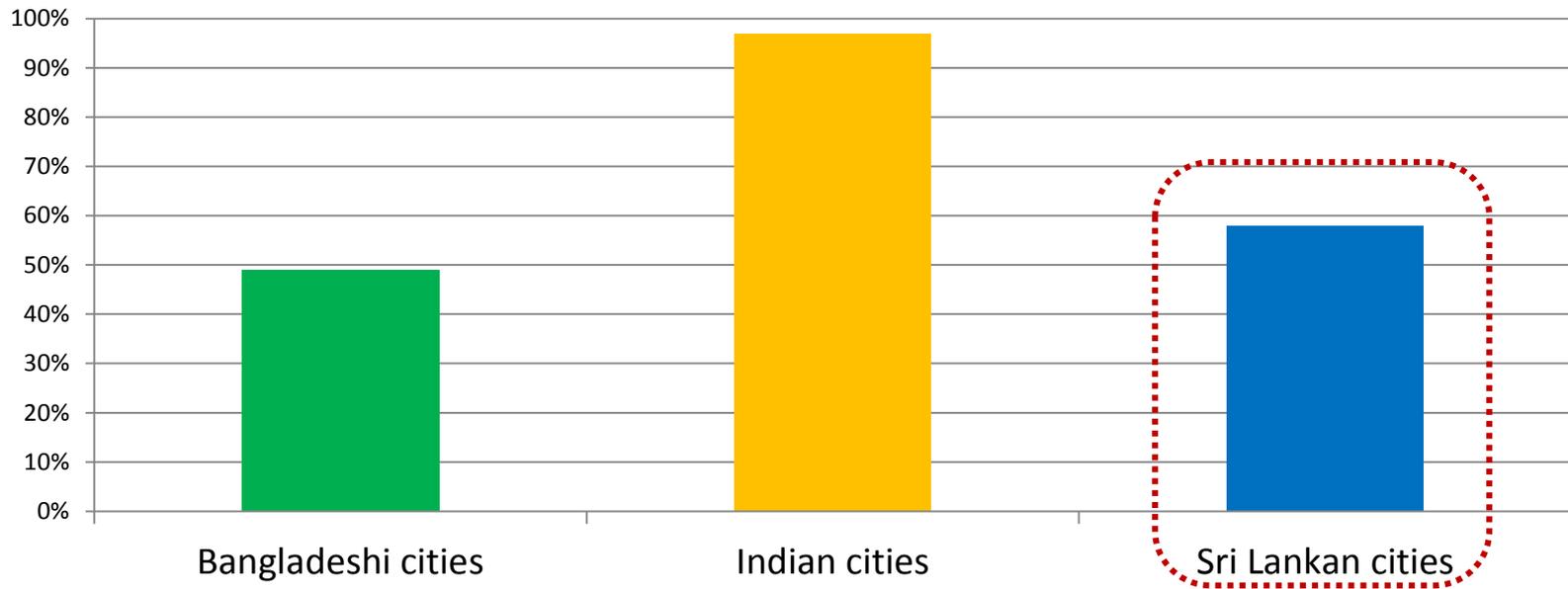


Does network dis-connectivity / call drops affect your business?

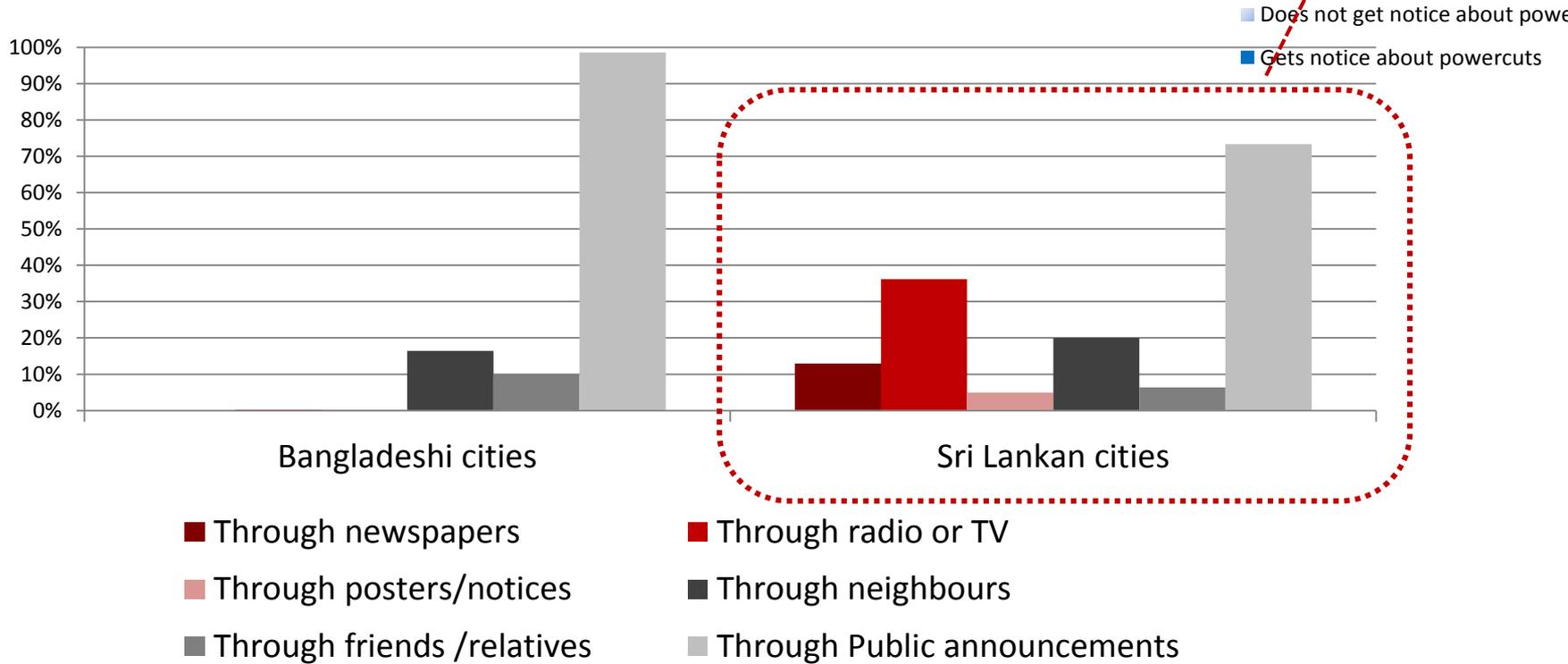
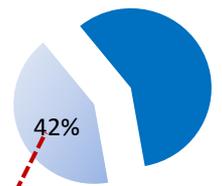
Many LK MEs (41%) do not use alternatives during outages, or just use candles.



58% in LK do not get an advance notice about power cuts

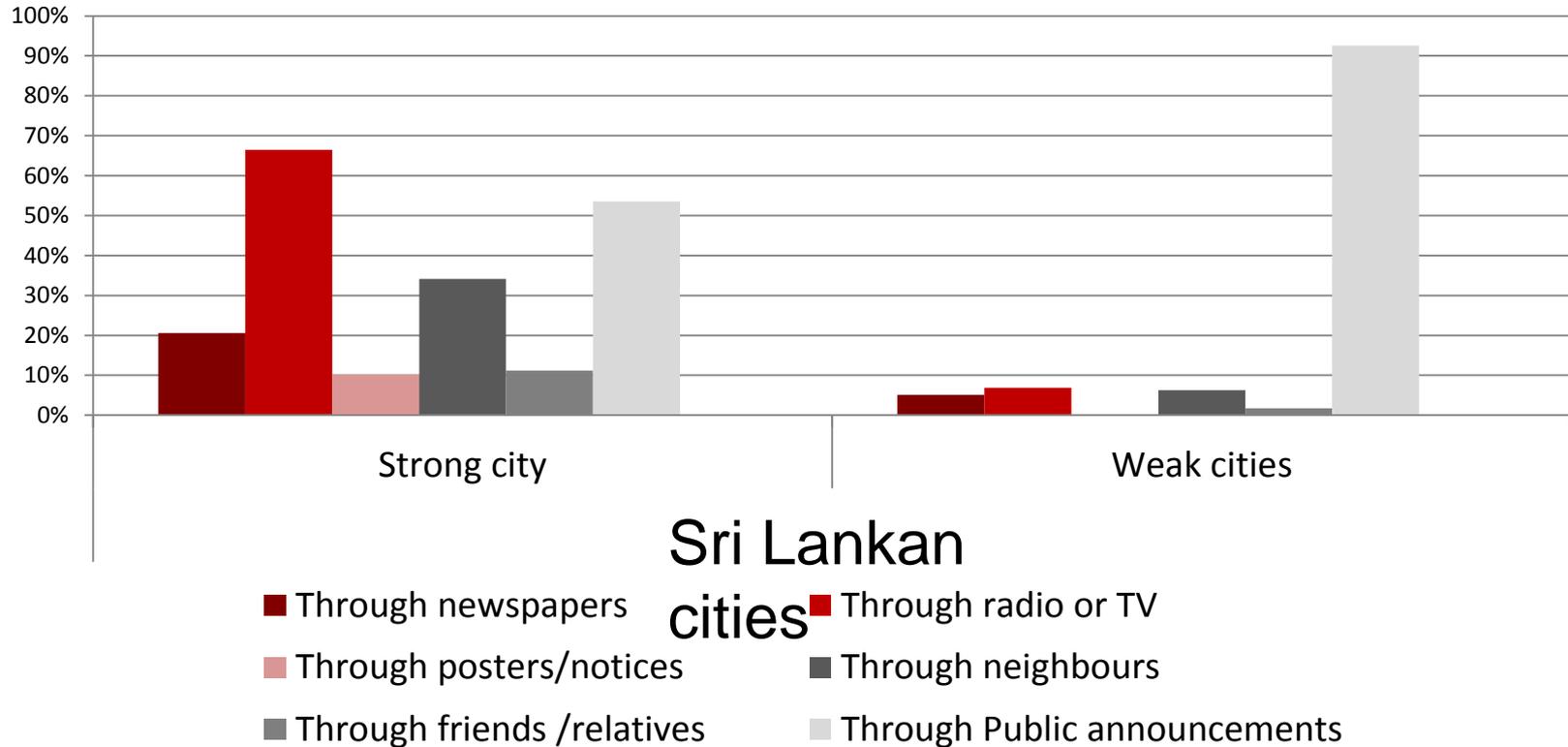
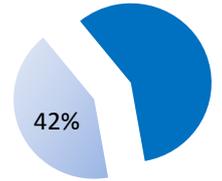


Public announcements are how most MEs find out about power cuts. TV/radio next most common



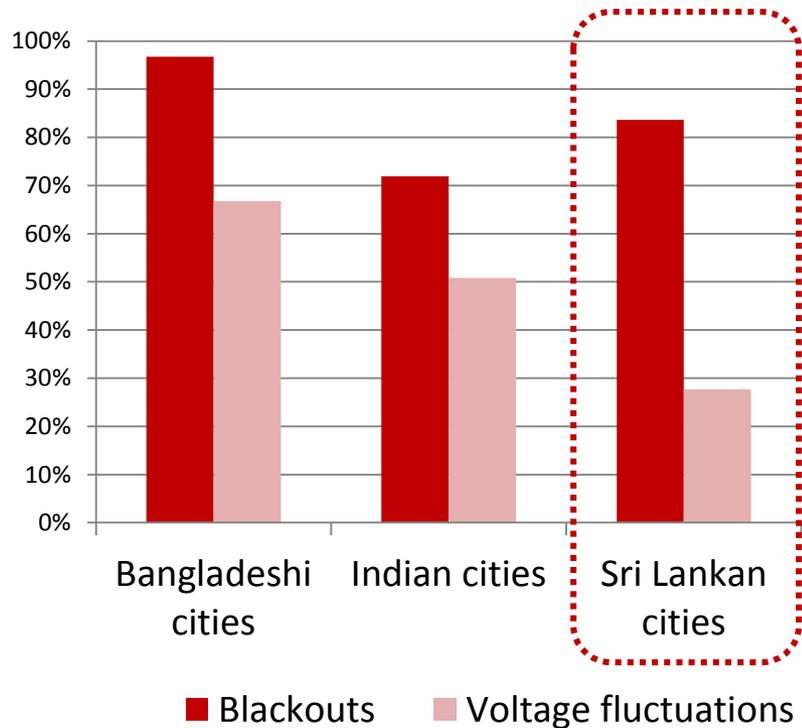
How do you get advance notice about power blackouts? [MA]
 (% low-income MEs who get advance notice)

Radio/TV only seen in strong city LK

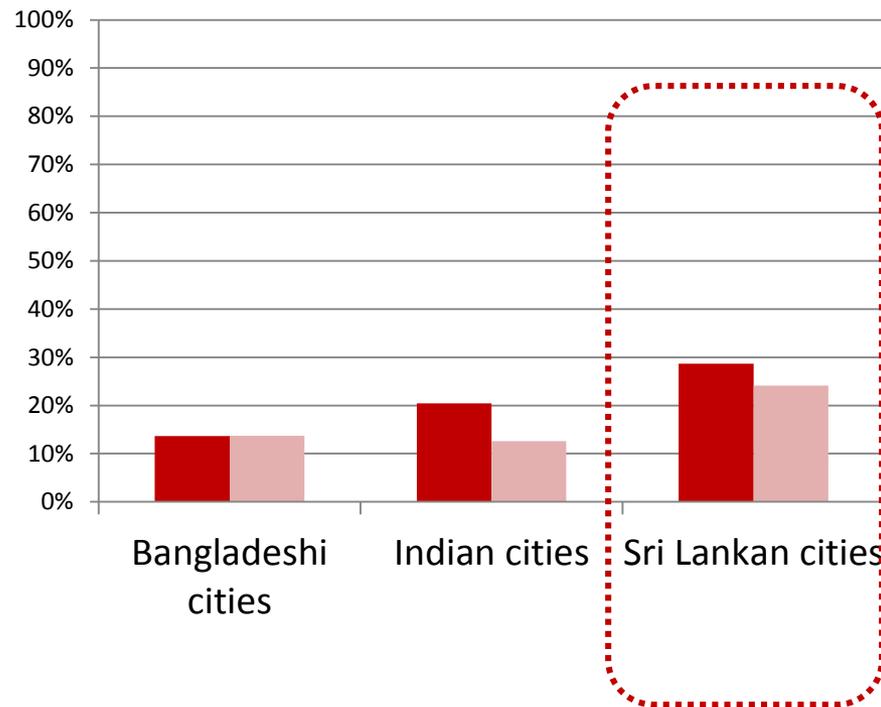


How do you get advance notice about power blackouts? [MA]
 (% low-income MEs who get advance notice)

Blackouts and voltage fluctuations most common problems faced



However few complained about it

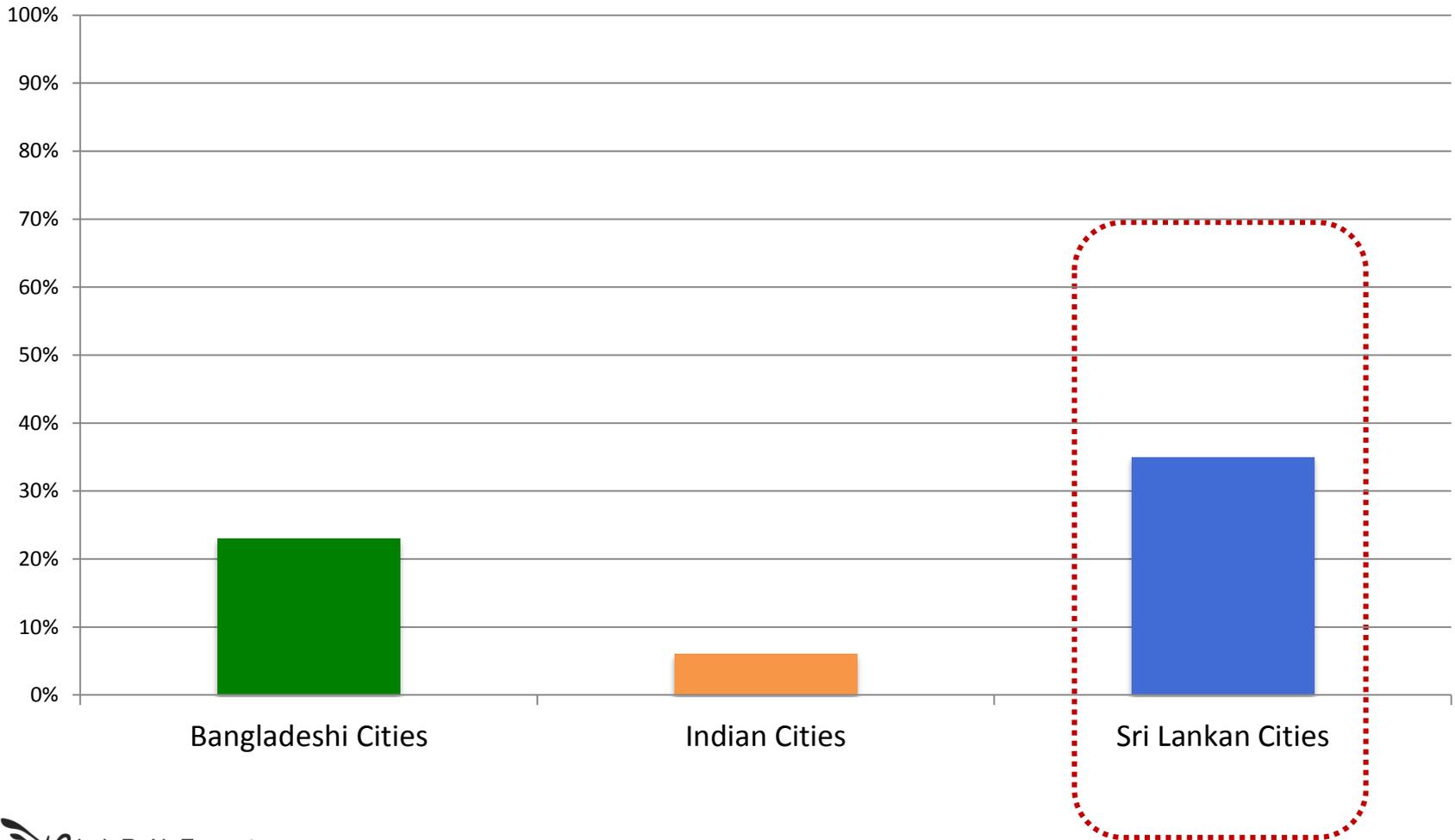


Please tell us whether you faced these problems in the last 2 years. (% low-

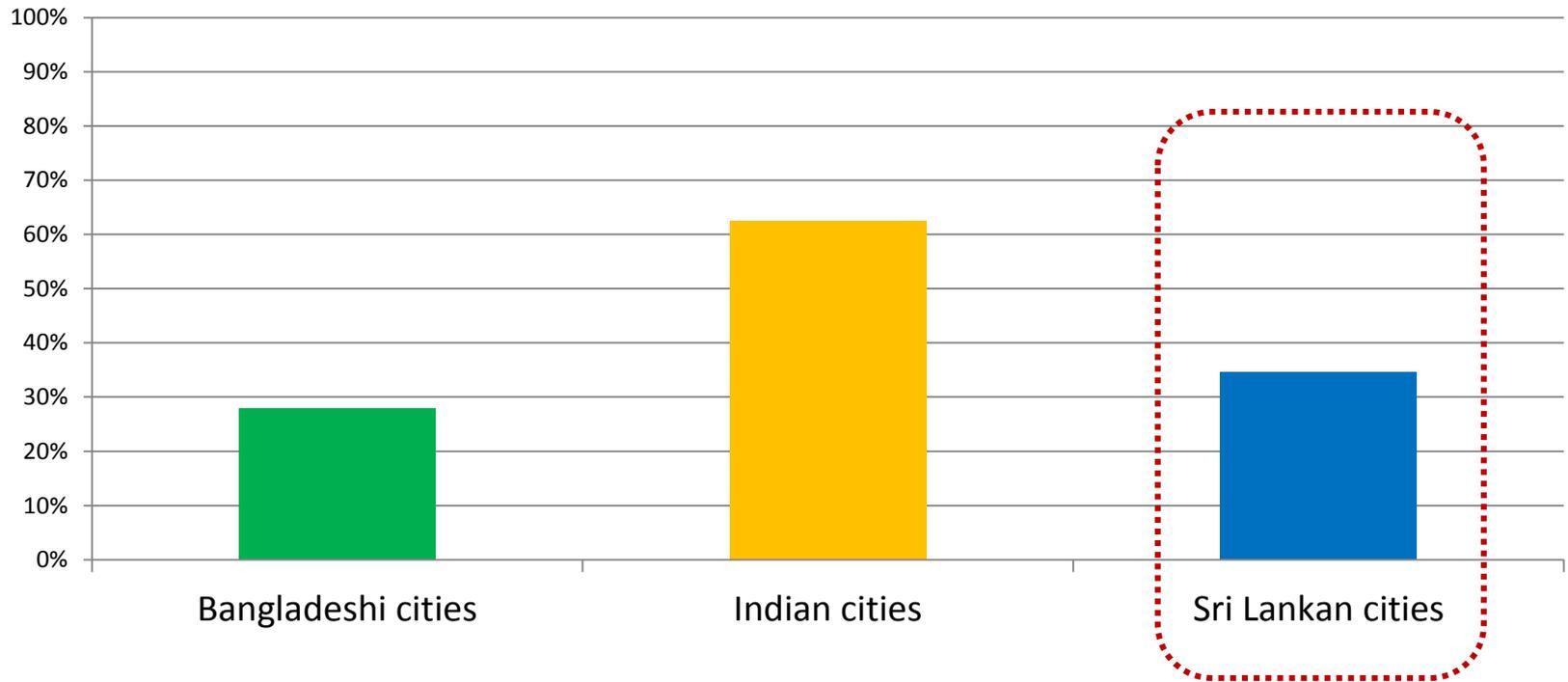
Did you complain about this problem? (% low- income



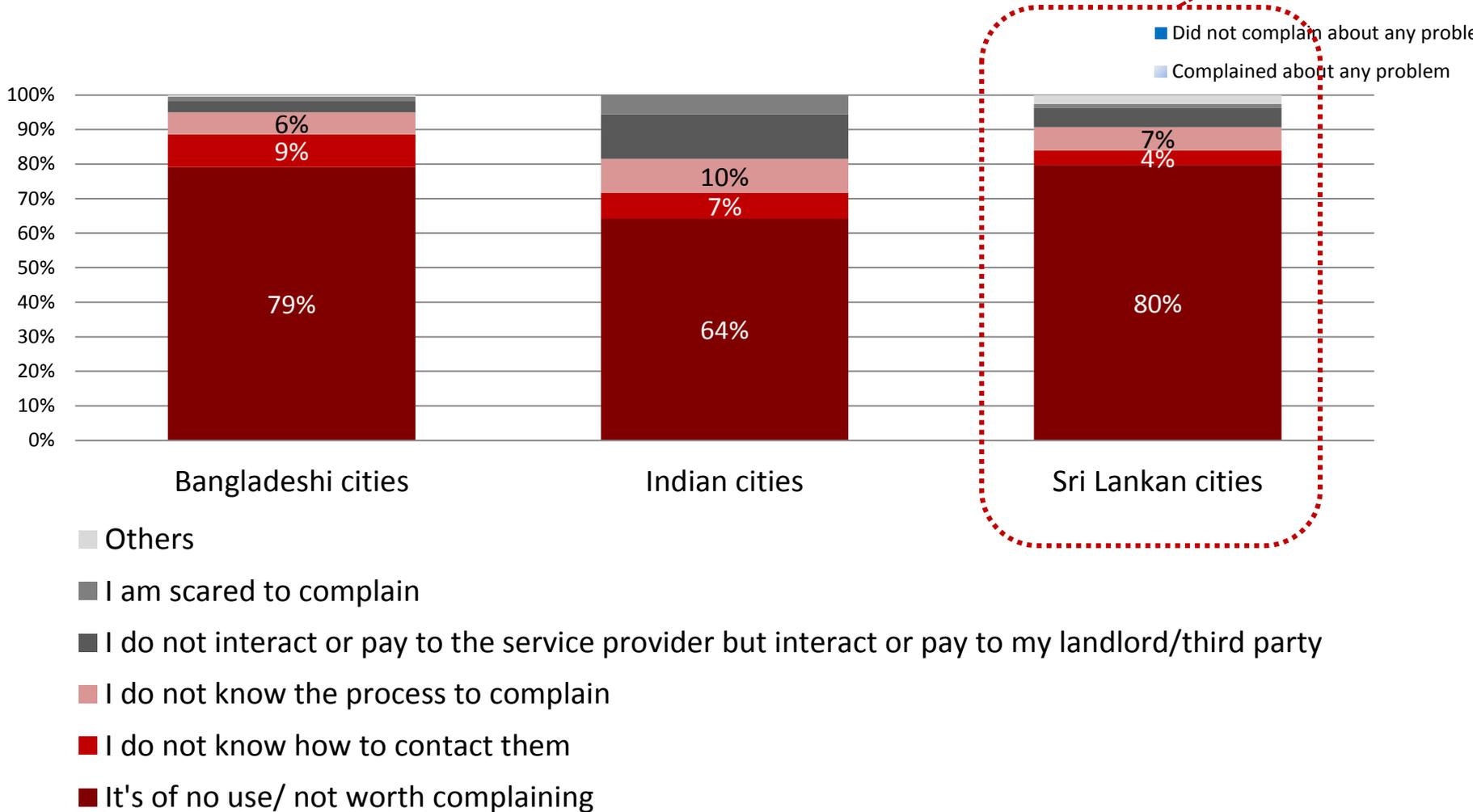
Only 35% have interacted with the electricity service provider.



Similar number (35%) have complained about telecom network problems to telco

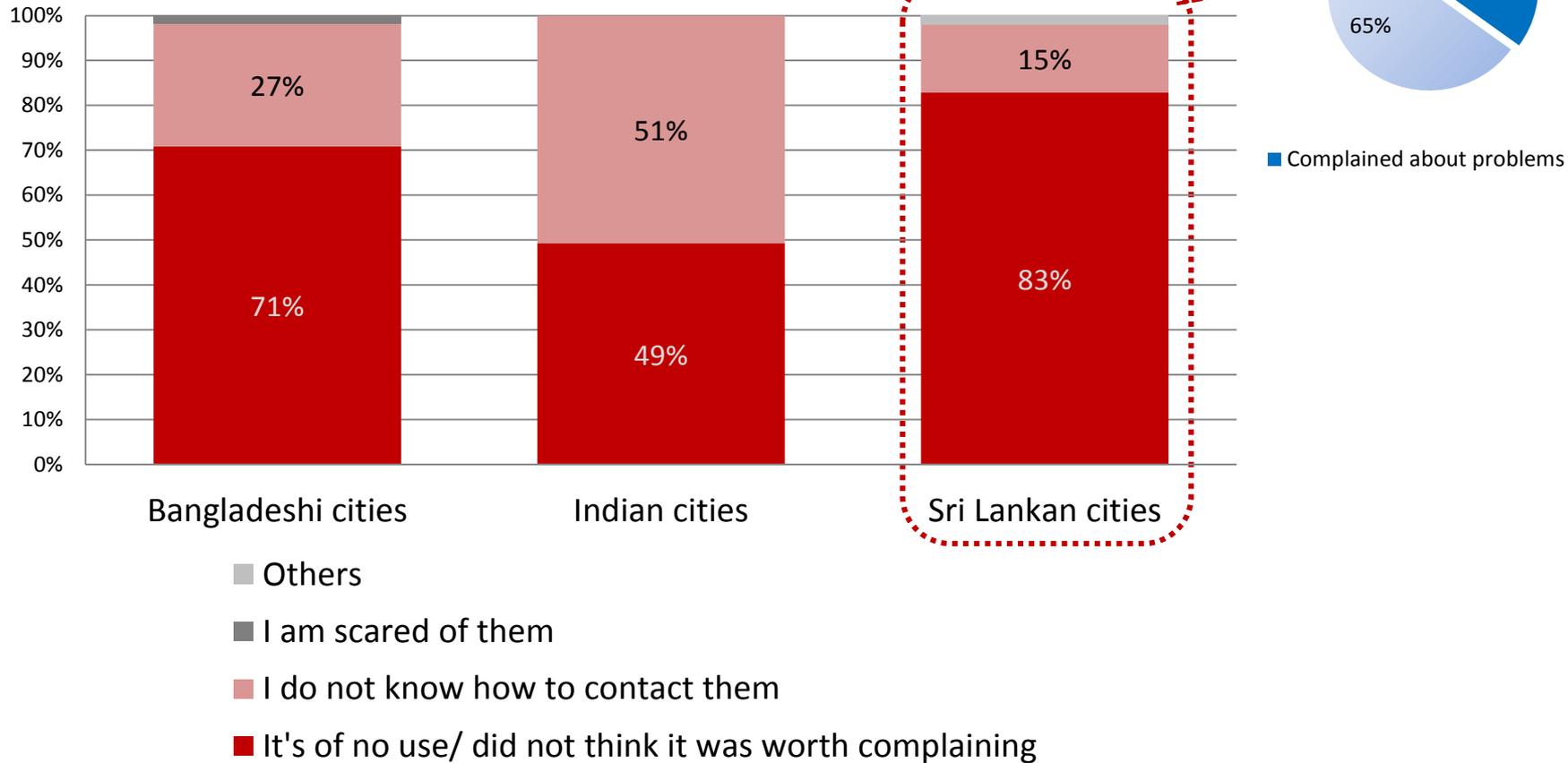


Most (80%) see no use of complaining to Disco. 11% don't know how to

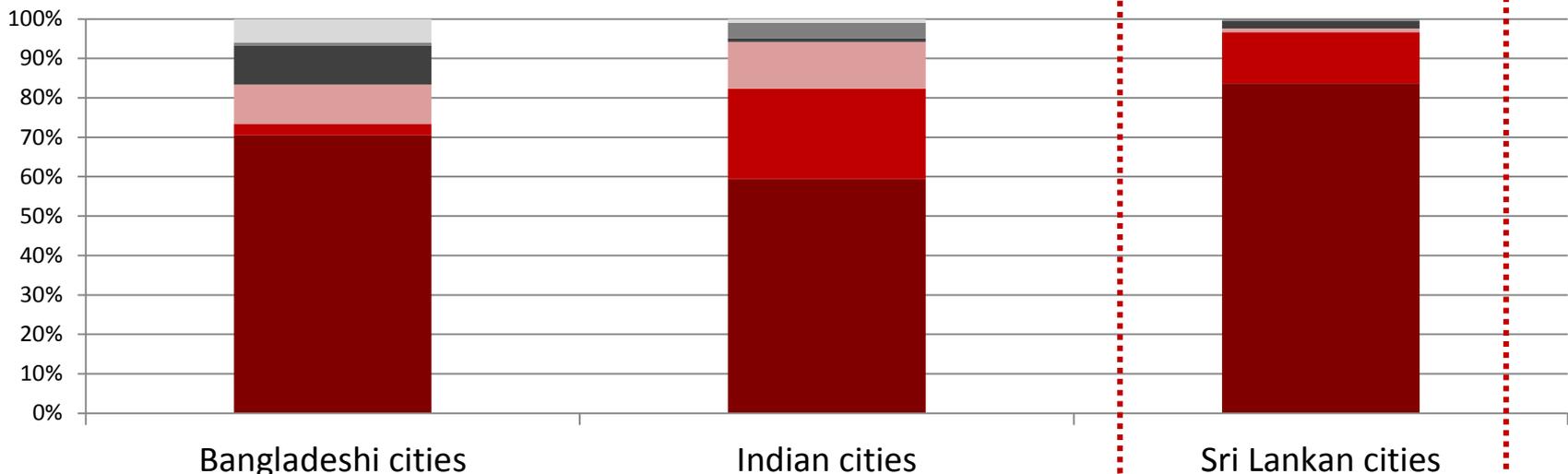


Why did you not complain to the service provider? (% low-income MEs who use electricity for business)

Similar to the telecom sector



MEs in LK mainly complained to office/depot of Disco. Few (13%) complained to the hotline



- Other
- I will not go to anyone
- Local electrician
- Landlord or other person in whose name the connection is registered
- Hotline / Customer care centre
- Office of the Electricity Company / depot

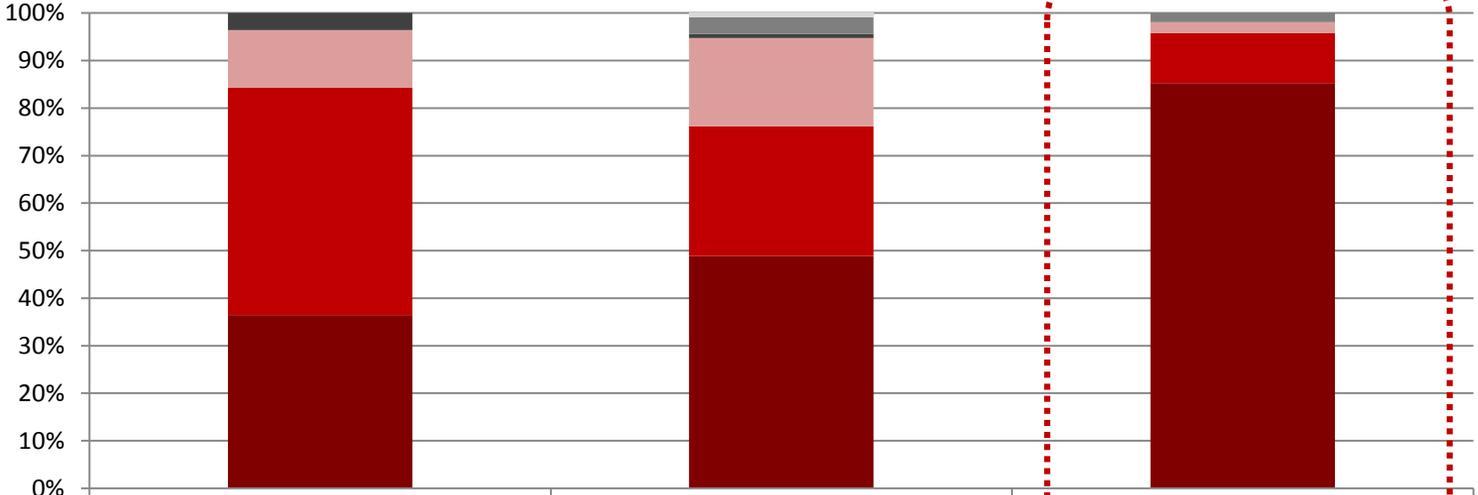


■ Did not complain about any problem
 ■ Complained about any problem

Phones the most common way to complain about electricity problems in LK



■ Did not complain about any problem
■ Complained about any problem



- Other
- Letter
- Email
- Informal talk
- Walk-in to the authorized agent/ providers office
- Through phone

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



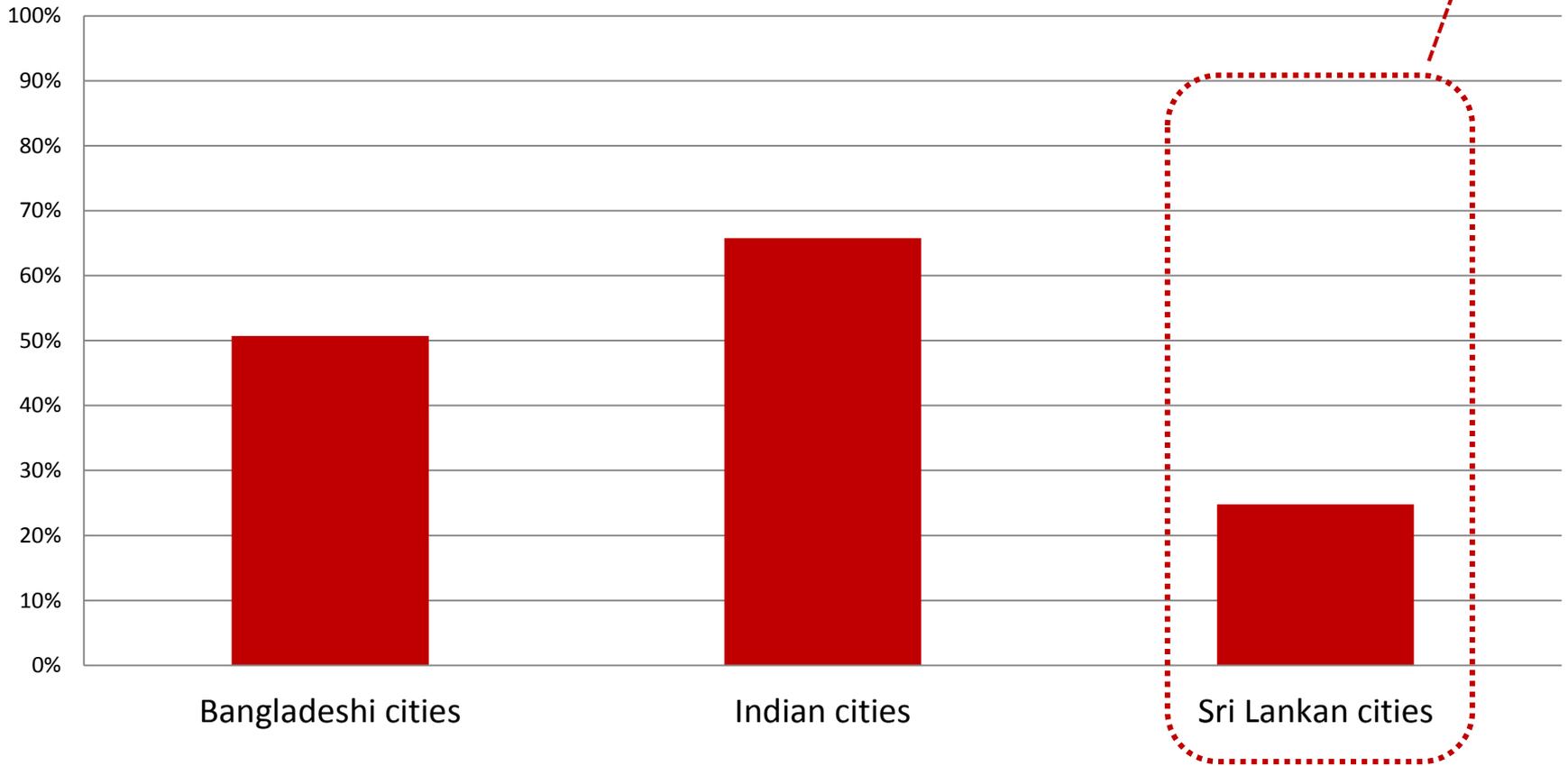
Compared to 69% in LK who use call the center to interact with teleco



25% unsatisfied with the action taken for electricity problem complained about

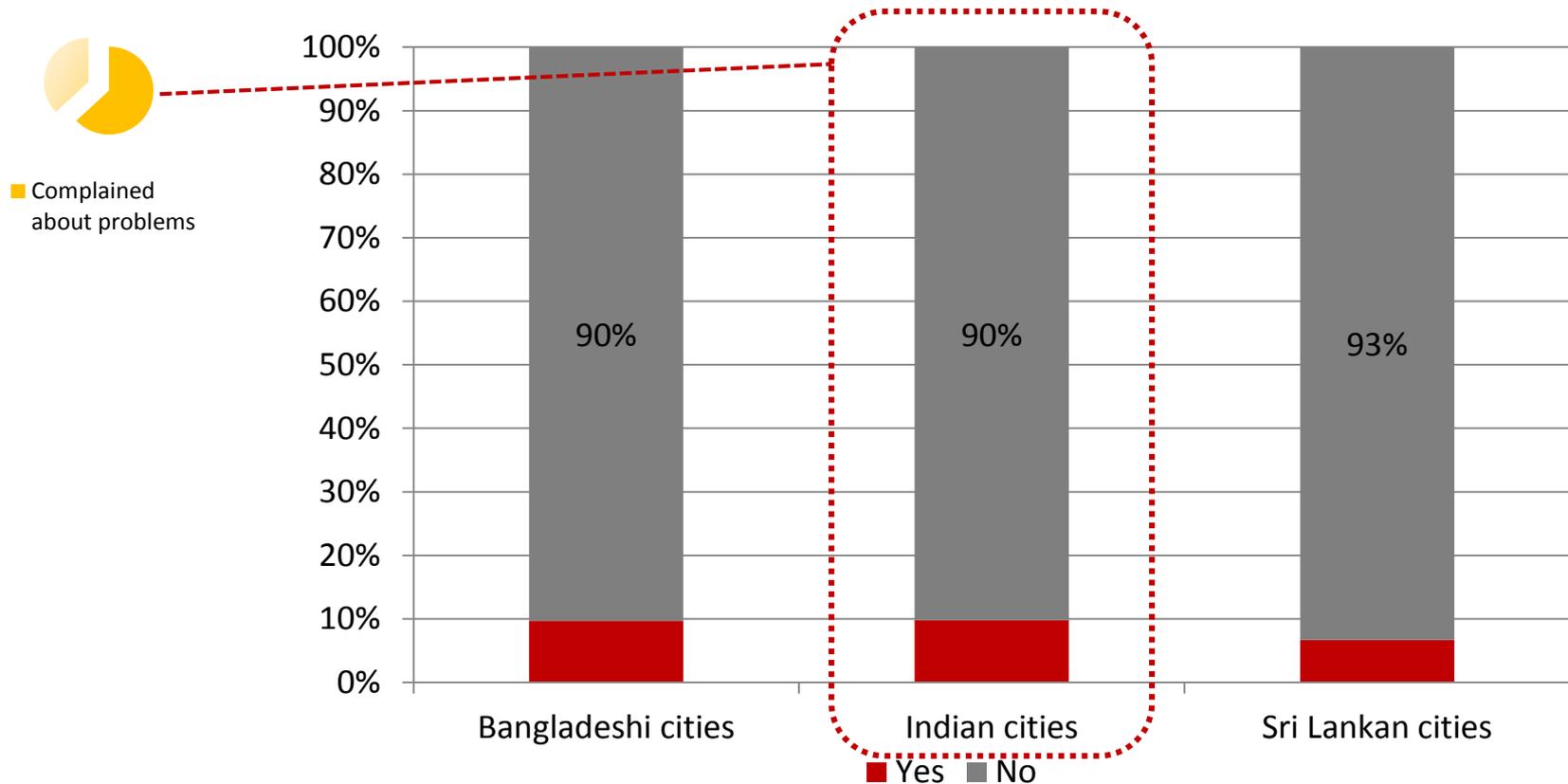


- Did not complain about any problem
- Complained about any problem



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

Compared to 7% telecom who say complaints have not been attended to



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



■ Interacted with provider
■ Have not interacted with provider

	Sri Lankan cities
It is easy to find the locations where payment can be made	66%
Information on procedures and documents to get new connection was readily available	55%
I was treated politely by their office / call center personnel	55%
Information on how to contact the service provider is /was readily available	46%
Information on procedures to reconnect was readily available	45%
The amount of time I need to wait to get a new connection is satisfactory	44%
Amount of time taken to reconnect was satisfactory	39%
The waiting time to reach a concerned officer was appropriate	38%
Information about the procedure for changing ownership of a connection was readily available	32%
The amount of time I need to spend to change the ownership of the connection satisfactory	30%

Experience with the service provider- YES (% low-income MEs who have interacted with the provider)

....particularly compared to the telecom sector

Sri Lankan cities	Telecom	Electricity
I was treated politely by the office / call center personnel	97%	55%
The waiting time to reach the concerned officer was satisfactory	78%	38%
I find the automated responses (IVR) in call center helpline are clear	50%	34%
Information on how to contact the service provider is /was readily available	77%	46%

But LK MEs are difficult to please (compared to IN). High expectations?

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?

Electricity sector

Nilusha Kapugama

29 May 2014



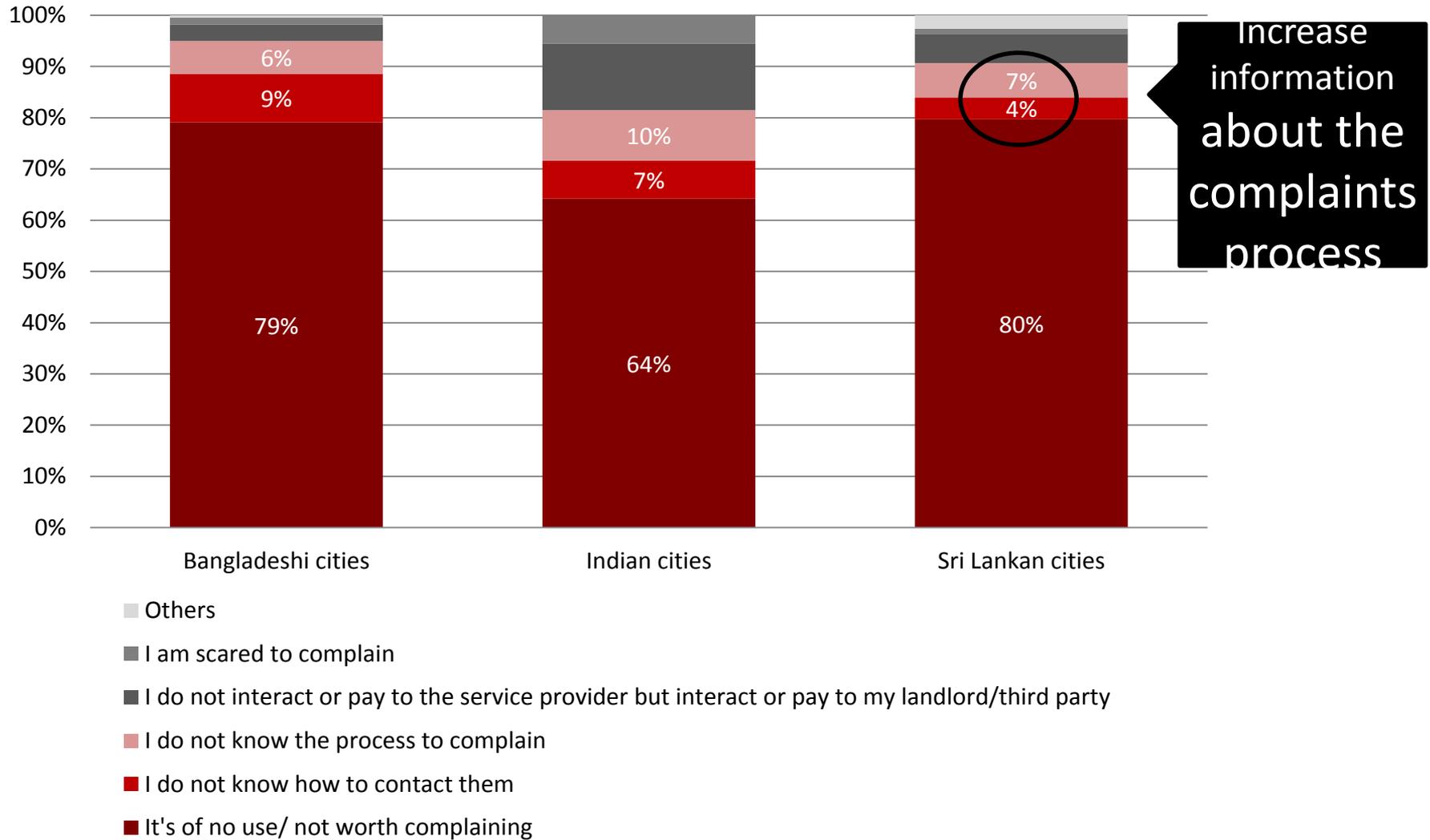
This work was carried out with the aid of a grant from the International Development Research Centre, Ottawa, Canada and the Department for International Development , UK.



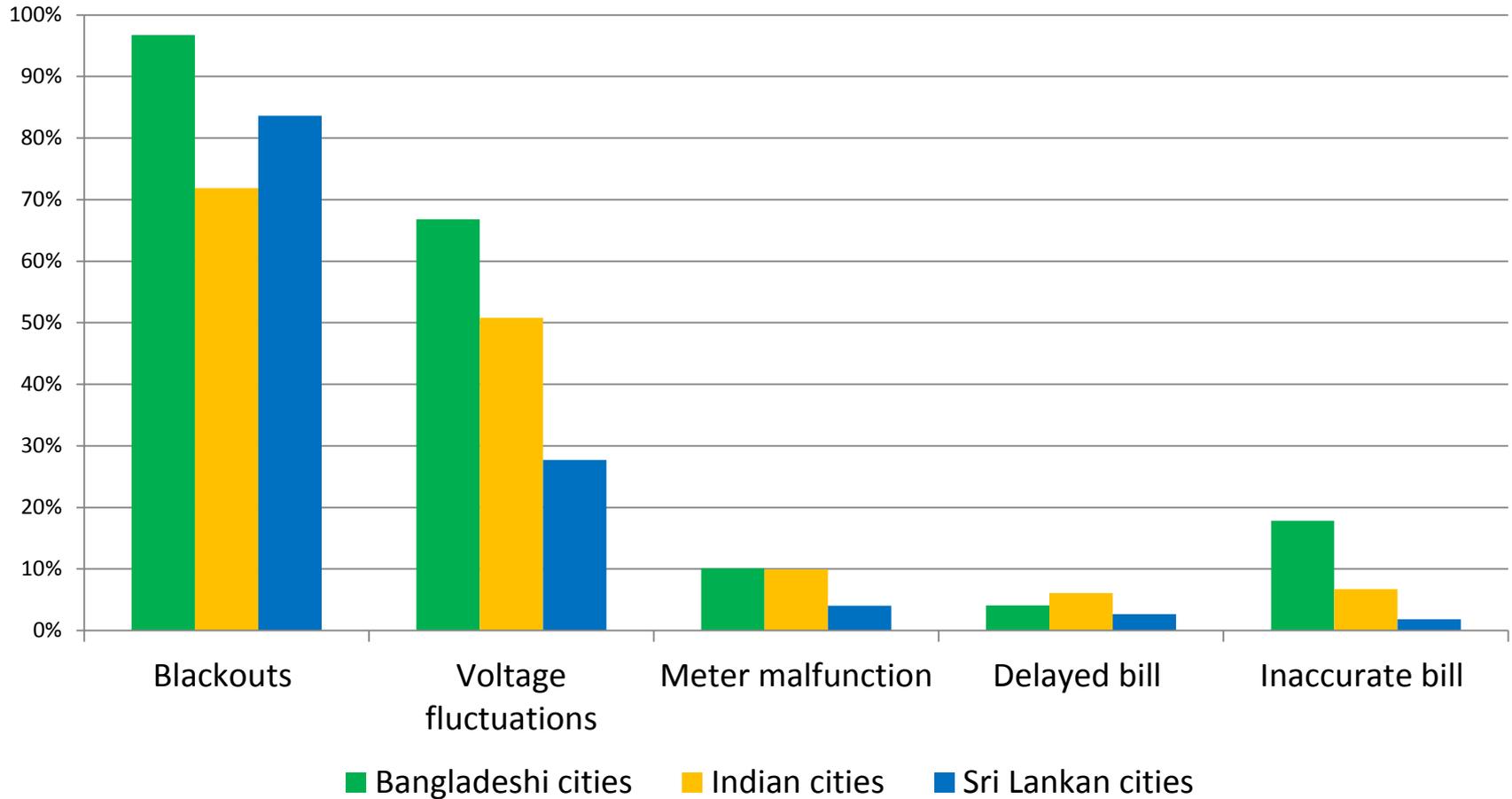
International Development Research Centre
Centre de recherches pour le développement international



Most see no use of complaining

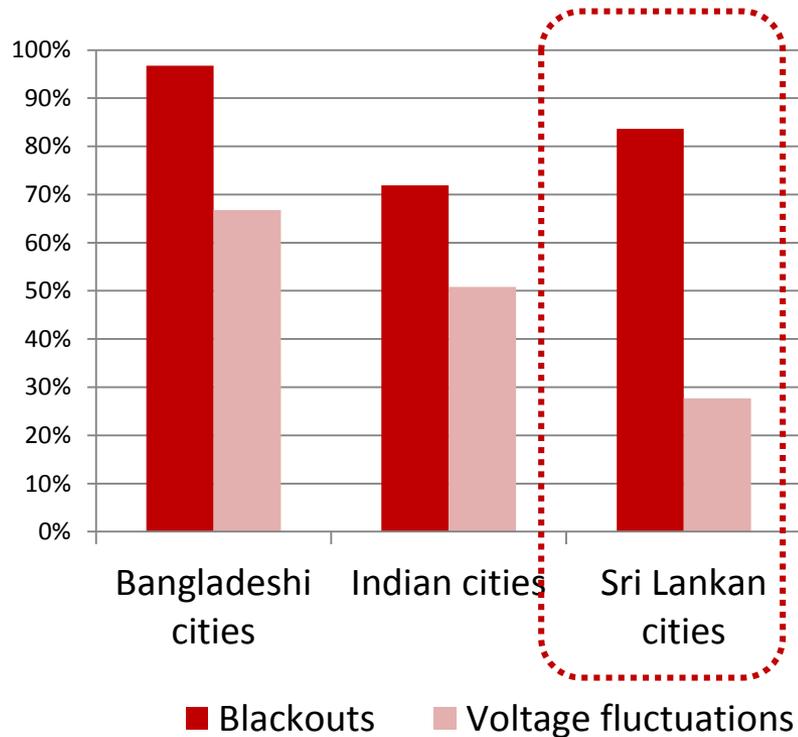


Outages and voltage fluctuations most common problems in LK

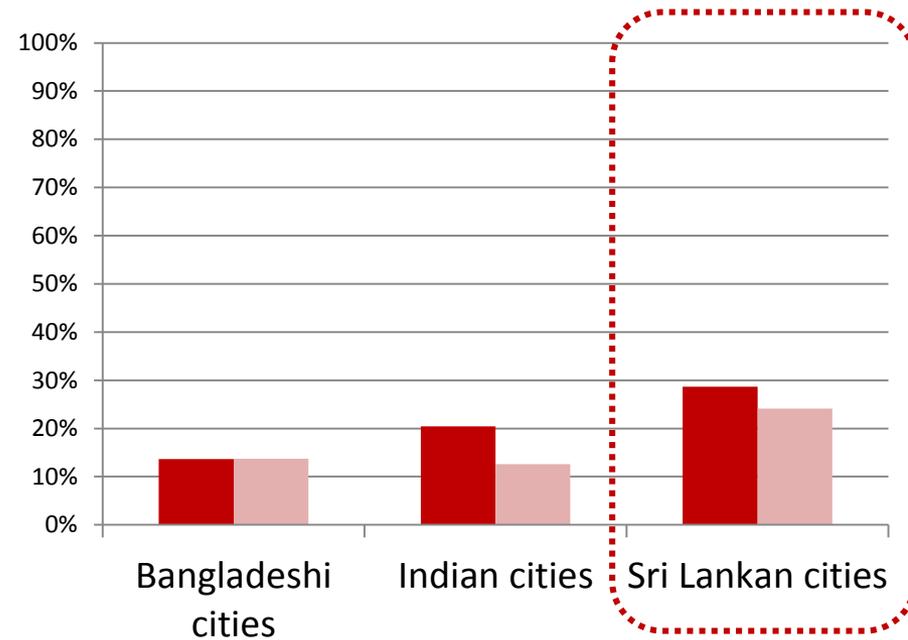


Did you face this problem? (% BOP MEs who use electricity for business from electricity co.)

Outages and voltage fluctuations most common problems



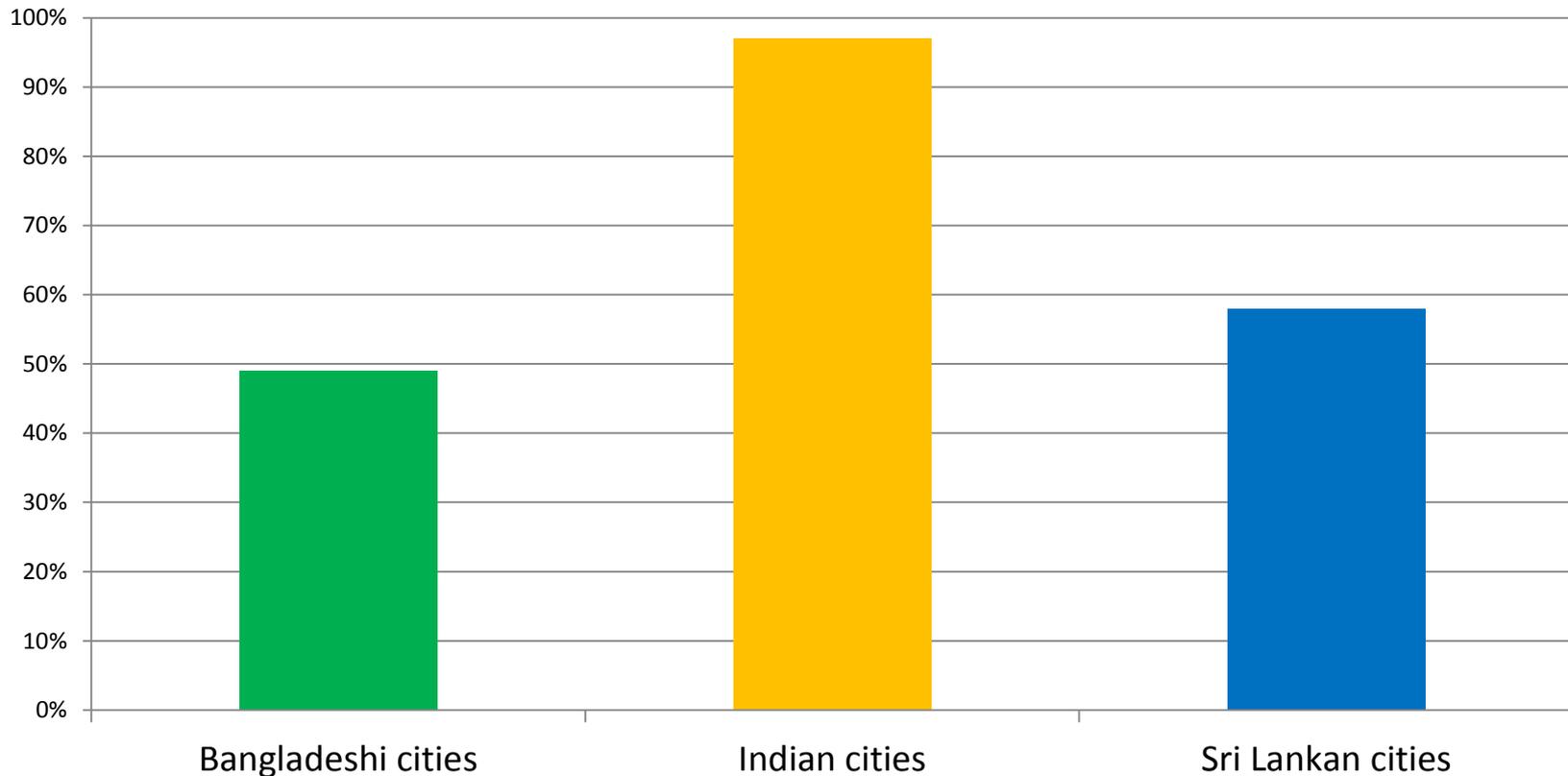
However few complained about it



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

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

58% in LK do not get an advance notice about power cuts



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

Problem: Lack of information on outages



The Beauty Parlour Owner

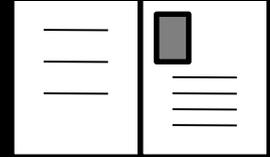
Name: Mihiri
Gender: Female
Age: 30 years
Education: Secondary Education
Business: Services– Beauty Parlor
Employees: None
Years of Service: 3



Inside the Beauty Parlour

- 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.

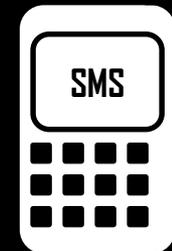
Solution: Provide Information on outages



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

Ensure the services receive sufficient publicity to enable sign up

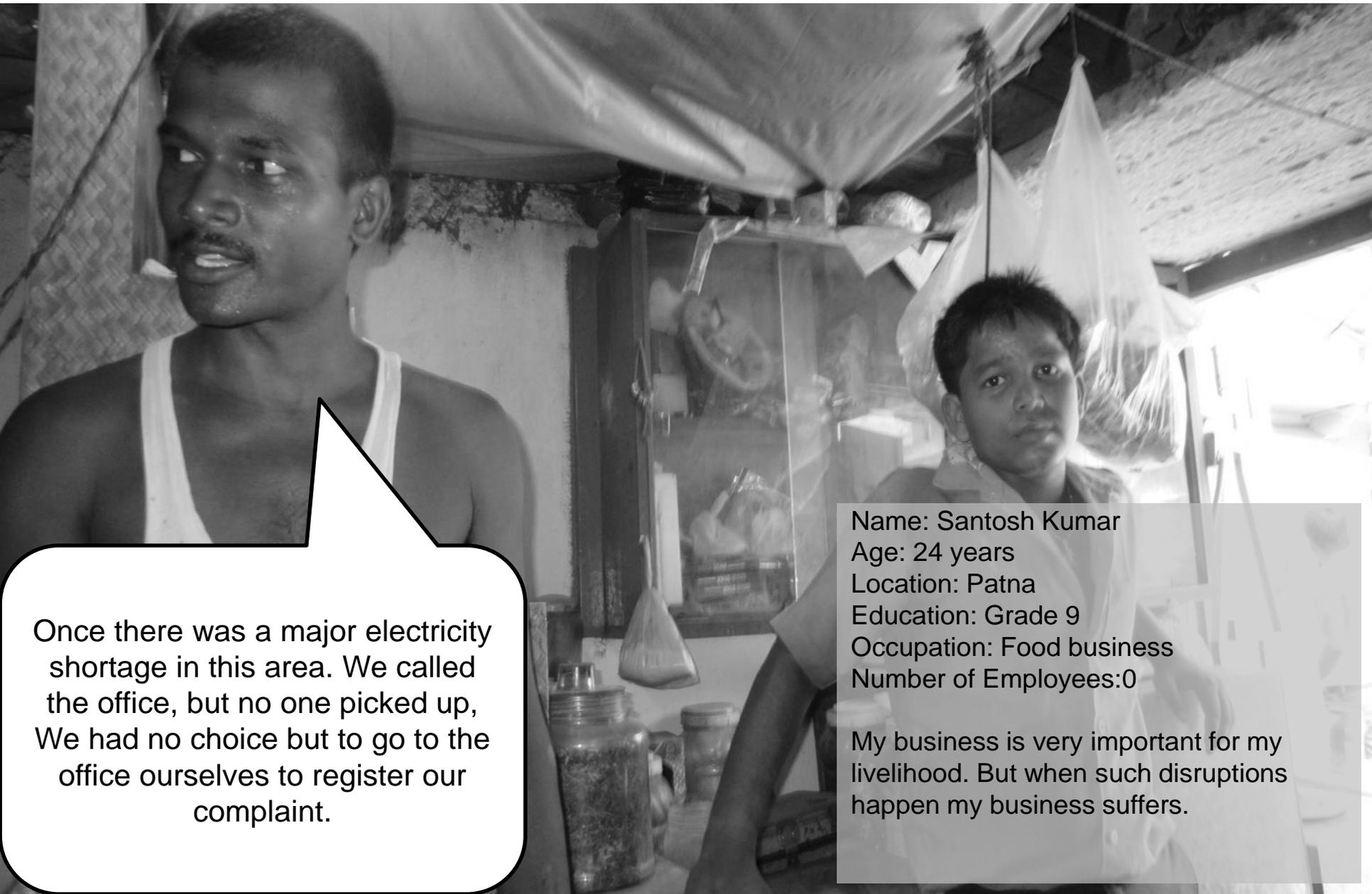
Use the bill as a method of sending information



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

Problem: Called but no response...



Once there was a major electricity shortage in this area. We called the office, but no one picked up, We had no choice but to go to the office ourselves to register our complaint.

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.

Current procedures have trade-offs and creates confusion

	Pros	Cons
Area engineer's office	<ul style="list-style-type: none">• Customers feel as if they have spoken to someone with authority	<ul style="list-style-type: none">• Lack of accountability as reference numbers are not always given• Under-trained staff• Unanswered calls• Takes up valuable time of the area engineers
Centralised call centre	<ul style="list-style-type: none">• Effective management of customers by trained staff• Maintenance of historical data on customer complaints/inquiries• Establishment IVRs for information provision	<ul style="list-style-type: none">• Lack of a personal touch

Solution : An integrated call center for receiving complaints/inquiries



- Maintain dedicated call centers which are integrated to provide real time information to consumers and maintenance
- Remove discretion from the complaints receiving process by accepting all complaints and issuing a reference number.

Do more with call center data

- The call centres can generate data that can be further analysed to improve customer management and produce reports for regulators
- Set up indicators based on the above to benchmark licencees
- Reward the best performing licencee

Problem: insufficient info on effective consumption of electricity

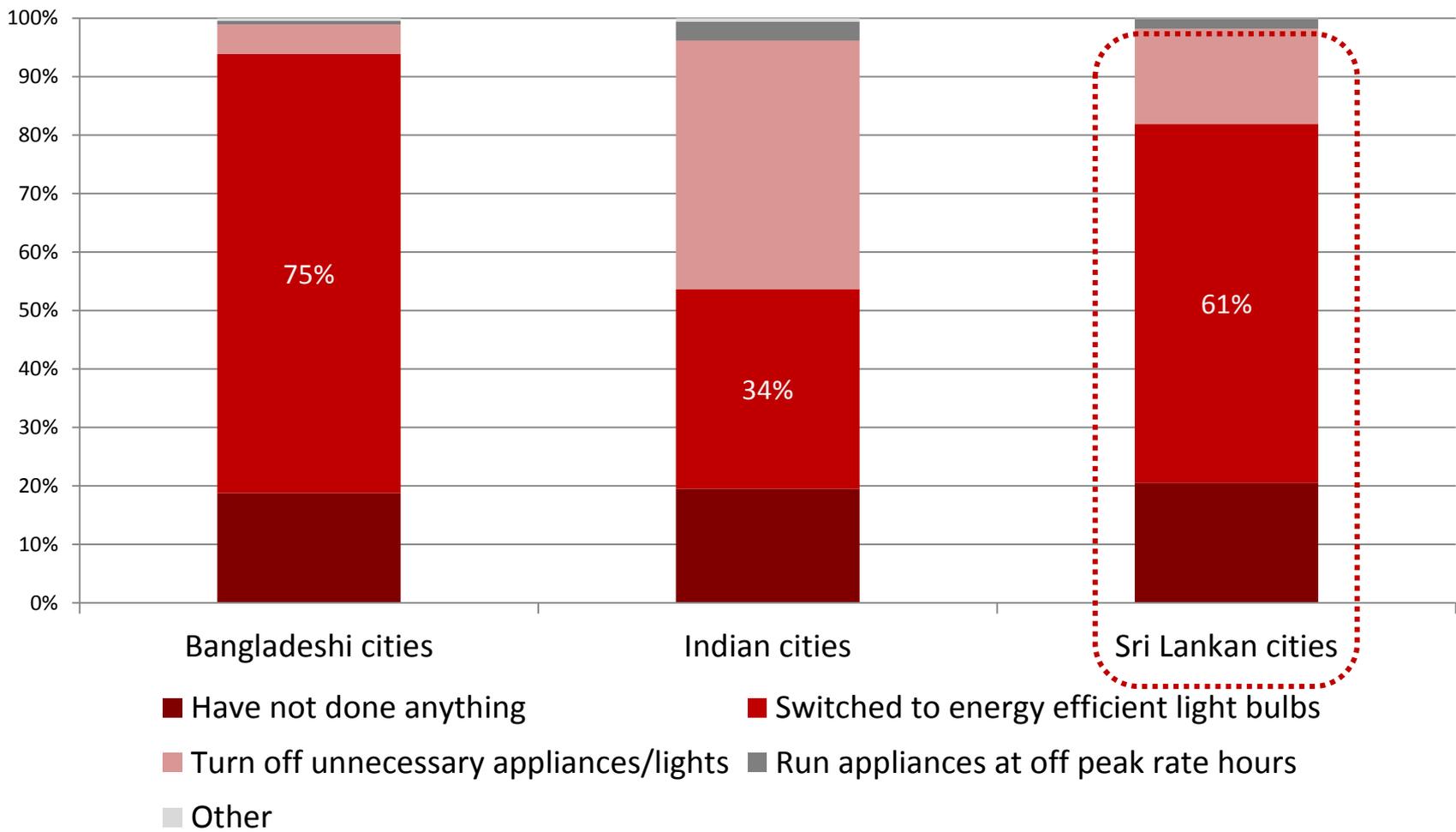


My electricity bill has risen lately. Since I am the only earning member of my family, things are difficult for me. I switch off my refrigerator when I am not using it, but I would like to know more about how else I can reduce my electricity bill.

Name: Nazreen
Age: 46 years
Location: Colombo
Education: Grade 4
Occupation: Food business
Number of Employees:0

I require electricity for my business since I run my business from home. Any increase in my costs will adversely affect my business.

About 80% of consumers have done something to reduce their power consumption



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

02. In the case of cheque payments, cheques should be written on the Electricity bill. The Electricity Account Number should be written on the backside of the cheque. All cheques must be crossed made payable to "General Manager, Ceylon Electricity Board", The Electricity Supply could be disconnected without any notice if a cheque is defaulted and returned. In such an event payment could only be made by cash.

03. In accordance with the Government Gazette (extra ordinary) No. 1572/ 25 dated 24/10/2008, a monthly interest of 2% on account balance will be added if the Electricity bill is not paid within 30 days.
04. Any complaints regarding the payment of electricity bills will be considered only if submitted within 2 years period from the date of payment.

Inquiries about bills, service connections :- etc

- a) Colombo West Office - 2574159
- b) Colombo South Office - 2828427
- c) Colombo East Office. - 2694181
- d) Colombo North Office - 2337673

Breakdowns:- In case of a breakdown first check whether the trip switch or main switch is off.

Please inform Maligawatta Control Centre (Tel :- 2498498) if it is not an internal fault (Open for 24 hrs.)

More than 60% of the electricity distributed among the customers are generated from thermal power stations. Therefore, you are kindly requested to use electricity with utmost care conserving Electricity energy.

Help us by paying your Electricity bill as early as possible !!!

CEB Call Centre - 1987
Please also visit our web site
www.metroceb.lk

ECO

Electricity Company (Pvt) Ltd

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[About Us](#)

[Services](#)

[Information](#)



ns on electricity bills for power savers

| By : admin | Categories : latest news, News and Press Release | 0 Comment

... was launched on the 01st of April 2012, in line with the power conservation drive 'Today for the purview of the ministry of power and energy, where over 4.6 million consumers could win concessions on their electricity bills.

... now a reduction of 20% in their electricity bills in comparison to the March 2012 bill, will gain full month's electricity bill. Those consumers who show a reduction of 10% of their electricity bill could receive a concession on their electricity bills. All electricity consumers are eligible to register for this scheme. Consumers must register for this scheme by paying their April, May or June 2012 bills in order to receive the concessions, or total exemption of the bill.

... consumers who show a 20% reduction in their electricity bills will have a month's electricity bill concession from CEB or LECO. Similarly 5000 consumers who show a 10% reduction in their electricity bills will receive a concession on a month's electricity bill.

Implementing DSM...

- DSM is defined as “modification of consumer demand for energy through various methods such as financial incentives and education”
- Many new learnings emerging from the field of behavioral economics
 - Behaviors of human beings change in response to nudges
 - Human beings not always rational: How information and choices are framed matters!!!
 - **Sunstein, C. R., & Thaler, R. (2008). *Nudge: Improving decisions about health, wealth, and happiness*. New Haven: Yale University Press.**

From theory to practice...

- Richard Thaler (Prof. of Behavioural Science & Economics at the University of Chicago; co-author of “Nudge”) worked with British Government.



Cabinet Office

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Behavioural Insights Team Blog

Guest blog post from Richard Thaler

Richard Thaler, co-author of *Nudge*, Professor of Behavioural Science and Economics at the University of Chicago Booth School of Business, and advisor to the Behavioural Insights Team, has written an article for us about midata. midata is a programme which gives consumers the right to request their transaction information from firms in a portable machine readable format. The Government [recently announced](#) plans to give midata statutory backing. This proposal will be debated in the House of Lords on 31 January.

Here is what Richard had to say:

Britain is on the verge of taking an important step to make sure the benefits of modern technology and “big data” are realised not just to big business, but to everyone by making



About

[The Behavioural Insights Team](#), commonly known as the 'Nudge Unit', was set up in July 2010 with a remit to find innovative ways of encouraging, enabling and supporting people to make better choices for themselves

Sign up to receive emails

People tend to change behavior when they get timely and specific feedback

- Keep telling them how much they are spending
 - Best solution:
 - Install smart meters that displays the RUPEE value of current consumption (not current kWh consumption)
 - Second best (without smart meters):
 - Implement a system where users are able to find out their current amount payable via SMS

Best Solution...smart meters!

- Smart meters will enable time of day metering [and cost reflective pricing]
- Bill shock will lead to lowering of the peak demand for energy
- Some consumer categories may stay the same but consumption may shift to a different time

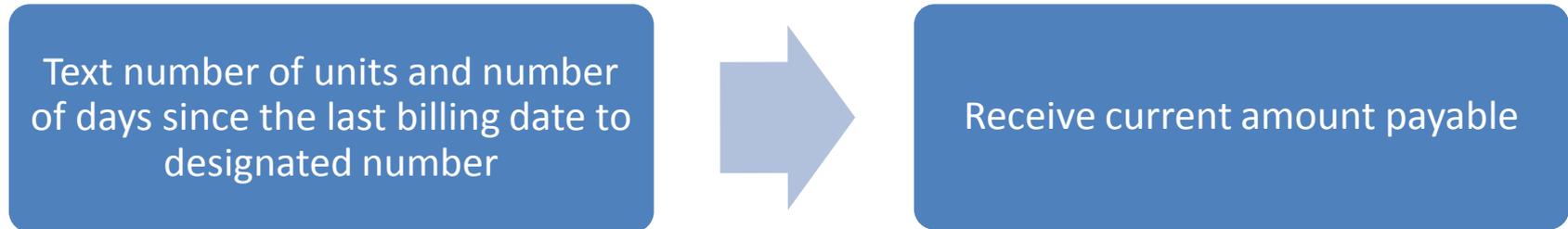
CURRENTLY ONLY AVAILABLE FOR SOME CONSUMER CATEGORIES

Second best solution... amount payable via SMS

- **Real-time feedback has an impact**
 - Most consumers only find out their consumption when they receive the bill
 - Often results in bill shock; too late to make changes to consumption
 - Bill calculators available online. However, these are not accessible for all
 - Why not let people find out their consumption real-time (when they want) through SMS

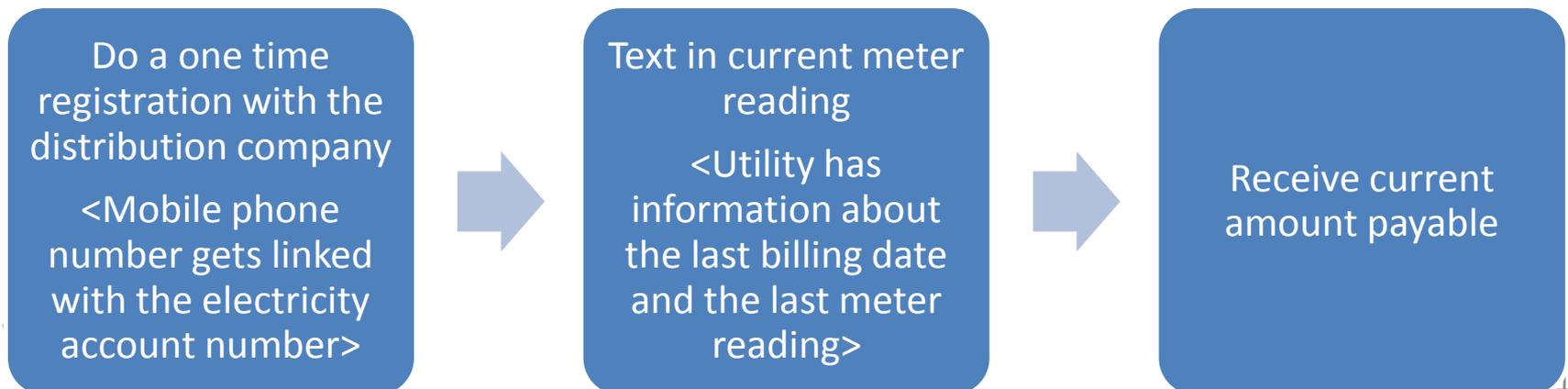
2 possible systems...

A basic solution



- 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



Higher use of SMS and social apps in LK

	Bangladeshi cities	Indian cities	Sri Lankan cities
SMS	43%	28%	49%
Games	38%	37%	22%
Video recorder/ camera	42%	30%	21%
Touch Screen	11%	12%	9%
Dual SIM	22%	19%	9%
Mobile Internet	7%	3%	7%
Apps for social networking	5%	1%	7%
MMS, picture messaging facility	6%	2%	5%
Email	3%	1%	4%
Google Maps	3%	1%	3%

Framing incentives and messages

- People are psychologically invested in costs they have already paid
 - Makes it harder for them to throw out non-energy efficient items such as old, energy-inefficient refrigerators
- Need to frame incentives
 - Exchange programs that say “Receive Rs. 5000 in return for your old refrigerator”
 - As opposed to “Receive a Rs. 5000 deduction when you buy a new energy efficient refrigerator”
 - Similar initiative been promoted by Gujarat regulator

Information through bills

Right message makes a difference

How messages are “framed” and “presented” matters

– Words, sentences, references, numbers

Bold, repeated messaging have proven to be effective

Ceylon Electricity Board - Colombo City Instructions for the Consumers

01. Bill payments :- Payments could be made by cash, cheques & bank drafts at the following Point of Sale (POS) Counters.

- i. From 8.30 a.m. upto 5.00 p.m. during weekdays and from 8.30 a.m. to 3.00 p.m. on Saturdays at the Colombo City office, 340, R.A. De Mel Mawatha, Colombo 03.
- ii. From 8.30 a.m. to 3.00 p.m. during weekdays, on Saturdays till 1.00 p.m. at Colombo South and North Area Offices.
- iii. From 8.30 a.m. to 3.00 p.m. during weekdays, on Saturdays till 1.00 p.m. at Colombo East Area Office.

04. Any complaints regarding bills will be handled within 30 days.

2828427
East Office - 2694181
Colombo North Office - 2337673

Breakdowns:- In case of a breakdown first check whether the trip switch or main switch is off.

Please inform Maligawatta Control Centre (Tel :- 2498498) if it is not an internal fault (Open for 24 hrs.)

More than 60% of the electricity distributed among the customers are generated from thermal power stations. Therefore, you are kindly requested to use electricity with utmost care conserving Electricity energy.

Help us by paying your Electricity bill as early as possible !!!

CEB Call Centre - 1987
Please also visit our web site

12Jun2013
E B COLLECTION 3,2
740.79
/ Meter Reading
308771
2525

Energy

This electricity bill neither reflects a title nor is to be used as a proof of ownership of any property or premises

Account No.	: 1014660 01	Bill Date	: 16-07-08
Name	: R N A BUILDERS		
Address	: 5249 SHOPPING ARCADE WING SSP COOP HSG. SOC. LTD., OSHIWARA, ANDHERI (W), MUMBAI - 400058		
Bill Distribution No.	: EAST/E21-POWAI/15/101/01		
Cycle No.	: 15	Tariff	: LT-2
Bill No.	: 548752666		
Type of Supply	: SINGLE PHASE	Category	: COMMERCIAL

Important message

Tariff related messages

- As per the new Tariff order your Tariff category has changed from LT V to LT IX

Contact us

For all your queries (24 hours):
1800 200 3030 (toll-free) & 3030 3030

Your nearest Customer Care Centre/Internal Grievance Redressal Cell (IGRC):
E-4, MIDC, Andheri (E), Mumbai - 400 093
Pfr: 3009 4844 • email: energy_helpdesk@relianceada.com

(Only for grievances unresolved by IGRC, reach Consumer Grievance Redressal Forum at: E-4, MIDC, Andheri (E), Mumbai - 400 093 • Tel: 3009 4247 • email: consumer_forum@cgrinfra.org.in • website: cgrinfra.org.in)

Your Electricity Bill for : Feb, 08

Your bill amount payable (round sum)

₹ : 960.00

Due by* : 25-03-2008

*Refers only to current bill amount. Previous balance is payable immediately.

Snapshot of your bill

Your current month bill amount (₹)*	: 430.79
Net other charges (₹)*	: 10.47
Net previous balance (₹)*	: 525.95
Total (₹)	: 960.00

Units consumed

February, 2008	: 125
February, 2007	: 164

For details, please see overleaf

Track your consumption

Bar Graph	Units (kwh)	Month/Yr
	150	Mar-07
	205	Apr-07
	140	May-07
	210	June-07
	200	July-07
	220	Aug-07
	208	Sept-07
	145	Oct-07
	168	Nov-07
	230	Dec-07
	164	Jan-08

R.R. Mehta
Business Head (South Central Division)
(For Reliance Infrastructure Ltd.)

Shoot and win!

Fans. Lights. TV sets. Not switched off after use. Every unit of wasted electricity adds to Mumbai's energy problems. Here's your chance to set it right. Just click instances of energy wastage, caption and upload to the "I Caught" Facebook app on our YES page. Win awesome goodies every day. And the chance to win the grand prize: a Nikon Coolpix L26 camera. Start shooting from 1st October.

I Caught www.facebook.com/YoungEnergySavers

YES
youngenergysavers
A National Energy Initiative

RELIANCE
Energy

Please turn over



How your bill was calculated	Rate	₹
Fixed charge		
Energy charge		
Fuel Adjustment Charge (FAC)*	120 p/unit kWh	
Government electricity duty	20%	
Maharashtra Govt. tax on sale of electricity	15 p/unit kWh	
Current month's bill amount (A)		
Others		
Prompt payment discount		
Delayed payment charge on previous month's bill		
Incentive on payment mode (ECS/Internet*)		
Interest on arrears		
Adjustments		
Net other charges in current bill (B)		
Current month charges (A+B)		
Previous month's bill amount		
Payment received up to	DD / MM / YYYY	
Net previous balance (C)		
Total bill amount (A+B+C)		
Amount deferred		

As per the MERC's Tariff Regulations, FAC of 64.20 paise/unit is charged in September, 09 billing to recover differential in power purchase cost in July, 09.

Round sum payable with this bill		1910.00
Your security deposit (SD) with us		250.00
Your unpaid security deposit (SD)		150.00
Meter reading date	27/07/07	Connected Load
Previous meter reading date	27/06/07	100KW

Your current consumption								
Tariff	Meter number	Multiplying Factor (MF)	Energy consumption			Energy charge (₹)	Fixed charge (₹)	
			Present reading	Previous reading	Consumption (Unit kWh)			
LF1	8129499	1.0	27876	12001	377	2.00	274.26	
Total						244	1552.00	343.26

Keep a watch on the following to manage your energy consumption:

1. Your tariff structure				
Tariff	Tariff slabs For Load	Fixed charge /Month	Energy charge Paise/Unit	FAC rate Paise/Unit Feb-12
Applicable for supply to residential premises etc.	0-100	30	140	29
	101-300	50	350	29
	301-500	50	560	29
	More than 500 (remaining Units)	100	610	29
Refer to tariff booklet for further details.				

Electricity Duty as per Govt. of Maharashtra Notification No. ELD/2003/CR 52/NGR-2 of 31-03-2003.
Tax on sale of Electricity as per Govt. of Maharashtra Notification No. EE-2004/CR-42/NRG-1 OF 19-05-2004.

Power theft results in power tariff hike - Report them
Honest citizens bear the cost of power stolen by unauthorised elements. If you spot an electrical theft please call 39090909 and report it between 09.30-17.00 hrs on weekdays.

Choose from multiple payment options



Cheque payments:

- Make cheque payable at Reliance Infrastructure Ltd. A/C No. XXXXXX
- Cheque should be Account Payee, of local clearing and not post-dated
- Mention account numbers and respective amounts on the reverse side of the cheque, while making multiple bill payments by a single cheque
- Payments subject to realization

Note

- To pay online, visit www.rinfra.com
- Cash payment limited to ₹20,000
- Get 0.5% discount on ECS/Internet (except cash/cards) payment
- Get 7% interest on VDS (reducing balance)
- Any dishonored cheque will
 - Result in payment of bills by DD for subsequent 3 months
 - Attract a penal amount of ₹250 per bill

Pay your bills using Suvidhaa / EasyBill / PayPoint Outlets and Billbox / Skypak / Post Office / RComm / Hsg. Soc. Drop Boxes

For more details, call 1800 200 3030 (toll-free 24x7)

2. Your energy appliance (be a smart user)

Allow enough space for air circulation around the refrigerator. Keep atleast six inches distance from the wall to allow the heat generated by the compressor and motor to escape.



Please remember

- 1) Using electricity connection for purposes other than that provided for is a tariff violation and may lead to disconnection/penal action.
- 2) Kindly note that theft of electricity in any manner attracts penal action under the Electricity Act, 2003.
- 3) Please quote your account no. A1597499, in all your correspondence.



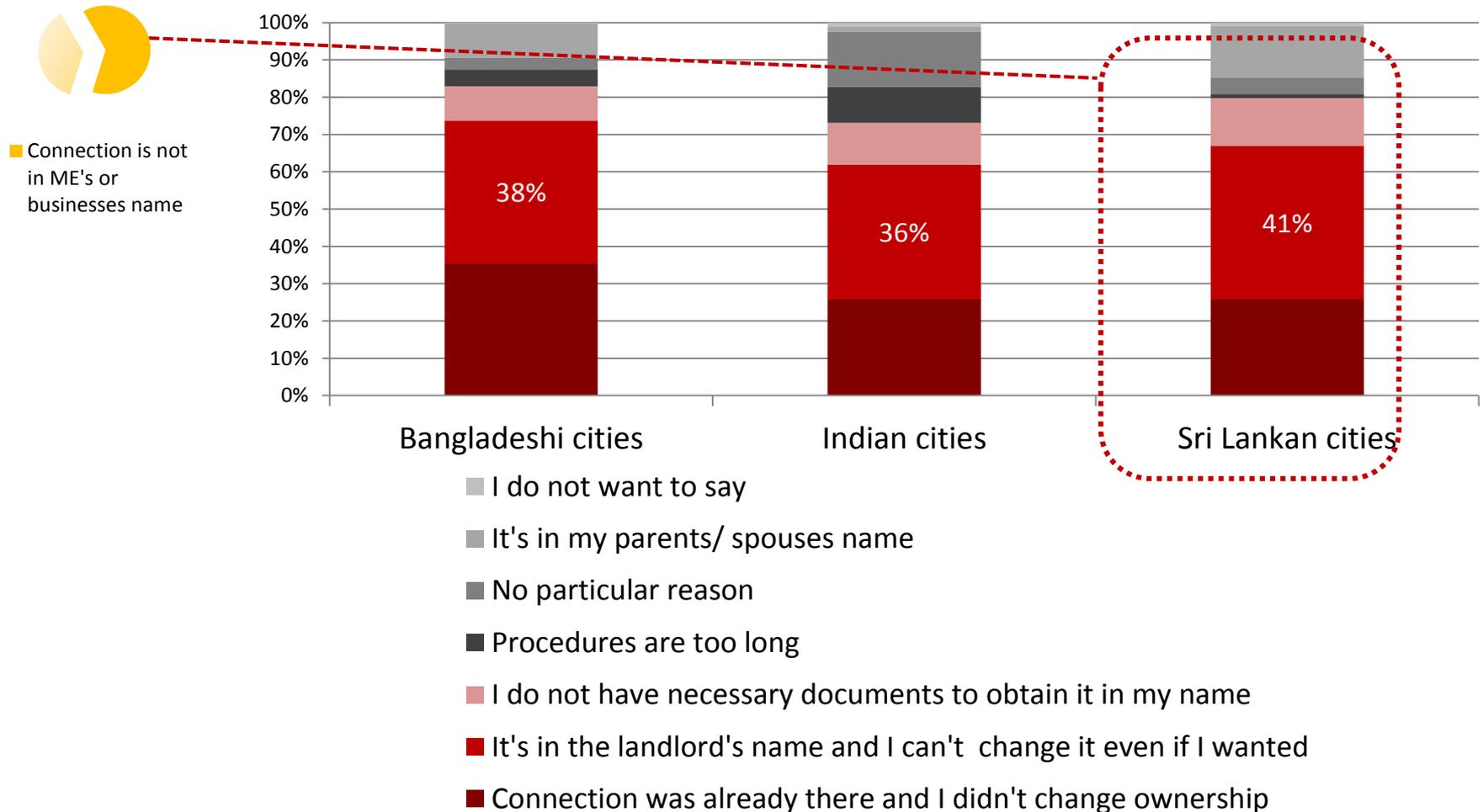
Our advantages

- Relatively well-educated, numerate group of poor MEs
 - They also pay a lot more than their counterparts in India and Bangladesh → expect good service
 - Also more familiar with more-than-voice applications on the mobile
- Mobile operators are anxious to offer more-than-voice services
- Sri Lanka's government has approved mobile money so even payments over mobile can be arranged

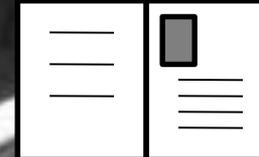
Experimenting with nudges...

- Nudges” trialed by the Energy Market Authority (EMA), Singapore can be found in
 - Low, D. (Ed.). (2012). Behavioural Economics and Policy Design: Examples from Singapore. World Scientific
 - Chapter on electricity available at http://www.ema.gov.sg/media/files/publications/Behavioural%20Economics%20n%20Policy%20Design-%20Examples%20from%20Singapore_Ch-05.pdf

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



Solution: Relaxing existing document requirements and issue pre-paid connections



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

Existing regulations does not allow supply of electricity to those unable to prove occupancy or ownership, therefore this requires a change in law.

It will ensure that having an electricity meter does not automatically entail property rights over time.

Provide a pre-paid connection to avoid any liability

For those who require a post-paid connection, existing requirements should be streamlined and stated clearly with ambiguity.

Prepaid Meters

To enable easy top ups, super markets, small shops and agents (who presently sell mobile vouchers) are used to provide access to reloads

Consumer reloads as per his requirement.

SMS

Your transaction has been successful



The consumer can top up at a local vendor for a reload thus reducing costs for the electricity distribution company due to non involvement of the meter reader and bill prints.
Reduces liability for the distribution company
It ensures that consumers don't suffer from bill shock

Pre-paid contd...

- Prevents bill shock
- Reduces liability to the distribution company
 - Reducing bad debt due to non-payment of bills
 - Reduces cost incurred during recoveries
- Reduces the cost of incurred during the billing process
 - Reduces cost of generating a bill
 - Reduces the need for more meter readers

Pre-paid contd...

- Successfully used in India, piloting in Bangladesh
- Can be used for numerous customer segments
 - Rural households
 - Low user households
 - Rented properties (High and low end)
- Leverage existing systems used by telecom for top ups/recharge

In summary

Quick wins

benchmark licencees on CRM;
Reward the best performing region

communicate planned and unplanned outages more effectively

Little more time

Re-design bills so that it can be used for effective communication

Implement SMS system to find current amount payable

Begin programs for effective DSM

Long term

introduce Smart Meters (& TOD pricing) and pre-residential meters