

Technology Fact Sheet

No-till techonologyⁱ

- 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:** Protruding dyke and cleaning up the riverbeds
- 5) **Application field:** For the stone/mud flows of high density and structural rheology, including mudflows developing in clay/shale areas of Caucasus
- 6) **Availability:** Recommended technology version is effective from financial point of view, and easy for technical implementation, because the material needed for the construction of dykes is at site (riverbed). Besides that, the method will improve transmissibility of the riverbeds.

7) Technology description

For the areas of investigated mudflow transformable watercourses, all parameters (geometry of the dyke, height, etc.) which give us possibility of relevant protection of the target objects should be defined. Inert material should be taken from riverbeds and stored along the banks. It is necessary to protect the bottoms of dykes from washing of banks in case of freshets of non-mudflow character. An iron-concrete wall of necessary height, big stones, or gabions can be used for the protection. The height of dykes will be increasing gradually, in the process of periodical cleaning up of the riverbeds.



8) Impact statements

- **Social development priorities:** Secure protection of population from mudflow processes (for instance, river Duruji from mudflows, population of town Kvareli).
- **Economic development priorities:** Protection of strategic objects (highways, pipelines, etc.) from mudflows, promotion of mountain tourism, maintenance of highly productive lands, use of mudflow material originated in clay-shale areas in producing of construction blocks, ceramics, thermo-isolation, etc.

- **Environmental development priorities:** Protection from mudflows and maintenance of environmental components, such as land resources, forest fund, and biodiversity in general

9) Expenses: Removal and disposal of 1.0 cub meters of riverbed material cost 2.0 USD; 1.0 running meter for the construction of gabion for strengthening of the dyke bottom costs 79 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/>**