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DANISH LAND CONSOLIDATION
The interaction between land consolidation and land banking

Introduction

This presentation gives a brief account of the legal framework for Danish land consolidation and the varying circumstances of Danish agriculture in which land consolidation has had the role of facilitating some of the changes. It appears that the practice of voluntary participation and plan elaboration in a process of negotiation is closely linked to public land acquisition. This is increasingly so as land consolidation is used to implement projects of environmental regulation in various forms of public intervention. Public land acquisition establishes the incentive for private owners to make voluntary agreements of land exchange. The land consolidation planner from DFFE, the Land Consolidation Division (LCD) performs both functions of consolidation and purchase; sometimes as net-purchase by LCD on market terms typically in an early stage of a project to accumulate reserve land and sometimes as a net sale within the land consolidation. In both variants does reserve land provided through land banking and sold through land consolidation catalyse change and reduce the conflict potential.

1. The legal framework for land consolidation and land acquisition

Generally, a comprehensive set of regulations regulates the use of agricultural land in Denmark. There are rules for who can own agricultural land, ceilings of size and number of farm holding that an individual can own, requirements that the owner lives on of the farms, ceilings of maximum distances from buildings to parcels, restriction on access via or across roads with heavy traffic, etc. These rules all under the so-called Act on Agricultural Land (in Danish: "Landbrugsloven") are enforced by the county land commissions. A land consolidation project must also observe this set of legislation and it is the land consolidation planners responsibility to ensure this and if necessary to apply for permissions to exceed or violate spe-

cific regulations. Besides: Other stakeholders may include the authority responsible for major roads and related access for permission to establish new passage into fields, The Municipality for example on permission to pass over minor ditches or rivers, the county land management for permission to demolish old boundaries of which some are protected. .

The interaction between land consolidation and land acquisition builds on two acts: The Land Consolidation Act defines the procedure for land consolidation. The Land Acquisition Act empowers The Ministry of Food, Agriculture and Fisheries to acquire agricultural land for certain specified purposes who in this respect refers directly to the Minister.

2. Brief historical review of structural change and the extent of land fragmentation

The origin of Danish land consolidation dates back to the first initiatives in the late 18th century to dissolve the feudal structure of land ownership and establish privately owned farms. Since then the structure of ownership and of size distribution has been in an ongoing transformation. The size of a viable farm unit has been under significant evolution over the last hundred years. After WW1 a re-distributive land reform was initiated in the course of which the state acquired land from larger holdings and subdivided into smaller units designed to be a sufficient basis of existence of a family. Initially, an area of about 10 hectares and sometimes less was considered sustainable. However, the size of a viable family holding increased up through the 20th century. The fragmentation problem was first addressed directly in Southern Jutland in the 1920s. This was in part due to a higher incidence of fragmentation in the regions that between 1964 to 1920 belonged to Germany.

The evolution in technique and farm economics up through the 1950s – 80s greatly required also re-organisation of farmland. For example, there was the trend to specialisation where, increasingly, farms concentrated on just pigs or milk production, or on only the EU subsidised cash crops. And there was the trend to concentration on ever larger holdings.

The layout from earlier times then became obsolete. Many farms no longer needed a remote parcel on the meadows for hay, grazing or peat. Although some meadow parcels were good for cereals like oats and barley the time of driving there with different types of machines or in later years the almost prohibitive price per hour for a machine-station to harvest or plough made these remote parcels uneconomic. Besides, the drainage system in many cases had ceased to function.

At the same time a new commercial potential emerged in the production of potatoes in the peat soils in the meadows and the few large milk producers or cattle holders maintain an interest in grazing. Other producers have from the late 1990s used these lands for the EU “set-aside” requirements, this sometimes in combination with appreciating the nature hunting aspects of these areas. A pressure for change of ownership structure and layout in whole village areas thus became progressively more pronounced up through the second part of the 20th century. Many so-called village land consolidations originated in such gradually acknowledged need for change among the farmers and typically facilitated by the local private surveyor who would assist in applying to the LCD for a free land consolidation project. The surveyors incentive being that it could be quite a good income for him to have first the planning stage and later the cadastral survey of the land consolidation.

From around the 1960s the re-distributive reform objective was overruled by the tendency which then was gaining momentum, namely an increase in farm size. Since then many small holdings have proved insufficient as a basis for subsistence for a household. The many small farm buildings in the Danish countryside increasingly served residential purposes for the owners who took up wage employment in towns or at farms. Many were subdivided leaving only a few hectares around the house consolidating the rest with adjoining farms in a process of the so-called "structural change".

Change in size distribution in Danish agriculture between 1970 and 1996:

Size distribution of farm holdings, 1970-1993					
	1970	1977	1983	1990	1993
Under 10 ha	51.800	41.000	20.800	14.408	13.694
10 - 19,9 ha	44.000	34.300	26.900	18.562	17.030
20 - 29,9 ha	25.200	22.400	18.900	13.667	12.103
30 - 49,9 ha	18.900	19.400	19.100	16.689	14.545
50 - 99,9 ha	7.100	8.700	10.600	12.287	12.107
> 100 ha	1.600	2.000	2.400	3.727	4.305
Total	148.600	127.800	98.700	79.340	73.784

Size distribution of farm holdings, 1995-2002								
	1995	1996	1997	1998	1999	2000	2001	2002
Under 4,9 ha	2.091	2.172	2.243	1.900	2.001	1.746	1.848	1.757
5-9,9 ha	11.348	9.946	10.307	9.641	9.453	8.457	8.573	7.893
10 - 19,9 ha	14.934	13.758	13.475	12.306	11.545	11.188	10.221	9.752
20 - 29,9 ha	10.361	9.080	8.599	7.749	7.552	6.531	6.683	6.256
30 - 49,9 ha	12.906	11.804	10.976	10.247	9.611	9.017	8.502	7.369
50 - 74,9 ha	8.208	8.273	7.873	7.840	7.366	6.825	6.655	6.086
75 - 124,9 ha	5.984	6.146	6.279	6.428	6.467	6.611	6.399	6.494
125 - 149,9 ha	1.054	1.143	1.213	1.330	1.359	1.396	1.507	1.532
> 150 ha	1.884	2.104	2.186	2.320	2.477	2.770	3.103	3.391
Total	68.770	64.426	63.151	59.761	57.831	54.541	53.491	50.530

From: Forenklinger i jordlovgivningen. Betænkning nr 1421. FVM, Juli 2003:

3. Potentials and constraints of land consolidation

The overall structural change that has taken place in Denmark has happened in individual transactions in the market. As apparent from the statistics about 100.000 farm holdings have been eliminated since 1970. The market-based transition is as active as ever.

Yet, land consolidation was a useful instrument in this process of recurrent structural adjustment. This is because land consolidation can overcome fragmentation to an extent that is not possible through individual transactions. Land consolidations have been more common in some areas of the country than in others. For example, on Sealand they have been rare. Where as in South, West and North Jutland farmers are often familiar with land consolidations and in this sense more “developed”. In some areas they have had a land consolidation project with intervals of 10- 15 years.

Generally, fragmentation has not amounted to a problem in Danish agriculture as experienced in other countries. This is because Denmark had a tradition that prevented the subdivision of farm holdings at inheritance. Also, there were the concept of “agricultural land “ and the concept of a “farm holding” with a set of rules that defined that agricultural land can only be sold to another farm holding. Besides, there was the requirement that the owner of a farm actually has to reside on one of his farm holdings. This set of rules has generally prevented absentee land ownership, extreme fragmentation and maintained a focus on rational farming.

Seen in the large perspective there has been an ability to cope with fragmentation and overcome it – in some cases by way of land consolidation. Reduction of fragmentation through land consolidation has been an aspect of optimisation but fragmentation never amounted to a critical constraint for the farming sector.

Since the middle of the 1980s there has been a shift in demand for land consolidation. From a primarily agricultural context land consolidation has become increasingly requested to implement environmental regulation. This process has evolved gradually. The first projects of nature and environmental regulation that directly interfered into the farmers land use applied the same negotiating technique and used the legal technique in the agreement forms and simultaneous judgement. Gradually, land consolidation has been applied in a more systematic manner.

One can say that present day land management increasingly appreciates the conflict resolution potential of land consolidation and land banking.

4. Main elements and actors in Danish land consolidation

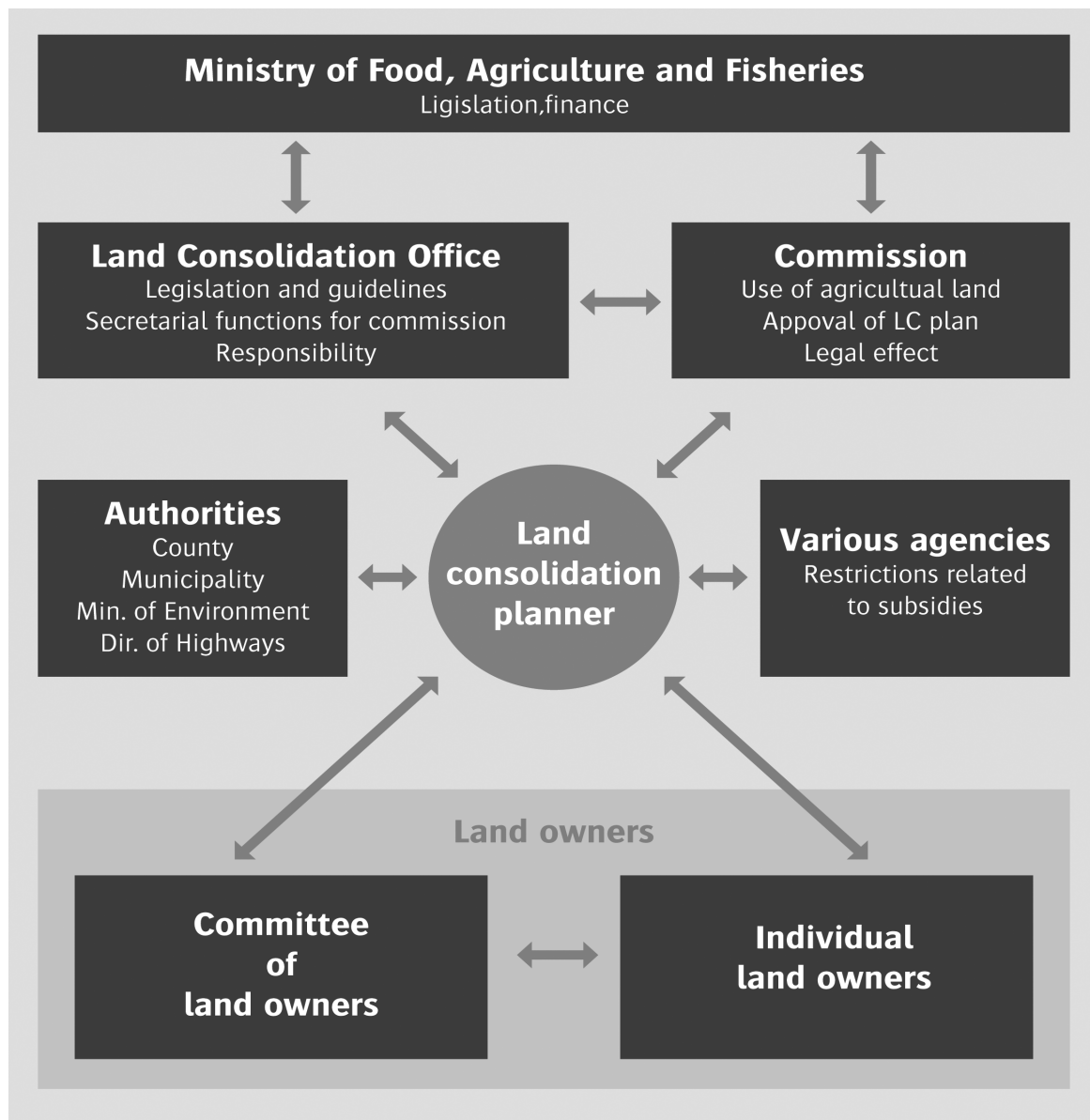
A traditional Danish village-based land consolidation is initiated on request of a group of landowners. The main principles are that participation is voluntary and that the planning is based on negotiation. This means that all owners in an area need not necessarily participate. Landowners elect a representative committee of landowners at the beginning of the process. This committee participates actively in negotiations. Alterations in property happen for each owner as a combination of selling and buying with differences in value being matched by payments in money. Transactions for each property are listed on one agreement form for each property. Once signed by the owner this agreement form becomes a transfer document. The land consolidation plan consists of all the signed agreement form and they become legally effective in one judgement by a specially empowered land commission. The costs of assistance

to planning and negotiation and to registration of alterations of property are all paid by the state or, as from 2004, co-financed by EU through the rural development programme. Typically, a project is implemented within 1-1½ years from the request till the date of implementation.

The approach emerged in the process of re-distributive land reform initiated in the 1920s. A commission was established and empowered to purchase agricultural land all over the country for purpose of creation of smallholdings. This process came to involve both direct subdivision, re-organisation and reduction of fragmentation – depending on the character of the localities. The system of one-shop-system where all transactions are ruled effective in one single judgement by the county land commission was established by the land consolidation act in 1949 but has presumably been tested in practice up through the 1930s. This model has remained largely unchanged since then. It has proved effective and is still applied although the rural situation and requirements for change in ownership have changed fundamentally.

The village based land consolidations are as a rule implemented by a private land surveyor. Projects initiated by public intervention are typically implemented by land consolidation planners from the Land Consolidation Division. These projects concern land consolidation in connection with major road projects and nature conservation or restoration projects. The implementing agencies are here the Road Directorate of Highways, the county administrations and The Directorate of Forest and Nature under The Ministry of Environment.

Illustration of the position of the land consolidation planner:



5. Main elements in land banking

The Land Acquisition Act empowers The Ministry of Food, Agriculture and Fisheries to acquire agricultural land for certain specified purposes who in this respect refers directly to the Minister. The practical work is managed by the LCD.

This construction allows for speedy procedure. State agencies normally need to have a sale or purchase of property approved by the financial committee in the parliament. This can be a lengthy and inflexible procedure. By contrast, delegation of power to the Head of the Land Consolidation Division to decide permits quick decision taking. The time factor is essential both in pre-emption cases and in market purchases.

Earlier the Land Acquisition Act was referred to as "The Credit Act". This is because it was the legal framework both for acquisition of land and for the granting of credit on favourable terms to create new agricultural holdings. Chapter 1, sections 1-17 defined the procedure for provision of credit. Chapter 2, sections 18-30 define purpose and procedure for acquisition of land. However, up through the 1970s and 1980s Danish agriculture became better economically consolidated and the need for public credit provision decreased. Eventually, sections 1-17 were abolished in 1990.

The provisions in The Act's chapter 2 are now largely used to acquire land to be used as part of compensation in the process of implementing public interventions in rural areas; as apparent in section 18, subsections 2 and 3.

In our unauthorized translation the wording is as follows:

§18. The Minister of Agriculture and who the Minister may empower can on a willing seller willing buyer basis acquire landed property

- 1) to establish new or increase existing agricultural units or to promote improved location of land between existing farms,
- 2) if in specific cases it is found appropriate to preserve the landscape or the agricultural environment,
- 3) for redistribution in land consolidation to alleviate inconvenience due to non-agricultural activities in agricultural areas, or
- 4) to acquire land for allotment gardens.

§19. State acquisition of landed property for the purposes mentioned in §18 as well as constructions works through §27 are financed by a specific budget line on the annual state budget.

B. Right of pre-emption.

§20. For purpose of acquisition of land for the purposes specified by § 18 subsection 2 and 3 the state can register a right of pre-emption on farm units and on parcels of agricultural land and non-cultivated areas.

Finance and technique

The annual financial allocation for state purchase is around 5 mill Dkr. The guideline is to have at most a reserve of a total value of about 20 mill Dkr.

The technique in pre-emption: An owner of free land agrees to sell to a buyer. The transaction is presented to the LCD prior to final registration. The LCD can decide to apply its right of pre-emption within a notice of three weeks. In such case the LCD assumes the obligations of the buyer who will not succeed in his purchase. For the seller there is no difference.

There are about 250 cases per year of pre-emption cases presented for the LCD. But only in about 10% of the cases does the LCD make use of the right of pre-emption. Some are inter-family transactions or purchases by neighbours in which the LCD does not interfere.

The tendency is that most active purchases are made in the market.

The recent shift in importance of land banking towards environmental regulation is illustrated by The Water Environmental Plan. It is a national wide scheme that has its own finance for strategic purchase of land. In 2003 the Land Consolidation Division had bought about 1000 hectares of agricultural land for about 170 mill Dkr. However, in some cases there were also farm buildings. This scheme has become by far the single largest purpose of active land banking at present.

6. The need for land banking in present Danish land policy

The projects that implement for example the restoration of a lake that was drained 80 years ago can be quite dramatic. Only extensive grazing around the lake will be possible in the future. Sometimes more than 100 farms are affected. The owners are of all types. Some are about to sell and go on pension. Some live in the countryside, they have farming as a part time activity but have their stable income from employment as teachers, doctors, librarians, etc. And there are the full time farmers making large investments and extending their production and in constant need to increase their area of farmland.

Although, present day intervention is clearly a public policy the principle is not to apply a strategy of direct expropriation but, rather, to pursue an approach that – to the extent possible – reaches voluntary agreements with the affected farmers.

Environmental projects do in practice eliminate the productive potential of the affected land. This is particularly critical for the commercially oriented farmers. If, however, compensation can be offered in the form of alternative farm land and perhaps even an increase in total area – then the commercial farmer is more minded for entering into a voluntary agreement. The ability to acquire land to be held in reserve for compensation is, therefore, crucial for pursuing a strategy of negotiation and compromise.

The actual re-organisation of land and ownership happens in a land consolidation project.

7. Brief institutional appraisal

By comparison the other countries one can generally say about the Danish approach to land consolidation that is a “narrow” activity that concentrates on the re-organisation of ownership to agricultural land. The system was able to concentrate on the fragmentation issue because a

reliable cadastre was by and large in place. Adjudication of ownership is only needed in rare case.

Historically, there has been in Denmark a tendency to the creation of “ad-hoc” arrangements to address specific land issues. For example, there are special procedures for adjudication of boundary disputes by a private land surveyor. Disputes over fences are considered by a tribunal in each of the country’s 275 municipalities. Expropriation has its own procedure of which there are two variants. Yet other procedures exist for resolution of disputes such as access and maintenance of local roads, damage to crops caused by domestic animals, etc.

Other agencies or authorities were in place to perform construction of infrastructure, implement environmental regulation and in earlier times to implement major draining schemes that also included land consolidation. Today municipalities and county administrations have implementing capacity.

These are probably the reasons that the rural development in Denmark did not happen as an integrated land consolidation scheme but more as a co-operation between agencies and authorities with different roles – as briefly sketched above.

8. Amendments of legal framework

Perhaps surprisingly, there has been little need to adjust the legal basis for land consolidation. The law from 1949 defines the procedure especially the system with a “one-shop” court ruling for all transactions. The system was adjusted in 1956. It is the land Consolidation Act from 1956 that – by and large – is operational today.

More significant change happened in the Land Acquisition Act. As explained in section 5 above, need for public provision of credit decreased up through the 60s and 70s. But with the increased need for public intervention the power to acquire land has gained a new strategic importance in a progressively closer linkage with land consolidation; see section 9 below.

The latest initiative – still at an early stage - is to merge The Land Consolidation Act and the Land Acquisition Act into one single act. This would aim to “consolidate” the tight connection between LC and LB.

9. The interaction between land consolidation and land acquisition

The strategic importance of reserve land

The key potential of present arrangement is the ability to combine the acquisition of reserve land with the process of land consolidation. This is increasingly realised as essential to continue the tradition of reaching almost all agreements on a voluntary basis. However, at the outset all land is privately owned. There is normally no public land reserve in the baseline situation. So, the state only has such reserve land as it is able to acquire in the market – in competition with other potential buyers. A pool of reserve land makes it easier to create attractive solutions and make voluntary agreements with owners. The ability of the state to actively acquire land is, therefore, a pre-requisite for voluntary agreements.

From the LCD we can not offer higher prices than the market level in the area but there is an incentive to sell to the LCD because there are no transaction costs; all formalities are performed by the LCD. Besides, selling to the LCD is easier. There is no difficulty with selecting the buyer and the seller will not experience a prolonged phase of uncertainty in case the buyer needs permission from the county land commission, which in turn may involve public advertisements and renewed tension between competing neighbours. There are cases where owners decide to sell to “the project” in order to support and promote it. So, one can say that selling to the LCD implies neither financial nor social costs.

Facts and preferences

Landowner's preferences are a crucial factor and they are largely unknown when a project is initiated. The first stage of land consolidation establishes the facts of ownership and actual land use and farming practices. The environmental projects have now formalised a stage that surveys the property implications of the project (as distinguished from the concrete environmental aspects). This so-called “preliminary investigation” takes typically about half and one year depending on volume of the project and it concludes in a baseline report. Only thereafter is it decided to start the land consolidation procedure.

This “preliminary investigation” includes an interview with each affected landowner. The ways in which his farm is affected are established and his preferences for compensation are discussed. Some may prefer just compensation in cash and keep the land – if possible. Others, typically the commercially oriented farmer may prefer to have good farmland in compensation and – if possible – an increase in area. These – combination of surrendered land and or compensation for reduction in use value and possibly purchase of alternative farm land – will all be formalised later on the one-shop agreement form in the land consolidation.

During the first interview it is also explained to the farmer how the consolidation mechanism functions including the mandate of the Land Consolidation Division to purchase land for compensation. It may be that the farmer has already heard about a purchase by the LCD in the area. A farmer who has for some time considered selling and retire may then realise that this is the occasion to realise the sale.

The purchase

The way that land is acquired by the LCD / Land Bank is typically that an owner in this process decides to tell the LCD land consolidation planner - whom he has now come to know – that he may sell some of or all of his land. This new preference shifts focus from land consolidation to land acquisition. Some owners are prepared to wait until the land consolidation scheme is initiated. The sale can then be formalised on the standard agreement form and become effective on the date of exchange. But sometimes the owner can not wait another year or is prepared to sell to any buyer. In order to secure compensation land for the project it is necessary to act with short notice – and it is here that the LCD mandate to make so-called strategic purchase on the basis of the Land Acquisition Act is important.

The LCD LC-planner then takes a different form namely an agreement form for direct purchase. The land consolidation planner negotiates directly with the seller and bases his threshold for price on the knowledge that he has acquired on price levels in the area. The facts of

the agreement are specified including property and parcel identification, agreed price, date of transfer of ownership and payment, and possibly other particular terms. Thereafter, the Head of the Land Consolidation Division approves the agreement and it is implemented by the legal section in LCD, who also hire a local surveyors to do cadastral surveying when needed. Sometimes a lawyer from the legal section in LCD is present at the final negotiations when the deal is finally formalised.

The close inter-action between the land consolidation and land acquisition shows in the fact that the planner from the LCD represents both acts and carries agreement forms for both. One moment the planner is a land consolidation planner. The next moment he represents the land bank. Besides, there is a close co-operation between the planner and the lawyers in the legal section of the LCD.

The sale

Reserve land acquired through land banking is sold in a land consolidation project. It is here that it serves its purpose. It provides scope for designing a new situation of layout and ownership. And it reduces the conflict potential by being part of compensation. Land sold in land consolidation benefits the whole project or community – not just one buyer.

10. Example – The Rødding Sø project

A minor example of a project under the Water Environmental Plan is the project that restores the original lake at the village of Rødding. The lake was once drained and a drainage system constructed including a pumping station. Restoring the lake would retain sufficient nitrogen to qualify for the larger part of the finance under the Water Environmental Plan. Local government was prepared to finance the rest.

The area of the lake is about 33 hectares most of which was used as normal farmland in a combination of grazing and cereals. The project would make this land largely un-productive as only a small area would be accessible for grazing and the rest would be water. The project would clearly depend on finding compensation for the loss of this farmland. The LCD made a preliminary investigation and assessed that it would be possible to find solutions for the affected farms.

In the course of the preliminary investigation about 26 ha of compensation land was bought by the LCD from 4 different owners. Thereafter, the land consolidation was started and in the course of this another 8 hectares were bought. In total about 34 ha of compensation land allowed the project to be implemented. Landowners were then compensated in a combination of cash payments and purchase of alternative land. This is in line with a rough rule that 1 hectares project area requires 1 ha compensation land. The lake area continues to be privately owned by a few adjoining landowners.

The land consolidation followed the standard procedure including election of a committee of landowners. The levels of relative prices used for exchange of land were set in a co-operation between the land consolidation planner and the committee of landowners.

It was part of the agreement with landowners that the municipality can design and construct a passage around the future lake for the public. The project reduces the agricultural potential on the land. On the other hand it increases the recreational value of the village. So, the project can be said to have an aspect of local rural development.

11. Constraints and perspective

As land consolidation is increasingly applied to re-organise property in connection with public intervention it is at times difficult to reach voluntary agreements with all affected owners. This is, particularly, apparent in the Water Environmental Plan, which – being created partly on initiative of the agricultural organisations – has only a weak provision for expropriation. Yet, the project type concerns water, which imply full coverage of an area.

The trend is that public land policy introduces a progressively tighter regulation of agricultural production. The extent of natural protection and environmental regulation is increasing - often originating in EU directives. There seem to be also an increasing awareness of the need to take up a more systematic planning of the villages of which many are in advanced stages of decay. The government is also in a process of identifying certain large localities as so-called national parks, which may imply quite explicit interventions.

The overall trend is, therefore, that the initiative increasingly comes from the side of the public land management agencies. The coming years may, therefore, see a shift from the conventional Danish sporadic land consolidation towards a more integrated approach; at least these is the vision within the LCD. The implementing agencies - the counties and the Ministry of Environment are gradually applying a more explicit inclination to expropriate when the majority of the landowners voluntarily agreed to participate.

But the role of land banking remains. It serves land re-distribution and its role in reducing the conflict potential is as relevant as ever. Reserve land is crucial for reaching compromises.

March, 2004.