

# Surveyors' Role in Danish Land Management from the 1980s

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## Summary

Danish land management during the recent three decades is described from the point of view of geodetic surveyors. The notion of New Public Management appears to have influenced administrative changes in Denmark. However, despite the fact that the monopoly of the surveying profession is at odds with the prevailing liberalist thinking, it is documented how the profession maintained its service to society. A future outlook is briefly discussed.

## Zusammenfassung

*Für die letzten drei Jahrzehnte wird das Landmanagement in Dänemark beschrieben. Die Idee einer modernen Staatsverwaltung hat auch die administrativen Veränderungen während dieser Zeit in Dänemark beeinflusst. Trotz des Umstands, dass sich die Monopolstellung des geodätischen Berufsstandes nicht mit vorherrschendem liberalen Denken vereinbaren lässt, wird gezeigt, wie der Berufsstand sein Dienstleistungsangebot für die Gesellschaft erhalten konnte. Ein kurzer Ausblick schließt den Artikel.*

**Keywords:** cadastre, land management, profession

## 1 Introduction

The use in Denmark of the term “Land management” and its Danish equivalent “Arealforvaltning” emerged within the surveying education in the 1980s. This is evidenced by the fact that a 30 volume Danish lexicon, Lademanns Leksikon, issued 1982 to 1989, does not mention the term. However, a recent enquiry into the Danish digital encyclopaedia, Gyldendals “Den store Danske”, renders the Danish term twice: In an entry on the Danish chartered surveyor, in Danish: Landinspektør, and in an entry on the geographical aspects of the USA, where its Bureau of Land Management is translated into “Styrelsen for Arealforvaltning”. These two entries strike up a recurrent theme in the following: The adoption of Anglo-American practises in the Danish society.

In the Danish surveying context, the term “arealforvaltning” may be defined as “public planning concerning land and natural resources”. However, a senior official of the Ministry of Agriculture defined “arealforvaltning” more like the US conception, namely as “management of areas in public ownership”, as he referred to: “... land management proper: grazing lets, farming out, own tillage, ...” (Prime 1997). The Danish notion of land management is brought out in a report in the series: The Danish

Way, provided by The Danish Association of Chartered Surveyors (Enemark 2002). The term seems introduced in Denmark through a Nordic comparative description of surveying educations from 1982 (Balle 1982, p. 406). It was used in a Danish study programme of 1985 as the title of a 9th term specialisation (Brande-Lavridsen 1988, p. 279), and a few years later adopted in the subtitle of the Danish professional journal.

As a review of European geodetic surveying study programmes attest, the Danish programme is relatively strong in legal, cadastre, and spatial planning issues, in addition to the general surveying and mapping disciplines (Mattsson 2000). This paid off, especially during a Danish building boom from the 1960s into the 1980s. The present review of land management in Denmark from the 1980s intended to cover the issues, which engaged the majority of graduating surveyors during their professional life, whether this is unfolded in private practise, in governmental or municipal offices, or in private companies, e.g. concerned with geographical information systems (GIS). It appeared, however, that a fair recording would burst the limits of the journal’s article size. Thus, this article focuses on issues related to land management and largely leaves out the mapping and GIS issues.

From the 1980s, the public administration of Denmark and other Western countries was increasingly discussed from the perspective of New Public Management (NPM) (Hood 1995), which originated in the English speaking world (Gruening 2001). In many variations, the basic idea is that private-sector styles and objectives ought to guide ongoing reform of the public sector. Thus, it might be rewarding to interpret the following Danish evidence within the NPM perspective on administrative development. However, this idea is hampered by the fact that neither in terms of concept, nor in practise, NPM is well defined. Moreover, the presumed positive effects of NPM, announced through the political rhetoric, have so far not been verified through empirical investigations (Van de Walle 2011). Yet, events are reported with a NPM-point of view in mind and reflected at the closing section.

A standard approach would be to introduce the ministries concerned and the local government structure and tasks, and then detail the land management aspects of this framework. This approach is included in section 4 with Fig. 7 on Denmark’s administrative subdivision, but not as the main structuring principle. In order to reflect the Continental European tradition of Danish public administration, an institutional approach is adopted as the main structuring principle. An institution is understood here in the sense of D. C. North as constituting “the humanly

devised constraints that shape human action” (as further detailed in Stubkjær 2008). This approach also accentuates the role of surveyors, as they originate from elder layers of land management institutions in Denmark.

## 2 The Cadastral Domain and the Surveying Profession

In Denmark, the cadastre is maintained through a twin structure: a governmental body in charge of the pertinent legislation and updating, as well as private surveying enterprises across the country, managed and staffed by chartered surveyors, who prepares cadastral cases as requested by clients. A strong connection with agriculture was during the 20th century supplemented with heritage protection, spatial planning, and environmental measures. The agricultural-cadastral legislation was already in 19th century organised in such way that change of property units and updating of cadastre was not a purely technical affair: updating was permitted only when the change complied with regulation measures. Thus, the regulation of agricultural units could easily be extended to include also e.g. spatial planning measures.

### 2.1 The Cadastre Agency

The Cadastre Agency (Matrikeldirektoratet) of the Ministry of Agriculture and the Geodetic Institute and the Nautical Chart Administration, both of the Ministry of Defence, were in 1989 merged into one institution, called the National Survey and Cadastre (Kort-og Matrikelstyrelsen, KMS). The main argument for the merger was the anticipated investment in new technology and the risk of wasting resources through uncoordinated efforts (Kortudvalget 1986, p. 71 ff., cf. Fig. 1). The new agency

might have been located within the Ministry of the Environment, but at that time the ministry was fully occupied with environmental regulation of industry and with spatial planning, so the KMS was located within the Ministry of Housing, which was also in charge of a national Building and Dwelling Register, used for property valuation and taxation, and for provision of housing statistics.

The new agency faced the challenge of recasting own topographic map production into a scheme, where the KMS defined standards and conditions, while the mapping task was performed by private companies through tenders. The 1988 Act on the National Survey and Cadastre thus mandated the Minister of Housing and the KMS to establish standards and to coordinate public mapping and “other public recording of located information in Denmark” (§ 3). The Act on Recording of Building and Dwellings included a related mandate, namely “to coordinate and streamline the recording of data concerning real property” (§ 7). However, a recurrent pressure to reduce costs and improve performance did not favour the proposal of a grand scheme for acquisition, recording and use of located information, or geodata. Also, the complexity of aligning state agencies, the municipalities, the utility companies, and larger surveying companies meant that progress was made in a piecemeal fashion.

One of the important improvements was a complete rewriting of the main cadastral act. The terminology of this act used concepts, which referred to the agricultural context, even of the 19th century. The new act of 1991 on Subdivision and Other Cadastral Recording provided for a consistent terminology, which aligned with land registry law (tinglysningslovgivning) and fitted the digital recording to come. The Subdivision Act and its related executive orders provided well balanced instructions for complying with subdivision restrictions from agricultural, construction, heritage protection, spatial planning, and environmental points of view. The chartered surveyor has to mark and measure the new boundaries, to attest that the property units concerned have legal access to public road, and finally to state that the proposed changes comply with the mentioned restrictions or to submit summary evidence that the pertinent local authority has granted sufficient permission. For more details, see: “Property formation in the Nordic countries – Denmark 2006”.

In addition to the routine case work, the act includes provisions for handling boundary disputes (instituted already in 1949). Conflicts on the legal boundary cannot be brought before a court, until a chartered surveyor has investigated the case and established the boundary, either with the consent of the parties, or according to professional judgement. During the 1990s, the yearly amount of such cases were about 40, of which about 25 settled the neighbour conflict, surveyor ruling closed other 10 cases, and the remainder 5 were brought before a court. The surveyors’ contribution to society is evidenced by the fact that of 269 cases during a seven year period, only three were reversed by civil or high court (Heinemann 1997).

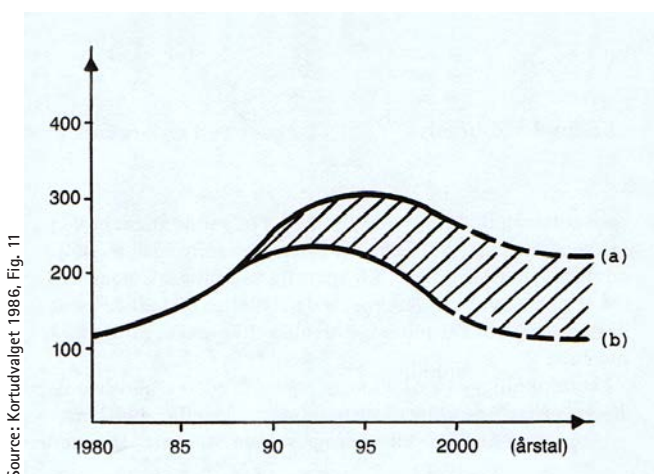


Fig. 1: Estimated Danish mapping cost in case of (a) lack of coordination between mapping agencies, (b) coordinated implementation of digital mapping. [Yearly costs in million Danish kroner]



Photo: Joachim Høhle

**Fig. 2:** Roads in the countryside are privately owned and managed. The chartered surveyor documents that new or changed parcels have legitimate access along such roads to public road. Besides, they invite to recreational strolls, e.g. here about 10 km South-East of the university city of Aalborg.

The KMS was relocated to the Ministry of Environment in 2003 (Sørensen 2003). This change was consistent with increased recording of environmental issues in the digital cadastre. A complete recording of the forestry obligation (fredskovspligt) in the cadastre started during the 1990s already, but at the turn of the century recording was extended to include also coastal zoning, soil contamination, and certain forest tracts, hit by windfall (Christensen 2002). These changes also implied that chartered surveyors were no longer the sole contributors to cadastre updating.

Digitisation of the cadastre proper took place 1983 to 1986 (Hansen 1983) and the digitisation of cadastral maps was completed in 1997, three years earlier than first

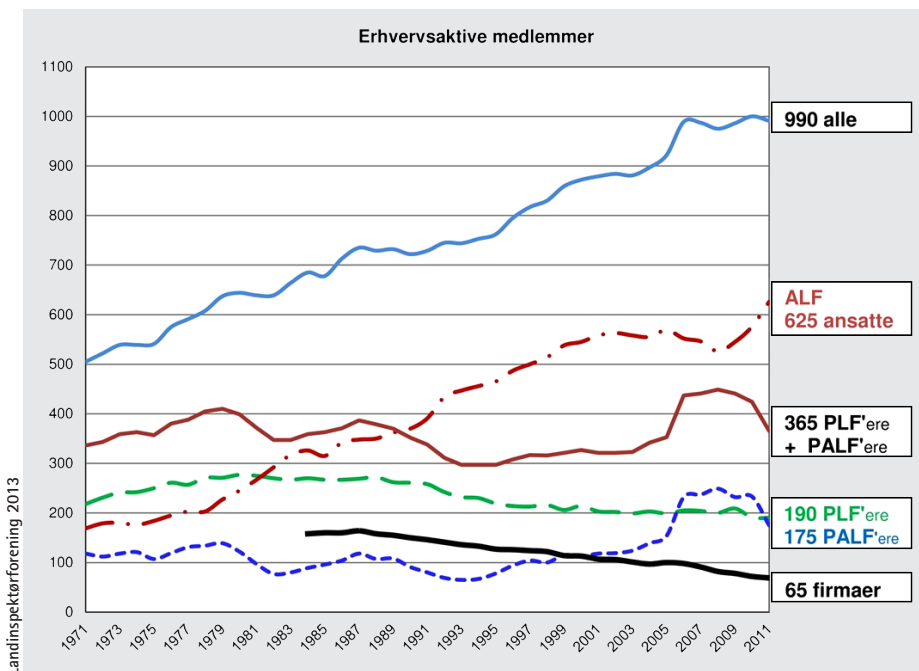
projected (Gøtø 2005). Next, the digitised updating of the cadastre was addressed, again through close cooperation between the Agency and the chartered surveyors. After tenders in 1999 and a prolonged test phase, the cadastral information and updating system MIA (Matrikulært Informations- og Ajourføringsssystem) was in compulsory use by 2006 (Gøtø 2003, Jensen 2006), and by 2008, the KMS added a facility, miniMAKS, to fit the new communication format (Jensen 2009).

The name of the KMS was changed in 2012 to the Danish Geodata Agency (Geodatastyrelsen) in the context of a new act that announced the availability of the agencies' data free of cost. The bill did not mention a change of name, either. It was introduced without motivation in the report of the parliamentary committee (Miljøudvalget 2012). A sort of motivation may be found in a news message of the KMS a month before, which informed that the term "Geodata" now was adopted in the Danish Spelling Dictionary of 2012 (Retskrivningsordbogen 2012) and that the KMS "within the geodata industry will do its share to diffuse the concept everywhere" (Geodatastyrelsen 2012).

## 2.2 The Surveying Profession

The activities of the surveying profession have been monitored every ten years from 1967 through 2007. The number of respondents increased from 623 in 1977 to 832 in 1997 with high and rather stable response rates. In 1977, cadastral work accounted for about of 57 % of professional activities, while planning and land management, mapping and engineering surveys, and other had about equal shares of the remainder. In 2007, the share of

cadastral work decreased to 22 %, while planning and land management (19 %), mapping and engineering surveys (25 %), and other (34 %) again largely shared the remainder. However, throughout the period, the number of partners/owners of surveying companies, and of surveying graduates employed there was rather stable till the turn of the century, where employed graduates (PALFer) doubled during a construction boom before the financial crisis. The change in activities was largely due to surveyors employed outside the surveying companies (ALF). This group increased remarkably, from 200 in 1977 to more than 550 since the turn of the century (Landinspektørforening 2013).



**Fig. 3:** An increasing number of surveying graduates have found occupation outside the traditional surveying companies.

In 1963, an Act on Chartered Surveying (landinspektør-virksomhed) replaced royal commissioning of surveyors by licenses being granted by the pertinent minister, but also confirmed the exclusive right of chartered surveyors to prepare cadastral cases. Moreover, the act instituted a Surveyors' Tribunal (Landinspektørnævn) where clients may lodge complains against chartered surveyors. The tribunal is chaired by a judge and includes a representative of the KMS and of chartered surveyors, respectively. The rulings are published in anonymous form. During 2002 to 2011, of 106 cases submitted, 56 were dismissed for various reasons. Of the remaining 50 cases, the surveyor was found not guilty in about one third, warned in 7, admonished in 7 and sentenced a fine in 19 cases. In one case, the license was suspended for a period (Landinspektørnævnet 2012). For comparison, mention is made that surveyors submit about 10,000 cadastral cases a year (Property formation 2006). In Denmark, similar tribunals are in place and monitoring the activities of e.g. lawyers and estate agents. Likewise, professional liability insurance is a common feature. Liability insurance was introduced for chartered surveyors in 1930, where surveyors' tasks were extended to comment on easements to be recorded in the land registry. Now insurance cases are managed by the Surveyors' Mutual Liability Insurance (Landinspektørernes gensidige Erhvervsansvars-forsikring, LgE).

The act on chartered surveying has been slightly modified, for example to state more precisely the conditions of surveyors' impartiality. Moreover, several amendments were made to allow for a shared market within the European Union. Thus, restrictions in terms of Danish citizenship were lifted and access to ownership of companies, which perform chartered surveying, was relaxed. These changes were accommodated rather unproblematic, because they coincided with a trend from former individually owned companies to larger units (cf. firmaer Fig. 3). This trend was due to need for investment in technology and the benefit of specialisation and mutual professional exchanges within the company.

The Danish Association of Chartered Surveyors (Den danske Landinspektørforening, DdL) has through its existence maintained vivid contact with the university education of surveyors and with the Cadastre Agency. Moreover, the provision of a professional journal and of a compendium of relevant statutory acts and executive orders, etc. (Sørensen 1998) have been continuous services to its members. The DdL contributes to bill preparation within its expertise. The most pronounced effort was probably the contribution in 1966 to a condominium bill. In 1987, an effort was made to provide members with relevant computer service, but without lasting impact (Staunskjær 2000). Joint efforts by the Agency and the DdL proved more successful, as illustrated e.g. by the recent establishment of a "Locational Database" within the context of land registration.

### 2.3 Land Registration

The interplay between cadastre and land registry was intensified through a codification of land registry practices in 1926. It requested chartered surveyors to obtain from the land registry of the local court a list of easements in the property unit to be subdivided, and next report back the location of each easement relative to the pertinent

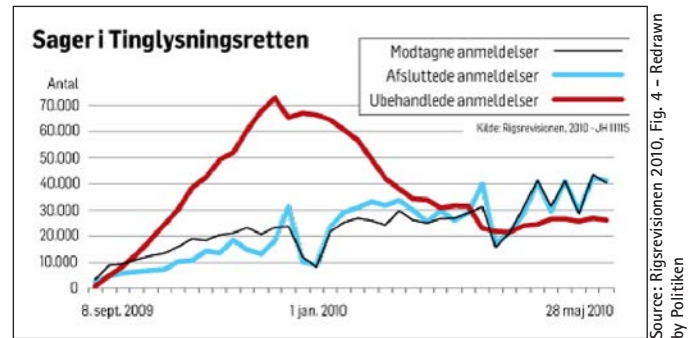


Fig. 4: Number of received (black), completed (blue) and unfinished (red) Land Registry registrations

future units. This new task spurred the establishment of the liability insurance LgE, mentioned above.

In 1966, a political majority decided to enable the recording of condominiums in the land registry. As the Cadastre Agency was not prepared to engage in this matter, representatives of the DdL convinced the pertinent parliamentary committee of their ability to perform the needed case work, including surveying, mapping, and recording in the land registry. The statutory act was prepared by the Ministry of Housing and was outside the scope of the Agency till 2012, where a management document (Resultatkontrakt 2012) announced the recording of condominiums in the cadastre.

The digitisation of the Land Registry with its document archives was performed in two phases: During the 1990s, the ledgers and archives were digitised, court by court. In the second phase, a digital-only communication with the Land Registry was introduced. However, the government in addition chose to reorganise the judiciary, reducing the number of local courts from 82 to 24, and allocating all land registry tasks to a specialised Land Registration Court, located in a medium-sized town in Jutland. The relocation caused substantial exchange of personnel. With a delay of 1.5 year, the digital process of document recording was inaugurated September 2009. However, during the first year it suffered from many user troubles, manual remedies, and substantial backlogs. The National Audit Office was involved and criticised the insufficient availability of staff (Rigsrevisionen 2010). By July 2011, the response time for all case types stabilised on less than the requested ten days (Tinglysningsretten 2011), but court ruling on compensations is still pending (Gruppesøgsmål.nu).

From a surveying perspective, the online land registry – besides the troubles mentioned above – meant a

new joint service in terms of a database of easements and other located rights, e.g. superficies. A so-called "Locational Database" (Stedfæstelsesdatabasen) relieves the Land Registration Court of caring for document annexes with map content. Vice versa, it allows the Agency and the chartered surveyors to cast the recording of map content in a way that integrates with the cadastral map and other digitised geodata (Jensen 2007). Moreover, the Agency and the chartered surveyors took over responsibility from the judiciary regarding the protection of mortgagees' interest in case of small area changes (Kristiansen 2006). The profession pushed for these changes, and thereby again contributed towards streamlining case work.

### 3 Regulation of Agricultural Holdings, including Land Consolidation

Still in the 1980s, the Cadastre Agency was part of the Ministry of Agriculture. Its traditional role was to serve the political goal of maintaining agricultural holdings of a size which corresponded to the needs and capacities of a family. Thus, the legislation concerning maintenance of the cadastre was closely interrelated with the legislation concerning agricultural holdings. Thus, "subdivision" and "subdivision legislation" were terms in political parlance, which did not refer to cadastral processes proper, but to the subdivision of estates of the nobles into smallholdings during the first half of 20th century. At that time, civil service had become the domain of law graduates without agricultural expertise. This was compensated for by representatives of the agricultural sector and implemented through an extensive committee structure, manned with representatives of a rich network of agricultural associations.

Increased mechanisation in agriculture and better working opportunities in the urban industry meant that the number of agricultural holdings fell to about 140,000 units by 1986. During the 1990s, the number stabilised around the 140,000 units (Sørensen 2000, p. 319, 325).

#### 3.1 The Conceptual Means of Regulation of Agricultural Holdings

According to the Act on Agricultural Holdings, an agricultural unit is defined as a property unit, which in the cadastre is recorded as such. Thus, an agricultural unit comprises of one or more cadastral parcels. A farmer may be in the possession of more agricultural units. These together make an agricultural holding (landbrugsbedrift), which is the unit mostly reported in statistical accounts. An agricultural unit is imposed with a statutory agricultural obligation (landbrugspligt), which implies that the holding has to be provided with buildings, suitable for

dwelling of the farming family, and to be used for agricultural purposes (§ 11). Also, absentee ownership has been banned throughout the period. A new owner has to settle on the unit within six months (§ 12), and remain there at least for ten years (§ 8). Moreover, the size of the unit has to comply with statutory rules. The size limit was extended several times: in 1971 to 100 ha, in 1989 to 125 ha, in 1994 to 150 ha; presently (after 2010) it amounts to 200 ha (§ 29). Consequently, a dwelling shall be maintained for every 200 ha of units, which belong to the same owner.

Acquisition of agricultural units is statutorily restricted. During the 1980s, the rule set did not fit the economic reality, with the implication that about 90 % of all purchases had to be scrutinized and granted through dispensations (Prime 1997). In 1989, restrictions were eased to allow a person to acquire a unit of less than 30 ha without providing evidence of agricultural competence. Presently, such request of competence is demanded only, if the owner and/or related persons manage one or more units of a total of 150 ha or more. Ownership by legal persons is generally not wanted, unless the unit is to be used for experimental farming, or similar. In 1989, such restrictions were eased on condition that a majority was owned by a person who had also agricultural competence and complied with the dwelling requirement.

The agricultural obligation can be lifted, e.g. if land is needed for urban development. If such need is temporary, e.g. due to excavation or due to the establishment of a golf course, permission will normally be granted on condition that the agricultural obligation is re-established on the area after the temporary use. This condition is recorded in the land registry before permission is granted.

The chartered surveyors again looked to streamline case work. They were given the mandate to attest whether all restrictions were complied with. This would hold for the majority of cases, which meant that the Cadastre Agency could complete the cadastral case by only reporting the change facts to the agricultural administration.

The rule set concerning agricultural units is more complicated than the outlines above indicates. A defensive policy on the part of the agricultural sector and their representatives in Parliament and committees prolonged the needed simplification of the regulation. The 1989 act transferred the mentioned administration to regional councils, integrated into the county administration. However, in 2012 an amendment finally abandoned the committee structure.

#### 3.2 Land Consolidation

The Danish land reform, largely completed at the end of 18th century, had as guiding principle that each holding should be allocated a small number of well-shaped lots close to the buildings. In some cases, farmers did not want to leave the close village community, which resulted

into the so-called “star allotment” (stjerneudskiftning). Generally, however, the need for land consolidation was negligible in the Danish kingdom proper, until growing industrialisation of agriculture prompted an Act on Land Consolidation in 1941. Moreover, an amendment of the Expropriation Procedure Act of 1981 instituted that land consolidation became integrated into the expropriation procedures for construction works (roads, airports, etc.).

Eventually, consolidation cases became quite common, especially in the sparsely populated areas of Jutland. During 1990 to 1994, the yearly average number of cases amounted to 29. Each case comprised an average of 49 holdings, and about 231 ha were exchanged. In 2012, the yearly number of cases was estimated to 20 to 25 (Prime 1997, Fødevarerministeren 2012).

The general scheme of land consolidation was since 1949 that a group of farmers, assisted by governmental staff and/or a local chartered surveyor, at a meeting with a local (statutory) committee agrees to ask legal action to be taken. The agreement includes a specification of the area concerned and a date of completion. The local committee considers the request and possible reservations. The committee is extended with a judge and with a person

representing expertise in assessment of agricultural holdings and mortgaging. The committee thus have sufficient expertise to guarantee that neither involved farmers nor third persons suffer losses from the proposed exchange of lots. The actual exchanges are negotiated individually with the farmers involved by the chartered surveyor or staff. Exchanges of lots are established in terms of a deed of transfer (jordfordelingsoverenskomst), which states lot boundary and size, price, and possibly conditions involved (road access, mortgages, etc.). The conveyance is completed by the committee through a ruling (kendelse), which approves a joint document, summarising the mentioned deeds. A chartered surveyor prepares a cadastral case on the basis of this documentation, which is then recorded in the cadastral system and the land registry. Thus, no individual deeds of conveyance are needed and the corresponding expenses are saved.

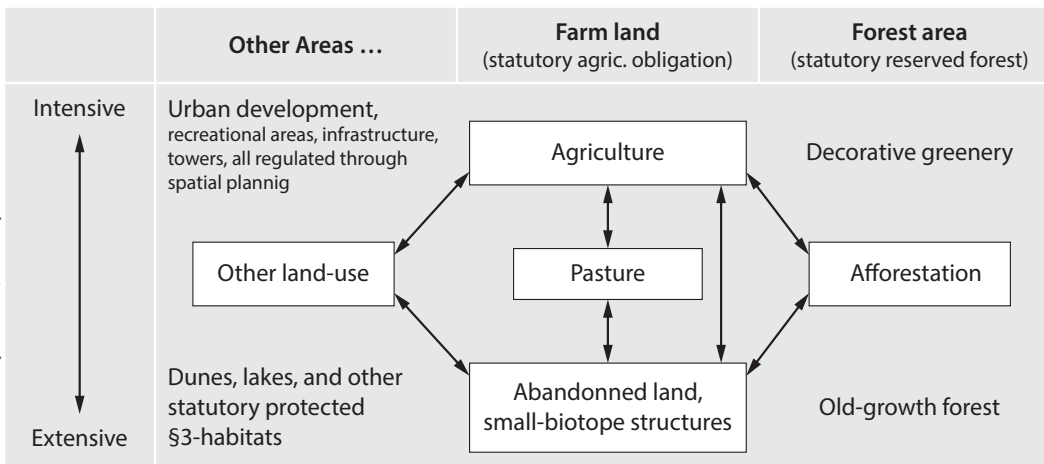
The above scheme changed slightly during the years. Originally, the legislation allowed for compulsory exchange of lots, arguing that a single opponent should not be entitled to hold up a beneficial consolidation. However, a practise of voluntary exchange became the rule. In the context of a deregulation campaign at the end of the

1980s, the government suggested the land consolidation system abolished. However, a political consensus lead to a less categorical act of 1990, implying that the number of staffs employed with land consolidation was reduced and the concerned farmers, and road and conservation agencies, etc. were charged a fee, to comply with a principle of “commercial activity” (indtægtsdækket virksomhed). Moreover, in 2007 the local committee system involved in land consolidation (jordbrugskommissioner) was abandoned and their tasks for a while integrated into the county administration.



◀ Fig. 5: Example of star allotment of the village of Vellev, Mid-Jutland. Blue lines represent cadastral boundaries as of 1880, red lines represent boundaries as of 2000. Note that the later subdivisions occur within the village's built-up area only, an outcome of the well-functioning spatial planning.

▼ Fig. 6: Land consolidation procedures are applied not only to enhance intensive agriculture, but also to mould marginal land into appropriate property units.



Staubstrup 2001, Fig. 7, cf. Sørensen 2000

Sørensen 1987 (translated, redrawn)

Environmental concern suggested new applications of the land consolidation scheme. Where landscape tracts and specific habitats called for conservation measures, it became common during the 1980s to apply the land consolidation scheme to free some tracts from intensive agricultural use, and relocate the remainder to create well shaped holdings, e.g. for raising forest (Sørensen 1987).

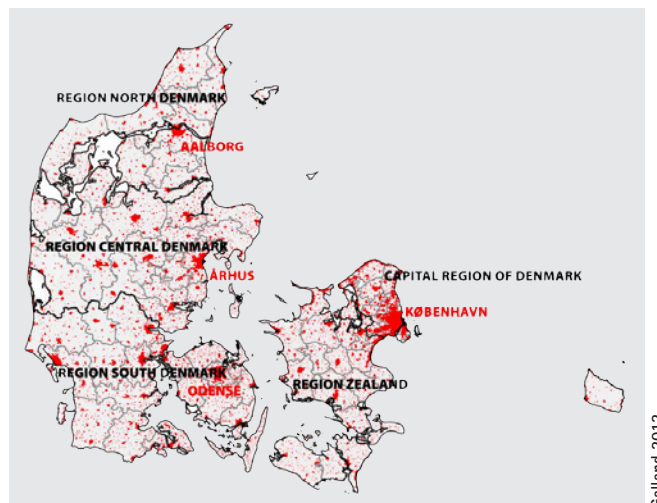
In 2010 and in 2012 the Act on Land Consolidation was changed again, now to establish two land consolidation committees, one for the Eastern and one for the Western part of Denmark, a structure used during a century for state expropriations. The declared main motivation for the land consolidation scheme was to avoid the cost of the large number of deeds of conveyance in such cases, which largely were motivated by the public interest and yet were implemented voluntarily (Fødevareministeren 2012).

#### 4 Spatial Planning through Central and Local Government

The Ministry of Environment, originally established in 1971, is responsible for administrative and research tasks in the areas of environmental protection and spatial planning. However, much of the administrative responsibility has been delegated to municipalities. The Ministry consists of three agencies and about seven decentralized units across the country. Moreover, an Environmental Board of Appeal is in charge of all matters relating to nature, spatial planning and the environment. One of the agencies is concerned with spatial planning, and another is the Danish Geodata Agency, until 2013 named the National Survey and Cadastre, cf. section 2.1.

As of 1970, Danish local government was structured into 14 counties, each of about 350,000 inhabitants, as well as 276 municipalities with an average of about 18,800 inhabitants. A local government reform, enacted in 2005, entered into force on 1 January 2007. The reform abolished the counties and created five regions, most with more than one million inhabitants. Moreover, the former 276 municipalities were amalgamated into 98 municipalities, which were conceived as the principal gateway for citizens and companies to the public sector. The five regions are governed by politically elected councils, who have the health care sector as their most important area of responsibility, but they lost the counties' power to tax.

Motivations of this so-called *Structural Reform* included the goal to recast Denmark into a leading participant in the global information society. As we shall see, the efforts to obtain a goal of commercial efficiency were implemented by moulding the national planning, which included a strong regulation of land use and other spatial issues. During more than 30 years, governmental tasks and responsibilities concerning social service,



Galland 2012

Fig. 7: Administrative subdivision of Denmark into 5 regions, and 98 municipalities as of 2007. Urban areas red.

health, infrastructure, etc. had been transferred from the state to municipalities, aiming that tasks should be solved at the lowest possible level (Møller 2001). This generated a need for municipal partnerships to obtain economies of scale, which again raised critique because of lack of transparency and democratic control of these partnerships. Furthermore, the 1970-reform had a rationale of establishing “a central city” of each municipality. This rationale dwindled, as commuting increased remarkably. Especially, Zealand functioned as one big labour market (Larsen 2006). Already in 2002, the Confederation of Danish Industry argued that Denmark ought to comprise of fewer municipalities and counties, as they were inefficient and costly (Kiveste 2008). The centre-right government established a commission to consider the issue. Its report of 2004 did not as usual provide consensus recommendations, and the government forced its solution through (Kommunaludvalget 2005).

In contrast to the “central place” settlement pattern of the 1970-reform, the new reform aimed at industrial efficiency and managerial effectiveness, and no recommendations in terms of spatial restructuring were delivered at all. This meant that territorial considerations regarding conventional peripheral problems, functional relationships (mobility and commuting patterns) between municipalities or other geographical appraisals were overlooked (Galland 2012).

#### 4.1 Spatial Planning

The most recent Planning Act is dated 2013 (English version available as of 2007: Ministry of the Environment 2007). Largely, it is an amendment of the 1991 Planning Act (§ 65), which consolidated a number of acts, the most important being: Act on Urban and Rural Zones, originally from 1969, Act on Summer Cottages, 1972, Act on Country and Regional Planning, 1973, and Act on Municipal Planning, originally from 1975. In 2009, the

Planning Act was changed to accommodate for the above mentioned Structural Reform.

A prevailing feature of the Planning Act is the decentralising of decision-making authority and the promotion of public participation in the planning process. A basic means of spatial planning is the zoning of the country into urban, rural, and summer cottage zones, respectively. Moreover, these zones are overlaid by a coastal zone.

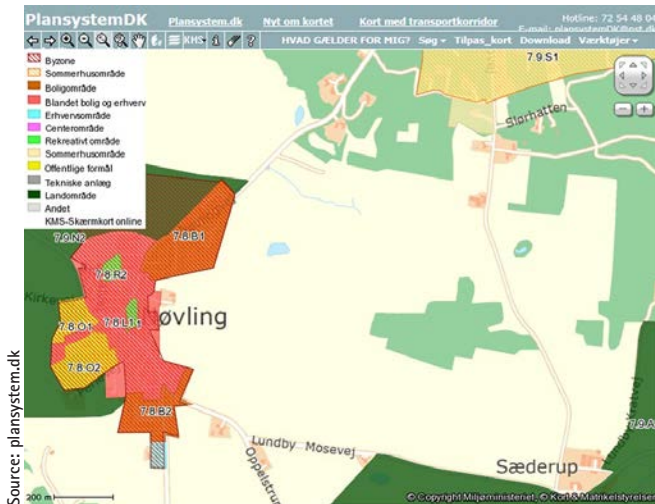


Fig. 8: Municipal plan for the landscape north of Sæderup, shown in Figure 2. The map shows urban zone (redly hatched at Nøvling) and summer cottage zone (yellowish, North at 7.9.S1). For each numbered sub-district, corresponding sections in the municipal plan inform on objectives, land use, construction options, etc. A Local plan in Nøvling, regarding the church and few property units, is not shown.

In the rural zone, subdivision and the construction of buildings are generally prohibited, except for agricultural holdings (§ 35). Dispensation from the ban presupposes the performance of a planning procedure, which result in a so-called “Local plan”, which is legally binding the land owners concerned. A Local plan may not contradict the Municipal plan, which represents the higher planning layer.

The Municipal plan covers the area of the municipality, and is updated every four years, following the election of the municipal council. The Municipal plan subdivides the municipality into districts and sub-districts, according to land use: housing, industry, mixed, public purposes, etc. The location of retail centres is regulated through maximum size of the area dedicated to retail purposes and maximum size of the individual shops. Moreover, area is reserved for facilities for transportation, for noise-generating or polluting enterprises, for excavation of raw materials, etc. Concerns of international scope, e.g. Agenda 21, Natura 2000, and EU directives, have to be reflected in the Municipal plan, as well as an assessment of risks of flooding. A corresponding report on the preconditions of the plan shall among others include a statement on the temporal sequence of implementation

of the various provisions of the plan. The recurrent updating may address specific themes and/or specific districts and leave the remainder of the Municipal plan unchanged. Updating proposals are published and debated for at least eight weeks before being adopted in final form (Witt 2002).

The planning system of the 1970s instituted regional plans. These provided an interface between plans for governmental investment in infrastructure, including highways, and the emergent municipal planning. A consistent hierarchy of plans was thus established: Local plan, Municipal plan, Regional plan, and occasional national planning directives, as legislation requested that a plan at lower level complied with higher level plans. The idea of this fine-grained spatial planning of settlements was based on a social-democratic ideology of equal social development throughout the entire country, including better access to public and private services that would have otherwise remained in a few urban centres. Thus, the urban hierarchy pattern was a key in securing and enabling equal resource distribution throughout the whole territory. In this sense, the Danish planning domain in the 1970s could be portrayed as “... the spatial expression of the welfare state” (Jensen and Jørgensen 2000, p. 31, as quoted by Galland 2012).

Spatial planning underwent a period of ambiguity during the 1980s, which witnessed the rise of policy discourses highly influenced by neo-liberal thinking and international agendas. The character of national planning thus began to turn towards a rationale of diversity, rather than equal national development. However, the counties continued to support the urban hierarchy pattern and additionally assumed a cross-sectorial concern, stemming from the need to balance multiple interests and objectives in order to provide freedom of action for municipalities to advance their own land use regulations. Binding regional plans thus defined urban development zones (i.e. infrastructure, traffic, or commercial development), countryside regulations (i.e. recreational areas, nature and heritage protection, environmental resource management) and the location of facilities of regional scope (e.g. waste or energy facilities).

The shift in focus continued. In the context of a consolidation of planning provisions into a single Planning Act of 1991, the objectives of the act explicitly replaced equal development with the aim to achieve “appropriate development in the whole country and in the individual administrative regions and municipalities, based on overall planning and economic considerations” (Ministry of the Environment 2007). An amendment in 2009 abandoned the former spatial regional plans as a consequence of the Structural Reform. They were replaced by regional development plans with commercial, rather than spatial scope.



## 4.2 Environmental Protection

Environmental protection is monitored according to the Environmental Protection Act, the Act on Nature Protection, the Contaminated Soil Act, and the Chemicals Act, in addition to the above mentioned Planning Act. Issues include waste management, chemicals, air pollution and noise protection. The provisions of the EU Water Framework Directive have been transposed into Danish law by the Environmental Objectives Act, which describes the work and planning process to be implemented in order to achieve the objective (Ministry of the Environment 2012).

Denmark got its first Nature Protection Act in 1917, aiming at protecting habitats with specific characteristics. In 1937, protection was extended to ban further habitation along the Danish beaches and to allow for public access there. Also, wood edges, a notable landscape element, were protected from habitation, as well as cultural heritage, e.g. in terms of burial mounds, were preserved. Today, the Nature Protection Act, § 3, protects different nature types (e.g. heath, meadows, lakes and water courses, cf. Fig. 6) and rules for public access to forests, common, and dunes, respectively, and along private roads and paths. The mentioned provisions are observed by the chartered surveyor through cadastral casework, cf. section 2.1.

## 5 Reflections

You need not be a neo-liberal proponent to question the onerous regulation of agricultural holdings, especially during the 1980s. However, the proponents of smallholdings defended a way of living and ably supported staff of the ministry with their expertise. When efficiency considerations were explicitly raised already in the 1960s, the need of agricultural expertise for administration was forcefully argued for by the sector. However, when the economic-administrative rationale finally got prominence during the 1990s, and regulation of agricultural units was substantially reduced and expertise dismissed, the rationale was of a purely market oriented vintage. Similarly, in the spatial planning domain a careful balancing of powers concerning land use and urban development was replaced by extended municipal discretion concerning the use of natural resources. Thus, the described Danish administrative changes generally fit a New Public Management way of perceiving reality.

The economic rationale of New Public Management contrasts with previous traditions. The proponents of smallholdings were advocating a meaningful way of living, while this seems not included in the rationale of the New Public Management. Perhaps, an implicit idea concerning ways of living is found in economists' conception of individuals struggling for a good bargain.

The cadastral engagement of the chartered surveyors illustrates an alternative path of changes. From an economic point of view, a profession constitutes a monopoly, an anomaly in the functioning of the market. Yet, in spite of this prevailing view during the period reported, the profession maintained its existence and reputation. As reported, it recurrently was actively engaged in administrative improvements, moreover lived with a critical review of its behaviour through the Surveyors' Tribunal, and contributed towards a sharing society: "We have to carry our part of the burden", as stated by the chairman, Torben Juulsager, (Jensen 2009) in the context of digitisation problems.

A review of the Danish situation as of 1980 pointed towards the strength of the mutual cooperation of the Cadastre Agency and the Danish Association of Chartered Surveyors, DdL: "Das Zusammenarbeiten von der Initiativefähigkeit des Vereins und der Kompetenz des Landeskatasteramtes mit dem Ziel, administrative Kosten zu begrenzen, wird sicher Anklang oder nur geringen Widerstand bei den betreffenden Behörden und Vereinen finden." (Stubkjær 1980, p. 39). It seems, this interpretation of the situation still holds through the period reported. However, the mutation of the Cadastre Agency into a Geodata Agency and the dwindling role of cadastral work among the constituency of the DdL, cf. section 2.2, may put this cooperation at risk. An assessment of this risk may benefit from a reflection of the role of professions for society, as well as an analysis of the tasks, which engage a large number of the Danish surveying profession, including the use of mapping and computer technology.

## 6 Conclusion

The recent three decades of land management related activities of the Danish society have been charted from the point of view of geodetic surveyors. However, the mapping, computing, and other non-administrative activities, which are performed by more than half of members of the association, were bypassed due to space restrictions in this article. The notion of New Public Management was introduced at the outset, and the effect of this view of government and society was rendered. Reflections on implications of this view for human needs suggested renewed interest in professions and their role in society.

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