

## Humanitarian impact of landslide in Lagaip - Porgera district

### OVERVIEW

On 24 May 2024, at 03:00 local time, heavy rains contributed to a landslide in Lagaip-Porgera district, Enga province, with the most severe effects in and around Yambali Ward. Up to 8m of soil and rubble buried people, homes, infrastructure, and farmland and damaged the sole road leading to Yambali (UNCT PNG 28/05/2024; IOM 28/05/2024). An estimated 200km<sup>2</sup> of land was affected (CARE Australia 27/05/2024). By 29 May, authorities had warned communities in and around Yambali, particularly in Lapak Ward and Kaundak Ward, to evacuate because of the risk of further landslides (Reuters 28/05/2024; The Independent 29/05/2024; BBC 28/05/2024; CARE Australia 27/05/2024).

On 28 May, the UN estimated that the landslide had affected over 7,840 people, almost 3,300 (42%) of whom were children under 16 years old. The total included 1,650 people displaced by the landslide and an unclear number subject to evacuation in case of a second landslide. The UN also estimated around 670 deaths in the rubble, while the Papua New Guinea National Disaster Centre reported up to 2,000 people buried. Until 30 May, responders had recovered only 11 bodies. Around 220 people were treated for minor injuries and 17 treated for serious injuries (UNCT PNG 28/05/2024; IOM 28/05/2024; AJ 30/05/2024; AP 30/05/2024; RNZ 31/05/2024). The number of confirmed deaths will increase as rescuers remove rubble in coming days (IOM 28/05/2024; WV 28/05/2024; ECHO 26/05/2024).

Information gaps and limitations: widely differing casualty and affected population estimates are attributable to landslide-induced physical access barriers and lack of pre-crisis information on the number of people living in the exact landslide-affected area and its surrounds. There has been no credible census in Papua New Guinea since 2000. Local officials and media outlets report around 4,000 people living in the landslide-affected area, but it is unclear whether this refers only to Yambali ward, a precise area in this ward, or a wider area that includes surrounding wards (France 24 28/05/2024; BBC 27/05/2024; Post-Courier 26/05/2024; Lowy Institute 13/01/2023; CARE Australia 27/05/2024). Yambali also hosts an unknown number of people displaced by recent intercommunal violence in Enga province. By 30 May, at least 2 of the 11 bodies recovered belonged to people from outside Yambali, confirming that the affected population includes people who had been displaced or were visiting from other areas (The Guardian 30/05/2024; AP 30/05/2024; CARE Australia 27/05/2024).

### KEY FACTS AND FIGURES

- By 29 May, between 670–2,000 people were still unaccounted for under rubble from the landslide. **An estimated 7,840 people were affected**, including 1,650 displaced and an unknown number subject to evacuation orders. As at 29 May, an estimated 700 people had agreed to evacuate the affected area.
- **The landslide has blocked access to the network of creeks and streams serving as Yambali ward's sole water source.** Buried bodies may contaminate the groundwater running into this source, creating longer-term issues in accessing potable water. This aggravates pre-existing WASH challenges in Papua New Guinea, where only **20% of the rural population had access to safe and clean water in August 2023.**
- The landslide destroyed vegetable gardens and small-scale farms and killed livestock, threatening livelihoods and food security in a province where around **90% of the population were subsistence farmers in 2022.**
- Intercommunal conflict is common across Enga province, with a steady increase in violent incidents since 2021. **In March 2024, there were an estimated 20,000 protracted IDPs in the province**, including Yambali ward, many of whom had been displaced by intercommunal conflict.

## Humanitarian access

The landslide damaged around 200m of the only road leading to Yambali, which was only accessible by helicopter until 29 May, when the highway to the provincial capital (Wabag) was cleared. This has delayed access to the affected areas and the delivery of humanitarian supplies (BBC 27/05/2024; The Guardian 26/05/2024; AP 29/05/2024).

On 28 May, a bridge connecting Enga and Western Highlands provinces collapsed, forcing aid convoys to take a longer route and delaying the delivery of heavy rescue machinery and other humanitarian supplies. The reason for the bridge collapse is unknown. By 29 May, repair efforts were underway (Reuters 28/05/2024; The Independent 29/05/2024; AP 29/05/2024; UNCT PNG 28/05/2024).

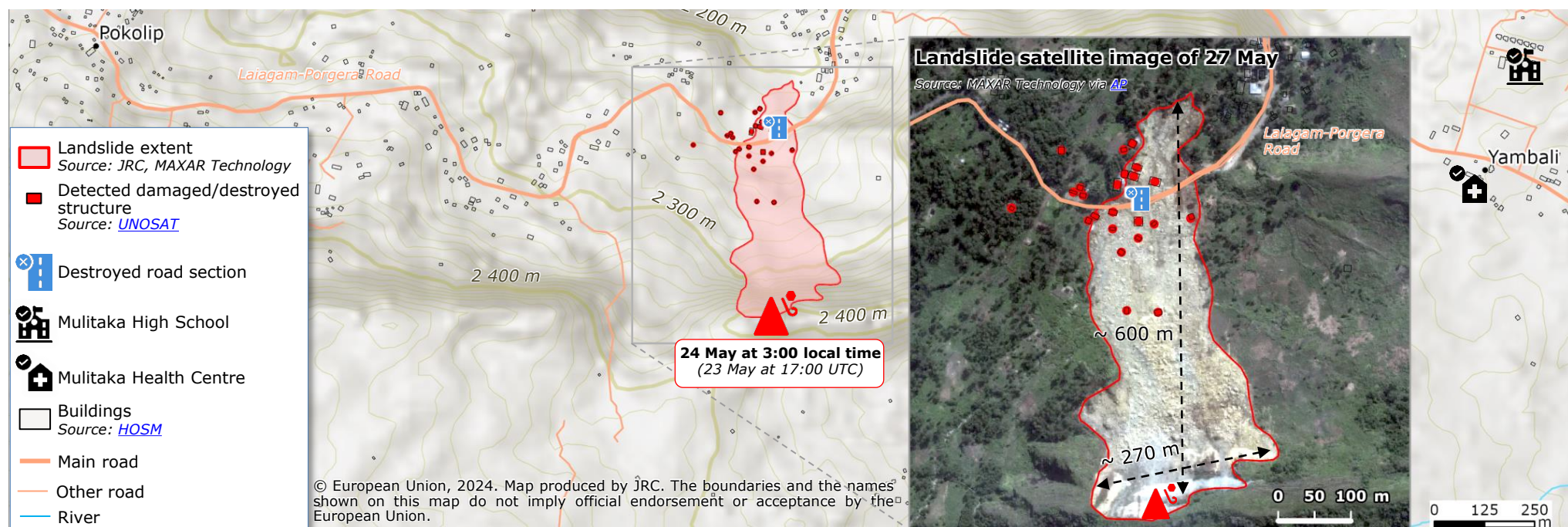
The continuing movement of land, falling boulders, poor weather, underground water flows, and the delayed arrival of heavy machinery were also preventing safe access and search and rescue efforts as at 29 May (IOM 28/05/2024; UNCT PNG 25/05/2024; Sky News 28/05/2024; Reuters

28/05/2024). On 30 May, rescuers planned to begin using heavy machinery to search for survivors on the following day (Reuters 30/05/2024). Affected community members, however, were divided over the use of such machinery, as it could damage bodies in the process (The Independent 29/05/2024).

From 25 May, an unrelated clan conflict escalated in Tambitanis, Enga province, along the only road to the landslide-affected communities. By 31 May, the violence had killed up to twelve people. The Papua New Guinea Defence Force is providing security escorts to facilitate humanitarian access (ECHO 26/05/2024; RNZ 31/05/2024). On 28 May, the UN reported that these escorts have helped prevent the security situation from directly affecting aid delivery (UNCT PNG 28/05/2024). That said, spikes in intercommunal conflict in Enga province, which have become more frequent in the past two years, may cause further security constraints in the coming weeks (ACLED 27/02/2024).

The landslide damaged communication infrastructure. As at 29 May, it is unknown whether this infrastructure had been repaired (UNCT PNG 25/05/2024).

Map 1. Map and satellite imagery of the landslide-affected area and nearby Yambali village



Source: ECHO (28/05/2024)

## Anticipated scope and scale

The land around affected communities remains unstable, posing the risk of further landslides, particularly in Lapak Ward and Kaundak Ward (BBC 27/05/2024; CARE Australia 27/05/2024). Responders plan to begin using heavy machinery to recover bodies on 31 May, which increases the risk of further landslides as rocks and rubble are moved (AP 30/05/2024; BBC 27/05/2024).

On 28 May, the authorities issued an evacuation alert to almost 7,900 people, some of whom had already begun leaving the landslide-affected area (Reuters 28/05/2024; The Independent 29/05/2024; BBC 28/05/2024). People who evacuate will require shelter and other assistance in host communities. There is also a risk of intercommunal tension between landslide-displaced people and host communities (AP 30/05/2024).

On 28 May, additional rainfall was forecast across Papua New Guinea (ECHO 28/05/2024). This will increase the likelihood of further landslides and pose health and WASH risks for affected communities living in inadequate temporary shelters.

May–July are among the coldest months in Enga province, with minimum temperatures dropping to around 10° C (WB accessed 28/05/2024). Insufficient shelter will expose landslide-displaced people to the cold and associated illnesses, including respiratory infections, influenza, and pneumonia (ABC 29/05/2024).

## CRISIS IMPACTS

### Shelter

Because of limited access and continuing earth movements, there is inconsistent information on the number of homes affected. On 25 May, local news reported that nearly 1,200 houses were buried, while local officials estimated that between 60–150 were destroyed (Post-Courier 25/05/2024; The Guardian 26/05/2024; Reuters 28/05/2024; CARE Australia 27/05/2024). On 27 May, satellite imagery identified at least 18 damaged or destroyed structures in the landslide's path and 634 within 2km of the landslide, which ECHO classified as 'potentially damaged' (UNOSAT 27/05/2024; ECHO 28/05/2024). It is unclear whether all sources are discussing the same landslide-affected area. Estimates will continue to evolve because of continuing earth movements and increased access in the coming days (BBC 28/05/2024).

The estimated 1,650 displaced people are either sheltering with family and friends or living in the open without adequate shelter (The Guardian 26/05/2024; WV 28/05/2024). The proportion of people staying with hosts compared to informal sites is unknown. There is a risk of overcrowding in host communities, some of which may already be sheltering people displaced by recent intercommunal conflict in Enga province (IOM 27/03/2024 a).

The evacuation of survivors and people in nearby communities at risk of a second landslide will create further shelter needs, as there was only one 50-person evacuation centre near Yambali available by 29 May (The Independent 29/05/2024).

### WASH and health

The landslide has damaged or prevented access to most local drinking water sources. The remaining sources risk contamination from buried bodies, which may come into contact with the underground water flowing down the mountain (IOM 28/05/2024). This may force affected communities to use contaminated water or resort to unimproved alternative water sources, increasing the transmission of diarrhoea and other waterborne diseases, some of the main causes of children's death countrywide. In August 2023, only 20% of the rural population had access to safe and clean water (WV 31/08/2023; AJ 30/05/2024).

Heavy rainfall and the accumulation of stagnant, unclean water also raise the risk of malaria transmission, which has been increasing across the country for the past five years, as well as dengue outbreaks, which most recently occurred in Port Moresby in 2016 (CFE-DM 22/06/2022; Jonduo et al. 05/07/2022). The recent incidence of malaria and dengue in Enga province is unknown, although the province's altitude reduces malaria transmission risk (Mueller et al. 2006).

The landslide minorly injured around 220 people and majorly injured at least 17 people, who received treatment in the hospital of Wabag, the capital of Enga province (AP 30/05/2024; RNZ 31/05/2024). Molutaka health centre is the closest health facility to Yambali Ward, around 3km away, and was operating with limited supplies as at 30 May (UNICEF 30/05/2024).

### Livelihoods and food security

The landslide buried small businesses, small plots of farmland, livestock, and vegetable gardens, posing a significant threat to both livelihoods and food security (AJ 28/05/2024; The Guardian 26/05/2024 and 28/05/2024). A local source estimates that the landslide killed around 5,000 pigs, which families would raise and sell for money to buy food, pay school fees, and meet various community obligations (e.g. dowry payments) (Post-Courier 25/05/2024; UNDP 18/12/2022). Over 85% of Papua New Guinea's population relies on subsistence agriculture, including in Enga province, where smallholder farmers mainly produce crops for consumption and small amounts of cash crops for additional income (UNDP 18/12/2022; CFE-DM 22/06/2022; Enga Provincial Government accessed 30/05/2024). A 2022 survey of over 450 households across Enga province found that 100% relied on their own production to meet food needs. Between 20–42% of households across surveyed villages reported not consuming sufficient amounts of food in a given day (UNDP 18/12/2022).

The landslide occurred near the Porgera Gold Mine in Lagaip-Porgera district, but its operations were not affected (Reuters 29/05/2024).

### Mental health and psychosocial support

The landslide has traumatised affected children and caused significant distress among people who have lost their entire families and communities (AJ 28/05/2024; STC 29/05/2024; UNICEF 30/05/2024). Mental health and psychosocial support needs will increase upon the recovery and identification of more bodies in the coming days.

## DRIVERS OF THE CRISIS

### Climate and environmental hazards

Several weeks of heavy rainfall contributed to the landslide by weakening and loosening bedrock (BBC 27/05/2024; CNN 27/05/2024). Papua New Guinea has one of the world's wettest climates, with particularly high precipitation in the highlands, where Enga province is located (WB accessed 28/05/2024).

There does not appear to have been an earthquake prior to the landslide. Historical earthquakes have made the land vulnerable to landslides, however, as the collision of plates creates high, unstable mountains and slopes (CNN 27/05/2024).

## AGGRAVATING FACTORS

### Political instability

In January 2024, tax-related protests sparked violence in Papua New Guinea's capital, Port Moresby, and in the Highlands provinces, causing an unknown number of deaths and injuries (IOM 27/03/2024 b). While Prime Minister James Marape survived a no-confidence vote after the protests, there has been discussion of another no confidence vote in coming weeks (BBC 28/05/2024; Reuters 28/05/2024; SBS 31/05/2024). Political instability resulting from this vote may hamper an effective government response to the crisis.

### Conflict

The most recent large-scale outbreak of intercommunal conflict in Enga province was in February 2024, with around 50 people killed in Wabag, the provincial capital (ACLEDD 08/03/2024). The cause of this incident is unclear, but many intercommunal conflicts in the province are related to long-running land disputes or more recent crimes, such as theft. Violence and fatalities have steadily increased in Enga, from fewer than 10 political incidents reported in 2021 to nearly 50 in 2023 (ACLEDD 27/02/2024).

Intercommunal conflict has destroyed agricultural land and prevented communities from cultivating land for fear of attack, increasing livelihood pressures across the province (IOM 27/03/2024 a; The Guardian 26/05/2024).

## Pre-existing displacement

An assessment in March 2024 identified 20,000 protracted IDPs across Enga province, including in Yambali Ward, many of whom were displaced by intercommunal conflict. Most IDPs lived with host families, which housed up to ten IDPs each, leading to significant overcrowding. Others built makeshift shelters along riverbanks, which are vulnerable to extreme weather and natural hazards (IOM 27/03/2024 a; The Guardian 26/05/2024). The number of pre-existing IDPs affected by the landslide is unknown.

## Economic situation

Papua New Guinea's economic outlook is positive, with a projected expansion of 4.8% in 2024 (WB accessed 29/05/2024). That said, economic advances have yet to benefit around 85% of Papua New Guinea's population living in rural areas with minimal access to formal employment, infrastructure, and basic services. Around 40% of the population lives below the poverty line, decreasing their capacity to cope with climate shocks and natural hazards (IFRC 02/05/2024; CFE-DM 22/06/2022).

## Most recent climate and environmental hazards

Papua New Guinea's INFORM Climate Change Risk Score is 5.5/10 (high), with a score of 7.4/10 for lack of coping capacity, indicating constraints in the state response to climate hazards (EC accessed 29/05/2024).

Papua New Guinea is vulnerable to natural hazards, including earthquakes, flooding, volcanic activity, cyclones, and droughts. In September 2022, earthquakes in the Highlands provinces caused extensive infrastructure damage (IOM 27/03/2024 b). From July–November 2023, volcanic eruptions at Mount Bagana in the Autonomous Region of Bougainville and Mount Ulawun in West New Britain and East New Britain provinces displaced nearly 20,500 people (USAID 04/12/2023; IOM 27/03/2024 b). In March 2024, an earthquake in East Sepik province affected dozens of villages and destroyed 1,000 houses, while heavy rainfall caused flooding and landslides in the Highlands provinces (ECHO 25/03/2024 and 21/03/2024). These recent disasters may have decreased state resources and capacity to respond to the May 2024 landslide.

## HUMANITARIAN RESPONSE

Following the landslide, the Papua New Guinea National Disaster Centre made an official request for international assistance (UNCT PNG 28/05/2024). On 29 May, Prime Minister James Marape stated that natural hazards had already cost Papua New Guinea more than USD 126 million in 2024 (Reuters 29/05/2024).

An emergency response team comprising provincial and national authorities, national security forces, and UN agencies is leading the response; it had conducted an initial rapid assessment by 25 May (UNCT PNG 25/05/2024).

The Governments of Australia, India, and the US have provided USD 1.7 million, USD 1 million, and USD 5 million, respectively, in humanitarian assistance. Australia has also sent defence force personnel and technical experts in early recovery, assessments, and logistics (Govt. India 28/05/2024; Govt. Australia 27/05/2024; Reuters 29/05/2024).

UN agencies, NGOs, and other responders active in the affected communities include CARE, the International Federation of Red Cross and Red Crescent Societies, IOM, the Papua New Guinea Red Cross, Save the Children, UNICEF, and World Vision (UNICEF 28/05/2024; IOM 28/05/2024; STC 29/05/2024; WV 28/05/2024; Singapore Red Cross 29/05/2024; CARE Australia 27/05/2024).

From 27 May, the UN was assisting with the creation of additional evacuation centres (UNCT PNG 27/05/2024). By 30 May, local authorities and the Papua New Guinea Defence Force were creating temporary camps for landslide-displaced people. The Government of Papua New Guinea has also established two care centres in Yambali village (UNICEF 30/05/2024). It is unclear what services these centres provide.