

### 3.4.2 TAP for mudflow protective technology (cleaning and leveling of riverbeds)

Barriers to implementation of this measure are from the group of palliative measures/technologies and practically are the same as for landslide protective measures. Relevantly the TAP for this technology considered the same actions.

### 3.4.3 TAP for transfer and implementation of advanced technology (software) for mapping of climate change related extreme geological processes and providing long-term forecast of their development

- Preparation of input data for model
- 1. Statistic analysis of the main factors provoking hazardous geological phenomena is the main activity for the implementation of mapping and forecast system. This analysis itself involves the following actions to be implemented:
- 2. Re-qualification and updating of data on constant factors, such as geological constitution, lithologic and tectonic data. Assessment of geo-morphological features in connection with climate change. Composition of relevant GIS maps (1: 50 000).
- 3. Defining of regimes of slowly changeable factors – contemporary tectonic movements – taking into account changes of climatic parameters; assessment of hydro-geological conditions for the purposes of defining the Black Sea iso-static and eco-static changes; inventory of changes taken place in the plant cover.
- 4. Analysis of rapidly changeable factors – meteorological elements (precipitation, humidity, temperature, sun activity stages, etc.). Analysis and correlation of within-year, seasonal and daily data with regard to mean multi-annual data for the whole observation period for 6 meteorological stations of Ajara.
- 5. Determination of trends of earthquakes according to years; assessment of the released energy and negative results of earthquakes
- 6. Changes hydrological regime during the years.
- 7. Anthropogenic changes in geological environment and activation level of the connected elemental geological processes.
- 8. Statistical analysis of hazardous geological processes activated by climate change in different years and the damage caused in Ajara pilot region.
- 9. GIS processing of geo-dynamic map of damages caused by hazardous geological processes provoked and activated by climate changes in Ajara pilot region.
- Acquiring and transfer of suitable for Georgia's condition software(adaptation to the conditions in Georgia) for development of long-term forecasting of hazardous processes.
- Training of local personal and establishment of service centers for consultations on the relevant protective measures.

### 3.4.4 Brief summary of project ideas for international support (Details in Annex III)

Two project proposals have been developed within the TNA process for this sector: preventive (palliative) measures against landslides and transfer and implementation of hazardous geological events long-term forecasting system. Proposals are presented in Annex III to this report. Objective of the first proposal is to demonstrate the new, community level approach to the implementation of preventive measures against the extreme events and the second proposal should increase the local capacity in monitoring and forecast of landslides and contribute to the effective decision making process.