MODELS FOR SAFEGUARDING URBAN FRINGE OPEN LANDSCAPES - THE BALANCE BETWEEN PUBLIC AND PRIVATE

CASE STUDY OF MANAGEMENT MODELS FOR URBAN GREEN SPACE AROUND COPENHAGEN

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ABSTRACT

The growth of Copenhagen during the period in the challenging task from 1945 until 1975 has consumed the open landscapes around the city. This resulted for the physical planners to safeguard a certain fraction of green space. The urban growth followed different trends according to the attractiveness of the landscapes for urban settlements, whereby the idea of safeguarding the most attractive parts of the landscapes arose.

The management models for the Copenhagen green space differ mainly in their distribution of responsibility between public and private, and in the level of authority involved when it comes to the public responsibility. A rough simplification divides the models in three types: (i) municipality intervention, (ii) state intervention and (iii) mixed public and private initiatives. Irrespective of the management model, a common characteristic of the development of the green space is the gradual vanishing of farming from the urban fringe of Copenhagen.

Some basic premises for the formulation and implementation of spatial plans in Denmark should be stressed. The case of the Copenhagen green space shows that physical planning generally is a respected and acknowledged tool to guide development and to implement collective visions. But it also tells that the planning system and legal tools have lagged somewhat behind the development.

KEYWORDS: Copenhagen; green space; spatial planning; public and private responsibility
1. **INTRODUCTION**

During the three decades 1945-1975, greater Copenhagen expanded its territory and population by more than 100%. The open landscapes around the city were consumed with a pace that left physical planners with a challenging task. This was not at least the task to safeguard a certain fraction of green space for recreational use and as providers of various ecological services such as clean air, water and wildlife habitats. Despite numerous obstacles, 30% of post war urban development around Copenhagen consists of some kind of open space, i.e. nature areas, agricultural areas, recreational facilities and open water bodies. This paper will provide an overview regarding the planning and management regimes that were employed to accomplish this proportion of green space.

The paper will initially present the general development of Copenhagen as an offset to a description of the successive plans for the green space since the mid 1930’s. A typology of management models employed around Copenhagen will be suggested, and finally the fate of the agricultural sector around Copenhagen and the challenges for the extension of the urban green space in the future urban development zones will be discussed.

2. **GENERAL DEVELOPMENT OF COPENHAGEN**

At the turn of the 19th century, the growth of Copenhagen reached the old city limits and the city council decided to acquire several 1000 ha of agricultural land around the city. These acquisitions were in essence urbanized between 1900 and 1930. It became evident that the further growth of Copenhagen was going to take place in the neighbouring municipalities.

The landscape at the north of Copenhagen was found attractive with numerous lakes, rolling and hilly terrain and a mixture of forest land and open agricultural land. West of Copenhagen the landscape was level, an open agricultural plain without any forests or water bodies. These physiographic differences guided urban development in the following decades.

The urban growth followed different trends according to the attractiveness of the landscapes for urban settlements. In the north of Copenhagen, the 1930’s were characterized by sprawl, with settlement in the most attractive parts: along the coastline and lakes, and in the hilly terrain. This kind of sprawl gradually consumed many of the most attractive parts of the landscape. In the west of Copenhagen, limited urban sprawl took place. The landscape with its very fertile soils was rather subjected to an intensification of horticulture and agriculture. The rapid growth pattern of the city gradually spawned the idea of safeguarding the most attractive parts of the landscapes north and northwest of Copenhagen in particular, but also to the west and southwest.
3. SUCCESSIVE PLANS FOR URBAN GREEN SPACE

The first attempts to protect areas from the urban sprawl were made in the late 1920’s. Private landowners, such as the owner of Frederiksdal manor, accepted voluntarily protective measures, often inspired by the largest Danish Nature protection NGO; *Danmarks Naturfredningsforening*.

A board for the formulation of a city master plan for Copenhagen was formed in 1928. This board published its first sector plan in 1936; a plan for the urban green space (“Green areas of Greater Copenhagen”; Forchammer, 1936). This plan aimed at creating a system of recreational areas in the most attractive parts of the landscape, linked to the city centre with parkways or bike-paths separated from the motorized traffic, and linked to the rail stations by foot and bike-paths. The plan comprised the designation of areas to be safeguarded from urbanization by nature protection orders.

In 1938, a nature protection plan (“The Green Network Plan”), very much inspired by Forchammer’s plan, was approved by the government. From 1938 to 1946, a committee in the Prime Minister’s office passed the nature protection orders through the legal system and paid the land owners compensations for the partial loss of legal rights of the areas. This work continued at a lower pace for decades and today virtually all the areas of the 1936 plan is subject to some kind of protection from urbanization.

In 1947, the board published its famous “Fingerplan” (Bredsdorff et al., 1947) for greater Copenhagen. This plan was a comprehensive plan for the development of all sectors; i.e. transport, housing, industry, and recreation. The efforts for the creation of green space build largely on the 1936 plan, but in the Fingerplan the areas west of Copenhagen, where most of the future urban development were to take place, were treated more in detail. The nuts and bolts of the Fingerplan are the idea of concentrating urban development in bands along the traffic lines radiating from Copenhagen in five directions (the fingers). Between the fingers the so-called green wedges should be kept open for recreational facilities, forests, farm land and future traffic lines. North of Copenhagen it was impossible to stick to the strict finger pattern, but west of Copenhagen it was possible to develop three fingers and three green wedges. In the following decades, public authorities at local and central level more or less followed the finger metaphor, leaving a varying degree of open space for recreation in the wedges. The specific development of the three wedges is treated in more detail below.
4. MANAGEMENT MODELS FOR GREEN SPACE

The management models for the Copenhagen green space differ mainly in their distribution of responsibility between public and private, and in the level of authority involved when it comes to the public responsibility. A rough simplification divides the models in three types: (i) municipality intervention, (ii) state intervention and (iii) mixed public and private initiatives.

4.1. Municipalities as central actors

The municipality intervention model was used in two significant cases comprising two green wedges; the Vallensbæk wedge and the Hjortespring wedge respectively. In both cases, the wedges were part of the Fingerplan to the west of Copenhagen and in both cases four different municipalities shared the wedge areas. And in both cases the central urban planning of the 1950’s made references to the idea of safeguarding the wedges from urban development by placing the areas in the so-called “outer zone” which should be exempted from urban development.

Figure 1: The 1947 plan for urban and green space development “The Finger Plan”
Figure 2: Decentralized public decisions, the municipalities (kommuner) as actors

The municipalities have lifted the responsibility of safeguarding the wedges with varied success. Starting with the big failures: Herlev municipality located a residential area in the middle of the Hjortespring wedge in the 1960’s, effectively blocking the connection along the wedge. Brøndby and Gladsaxe municipalities located allotment gardens in much of their shares of the wedges. This was in fact not against the original Fingerplans’ visions for the wedges to allocate this kind of recreational facility in the wedges, but since the 1950’s the development have turned many allotment gardens into second homes, and in the near future these areas will probably gradually turn into full residential areas.

Nice examples of careful planning and management of the wedges may be found in other municipalities. In Ballerup and Ishøj municipalities, ambitious landscape plans have been formulated for their shares of Hjortespring and the Vallensbæk wedges respectively. In Ishøj, the area resembles an old Danish cultural landscape complete with a village located at the edge between the upland soils and the wetland soils. Wetlands are carefully maintained as fresh water meadows. The fertile soils that are still under cultivation have been framed by bands of forests. The remaining municipalities have formulated plans of varying content, but on the whole the wedge areas are kept free from industry, residential areas and other facilities. Rather, the wedges are a mixture of small private farmland, new forests and landscape parks and recreational facilities such as golf courses.

Most of the activities in the wedges managed by the municipalities are financed by the municipalities themselves and the municipalities are the dominant land owners too (in general they own some 90% of the land). The remaining private land is managed by hobby farmers, primarily having small stocks of horses and cattle.
4.2. The state as a prime actor

The state intervention model has been employed in a number of cases. The central green wedge (the Vestskoven wedge) is the most prominent example of the employment of the state intervention (Vejre et al., 2007). In 1967, the parliament passed a bill stipulating the establishment of 1500 ha recreational forest land. The management model enabled the state forest district to acquire all privately owned land within the designated area. The land owners were only allowed to sell to the state, but could stay on the farm until retirement (or death). The daily management of the forest was delegated to the state forest district.

Figure 4: Strong centralized decisions: the state as primary actor
In two other cases the state has acted as entrepreneur in the creation of recreational green space. This was the case in the reclamation of Vestamager during the Second World War, creating what is today 3000 ha of nature area, and in the beach park Køge Bugt Strandpark established in the 1970’s.

4.3. The mixed model

The mixed model was employed north of Copenhagen. It was not a pre formulated model, but rather a model that precipitated after decades of “muddling through”. The landscape qualities north of Copenhagen were, as above mentioned, threatened by the urban sprawl of the first decades of the 20th century. Before any planning and legislation was imposed in the area, attempts were made to encourage large private land owners to subdue their property to voluntary nature protection orders.

Figure 5: West of Copenhagen: establishment of 1500 ha forest land during the period 1967-2000
Left: Herstedøster village - 1945 Right: former fields of the village 2005

Figure 6: Mixed private and public initiatives
The first successful order was for the Manor Frederiksdal, some 600 ha of forests and open land. This inspired the planning of the 1930’s, with offset in the Green Network Plan. The areas of the Green Network Plan were safeguarded by the same instrument: the nature protection orders. The nature protection order is a legal status for an area, which fixes its land use status within certain limits. Not at least, it protects the areas against urbanization. The land owner is paid a compensation for the restrictions. In the 1930’s, before planning was used, this was the only instrument that could protect against urban sprawl.

During the 1940’s and the 1950’s, a committee worked intensively with the nature protection orders. Public money hence paid compensation for the restrictions in land use. At the same time, local municipalities took initiatives to purchase land for recreational purposes. The work has continued since then, but at a lower pace. The major part of the orders complied with the Green Network Plan. Parallel to this process private foundations have purchased important nature areas. The latest purchase “Vaserne” was acquired in 1999.

Many of the privately owned land areas have gradually been taken over by the state, typically when farmers retired. But privately owned farm land still exists in the northern fringe of Copenhagen and farming is still taking place. The northern fringe hence has the highest degree of mixed ownership of all fringe landscapes around Copenhagen. This also implies a very mixed pattern of management bodies, legal status and strategies and economy behind the management.

![Figure 7: Nature protection orders based on private and public initiatives: mixed ownership – public 80% and private 20%. There are several management bodies and agriculture is still present. Photo from Sølleliød Nature Park 1967 (left) – 2007 (right)](image)

5. THE FATE OF AGRICULTURE

Irrespective of the management model, a common characteristic of the development of the green space is the gradual vanishing of farming from the urban fringe of Copenhagen. The original Fingerplan actually claimed the need for preserving high quality farming areas outside Copenhagen, both for the sake of food supply, but also for the recreational
value of actively farmed landscapes for the urbanites. The opposite happened. In some cases, farmers have systematically been wiped out by legislation, in other cases planning and local administration has slowly discouraged the remaining farmers from staying. The land has been increasingly difficult to farm, the land prices have favoured hobby farmers, and the limited areas left for farming have hindered expansion of the individual farm area. Today, full time farmers are only found at the real open landscape outside the green space proper, and to some extent in the northern fringe areas. What is left of farm land in the green space is constituted by publically owned land, of a few hobby farmers, and bits of land still managed by farmers, usually living outside the green space.

6. CONTEMPORARY CHALLENGES

There is a continuous pressure of urban development in and around Copenhagen. Much of the new residential areas and industrial zones have been located in old urban areas, not at least in the comprehensive harbour areas, deprived of their original functions. But there is a significant pressure on the fringe areas for new residential areas and the expectations of demand for new residential units are in the order of magnitude of 100,000 in the coming decade.

A renewed version of the Fingerplan (Anon., 2006) suggests that this development is strictly located in elongations of the existing fingers, and that the existing green wedges are continued accordingly. In addition, a new green ring is to connect the wedges some 25 km from downtown Copenhagen. In terms of green space, the ultimate challenge is to guide the development in the new and elongations of the wedges and to ensure that the green ring becomes a real connector of natural and recreational areas between the wedges.

In the future elongation of the wedges, more attention should be given to the agricultural sector, as it is no longer an option for the public to exert its influence through massive purchases of land. Visions for the open countryside must rather be fulfilled through the individual farmers’ decisions. For the public is it of strong importance that the open landscapes maintain or increase natural, aesthetic and recreational qualities. However, this is often in conflict with the interests of the individual farmers, who, more often than not, are pure hobby farmers (Primdahl et al., 2005) with little incentives to share their part of the landscape with anyone else.

7. THE STATUS OF PHYSICAL PLANNING IN DENMARK

Some basic premises for the formulation and implementation of spatial plans in Denmark should be stressed. The case of the Copenhagen green space shows that physical planning generally is a respected and acknowledged tool to guide development and to implement collective visions. The legal frames around the planning are clear, despite conflicts over planning and administrative rights among administrative levels and between citizens and authorities. But it also tells that the planning system and legal tools have lagged somewhat behind the development. The unregulated sprawl of the 1920’s and 1930’s were
not halted until the conservation effort of the 1940’s were enforced, and the vision of comprehensive and broad green wedges in the finger city was compromised by the continuous slicing of the green space by the municipalities in the 1950’s and 1960’s. This process only stopped after state intervention or the introduction of the planning system of 1970.

On the other hand, the icon of the Fingerplan has proven rather robust in the consciousness of authorities, planners and the public. During successive plans of urban development west of Copenhagen, all planning bodies at all levels have made reference to the fingerplan and its principles regarding the location of both residential areas and industry, along with the location of green space. This has happened despite the original Fingerplans status as a draft that was never approved by any authorities at any level. And the effect of the 1936-7 plans of green space north of Copenhagen proved very efficient in terms of keeping open space, due to the very efficient legal tools that were employed in the implementation process.

Today, the responsibility for managing the open land lies at the municipality level in Denmark. Around Copenhagen, the management of the countryside must comply with government guidelines in the revised version of the Fingerplan. The Fingerplan is hence revitalized and has more formal significance than ever before. The imprints will probably continue to be visible in the next half century too.

REFERENCES


