



Landsliding phenomena in NW Peloponnese, Greece: a test-site of the EC LEWIS research project

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In the frame of the LEWIS project, NW Peloponnese, Greece, was selected as test site and the particular test areas of Panagopoula and Pititsa were studied. Both test areas are characterized by weak lithology and steep geomorphological slopes and are tectonically controlled by active faults. Environmental data bases for historical data (past landslide activity, earthquakes, rainfalls, geological and topographic maps, air photographs) were compiled, while land use / land cover mapping was produced with digital data files being suitable for GIS implementation. Mapping of the landslides in Pititsa test area was also produced on 1:5000 scales with elevation contours of 2m. The main historical landslide episodes in both test areas occurred during the wet season. In one test area, that of Panagopoula, a landslide episode was also observed after the strong earthquake (M6.2) of 15 June 1995. The Panagopoula landslide does not represent a freely evolved landsliding process due to that public works to support the landslide completed some years ago. Therefore, landslide monitoring was established only in Pititsa test area. Two monitoring surveys were conducted during 2004 and 2005 and a previous one, developed during 2000, was used as a datum to the new ones. The monitoring results are summarized as follows: (1) All slides in the area are rotational, shallow slides showing active evolution over the last five years. Internally these slides are differentiated into second order slides typically of a width of 20-40 m. (2) Erosion is strongly differentiated from the crest through the main body, to the boundary between the main body and the toe areas from 0.34 m/a to 0.18 m/a at 0.034 m/a, respectively. The estimation of the erosion at the toe area can not be analyzed by repeated surveys in the area due to the fact that most of the landslide deposits are removed.