EMERGENCY ANALYSIS 3: SATELLITE-BASED QUANTITATIVE DAMAGE ASSESSMENT OVERVIEW FOR OSH, KYRGYZSTAN

This is a quantitative damage summary for the city of Osh, based on a detailed analysis of crisis satellite imagery acquired on the morning of 18 June 2010. A total of 1,607 affected buildings were identified within the city of Osh. Of this total, 1,749 buildings were totally destroyed and 58 were severely damaged. As illustrated in the overview map below, a density analysis of the affected building sites indicated there are 6 main zones of destruction, located in the center of the city. Within each zone, there are multiple, smaller clusters of affected buildings. A preliminary assessment of building damage signatures indicates that arson was the probable cause because of the prevalence of destroyed rooftops with visibly intact load-bearing walls, a common signature of fire-related damages; a finding supported by the satellite detection of 5-6 active fire zones within the city at 6:25 UTC (12:25 local time) on 12 and 13 June 2010 (see UNOSAT Emergency Analysis 1). Almost all affected buildings appear to have been residential or situated within residential neighborhoods, however there are a few cases of destroyed or severely damaged industrial warehouses or commercial / government facilities. No damages have been observed to the transportation network (e.g. roads, bridges) or other key infrastructure sites within the city. There is compelling evidence to suggest that there are several ethnic-Uzbek neighborhoods within the city of Osh that are potentially still heavily populated and relatively undamaged by the reported arson attacks. These neighborhoods have been identified by the presence of multiple road blocks at main road and bridge entry points, as well as the presence of multiple “SOS” signs painted on interior roads within clearly defined residential areas. In most of these neighborhoods, a large majority of buildings appear to be undamaged and thus could still provide shelter to thousands of local residents. ANALYSIS NOTES: the following analysis is based on crisis satellite imagery from 18 June 2010 and pre-conflict satellite imagery from 21 July 2002 (from Google Earth). Affected buildings were classified as destroyed or severely damaged by standard image interpretation methods. The damage building figures likely represent minimum estimates. Actual damages could be higher, especially for severe and moderate levels of building damages which are more difficult to identify with a high degree of confidence from the available satellite imagery. This is an initial damage assessment and has not yet been validated on the ground. Please send additions / corrections to UNITAR / UNOSAT at emergencymapping@unosat.org.

Analysis Summary for Osh:
- 1,749 buildings destroyed
- 58 buildings severely damaged
- 27 roadblocks
- 60 "SOS" distress signs