



CASE STUDY

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## Payments for Ecosystem Services

# Groundwater protection in Baden - Wurttemberg region

This case study presents a scheme for ecosystem services payment in the Baden - Wurttemberg region of Germany as a solution to the problem of groundwater contamination by agricultural activities.

## Baden - Württemberg

is one of the 16 states of Germany situated in the southwestern part of the country to the east of the Upper Rhine, bordering France to the west, Switzerland to the south, Bavaria to the east and northeast, Hessen to the north, and Rhineland Palatinate to the northwest.



**Area:**  
35,742 square kilometers

**Population:**  
10,7 million inhabitants

**Main economic activity:** automotive, textile industry, tourism

20,000

households and



530,000

hectares are included in the scheme

## Problem

Around three quarters of the state's drinking water comes from ground water and spring water. Due to extensive mining in the past and agricultural activities in the present, groundwater contains significant amounts of chemicals.

## Stakeholders involved in the project

Farmers, Ministry of the Environment Baden-Württemberg, BW Institute for the Development of Agriculture and Rural Areas, water suppliers.

## Solutions

Nowadays farming is the main source of water pollution due to extensive use of fertilizers (e.g. nitrates, phosphates and ammonia), pesticides and plant protective agents. As a part of Good Farming Practice which is a requirement for EU agriculture subsidies in the area, water authorities are working with farmers promoting shift to ecological farming. The shift relates to the use of exclusively natural fertilizers (e.g. manure) and reduction of the number of animals to 2 per ha of meadow. Farmers who experience drop in income or have high investment cost are financially compensated by the water authorities.

Another measure which is applied country-wide is establishment of water protection zones around abstraction points. Zone 1 covers a radius of 10-metres around an abstraction borehole, in which use of any kind of pesticides is prohibited. Zone 2 is a catchment area defined by 50 days of travel time for the water to reach the abstraction well, and use of all pesticides considered as a threat to groundwater (listed in a nationwide federal regulation) are banned in this zone.

## Legal framework & procedures

The basis of the scheme is the Rural Development Programme of Baden-Württemberg. 212 agreements have been already signed which proves trust and willingness to cooperate between the parties. Redistribution of benefits follows the pattern: farmers receive compensation for reduced income caused by the restrictions in the use of agricultural chemicals in water protection zones, water suppliers pay a charge to the public authorities, who then use the money to provide standard compensation payments to farmers affected by water protection measures. So far, results proved that it is more economically viable to subsidise the farmers than invest in water treatment facilities.

The target of the Programme is to involve 20,000 households and 530,000 hectares in the scheme during 2007-2013. Total funding including EU share reaches 900,000.000 EUR for the total period of time.

## Monitoring

Monitoring is carried out by the 'Landesanstalt für Entwicklung der Landwirtschaft und der ländlichen Räume' (BW Institute for the Development of Agriculture and Rural Areas). The data is presented in a yearly status report and makes up the empirical and analytical basis for the mid-term and ex-post evaluations. Evaluation assesses the quality, efficiency and effectiveness of the implementation of RDP measures, including improvements and adaptation to changing conditions. Therefore, ongoing evaluation is carried out throughout the whole programming period with emphasis on the mid-term review in 2010 and the ex-post evaluation of the 2015-16. Evaluations are performed by independent evaluators.

## Benefiting nature and society

It has been shown that the payment to the farmers is much more cost-efficient for the water authorities than the cost that they would have to bear for water treatment. Therefore, project allows for water suppliers to reduce costs on water treatment, farmers – to get financial support for ecological farming, and Ministry of the Environment Baden-Württemberg to implement the Water Framework Directive, Agriculture, SchALVO and MEKA, fulfilling the goals of the Environmental Plan.

This case study was prepared as part of THE DANUBE PES PROJECT: PROMOTING PAYMENTS FOR ECOSYSTEM SERVICES AND RELATED SUSTAINABLE FINANCING SCHEMES IN THE DANUBE BASIN.

This project promotes and supports land managers who help us sustain the benefits that we all get from nature. The project is implemented by the WWF Danube-Carpathian Programme with the financial support of the GEF through UNEP and the European Commission.



### Why we are here.

To stop the degradation of the planet's natural environment and to build a future in which humans live in harmony and nature.

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