

# Myanmar on fire

## Mapping the increased use of fires between September 2022 and January 2023

REPORT BY MYANMAR WITNESS, JULY 2023

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### Executive Summary

Since the February 2021 coup, the Myanmar military has violently suppressed political opposition and used disproportionate violence against civilians. As the Myanmar military struggles to exert control over areas of resistance, persistent fires have been on the rise - likely as part of both the Myanmar military's offensive against PDF groups, and their attempts to subjugate the civilian populations.

This report by Myanmar Witness seeks to provide insight into this modus operandi of the Myanmar military by assessing data and specific case studies. This paper reviews what are alleged to be intentionally set fires in Myanmar, which has been a consistent feature of the conflict.

The use of fire has increased, resulting in the destruction of thousands of homes. As part of enduring monitoring of fire, Myanmar Witness observed a sharp increase in the number of fires being reported around Myanmar at the end of 2022 - with the largest change being an astounding 454% year-on-year increase in December. In every month observed between September 2022 and January 2023, Myanmar Witness collected more fire incidents than in the corresponding months in the previous year.

Myanmar Witness has sought to understand this increase through investigation and analysis of fires in the months of September 2022 to January 2023. To understand this phenomena, Myanmar Witness has analysed large patterns of fires, turning these into case studies that demonstrate the potential systematic nature in which villages are being affected by fire. Myanmar Witness has found that these fires appear to happen in 'clusters', with repeated incidents in the same villages over time, as well as multiple simultaneous incidents in multiple villages in the same area. This is a pattern also observed in the wider fire dataset and in operations between September 2021 and January 2022, which can be read about in more detail in Myanmar Witness' aforementioned report, [Civilian Harm](#).

Myanmar Witness has collected 347 reports of fires during the period of September 2022 to January 2023. The team have then selected five case studies that are representative of trends observed across the wider set. In some of the selected case studies, fires seem to correlate with People Defence Force (PDF) activity and it is therefore a realistic possibility that they can be explained as retaliation for said activity by Myanmar's Military. The case studies also

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demonstrate the way in which fire is used as a weapon, repeatedly destroying civilian infrastructure and objects indispensable to survival.

In Myang Township, Sagaing in November 2022, there were reports of a military column passing through the area, firing heavy weapons, and burning and raiding villages leading to civilian displacement. Myanmar Witness has verified that fires occurred in 8 villages over 7 days in the area. The Myanmar military were also confirmed to be in the area, though Myanmar Witness was unable to confirm military presence in the specific villages at the specific time of the fires.

Myanmar Witness identified a large cluster of fires across Sagaing at the end of November until mid-December 2022. These fires are linked to reports of Myanmar military soldiers and Pyu Saw Htee militia moving from village to village during this period, leaving a wake of charred destruction, and allegedly using human shields. Whilst the time and location of fires matches on the ground reports, Myanmar Witness has been unable to find conclusive imagery showing the presence of the Myanmar military and thus is unable to verify who is responsible.

In addition to the widespread burning of villages, Myanmar Witness has identified claims and evidence of the destruction of food supplies including rice storage facilities, a sesame warehouse, livestock, and rice supplies. Myanmar Witness has been able to geolocate and verify several instances of food infrastructure being destroyed.

Fires in January 2023 in 3 villages across Ye-U Township, Sagaing, resulted in the destruction of more than 100 houses, a historic Christian church and a number of other buildings. Some of these villages had suffered fires in the previous month, all allegedly perpetrated by the Myanmar military. Myanmar Witness has verified the locations and occurrence of fires at these sites, but is yet to find conclusive evidence of Myanmar military presence.

Whilst there is a lack of conclusive evidence of the Myanmar military targeting civilians with fire, Myanmar Witness deems it highly likely that the fires identified in the below case studies were started by the Myanmar military. Myanmar Witness has identified and analysed considerable amounts of eyewitness testimony reported by local news media or by social media users which claimed the military or pro-military militias were responsible. The sequential and seemingly systematic use of fire in multiple villages, all in close proximity, and seemingly tied to PDF and resistance activity, adds weight to this conclusion. Additionally, Myanmar Witness has analysed footage showing military intent to burn villages in nearby areas, and has identified clear patterns of the use of fire by military units. It should also be noted that fires are markedly more common in areas subject to martial law and that have been subjected to SAC airstrikes in recent months.

Since the Coup, Myanmar Witness has identified, investigated and verified footage relating to hundreds of fires in and around villages in Myanmar. As part of this data collection and monitoring, Myanmar Witness has produced several reports detailing some instances of these fires and the patterns they followed. These include: [Civilian Harm: The impact of military operations in North-West Myanmar](#), [Fire as a weapon in Sagaing](#) and [Burning Myanmar](#). Myanmar Witness also lays out these instances in the open-source [Myanmar Witness Fire Map](#), making the data accessible for a wider audience to review.



**Warning:** This report contains graphic content.



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## Background and Context

On 1 February 2021, the Myanmar military staged a coup that overthrew the democratically elected National League for Democracy (NLD) party, led by Aung San Suu Kyi. In response to this, thousands of people took to the streets in protest and a civil disobedience movement formed across Myanmar. Since then, the conflict in Myanmar has evolved and spread; what started as the violent repression of largely peaceful pro-democracy protests in major urban areas has developed into a country-wide civil war. Myanmar Witness has found an escalating effort to violently suppress opposition to the military regime, including through the intentional use of fire in villages and townships in conflict regions.

Investigation into the military's [violent suppression](#) of protests has demonstrated the brutality of the crackdowns and a disproportionate use of violence against [unarmed protestors](#). Violence against civilians has been an underlying constant throughout the conflict. Villages have repeatedly been [set alight](#), and Myanmar Witness has verified multiple [mass killings](#). Myanmar Witness has recorded a significant increase in fires, coupled with an increase in airstrikes from July to December 2022 as documented in the '[Eyes on the Skies](#)' report. This suggests that the conflict in Myanmar is increasing in intensity.

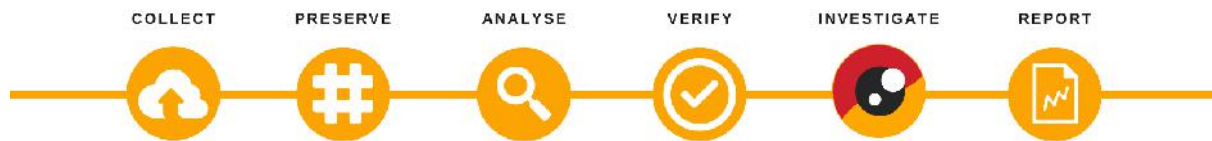
On 3 February 2023, the Myanmar military declared [martial law](#) in 37 townships, including areas of known resistance to Security Administrative Council (SAC) rule. This has historically resulted in brutal [military crackdowns on peaceful protesters](#) and furthers the need for monitoring in this particular topic to measure an escalation in conflict between the Myanmar military and local defence forces.

This report analyses open source user-generated content (UGC) and satellite imagery pertaining to the alleged use of fire by the military from 1 September 2021 to 31 January 2023. It provides an insight into a possible tactical shift of the Myanmar military whose use of deliberately set fires has been documented by Myanmar Witness in [previous reports](#). Malicious intentions to burn villages openly stated by [soldiers themselves](#) also appear to be prevalent across the conflict in Myanmar. According to online sources, as well as the sheer volume of village fires having occurred across Myanmar, these fires cannot all be naturally occurring. The locations of the incidents also increases the likelihood that the military were responsible for the fires. Many of the incidents occurred in locations with known or rumoured local defence force presence or support, as reported by local media or PDF social media pages. Additionally, clear parallels are visible when a comparison is drawn between the areas that the military has targeted with [airstrikes](#) and areas which were put under Martial Law in February 2023; an act which many commentators believed was a sign that the SAC was losing control of these regions.

The deliberate use of fires has been reported in areas of People's Defence Force (PDF) and Ethnic Armed Organisation (EAO) activity; however, this isn't to suggest that combatants are the only victims. Myanmar's citizens continue to face the full and unjust force of alleged indiscriminate attacks, including the use of deliberately set fires that can cost civilians their homes, livestock and livelihoods.

## Methodology

Myanmar Witness follows a methodology of digital preservation and rigorous, replicable analysis. Digital evidence is collected and archived in a secure database and preserved with hashing to confirm authenticity and prevent tampering.



Myanmar Witness applies a four-tier classification system to describe the extent to which footage has been independently verified by Myanmar Witness.

- **Fully verified:** Footage independently geolocated and chronolocated by Myanmar Witness.
- **Verified:** Footage has been geolocated by Myanmar Witness. Other sources concur on the time and date of the footage, with no evidence following to suggest that the footage was taken earlier or later. However, it has not been possible for Myanmar Witness to independently chrono-locate the footage.
- **Unverified / Under investigation:** Myanmar Witness has not been able to geolocate or chronocate footage at the present time.
- **Inauthentic:** The geolocation and chronolocation process has shown the location or timing of the footage to be inaccurate.

For the avoidance of doubt, this verification system only refers to Myanmar Witness' ability to independently geolocate or chronocate footage. Incidents marked as unverified may still be substantiated by multiple eyewitness reports. Sources are cross-referenced in this report to indicate where this is the case.

This report contains images showing how footage has been geolocated. In these images, white lines are used to represent the left and right arcs of vision. Coloured boxes show how landmarks or distinguishing details in each piece of footage or data correspond with each other. Geolocation is conducted using a varied array of open source online tools such as Google Earth to match satellite imagery with visual features identified in footage, images or other content - often referred to as user-generated content (UGC). Geolocations are cross-checked and peer-reviewed before they are credited as verified.

Chronolocation is typically conducted by analysing UGC timestamps to determine hard end limits for the possible time frame. This is followed with contextual and visual analysis, for example comparing visible aspects against known indicators such as weather events, shadows or other phenomena which may be indicative of the time in which a piece of UGC was captured. Shadow angle is determined after geolocation and its orientation is used to determine the position of the sun, and thus, time.

If dealing with unverified information, such as witness testimony or outside reporting, Myanmar Witness has made it known that these inclusions are claims and have not been independently



verified by Myanmar Witness. Following stringent ethical standards, Myanmar Witness has obscured identifying information about individuals involved, censored private information and images where appropriate, removed links to private individual accounts and archived said information securely. Where appropriate, Myanmar Witness has also blurred or excluded graphic imagery.

## Investigation Specific Data Collection and Database Management

This report was written following the identification of an increase in fires between 1 September 2022 and 31 January 2023. As a result, only fires observed in that timeframe have been included. Myanmar Witness has, however, included and analysed data from September 2021 to January 2022. The wider fire data set, which begins in June 2021, was used to contextualise the patterns identified February 2022 onwards..

Once identified, information on each alleged fire incident was logged in a central database, as well as the wider Myanmar Witness database, for archival and analysis purposes. This information was inputted along with key information, including:

- Claimed date of the incident
- Source link
- Status of claim/post date. These categories included:
  - Unconfirmed
  - Satellite (date verified by satellite analysis through Sentinel or other means)
  - NASA's Fire Information for Resource Management System (FIRMS) (date verified by FIRMS);
- Status of claim/post content. These categories included:
  - Unconfirmed
  - Satellite (fire verified by satellite analysis through Sentinel or other means)
  - FIRMS (fire verified by FIRMS);
  - Geolocated; this could include geolocated images, with no date confirmation.
- Location of alleged fire (state, township, village). Village name was collected in both English and Burmese.
- Coordinates of the alleged location found using MIMU
- Coordinates of the location of verified UGC
- Coordinates of the location through FIRMS/Satellite
- Links to FIRMS and Sentinel for verification if applicable
- Links to high resolution satellite imagery if applicable
- Links for further social media sources on the incident

The database sorts these claims into FIRE numbers (FIRE1, FIRE2, FIRE3, etc.). Each fire number represents a single fire incident, meaning either:

- There is evidence of a fire on a specific date. Evidence could come from one or multiple sources.
- or
- There is evidence of more than one fire taking place within a village on a specific date, meaning if multiple fires take place in the course of one village attack, this would come under one fire number (assuming the fire did not continue into the next day). Evidence could come from one or multiple sources.



This approach has been taken because:

- it draws together disparate claims related to a fire incident in order to provide a single source of information;
- it reduces the risk of inflating the number of fires which took place; and
- it enhances the ability to assess the likelihood that a fire incident occurred on a particular day.

## Location

Some reports of fires didn't mention a village, or alternatively, mentioned multiple villages during the same fire attack. Myanmar Witness analysts thus determined that the incidents should be grouped geographically, including villages mentioned. If a village was not mentioned in the post, then the township and the state have been used in reference to the village location.

Myanmar Witness relied upon Myanmar Information Management Unit (MIMU) information on villages to link some claims to villages and coordinate locations. Despite this, a location is not verified as having had a fire incident unless this had been verified through geolocatable footage/images, FIRMS data, satellite imagery or other forms of verification.

Certain factors occasionally inhibited the process of identifying a village through MIMU, including but not limited to:

- incorrect translations of village or locality name;
- dialectical or colloquial differences when referring to a location; and
- locations not being listed in the claim.

When this occurred, other resources were relied upon to try and identify where the fire took place. This included: Wikimapia; general searching of location names in English and Burmese across search engines; and reviewing various alternate geospatial platforms.

## Date

The date of the alleged fire incident was mentioned in all cases collected. Sometimes the claims included temporal terms such as 'yesterday' to indicate a particular date, instead of the date itself. If UGC and/or reports of fire incidents referred to the same day and the same village, Myanmar Witness classified them as the same incident, and included these additional social media links within the database.

## Analysis of data and verification

In order to verify claims in the database, Myanmar Witness carried out further research to find related UGC. Where additional information was found - for example, regarding UGC related to the case, information about the impact of the fire or who was attributed - it was added to the database. If Myanmar Witness was able to carry out geolocation work on the UGC, this too was labelled within the database using the status system on both date and content. The following section outlines how the labels were attributed within the database.

While verifying the incidents' coordinates, to ensure that the location of all claims were represented within the dataset and could be plotted in a map, Myanmar Witness used the following process:

- If the village name did not appear in MIMU, or the location was not geolocatable by analysts, the township or state coordinates from other open sources were used instead.
- In the few cases where the township was also not identifiable, the coordinates for the state were used instead.

## Clustered data

During the analysis and verification process, Myanmar Witness identified 'clusters' of fire data. Myanmar Witness observes, in many investigations, that some cases of fires happened in close proximity to one another over a period of days and online claims would occasionally suggest these fires were caused by the same group of military as one another (for example, a group of soldiers moving between multiple villages). Due to this, Myanmar Witness established 'clusters' to draw together data for analysis purposes and identify possibly interrelated separate FIRE numbers.

These 'clusters' were established under the parameters of a fire incident having occurred within 10 km and 3 days of another fire. These parameters were determined as Sagaing appeared to have a high concentration of fires and 10 km/ 3 days would allow for the capture of data in concentrated areas of fire in our data. The parameters are also a fairly short travelling distance within the timeframe which could capture patterns of individuals or groups responsible for fires - potentially the military - moving around the area.. Gephi was used to identify and visually display the clusters; the clusters were then saved in a separate database. This data was useful for determining trends and patterns in the fire data.

## Additional Notes

Myanmar Witness sanitised a large amount of the content during this investigation to ensure privacy and security concerns were met. If additional information is required, this can be sought on a case-by-case basis.

## Limitations

The information obtained by Myanmar Witness comes from an area of ongoing conflict so it is assumed that there is a selection bias, due to factors including fear of repercussions for uploading, unavailability of information from official sources and availability, or lack thereof, of the internet - which has also restricted the amount of media available to be verified by Myanmar Witness. Myanmar Witness strives to eliminate as much of this bias as possible by using both focussed and broad search terms in multiple languages across open sources as well as identifying media from multiple sources, such as pro and anti-regime news and social media.

Myanmar Witness has collected evidence that points to a substantial increase in fires towards the end of 2022. As this investigation relied upon retrospective, as well as contemporaneous, social media data, there is a risk that older social media posts which had not been archived by Myanmar Witness may have been removed from social media. This could have distorted the dataset and as a result, impacted the ability to attribute fires from earlier in the reporting period. During the data collection and verification process, not all information can be verified due to a lack of identifiable information for chronolocation or geolocation.

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Social media posts and media reports often attribute the fires to the Security Administration Council (SAC) and military. Where possible, Myanmar Witness investigates these claims by analysing whether there are signs of military presence in the area, through geospatial analysis of convoys and military bases, and social media posts related to troop movements. Despite this, the rationale for, or attribution of, these fires cannot be 100% verified in any of the cases presented due to insufficient evidence.

## Analysis

Myanmar Witness has monitored the prevalence of fires in Myanmar since June 2021. Myanmar Witness has documented, analysed and attempted to verify over 700 different fire incidents, approximately half (347) of which took place between September 2022 and January 2023. At least 132 fires were recorded in December 2022, the highest number since monitoring began.

The Sagaing region (စစ်ကိုင်းတိုင်းဒေသကြီး), anecdotally referred to as the ‘battleground’ of the conflict in Myanmar, continues to [bear the brunt](#) of the [arson](#). The ‘dry zone’, which is made up of Sagaing region, Chin state (ချင်းပြည်နယ်) and part of Magway region (မကွေးတိုင်းဒေသကြီး), has a majority Bamar Buddhist population. It has seen intense fighting between the Myanmar military and a range of opposition groups. These incidents have been highlighted in Myanmar Witness’ previous reports, including ‘[Civilian Harm: the impact of military operations in North-West Myanmar](#)’. The townships included are those where Myanmar Witness has collected, monitored and reported on human rights incidents.

Fires are concentrated in the Sagaing region and the number of incidents has increased dramatically since September 2021. The data also reveals that there are a high number of incidents recorded in Kayah state, Kachin state, and Chin state, where local resistance is high. Myanmar Witness has covered, and continues to cover, these incidents in depth using the [Fire Map](#) and [longer reports](#).

Although Myanmar Witness has investigated the prevalence of fires since June 2021, this report focuses on two distinctive timeframes: September 2021 to January 2022; and September 2022 to January 2023. By comparing the same months each year, the research seeks to negate environmental factors which could alter the number of fires detected. For example, cloud coverage can impact the availability of satellite data, and thus the ability to collect and verify evidence of fires. This method allows Myanmar Witness to be confident that the distinctive upward trend in the number of fires reported reflects the changing dynamics on the ground, rather than natural or accidental events.

While it has not been possible to attribute these fires to the military, many of these events appear consistent with tactics employed within previous military operations. Additionally their location in areas of known resistance to military rule, the intensity of the fires, and an analysis



of both social media posts and news media reports provides further information to suggest that a large number of them could have been perpetrated by the military.

The following section breaks down the research findings by month, location, and verification status, before a number of case studies are explored.

## Recorded fire incidents

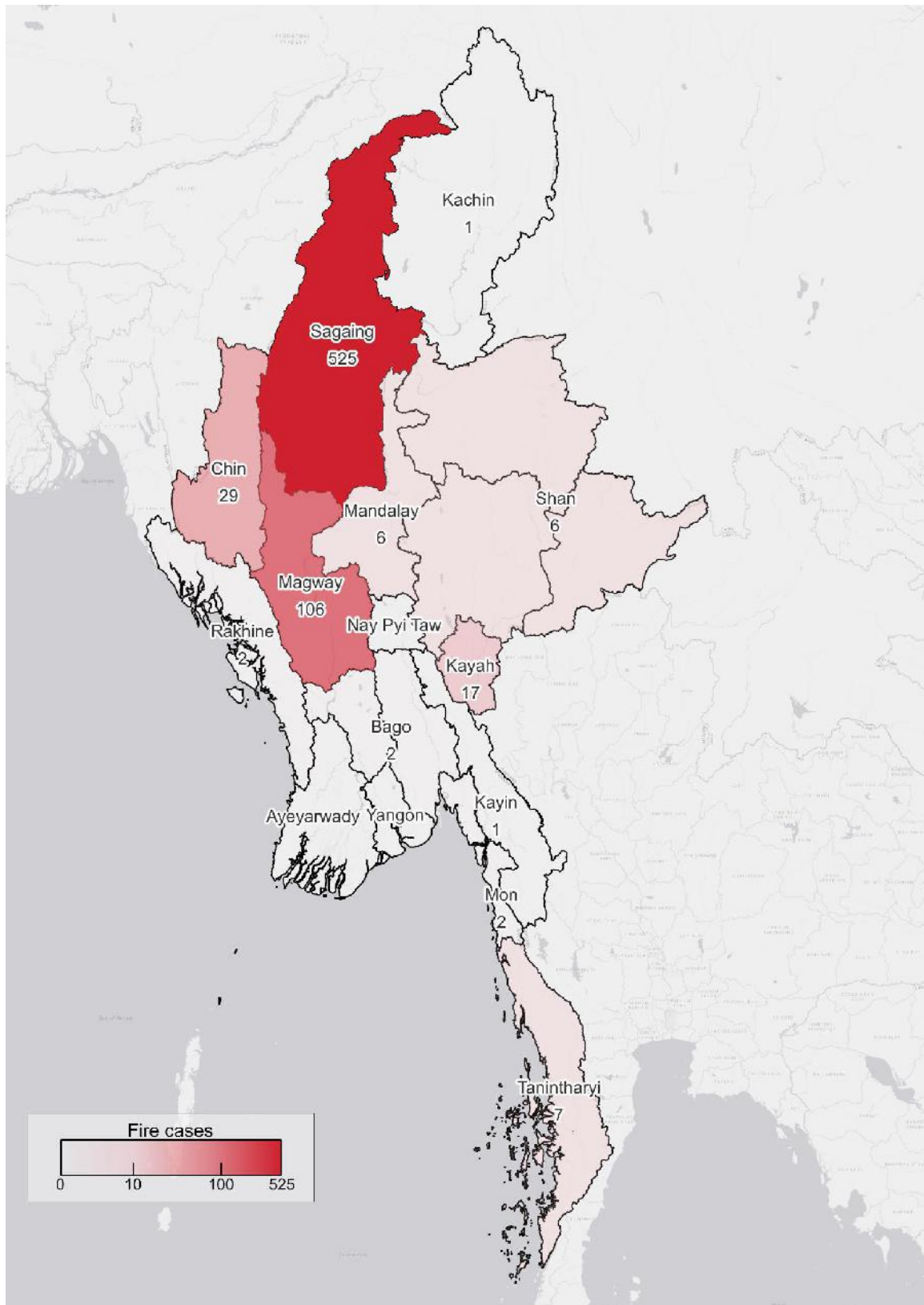


Figure 1: Map showing all fire data collected and analysed by Myanmar Witness as of 31 January 2023.

## Monthly Breakdown

Between June 2021 and May 2022, the number of fires steadily increases, before declining until October 2022. There is then a dramatic increase in fires (242.8%) from October 2022 to November 2022 (Figure 2). When comparing the same month in both 2021 and 2022, the increase in fires is even more pronounced. For example, there was a 483% increase in fires in December 2022 compared to December 2021 (Figure 3).

Myanmar Witness focuses on two distinctive time frames within the dataset, from September 2021 to January 2022 and September 2022 to January 2023, to exemplify the marked increase in fires.

### All fires by Month

[As collected and archived by Myanmar Witness by 31 January 2023]

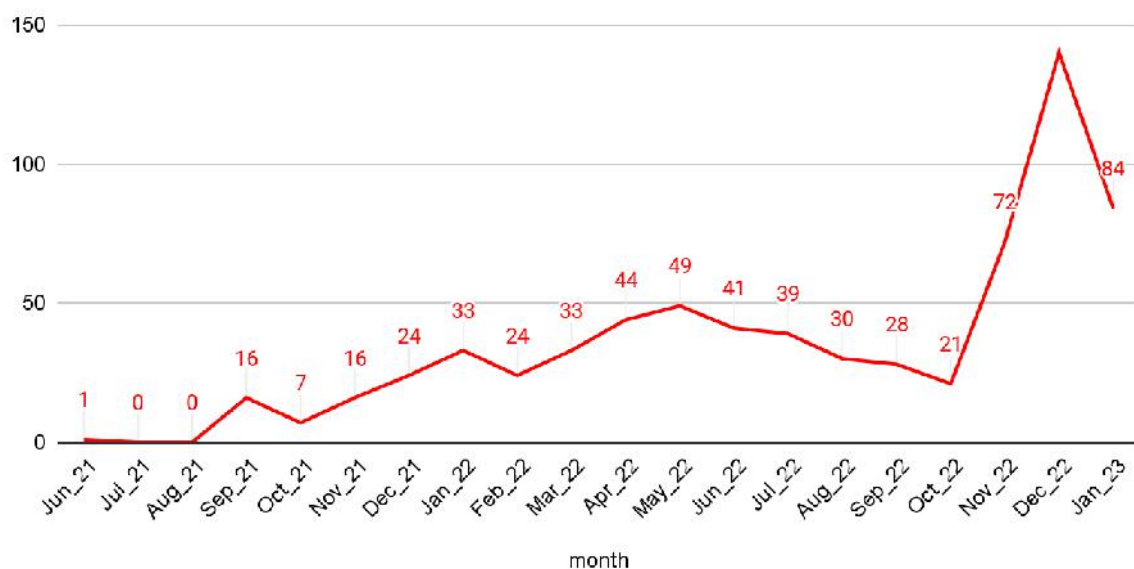


Figure 2: Fire incidents by month, June 2021 to January 2023.

Monthly comparison of fires - both timeframes

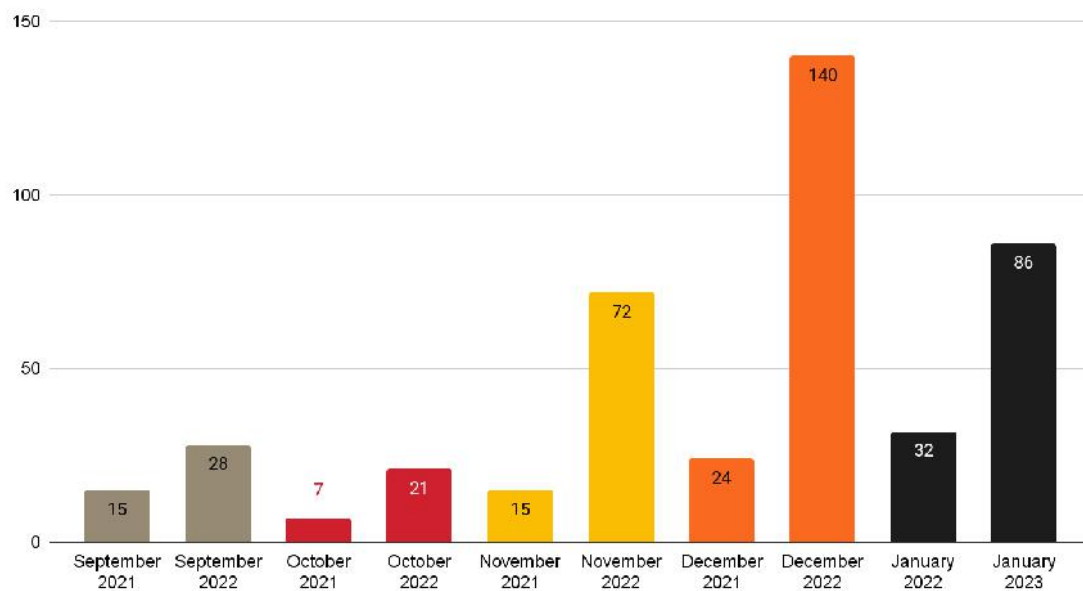


Figure 3: Comparison of fire incidents between September and January in both 2021 and 2022.

## Geographic Breakdown

The areas with the highest numbers of recorded fire incidents are areas of known resistance to the military's rule - the so-called "dry zone" in northern Myanmar, comprising Sagaing, Magway, and Chin states. The Sagaing region had a significantly higher number of fires than any other region. Additionally, there was an increase in the number of fires recorded in all of the dry zone states over the data collection period.

Although the majority of fires were concentrated in a few states, the analysis also revealed that fires took place in nine of 14 administrative divisions in Myanmar during the period of analysis (Figure 4).

When comparing the months of September to January in 2021 and 2022, it is possible to see not only the significant rise in the number of fires, but also the concentration within the dry zone.



## Fires by State

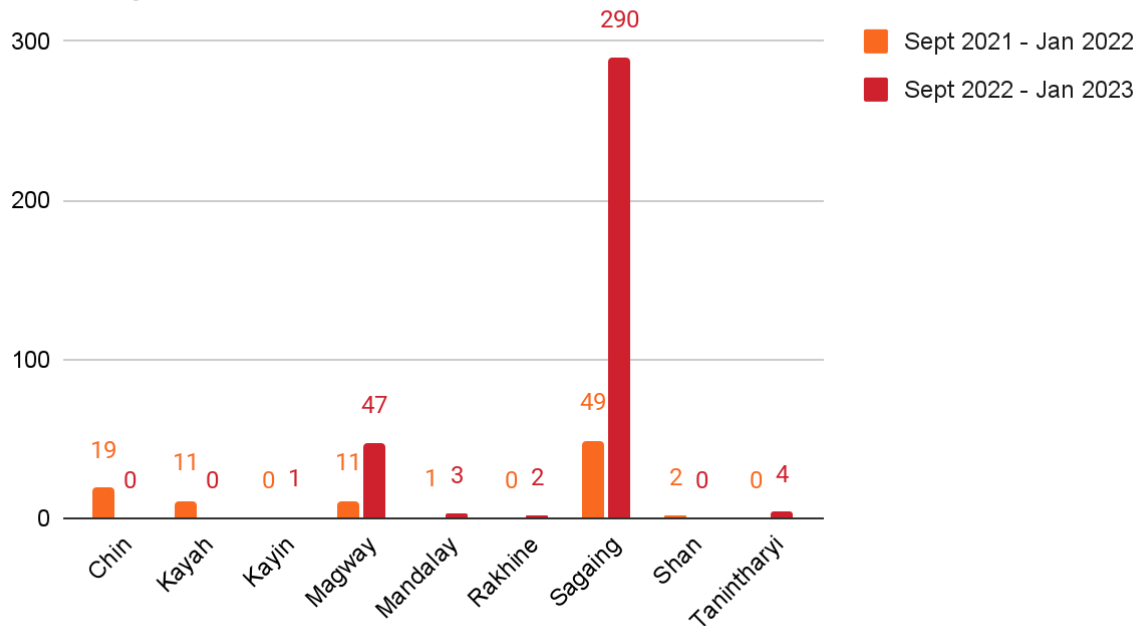


Figure 4: Increases in fire incidents by state between September - January, 2021 and 2022.

Six regions of Myanmar were affected by fire between September 2021 - January 2022, while another three regions experienced fire incidents in the September 2022 - January 2023 timeframe. In total, nine of the 14 administrative divisions in Myanmar, were affected by fire incidents in the two periods observed.

The highest number of fires recorded in the two time frames investigated in more detail here, were reported in Sagaing: September 2021 - January 2022 (49 incidents, 53.3% of total fires) and September 2022 - January 2023 (290 incidents, 83.6% of total fires) respectively.

As can be observed, there is a concentration of fires in Sagaing during both timeframes, but with a significantly higher percentage from September 2022 - January 2023 (an increase of 492% incidents in September 2022 - January 2023 as compared to September 2021 - January 2022). Magway also showed a significant increase from September 2021 - January 2022 (11 incidents, 11.8% of the data) to (47 incidents, 13.5% of the data). This is an increase of 327% in fires (Figure 6). This is significant as Myanmar Witness has reported on areas in the north of Myanmar, - the 'dry zone' including Sagaing, Magway and Chin, as having been a site of resistance and conflict.

## Fires by State 2021

September - January

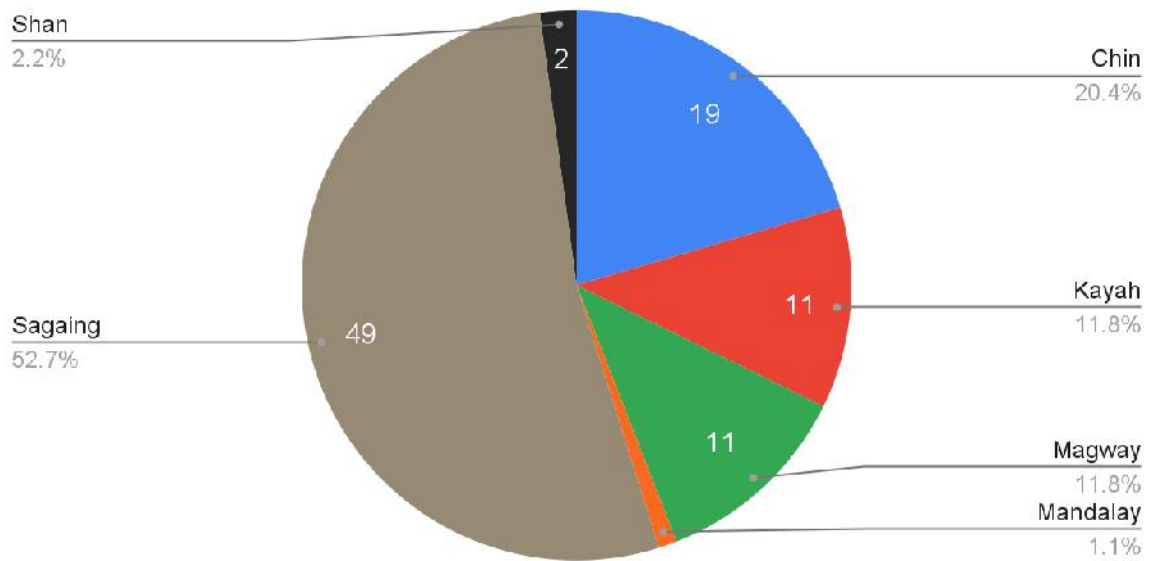


Figure 5: Location of the recorded fires between September 2021 - January 2022.

## Fires by State 2022

September - January

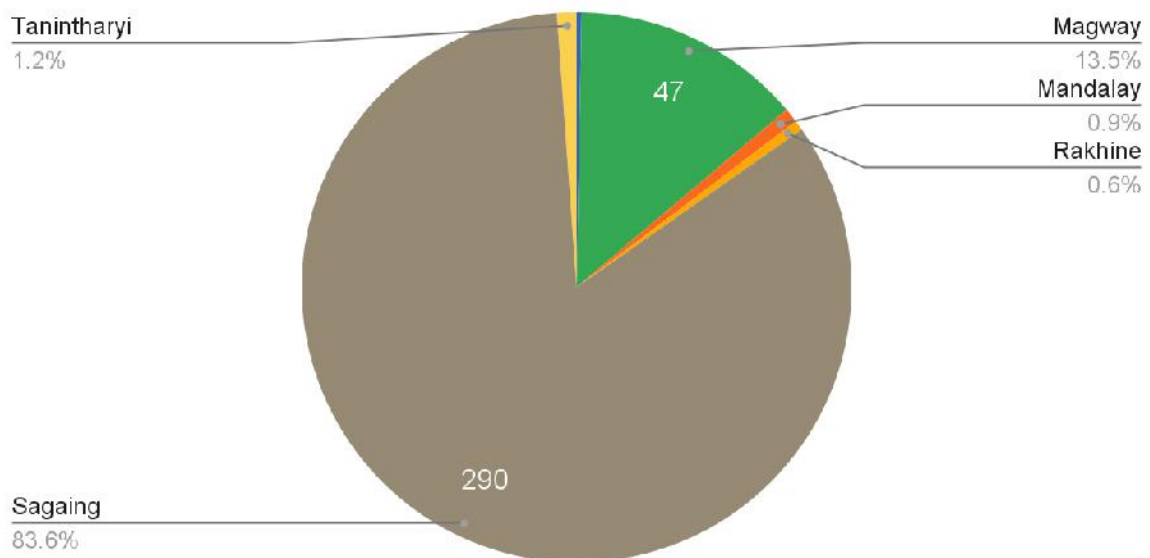


Figure 6: Location of the recorded fires between September 2022 - January 2023.

## Fires by month and location

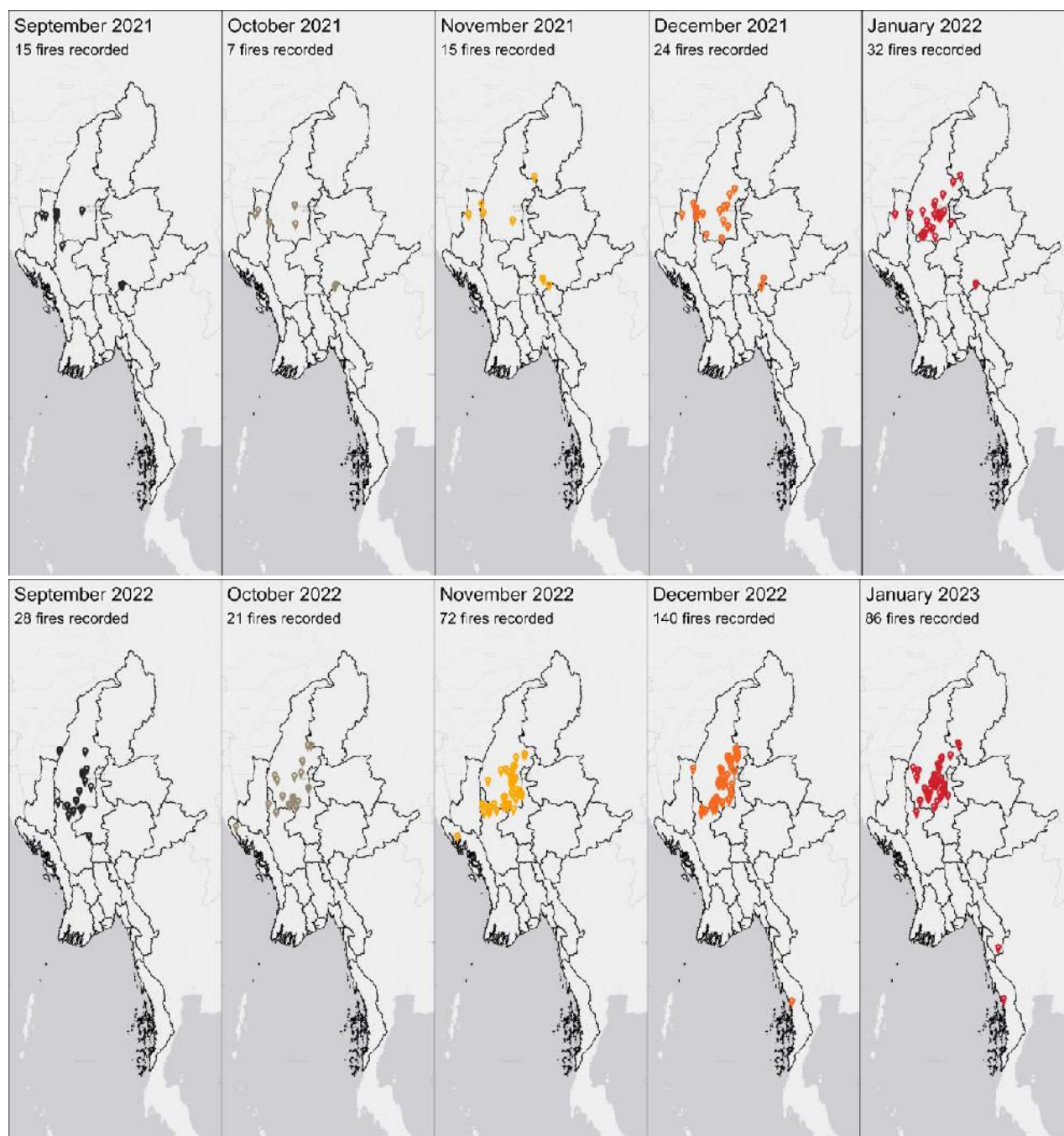


Figure 7: Recorded fires by location, September - January, [top] 2021 and [bottom] 2022.

## Fire heat map - 2021 timeframe

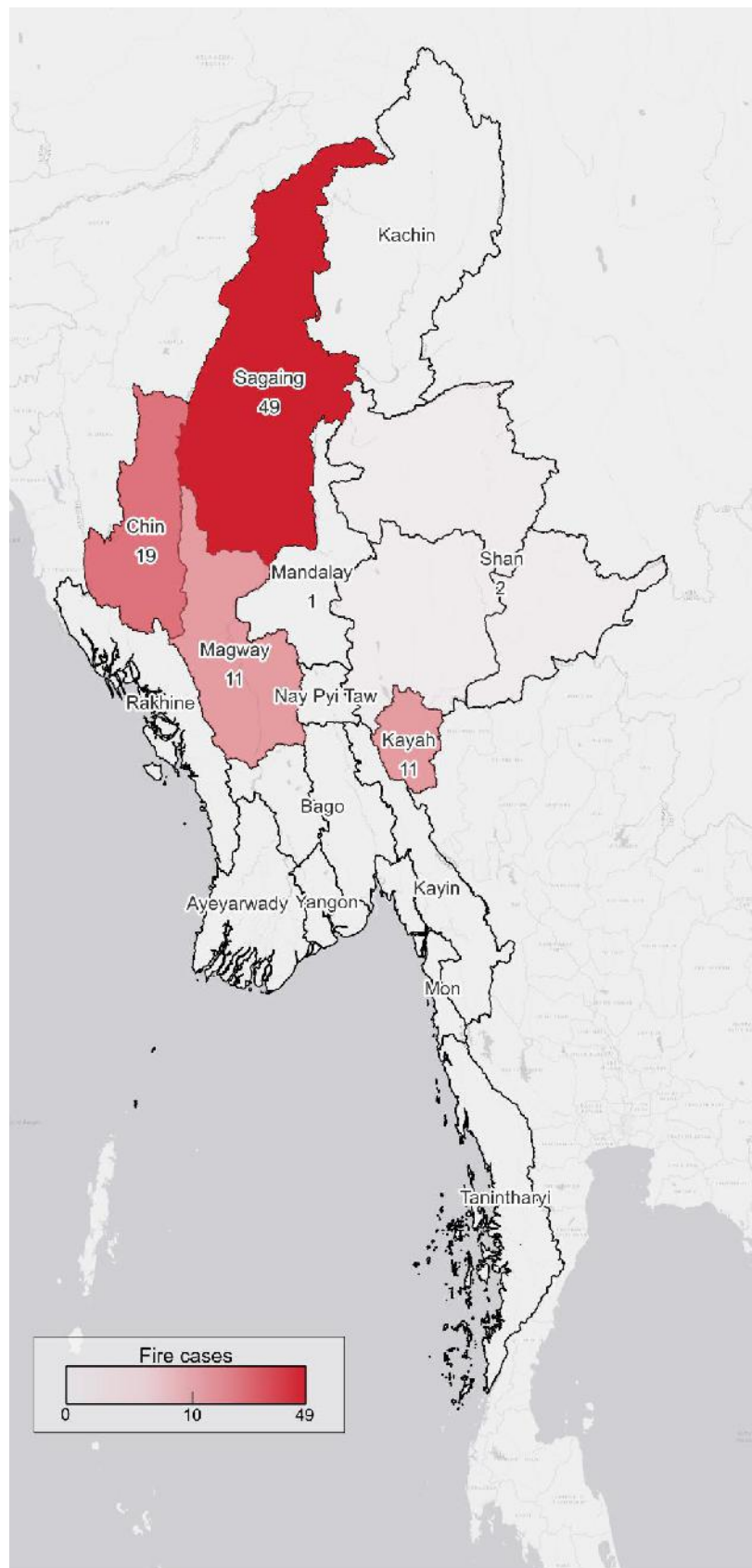


Figure 8: Breakdown of fires by region in Myanmar, mapped by location for September 2021 - January 2022. Maps created with QGIS. It is clear from these images that the highest concentration is in Sagaing for both September 2021 - January 2022 and September 2022 - January 2023.

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## Fire heat map - 2022 timeframe

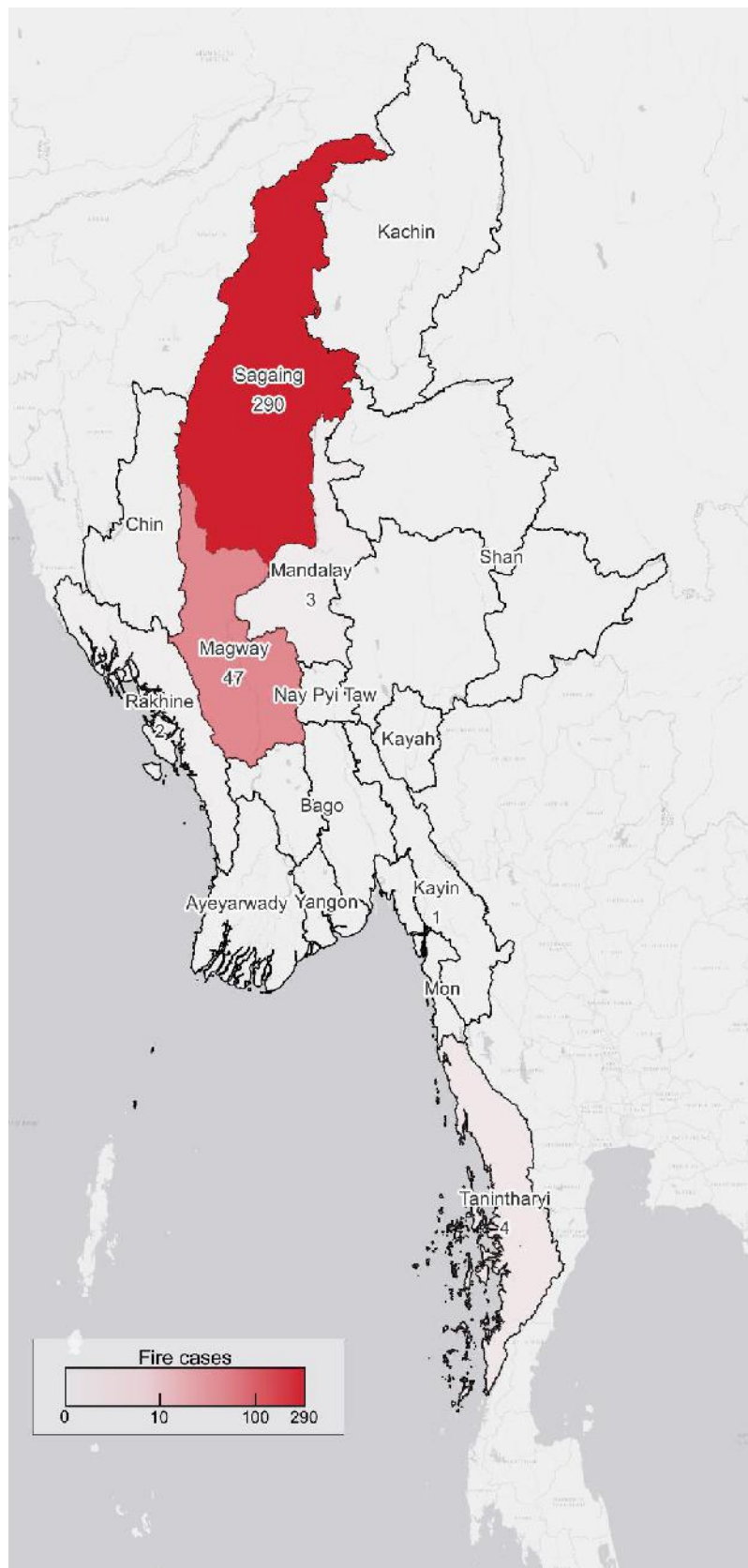


Figure 9: Breakdown of fires by region in Myanmar, mapped by location for September 2021 - January 2023. Maps created with QGIS. It is clear from these images that the highest concentration is in Sagaing for both September 2021 - January 2022 and September 2022 - January 2023.



## Verification status

Of the 347 fires identified between September 2022 to January 2021, 257 have been chronolocated and geolocated, 84 have been geolocated but not chronolocated, and nine are neither chronolocated nor geolocated (Figure 10). For example, Myanmar Witness has geolocated all 140 fire incidents in December 2022, and chronolocated 111 of these.

## Data verification distribution

September 2022 - January 2023 fire data collected by Myanmar Witness

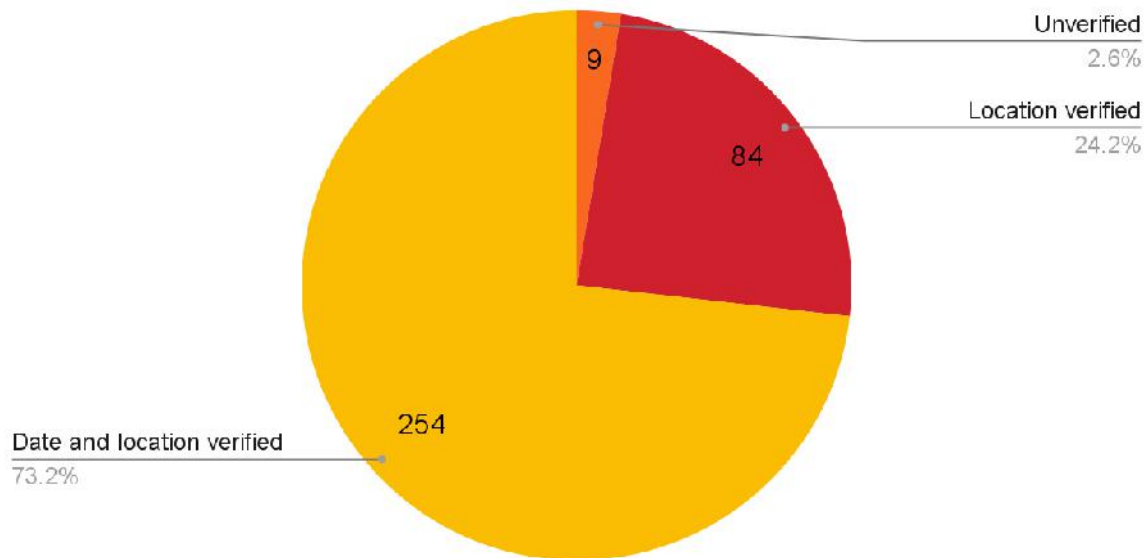


Figure 10: Pie chart demonstrating the verification status of the 347 identified fire incidents between September 2022 and January 2023.

## Case Studies

Five emblematic case studies from the September 2022 to January 2023 timeframe, with varying levels of verification, have been included in this report to provide a snapshot of the overall dataset. A number of factors impact the verification level, as outlined within the methodology. This included, but was not limited to, the availability of UGC, satellite data, and FIRMS data.

The data collected reveals that multiple villages in close proximity are often affected. As a result, the first two case studies examine multiple fire clusters to demonstrate their sequential nature.

Each of the case studies investigated reveals the large-scale damage to civilian infrastructure; from the destruction of houses, to places of worship, food storage facilities, food supplies and livestock.

While it has not been possible to establish attribution for the fires, while researching all of the case studies within this report, allegations that the Myanmar military or military-aligned militias were responsible were identified. Additionally, there is little verifiable information about how the fires were started. Some examples, such as the destruction of villages in Myaung Township, include reports that heavy weaponry had been fired at villages.

## 1. Myaung Township, Sagaing - November 2022

Beginning on 7 November 2022, there are reports of military activity in Myaung Township (မြောင်မြို့). It is alleged that a military column passed through the area, firing heavy weapons, burning and raiding villages, and displacing civilians (source redacted due to privacy concerns).

Control of Myaung township is [contested](#). The area had [reportedly](#) been a site of clashes in late 2021 between the military and a local defence forces group known as the Civilian Defence and Security Organization of Myaung (CDSOM). Since then, local resistance forces had reportedly [imposed](#) frequent vehicle and vessel checks, which resulted in the [confiscation](#) of military vessels in December 2021. More recently, the CDSOM [reportedly](#) attacked a military boat with a drone in September 2022, killing two soldiers.

There are claims that these villages were set alight following the seizure of [military supplies](#) on the Chindwin River by the CDSOM on 6 November 2022.

Myanmar Witness can confirm that between 7 and 13 November 2022, eight villages were set alight (Figure 11). Myanmar Witness used Sentinel Hub imagery and FIRMS to geolocate and chronolocate the fires, and geolocated UGC of fires in Na Nwin Kaing (နန္ဒင်းကိုင်း) and Pa Rein Ma (ပရိမ်မာ). Myanmar Witness also verified the location of a military camp in the area, and identified images of the military vessel allegedly raided by the local defence forces just before the fires occurred.



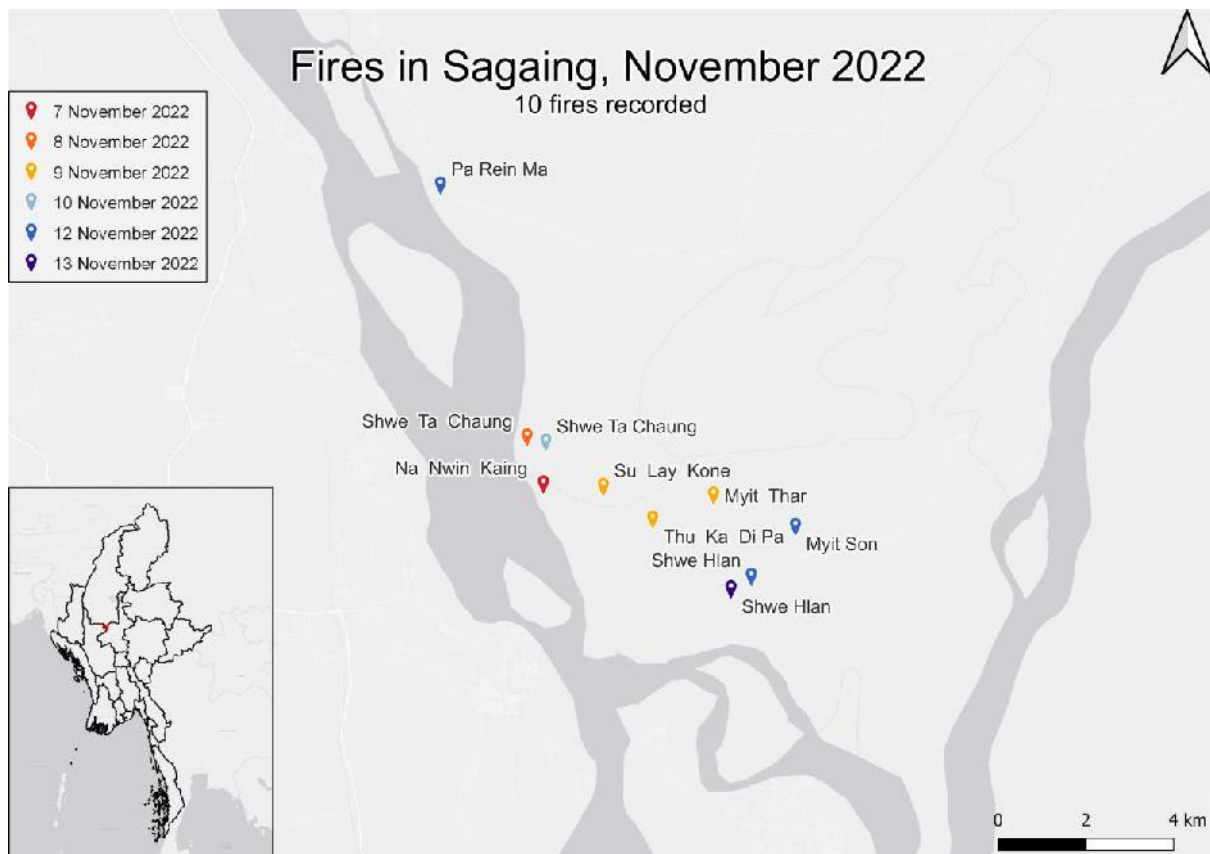


Figure 11: Fire data cluster 312, Myaung township.

#### Incident on the Chindwin River

On 6 November 2022 at around 1400 local time, the CDSOM [allegedly](#) intercepted a military vessel transporting 15,000 bags of rice along the Chindwin River from Mandalay.

A CDSOM member told the [74 Media](#) that they retreated from the ship following a [tip off](#) that a flotilla carrying 70 Myanmar military soldiers was heading towards the ship from their station in [Kyauk Tan](#) village (ကျောက်တန်း). Reports by [Myae Latt Athan](#) allege that the military later regained control of the ship and towed it back to Kyauk Tan.

Using [Sentinel Hub](#), Myanmar Witness located a vessel on the Chindwin River close to Kyauk Tan village on 6 November 2022 (Figure 12). At least three other vessels were visible in close proximity, which could have been carrying the military flotilla (Figure 13).

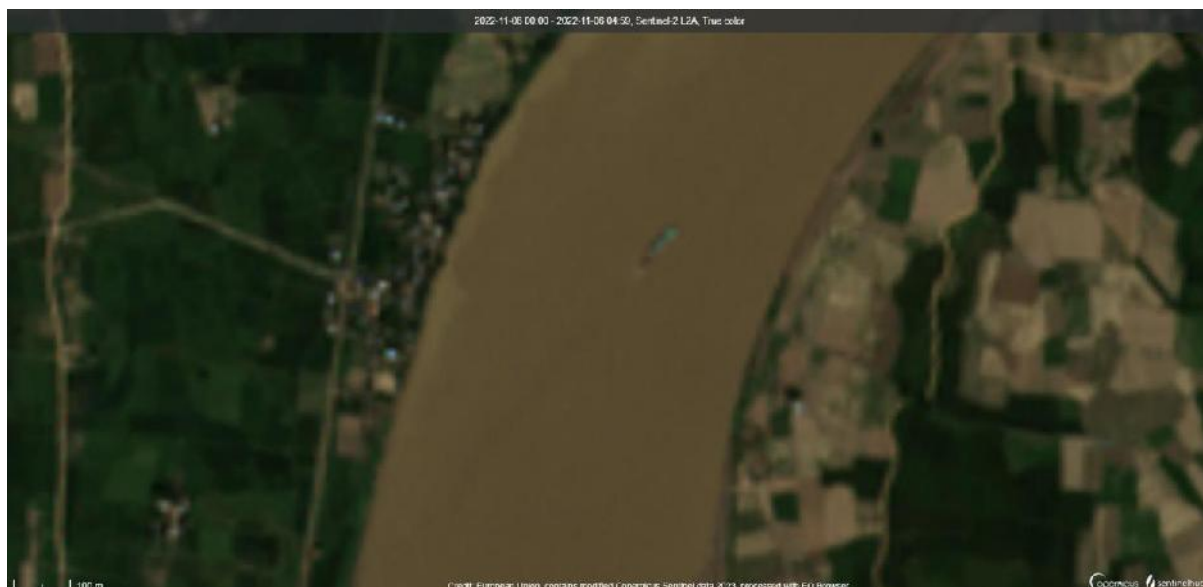


Figure 12: [Sentinel Hub](#) image showing a vessel on the Chindwin River, around 16km away from Kyauk Tan, on 6 November 2022 [21.559475, 95.258739].



Figure 13: Three other vessels spotted [north of the first vessel](#) along the Chindwin River.

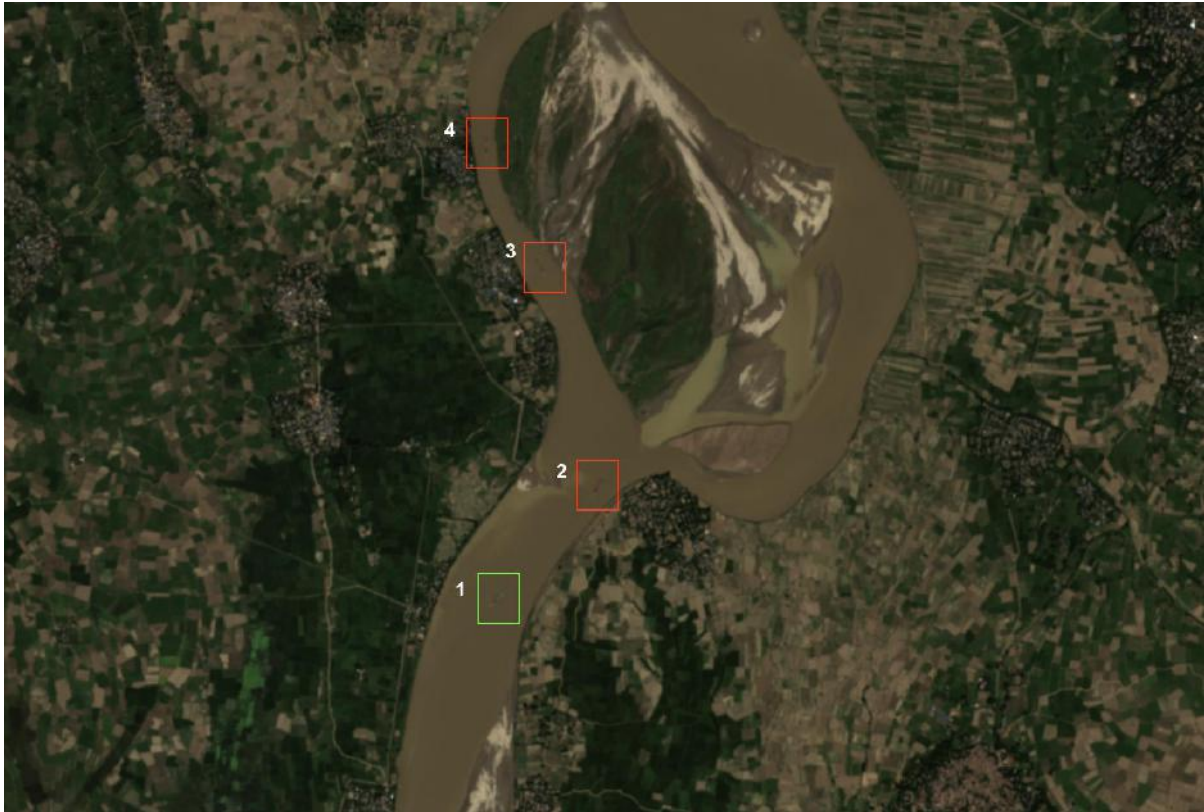


Figure 14: The four vessels spotted on [Sentinel](#) on 6 November 2022 in relation to one another.





Figure 15: Kyauk Tan village [21.703720,95.2524032] shown in relation to the villages where fires occurred - highlighted with yellow pins.

[The 74 Media](#) report also included an image that shows individuals taking bags of rice from a ship, reportedly uploaded by a CDSOM member in Myaung township. While Myanmar Witness has been unable to geolocate the image, the vessel in the image has similar green coloured cover as the vessel seen in the satellite imagery (Figure 12).

One of the white bags in the image is labelled “sortexed” (Figure 16); a term which refers to a rice-sorting process. This suggests the likelihood that the bags contain rice. However, the manufacturer is not visible and it is not possible to determine if these are military supplies, as the original reports claimed.





Figure 16: Bags being removed from a vessel - the label “sortexed” is seen on one bag (source: [The 74 Media](#)).

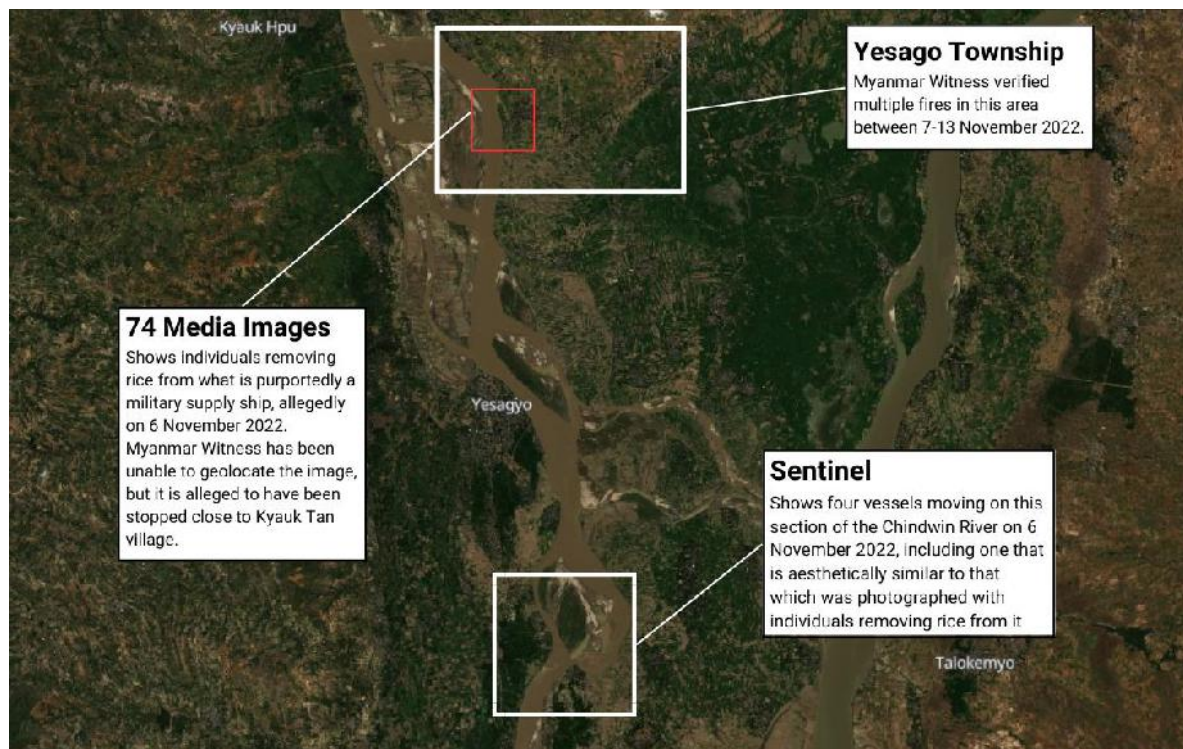


Figure 17: The location of the vessels along the Chindwin River spotted on Sentinel imagery on 6 November 2022 in comparison to other aspects of the investigation in Myaung.

### Local military presence

The local area had been a site of conflict during the months prior to the fires in November. For example, Myanmar Now [reported](#) that the Myanmar military set fire to Kyauk Yit village on 12 September 2021 following an [attack on a police station](#) on 8 September 2021. These events are unverified at present. The location of a potential police station was geolocated by Myanmar Witness (Figure 18). Social media users [claim](#) that the location contained military and police personnel when it was bombed by a PDF drone, leading to a number of injuries. This same

location has reportedly been targeted multiple times by PDF drones (source redacted for privacy concerns) reinforcing the likelihood that the location was being used by the military.

The [same report](#) alleged that most of the people living in Kyauk Yit had fled as the SAC forces moved to take control of local villages from 12 September 2022. It appears that since this time, the village has been occupied by the military.

On 9 November 2022, the PDF used drones to attack the same police station again, during the period when fires were ongoing in the area.



*Figure 18: Geolocation of what is claimed to be a police station in Kyauk Yit village. Local defence forces alleged that the military were stationed in this police station on occasions where they attacked the area.*





*Figure 19: An image taken from a PDF facebook page, geolocated to Kyauk Yit village, of an area claimed to be a police station being attacked by drone bombing by local defence forces.*



*Figure 20: Location of Kyauk Yit village in relation to the villages affected by fires in November 2022.*



Footage [investigated](#) in December 2022, taken in Min Ywar village (မင်းရွာ), Magway, show Light Infantry Division (LID) 101 [leading an attack](#) on the village and repeatedly exhorting each other to make LID-101 proud with their viciousness. They also state a desire to burn the village down if it is a PDF village (Figure 21). This footage is unrelated to the current case, but was filmed approximately 15 km from the Myaung township cluster and demonstrates not only the military's intention to burn alleged PDF villages in the area, but specifically LID 101's aggressive presence in the area.

This is relevant to the case as [multiple social media](#) posts claim that LID 101, and more specifically LIB 256 AND 258 under the direction of LID 101, are responsible for the burning of villages in Myaung. Myanmar Witness has been unable to confirm these claims but has geolocated PDF drone footage of attacks against alleged military members on the ground in Myaung Township (Figure 19). The LIB 256 AND 258 bases are also allegedly in close proximity to the villages on fire in Myaung Township (Figure 23).



*Figure 21: LID 101 soldiers say "We'll burn down everything if it's a PDF village."*

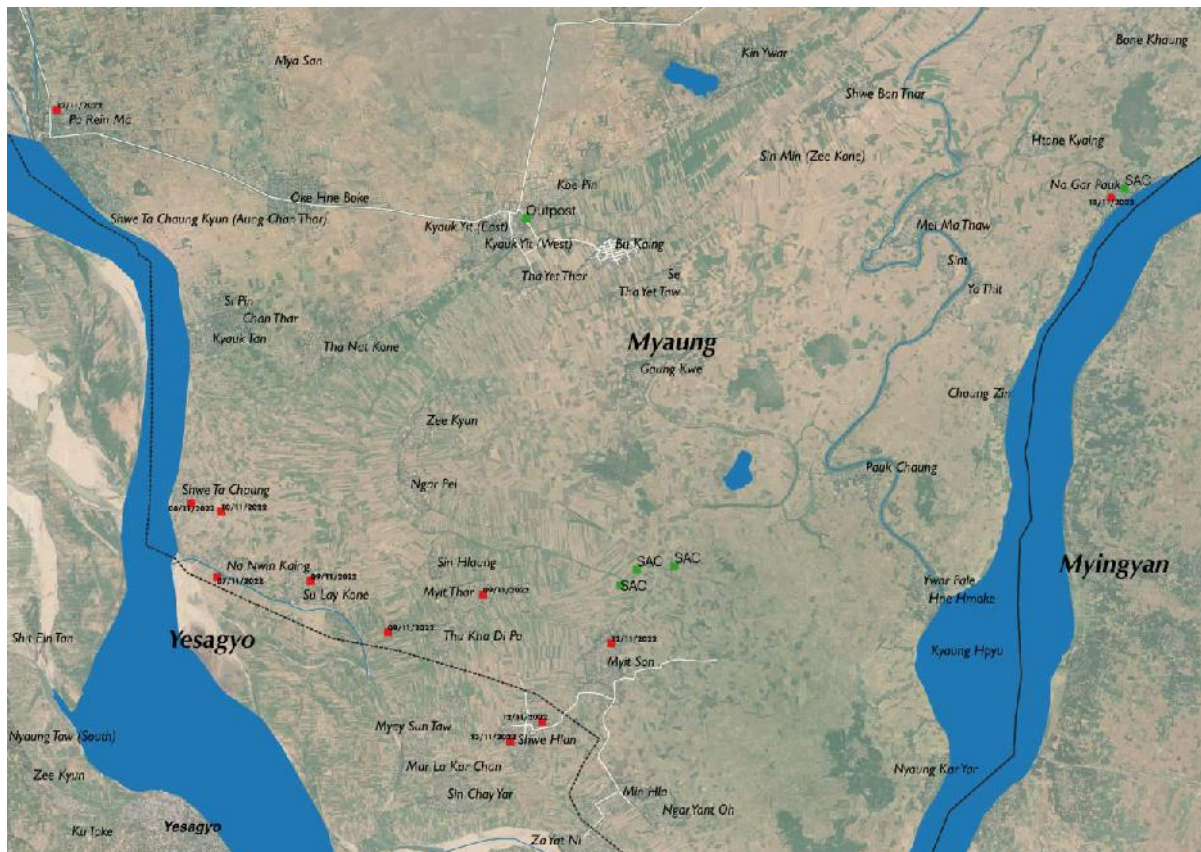


Figure 22: Mapping of the eight villages affected by fire in Myanmar Witness' cluster and Myanmar military presence identified through PDF drone footage. This mapping includes an outlier village in the east of the township, Na Gar Pauk (နဂါးပေါက်), also allegedly burned by the Myanmar military with drone footage identified in the area.



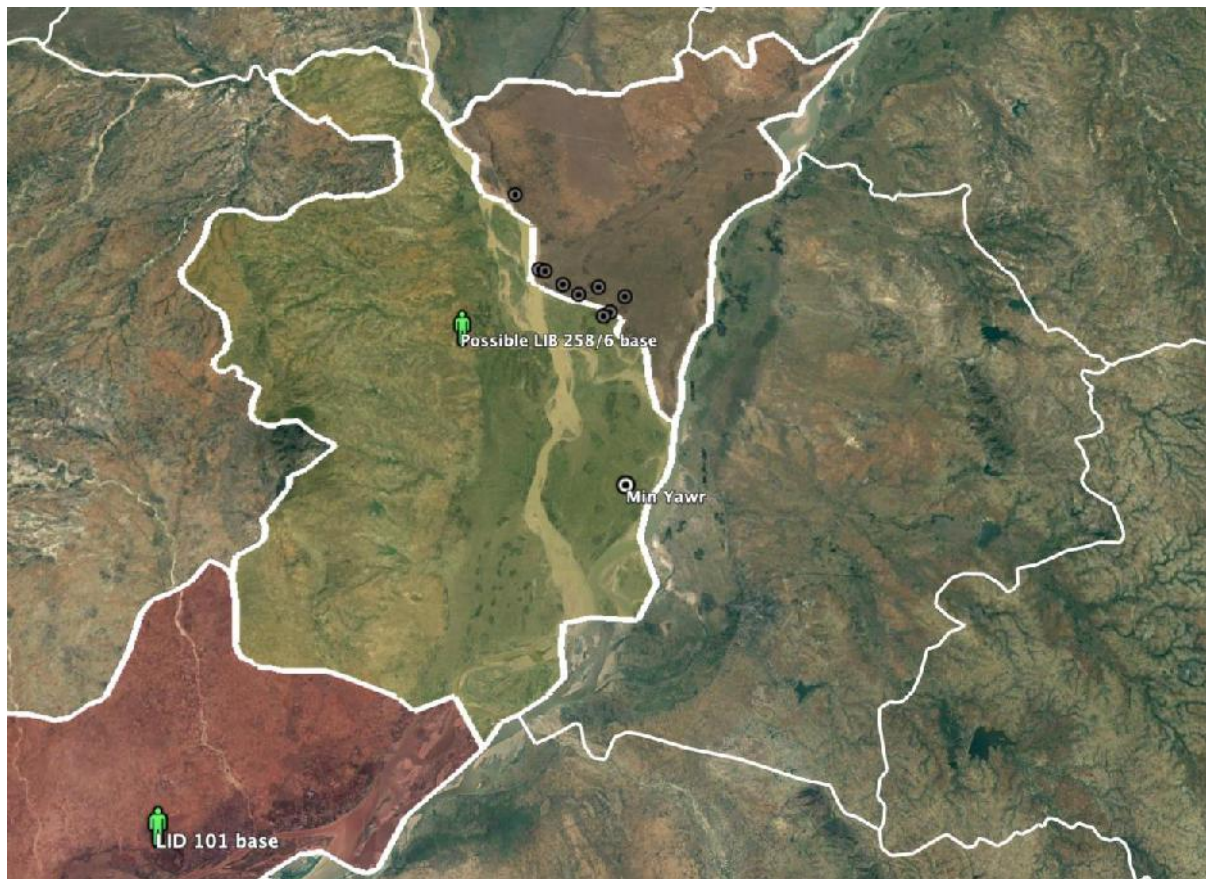


Figure 23: Mapping of two bases in relation to the Myaung Township villages affected by fire and Min Ywar village which was attacked by the LID 101 on 16 November 2021.

## The Fires

On 7 November 2022, the day after the CDSOM allegedly seized rice from the military vessel, the first report emerged of fires. In the following days, widespread fires were reported in the villages surrounding Kyauk Tan and Kyauk Yit.

Myanmar Witness verified that eight villages identified within the original cluster were burned within Myaung township between 7 and 13 November 2022. These villages are [Na Nwin Kaing](#), [Shwe Ta Chaung](#) (ရွှေတချောင်း), [Su Lay Kone](#) (ဆူးလေကုန်း), [Thu Ka Di Pa](#) (သုခဒီပ), [Myit Thar](#) (မြစ်သာ), [Myit Son](#) (မြစ်ဆုံ), [Shwe Hlan](#) (ရွှေလှန်) and [Pa Rein Ma](#). The villages of [Shwe Ta Chaung](#) and [Shwe Hlan](#) experienced fires twice, however, Myanmar Witness was unable to cross-reference this data with social media data for both fires.

[FIRMS](#) data collected during this timeframe confirms that fires occurred in these villages.

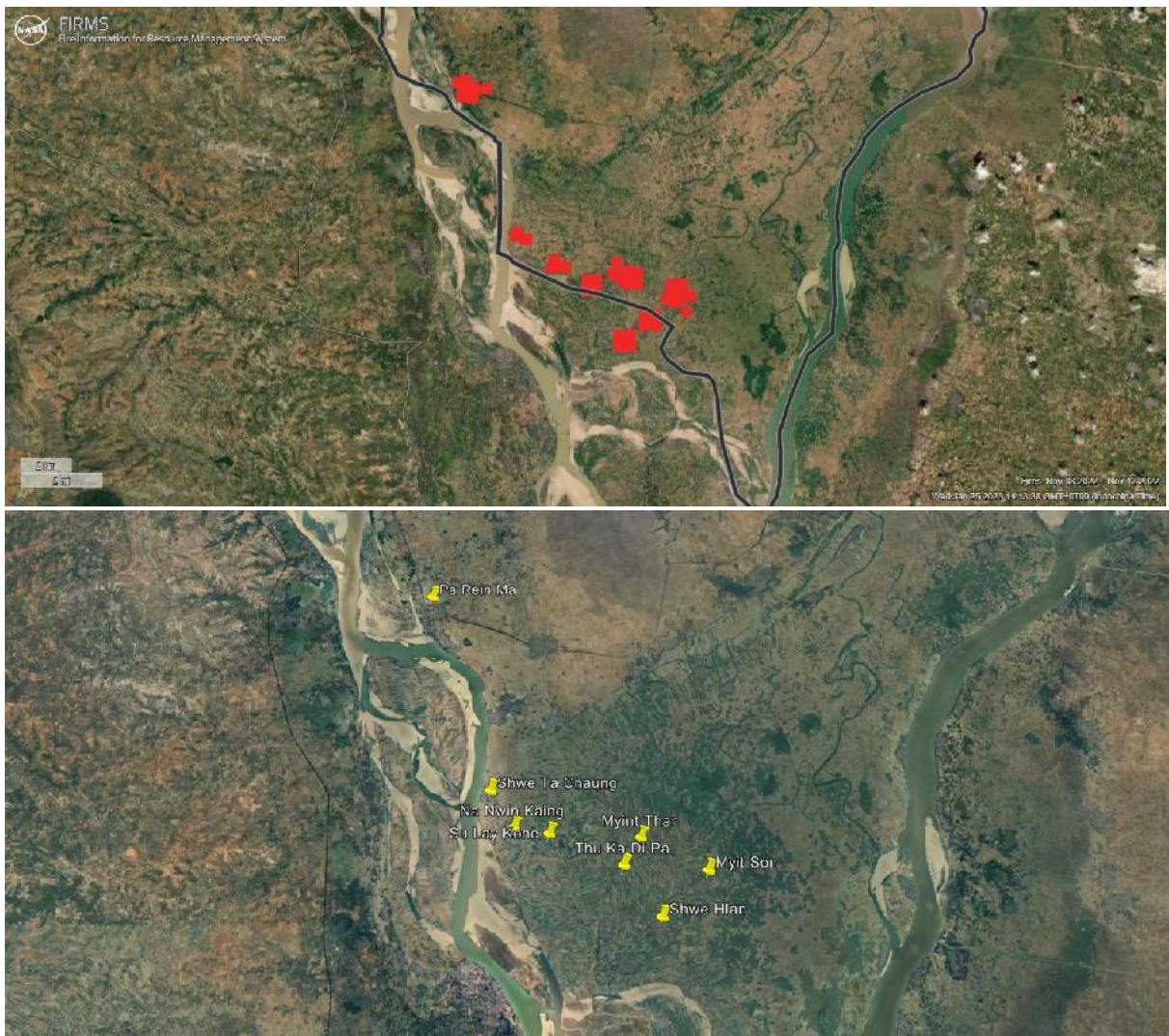


Figure 24: [FIRMS](#) data showing fires from 7 - 13 November 2022 compared to labelled villages.

Myanmar Witness identified and geolocated images uploaded by social media users and the [Mandalay Free Press](#) showing Na Nwin Kaing village on fire, and images uploaded by [Khit Thit Media](#) showing Pa Rein Ma village on fire.





*Figure 25: Image uploaded by the CDSOM, showing what is alleged to be Na Nwin Kaing village burning on 7 November 2022 (source: Redacted).*



*Figure 26: Na Nwin Kaing burning [21.671738, 95.254107] (source: [Mandalay Free Press](#)).*



Figure 27: Na Nwin Kaing burning at around 21.670406, 95.256117 (source: [Mandalay Free Press](#)).





Figure 28: Geolocation of Pa Rein Ma village on fire [21.744253, 95.227316] (source: [Khit Thit Media](#)).

Images uploaded to social media purport to show the movement of internally displaced persons (IDPs) from the village of Na Nwin Kaing due to fires during [Tasaung Mone](#) - a religious festival in Myanmar on 8 November 2022. However, Myanmar Witness could not geolocate these images.



Figure 29: Alleged IDPs from Na Nwin Kaing (source: [Mandalay Free Press](#)).



## Verification Status

Using satellite imagery, FIRMS data, Sentinel data, and geolocation of both UGC and images released by news media outlets, Myanmar Witness has verified that multiple fires occurred in Myaung township between 7 and 13 November 2022.

According to reports, the fires were lit following the seizure of military food supplies by the CDSOM. Social media users and local news media report that the Myanmar military – who reportedly have a base close by – was responsible for the fires and imply that the fires were lit in retaliation for the CDSOM's activities. It is possible that these fires occurred as the military column moved through each village. However, Myanmar Witness has been unable to verify the presence of the military in these villages at the time of the fires. As a result, Myanmar Witness cannot verify that the military was responsible.

## 2. Shwebo, Tabayin and Ye-U Townships, Sagaing - November and December 2022

One of the largest clusters of fire data recorded by Myanmar Witness demonstrates a large cluster of fires across Sagaing at the end of November until mid-December 2022.

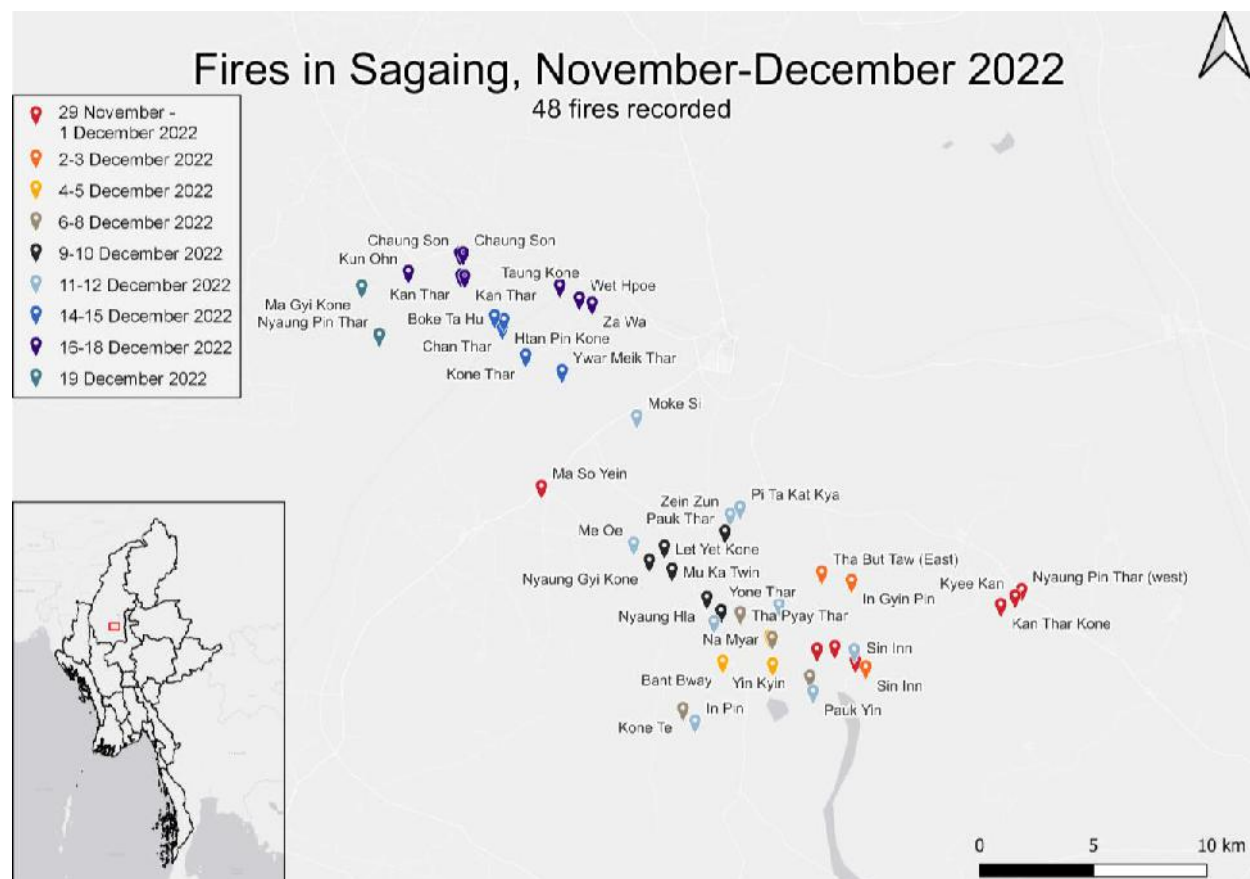
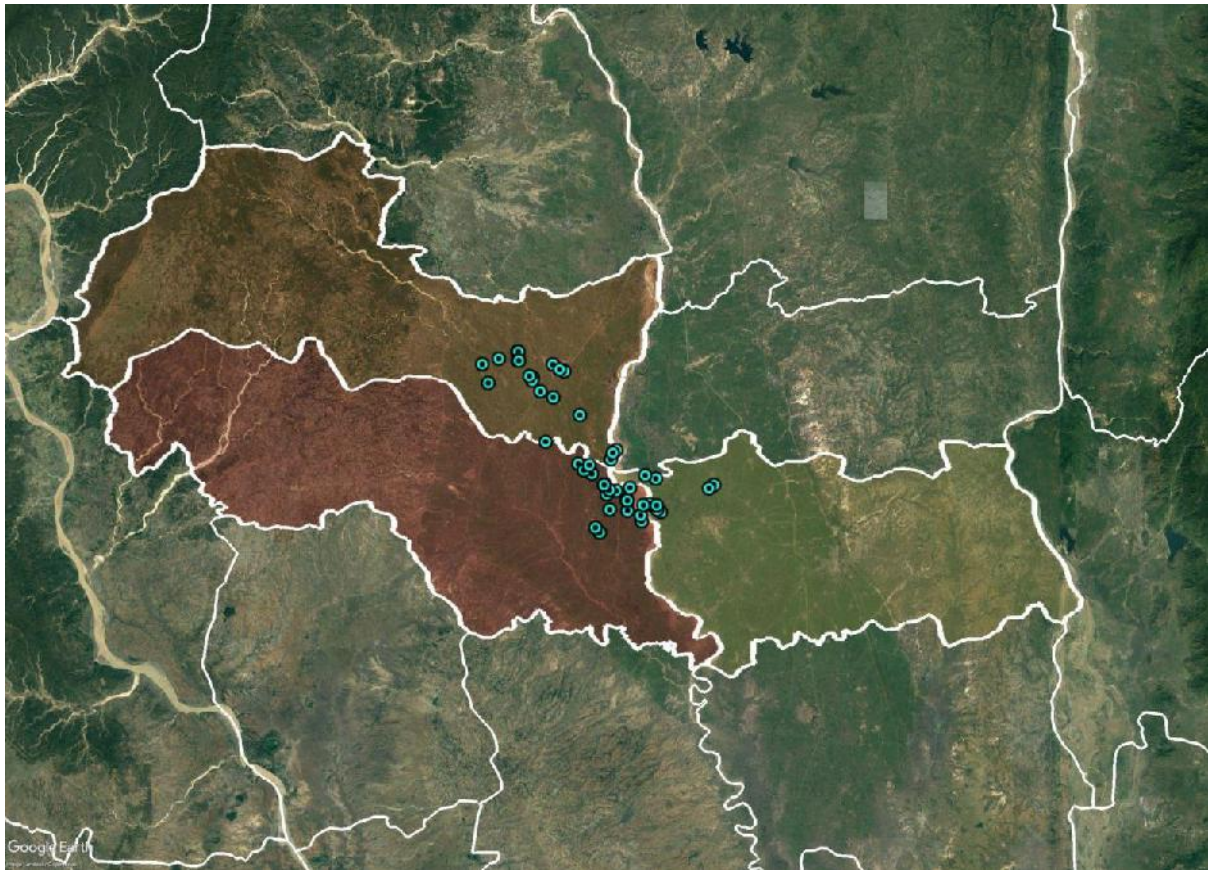


Figure 30: Recorded fire incidents from November to mid-December (Cluster 336).



*Figure 31: Shwebo (yellow), Ye-U (orange), and Tabayin (red) have all experienced fires within villages (highlighted in blue) within close proximity of one another throughout the period of late November, early December 2023.*

### Shwebo township

According to [media reports](#), Myanmar military soldiers and local pro-military militia, the Pyu Saw Htee, entered Nyaung Pin Thar village (ညောင်ပင်သာ), Shwebo township (ရွှေဘိုမြို့နယ်), Sagaing region at around 0700 on 29 November 2022. They allegedly fired guns and artillery at the village, and then set fire to the village at around 1000. The soldiers were reportedly stationed at Nyaung Pin Thar village State Agriculture Institute before they began the attack [22.643679, 95.569212].



Figure 32: Image allegedly showing Nyaung Pin Thar on fire (source: [RFA](#)).

According to the [Burma Human Rights Network](#), the troops left Nyaung Pin Thar village in two groups. One group [continued](#) to Kan Thar Kone village (ကန်သာကုန်း) – a predominantly Muslim village about a mile away – and set the fire to it at 1400. It is [reported](#) that a mosque was burned down, however Myanmar Witness has identified no footage showing damage to a mosque. The other group reportedly moved to the nearby villages of Kyee Kan (ကျီးကန်) and Bo Kone (ဘိုကုန်း), where fires were also reported. Local people told [Khit Thit Media](#) that the military set fire to these villages because their residents supported the PDF.

The following day, it was [reported](#) that the Myanmar military and Pyu Saw Htee attacked Sin Inn village (ဆင်အင်း) at approximately 1030, where they arrested villagers and used them as human shields. Myanmar Witness has been unable to confirm the claims related to human shields, but [FIRMS](#) and [Sentinel Hub](#) confirm that a fire took place in Sin Inn village.

On 2 December 2022, Sin Inn village was [set on fire for a second time](#) at 1000 local time (confirmed by [satellite imagery](#) and [FIRMS](#)) along with three other villages – [In Gyin Pin](#) (အင်ကြင်းပင်), [Byaing Kyaing](#) (ဗိုင်းကြိုင်) and [Tha But Taw](#) (သဘုတ်တော) (confirmed by [FIRMS](#) and [Sentinel](#)). It is then reported by a PDF page that Myanmar military troops entered Ta Nyin Kone (တည့်ကုန်း) village on the border of Shwebo and Tabayin townships in the evening and stationed there.



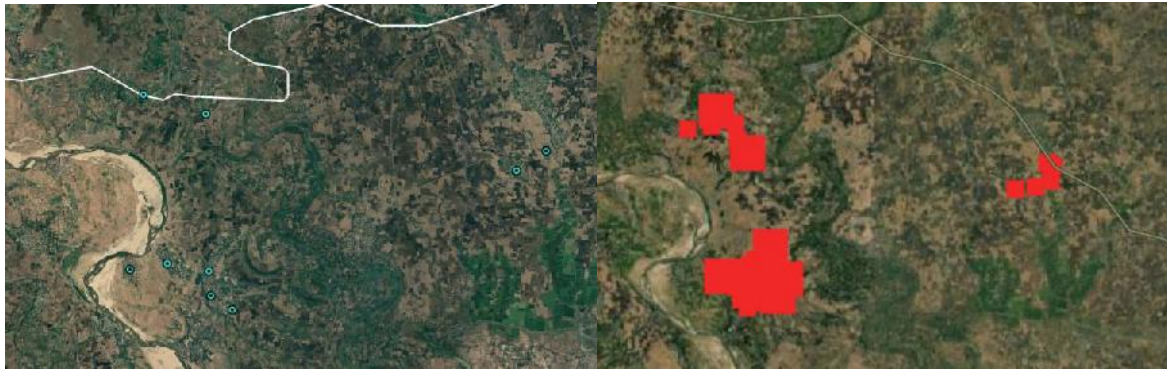


Figure 33: Nine villages in Shwebo Township affected by fires between 29 November - 2 December 2022 compared to FIRMS data that registers fires in this area.

### Tabayin township

On 3 December 2022, it was reported online that military troops entered Nyaung Hla village (ညောင်လှ), east Tabayin, where they fired artillery and burned down houses at 1415 local time.

Both [FIRMS](#) and [Sentinel](#) confirm that fires occurred.

Five other villages close by were also allegedly set alight in the following days: [Kan Kone](#) (ကံကုန်း; 13 houses), [Na Myar](#) (နမ္မာ; 24 houses) - which were confirmed by Myanmar Witness - and Yau (ယောင်ကျော်; 15 houses), Pyawbwe (ပျော်ဘွယ်; 28 houses), and Ma Soe Yein (မစိုးရိမ်; 5 houses), for which FIRMS data isn't available. About 70 military personnel allegedly entered villages in this eastern part of Tabayin, where these fires were registered. Myanmar Witness has [identified](#) additional villages on fire in Tabayin at this time.



Figure 34: FIRMS data registers fires in three Tabayin villages from 3-4 December 2022.

UNDER EMBARGO

## Ye-U township

Myanmar Witness identified a cluster of fires in Ye-U township between 11 and 19 December 2022. The villages affected were [Zein Zun](#) (ဇိန်ဇွန်), [Pi Ta Kat Kya](#) (ပိဋကပ်ကျ), [Moke Si](#) (မုတ်စီ), [Kone Thar](#) (ကိုးသာ), [Chan Thar](#) (ချမ်းသာ), [Htan Pin Kone](#) (ထန်းပင်ကုန်း), [Boke Ta Hu](#) (ဗုဒ္ဓဟူး), [Ywar Meik Thar](#) (ရွှေမိသာ), [Za Wa](#) (ဇေဝ), [Wet Hpoe](#) (ဝက်ဖိုး), [Taung Kone](#) (တောင်ကုန်း), [Kan Thar](#) (ကံသာ), [Chaung Son](#) (ချောင်းဆုံ), [Kun Ohn](#) (ကွမ်းအုံ), [Ma Gyi Kone](#) (မကြီးကိုး), and [Nyaung Pin Thar](#) (ညောင်ပင်သာ).



*Figure 35: FIRMS data showing fires in the area of Ye-U township between 11-19 December 2022 as compared to an Image of Ye-U township village clusters, demonstrating the 16 separate villages affected by fires.*

A PDF Facebook page stated that the Tabayin and Ye-U township incidents were connected; the villages were reportedly attacked by the same troops (source redacted due to privacy concerns). If proven, this could show the movement of troops through areas, leaving burnt villages in their wake. However, there is very little imagery associated with the fires in these villages, allowing for no further verification by Myanmar Witness on the incidents at this time.





*Figure 36: Image of village fires uploaded by a PDF page, that doesn't state the exact village alleged to be on fire, but does reference the villages fires in both Tabayin and Ye-U (source: Private).*

### Verification Status

Myanmar Witness has verified the occurrence of fires in Shwe Bo, Tabayin, and Ye-U townships using FIRMS data and satellite imagery. However, due to the lack of UGC, further claims about the incidents, including their perpetration by the Myanmar military, could not be verified.

These incidents were carried out in three townships located in close proximity to each other. Each village mentioned above experienced fires within at least 3 days and 10 km of another village fire (as per the methodology). Myanmar Witness calculated this as a feasible distance for a convoy to travel within 3 days. The clusters signal a pattern in the use of arson across connected regions. If the military perpetrated these fires (more evidence would be needed to support this claim), then this demonstrates their systematic use of fire in areas of known resistance to the Myanmar military.

### 3. Khin-U Township, Sagaing - November 2022

Between 17 and 21 November 2022, multiple villages in Khin-U (ခင်ဦး) township, Sagaing region, were allegedly [attacked](#) by military forces sometime after an ambush by local defence forces against the military in the area.

On 17 November 2022, at approximately 1300, a coalition of local PDF forces called 'The Hero Army' reportedly [ambushed](#) military forces as they were travelling from Ye-U (ရေဦး) town, towards the south-west of Khin-U township. It is alleged that military forces [entered](#) Khin-U township in two convoys, one of which included troops belonging to the LID 66.

On 19 November 2022, Khit Thit Media [reported](#) that over 100 houses were burned down in Paung Hle Kone (ပေါင်းလုံကုန်း) village. The following day, on 20 November 2022, two [sources](#) [reported](#) that over 80 rice paddy warehouses were destroyed by fires in several villages. Images of Paung Hle Kone having been affected were verified by Myanmar Witness.

Additionally, these same military forces [reportedly](#) marched into three other villages in Khin-U township – Shwe Kar (ရွှေကာ), Si Son (ဆီဆုံ), and Let Pan Gyi (လက်ပံကြီး) – and started burning houses at 1200 on 19 November 2022. More information about these incidents can be found in the Myanmar Witness spot report: '[Retaliatory fires after SAC convoy is ambushed](#)'. However, this could not be geolocated by Myanmar Witness.

## The Location



Figure 37: Map of Paung Hle Kone (ပေါင်းလုံကုန်း) village, Khin-U (ခင်ဦး) township, Sagaing (စာင်ကိုင်း) region [22.720647, 95.569427].

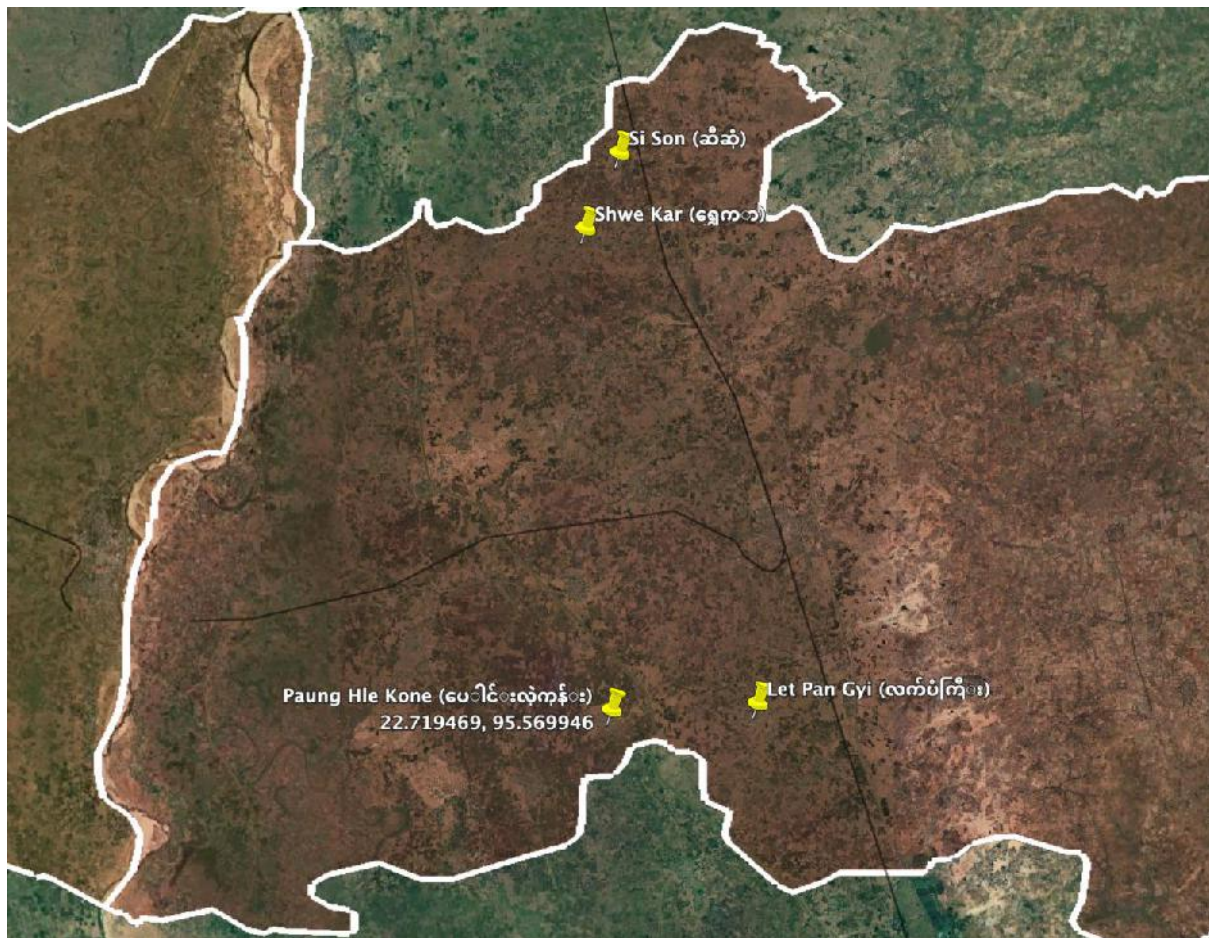


Figure 38: Villages alleged to have been burned in Khin-U township (red) next to Ye-U township (orange).

## The Fire

Using FIRMS, Myanmar Witness can confirm that there were heat signatures in Paung Hle Kone between 18 and 19 November 2022 (Figure 39). The below image of figure 40 indicates that the sources of smoke in the north and the east/southeast of the village are also consistent with the high heat signatures seen on FIRMS, verifying that this drone footage was likely taken on 18 November 2022. As a result, it is likely that the fire began on 18 November and continued through into 19 November 2022.





Figure 39: FIRMS heat signatures in Paung Hle Kone on [left] [18](#) and [right] [19 Nov 2022](#).



Figure 40: Aerial footage of the same village burning [22.719469, 95.569946].

An analysis of satellite imagery from Sentinel Hub shows damage to these areas (Figure 41). Darker patches can be seen in the imagery from 16 November 2022 compared to that from 21 November 2022.

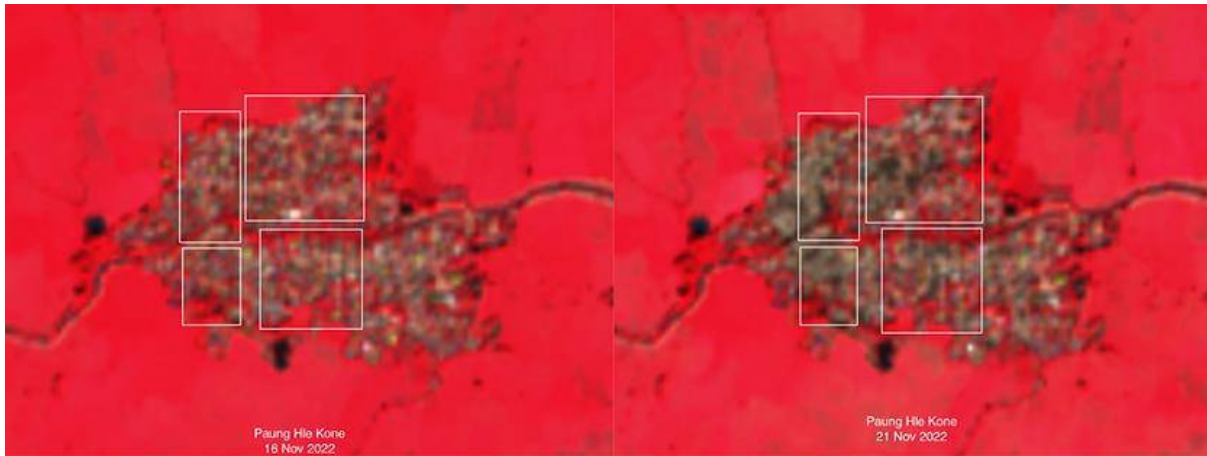


Figure 41: Sentinel Hub imagery of Paung Hle Kone on [left] [16](#) and [right] [21](#) November 2022.

Myanmar Witness investigators geolocated and chronolocated a video and photo posted on social media showing at least 12 buildings burned in an area of the village next to two small pagodas.



Figure 42: Geolocation of the damages shown in the video footage [22.720263, 95.567659].





Figure 43: Geolocation of the damages shown in the [photo](#) [22.722084, 95.567714].

### Destruction of Food Supplies

There are reports of the destruction of food supplies, including rice storage facilities, a sesame warehouse (Figure 46), and livestock (Figure 48). Most UGC showing the destruction is close-up, preventing geolocation, and thus verification. However, a small number of the images could be geolocated by Myanmar Witness and appear to show the burnt remains of civilian structures, including facilities which could be related to food production.



Figure 44: Geolocation of an image from Paung Hle Kone at around 22.721049, 95.568841. A burnt rice pile can be seen at the bottom of the footage (source: [Myanmar Now](#)).





Figure 45: [Left] Partially burnt pile of rice. [Right] Possible rice harvester machine damaged (source: [Khin-U Township news](#) and [BBC Burmese](#)).





Figure 46: [Left] Possible burnt remains of a sesame storage site. [Right] Burnt remains of trucks and shrubbery seen, and a possible rice pile in the background (source: Private and [Myanmar Now](#)).



Figure 47: Geolocation of a rice storage facility [destroyed](#) in the fire in Paung Hle Kone [22.722084, 95.567265].



Figure 48: [Top] [Burnt](#) livestock remains, possibly a pig. [Bottom] Possible [burnt](#) remains of other farm animals.

### Verification Status

By cross-referencing the reports and UGC on social media with satellite imagery, Myanmar Witness verified that a fire occurred in Paung Hle Kone on 18 January 2023. Myanmar Witness was able to geolocate UGC images showing fire damage to warehouses, civilian buildings, and places of worship. Images of burnt livestock and rice paddy piles could not be geolocated, but are highly likely to be from the same incident.

Myanmar Witness has not been able to verify the death of individuals in connection with this fire attack - which has been further explored in our spot report [Retaliatory fires after SAC convoy is ambushed](#).



#### 4. Ye-U Township, Sagaing - January 2023

Early on 15 January 2023, the military allegedly burned down more than 100 houses, as well as historic Christian churches and buildings, in villages around Ye-U township, Sagaing region. A scout network following troop movements in Sagaing claimed that the Myanmar military soldiers burned the area while on their way to Myin Thar village (မြိုင်သာ).

##### The Location

On 15 January 2023, allegations posted online claimed that villages in Ye-U township were set alight. This was corroborated by [Sentinel Hub](#) imagery which showed three separate villages on fire at roughly the same time: Chan Thar (ချမ်းသာ), Kone Thar (ကုန်းသာ), and Ywar Meik Thar (ရွာမိသာ) (Figure 49, left to right).

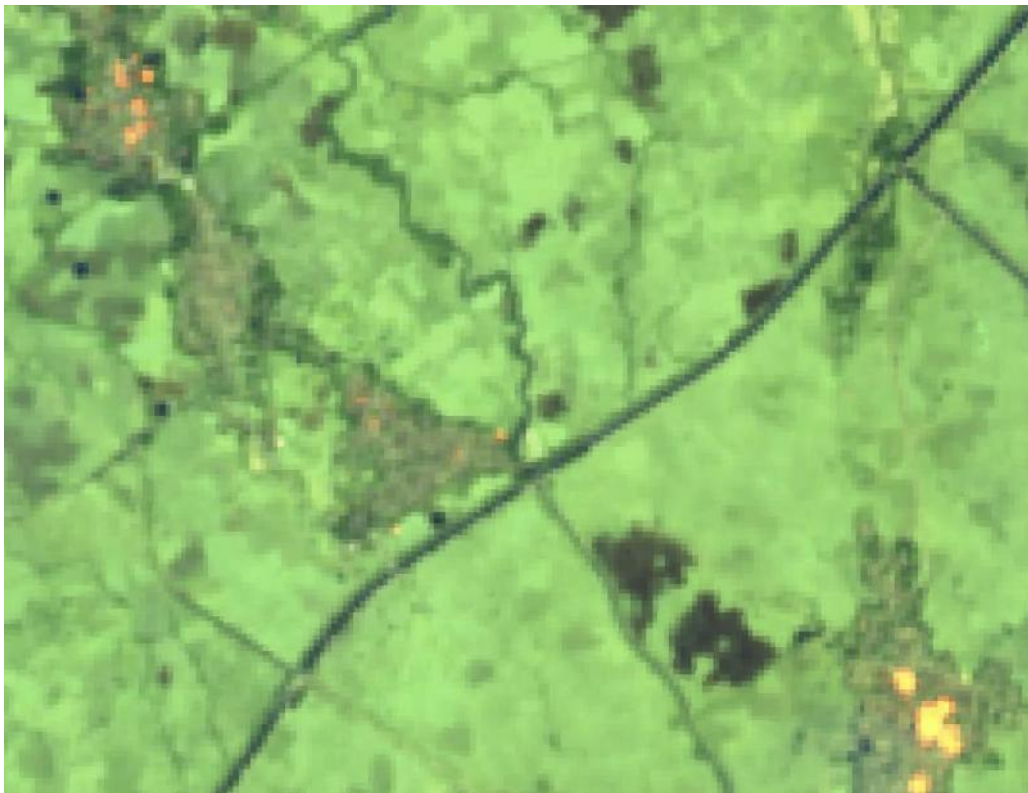


Figure 49: [Sentinel Hub](#) shows three villages with active fires on 15 January 2023.

Myanmar Witness has confirmed that a 129-year-old, [historic Christian church](#) and other civilian buildings in Chan Thar were burnt down on 15 January 2023. Eyewitnesses claimed that a military column was responsible. Images and drone footage geolocated by Myanmar Witness show destruction to the church in the village [22.771888, 95.330412] (Figure 50).



Figure 50: Geolocation of drone footage showing the destruction of Chan Thar church (Source: [Myaelatt Athan](#)).





Figure 51: (left) Chan Thar church before it was damaged and (right) after (Source: [left] [Google Maps](#) and [right] [Asia News](#)).

Myanmar Witness believes that the drone footage was likely taken on 15 January 2023 as active fires are visible in the footage which match the location of the active fires and burn damage visible on [Sentinel](#).

### Repeated fires in Chan Thar

The fires in January were not the first fires in this village. Fires also occurred in Chan Thar a month earlier, on 14 December 2022 as seen in [Sentinel](#) imagery which shows widespread fire damage in the south of the village. [Social media](#) users began reporting seeing fires in Chan Thar at approximately 1330 on 14 December 2022. [FIRMS](#) data also indicates a large heat signature in the village at around 0145 local time on 15 December 2022.

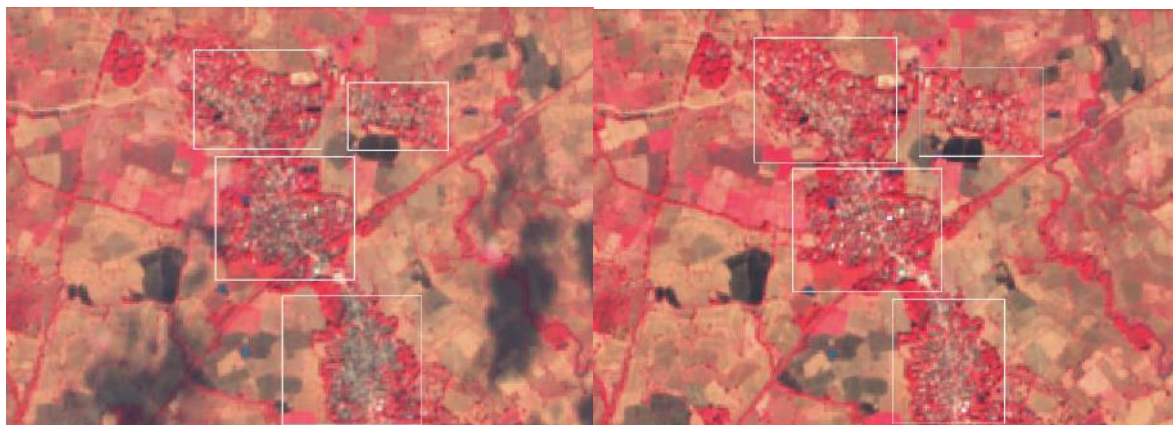


Figure 52: Fire damage in Chan Thar between 11 and 16 December 2022 (source: [Sentinel](#)).



There are also allegations of additional fires earlier in the year, including on 7 May 2022 and [10 June 2022](#). Myanmar Witness has geolocated imagery showing damaged buildings in Chan Thar that are likely to have been from 7 May 2022 (Figure 53), and [Sentinel](#) imagery confirms visible burn damage between 10 and 15 May 2022.

Myanmar Witness has also geolocated imagery from posts which social media users [claim](#) was taken following an attack on 10 June 2022; however it has not been possible to confirm the date (Figure 54). It is alleged by [Myanmar Now](#) that Chan Thar had been raided by the military around 16 times before the incidents in June 2022.



Figure 53: Geolocation of images of Chan Thar [22.771698, 95.330442] associated with the fires which allegedly took place on 7 May 2022 (source: Private).



Figure 54: Geolocation of an image from Chan Thar [22.771268, 95.329478] allegedly taken on 15 June 2022, showing destruction in the area (source: [Khit Thit Media](#)).

## Verification Status

By cross-referencing the reports and UGC on social media with satellite imagery, Myanmar Witness concluded that fires were verified to have occurred in Chan Thar on 15 January 2023. Myanmar Witness was able to confirm fire damage to the church and other civilian buildings in the village. Although the verification status of previous incidents is not consistent, with less accurate Sentinel data to work with, it is highly likely that the village has experienced fires on

several previous occasions due to the burn damage visible on satellite imagery and geolocatable footage.

## 5. Tabayin Township, Sagaing - January 2023

On 23 January 2023, military troops allegedly [entered](#) several villages on the border of Ye-U (ရေဦး) and Tabayin (ဒီပဲယင်း) townships, and [reportedly](#) set 10 villages alight. On 24 January 2023, sources including [Khit Thit News](#) and [Radio Free Asia](#) reported that military troops burned Nyaung Hla (ညောင်လှ) village, which was reportedly at the time home to over [900 households](#), for the third time in less than a year. The fire resulted in damage to and destruction of hundreds of civilian homes, [rice paddies](#), [farm animals](#), and a rice mill, and the alleged death of an elderly woman.

Myanmar Witness has verified and chronolocated the fires in seven of the [10 villages](#). This included the villages of [Aung Chan Thar](#) (အောင်ချမ်းသာ), [Daing Nat](#) (ဒိုင်နတ်), [Let Yet Kone](#) (လက်ယက်ကုန်း), [Nyaung Hla](#) (ညောင်လှ), [Ohn Ta Pin](#) (အုံးတပင်), [Tha Yet Taw](#) (သရက်တော), and [Yin Kyin](#) (ယဉ်ကျင်း).

Additionally, Myanmar Witness has geolocated additional footage in Nyaung Hla, where an estimated 402 houses were affected and a rice mill was destroyed. Myanmar Witness has also identified UGC showing spent arms in the vicinity, which signal that Myanmar military troops could have been present in the area around the time of the fires.

More in-depth can be read about this in Myanmar Witness' report '[Civilian infrastructure and food supplies destroyed in Myanmar military arson attacks](#)'.

### The Location

Between 23 and 27 January 2023, FIRMS identified multiple areas of high heat signatures in Nyang Hla. The locations were cross-referenced with Sentinel Hub imagery, which showed damage to vegetation. This is evidenced by the changes in colour shown in Figure 55 (see middle and right images).

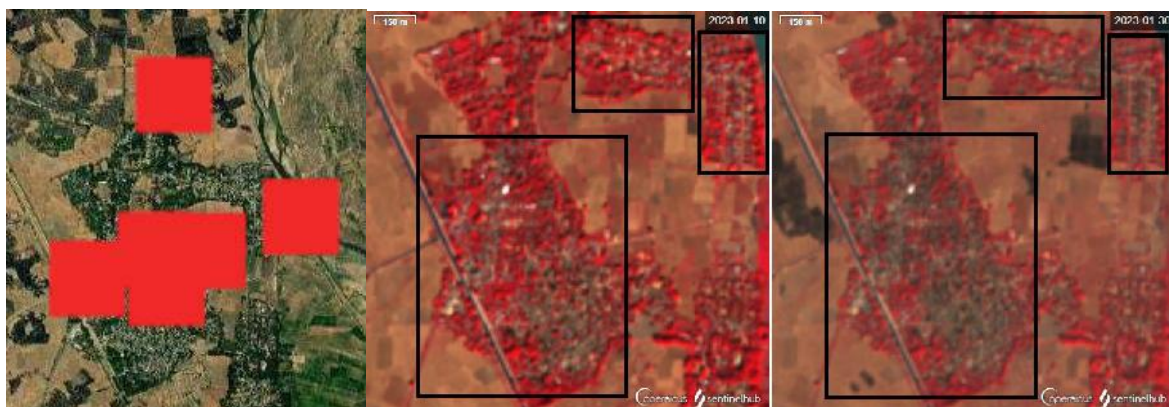


Figure 55: (Left) [FIRMS](#) fire events on 23-27 January 2023. (Middle) Sentinel hub imagery before the fire took place. (Right) False colour satellite [imagery](#) showing the decrease of vegetation.



By overlaying the discoloured area with higher resolution satellite imagery (Figure 56), Myanmar Witness was able to estimate that the number of civilian buildings destroyed or damaged was 402.



*Figure 56: The outline of the damage seen in Sentinel overlaid onto higher resolution imagery on Google Earth.*

The fires in Nyaung Hla damaged a rice mill located towards the west of the village. Figure 57 compares UGC drone footage of visible damage to the rice mill and satellite imagery of the location.



*Figure 57: (Left) the red box shows the geolocation of the rice mill using [UGC drone footage](#). (Right) satellite imagery at around 22.655667, 95.416778.*

Photos [reportedly](#) taken in Nyaung Hla show the burnt remains of four farm animals and a rice paddy (Figure 58). These images could not be geolocated by Myanmar Witness.





Figure 58: (Left) [Dead farm animals](#): a hen and possibly a goat, [along with](#) two other unidentifiable animals. (Right) Rice paddy seen [burnt](#) under rubble.

### Military presence

Several empty bullet packets (Figure 59) labelled 'Ka Pa Sa, Defence Industries' (ကကွယ်ရေးပစ္စည်းစက်ရုံ, ကပစ), were allegedly found in Nyaung Hla village. Figure 59 shows the paper box labelled "KaPaSa (2) 5.56x45mm bullets", as well as what appear to be rifle grenade containers.

This could indicate the presence of Myanmar military personnel, however it was not possible to chronolocate or geolocate these images.





Figure 59: (Top left) Ammunition case that reads, “Manufactured by Defence Industries” in both Burmese and English. (Top right) Ammunition case that reads, “Lot No and Manufacture Date”. (Middle left) Multiple ammunition cases. (Middle right) Ammunition case that reads, “KaPaSa (2) 5.56x45mm bullets”. (Bottom) Likely a container tube for a 40mm rifle grenade model MG-2, manufactured by DDI (source: [Khit Thit Media](#)).

The perpetrators [reportedly](#) left rude messages for the PDF on a blackboard inside a school building in Nyaung Hla (Figure 60). Myanmar Witness was unable to geolocate this image.

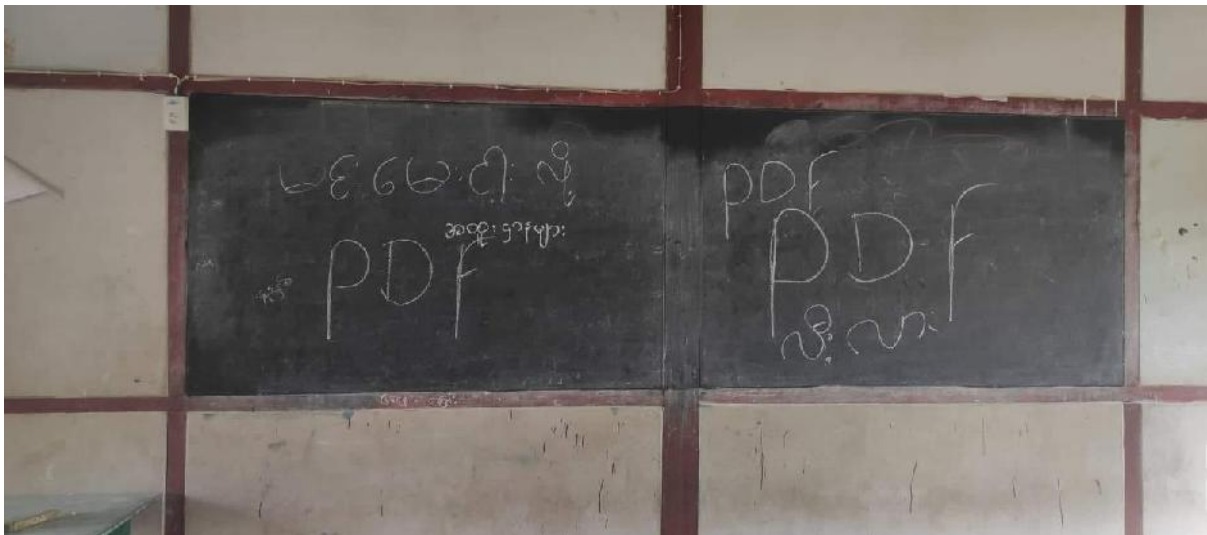


Figure 60: [Handwritten curses](#) against the PDF on a blackboard allegedly in Nyaung Hla. The text on the left side of the blackboard reads, “Motherfucker PDF”, and on the right reads, “Fuck you, PDF”. Small text in the middle of the left side reads, “special departments”, likely unrelated to the incident.

## Verification Status

By cross-referencing UGC with satellite imagery, Myanmar Witness has confirmed that a fire occurred in Nyaung Hla on 23 January 2023. UGC shows fire damage to civilian buildings and food storage facilities. Claims that the military was responsible for the fires were supported with evidence of military ammunition. Despite this, Myanmar Witness has been unable to confidently attribute the fires to the military.



## Attribution

In each of these case studies, due to a lack of verifiable information, Myanmar Witness was unable to confirm attribution for the fires to the Myanmar military. This is because there is little information about how exactly the fires were started or verifiable evidence placing Myanmar military troops in the vicinity of the fires.

Despite this, Myanmar Witness deems it highly likely that the fires were started by the Myanmar military. While researching each of these case studies, Myanmar Witness identified eyewitness testimony reported by local news media or by social media users which claimed that the Myanmar military or military-aligned militias were responsible for the fires. There have also been examples of PDF groups using fire to attack villages holding pro-military forces, such as the Pyu Saw Htee militia. Despite these examples, data suggests that military use of fire is far more common than opposition groups.

The sequential and seemingly systematic use of fire in multiple villages all in close proximity, increases the likelihood that the military was responsible for the fires. This pattern matches the military's activity in other cases explored by Myanmar Witness. The Myanmar military has been seen to burn down entire villages as its convoys have moved through areas. For examples, see: '[Civilian Harm: The impact of military operations in North-West Myanmar](#)'; '[Burning Myanmar](#)'; and '[Fire as a weapon in Sagaing](#)'. Myanmar Witness has previously translated and geolocated a [video of LID-101 soldiers](#), which revealed that intentionally burning down villages was a military tactic.

The locations of the incidents also increases the likelihood that the military were responsible for the fires. Many of the incidents occurred in locations with known or rumoured local defence force presence or support, as reported by local media or PDF social media pages. Additionally, clear parallels are visible when a comparison is drawn between the areas that the military has targeted with airstrikes, as revealed through Myanmar Witness' report '[Eyes on the Skies](#)', and the areas where fires have been concentrated, as shown by the fire data collected during this investigation (Figure 61). These areas also coincide with the areas which were put under Martial Law in February 2023; an act which many commentators believed was a sign that the SAC was losing control of these regions.

While Myanmar Witness cannot confirm that the military was responsible for setting the fires, the increase in fires in areas of known resistance – areas which have also been targeted with airstrikes (which undeniably were carried out by the Myanmar Air Force), doesn't appear insignificant.



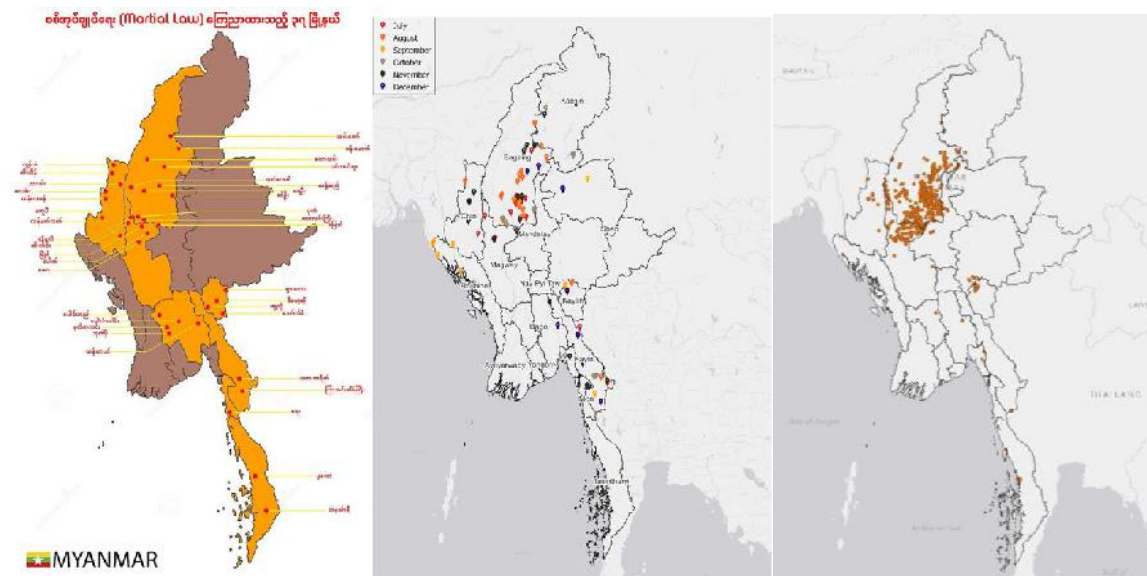


Figure 61: Image comparison on (left) Martial law announcements from February 2023, a mapping created by Myanmar Witness of airstrike incidents in Myanmar and a mapping created by Myanmar Witness of all fire data collected since June 2021 - January 2023.

State media perpetuate this anti-PDF narrative as well as imply the need for 'elimination' of local defence group for allegedly causing violence; this continued during the September 2022 - January 2023 period (Figure 62). This clear intent to pursue PDF groups provides further rationale for potential attacks on these areas.

Public Notice for elimination of violence

1. SO called "CRPH", "NUG" and "PDF" terrorist groups are unlawfully committing killings of monks, teachers, civil servants and general people and looting under the pretext of saying "for the people".
2. Not rendering of encouragement, support and assistance to the "CRPH", "NUG" and "PDF" terrorists that are committing intimidations, killings and destructive activities could be construed as protecting lives and property of general public.
3. Giving information secretly relating to bearing of their arms, ammunition and terrorists to authorities could be tantamount to protecting lives and property of innocent people.

Figure 62: 'Public Notice for Elimination of Violence' posted in [Global New Light of Myanmar](#) on 31 December 2022.

## Conclusion

In February 2023, [Martial Law](#) was announced in several townships, including many within Sagaing - an area the data shows as clearly being affected by fire incidents - possibly those caused by the military. This demonstrates a need to continue monitoring the situation due to Martial Law being implemented after the January 2023 sample originally examined and specific to areas such as Tabayin township, which have been included as a hotspot of military activity in this report and our previous thematic report: [Eyes on the skies](#).

The sharp increase in the numbers of fires reported around the end of 2022, and the destruction that has resulted as detailed by Myanmar Witness in this report, highlights the likely intentional use of fire as a weapon against the population by the military, including homes, infrastructure, and places of worship. The case studies show a pattern of 'clusters' of incidents, both in particular villages over time and in multiple villages in an area simultaneously; a pattern also observed by Myanmar Witness in the wider dataset and in previous reporting. Although Myanmar Witness has been unable to verify the presence of military personnel in the affected villages at the times of the fires, and thus has been unable to conclusively prove that the military was responsible, Myanmar Witness believes it to be highly likely that the fires detailed in the case studies within this report were started by the military, and that the locations were tied to local resistance activity in areas subject to martial law.

## List of Abbreviations

- Fire Information for Resource Management System - FIRMS
- Internally Displaced Persons - IDPs
- Light Infantry Division - LID
- Myanmar Information Management Unit - MIMU
- National League for Democracy - NLD
- People's Defence Force - PDF
- Pyu Saw Htee - PSH
- Quantum Geographic Information System - QGIS
- State Administration Council - SAC
- User Generated Content - UGC