

# Electrocution Analysis in Sri Lanka

**2023**



**PUBLIC UTILITIES COMMISSION OF SRI  
LANKA**

*Information Source: Sri Lanka Police*

## Contents

<b>1. Table of Figures .....</b>	<b>3</b>
<b>2. Introduction .....</b>	<b>4</b>
<b>3. Province-Wise Data Analysis .....</b>	<b>6</b>
<b>4. Police Division Wise Analysis .....</b>	<b>8</b>
<b>5. Age-Wise Electrocution Data Analysis .....</b>	<b>10</b>
<b>6. Gender-Wise Electrocution Data Analysis.....</b>	<b>11</b>
<b>7. Seasonal Electrocution Data Analysis .....</b>	<b>12</b>
<b>8. Analysis of Causes for Electrocutions.....</b>	<b>13</b>
<b>9. Analysis of Root-Causes for Electrocutions.....</b>	<b>16</b>
<b>10. Analysis of Electrocutions due to Illegal Tapping .....</b>	<b>18</b>
<b>10.1 Province &amp; Police Division Wise Analysis .....</b>	<b>19</b>
<b>10.2 Seasonal Analysis .....</b>	<b>20</b>
<b>11. Analysis of Electrocutions due to Unavailability &amp; Malfunctioning of RCD.....</b>	<b>21</b>
<b>11.1 Province &amp; Police Division Wise Analysis .....</b>	<b>22</b>

# 1. Table of Figures

Figure 1 : Electrocution Summary of Sri Lanka .....	4
Figure 2 : Electrocution Summary of Sri Lanka .....	4
Figure 3 : Trend of Electrocutions in Last 14 years .....	5
Figure 4 : Province Wise Electrocutions in 2023 .....	6
Figure 5 : Province Wise Proportion of Electrocutions in 2023 .....	6
Figure 6 : Province Wise Electrocutions in Last 5 years .....	7
Figure 7 : Police Division Wise Electrocutions in 2023 .....	8
Figure 8 : Police Division Wise Electrocutions in last 5 years .....	9
Figure 9 : Age-Wise Electrocution proportion in 2023 .....	10
Figure 10 : Age-Wise Electrocution proportion in last 5 years .....	10
Figure 11 : Gender-Wise Electrocution Proportion in 2023 .....	11
Figure 12: Gender-Wise Electrocution Proportion in last 5 years .....	11
Figure 13: Number of Monthly Electrocutions in last 5 years .....	12
Figure 14 : Causes for Electrocutions in 2023 .....	13
Figure 15 : Causes for electrocutions for last 5 years .....	14
Figure 16 : Proportion of Causes for Electrocutions in 2023 .....	15
Figure 17 : Proportion of Causes for Electrocutions in last 5 years .....	15
Figure 18 : Analysis of Root Causes for Electrocutions in 2023 .....	16
Figure 19 : Analysis of Root Causes for Electrocutions in last 5 years .....	17
Figure 20 : Electrocutions due to illegal tapping vs other causes .....	18
Figure 21: Province Wise Electrocutions due to Illegal tapping in last 5 years .....	19
Figure 22: Police Division wise Electrocutions in last 5 years due to illegal tapping .....	19
Figure 23: Seasonal Effect on Electrocutions due to illegal tapping in last 5 years .....	20
Figure 24 : Electrocutions due to unavailability of RCD vs Other Causes .....	21
Figure 25: Province-wise Electrocutions due to unavailability of RCD in last 5 years .....	22
Figure 26: Police Division wise Electrocutions due to unavailability of RCD in last 5 years .....	22

## 2. Introduction

Public Utilities Commission of Sri Lanka (PUCSL) receives electrocution reports along with the details of the deaths occurred in the island due to contact with electricity in every month from Sri Lanka Police. Even though the wide availability of electricity has immensely contributed to the development of Sri Lanka, the above reports has shown that it has claimed number of lives irrespective of the gender, age, occupation, religion or race as a result of not using it with due attention and care.

This report analyses the electrocution records of the last 5 years with respect to the factors such as location, age, gender and seasonal factors. This report also scrutinizes the root causes and the causality of the root causes of the reported fatalities during last 5 years.

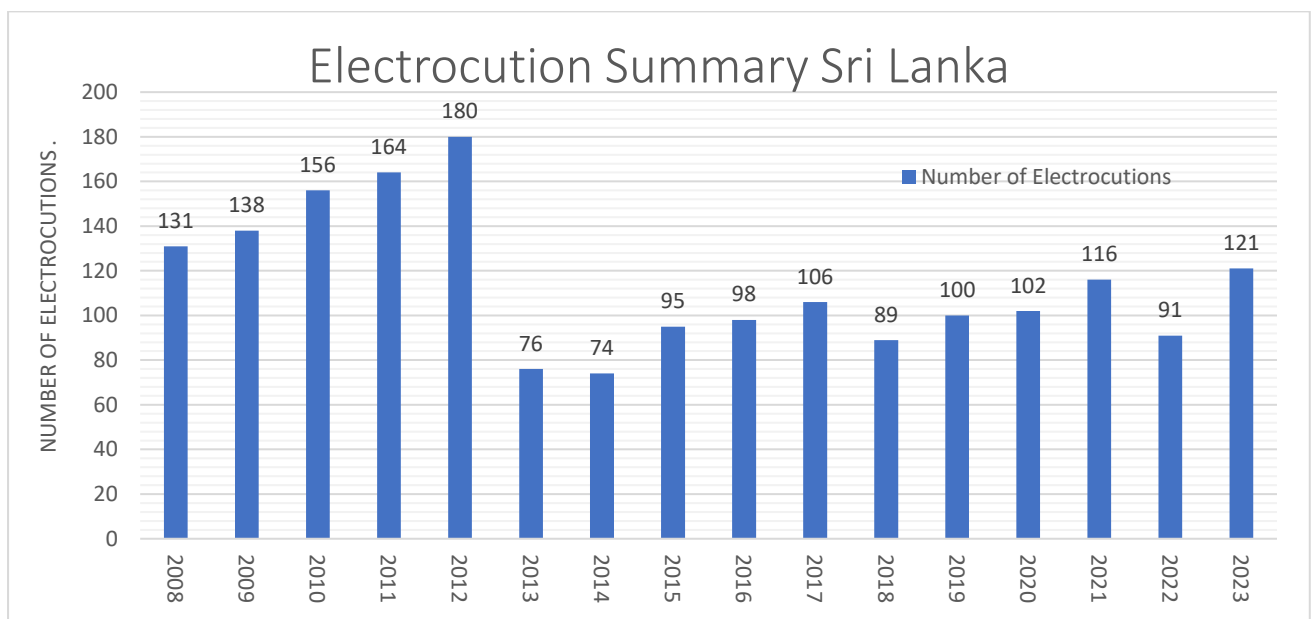


Figure 1 : Electrocution Summary of Sri Lanka

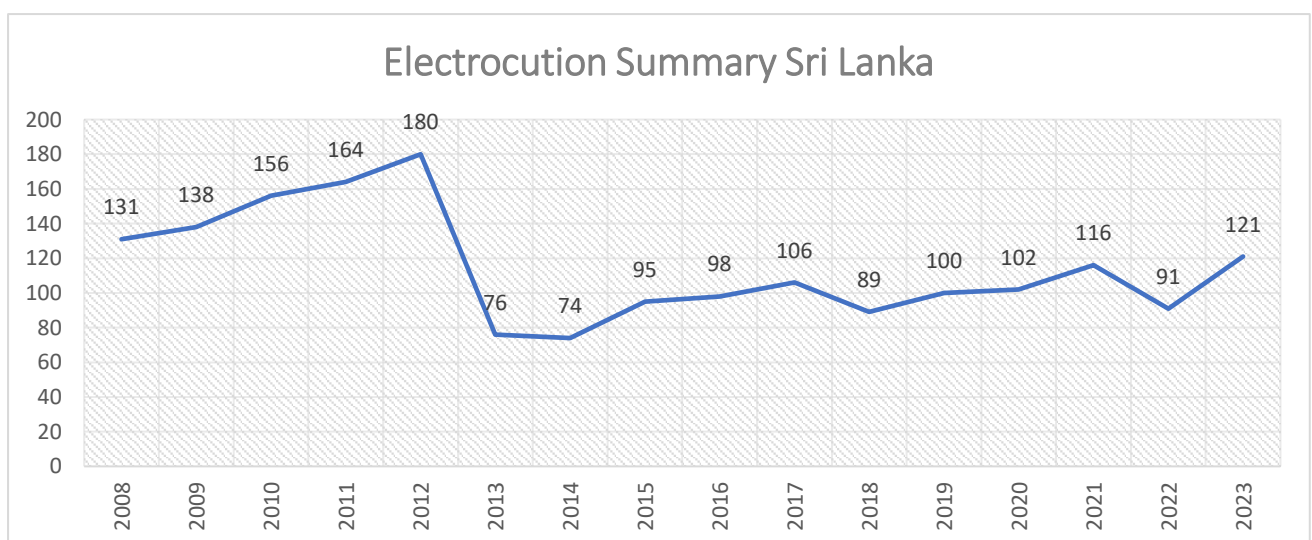


Figure 2 : Electrocution Summary of Sri Lanka

As per the details available, the number of electrocutions per annum in Sri Lanka has stagnated around the 100 mark since 2015, from the initial 140-180 mark during the previous years. It can be further noticed that since 2012, the previously existed trend of incrementation of electrocutions was significantly reduced to a more constant reduced number, although the current figure is still more than the globally acceptable limits.

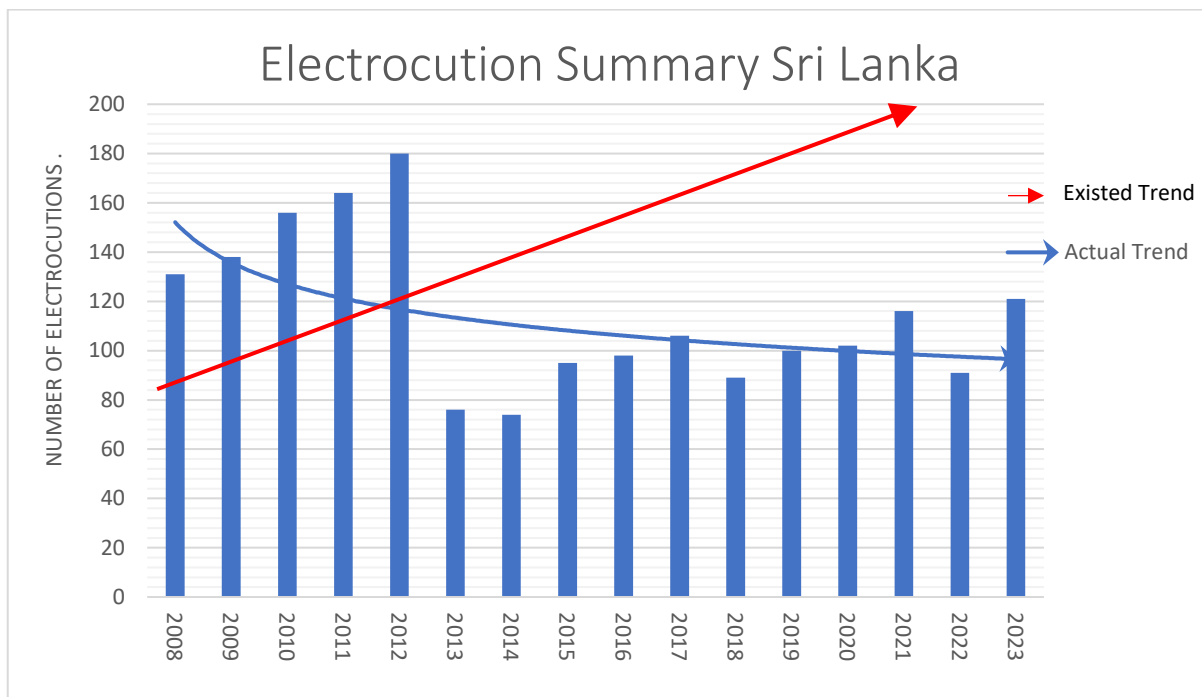


Figure 3 : Trend of Electrocutions in Last 14 years

PUCSL believes that the following actions taken after 2012 as the safety regulator in the electricity industry in Sri Lanka, would have contributed in reducing the electrocutions in Sri Lanka.

- Conducting island-wide awareness programs (in schools, at NIE, for police, for tri-forces, door to door campaign, at exhibitions, safety competitions, media campaigns)
- Conducting site inspections to avoid unsafe conditions
- Issuing an Electricity Safety Guideline for Schools
- Introduction of National Standard for Plugs and Sockets in Sri Lanka
- Introduction of minimum line clearances through the Safety Regulation to ensure a minimum distance away from the electric cables and dwellings, which has become compulsory for construction approval.
- Insertion of a module on safe use of electricity into the school science syllabus of Grade 6 and Grade 10
- Jointly working along with 'Community Police Services' to deter the practice of illegal tapping.
- Providing a comprehensive plan for the licensee to align their exercises to the best safety practice (Safety and Technical Management Plan)

### 3. Province-Wise Data Analysis

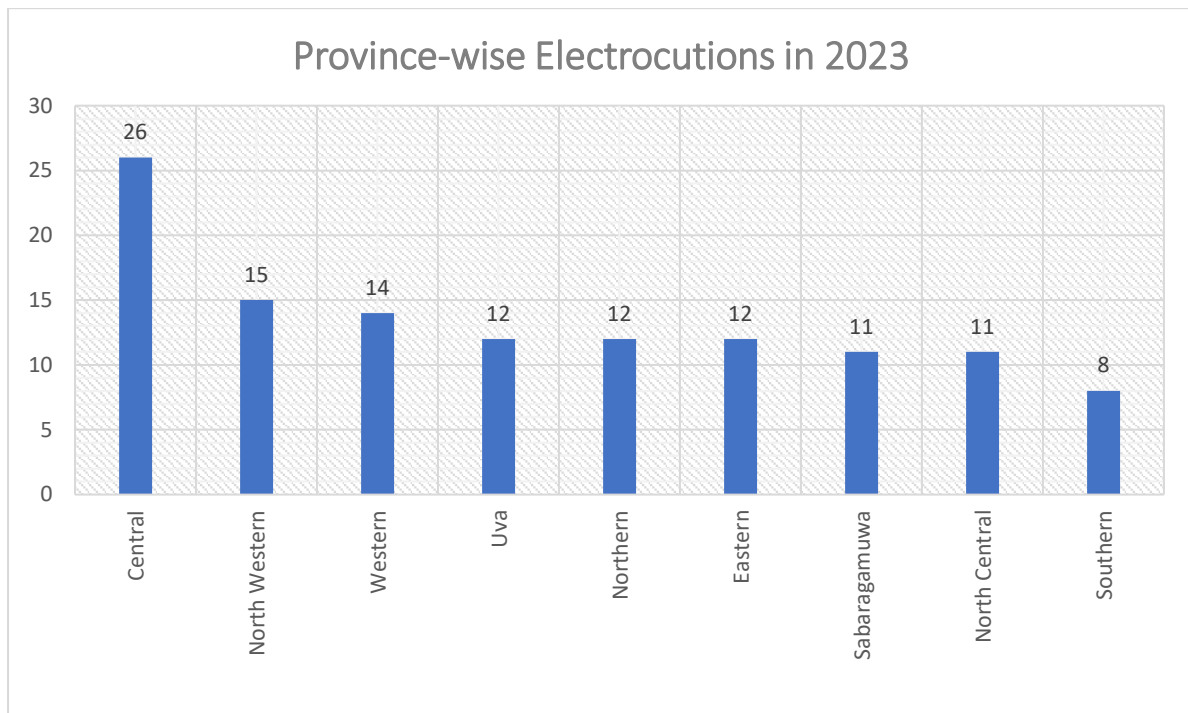


Figure 4 : Province Wise Electrocutions in 2023

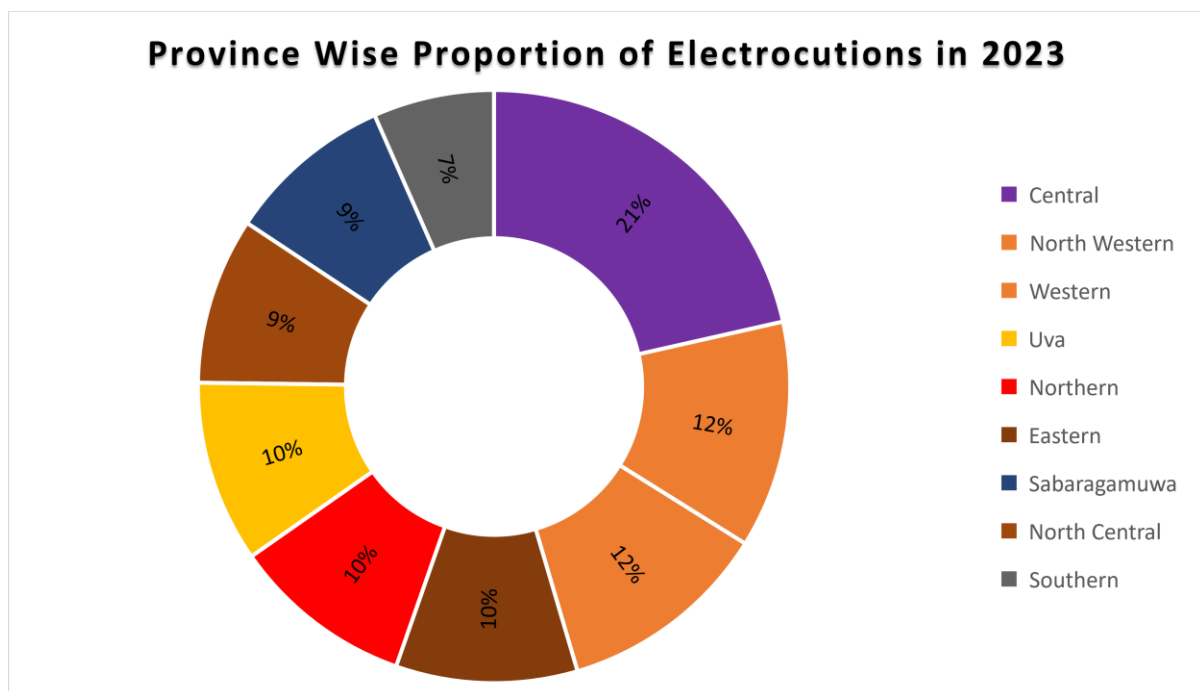


Figure 5 : Province Wise Proportion of Electrocutions in 2023

As per the above graphs we can clearly conclude that majority of the electrocutions in Sri Lanka in 2023 were reported on Central Province. Further North Western & Western Provinces also have reported significant proportion of the electrocutions.

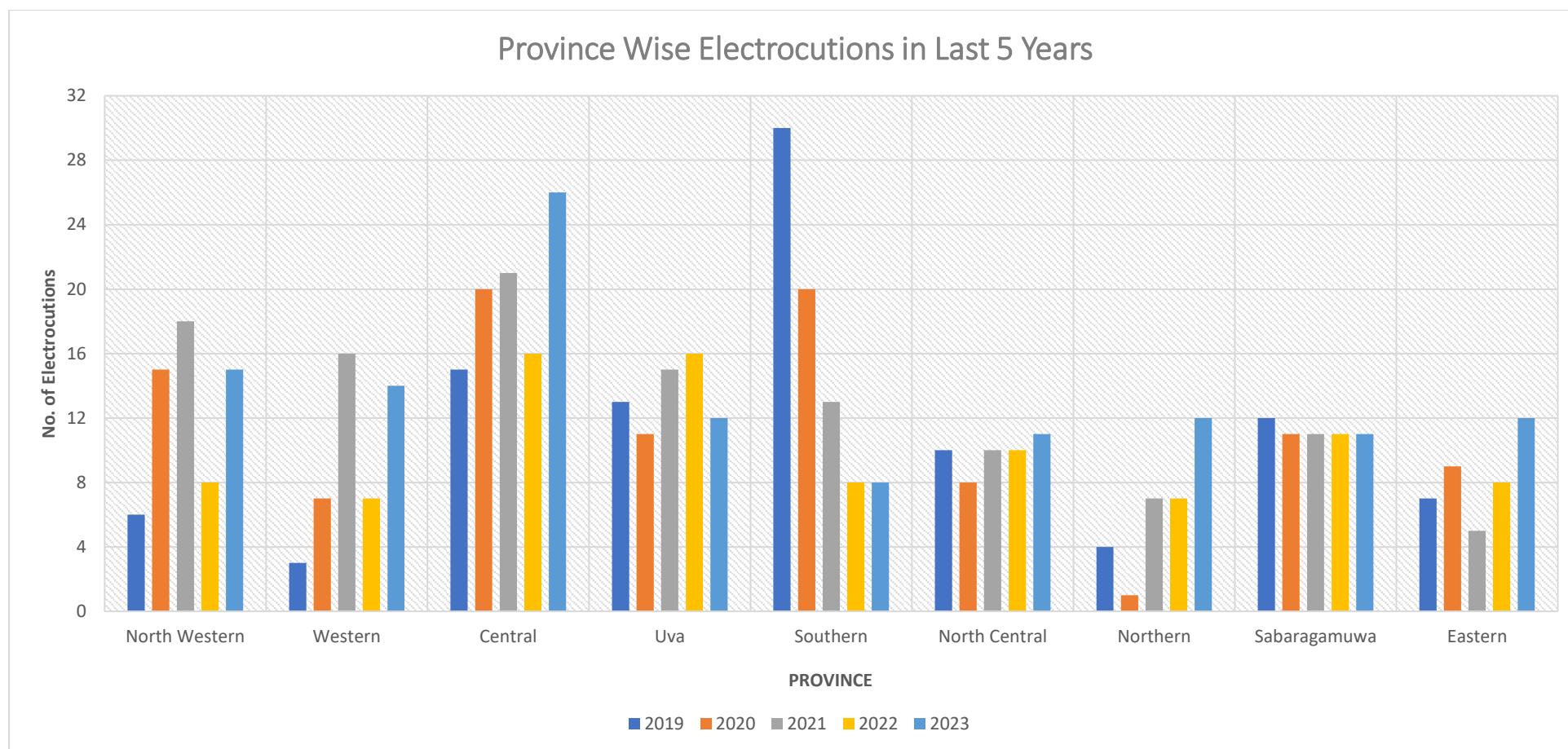


Figure 6 : Province Wise Electrocutions in Last 5 years

Above graph conclude that the greatest number of electrocutions in last 5 years has been reported in Southern & Central provinces although a significant reduction in cases is apparent in Southern Province in the last 2 years. Further to that it can be observed that an alarming increment of the number of electrocutions in Northern, Western & North Western Provinces while other provinces appear to be improving or being consistent in the last two years.

#### 4. Police Division Wise Analysis

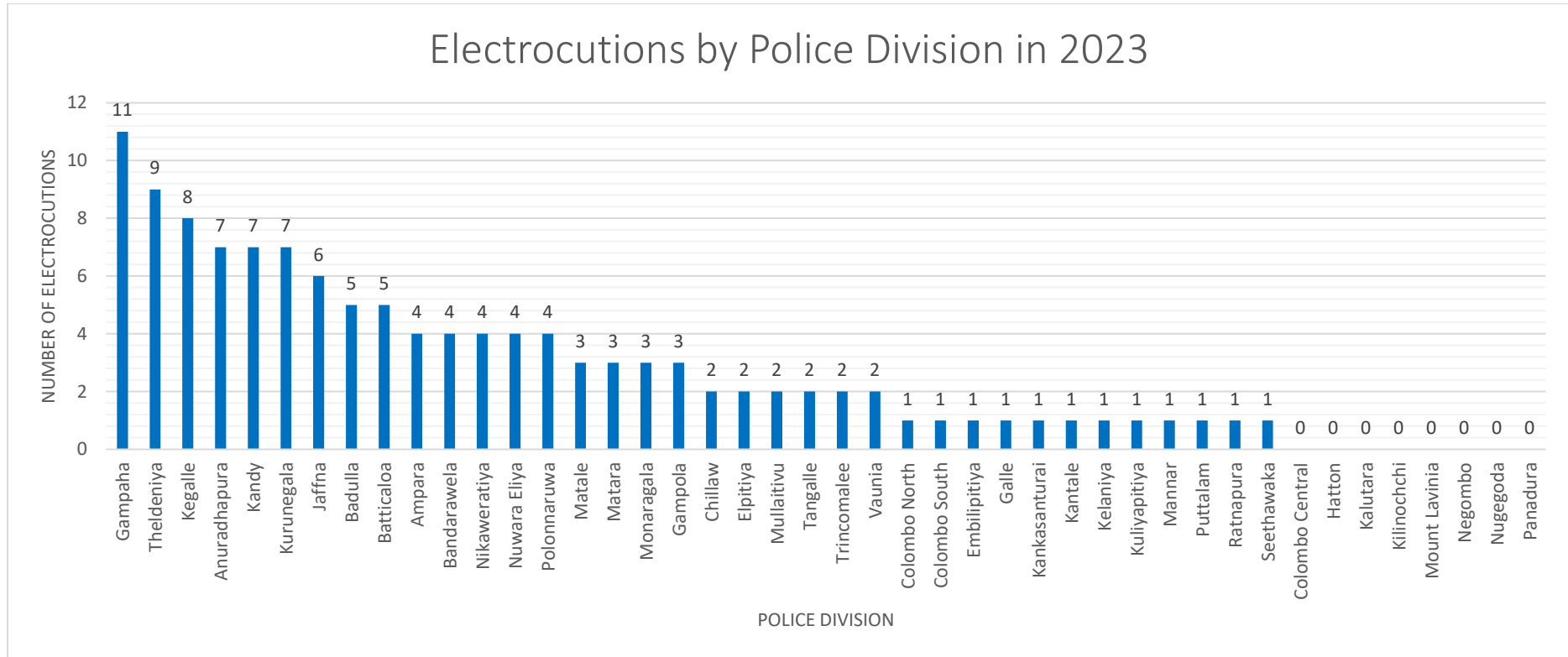


Figure 7 : Police Division Wise Electrocutions in 2023

40% of the electrocutions occurred in 2023, has been reported in 6 police divisions namely Gampaha, Theldeniya, Kegalle, Anuradhapura, Kandy & Kurunegala out of 44 police divisions in Sri Lanka. Only 8 Police Divisions have reported no electrocutions during 2023. Considering the electrocution data of the previous years police divisions Gampaha & Theldeniya has reported troubling rise of electrocutions.



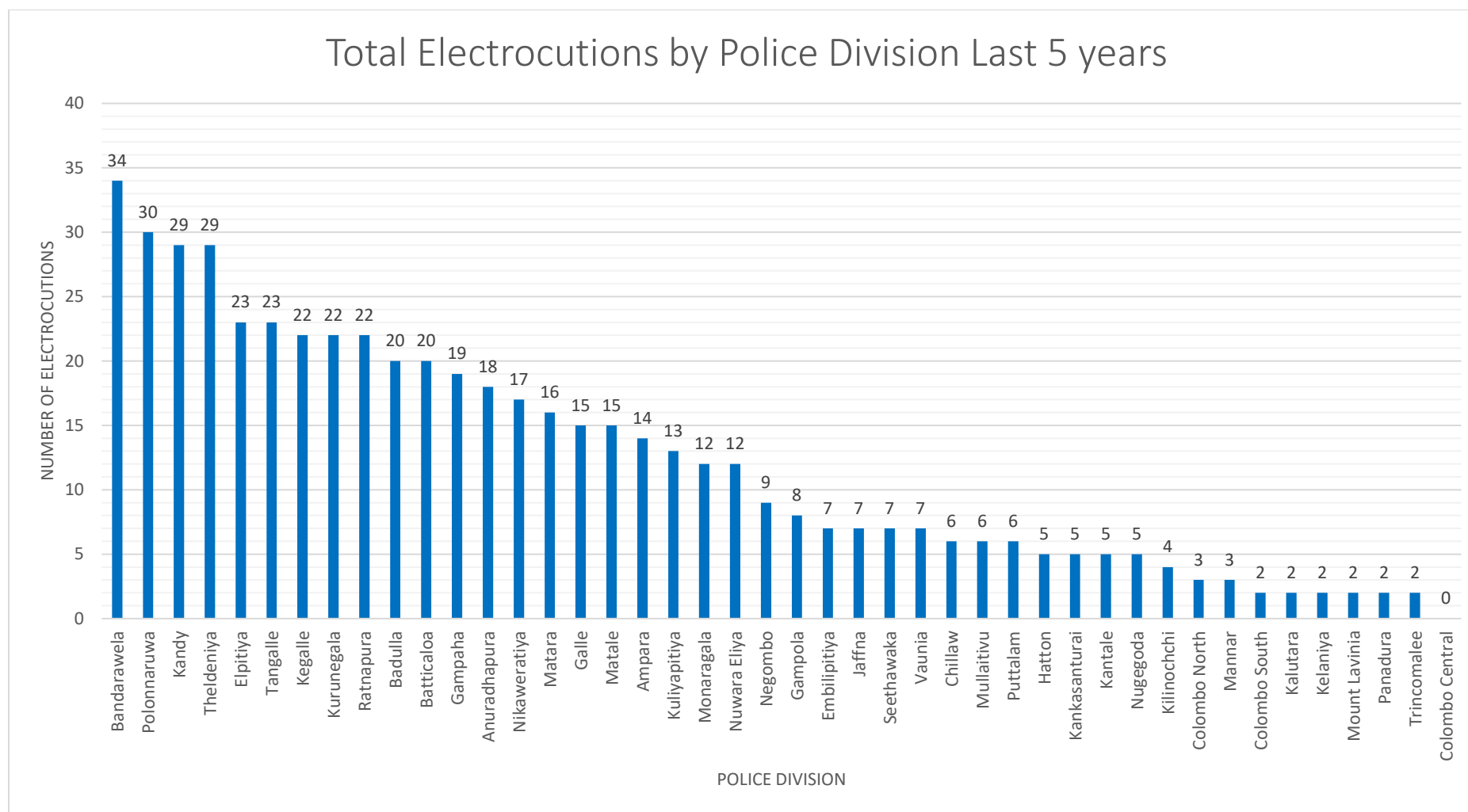


Figure 8 : Police Division Wise Electrocutions in last 5 years

23% of the electrocutions reported in the last 5 years have been occurred in 4 Police Divisions Polonnaruwa, Bandarawela, Kandy & Theldeniya out of 44 police divisions. Police Division Colombo Central has reported no electrocutions in the last 5 years.

## 5. Age-Wise Electrocution Data Analysis

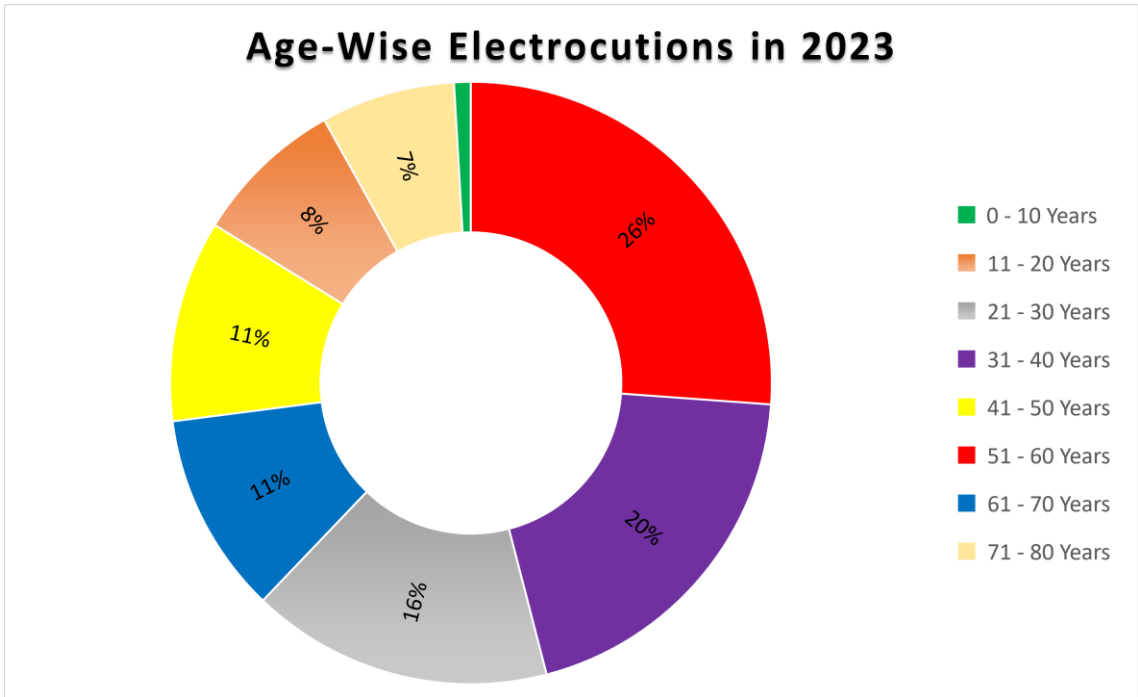


Figure 9 : Age-Wise Electrocution proportion in 2023

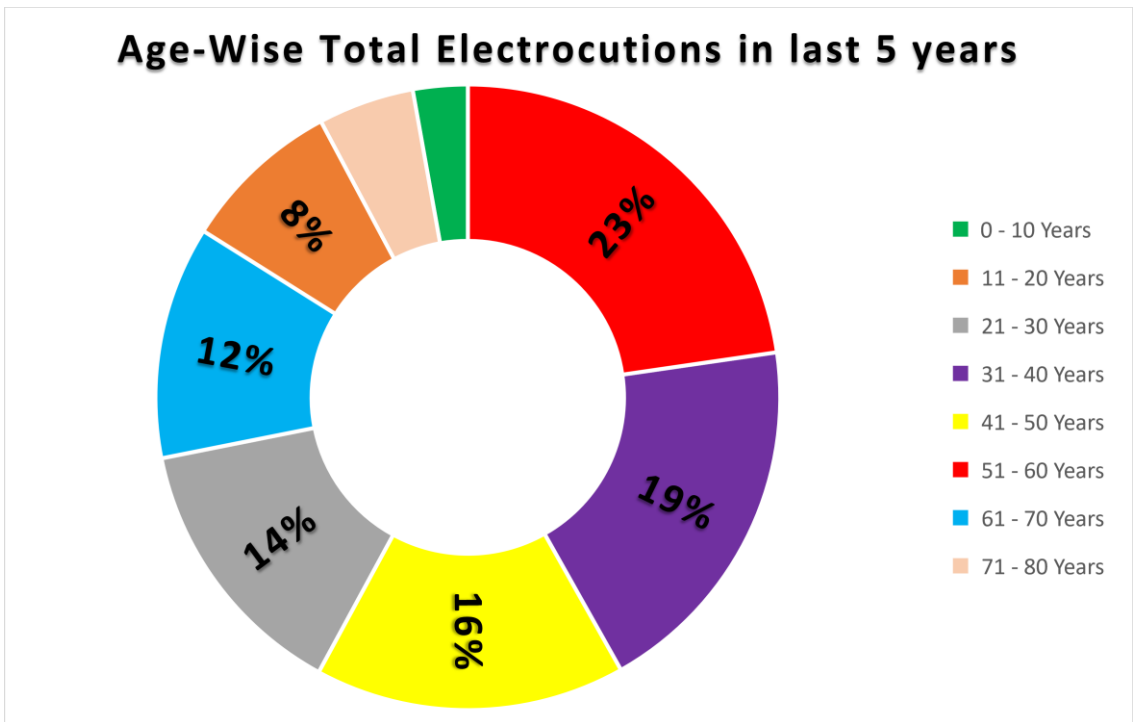


Figure 10 : Age-Wise Electrocution proportion in last 5 years

As per the above graphs more than 70% of the victims of electrocutions are working age people from 21 years to 60 years.

## 6. Gender-Wise Electrocution Data Analysis

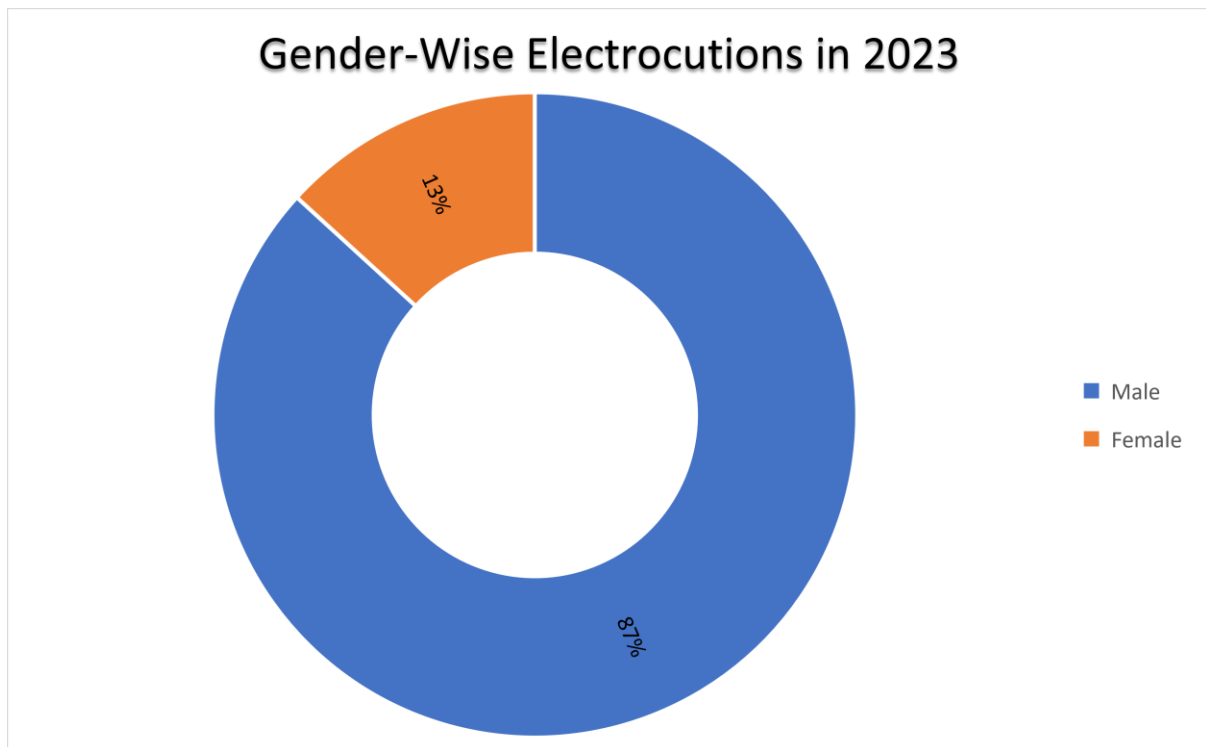


Figure 11 : Gender-Wise Electrocution Proportion in 2023

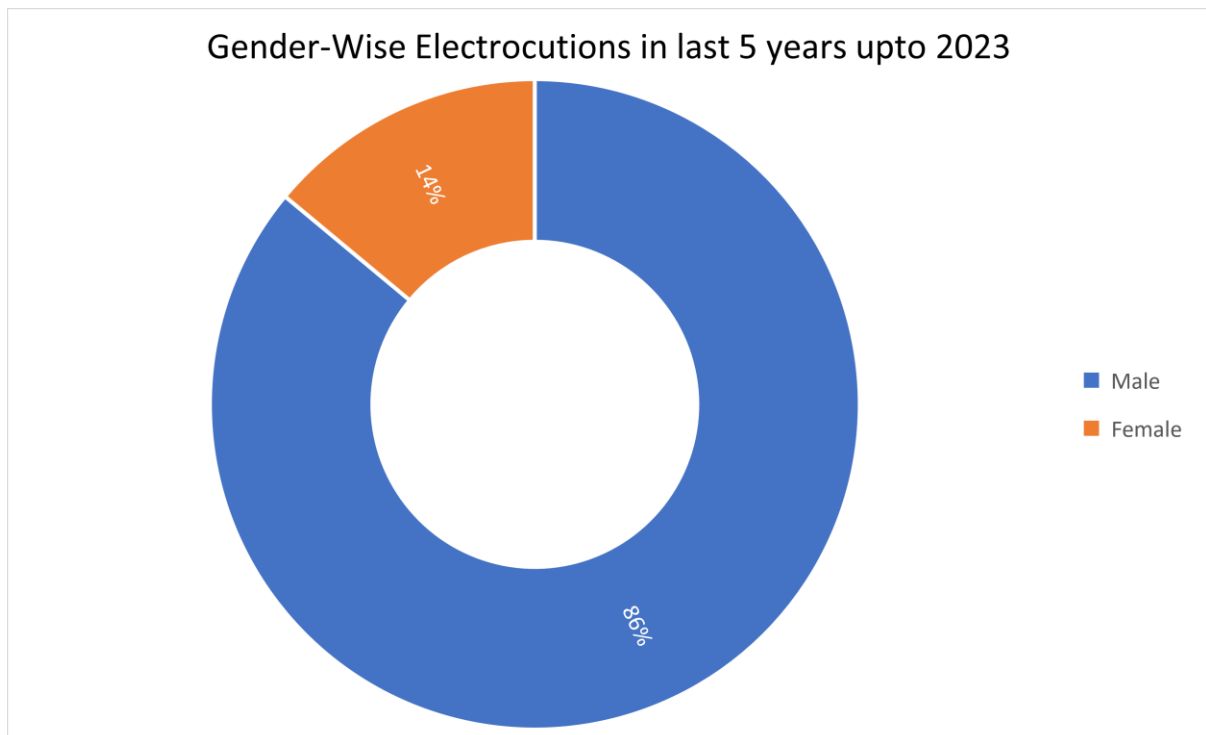


Figure 12: Gender-Wise Electrocution Proportion in last 5 years

Majority of the victims of electrocutions in Sri Lanka are men as expected. In 2023, slight reduction in female electrocutions can be observed from the above graph, figure 11.

## 7. Seasonal Electrocution Data Analysis

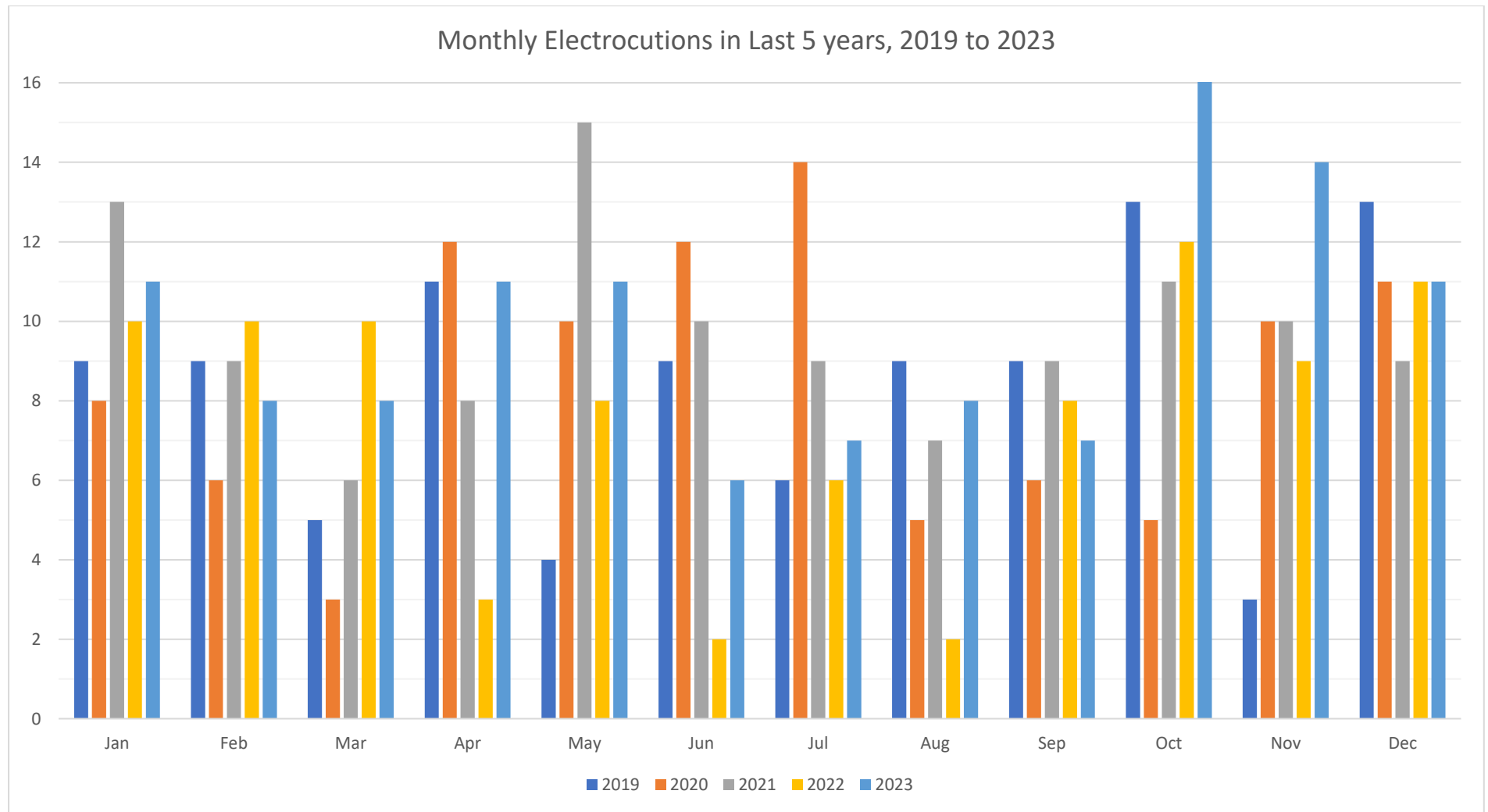


Figure 13: Number of Monthly Electrocutions in last 5 years

## 8. Analysis of Causes for Electrocutions

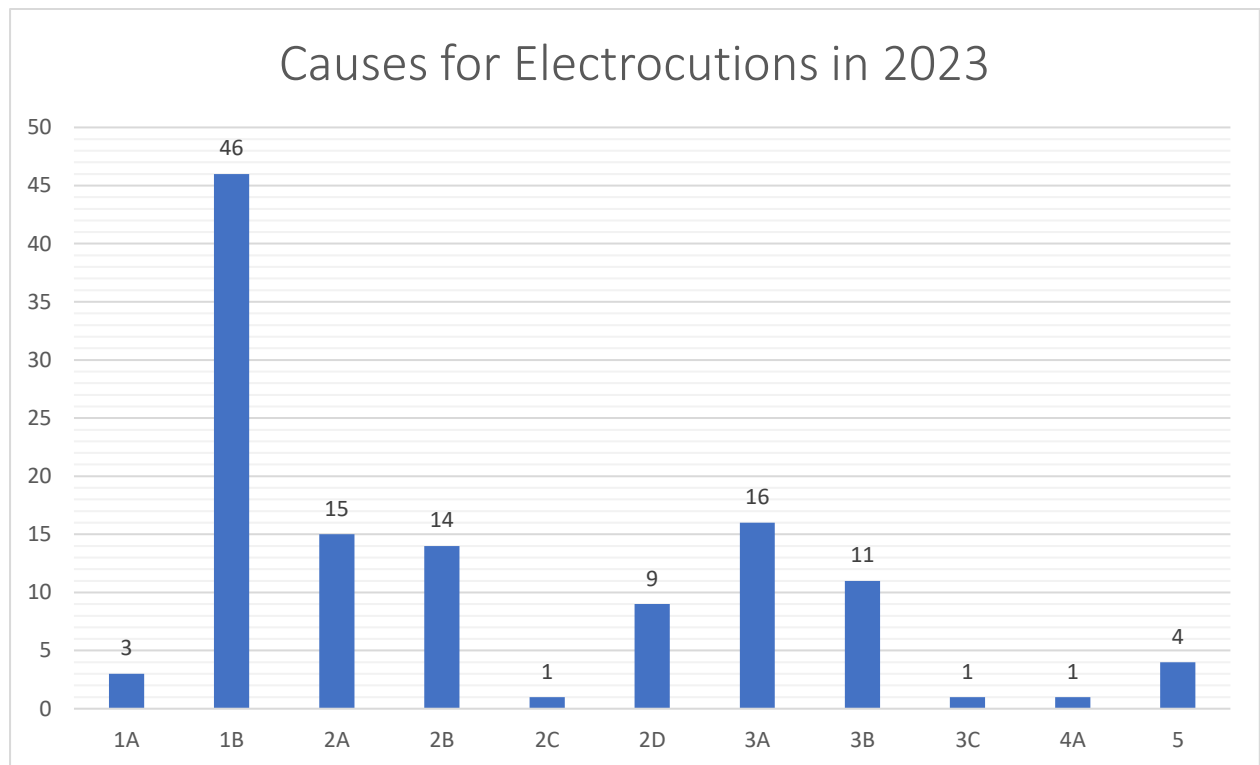


Figure 14 : Causes for Electrocutions in 2023

Code	Cause of Electrocution
<b>1</b>	<b>Illegal Power Tapping</b>
1A	Get Electricity supply from main power line
1B	Draw power lines illegally to protect cultivation or kill wild animals
<b>2</b>	<b>Working Under Unfavorable Environment</b>
2A	Usage of damaged/broken/insulation failed electrical appliances
2B	Unsafely drawn electrical lines away from the house(well/water pump)
2C	Touching/removing fallen power lines
2D	Improper/unsafe wiring (installation) and bad maintenance practices
<b>3</b>	<b>Mistakes and Carelessness</b>
3A	Activities near power lines
3B	Small scale electric repair work at home/ work place
3C	Plugging/connecting electricity appliances
<b>4</b>	<b>Licensee Side Faults</b>
4A	Violation of proper installation procedures by license
<b>5</b>	<b>Other Cause or Cause not reported</b>

Table 1 : Causes for Electrocutions

It can be observed that the main cause for electrocution in 2023 has been illegally driven electrical lines to kill wild animals or to protect cultivations.

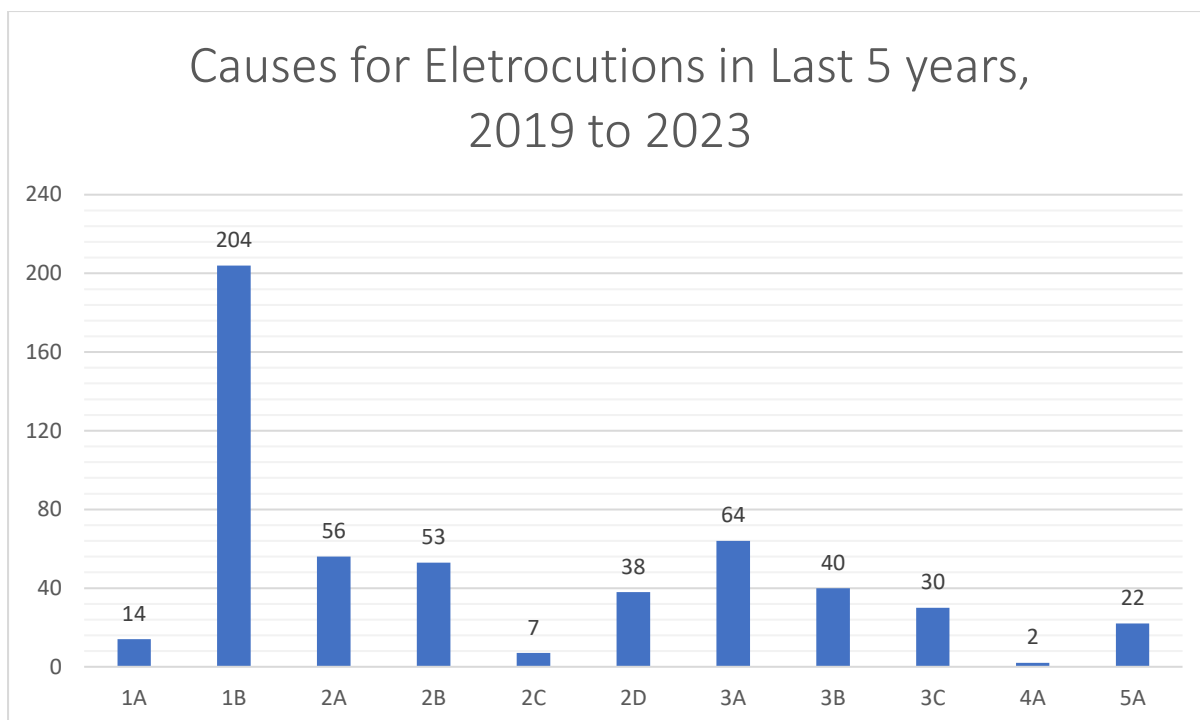


Figure 15 : Causes for electrocutions for last 5 years

Code	Cause of Electrocution
<b>1</b>	<b>Illegal Power Tapping</b>
1A	Get Electricity supply from main power line
1B	Draw power lines illegally to protect cultivation or kill wild animals
<b>2</b>	<b>Working Under Unfavorable Environment</b>
2A	Usage of damaged/broken/insulation failed electrical appliances
2B	Unsafely drawn electrical lines away from the house(well/water pump)
2C	Touching/removing fallen power lines
2D	Improper/unsafe wiring (installation) and bad maintenance practices
<b>3</b>	<b>Mistakes and Carelessness</b>
3A	Activities near power lines
3B	Small scale electric repair work at home/ work place
3C	Plugging/connecting electricity appliances
<b>4</b>	<b>Licensee Side Faults</b>
4A	Violation of proper installation procedures by license
<b>5</b>	<b>Other Cause or Cause not reported</b>

Table 2 : Causes for Electrocutions

As per the above graphs, figure 14 & figure 15, it can be observed that the greatest number of electrocutions occur in Sri Lanka are due to the illegally tapped power lines in order to protect cultivation or kill wild animals. In addition, we see significant electrocutions due to the mistakes and carelessness. These can be mitigated via proper awareness programs to the general public. Compelling number of electrocutions have occurred due to failed electrical appliance and substandard wiring practices as well. While introducing necessary regulations is important, it is of more importance to make the general public follow these regulations.

## PROPORTION OF CAUSES FOR ELECTROCUTIONS IN 2023

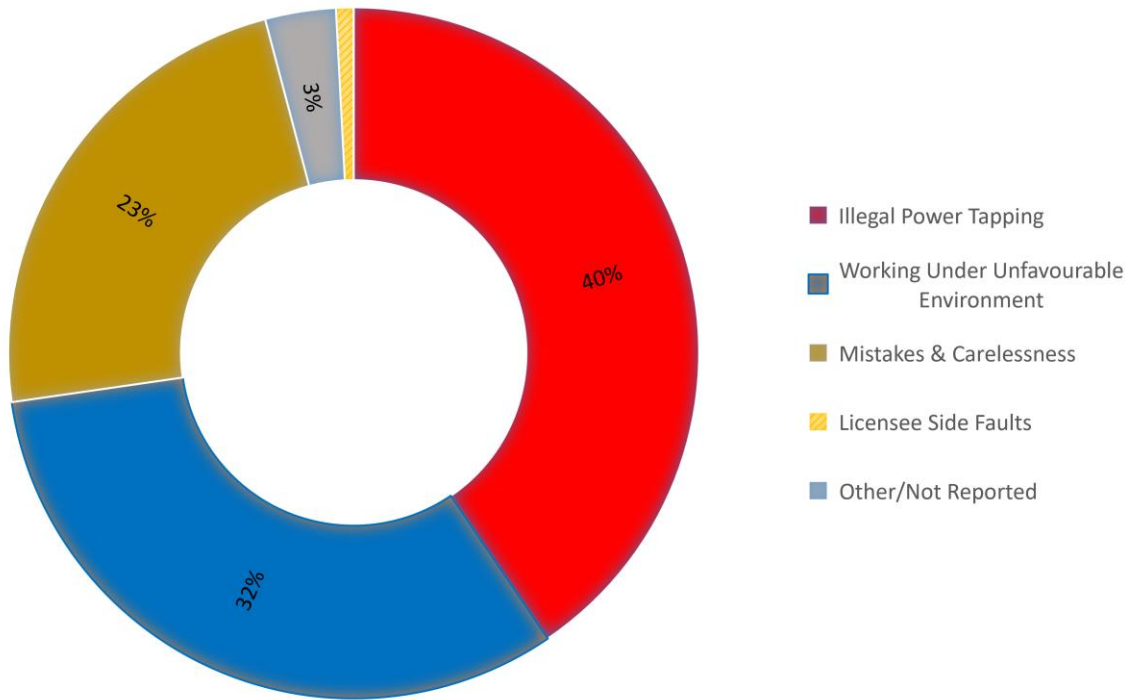


Figure 16 : Proportion of Causes for Electrocutions in 2023

## Proportion of Causes of Electrocutions in last 5 years

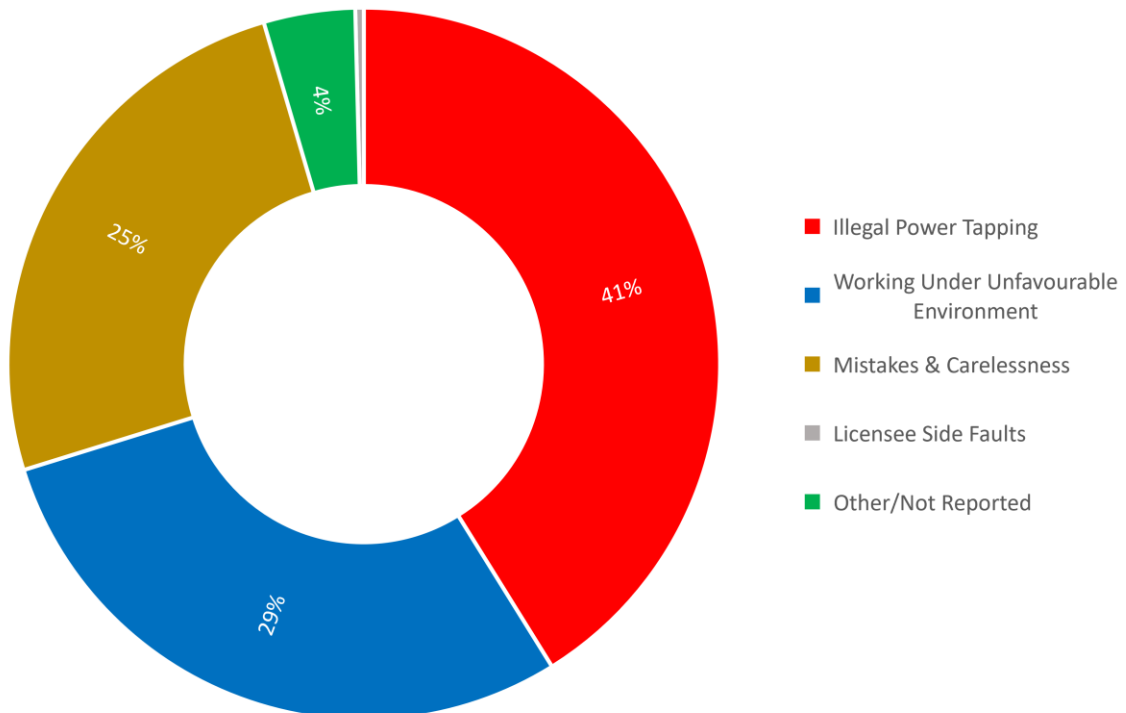


Figure 17 : Proportion of Causes for Electrocutions in last 5 years

## 9. Analysis of Root-Causes for Electrocutions

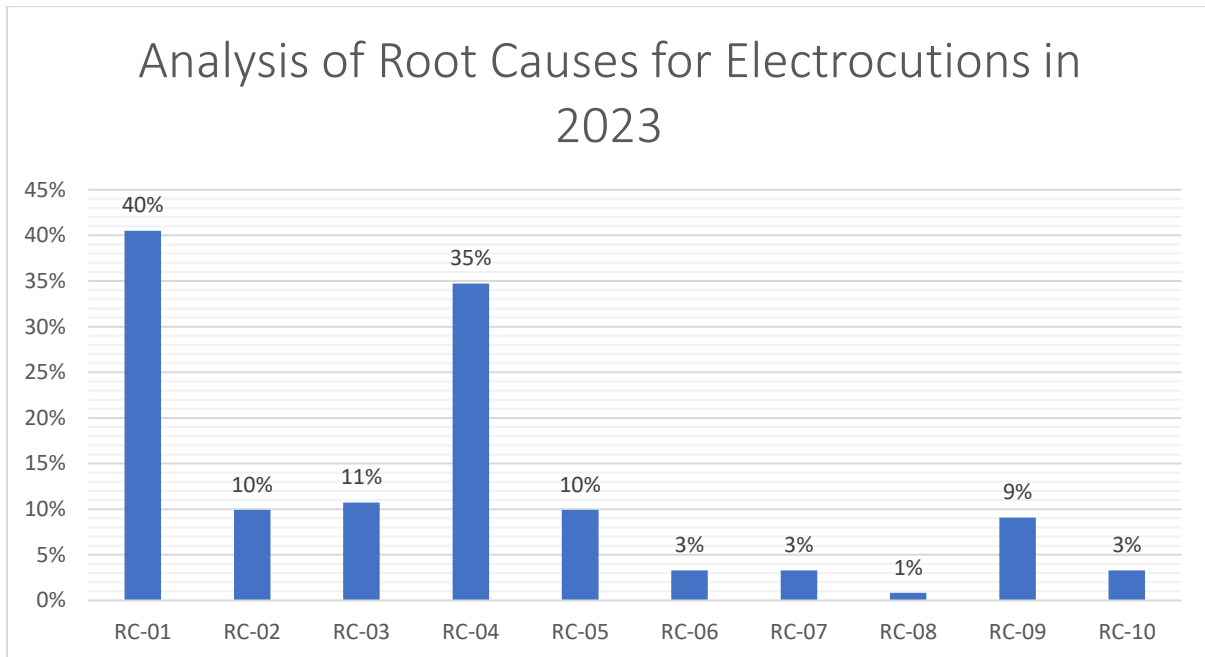


Figure 18 : Analysis of Root Causes for Electrocutions in 2023

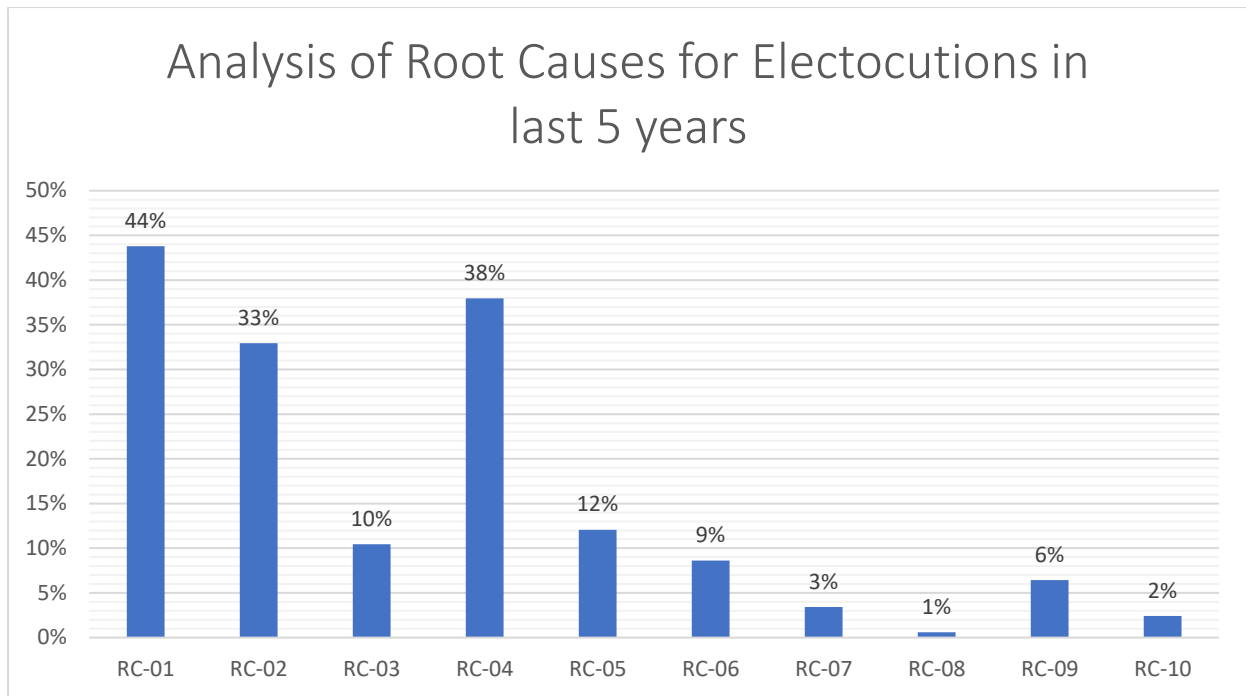
Code	Root Causes
RC -01	Illegal tapping
RC -02	Carelessness
RC -03	Energizing Substandard or Faulty Equipment
RC -04	Malfunctioning or Non availability of RCD
RC -05	Unsafe Extension
RC -06	Lack of Awareness
RC -07	No Proper Maintenance
RC -08	Licensee side Faults
RC -09	Poor Wiring
RC -10	Violation of Minimum Electrical Line Clearance

Table 3: Root Causes for Electrocutions

When we analyze the root causes for electrocutions in 2023, we can clearly observe that 2 root causes dominate as the main reasons for the electrocutions, illegal tapping & malfunctioning or non-availability of RCD. Although carelessness & lack of awareness were previously major root causes, we have seen significant reduction last few years. This is partly a result of continuous awareness programs and other activities conducted by PUCSL.

Further please note that in figure 18 & figure 19, more than one root cause could be principal factors for electrocutions. Hence the total percentage of root causes exceeds 100%.





*Figure 19 : Analysis of Root Causes for Electrocutions in last 5 years*

Code	Root Causes
RC -01	Illegal tapping
RC -02	Carelessness
RC -03	Energizing Substandard or Faulty Equipment
RC -04	Malfunctioning or Non availability of RCD
RC -05	Unsafe Extension
RC -06	Lack of Awareness
RC -07	No Proper Maintenance
RC -08	Licensee side Faults
RC -09	Poor Wiring
RC -10	Violation of Minimum Electrical Line Clearance

*Table 4 : Root Causes for Electrocutions*

Even in the last 5 years, it can be clearly observed that the same 2 root causes (illegal tapping & malfunctioning or non-availability of RCD) along with carelessness have been the principal factors for majority of electrocutions in Sri Lanka. In addition to the reduction of electrocutions due to carelessness & lack of awareness, electrocutions due to unsafe extensions have also been slightly reduced in the last few years. Regulations made regarding the extension cords, sockets, plugs & accessories could be a significant factor for this reduction.

## 10. Analysis of Electrocutions due to Illegal Tapping

As per the statistics on the electrocutions reported in Sri Lanka during the year 2023, 40% of total fatalities due to electricity has happened because of unlawful usage of electricity for killing wild animals, protect cultivations and livestock, fishing, and agricultural requirements by illegal tapping utility distribution lines or through unauthorized electricity extensions from their own premises. Although, such motives are clearly categorized as illegal before the Sri Lankan law, number of incidences are being reported in many parts of the country in each and every year. In Sri Lankan written law or the Penal Code, clauses 296, 297 and 298 have provision to penalize prosecutors in appropriate manner in case of unlawful behaviors if convicted.

As electricity is supplied by the bare conductors in most of the villages in Sri Lanka, electricity has become a good tool for some people to kill animal, protect cultivation or even to fishing. According to the statistics, most of the victims of the electrocution incidents reported due to the illegal usage of electricity for fishing and cultivation protection are the same people who installed the illegal fences. Further, the traps made to kill wild animals had killed many innocent people subjecting to the electrocutions as well.

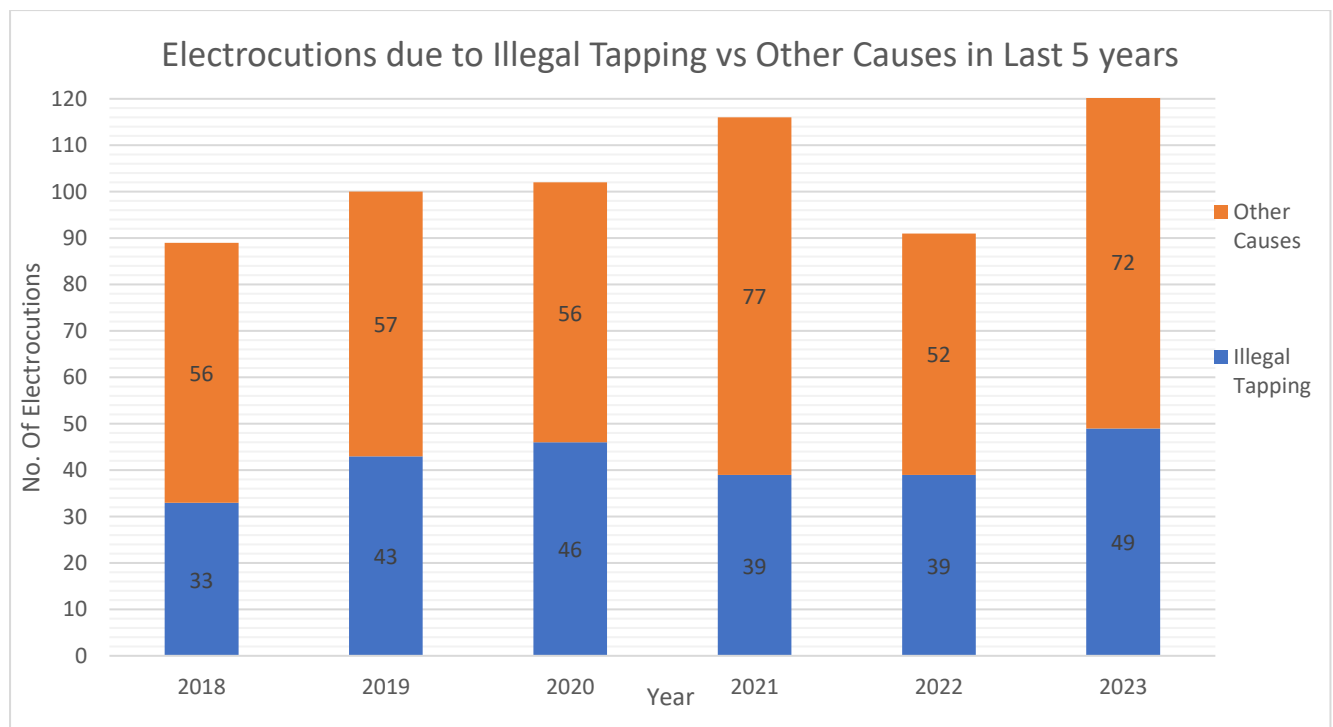


Figure 20 : Electrocutions due to illegal tapping vs other causes

As per Figure 20 we can notice that the number of electrocutions due to illegal tapping has been increasing in the last few years gradually. This increase in 2023 is significantly higher as the total number of electrocutions have also increased in 2023 compared to 2022.

## 10.1 Province & Police Division Wise Analysis

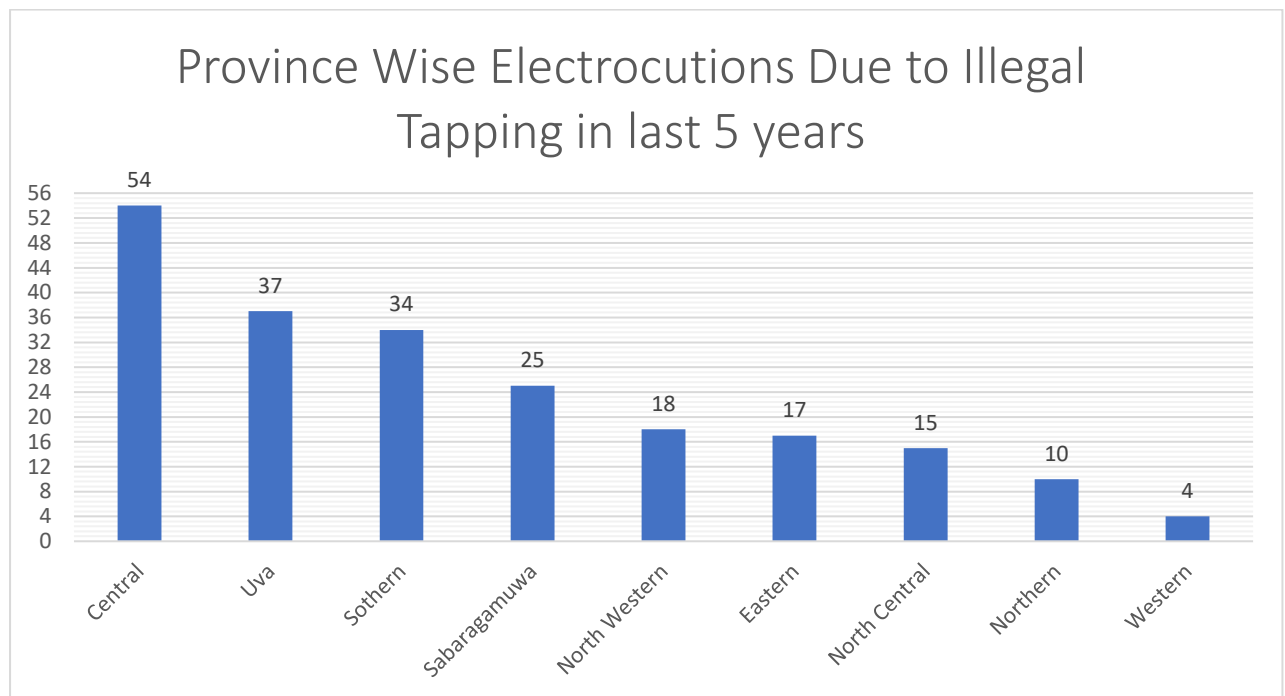


Figure 21: Province Wise Electrocutions due to Illegal tapping in last 5 years

As per the figure 21, 70% of the electrocutions due to illegal tapping has occurred in Central, Uva, Southern & Sabaragamuwa Provinces. This could be due to majority of the people in these 4 provinces are still dependent on village economy, mainly farming & hunting.

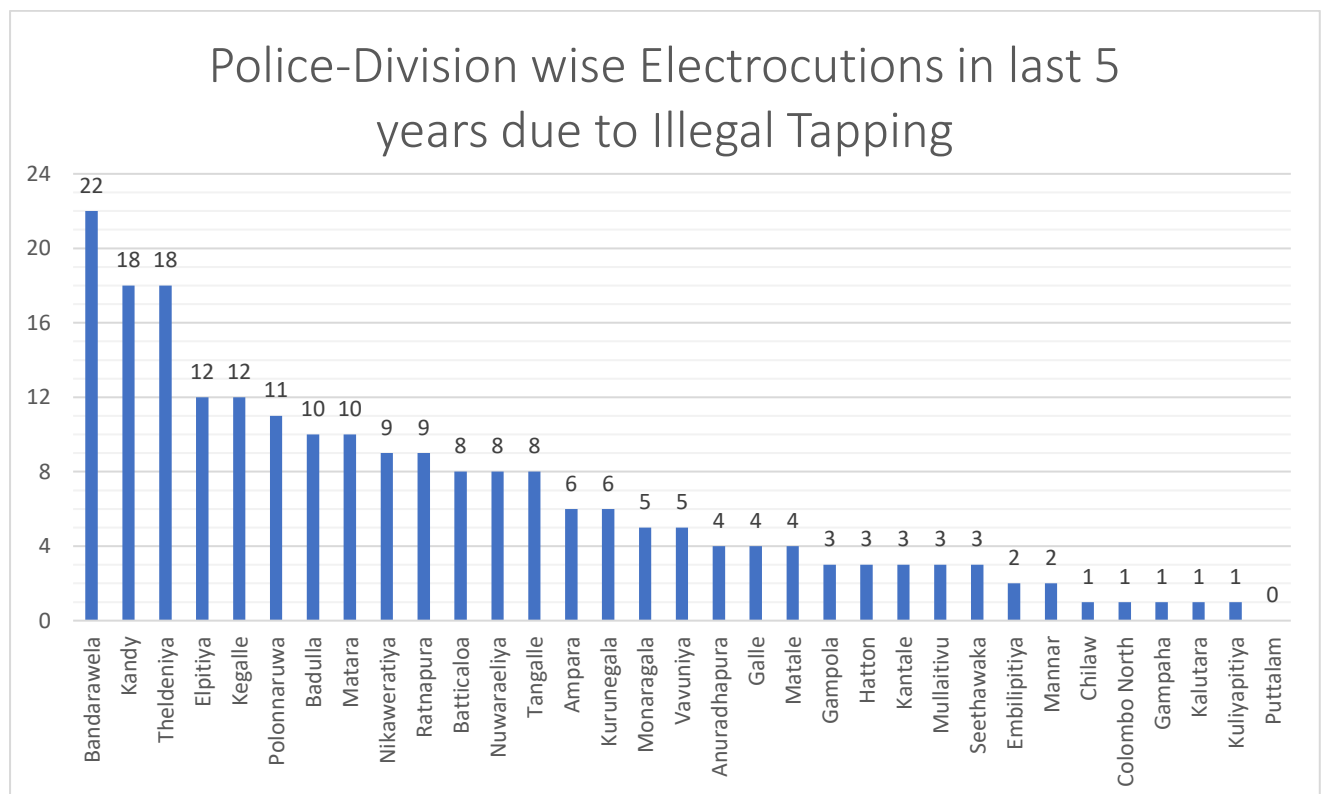


Figure 22: Police Division wise Electrocutions in last 5 years due to illegal tapping

## 10.2 Seasonal Analysis

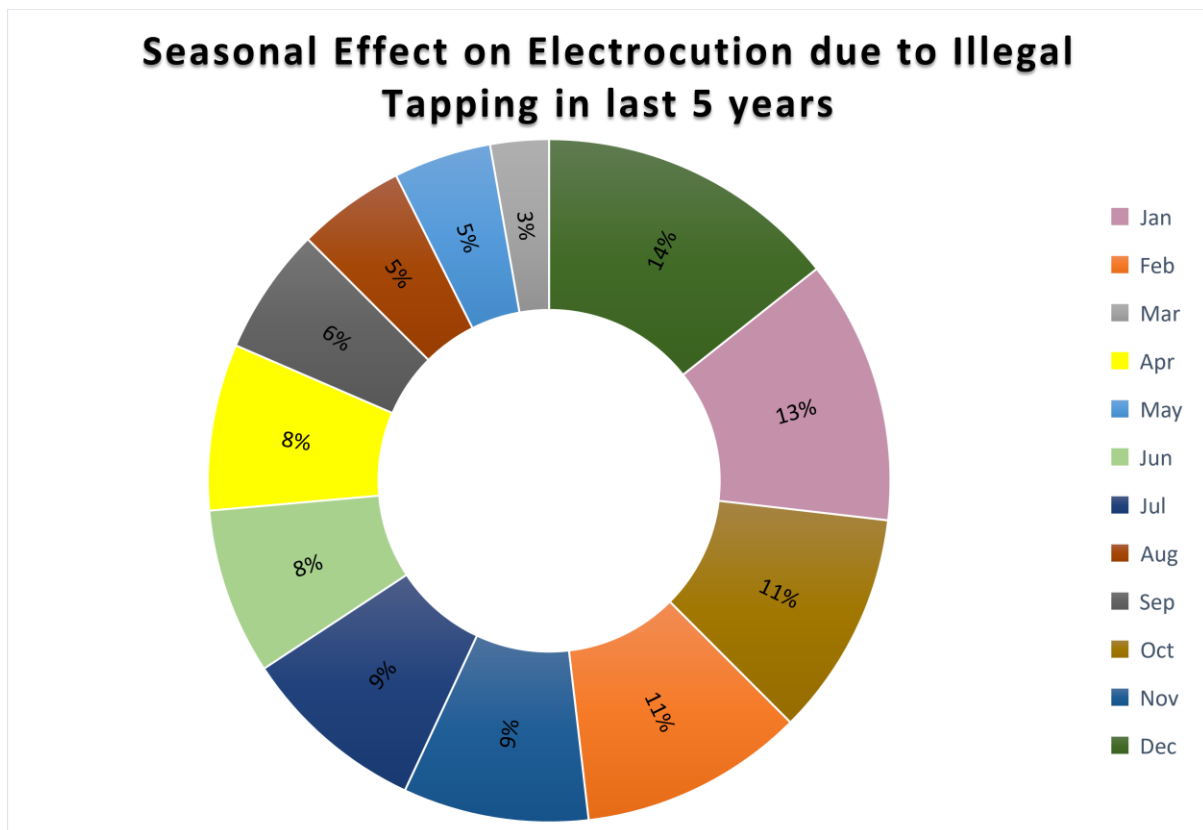


Figure 23: Seasonal Effect on Electrocutions due to illegal tapping in last 5 years

The above chart reveals that electrocutions due to illegal use of electricity is significant in January & December, recording 13% & 14% for last 5 years respectively. Since January & December are festival months owing to falling of New year and Christmas people tend to use illicit electrical connections along the natural path ways of the wild animals to get the traps to cater the meat demand during this festival seasons, which could be the reason behind this.

## 11. Analysis of Electrocutions due to Unavailability & Malfunctioning of RCD

Trip switch is the life-saving device in an electrical installation which prevents serious harm from an ongoing electrical shock by disconnecting the power to that circuit to ensure the safety of those potentially in harm's way if someone gets contacted with a live electrical part or upon detecting any current leakage in an electrical circuit. As per the statistics on the electrocutions reported in Sri Lanka during the year 2023, it could be observed that 35% out of total fatalities could have been prevented if a properly functioning trip switch (RCD) was in place.

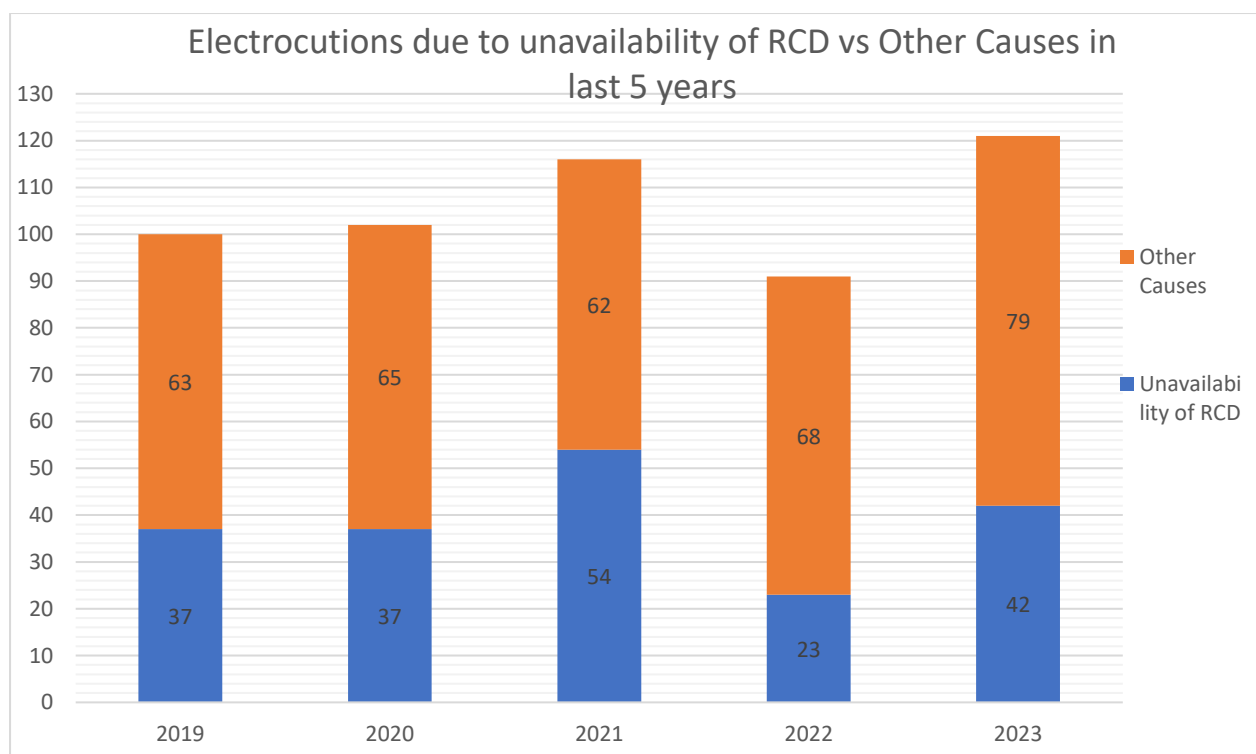


Figure 24 : Electrocutions due to unavailability of RCD vs Other Causes

As per above figure 24, nearly 40% of the electrocutions could have been avoided through installation of a functioning trip switch. In addition, we can observe a slight decrease in electrocutions due to unavailability of RCD from 2017 onwards. This reduction is significant in 2022. Although a slight increase of number is recorded in 2023, proportionally a slight decrease is still observed in 2023. Establishment of necessary regulations relevant to RCD could be a major reason for this reduction.

## 11.1 Province & Police Division Wise Analysis

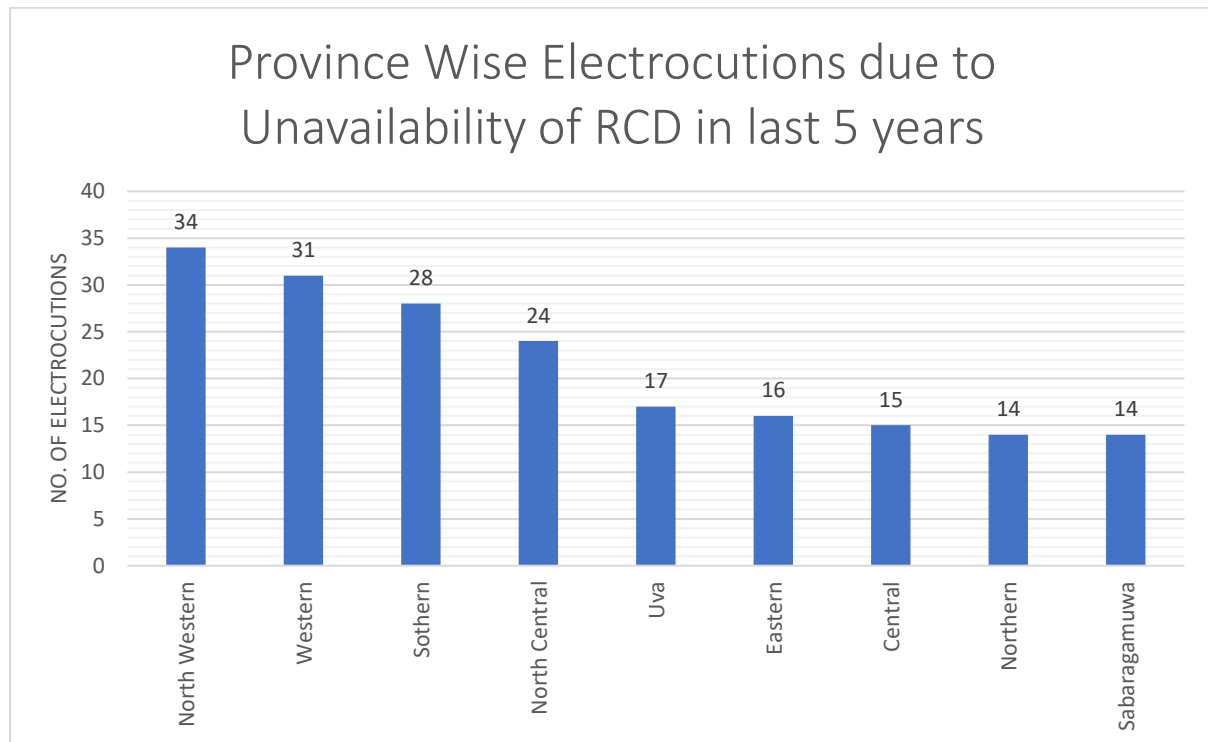


Figure 25: Province-wise Electrocutions due to unavailability of RCD in last 5 years

As per figure 25, nearly 35% of the electrocutions due to unavailability of RCD in last 5 years has been occurred in North Western & Western Provinces.

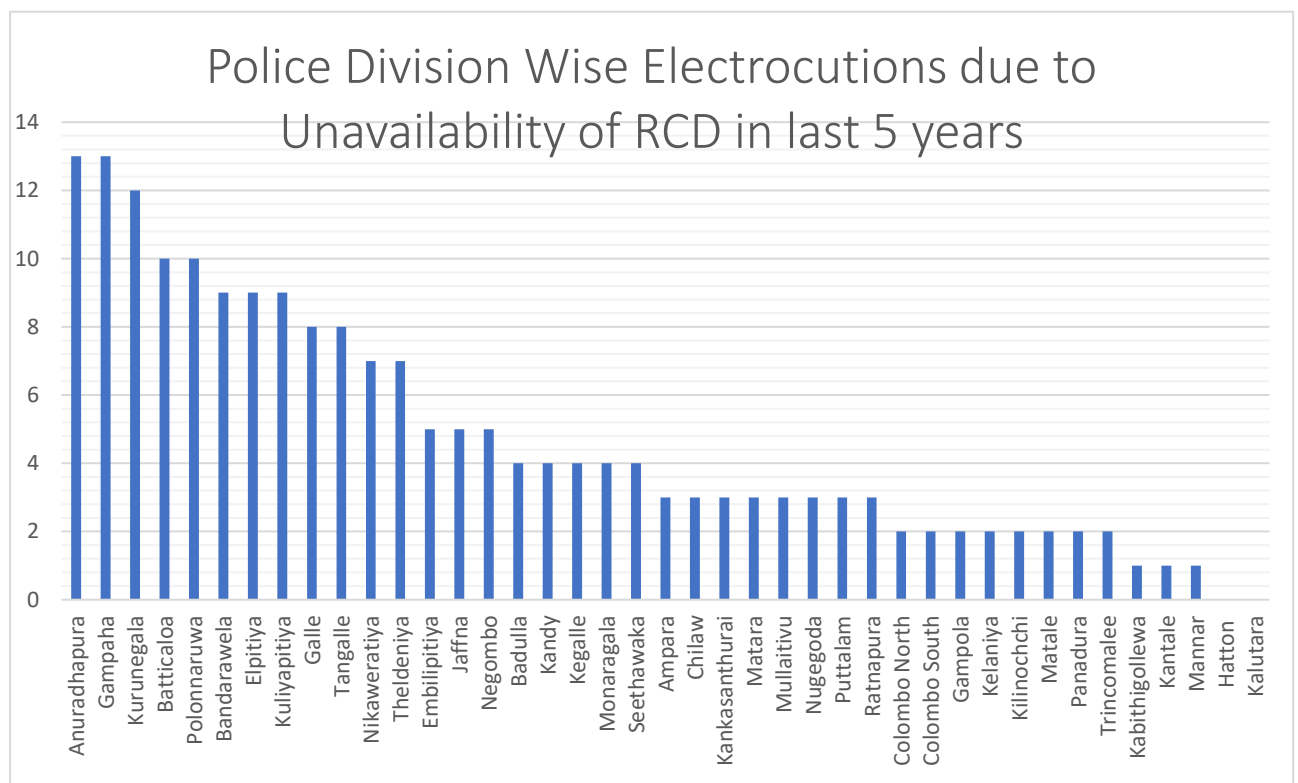


Figure 26: Police Division wise Electrocutions due to unavailability of RCD in last 5 years

As per figure 26, 20% of electrocutions due to unavailability of RCD in last 5 years have been reported in Anuradhapura, Gampaha & Kurunegala. Specially Gampaha Police Division has recorded an alarming increase of electrocutions due to unavailability & malfunctioning of RCD in 2023.