



# Landscape Management

VILLAGE RENEWAL • LAND CONSOLIDATION • LAND DEVELOPMENT REGIONAL



Rural Development in Bavaria

**Imprint:**

Publisher:	Bavarian State Ministry for Agriculture and Forestry © Department for Rural Development, Ludwigstr 2, 80539 München Third revised edition 2003
Editorial Department:	Dr. G. Aulig, N. Bäuml Central Agency of the Bavarian Rural Development Service
Concept, Layout:	IMAGO 87, Werbe- und Presseagentur & Verlag GmbH Central Agency of the Bavarian Rural Development Service
Illustrations and Photographs:	Bavarian Rural Development Service, IMAGO 87, Büro Haase & Söhmisch, Planungsbüro Grebe, J. Holzhausen, H. Klein, D. Kraus, A. Limbrunner, A. Otte, F. Sieber
Translation:	E. Fisel, Hohenbachern
RB-No.	08/03/19
Print:	Holzmann Druck, Bad Wörishofen

## Contents

- 5 Preface**
- 7 The Value**  
of a landscape
- 8 The Diversity**  
from centuries of use
- 10 The Natural Resources**  
our most important assets
- 12 Agriculture**  
we cannot live without it!
- 14 Rural Development**  
support for an environment worth living in!
- 16 Planning Together**  
working together
- 18 A Vision for the Landscape**  
mapping, evaluation and development
- 20 Conception and Implementation**  
planning and design

- 24 Making sure nothing goes wrong ...**  
environmental impact assessment
- 26 Permanently Protected**  
management and maintenance
- 28 In the Right Place**  
land regulation — land acquisition
- 30 Settlements and Landscape**  
are co-dependent
- 34 Landscape as Recreational Area**  
experiencing nature and recreational activities
- 36 An Intact Landscape**  
should be of value to us
- 40 Contact**

## Preface

The demands of our society on nature and the landscape are characterised by extremely conflicting interests. On the one hand housing estates, small businesses, industrial estates, recreational facilities and the infrastructure exert considerable strain on the landscape. On the other hand people want a healthy environment and expect measures to protect or restore our richly varied countryside with all its unmistakable cultural features, diversity and beauty. Furthermore, radical changes in agriculture compel farmers to implement further rationalisation so as to adapt to the continual structural changes.

In order to meet this wide spectrum of conflicting social, environmental and agro-political requirements, the Bavarian Rural Development Service set up four objectives in 1989:

- Providing aid for competitive farming and forestry
- Securing a healthy environment
- Strengthening rural areas
- Encouraging citizen participation

In view of these partly conflicting objectives, the importance of Landscape Management in Rural Development has in the meantime increased. To provide information for a wider public about the comprehensive achievements in landscape management, a brochure was first published in 1993.

In the process of reforming the Rural Development Service, the Bavarian Council of Ministers decided to focus on certain priorities, whereby, among other things, the procedures for protecting vital natural resources were declared to be a key issue.

Changing conditions in rural areas, especially continual structural changes, as well as new legislation regarding our natural environment, constantly require expert readjustments in Landscape Management in Rural Development.

This revised brochure takes the current situation into account.

It is meant to provide information about projects and planning in Landscape Management in Rural Development. It is also obtainable via the Internet.

Munich, May 2003



Josef Miller  
Minister of State for Agriculture and Forestry





*A tree: in former centuries  
a natural part of the cultural  
landscape, over the last  
decades often an obstacle  
to technical progress and  
intensive agriculture.  
And today?  
What value does an old tree  
or our landscape hold for us?*

# The Value

## of a Landscape



People's awareness is again focusing on an intact environment and quality of life. Values which seemed lost during the last decades are regaining significance.

For urban dwellers, countryside is gaining increasing importance as a place for rest and recreation. The spaciousness and beauty of a landscape, the tranquillity and peace, experiencing nature; opportunities rarely found in a city. Are they found in the countryside...?

The cultural landscape and its diversity can only be preserved if conditions for profitable agriculture are maintained into the future. This is the predominant goal of rural development.

# The Diversity

from centuries of use



Alpine Foothills: the picture is dominated by meadows. Only mountain slopes hold forests



'Straubinger Gäu': Intensive farming over centuries impoverished the landscape of natural structures

Over the course of time man has shaped different and very distinctive cultural landscapes in Bavaria. Cultivation dates back to the early stone age, especially in the productive, fertile plains of Lower Bavaria.

Landscapes have never been static, they change continuously. Forests, for example, were used for intensive grazing and were therefore strongly thinned out. When this practice changed, livestock was kept in barns and the forests were reorganised for wood production. At the same time, meadows were created to feed the live-

stock. On rich loess sites however, the forests were soon replaced by farming.

Over time nearly all areas were cultivated. Hedgerows and riparian woods were used for timber production. Litter meadows provided hay for barns, and nutrient poor grassland served as sheep pasture. This utilisation and cultivation of so many different small-scale parcels over large areas led to great landscape diversity. And each of these landscapes has developed its own characteristic identity.

## From diversity to uniformity?

The mechanisation of agriculture changed this situation. Agriculture no longer needed to adapt to the landscape, rather the landscape was adapted to agriculture. An additional problem has been created by structural changes in agriculture which have forced small farms in unfavourable locations out of business. Many areas that were previously farmed extensively are now left fallow with shrubs and trees coming up or are afforested because agriculture was unprofitable.



Intensive agriculture without consideration of natural conditions and grown structure leads to uniform landscapes without identity.

Abandoned land in the highlands of the 'Spessart': The small-scale mosaic of meadows, hedgerows and small shrubs and trees has disappeared, causing a decline in animal and plant habitats.



High structural diversity in the Franconian Highlands: a close neighborhood of meadows, hedgerows, farmland and forests

The careful management of natural resources means cautious and responsible planning and action – particularly in rural development

# The Natural Resources

– our most important assets

Soil, water and air as well as the diversity of plants and animals are the basis of our existence — our and our descendant's capital. We should preserve it, maintain and develop it carefully instead of thoughtlessly endangering it .

We should not waste limited energy resources, or carelessly pollute our environment with garbage and toxins, and we must not allow the loss of plant and animal species.

Our actions must be in harmony with the environment. Our utilisation of natural resources will only be sustainable if we use the natural cycles for orientation.

Water is our most precious resource. How are we dealing with it?



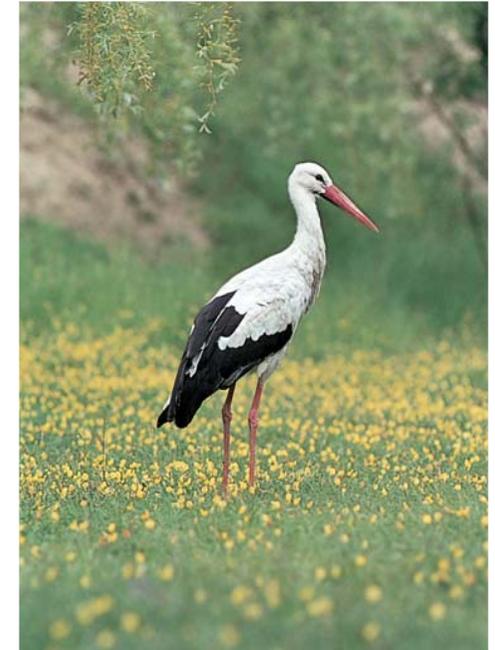
Soil is a limited resource. And is the basis of our food production.



The climate shapes nature and the landscape. A windswept beech in the 'Hochrhön'.



Colourfully flowering meadows are not only beautiful in an aesthetic sense, they are also full of life.



The White Stork is a typical representative of synantrophic species. But in the present cultural landscape it finds fewer and fewer habitats. Unfortunately, not an unique case ...

The family farm with its manageable size and small-scale differentiated land use is best suited to preserve and cultivate our landscape. Rural Development provides support

# Agriculture

**we cannot live without it!**

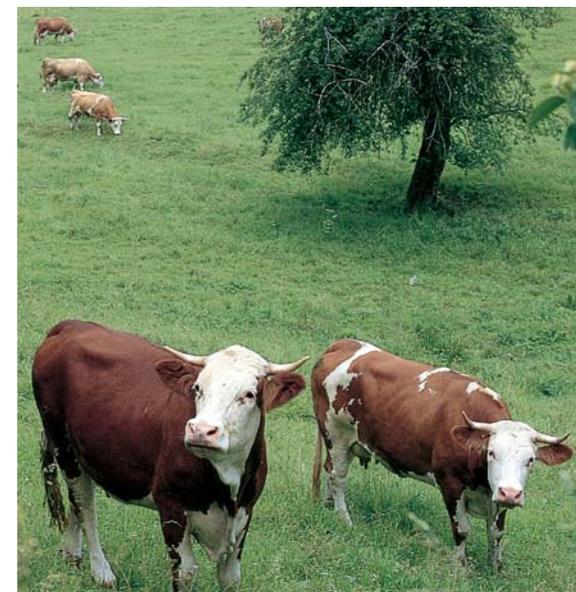


The independent family farm has a long tradition in Bavaria.

Bavarian agricultural policy, embedded in an European framework, aims to preserve productive and competitive family farms throughout Bavaria, despite the general decrease of agricultural jobs. These farms must be enabled to supply our modern industrial society with wholesome food while at the same time handling the natural environment with care. The cultivation of renewable resources combined with subsidies to promote extensive use and conservation measures supplement the farms income.



Profitable cultivation is hardly possible without the use of machines and the respective organisation of fields. Does this mean that far-reaching interventions into the landscape cannot be avoided?



On the other hand: Agriculture is necessary! It supplies us with high-quality food and renewable resources. We need the farmers for the conservation of our cultural landscape.

The central goals of rural development are the comprehensive strengthening of rural areas and the development and protection of a healthy environment

# Rural Development

support for an environment worth living in!



The range of tasks for rural development are increasing. Previously, the main goal was to improve production and working conditions. Today, integral development of rural areas is of major significance. Beside classical measures such as land consolidation and improvement of public facilities, landscape management and renewal of villages are currently focus areas.

Landscape planning in rural development covers several different aspects:

- management of the landscape
- green space planning/ecosystem planning within settlements
- recreation planning.

Landscape planning must follow certain guidelines including: regional planning goals, regional policy and communal landscape planning.

Legal basis is provided by the Law on Land Consolidation and the Nature Conservation Law.

Landscape planning within rural development is part of the overall concept for the reorganisation of the consolidation area. It is classified into three planning sections which are assigned to the respective sections of the procedure.

## Area-wide planning

Principles for the re-shaping



The process starts with the inventory and evaluation of the environmental situation

## Mapping, evaluation and development

## for the re-organisation

Plan of common and public areas and facilities



A comprehensive concept is worked out describing the measures necessary for the protection, management and development of the landscape

## of villages and countryside

## Planning and design

Legal regulations



Only if management and maintenance of the respective areas are guaranteed the investments into landscape management are effective and sustainable

## Management and maintenance

The intent of rural development is not to plan for citizens but rather together with them. In this way, the valuable knowledge and experience of the local population can be integrated into the planning process. Experts, of course, are consulted as well.

# Planning together

## working together

From the outset, rural development plans are developed in close cooperation with the local population and specialists.

The Body of Participants consists of all owners of the parcels within the land consolidation area as well as any persons who are to be treated as owners because they hold a hereditary building right in the area. This group is represented by an elected board that ultimately takes on responsibility. Additionally, citizens can actively participate in many aspects of the planning process. Of course, expert knowledge is also necessary. Landscape plans, green space plans and plans for rural ecology are contracted out to freelance landscape architects. Besides increasing the planning capacity of the development project, local planners can often better incorporate regional characteristics. Specialists such as biologists or zoologists are also consulted.



Local citizens develop design ideas together with the local authorities, the Body of Participants and with the planners ...



... and also actively implement them.



The projects are explained and discussed in the field.

## The knowledge and understanding of natural interactions ...

... is crucial for environmental planning. The Bavarian Rural Development Service grants research contracts to well known universities and institutions in order to stimulate scientific findings and the development of new methods. The goal of these research projects is to integrate scientific findings and knowledge into the process of rural development.



- How can habitats for plant and animal species be established or redeveloped?
- What are the possibilities for more nature in rural settlements?
- How can farm roads be constructed in an environmentally compatible way?
- How can the procedures of rural development be best balanced according to ecological and aesthetic criteria?
- Visual landscape and tourism – which planning strategies for rural development can be derived?
- How can habitat networks be constructed and designed?

High quality plans for landscape development require perfect and solid bases.

# A Vision for the Landscape

## mapping, evaluation and development

Core of this landscape planning step is the digital mapping of structures and land uses. From this comprehensive and area-wide inventorisation and evaluation a model for the landscape is developed.

Additional bases are supplied, e.g. by the authorities of the agricultural administration, by the nature conservation

agency or by the water authority. For specific issues further reports are commissioned, e.g. for the topics like soil erosion, flood control or historical landscape.

The model includes not only objectives for the protection, management and development of the landscape but also cultural and historical aspects.



Structures and land use are directly recorded in the field by means of mobile computers and geographic information systems (GIS)



Soil erosion. Endangered areas are inventoried in order to initiate appropriate measures for the protection of soil and water.



The mapping of structures and land use allows the collection and evaluation of data on soil, on the present land use and on biotopes and small landscape features.

The goal of landscape planning after concluding rural development is an ecologically intact landscape

# Conception and Implementation

## planning and design

Larger semi-natural biotopes such as this cut-off meander provide the foundation of a habitat network.



In this planning section a comprehensive concept of landscape management measures is established. The concept will be integrated into the 'plan of common and public areas and facilities'. Landscape planning additionally comprises the assessment of all plans in terms of their effects on nature and environment.



## Protection of habitats — creation of habitats

The protection of valuable landscape features and the conservation of existing structures have priority over their new establishment. Rural development, how-

ever, also offers the possibility to correct mistakes from the past and to establish new habitats.



A stream is being restored to its natural state  
The situation before ...



... during the construction ...



... and the same area two years after.



*Terracing reduces the danger of erosion.*

### Environmentally-sound agriculture

The concept of landscape management measures also includes advice for environmentally sensitive agriculture. In this context the protection of soil and water have particular importance. Measures to diminish erosion, for example, help to maintain soil fertility. Additionally, they effectively protect adjacent water bodies.



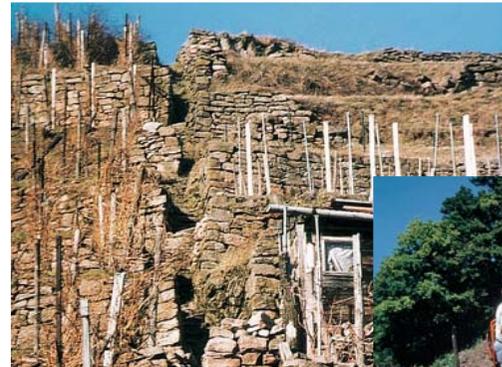
*Establishment of new terraces in the Tertiary Hills.*



*The delineation and extensive management of buffer zones protects water bodies against pollutants.*



*Small lanes – built in a landscape-related manner – give access to the fields.*



*Redevelopment measures in the vineyard: The new wall has also been constructed as a dry-stone wall. It provides cover for numerous thermophilic species.*



### Taking nature into consideration

The re-organisation requires numerous construction measures. Construction type and scope of the measures and the carrying out are tuned with the needs of landscape management.

### Supporting private initiative

The project 'Mehr Grün durch Ländliche Entwicklung' (more green through rural development) seeks to give additional impetus for a landscape architecture closer to nature. It is aimed to motivate the land-owners to plant additional trees and shrubs on their private land complementing the planting measures on public land.

Trees, shrubs and planting material are provided virtually for free by the Body of Participants.



*Planting for the project 'Mehr Grün durch Ländliche Entwicklung'. It depends on the help of the local people!*

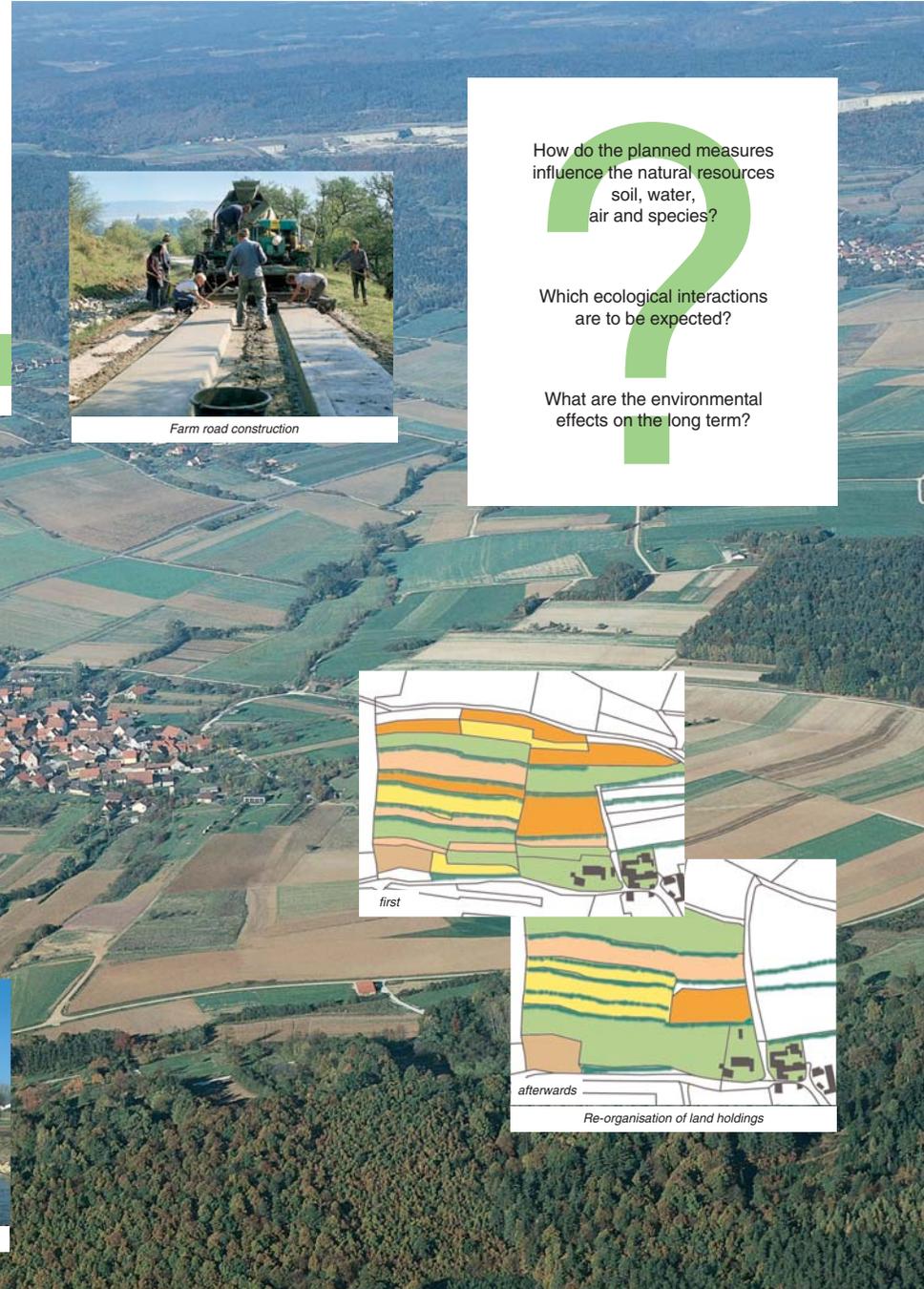
The possible impact of proposed changes must be evaluated early in order to prevent damage. Environmental impact assessments take on the task of early warning and monitoring.

# Making sure nothing goes wrong ...

## environmental impact assessment

In certain situations, rural development requires an environmental impact assessment (EIA). The EIA facilitates making balanced decisions and provides an environmental point of view that is based on a holistic approach to planning. It focuses on the conservation of natural resources, the protection of cultural and material goods and the possible impact on the population. EIA is a multi-step process in which public participation is particularly important.

- First, all available information on natural resources, land use, cultural and material goods for the respective area is collected.
- Second, the initial situation is evaluated to assess the 'sensitivity' of the landscape towards the planned change.
- A planned change can have different effects depending of the area. On the basis of a so-called 'analysis of ecological effects and risks' the possible and projected effects of the planned change are assessed.
- Finally, an evaluation of the environmental effect of the project takes place. This evaluation provides a basis for deciding if the change should be carried out.



How do the planned measures influence the natural resources soil, water, air and species?

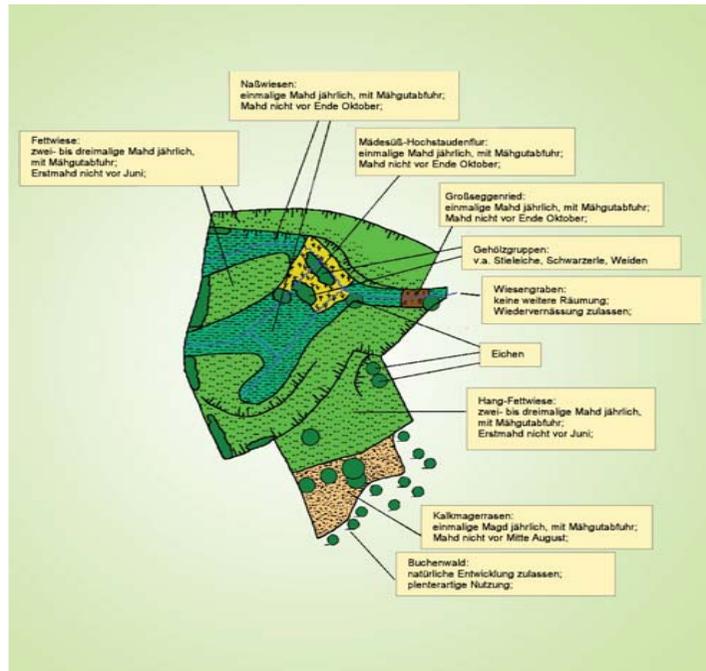
Which ecological interactions are to be expected?

What are the environmental effects on the long term?

The areas designated for nature conservation and landscape management can reach their ecological importance only if they are maintained and respectively managed – on the long term.

# Permanently Protected

## management and maintenance



Management plans regulate the future maintenance of the areas.

The last step of landscape planning in rural development establishes the base for further management and maintenance of ecologically valuable sites. It also provides additional income for some farms. Practice has shown that farmers are particularly capable of the management of ecologically valuable sites due to

their permanent contact with nature and landscape. Usually they also have the necessary machinery at their disposal. In view of the decreasing number of farms, however, local authorities, land care groups and other institutions will face additional tasks.



A wetland meadow – irreplaceable habitat for many endangered animal and plant species.



Without maintenance many ecologically valuable sites can not be preserved.



For the semi-productive cultivation of this field the farmer gets compensation payment.

Land regulation in rural development is the decisive instrument to realise the concepts developed in landscape planning

# In the Right Place

## land regulation – land acquisition

The re-organisation of the land is central part of each procedure of **rural development**. It includes the weighing up of the legal claim of the land owners to get land of equal value in a practical shape against other interests.

Land regulation offers the opportunity to make sites available for nature conservation on suitable plots. In accordance with the landscape management aims the ownership of ecologically valuable sites is defined. Depending on the situation the sites can be allocated to farmers, local authorities, institutions or non-governmental organisations.

**Land acquisition** supports and simplifies land regulation in the context of rural development. Instead of land participants can be financially refunded if they agree. This allows the establishment of a stock of land during the procedure which can be used to implement landscape management aims.



The meadows in the river valleys are extensively cultivated after land exchange against sites that can be fully cultivated. This improves water quality and helps plant and animal species.



Hedgerows are important network structures in the open landscape. Through planting and soil ordinance existing gaps are closed.



Setting aside semi-natural sites! This is possible through land regulation and land acquisition.

Land regulation and land acquisition allow to make sites available for nature conservation purposes where they are necessary, e.g. for the establishment of a habitat network.

Even today the close ties between settlements and the surrounding landscape and the combination of built-up areas and semi-natural sites are a typical feature of a rural village. Green space planning for villages is the equivalent to landscape planning for the open landscape

# Village and Landscape

belong together



Villages are an integral part of the cultural landscape. Historically, the placement and structure of village settlements, streets and buildings corresponded to river beds and terrain. Building materials were acquired from the surrounding landscape and construction methods were adapted to the local climate. As a result, each region developed its own characteristics, distinctive appearance and building shapes. This identity should be preserved!



Franconian farm



Farmhouse in the Eastern Allgäu



Farmhouse in Upper Bavaria



*On unsealed courtyards precipitation can percolate naturally.*

### Consideration of ecological cycles

If something does not work well within a settlement it has a negative effect on the surrounding landscape. This always affects people. The significance of ecological cycles and a careful consideration of resources is very important, particularly in settlements. There are many positive examples ...



*To think in cycles – the cottage garden is a practical example.*



*Water belongs to the village, both the near-natural stream and the village pond.*



*In small settlements it makes sense to establish simple and decentralised waste water treatment plants. In the root area of this waste water treatment wetland the effluent is filtered.*

### Bringing more life into the village

Villages are also habitat of many animal and plant species. If there is a high structural diversity particularly animals can find a large number of the most different biotope types. Many animal species use villages as partial habitats: here they find hide and raise their young; in the countryside they look for food.



*Is there a village without swallows ...?*



*The verge of the village is the connection to the surrounding landscape. Meadows with scattered fruit trees are particularly rich in animal species. An alley from fruit trees provides hide for many species.*



*If plants can just grow ... Spontaneous colonisation puts life into the village!*

*Landscape is also a recreational area, both for rural citizens and for urban dwellers. Also in this context rural development makes its contribution.*

# Landscape as Recreational Area

**Experiencing nature and recreational activities**



Rural development also considers recreational needs in co-ordination with municipalities and other public authorities with planning powers. The Body of Participants can promote the planning and establishment of respective facilities both financially and through land regulation. Planning and construction are conducted with careful attention to the goals of nature conservation and landscape management.

*Village renewal may also include the creation of playgrounds.*



*Experiencing nature, waking environmental consciousness – an interesting, varied landscape provides many possibilities, not only for children.*

*An intact and viable cultural landscape, worth living in cannot be obtained for free.*

# An Intact Landscape

**should be of value to us**



Without private contributions the system does not work. But there are also subsidies from the Bavarian State and the Federal Government.

The planning costs for landscape management are covered up to 90 %. This also applies to the implementation of management measures and maintenance of sites until they are handed over to a suitable entity.

Land purchases are usually supported with a public loan. Losses resulting from purchases, administration and exchanging of land are covered by public subsidies.

Local communities participate in financing village renewals.



If you have specific questions concerning rural development, please contact the responsible Office for Rural Development

