

Security Report May 2023

```
In [2]: import numpy as np
import pandas as pd
import matplotlib.pyplot as plt
import seaborn as sns
```

Loading data from Excel

```
In [3]: rep= pd.read_excel('Desktop/Security Report 2023.xlsx', 'May Raw Data')
```

```
In [4]: rep
```

Out[4]:

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|----|----------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|----------|--------------|-------|
| 0 | Adamawa | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Adamawa | North East | 1 |
| 1 | Bauchi | 14.0 | 11.0 | 0.0 | 0.0 | 8.0 | 14.0 | 19.0 | 0.0 | 33 | Bauchi | North East | 33 |
| 2 | Borno | 0.0 | 13.0 | 3.0 | 41.0 | 3.0 | 58.0 | 0.0 | 2.0 | 60 | Borno | North East | 60 |
| 3 | Gombe | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Gombe | North East | 0 |
| 4 | Taraba | 0.0 | 14.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 20.0 | 20 | Taraba | North East | 20 |
| 5 | Yobe | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Yobe | North East | 0 |
| 6 | Jigawa | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Jigawa | North West | 0 |
| 7 | Kaduna | 2.0 | 1.0 | 11.0 | 4.0 | 4.0 | 18.0 | 0.0 | 4.0 | 22 | Kaduna | North West | 22 |
| 8 | Kano | 1.0 | 0.0 | 0.0 | 6.0 | 18.0 | 0.0 | 18.0 | 7.0 | 25 | Kano | North West | 25 |
| 9 | Katsina | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2 | Katsina | North West | 2 |
| 10 | Kebbi | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 40.0 | 0.0 | 0.0 | 40 | Kebbi | North West | 40 |
| 11 | Sokoto | 0.0 | 0.0 | 0.0 | 5.0 | 55.0 | 55.0 | 5.0 | 0.0 | 60 | Sokoto | North West | 60 |
| 12 | Zamfara | 6.0 | 8.0 | 28.0 | 22.0 | 76.0 | 132.0 | 8.0 | 0.0 | 140 | Zamfara | North West | 140 |
| 13 | Benue | 2.0 | 18.0 | 6.0 | 18.0 | 46.0 | 81.0 | 0.0 | 9.0 | 90 | Benue | North Cental | 90 |
| 14 | Kogi | 3.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 7.0 | 1.0 | 8 | Kogi | North Cental | 8 |
| 15 | Kwara | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Kwara | North Cental | 1 |
| 16 | Nassarwa | 1.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 5 | Nassarwa | North Cental | 5 |
| 17 | Niger | 24.0 | 1.0 | 0.0 | 0.0 | 0.0 | 24.0 | 0.0 | 1.0 | 25 | Niger | North Cental | 25 |
| 18 | Plateau | 2.0 | 2.0 | 87.0 | 8.0 | 0.0 | 90.0 | 0.0 | 9.0 | 99 | Plateau | North Cental | 99 |
| 19 | FCT | 1.0 | 1.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 4 | FCT | North Cental | 4 |
| 20 | Abia | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Abia | South East | 1 |
| 21 | Anambra | 3.0 | 13.0 | 14.0 | 0.0 | 0.0 | 0.0 | 1.0 | 29.0 | 30 | Anambra | South East | 30 |
| 22 | Ebonyi | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 6.0 | 6 | Ebonyi | South East | 6 |
| 23 | Enugu | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Enugu | South East | 0 |

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|----|--------------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|--------------|-------------|-------|
| 24 | Imo | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 1.0 | 0.0 | 2.0 | 3 | Imo | South East | 3 |
| 25 | Ekiti | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4 | Ekiti | South West | 4 |
| 26 | Lagos | 2.0 | 1.0 | 0.0 | 1.0 | 3.0 | 0.0 | 2.0 | 5.0 | 7 | Lagos | South West | 7 |
| 27 | Ogun | 10.0 | 0.0 | 0.0 | 0.0 | 7.0 | 0.0 | 9.0 | 8.0 | 17 | Ogun | South West | 17 |
| 28 | Ondo | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 4 | Ondo | South West | 4 |
| 29 | Osun | 3.0 | 0.0 | 12.0 | 0.0 | 0.0 | 0.0 | 12.0 | 3.0 | 15 | Osun | South West | 15 |
| 30 | Oyo | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 4.0 | 6 | Oyo | South West | 6 |
| 31 | Akwa Ibom | 0.0 | 16.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.0 | 16 | Akwa Ibom | South South | 16 |
| 32 | Bayelsa | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3 | Bayelsa | South South | 3 |
| 33 | Cross Rivers | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Cross Rivers | South South | 0 |
| 34 | Delta | 1.0 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 0.0 | 7.0 | 7 | Delta | South South | 7 |
| 35 | Edo | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Edo | South South | 0 |
| 36 | Rivers | 1.0 | 2.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 17.0 | 17 | Rivers | South South | 17 |
| 37 | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | NaN | 771 | NaN | NaN | 771 |

Cleaning Data

```
In [ ]: rep1=rep.drop([37])
```

```
In [6]: rep1
```

Out[6]:

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|----|----------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|----------|--------------|-------|
| 0 | Adamawa | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Adamawa | North East | 1 |
| 1 | Bauchi | 14.0 | 11.0 | 0.0 | 0.0 | 8.0 | 14.0 | 19.0 | 0.0 | 33 | Bauchi | North East | 33 |
| 2 | Borno | 0.0 | 13.0 | 3.0 | 41.0 | 3.0 | 58.0 | 0.0 | 2.0 | 60 | Borno | North East | 60 |
| 3 | Gombe | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Gombe | North East | 0 |
| 4 | Taraba | 0.0 | 14.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 20.0 | 20 | Taraba | North East | 20 |
| 5 | Yobe | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Yobe | North East | 0 |
| 6 | Jigawa | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Jigawa | North West | 0 |
| 7 | Kaduna | 2.0 | 1.0 | 11.0 | 4.0 | 4.0 | 18.0 | 0.0 | 4.0 | 22 | Kaduna | North West | 22 |
| 8 | Kano | 1.0 | 0.0 | 0.0 | 6.0 | 18.0 | 0.0 | 18.0 | 7.0 | 25 | Kano | North West | 25 |
| 9 | Katsina | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2 | Katsina | North West | 2 |
| 10 | Kebbi | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 40.0 | 0.0 | 0.0 | 40 | Kebbi | North West | 40 |
| 11 | Sokoto | 0.0 | 0.0 | 0.0 | 5.0 | 55.0 | 55.0 | 5.0 | 0.0 | 60 | Sokoto | North West | 60 |
| 12 | Zamfara | 6.0 | 8.0 | 28.0 | 22.0 | 76.0 | 132.0 | 8.0 | 0.0 | 140 | Zamfara | North West | 140 |
| 13 | Benue | 2.0 | 18.0 | 6.0 | 18.0 | 46.0 | 81.0 | 0.0 | 9.0 | 90 | Benue | North Cental | 90 |
| 14 | Kogi | 3.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 7.0 | 1.0 | 8 | Kogi | North Cental | 8 |
| 15 | Kwara | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Kwara | North Cental | 1 |
| 16 | Nassarwa | 1.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 5 | Nassarwa | North Cental | 5 |
| 17 | Niger | 24.0 | 1.0 | 0.0 | 0.0 | 0.0 | 24.0 | 0.0 | 1.0 | 25 | Niger | North Cental | 25 |
| 18 | Plateau | 2.0 | 2.0 | 87.0 | 8.0 | 0.0 | 90.0 | 0.0 | 9.0 | 99 | Plateau | North Cental | 99 |
| 19 | FCT | 1.0 | 1.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 4 | FCT | North Cental | 4 |
| 20 | Abia | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Abia | South East | 1 |
| 21 | Anambra | 3.0 | 13.0 | 14.0 | 0.0 | 0.0 | 0.0 | 1.0 | 29.0 | 30 | Anambra | South East | 30 |
| 22 | Ebonyi | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 6.0 | 6 | Ebonyi | South East | 6 |
| 23 | Enugu | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Enugu | South East | 0 |

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|----|--------------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|--------------|-------------|-------|
| 24 | Imo | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 1.0 | 0.0 | 2.0 | 3 | Imo | South East | 3 |
| 25 | Ekiti | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4 | Ekiti | South West | 4 |
| 26 | Lagos | 2.0 | 1.0 | 0.0 | 1.0 | 3.0 | 0.0 | 2.0 | 5.0 | 7 | Lagos | South West | 7 |
| 27 | Ogun | 10.0 | 0.0 | 0.0 | 0.0 | 7.0 | 0.0 | 9.0 | 8.0 | 17 | Ogun | South West | 17 |
| 28 | Ondo | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 4 | Ondo | South West | 4 |
| 29 | Osun | 3.0 | 0.0 | 12.0 | 0.0 | 0.0 | 0.0 | 12.0 | 3.0 | 15 | Osun | South West | 15 |
| 30 | Oyo | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 4.0 | 6 | Oyo | South West | 6 |
| 31 | Akwa Ibom | 0.0 | 16.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.0 | 16 | Akwa Ibom | South South | 16 |
| 32 | Bayelsa | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3 | Bayelsa | South South | 3 |
| 33 | Cross Rivers | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Cross Rivers | South South | 0 |
| 34 | Delta | 1.0 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 0.0 | 7.0 | 7 | Delta | South South | 7 |
| 35 | Edo | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Edo | South South | 0 |
| 36 | Rivers | 1.0 | 2.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 17.0 | 17 | Rivers | South South | 17 |

```
In [7]: rep1.index = np.arange(1, len(rep1) + 1)
```

```
In [8]: rep1.index.names = ['S/N']
```

```
In [9]: rep1
```

Out[9]:

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|-----|----------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|----------|--------------|-------|
| S/N | | | | | | | | | | | | | |
| 1 | Adamawa | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Adamawa | North East | 1 |
| 2 | Bauchi | 14.0 | 11.0 | 0.0 | 0.0 | 8.0 | 14.0 | 19.0 | 0.0 | 33 | Bauchi | North East | 33 |
| 3 | Borno | 0.0 | 13.0 | 3.0 | 41.0 | 3.0 | 58.0 | 0.0 | 2.0 | 60 | Borno | North East | 60 |
| 4 | Gombe | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Gombe | North East | 0 |
| 5 | Taraba | 0.0 | 14.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 20.0 | 20 | Taraba | North East | 20 |
| 6 | Yobe | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Yobe | North East | 0 |
| 7 | Jigawa | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Jigawa | North West | 0 |
| 8 | Kaduna | 2.0 | 1.0 | 11.0 | 4.0 | 4.0 | 18.0 | 0.0 | 4.0 | 22 | Kaduna | North West | 22 |
| 9 | Kano | 1.0 | 0.0 | 0.0 | 6.0 | 18.0 | 0.0 | 18.0 | 7.0 | 25 | Kano | North West | 25 |
| 10 | Katsina | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2 | Katsina | North West | 2 |
| 11 | Kebbi | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 40.0 | 0.0 | 0.0 | 40 | Kebbi | North West | 40 |
| 12 | Sokoto | 0.0 | 0.0 | 0.0 | 5.0 | 55.0 | 55.0 | 5.0 | 0.0 | 60 | Sokoto | North West | 60 |
| 13 | Zamfara | 6.0 | 8.0 | 28.0 | 22.0 | 76.0 | 132.0 | 8.0 | 0.0 | 140 | Zamfara | North West | 140 |
| 14 | Benue | 2.0 | 18.0 | 6.0 | 18.0 | 46.0 | 81.0 | 0.0 | 9.0 | 90 | Benue | North Cental | 90 |
| 15 | Kogi | 3.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 7.0 | 1.0 | 8 | Kogi | North Cental | 8 |
| 16 | Kwara | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Kwara | North Cental | 1 |
| 17 | Nassarwa | 1.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 5 | Nassarwa | North Cental | 5 |
| 18 | Niger | 24.0 | 1.0 | 0.0 | 0.0 | 0.0 | 24.0 | 0.0 | 1.0 | 25 | Niger | North Cental | 25 |
| 19 | Plateau | 2.0 | 2.0 | 87.0 | 8.0 | 0.0 | 90.0 | 0.0 | 9.0 | 99 | Plateau | North Cental | 99 |
| 20 | FCT | 1.0 | 1.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 4 | FCT | North Cental | 4 |
| 21 | Abia | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Abia | South East | 1 |
| 22 | Anambra | 3.0 | 13.0 | 14.0 | 0.0 | 0.0 | 0.0 | 1.0 | 29.0 | 30 | Anambra | South East | 30 |
| 23 | Ebonyi | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 6.0 | 6 | Ebonyi | South East | 6 |

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|-----|--------------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|--------------|-------------|-------|
| S/N | | | | | | | | | | | | | |
| 24 | Enugu | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Enugu | South East | 0 |
| 25 | Imo | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 1.0 | 0.0 | 2.0 | 3 | Imo | South East | 3 |
| 26 | Ekiti | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4 | Ekiti | South West | 4 |
| 27 | Lagos | 2.0 | 1.0 | 0.0 | 1.0 | 3.0 | 0.0 | 2.0 | 5.0 | 7 | Lagos | South West | 7 |
| 28 | Ogun | 10.0 | 0.0 | 0.0 | 0.0 | 7.0 | 0.0 | 9.0 | 8.0 | 17 | Ogun | South West | 17 |
| 29 | Ondo | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 4 | Ondo | South West | 4 |
| 30 | Osun | 3.0 | 0.0 | 12.0 | 0.0 | 0.0 | 0.0 | 12.0 | 3.0 | 15 | Osun | South West | 15 |
| 31 | Oyo | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 4.0 | 6 | Oyo | South West | 6 |
| 32 | Akwa Ibom | 0.0 | 16.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.0 | 16 | Akwa Ibom | South South | 16 |
| 33 | Bayelsa | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3 | Bayelsa | South South | 3 |
| 34 | Cross Rivers | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Cross Rivers | South South | 0 |
| 35 | Delta | 1.0 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 0.0 | 7.0 | 7 | Delta | South South | 7 |
| 36 | Edo | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0 | Edo | South South | 0 |
| 37 | Rivers | 1.0 | 2.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 17.0 | 17 | Rivers | South South | 17 |

```
In [16]: rep2=rep1[rep1.Total> 0]
rep2
```

Out[16]:

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|-----|----------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|----------|--------------|-------|
| S/N | | | | | | | | | | | | | |
| 1 | Adamawa | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Adamawa | North East | 1 |
| 2 | Bauchi | 14.0 | 11.0 | 0.0 | 0.0 | 8.0 | 14.0 | 19.0 | 0.0 | 33 | Bauchi | North East | 33 |
| 3 | Borno | 0.0 | 13.0 | 3.0 | 41.0 | 3.0 | 58.0 | 0.0 | 2.0 | 60 | Borno | North East | 60 |
| 5 | Taraba | 0.0 | 14.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 20.0 | 20 | Taraba | North East | 20 |
| 8 | Kaduna | 2.0 | 1.0 | 11.0 | 4.0 | 4.0 | 18.0 | 0.0 | 4.0 | 22 | Kaduna | North West | 22 |
| 9 | Kano | 1.0 | 0.0 | 0.0 | 6.0 | 18.0 | 0.0 | 18.0 | 7.0 | 25 | Kano | North West | 25 |
| 10 | Katsina | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 | 2.0 | 0.0 | 0.0 | 2 | Katsina | North West | 2 |
| 11 | Kebbi | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 | 40.0 | 0.0 | 0.0 | 40 | Kebbi | North West | 40 |
| 12 | Sokoto | 0.0 | 0.0 | 0.0 | 5.0 | 55.0 | 55.0 | 5.0 | 0.0 | 60 | Sokoto | North West | 60 |
| 13 | Zamfara | 6.0 | 8.0 | 28.0 | 22.0 | 76.0 | 132.0 | 8.0 | 0.0 | 140 | Zamfara | North West | 140 |
| 14 | Benue | 2.0 | 18.0 | 6.0 | 18.0 | 46.0 | 81.0 | 0.0 | 9.0 | 90 | Benue | North Cental | 90 |
| 15 | Kogi | 3.0 | 0.0 | 0.0 | 5.0 | 0.0 | 0.0 | 7.0 | 1.0 | 8 | Kogi | North Cental | 8 |
| 16 | Kwara | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Kwara | North Cental | 1 |
| 17 | Nassarwa | 1.0 | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 5.0 | 5 | Nassarwa | North Cental | 5 |
| 18 | Niger | 24.0 | 1.0 | 0.0 | 0.0 | 0.0 | 24.0 | 0.0 | 1.0 | 25 | Niger | North Cental | 25 |
| 19 | Plateau | 2.0 | 2.0 | 87.0 | 8.0 | 0.0 | 90.0 | 0.0 | 9.0 | 99 | Plateau | North Cental | 99 |
| 20 | FCT | 1.0 | 1.0 | 2.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 4 | FCT | North Cental | 4 |
| 21 | Abia | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 1 | Abia | South East | 1 |
| 22 | Anambra | 3.0 | 13.0 | 14.0 | 0.0 | 0.0 | 0.0 | 1.0 | 29.0 | 30 | Anambra | South East | 30 |
| 23 | Ebonyi | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 | 0.0 | 0.0 | 6.0 | 6 | Ebonyi | South East | 6 |
| 25 | Imo | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 | 1.0 | 0.0 | 2.0 | 3 | Imo | South East | 3 |
| 26 | Ekiti | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 4.0 | 0.0 | 4 | Ekiti | South West | 4 |
| 27 | Lagos | 2.0 | 1.0 | 0.0 | 1.0 | 3.0 | 0.0 | 2.0 | 5.0 | 7 | Lagos | South West | 7 |

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 | Insurgency | Accidents | Unrelated to insurgency | Total | Regions2 | Zones | Total |
|-----|-----------|--------|--------|--------|--------|--------|------------|-----------|-------------------------|-------|-----------|-------------|-------|
| S/N | | | | | | | | | | | | | |
| 28 | Ogun | 10.0 | 0.0 | 0.0 | 0.0 | 7.0 | 0.0 | 9.0 | 8.0 | 17 | Ogun | South West | 17 |
| 29 | Ondo | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 | 1.0 | 3.0 | 4 | Ondo | South West | 4 |
| 30 | Osun | 3.0 | 0.0 | 12.0 | 0.0 | 0.0 | 0.0 | 12.0 | 3.0 | 15 | Osun | South West | 15 |
| 31 | Oyo | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 | 0.0 | 2.0 | 4.0 | 6 | Oyo | South West | 6 |
| 32 | Akwa Ibom | 0.0 | 16.0 | 0.0 | 0.0 | 0.0 | 0.0 | 0.0 | 16.0 | 16 | Akwa Ibom | South South | 16 |
| 33 | Bayelsa | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 | 0.0 | 3.0 | 0.0 | 3 | Bayelsa | South South | 3 |
| 35 | Delta | 1.0 | 0.0 | 4.0 | 0.0 | 2.0 | 0.0 | 0.0 | 7.0 | 7 | Delta | South South | 7 |
| 37 | Rivers | 1.0 | 2.0 | 0.0 | 0.0 | 14.0 | 0.0 | 0.0 | 17.0 | 17 | Rivers | South South | 17 |

```
In [15]: rep4=rep2.loc[:, rep2.columns.drop(['Insurgency', 'Accidents ', 'Unrelated to insurgency', 'Total', 'Regions2', 'Zones ', 'Total'],
rep4
```

Out[15]:

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 |
|-----|----------|--------|--------|--------|--------|--------|
| S/N | | | | | | |
| 1 | Adamawa | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 2 | Bauchi | 14.0 | 11.0 | 0.0 | 0.0 | 8.0 |
| 3 | Borno | 0.0 | 13.0 | 3.0 | 41.0 | 3.0 |
| 5 | Taraba | 0.0 | 14.0 | 0.0 | 6.0 | 0.0 |
| 8 | Kaduna | 2.0 | 1.0 | 11.0 | 4.0 | 4.0 |
| 9 | Kano | 1.0 | 0.0 | 0.0 | 6.0 | 18.0 |
| 10 | Katsina | 0.0 | 0.0 | 0.0 | 0.0 | 2.0 |
| 11 | Kebbi | 40.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 12 | Sokoto | 0.0 | 0.0 | 0.0 | 5.0 | 55.0 |
| 13 | Zamfara | 6.0 | 8.0 | 28.0 | 22.0 | 76.0 |
| 14 | Benue | 2.0 | 18.0 | 6.0 | 18.0 | 46.0 |
| 15 | Kogi | 3.0 | 0.0 | 0.0 | 5.0 | 0.0 |
| 16 | Kwara | 0.0 | 0.0 | 1.0 | 0.0 | 0.0 |
| 17 | Nassarwa | 1.0 | 0.0 | 4.0 | 0.0 | 0.0 |
| 18 | Niger | 24.0 | 1.0 | 0.0 | 0.0 | 0.0 |
| 19 | Plateau | 2.0 | 2.0 | 87.0 | 8.0 | 0.0 |
| 20 | FCT | 1.0 | 1.0 | 2.0 | 0.0 | 0.0 |
| 21 | Abia | 1.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 22 | Anambra | 3.0 | 13.0 | 14.0 | 0.0 | 0.0 |
| 23 | Ebonyi | 0.0 | 0.0 | 0.0 | 6.0 | 0.0 |
| 25 | Imo | 0.0 | 0.0 | 3.0 | 0.0 | 0.0 |
| 26 | Ekiti | 4.0 | 0.0 | 0.0 | 0.0 | 0.0 |
| 27 | Lagos | 2.0 | 1.0 | 0.0 | 1.0 | 3.0 |

| | Regions | week 1 | week 2 | week 3 | week 4 | week 5 |
|-----|-----------|--------|--------|--------|--------|--------|
| S/N | | | | | | |
| 28 | Ogun | 10.0 | 0.0 | 0.0 | 0.0 | 7.0 |
| 29 | Ondo | 0.0 | 4.0 | 0.0 | 0.0 | 0.0 |
| 30 | Osun | 3.0 | 0.0 | 12.0 | 0.0 | 0.0 |
| 31 | Oyo | 2.0 | 2.0 | 0.0 | 2.0 | 0.0 |
| 32 | Akwa Ibom | 0.0 | 16.0 | 0.0 | 0.0 | 0.0 |
| 33 | Bayelsa | 0.0 | 3.0 | 0.0 | 0.0 | 0.0 |
| 35 | Delta | 1.0 | 0.0 | 4.0 | 0.0 | 2.0 |
| 37 | Rivers | 1.0 | 2.0 | 0.0 | 0.0 | 14.0 |

```
In [25]: rep6=rep2.loc[:, rep2.columns.drop(['Regions ', 'week 1', 'week 2', 'week 3', 'week 4', 'week 5', 'Total', 'Zones ', 'Total', 'Total'])
rep6
```

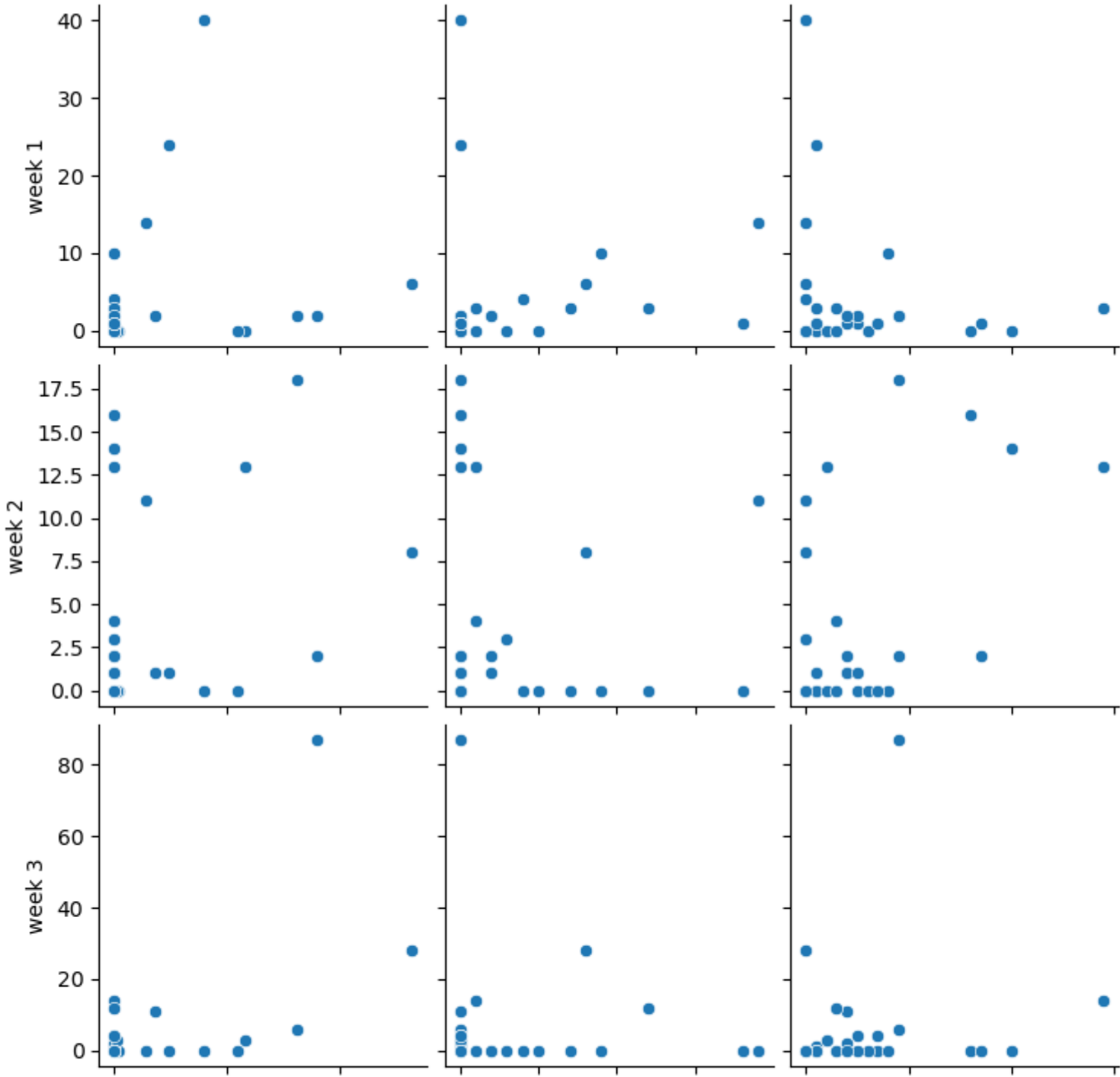
Out[25]:

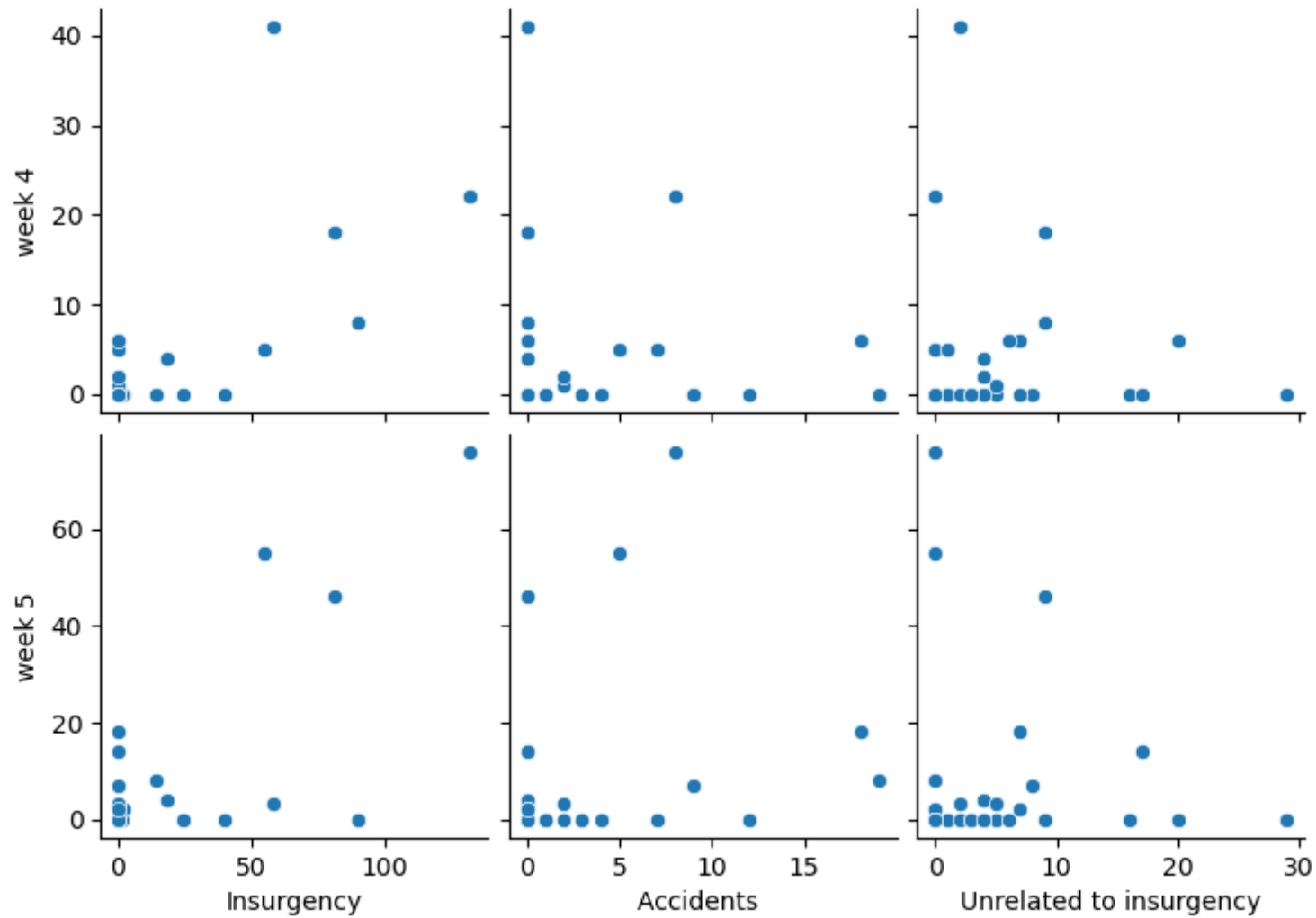
| | Insurgency | Accidents | Unrelated to insurgency | Regions2 |
|-----|------------|-----------|-------------------------|----------|
| S/N | | | | |
| 1 | 0.0 | 0.0 | 1.0 | Adamawa |
| 2 | 14.0 | 19.0 | 0.0 | Bauchi |
| 3 | 58.0 | 0.0 | 2.0 | Borno |
| 5 | 0.0 | 0.0 | 20.0 | Taraba |
| 8 | 18.0 | 0.0 | 4.0 | Kaduna |
| 9 | 0.0 | 18.0 | 7.0 | Kano |
| 10 | 2.0 | 0.0 | 0.0 | Katsina |
| 11 | 40.0 | 0.0 | 0.0 | Kebbi |
| 12 | 55.0 | 5.0 | 0.0 | Sokoto |
| 13 | 132.0 | 8.0 | 0.0 | Zamfara |
| 14 | 81.0 | 0.0 | 9.0 | Benue |
| 15 | 0.0 | 7.0 | 1.0 | Kogi |
| 16 | 0.0 | 0.0 | 1.0 | Kwara |
| 17 | 0.0 | 0.0 | 5.0 | Nassarwa |
| 18 | 24.0 | 0.0 | 1.0 | Niger |
| 19 | 90.0 | 0.0 | 9.0 | Plateau |
| 20 | 0.0 | 0.0 | 4.0 | FCT |
| 21 | 0.0 | 0.0 | 1.0 | Abia |
| 22 | 0.0 | 1.0 | 29.0 | Anambra |
| 23 | 0.0 | 0.0 | 6.0 | Ebonyi |
| 25 | 1.0 | 0.0 | 2.0 | Imo |
| 26 | 0.0 | 4.0 | 0.0 | Ekiti |
| 27 | 0.0 | 2.0 | 5.0 | Lagos |

| | Insurgency | Accidents | Unrelated to insurgency | Regions2 |
|-----|------------|-----------|-------------------------|-----------|
| S/N | | | | |
| 28 | 0.0 | 9.0 | 8.0 | Ogun |
| 29 | 0.0 | 1.0 | 3.0 | Ondo |
| 30 | 0.0 | 12.0 | 3.0 | Osun |
| 31 | 0.0 | 2.0 | 4.0 | Oyo |
| 32 | 0.0 | 0.0 | 16.0 | Akwa Ibom |
| 33 | 0.0 | 3.0 | 0.0 | Bayelsa |
| 35 | 0.0 | 0.0 | 7.0 | Delta |
| 37 | 0.0 | 0.0 | 17.0 | Rivers |

Data Visualization

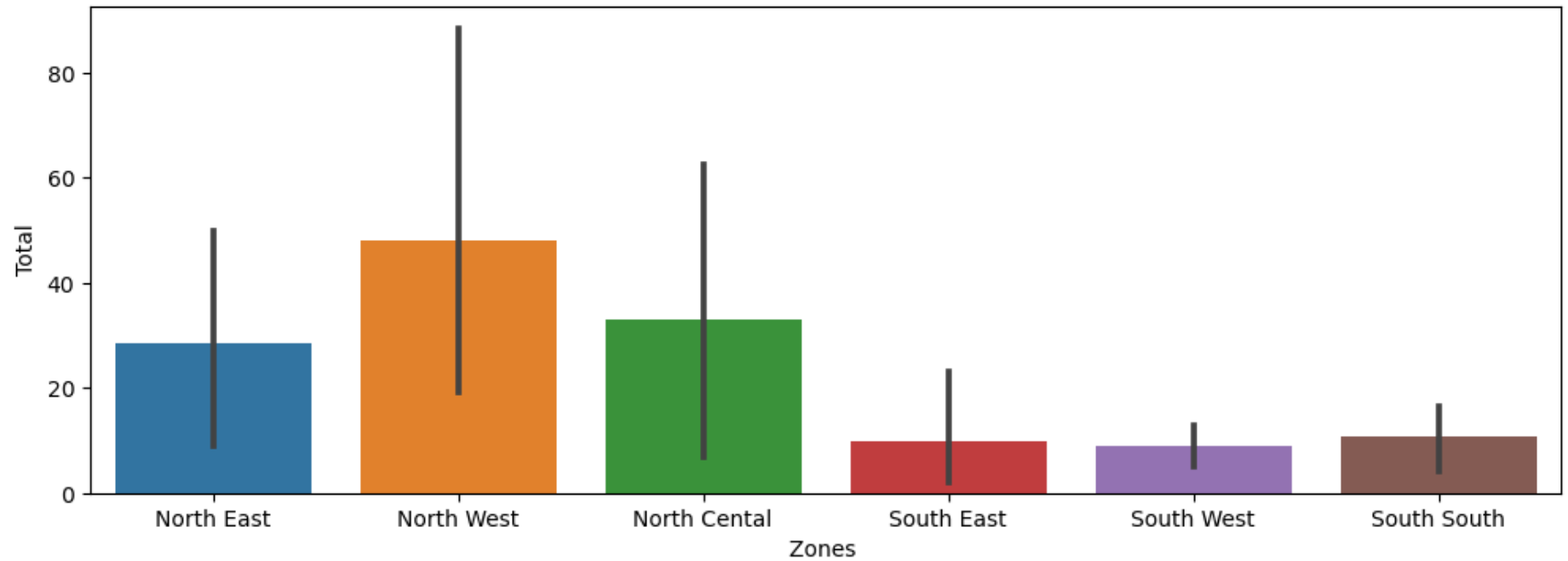
```
In [18]: sns.pairplot(data=rep2, x_vars=['Insurgency', 'Accidents ', 'Unrelated to insurgency'], y_vars= ['week 1', 'week 2', 'week 3', 'week 4'])
Out[18]: <seaborn.axisgrid.PairGrid at 0x1b170494d50>
```





```
In [19]: plt.figure(figsize=(12, 4))  
sns.barplot(x='Zones ', y='Total', data=rep2)
```

```
Out[19]: <Axes: xlabel='Zones ', ylabel='Total'>
```



```
In [20]: g=sns.FacetGrid(rep2, col='Zones ')\ng.map(sns.barplot, 'Total', order=True, ci=None)\nplt.show()
```


C:\New folder\envs\business\Lib\site-packages\seaborn\axisgrid.py:848: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

```
func(*plot_args, **plot_kwargs)
```

C:\New folder\envs\business\Lib\site-packages\seaborn\axisgrid.py:848: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

```
func(*plot_args, **plot_kwargs)
```

C:\New folder\envs\business\Lib\site-packages\seaborn\axisgrid.py:848: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

```
func(*plot_args, **plot_kwargs)
```

C:\New folder\envs\business\Lib\site-packages\seaborn\axisgrid.py:848: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

```
func(*plot_args, **plot_kwargs)
```

C:\New folder\envs\business\Lib\site-packages\seaborn\axisgrid.py:848: FutureWarning:

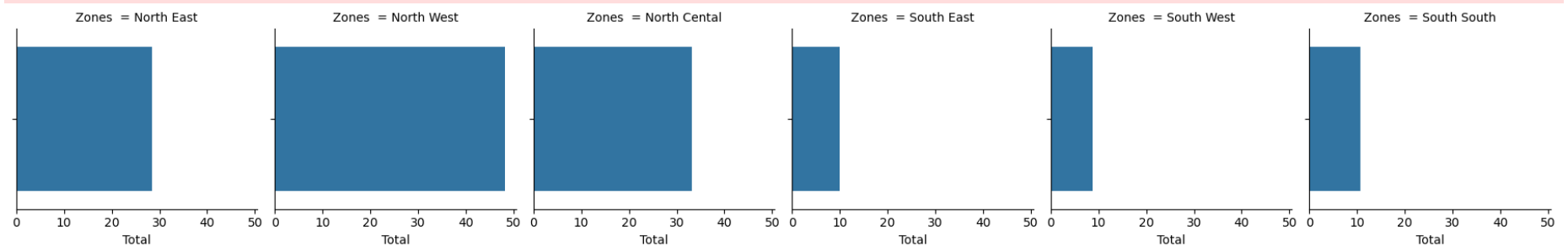
The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

```
func(*plot_args, **plot_kwargs)
```

C:\New folder\envs\business\Lib\site-packages\seaborn\axisgrid.py:848: FutureWarning:

The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.

```
func(*plot_args, **plot_kwargs)
```



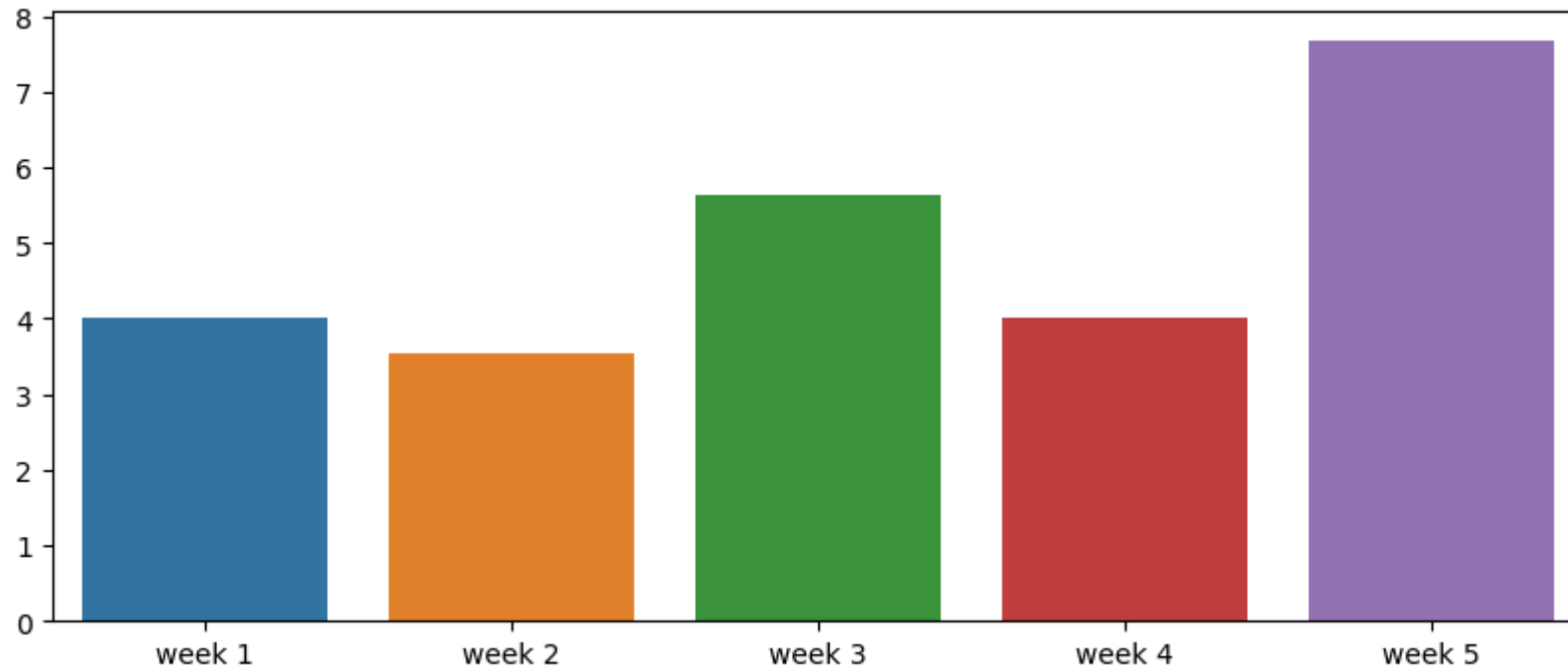
```
In [21]: plt.figure(figsize=(10, 4))
sns.barplot(data=rep4, ci=None)
```

```
C:\conda_tmp\ipykernel_13220\4169798834.py:2: FutureWarning:
```

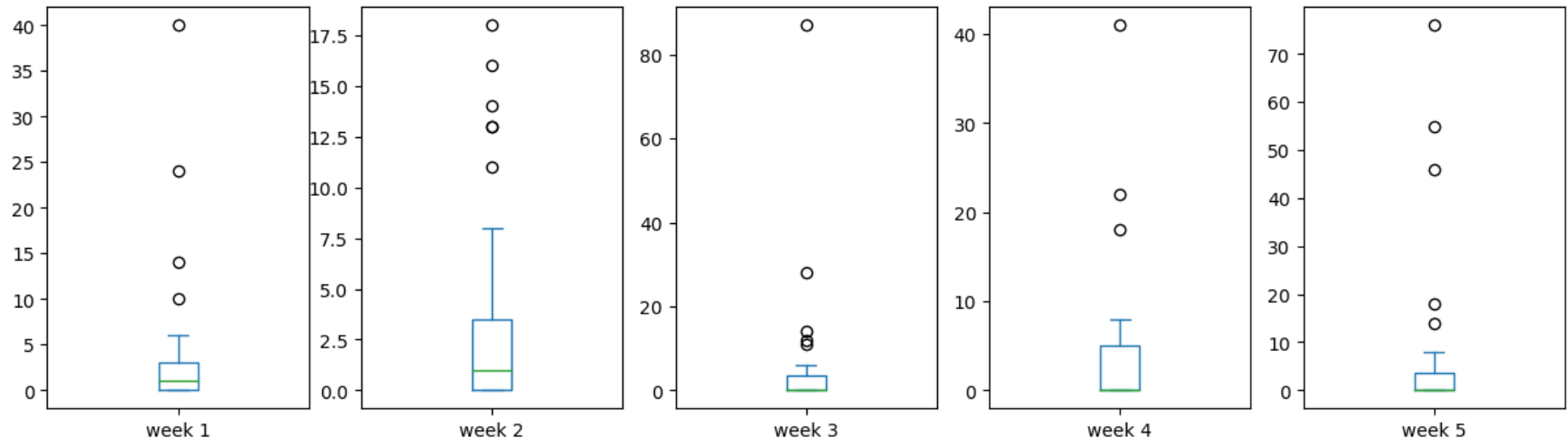
```
The `ci` parameter is deprecated. Use `errorbar=None` for the same effect.
```

```
sns.barplot(data=rep4, ci=None)
```

```
Out[21]: <Axes: >
```

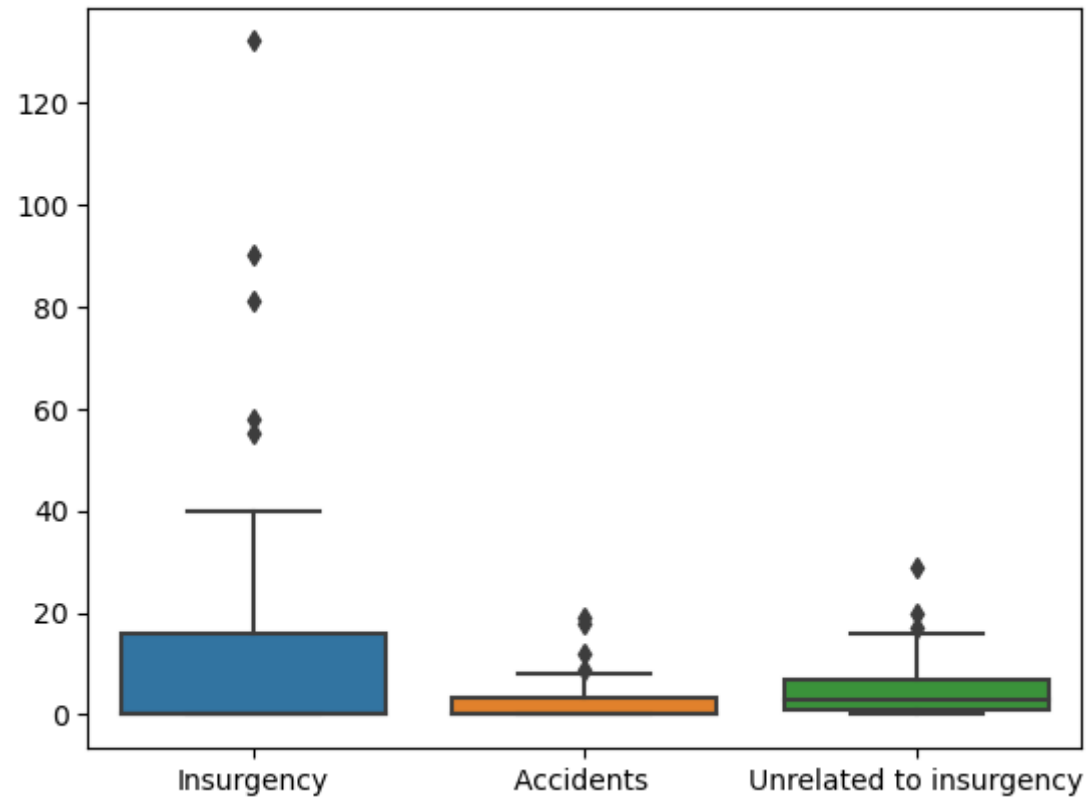


```
In [22]: boxplot_cols=['week 1', 'week 2', 'week 3', 'week 4', 'week 5']  
rep4[boxplot_cols].plot(kind='box', subplots=True, layout=(1,5), figsize=(15,4))  
plt.show()
```

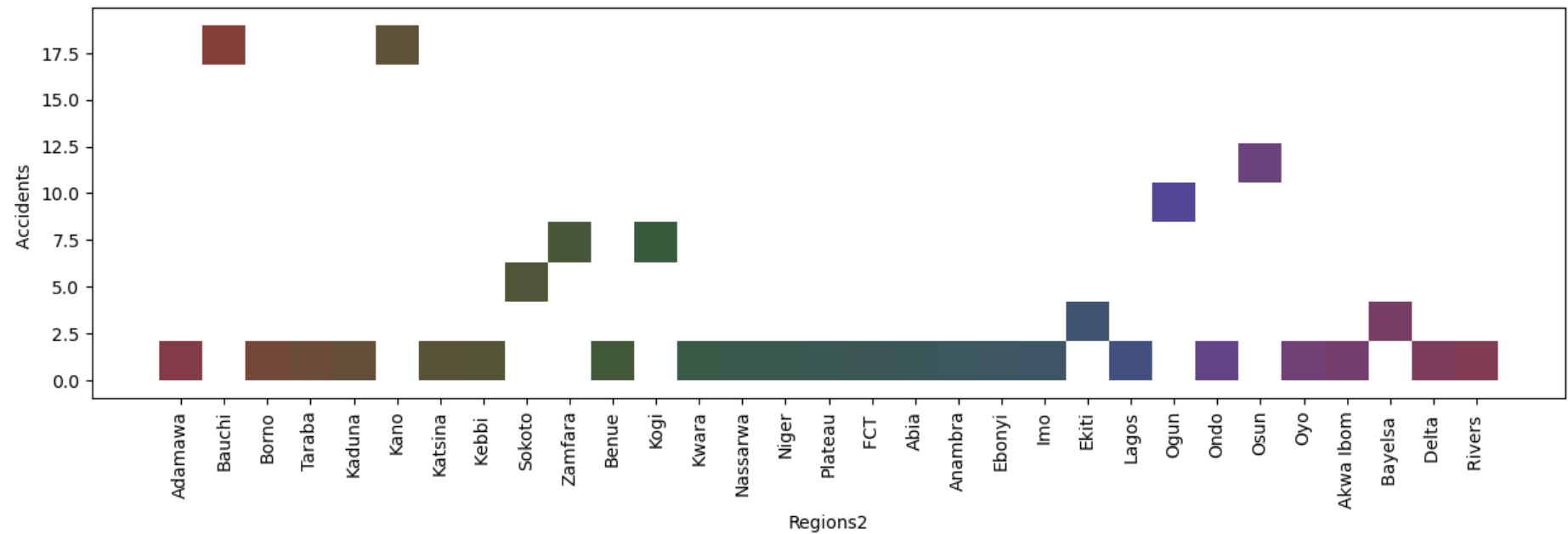


```
In [26]: sns.boxplot(data=rep6)
```

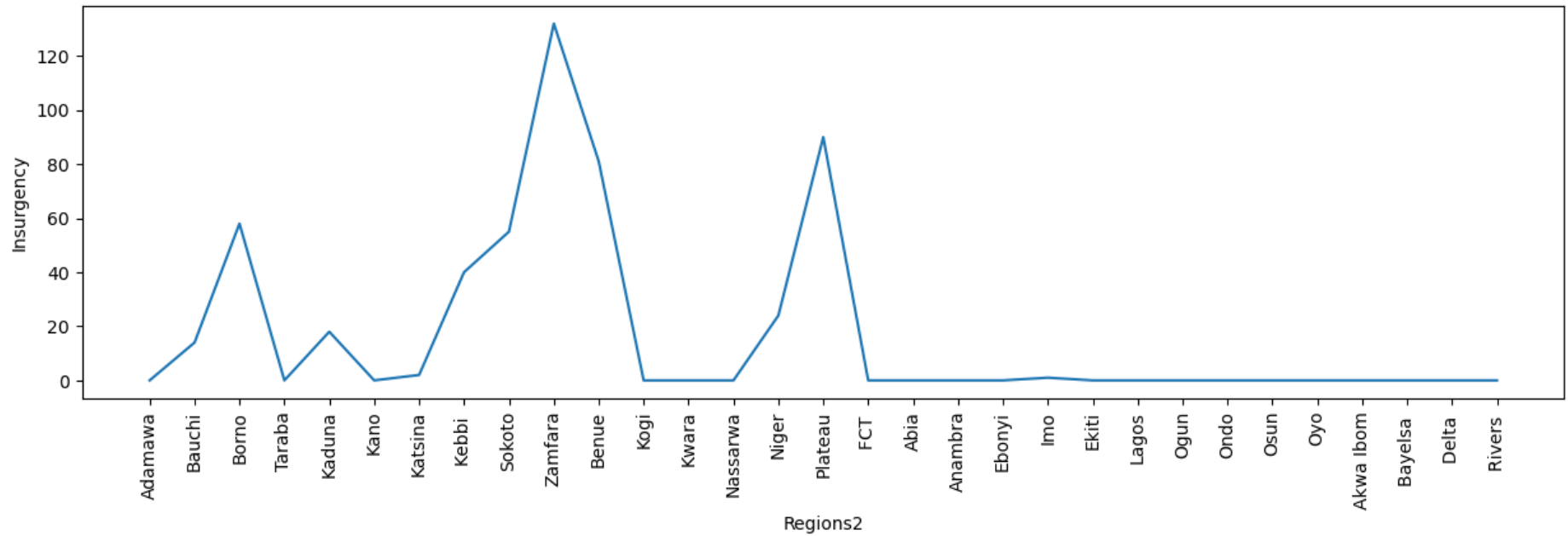
```
Out[26]: <Axes: >
```



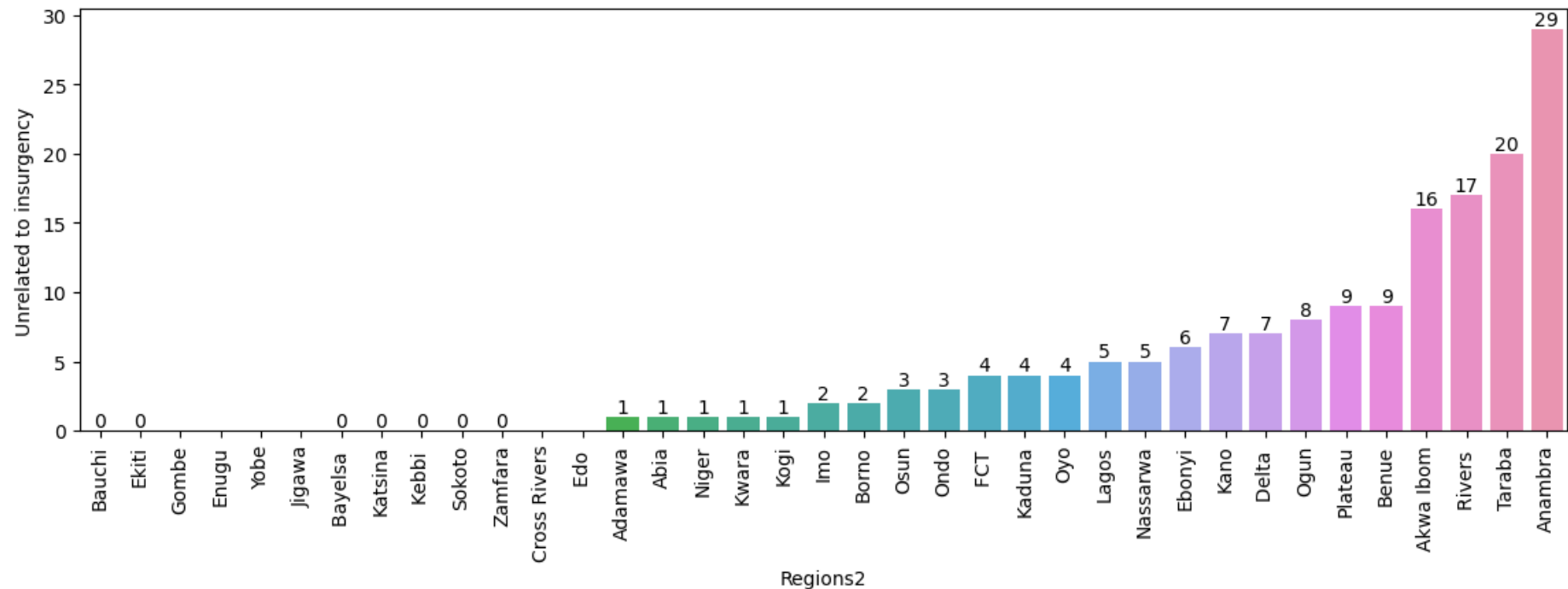
```
In [27]: plt.figure(figsize=(15,4))
sns.histplot(x= 'Regions2', y='Accidents ', data=rep6, hue='Regions2', legend=False)
plt.xticks(rotation =90)
plt.show()
```



```
In [28]: plt.figure(figsize=(15,4))
sns.lineplot(x= 'Regions2', y='Insurgency', data=rep6)
plt.xticks(rotation =90)
plt.show()
```



```
In [30]: plt.figure(figsize=(14,4))
ax=sns.barplot(x='Regions2', y= 'Unrelated to insurgency' , data=rep6, order=rep1.sort_values('Unrelated to insurgency').Region:
for i in ax.containers:
    ax.bar_label(i,)
plt.xticks(rotation = 90)
plt.show()
```



```
In [ ]:
```