STABILISATION OF NATURAL CLIFFS

OBJECTIVE

To protect beach areas, in particular lower sections of the beach, as well as cliffs, against erosion.

DESCRIPTION

Coastal cliffs can be differentiated according to their morphology and structure: cliffs can be loose – sand, silt, clay, marl and chalk – or hard, made of limestone, sandstone, granite or other rocks. Loose cliffs are more prone to erosion and landslide than rocky cliffs, more characterised by rockslides or block fall. Cliff erosion in coastal areas is usually the result of structural erosion, resulting in a gradual retreat of the coastline because the amount of sediment that eroded (rocks, cobbles or sand) exceeds the amount deposited. Cliffs stabilization techniques include methods to increase the stability of the slope (e.g. revegetation) and measures to reduce marine erosion at the foot of the cliffs (e.g. littoral strip reloading). Cliff stabilisation contributes to protecting human settlements and leisure activities.

EXPECTED RESULTS

Better stabilised cliffs, enhanced accumulation of sediments.

RESULT INDICATORS

Area of preserved coasts [m^2]

INVOLVED ACTORS

Local communities, national and local government, environmental agencies and organisations.

EXPECTED TIMELINE FOR ACTION

- Short term (1-4 years)
- Medium term (5-10 years)
- Long term (> 10 years)

BEST PRACTICES

- Marche Region – Italy

CRITICALITIES

The benefits of cliff stabilisation techniques may not balance the costs of the measures, making coast erosion more economically advantageous; in some cases, it would be a risk to be accepted as a possible consequence of a failure to intervene.

SCOPE OF THE ACTION

- Adaptation

TYPE OF PROPOSED ACTIONS

- Green

SECTOR OF ACTION

- Biodiversity / Conservation of ecosystems
- Coastal management

CLIMATE IMPACTS

- Coastal erosion
- Floods

IMPLEMENTATION SCALE

- Association of municipalities
- Municipality
- Province

SOURCE

https://climate-adapt.eea.europa.eu/metadata/adaptation-options/cliff-stabilisation