

Technology Fact Sheet

Mudflow (Iron-concrete)ⁱ

- 1) **Sector:** Extreme events
- 2) **Subsector:** Protection of objects from mudflows on example of Kakheti region
- 3) **Technology Name:** Mudflow protection measures
- 4) **Recommended version of technology:** Iron-concrete through construction (Kherkheulidze design); cleaning and leveling of riverbeds; arranging of basins in the riverbed transit-accumulation zone
- 5) **Application field:** For the stone-mud and water-stone mudflow streams of low density
- 6) **Availability:** The through construction of Kherkheulidze design is quite expensive. Hence, it could be recommended only in extreme cases – for the protection of important objects. As regards the recommendations on cleaning up and leveling of riverbeds and arranging basins, they are easy for implementation, quite cheap and effective.
- 7) **Technology description**

Separate elements of the Kherkheulidze construction must be factory furnished. After that, it is quite easy to assemble it at site (the construction is shown on Fig 7 of the text). Cleaning up and leveling of the riverbeds should be carried out in the segments, which are threatening the protected objects. Due to these measures, water will not overflow the banks and the transit will be improved. Basins arranged in transit accumulation beds could fully receive the water-flows and attenuate the energy. At the same time, the released water-flows transform into so called ‘under-bed flows’ that in its turn will promote the replenishment of ground water supply.



8) Impact statements

- **Social development priorities:** Secure protection of population from the mudflow processes and the related psychological stresses.
- **Economic development priorities:** Protection of objects of strategic importance (highways, pipelines, etc); maintenance of agricultural lands; use of the removed inert material for different engineering purposes; replenishment of exploitable ground water supply, etc
- **Environmental development priorities:** Protection of land resources and forest fund and replenishment of ground water supply

9) **Expenses:** Manufacturing, transportation and assembling of 1 cubic meter of the Kherkheulidze through construction made of iron and concrete cost in average 250-300 USD; extraction of 1 cubic meter of riverbed material costs 1.0 USD, while the leveling of one running meter of the bank – 1.5 USD

ⁱ This fact sheet has been extracted from TNA Report - Adaptation for Georgia. You can access the complete report from the TNA project website <http://tech-action.org/>