

Optimierung der landwirtschaftlichen Nutzungsstrukturen durch das Verfahren der Nutzungsumlegung

Doctoral Thesis

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OPTIMIERUNG DER LANDWIRTSCHAFTLICHEN NUTZUNGSSTRUKTUREN
DURCH DAS VERFAHREN DER NUTZUNGSUMLEGUNG

ABHANDLUNG
zur Erlangung des Titels

Doktor der Wissenschaften
der
EIDGENÖSSISCHEN TECHNISCHEN HOCHSCHULE ZÜRICH

vorgelegt von

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ABSTRACT

The development of agricultural land use is determined by the increasing productivity of farming. The cultivated farmland by one person has increased from 6.7ha in 1965 to 14.8ha in 1996. Due to increasing productivity, the structural changes develop towards leasing or purchasing of additional land by few big farms. However, in many cases new purchases or leasings do not only entail an increase, but also a fragmentation of a farm's total cultivated land. This fragmentation of the cultivated units of single farms has to be expected even in formerly ameliorated regions.

The current agricultural policy pursues a market-oriented, sustainable production of agricultural goods. Supporting actions to care and preserve natural resources and landscape have to be taken into special consideration. However, the main prerequisites for the success of these biological compensation actions are: a spatial network of compensation areas, their connection to natural structures, and a favourable location.

With the help of suitable implements, the spatial network of landscape with near-natural elements serving ecological compensation, shall be realised at the same time as the realignment of cultivated farmland. The partly contradictory public and private interests in land use of agrarian areas need not only to be analysed, but also coordinated, and weighed up with a new method called „landuse-transfer“ in a common, equal, and simultaneous – thus sustainable – way.

In this thesis, the landuse-transfer has been developed in order to enable a more differentiated land use allocation in the agricultural zone and thus to improve the cultivation conditions. This procedure will be applied on level of communities. The participants of the procedure are entitled to have a certain area within the perimeter for their own use. In the case of several entitled users, the demands will be allocated in new units that allow them to use their new units in a more efficient way. In addition, the ecological compensation areas will be connected above farm level, considering the ecological and economical characteristics of the perimeter. The landuse-transfer improves the structures of the different functions of agricultural land use in a comprehensive way. The conditions of ownership are maintained, only the land use changes. The new land use units may overlay the distribution of property, and may, if necessary, differ from them.

A landuse-transfer is performed in two steps: i) general plan, ii) detail plan.

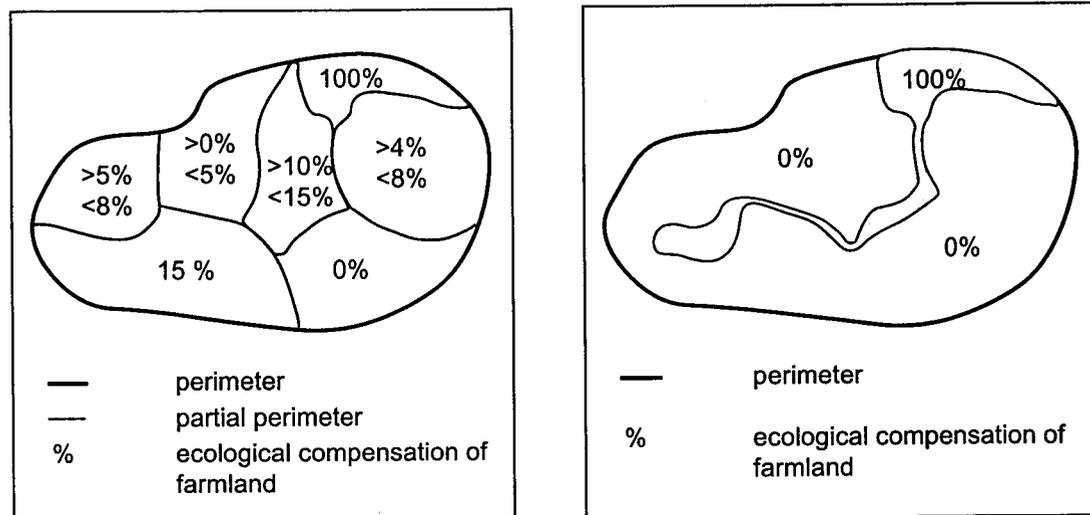


Figure 1: general plan (left) and detail plan (right)

The general plan focuses on the quality of the ecological compensation. It shows the spatial distribution of the landuse focuses (either ecological- or production-oriented). This landuse allocation is determined with different values for the ecological compensation of farmland for partial areas within the perimeter. The ecological compensation area has to cover at least 7% of the whole agricultural area by law. The general plan is ratified by the parish assembly and builds the basis for the detail plan.

The detail plan is worked out by a cooperative of involved farmers under public law. It defines exactly the areas reserved for ecological compensation and new landuse units of each farmer. The conceptionally fixed guidelines of the general plan have to be considered in the detail plan. The reallocated units of land used by one farm have to be as similar as possible to the former units in quality, quantity and value and as close to the farms as possible to avoid long working distances. If a landowner insists on farming on his own land, his wish will be accepted as far as possible. Only leasehold would be reallocated, then.

The general plan's judicial protection follows swiss planning law. The detail plan's judicial protection is organized under land consolidation law.