

Lamwo Mass Casualty Investigation Report (MCI)

Date of Investigation: 10 November 2024

Activity: Lightning mass casualty investigation (MCI)

Location: Lamwo Refugee Settlement, Lamwo District, Uganda

Dates/Time of Lightning Incident: 2 November 2024–2nd November

Investigators: Akantambira Barnabas, Omara Martin, and Raymond Kirungi - OPM

GPS Location: 3°20'10" N 32°24'42E

how close is 3.36448, 32.41589 to 3°20'10" N 32°24'42E

Incident Overview

On November 2, 2024, a lightning incident occurred in Lamwo District, Northern Uganda, claiming the lives of 14 individuals and injuring 34 others. The incident took place during a prayer service near a church in Zone 8, Block 2 of the Palabek refugee settlement camp. The victims, aged 9 and 21, were gathered for prayers/choir practices when a sudden thunderstorm struck around 5:00 PM, followed by a lightning strike at about 5:30 PM.

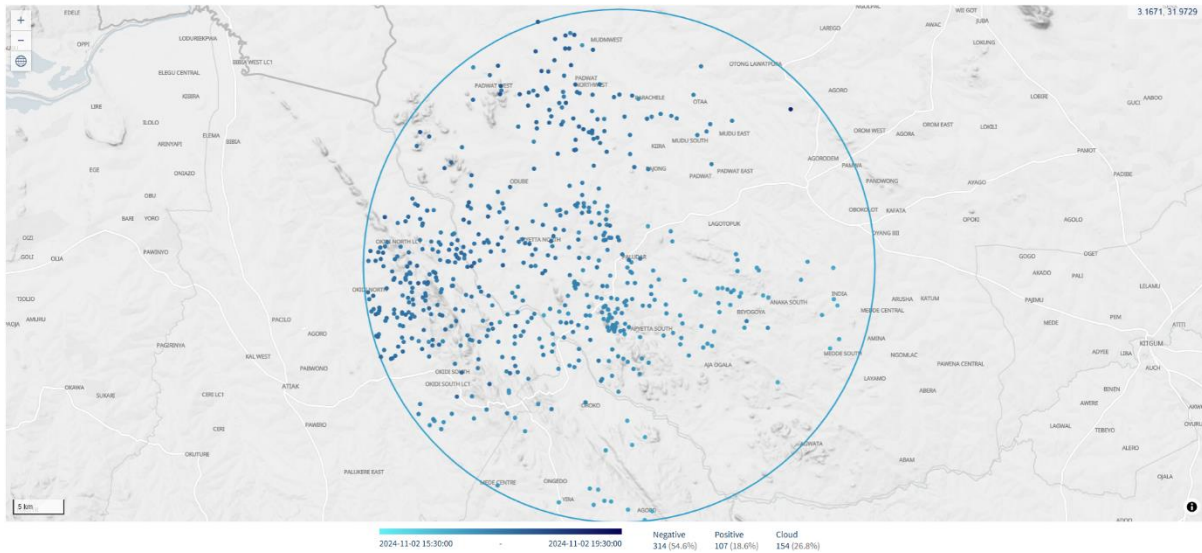
The children, practicing for choir in the camp, ran to a nearby structure used as a food distribution store when it started drizzling. The lightning strike hit this structure, leading to the casualties.

Lightning data

Courtesy Chris Vagasky and Vaisala

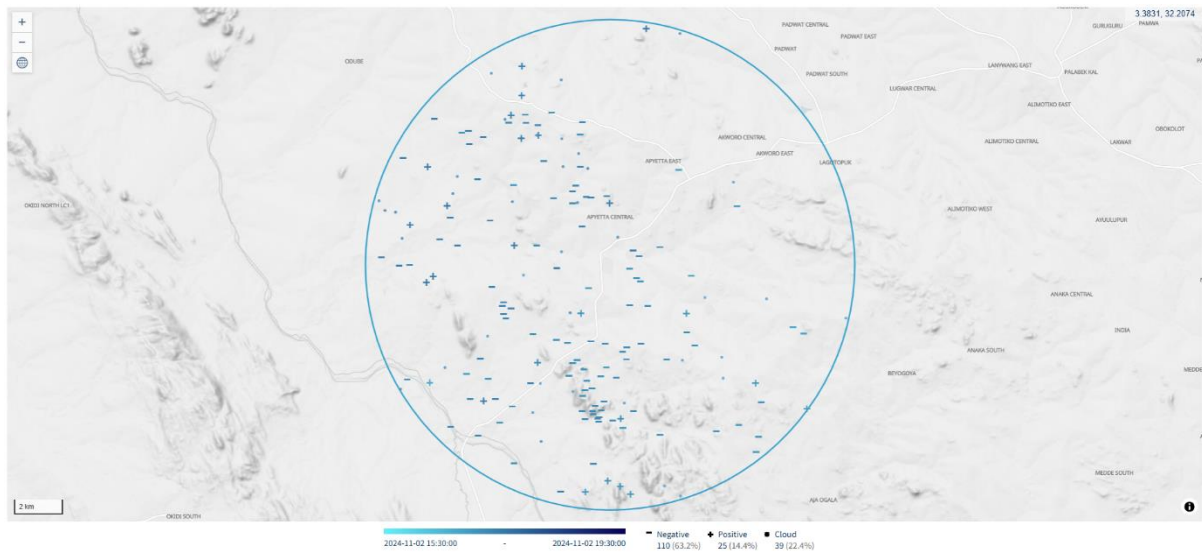
'From the CNN article, it gives a time of 5:30 pm, so I searched for lightning between 3:30 and 7:30 pm Uganda time. The location is not very specific. I found a location in Google maps (3.36448, 32.41589) that I used as a center point and searched within 25 km.

'The lightning all occurred between 4:38 and 6:58 pm.



‘There were 575 total events detected. 421 were classified as cloud-to-ground.

‘If we zoom in closer (within 10 km) there were 174 events (135 cloud-to-ground) between 4:44 and 5:44 pm. The closest occurring between 5:05 and 5:37 pm – these were within a mile of the center point.’



MACooper Note – the difference between the GPS/GIS Mr Vagasky searched and what the ACLENet team documents is less than two miles, well within the error margin for lightning locating technology. The main thing to know from the lightning data is that there was a large amount of lightning in the area for the time of the incident and it was certainly close enough for one of these to have been the one to cause the deaths and injuries.

Victims and Casualties

Selected Eye-witness Accounts:

1. **Rwot Jarune** (Male, aged 29, Secretary Block 2 Zone 8):



- Rwot was the first to reach the scene, witnessing children on the ground, some dead, others crying and paralysed. He called the zone leader, block leader, police, camp administration, and district officials, who arrived shortly. Ambulances from OPM and NGOs transported the bodies and casualties for medical treatment.
- Rwot experienced heat all over his body and has difficulties seeing clearly in sunlight since the incident.
- Rwot mentioned being unconscious for a few seconds and later regained consciousness - that's when he had to ran for the kids who had been struck down.

2. **Afram Mayak John** (15 years, Male, student at Bright Future Primary School):



- John saw a bright light and found himself lying outside the building. He had no significant injuries but experienced pain in his right hand.

3. **Lwak Malwal Karai** (11 years, Male, student at Bright Future Primary School):



- Lwak saw a bright light and found himself on the ground among many others. He suffers from pain in his tongue and left leg.

4. **GatMach Nyuot** (18 years, Male):



- GatMach saw a bright light, and everyone fell. He was affected by fear but had no physical injuries.

5. **Nyangwende Joan** (12 years, Female):



- Joan saw a round object like a ball that split, causing everyone to fall. She experiences fever and sleepless nights despite no visible injuries.

Deceased

The identified deceased were:

- Nyamaet Thiluak, 17
- Char Tot, 18
- Madol Wigiang, 21
- Nyachot Mawichnyuon, 17
- Nyakueh Gatgueng, 15
- Jima Gat Tiok, 14
- Tany Tai, 12
- Tidial Gatluak, 16
- Chop Matai Chop, 15
- Nyagai Diew, 9
- Nyathak Mariner, 12
- Lul Riek John, 14
- Khamis Tut, 14
- Tura Betu, 14

The injured were quickly evacuated to Paluda Health Centre III for medical treatment, with some victims discharged the following day.

Contributing Factors

1. Absence of Lightning Protection Systems:

The structure lacked lightning protection, which could have prevented or minimized the impact of the strike.

2. High Population Density:

The camp's congestion increased the number of casualties, as many children were gathered in the same structure.

3. Immediate Reactions:

First responders, including camp administration, police, and district officials, quickly arrived at the scene to assist and transport the victims to medical facilities.

4. Safety Recommendations

We urged the camp and district leadership to take the threat of lightning seriously, especially during the rainy season. Key safety measures include:

1. **Seek Shelter:** Immediately shelter in fully enclosed buildings at the first sign of thunder or lightning. Though this is not sufficient without standardized lightning protection, but it may help slightly.
2. **Install Lightning Protection Systems in major buildings:** To save lives and prevent such incidents. This may be done relatively easily if the metal roofs are continuous, downconductors are added on all 4 corners with earthing rods. This is not perfect, but it is much less expensive than a complete lightning protection system.
3. **Public Sensitization:** Eradicate myths and misconceptions about lightning through education.
4. **Stay Indoors:** Remain indoors until 30 minutes after the last thunder is heard
5. **Avoid Open Areas and Tall Objects:** Stay away from trees and utility poles.

Meetings with Stakeholders

District Administration:

- **CAO and Deputy CAO:** The Chief Administrative Officer (CAO) mentioned previous lightning incidents and the lack of preventive measures. The Deputy CAO, chairperson of the District Disaster Management Committee, highlighted the formation of disaster committees and training efforts.



Left to right Martin Omara (ACLENet), CAO Mr, Obongo Thomson, Barnabas (ACLENet), Raymond (OPM) and Mr Opio, DCAO.

Deputy Resident District Commissioner (DRDC):

- The DRDC expressed concerns over the tragedy and committed to supporting interventions. He praised the collaboration with ACLENet and the OPM.



DRDC briefing the entire team from ACLENet and OPM representative.



This was after meeting, from left to right is Assistant RDC, OPM representative, Barnabas, Deputy RDC, Deputy CAO and Martin

Zone Leader:



- Engaged discussions about the community's fears and the need for safety measures.



OPM Representative:

- Mr. Kirungi, the Disaster Preparedness Officer from the Office of the Prime Minister (OPM), provided support, expertise and expressed willingness to work with ACLENet to reduce lightning deaths and injuries.

Structure Analysis

The affected structure, typically used as a distribution centre, was made of bamboo walls and an iron sheet roof, with a bare soil floor. The front (south side) and back (north side) of the structure showed minor physical damage from the lightning strike.

Photos and Evidence

1. **Structure Front View (South Side):**



Depicts the area hit by lightning.

2. Structure Back View (North Side):



Shows new minor breakages in the bamboo to the right side of the rightmost window..

3. East Side of the Structure:



No significant damage.

4. Internal Structure:



Damage to the wooden poles and other areas inside the structure.

5. Other damaged parts of the structure



This provides a clear view of the affected area, featuring the wooden structure where the pole cracked.



View from outside the structure of the significantly affected area.



6. Community Leaders and Officials:



Group photo including the parish chief, zone leader, deputy CAO, and block secretary at the scene.

Conclusion

This tragic incident highlights the importance of taking necessary precautions during thunderstorms to prevent such devastating outcomes. The community is mourning the loss of lives and praying for the swift recovery of the injured.

Special Thanks:

- OPM for supporting this cause, particularly Raymond Kirungi, for his collaboration, and Jimmy for accepting to utilizing the partnership and providing transport means.

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