

Status of Electricity Services in Soorwal Village, Sawai Madhopur District, Rajasthan

Insights from Soorwal City Feeder Survey (JVVNL)

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Background

- Electricity is an essential input for ease of living and generation of livelihood activities at rural level. However, the quality and reliability of electricity services in rural areas remain significantly poor compared to urban areas.
- Despite several rounds of policy reforms intended to arrest aggregated technical and commercial (AT&C) losses, the progress, although significant, has been rather underwhelming. As we move away from urban centres, AT&C losses for sub-stations continue to be strikingly high (often more than 50 percent).
- The Rajasthan Electricity Regulatory Commission (RERC) has laid out 'Electricity Supply Code and Connected Matters Regulations 2004' and 'Distribution Licensee's Standards of Performance Regulations 2014'.
- Compliance of electricity utilities to these regulations is wrought by many shortcomings including inconsistency and inter-regional disparity.
- This slide deck attempts to peek into some of the ground realities by evaluating parameters related to billing, metering and safety for a village supplied electricity by Jaipur Vidyut Vitran Nigam Ltd. (JVVNL).

Objective

- Gather ground-evidence related to service quality of electricity for Soorwal village in Sawai Madhopur district of Rajasthan supplied through Soorwal city feeder by JVVNL.
- Get insights on the performance of the electricity ecosystem on following key parameters of the consumer-utility interface:



**QUALITY OF
ELECTRICITY
ACCESS**



**EFFICIENCY OF
BILLING AND
METERING**



**COMPLIANCE TO
SAFETY
STANDARDS**



**PENETRATION OF
ENERGY
EFFICIENCY
MEASURES**

Location and Village Profile

Soorwal Village Name of Feeder – Soorwal City, JVVNL Name of the Subdivision - AEN (A-II) Sawai Madhopur Name of the Circle – Sawai Madhopur		
Total Households with Electricity Connection in the Village	Category of Connections	
	Domestic	Agricultural
633	610	23
Billing Efficiency – 44.75 % Collection efficiency – 85.57 % <i>Data for December 2019-January 2020 (Source: JVVNL)</i>		



Billing Efficiency = Total Energy Billed to Consumers (kWh) / Total Energy Input (kWh)

Collection Efficiency = Revenue Collected (In Rupees) / Billed Amount (In Rupees)

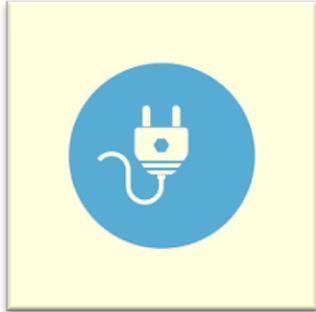
Methodology

- The survey attempted to cover a total of 316 households out of 633 households having electricity connections in the village.
 - Total of 284 responses were collected from May-June 2020. 32 responses could not be collected due to restrictions owing to COVID pandemic in the village.
 - Simple random sampling without replacement (SRSWOR) methodology was used where every second household in the village was approached.
 - As part of the survey, photographs of consumer bills and electricity meters were also collected for evidence.
 - A mixed methodology was used where both consumer response and first-hand verification by the surveyor were used to gather responses.
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- Survey Questionnaire: [Form](#) Survey Tool: [Kobo Toolbox](#)

Survey Findings

Electricity Access

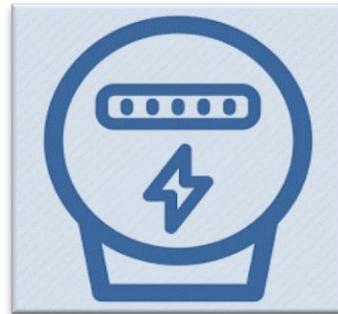
15 % of consumers do not have access to electricity



56 % of them have not applied for re-connection/new connection

Billing and Metering

96 % of consumers reported having electricity meters



31 % of meters are defective

44% consumers reported their contact details updated in DISCOM database



47 % receive consumption details and billed amount through SMS



Survey Findings

Billing and Metering

73% of surveyed consumers receive physical electricity bill on time



59% of surveyed consumers pay electricity bill on time

Consumer prefer paying either at DISCOM office or through e-mitra



17% knew about Bijali Mitra App

55% (101 consumers) reported error in electricity bill



Incorrect meter reading is most reported error (reported by 78 out of 101 consumers)

Energy Efficiency

188 households out of 284 have 100 percent LED coverage



267 households has more than 50 percent LED coverage

Safety Standards

29% consumers don't have armored cable for service line

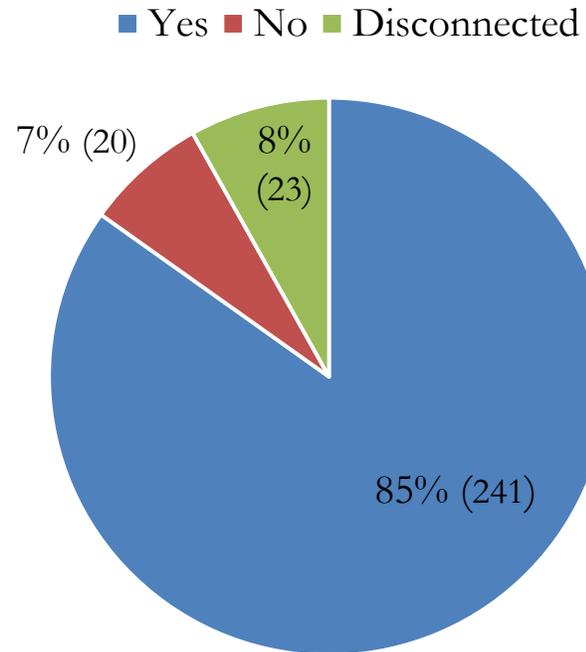


Armored cable is provided by DISCOM at the time of connection

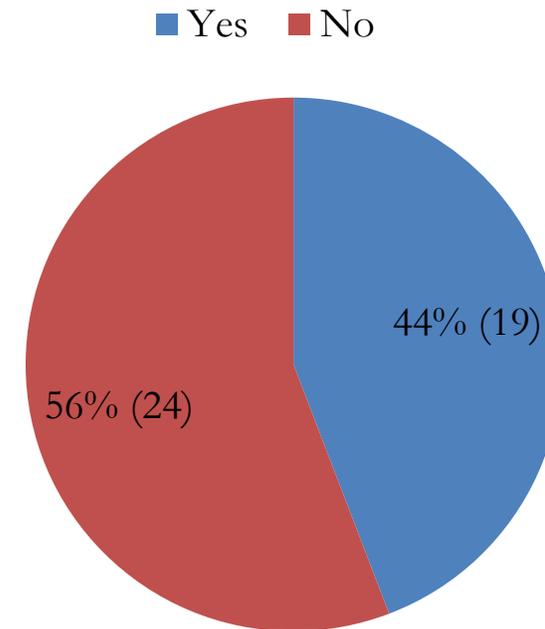
Status: Electricity Connection

- 15% of households do not have an electricity connection. 8% of them are permanently disconnected (PDC)
- 56% of these consumers have made no request for re-connection/new connection.
- As verified by surveyors, many such consumers indulge into electricity theft.

Electricity Connection



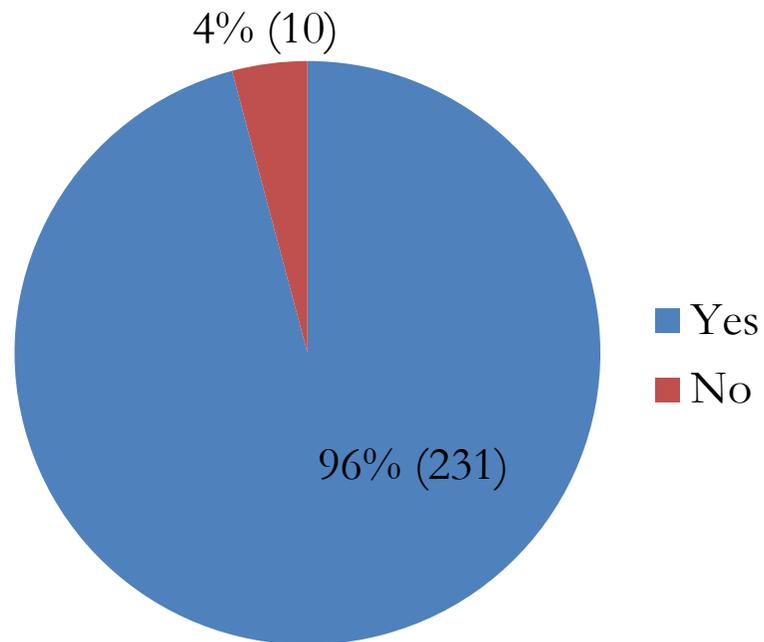
If Requested for Re-connection/ New connection



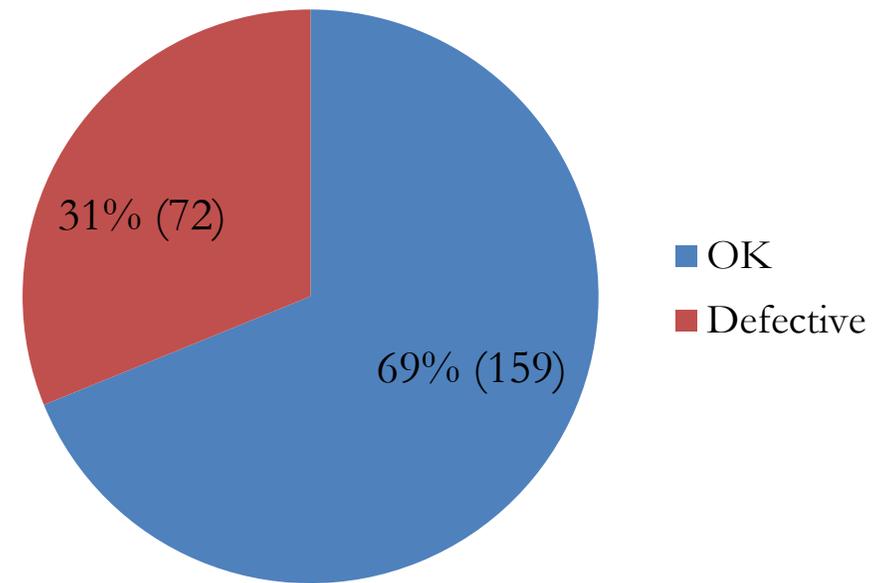
Status of Electricity Meters

- A large share of meters (31 percent) is in a defective state.
- Such defects and resulting disputes between DISCOM and consumers causes a delay in payments and results into increase in mutual trust deficit and losses.

Meter Availability

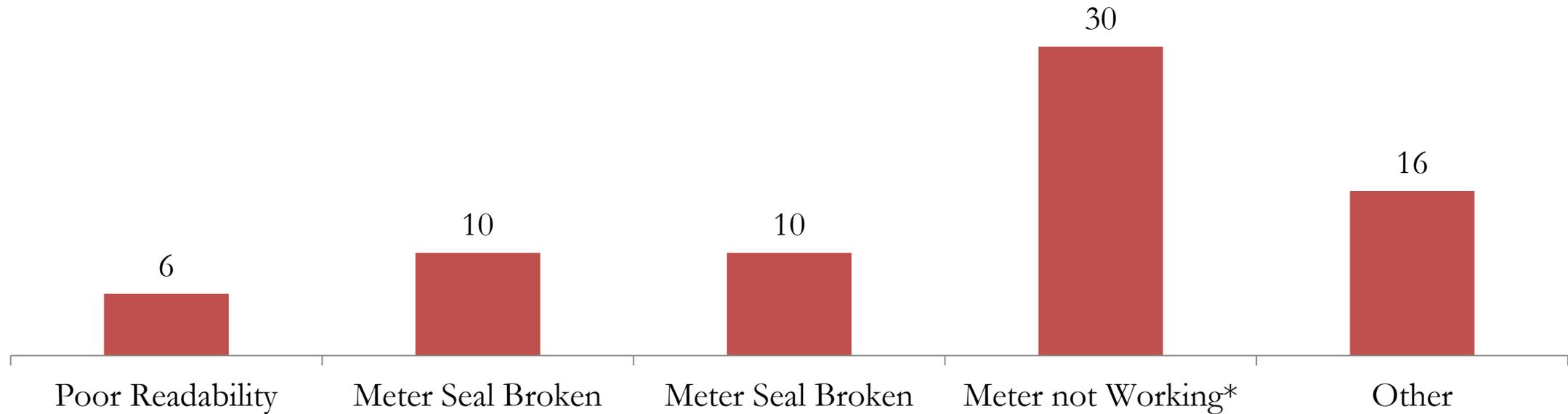


Status of Meter as per the Inspection



Status of Electricity Meters

Type of Defects in Metres



Note:

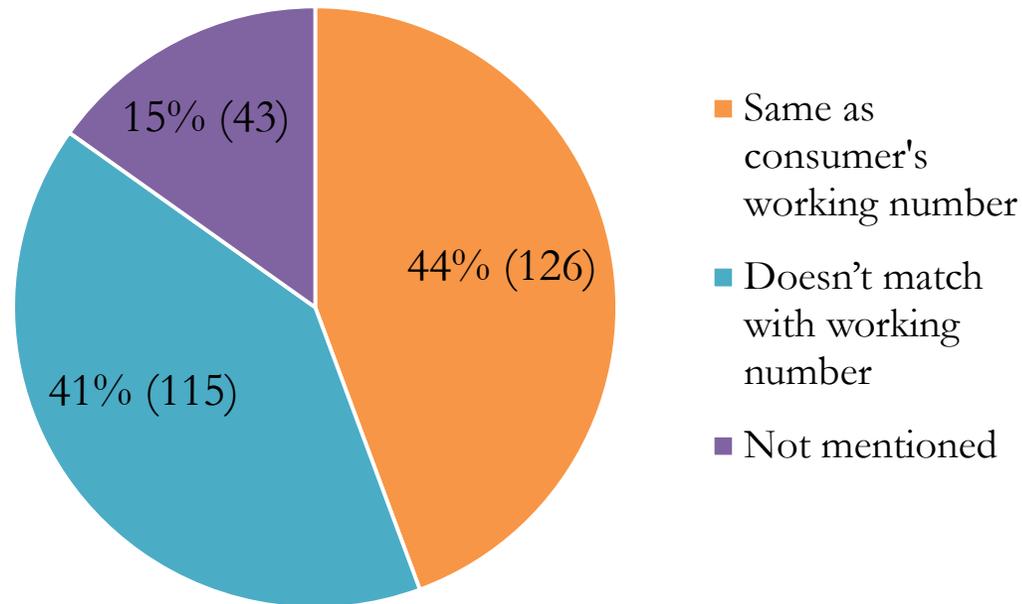
Responses of 72 households having defective metres

**Includes metres which are burnt.*

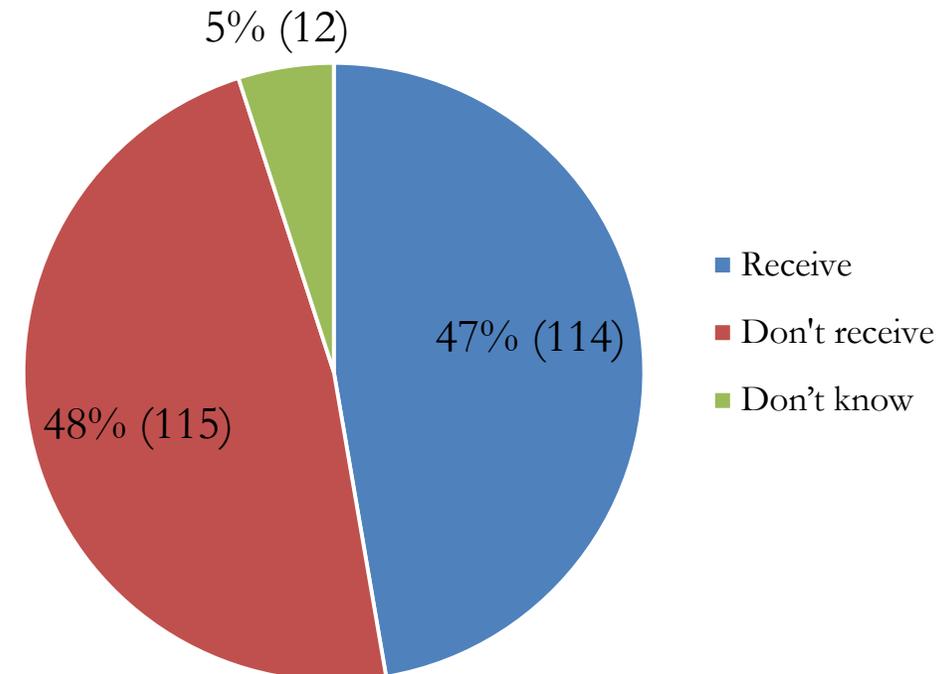
Others include – metres which are not connected, old metres.

Billing – Digital Technology & Consumer Awareness

KYC (Contact Number)



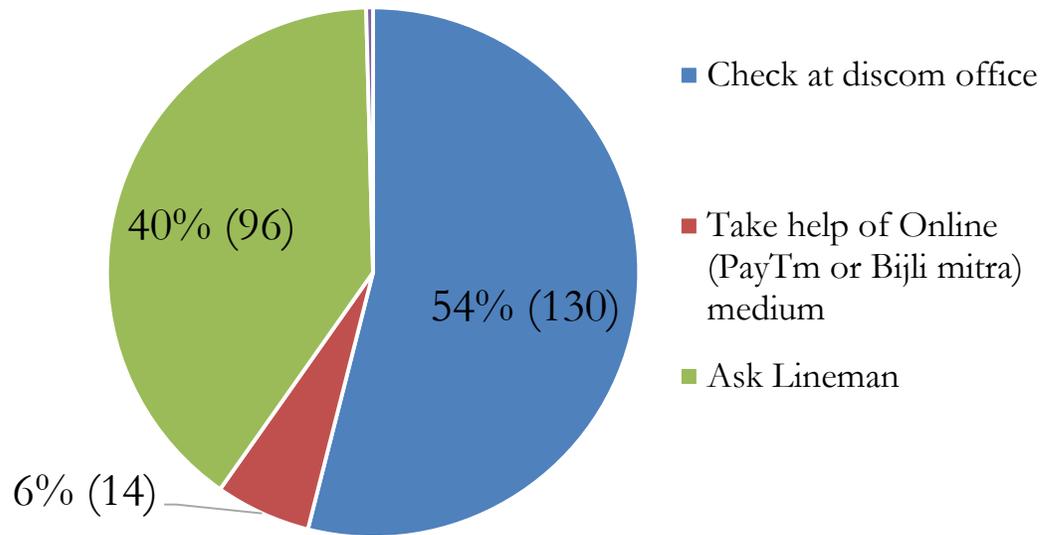
Bill through SMS



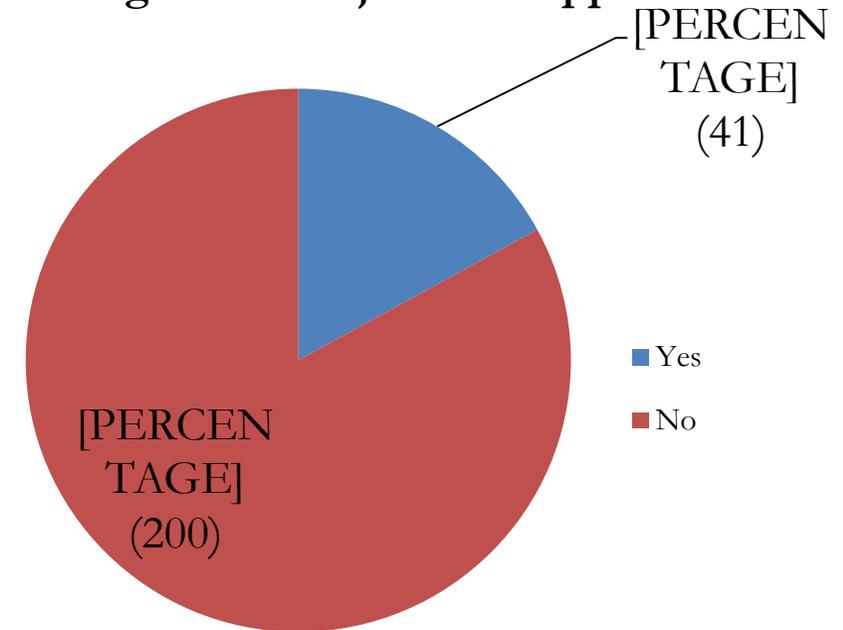
- DISCOM has limited focus on conducting KYC exercise to update the database about consumers.
- Consumers still largely rely on physical bills to get information about consumption and payment.

Billing – Digital Technology & Consumer Awareness

Action taken by Respondents on not receiving the bill



Knowledge about Bijli Mitra App

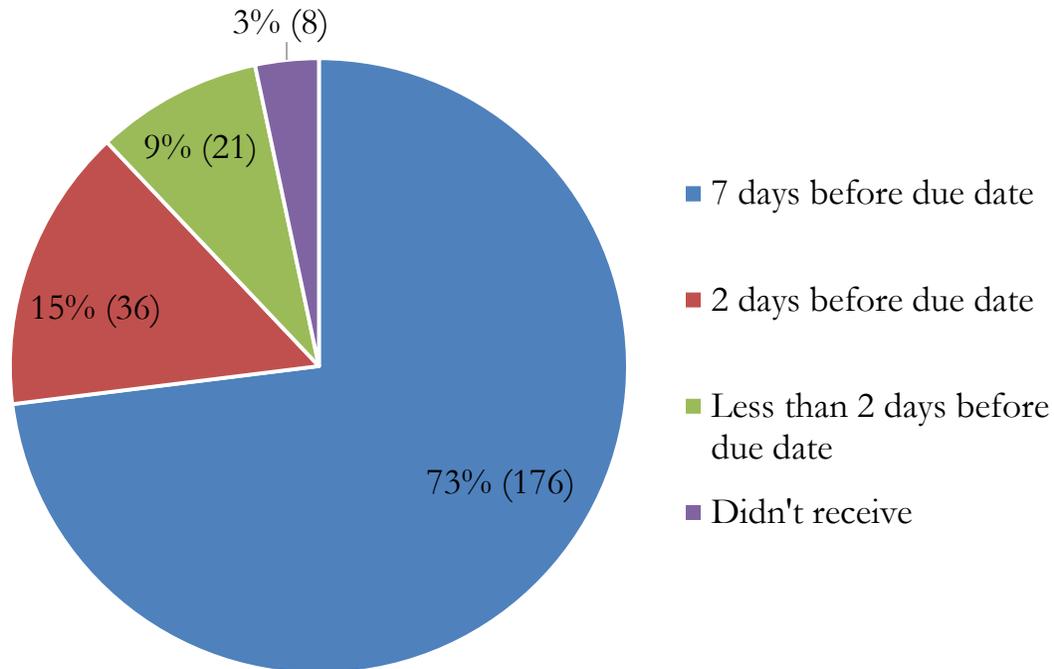


- Consumers still rely on conventional channels, such as speaking with the lineman and visiting the local DISCOM office to get information about electricity bills.
- There has been low adoption and utilisation of digital platforms, such as [Bijali Mitra](#) (an app developed by Jaipur DISCOM) among consumers. This is due to a lack of awareness.

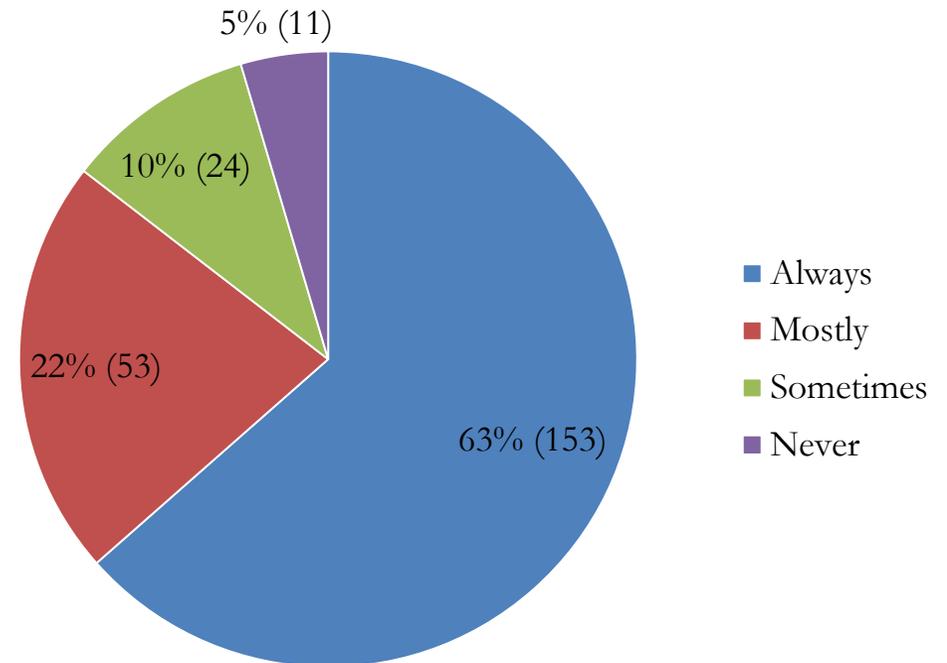
Billing - Punctuality

DISCOM has been performing moderately well in the delivery of electricity bills to consumers, however, there is still scope for improvement.

Receipt of Bill

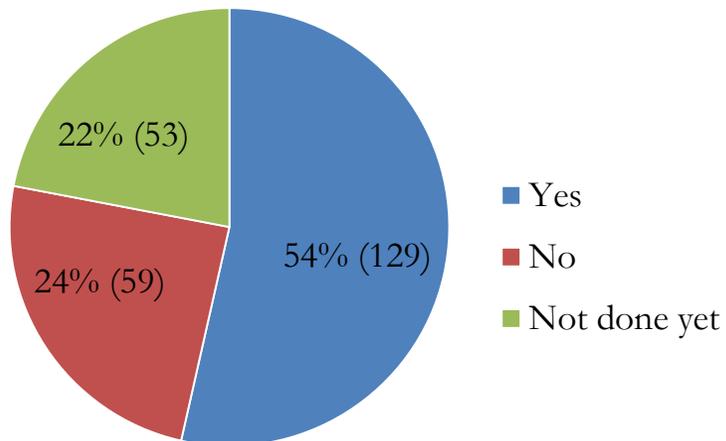


Billing Punctuality – Timely receipt of bills

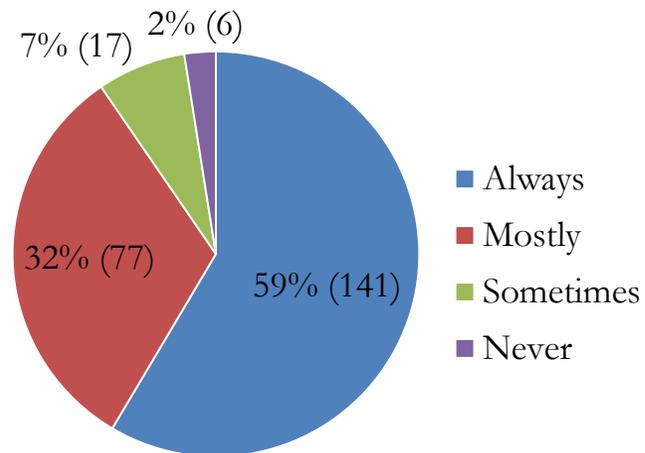


Billing – Payment by Consumers

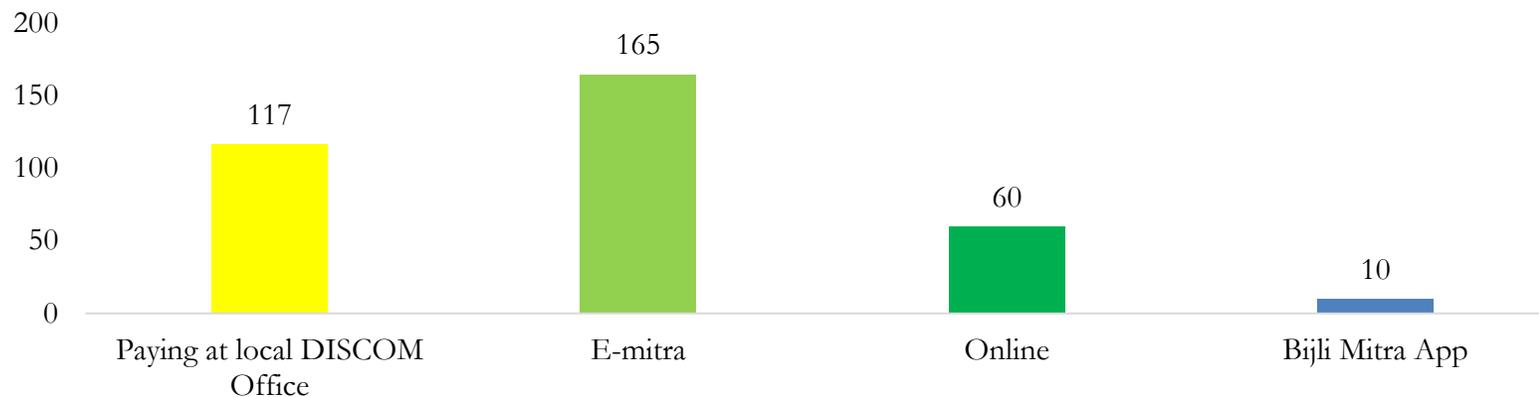
Whether the last bill was paid on time



Payment of Bill on time



Mode of Payment for Electricity Bills (consumers use more than one mode)

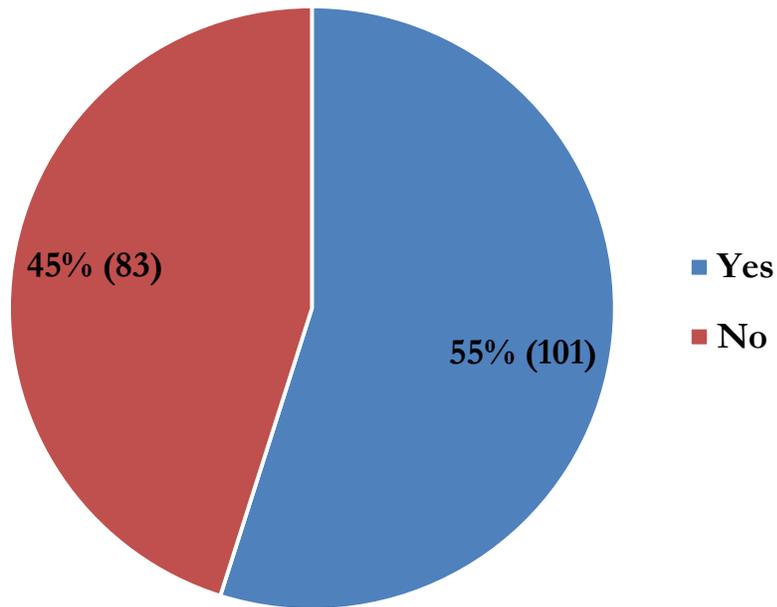


- About 40 percent of consumers do not pay their bills on time due to billing and metering disputes with DISCOMs and other issues.
- Such dues accrue as losses for DISCOMs in long term and results in permanent disconnection. This causes loss of consumers base for DISCOMs over time.
- Visiting local DISCOM office is still prevalent but online modes and payment through E-Mitra (is also popular.
- [E-Mitra](#) is a multiservice platform developed by Rajasthan government. It has multiple points of service & communication – centres & kiosks, web, mobile and SMS.

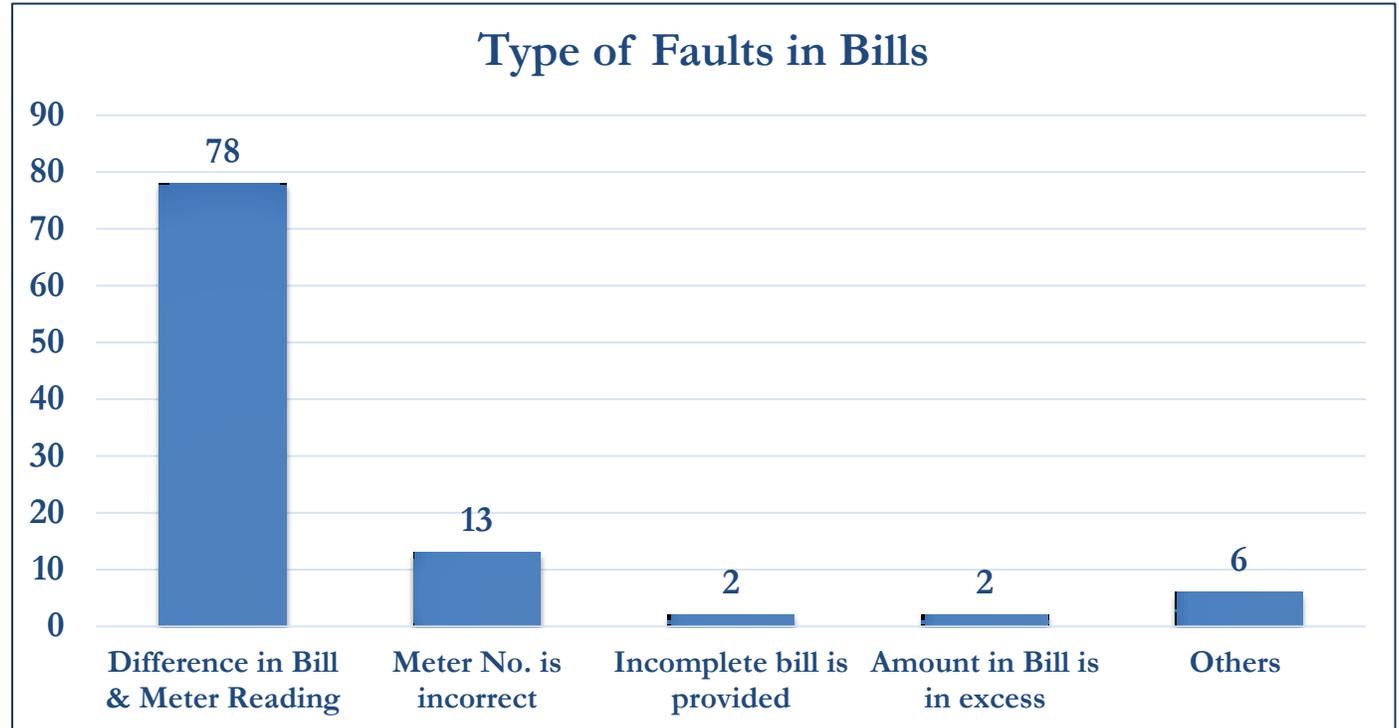
Billing – Status of Bills

- A large proportion of consumers claim the issue of incorrect meter reading in their most current bill, which is concurrent to finding in the previous slide why consumers don't pay their bills on time.
- The resolutions of such cases often takes a very long time. These cases related to incorrect meter reading are both cause and origin of consumer distrust.

Fault in Bill



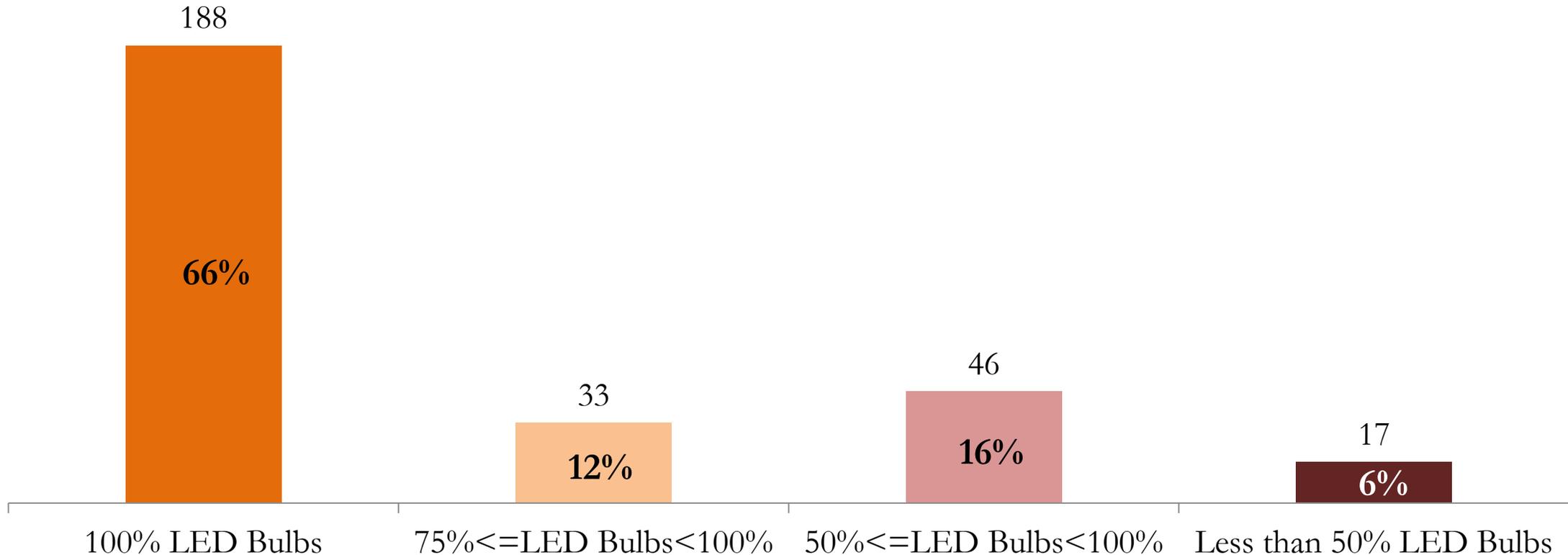
Type of Faults in Bills



Others include bills not received, evidence not established, receiving old bills

Energy Efficiency – Penetration of LED Bulbs

Number of Households



- 2/3rd of the surveyed households have switched completely to LEDs for lighting purposes.
- Awareness drives along with further enhancement of affordability is for further improved penetration of LEDs in rural areas.

Adherence to Safety Norms

Households with ARMORED SERVICE LINE



- Armored cables are provided by DISCOM to improve the safety of connections between households and electricity distribution pole. 29 % of the households do not have armored cable for service line creating potential situations for safety hazards.

Key Findings

Positive

Efficiency of Billing and Metering

- A large proportion of electricity consumers (73 percent) receive electricity bills on time
- The use of digital modes for electricity bill payment is gradually attaining popularity in rural areas (*As verified by surveyors*).

Penetration of Energy Efficiency Measures

- A large share of rural households has achieved 100 percent coverage of LED bulbs due to awareness about various government

Key Findings

Scope for Improvement

Quality of Electricity Access

- Despite impetus on achieving 100 percent household connection coverage, a high proportion of households (15 percent) still do not have electricity connection or are in permanently disconnected category.

Efficiency of Billing and Metering

- DISCOMs have limited focus on up-gradation of last-mile infrastructure, maintenance and repair and solving grievances of consumers. The situation is additionally marred by the poor financial condition of DISCOMs (*As verified by surveyors*).
- A significant number of consumers (40 percent) resort to late payment due to billing disputes with DISCOM
- Only 17 percent of consumers are aware of digital tools, such as Bijali Mitra developed by JVVNL.

Compliance to Safety Standards

- Compliance for safety standards needs to be improved.

Recommendations

1. **Improving delivery of electricity bills:** DISCOM needs to improve the delivery of electricity bills using digital modes such as SMS and pushing consumers to adopt Bijali Mitra App. The DISCOM need to undertake dedicated KYC drives to update contact details of consumers for this purpose.
2. **Improving Electricity Access:** The DISCOM needs to resolve cases related to PDC (Permanently disconnected consumers) and undertake massive drive for providing electricity connection to every household in rural areas.
3. **Improving the billing practice and consumer trust:** To generate confidence within consumers about billing and reduce their grievances, self-billing with certain accountability measures should be promoted. Last mile infrastructure need to be upgraded by replacing all faulty meters in villages.

Recommendations

4. **Awareness about Bijali Mitra and other online modes of payment:** . DISCOM needs to undertake awareness drives in collaboration with civil society organisations (CSOs) to increase the popularity of Bijali Mitra and other digital payment modes, which can facilitate swift bill payment by consumers.
5. **Improving Safety Standards:** DISCOM should undertake awareness drives to inform consumers about critical safety standards and work with them for adherence of the norms.
6. **Improving transparency and accountability:** DISCOM should promote third party auditing of its services to improve consumer trust and accountability. On the other hand, it should work with local CSOs in implementing measures to reduce electricity theft in its jurisdiction.



THANK YOU

FOR MORE INFORMATION,
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PROJECT WEBPAGE
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