Disastrous landslides under changing forcing factors triggered end 2019 in West Kenya

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End of 2019 was particularly damaging in some Central and Eastern African countries due to the heavy rain which triggered numerous mass movements. Extremely heavy rainfall were recorded in Pokot South and Sigor Sub counties located in West Pokot County (Kenya) on 23 and 24 November 2019. An official from the West Pokot county government said 53 people died after devastating rains caused huge landslides in this County while several roads in the valley have been affected and at least 5 bridges were reported as destroyed. Indeed Kenya has seen several villages heavily affected by landslides after floods and torrential rain. These movements were detected from a combination of high-resolution Sentinel 2 images and very high-resolution Pléiades-1 images acquired before and after the landslide catastrophe with the engagement of the UNOSAT’s rapid mapping service which activated the International space charter mechanism. In the following days, a series of analysis of the affected zones from very high-resolution optical data were delivered in the following days to UNOSAT and the emergency response authorities in Kenya. This study explains the mechanism of the rapid mapping activation and the use of the Disaster Charter mechanism to help to detect the extent of the phenomena and impacted infrastructure by providing a rapid mapping related analysis, conducted at UNOSAT with satellite data provided by space agencies involved in the International Space Charter. Science-driven landslide inventories were created with the ALADIM change detection algorithm integrated on the ESA GeoHazards Exploitation Platform. Over the studied region of 400 km², nearly 6000 landslides were detected, corresponding to an affected area of ca. 18 km². Then, the triggering factors of this disaster were analysed understanding how changing raining conditions is affecting the area while it was not considered as landslides-prone. This research aims to state if this particular event is considered as abnormal according to rainfall trends and landslide occurrence looking at long time series and/or human practices play a major role in triggering this type of catastrophe.