

FACTSHEET RISK REDUCTION MEASURES	
Land use and objectives for agricultural use considering the consequences of climate change in the Upper Elbe Valley/Eastern Ore Mountains Regional Plan	
Where was it implemented?	Fields of action
Planning region Upper Elbe Valley/ Eastern Ore Mountains, Saxony, Germany	Farmland, forests, settlement area
Related to measure from the catalogue of measures	
<ul style="list-style-type: none"> • Catchment based concepts and plans; inter-communal cooperation • No- or low tillage incl. mulching and direct seeding and strip till • Stabilisation of runoff pathways • Conversion of arable land into grassland/ deciduous forest or short rotation plantations • Afforestation in headwater areas and on hillslopes 	
Area characterisation	
Area type: rural/urban	Landscape type: hilly, farmland, grassland, forest, settlement area
Problem	
<p>The task of regional planning in Germany is to regulate land use at regional level. In the Free State of Saxony, the local authorities and administrative districts are organised into four planning associations for this purpose. On maps, they define so-called priority and reserved areas for certain uses and functions and formulate justified objectives and principles for spatial uses. They have to observe the general objectives for regional planning in the Free State of Saxony as formulated in the Regional Development Plan (in German: LEP) and have to concretise them on the basis of an assessment of the state of nature and landscape (Landscape Structure Plan).</p> <p>The Regional Planning Association Upper Elbe Valley/Eastern Ore Mountains has updated its regional plan from 2009, as a new LEP had come into force in 2013. The 2nd overall update of the regional plan was adopted by the association in 2019 as a statute and still requires approval.</p> <p>One of the problems is the increased risk potential for agriculture with regard to the loss of fertile arable land through water erosion due to heavy precipitation, especially after dry periods. Thus, with progressive climate change, an increase in erosion damage in connection with heavy rainfall events is expected. For this reason, the consideration of runoff paths and steep slopes is also gaining importance. This is not only a problem of agriculture and soil protection. Heavy precipitation can also cause considerable damage away from the point of origin, and thus other land users are also affected - even beyond municipal boundaries. Municipal concerns (emergency response, impact on infrastructure and settlements), flood protection, nature conservation and water protection (substance inputs into water bodies) and other concerns must therefore be taken into account and weighed up in the regional plan.</p>	
Description and aim	
<p>Runoff paths and steep slopes are defined as "areas particularly at risk of water erosion" in Map 5 "Landscape areas with special requirements for use or need for rehabilitation" of the regional plan (see Fig. 1). This was done on the basis of data from the LfULG ("Map of steep slopes particularly prone to erosion") and a "Map of runoff paths particularly prone to erosion", which had been developed by the Regional Planning Association within the framework of the model project of regional planning (MORO) "Spatial development strategies for climate change" KLIMAFit. In addition, the event land register maintained by the LfULG to record mass movements with regard to the occurrence of debris flows and landslides was included.</p> <p>In order to consider and evaluate spatial requirements that go beyond soil protection and sustainable land use, a kind of risk assessment in the form of area prioritisation was carried out. Settlement areas, traffic routes, water bodies and regional priorities for river restoration downstream of run-off paths and steep slopes were taken into account. The first priority was given to areas where at least two concerns were affected, the second priority was given to areas where only one concern is affected.</p>	

Only areas with a size of at least 4 ha were considered. The regional plan explains that the regional planning specifications must be spatially significant on the one hand and clearly displayable on a scale of 1 : 100.000 on the other. In the RAINMAN project the methodology was presented and discussed.

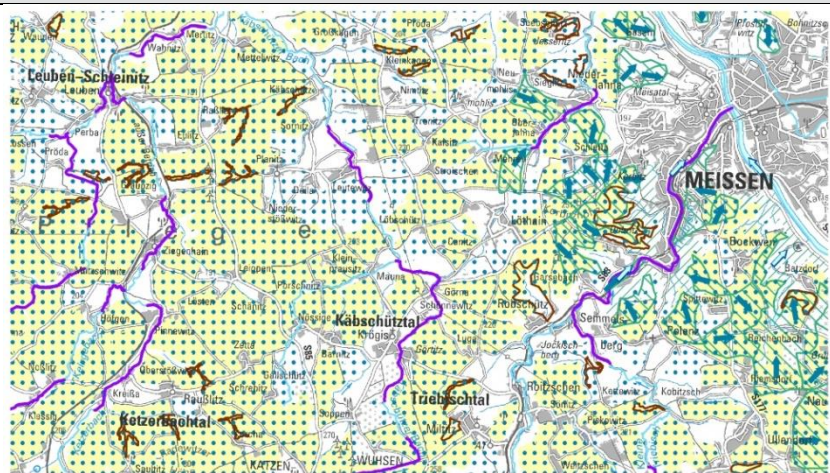
Effect of measure

Map 2 shows the intended use of space in the form of priority and reserved areas (see Fig. 2).

The text part of the plan contains additional objectives and principles for land use. For example, it is specified as an objective for agricultural use that on arable land in areas at risk of water erosion, as well as in areas for improving water retention in the event of erosion disposition on site, erosion-reducing agriculture is to be worked towards. In particular in the case of simultaneous overlapping with priority or reserved areas of species and biotope protection or priority areas of water supply, arable farming should preferably be carried out by measures such as permanent **→ conservation tillage or mulch sowing/direct seeding**. (see Z 4.2.1.1). In areas with a particularly high risk of water erosion (run-off areas and steep slopes), in particular when these are simultaneously overlaid with priority or reserved areas for species and biotope protection and/or with areas for improving water retention, efforts must be made to ensure that agricultural use is converted to **→ permanent greening**. This can be achieved by **→ planting flowering areas, field grass or grassland, hedge structures and strips of woodland**, as well as by **→ afforestation** (cf. Z 4.2.1.2).

In the justification for objective Z 4.2.1.2 it is explained in more detail with regard to locally suitable afforestation that the tree species should be selected in accordance with the "Recommendations on the origin of forest reproductive material of the Free State of Saxony". The autochthonous black poplar (*Populus nigra*), which is threatened by extinction, is to be considered in a special way. Permanent greening not only effectively reduces erosion, but also increases the biotope development potential of the soil and contributes to preventive flood protection.

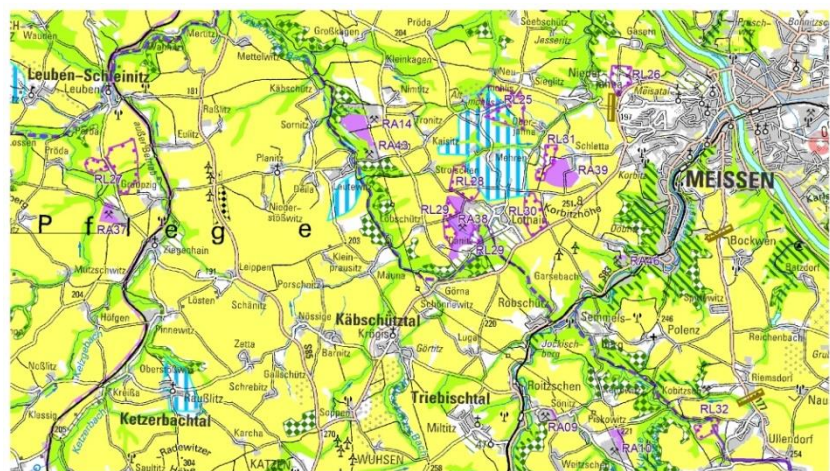
In addition, the risk of eroded soil input should be taken into account in planning and measures that are located adjacent to runoff paths and steep slopes (G 4.2.1.3).



Legende (Auszug relevanter Festlegungen)

- regionaler Schwerpunkt der Fließgewässerrenaturierung
- besonders stark wassererosionsgefährdetes Gebiet
- wassererosionsgefährdetes Gebiet (>= 25 ha)
- ausgeräumte Ackerfläche

Figure 1: Map 5 "Landscape areas with special requirements for use or need for rehabilitation" (extract)



Legende (Auszug relevanter Festlegungen)

- Vorranggebiet Arten- und Biotopschutz
- Vorranggebiet Wasserversorgung
- Vorranggebiet Landwirtschaft
- Vorranggebiet Arten- und Biotopschutz
- Vorranggebiet Schutz des vorhandenen Waldes
- Vorranggebiet Waldmehrung

Figure 2: Map 2 "Land use" (extract)

Source: 2nd overall update of the Upper Elbe Valley/Eastern Ore Mountains Regional Plan (draft statutes not yet approved), <https://rpv-elbtalosterz.de>

Basic map: © GeoSN

Description of implementation	
<p>Implementation:</p> <p>25.09.2013: Decision to draw up a regional plan</p> <p>...</p> <p>24.06.2019: Submission of the regional plan, which has been adopted as a statute to the Saxon State Ministry of the Interior as the highest regional planning and state planning authority for approval</p> <p>Still outstanding: approval by the spatial planning and state planning authority (SMR), public announcement, enter into force</p>	<p>Involved stakeholders:</p> <ul style="list-style-type: none"> Regional Planning Association Upper Elbe Valley/Eastern Ore Mountains: association meeting and planning committee (=representatives from municipalities and counties) Saxon State Ministry for Regional Development (SMR) Legal representatives for public affairs and the public (via participation procedures)
<p>Effect horizon: medium-/long-term</p>	<p>Initiator / responsible: Regional Planning Association Upper Elbe Valley/Eastern Ore Mountains</p>
Lessons-learned	
<p>Main success factor:</p> <ul style="list-style-type: none"> Planning region was a model region in the model project of spatial planning (MORO) "Spatial development strategies on climate change" KLIMAFit (2009-2013) Cooperation with specialist authorities (LfULG) and scientific institutions (TU Dresden) regarding data basis and methodology Cooperation with LEADER areas regarding opportunities for implementation 	<p>Main challenge:</p> <ul style="list-style-type: none"> Hardly any models for a consideration of the issue of heavy rainfall events at regional level in Germany Available data and maps did not correspond to the spatial planning approach of summarising and weighing up the data against other land use claims. For runoff paths and steep slopes, a prioritisation was therefore carried out by including multidisciplinary concerns (for further details, see the contribution to the regional framework plan)
<p>Synergies / beneficial aspects: Synergy of greening measures with measures for species and biotope protection and with flood protection measures</p>	<p>Conflicts / constraints:</p> <ul style="list-style-type: none"> The implementation of the formulated objectives (e.g. greening measures) is not within the "sphere of influence" of the municipalities. They can only "work towards" the realisation of such measures. In most cases, measures can only be implemented by using subsidies. Preferably, the possibilities of regional development should be included in the implementation (e.g. LEADER action groups).
Key message to others starting with a similar task	Contact
<p>In cooperation with specialist authorities and scientific institutions, regional planning can establish a framework for effective measures to reduce water erosion.</p>	<p>Regional Planning Association Upper Elbe Valley/Eastern Ore Mountains, Association Head Office, Meißner Straße 151 a, 01445 Radebeul</p> <p>E-Mail: post@rpv-oeoe.de</p>
<p>Further information (in German)</p>	<p>https://rpv-elbtalosterz.de (09.03.2020).</p>