ARTICLE

MULTIPURPOSE APPROACH FOR SUSTAINABLE DEVELOPMENT

Modern Land Consolidation

Many surveyors are involved in land consolidation projects at technical and managerial level. The matrix of objectives, procedures and tools which constitute land consolidation is under major change, as is the application in real life situations. There are also related changes to the institutional framework of laws, regulations and the bodies involved in public administration. The authors give an impression of these developments.

Traditionally, land consolidation is used as an instrument for the improvement of the business structure of farms, through the consolidation of fragmented agricultural parcels. The need for a better structure has evolved out of the provision of food security for society at low cost, and a better a cost-benefit ratio for individual farmers. When in the past it became obvious that the free land market could not solve the consolidation of fragmented lands, many countries embarked on the development of land consolidation regulations. These regulations provided for mechanisms to consolidate land parcels within a certain area in a co-ordinated way.

Common Characteristics
In fact, common characteristics in many countries of the mechanism are that it comprises:

- a set of decision-making processes, integrating the interest of the government and the community of farmers
- a procedure for re-allocation of rights to land resulting in a re-parcellation
- a procedure for providing agricultural engineering works for the improvement of transport and water facilities with accompanying landscape elements
- availability of a certain portion of state land to resolve frictions in the allocation
- a system of financing, through which the costs are shared by the government and the farmers
- organisation in the form of projects.

The implementation of this type of project requires a database, GIS and surveying technology. Typically, new (spatial) data are generated during the design of the re-allotment plan and the data are established as new boundaries in the field after agreement on the plan by owners and users.

Responsibilities
There are two primary alternatives for the execution responsibility for the land consolidation procedure: the 'cadastral surveyor model' and the 'committee model'. In the 'cadastral surveyor model' (e.g. in Austria, Finland, Germany and Sweden) the land consolidation authority appoints a cadastral surveyor to carry out the project. The surveyor may however be assisted in decision-making by trustees appointed by the municipality. In the 'committee model' (e.g. in Belgium, France, The Netherlands, Portugal, and Switzerland) the responsibility is with a panel committee. The surveyor has an important role as advisor.

Eastern Europe
A special case is the countries in central and eastern Europe, where as a sideline to land restitution, the fragmentation of agricultural land parcels increased substantially. At various levels in these countries there evolves a call for a land consolidation activity according to the western European model. Recent research shows that in some countries the average size of farms however is too small to get a good effect of consolidation of fragmented land parcels. The application of another instrument â€” land banking â€“ should be considered as part of the improvement of the agricultural business structure.

New Insights
New insights to improve rural livelihoods became manifest, also influenced by the impact of agriculture on the environment, nature and landscape, such as:

- the understanding that the rural area serves more objectives than agricultural production alone â€“ it has to serve the broader aim of sustainable development (environmental aspects)
- increasing claims for public purposes on agricultural lands (town development, industrial complexes, physical infrastructure for transport and water, recreation)
- in the EU area, new policies on the control of production (quota), animal disease (intensive agriculture, e.g. pigs and
issues of land banking, financing rural enterprises, educating farmers, marketing products and improving the image of countries of Europe and consolidation as such is not enough to solve the problems of land use. One has to investigate the for example accuracy of the measurements must be optimised taking into account the whole process and the possibility of fast and flexible enough to react to the changes in society. The procedures must be cost effective in order to be successful; the hands of the local community, surveyors should act as experts and project managers. Surveyors have not always been dealing with preconditions for land consolidation. The responsibility of the steering of a land consolidation project must be in fragmented in land use and the age of the owners. All kinds of fragmentations must be taken into consideration, when dealing with preconditions for land consolidation. The responsibility of the steering of a land consolidation project must be in the hands of the local community, surveyors should act as experts and project managers. Surveyors have not always been fast and flexible enough to react to the changes in society. The procedures must be cost effective in order to be successful; for example accuracy of the measurements must be optimised taking into account the whole process and the possibility of using existing data banks. Land banking is used in many countries and is found to be very useful. In the former socialist countries of Europe land consolidation as such is not enough to solve the problems of land use. One has to investigate the issues of land banking, financing rural enterprises, educating farmers, marketing products and improving the image of
farming also.

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