

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 "land banking" 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 "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 chickens) and environment (manure, fertilisers)
- growing awareness of animal welfare
- in the non-EU area: restitution of land to former private owners

- in general, less political priority for agricultural matters, in favour of other economic sectors like industry, logistics, and services.

Change

Land consolidation changed in a wider rural development instrument through the inclusion of more objectives than agriculture alone. The critical success factor for land consolidation in the future is to develop procedures which will be simplified, cost-effective and shorter in duration. This is achieved by cutting project sizes, using existing data banks and modern information technology, combining and performing in parallel the different stages of the process, minimising waiting times between the different stages and tasks of the process, and omitting the associated projects which delay the process, such as road improvements and drainage networks. The emphasis will thus be on solving of certain core problems in an area. Examples are smaller and flexible special land consolidation procedures regarding one land use type or one form of agricultural production. Such re-allotment processes are, for example, land consolidation in vine culture areas, property readjustments of water areas, the German special land consolidation proceedings, and the Swedish forest consolidation.

Discussion

During a symposium on “Modern Land Consolidation”TM, held in Clermont Ferrand, France, in September last year, a series of conclusions were drawn in relation to a set of questions as discussed during the symposium. Regarding the question “has agriculture still a political priority that allows for investments?”TM, a majority of the participants agreed that it is still the case “land consolidation is an important instrument for governments. Countries value the contribution of the agricultural sector to the national GDP, and for the security of food supply. The trend however is that agriculture has to compete more and more with other economic and environmental interest “ land consolidation is increasingly considered as a multi-purpose instrument. On the question of whether modern agriculture is still in need of land consolidation of fragmented land parcels or are other economic factors getting more important in the return on investments at farm level, one could say that in general there is still a need for consolidation of parcels in order to enhance efficiency and minimise production costs. The question as to whether land consolidation will be replaced by the free market in those countries where the number of farms and farmers is dramatically decreasing, the general observation is that this is hardly to be expected. At micro level the free market will influence the consolidation of parcels, but the free market cannot address the enhancement of larger areas in a comprehensive way. This is even more valid if other interests are to be met simultaneously. Strategies and programmes have to be developed in co-operation with politicians.

Regarding what kind of new mechanisms should be included in the land consolidation instrument and its application, it became clear that the demands of society and its stakeholders most likely cannot be met with the traditional land consolidation instrument. There is a need for a variety of instruments, that each of those fits best with the specific demand.

Future

So, what are the lessons learned and what are the critical success factors for land consolidation in the future? We would recommend as follows:

- the consolidation of parcels for agricultural purposes remains necessary, land consolidation can reduce fragmentation of parcels, can support the improvement of infrastructure and can improve livelihood
- land consolidation instruments need to include many other interests as well
- land consolidation should be part of a wider rural and peri-urban development
- land consolidation experts should be skilled in analysing the specific needs of a particular situation and should be able to offer appropriate instruments to meet those needs
- land consolidation experts should have access to a variety of technical tools (such toolboxes should be developed in co-operation with others such as the GIS industry) which enable high quality projects that are acceptable regarding the duration of projects
- in the financing of land consolidation projects governments should provide general funding which is in accordance with the general interests to be met
- in order to enhance the suitability of existing instruments, and to develop innovative and unconventional land consolidation instruments, land consolidation authorities and universities should work strongly together.

Additional Findings

Instead of adopting a solution orientated approach we should be more problem orientated, consequently analysing the problems first by asking the relevant questions. We are not only working in the rural or urban environment but dealing with urban-rural interrelations. These relations may have many forms: food production, recreation, new industries (for instance services to the urban dwellers), nature conservation etc. It is necessary to analyse the needs of local residents and interest groups very carefully and to work closely with them before starting the actual project (preliminary studies of the effects of the project).

There exist many kinds of fragmentation. People usually talk about fragmentation of ownership, but there exists also fragmentation 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.