

While urban agriculture is considered appropriate for cities in developing countries, the potential for local food production in and around cities in industrialised countries is rarely highlighted. Policy to support its development is even rarer. Post-war European agricultural policy has concentrated on the production of large quantities of cheap food to avoid hunger and to ensure social stability. Economic arguments dictated that such a policy could be best realised through agriculture practised by as few people as necessary on as large a scale as possible in order to reduce costs per unit and maximise output. These policies have led to monocultures in agriculture and ecology in order to maximise scale and efficiency, with land-use planning subsequently separating functions.

Jacques Schievink



Farming in the Upper Bieslandse Polder

Multifunctional Land Use

An Opportunity for Promoting Urban Agriculture in Europe

Food production in and around the city did not fit into this mould. Policy-makers considered it small-scale, and therefore inefficient, not economically beneficial and thus undesirable for society. Social and environmental benefits were ignored.

In Europe, the time now appears ripe for change. At European Union and national state levels, the negative consequences of post-war agricultural policies have been acknowledged, and the prohibitive costs of maintaining such policies in an enlarged European Union are recognised. Many farmers are faced with obligatory diversification of their farms to survive and are seeking a means of combining agriculture with other means of income. At the same time, cities compete with each other to attract investment, and local politicians seek to create high quality, healthy and

attractive living environments for their own citizens. There is a growing need to meet a large number of societal needs on scarce urban land.

MULTIFUNCTIONAL LAND USE AS A SOLUTION

Many possible win-win situations exist to meet these challenges as urban planners seek to create attractive land-use combinations and satisfy the many demands placed on scarce land in and around cities. Many of these combinations can be based on urban agriculture, for example:

- ❖ agriculture combined with childcare and educational facilities;
- ❖ reed production combined with recreation and wastewater treatment;
- ❖ aquaculture combined with water storage and recreation;
- ❖ production of added-value agricultural products such as cheese, jams and cosmetics, combined with recreation and tourism; or
- ❖ urban forestry, which offers health and microclimate benefits, combined with energy crops and recreation.

A good example of combining land use functions in a heavily

populated area is the case of the Upper Bieslandse polder in the city of Delft, the Netherlands.

PLANNING IN DELFT

Delft is a city of around 95,000 people in the densely populated province of South Holland. The region is home to approximately 3.4 million inhabitants and population density is 1,179 inhabitants per square kilometre (CBS 2000). As a result, every square metre of land has its designation under the country's planning system that operates at three levels: national, regional and local, which all have roles to play in spatial planning.

In theory, the lower level government should operate within the framework of the objectives set out in the policy of the higher levels. In turn, the policy of the higher levels of government should provide general guidelines within which plans proposed at lower levels can be realised. Of course it is not always possible to accommodate the wishes of all. The plan for mixed use of the Upper Bieslandse polder provides an interesting example of integration of land-use functions and policy objectives.

The plan combined the following land use functions:

- ❖ (organic) dairy agriculture;
- ❖ recreation;
- ❖ nature (re)development;
- ❖ (limited) natural water treatment; and
- ❖ an important awareness-raising and educational function.

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THE UPPER BIESLANDSE POLDER

The Upper Bieslandse polder lies on the eastern urban fringe of Delft (see Figure 1) and comprises a total of some 35 hectares. Before the realisation of the plan described here, six tenant farmers operated in the area on one-year leases from the municipality of Delft. Longer leases were not granted because the municipality wanted to be able to have access to the land on short notice in case it should decide to develop the area¹. For the farmers this gave rise to uncertainty and, with six farmers on 35 hectares, use of the land was inefficient in agricultural terms, even though each farmer also worked land elsewhere in the area.

THE PLAN

In 1996 Jan Duijndam, one of the six farmers, who had for some time been considering converting his business into an organic farm, decided to act. Together with a planner from the Delft Initiatives for Nature group (IND), Jacques Schievink, discussions were initiated with the other farmers in the area. Schievink stood at the base of the plan in 1995, when he suggested ecological development and management of the ditches that regulate water levels for farmland in the polder (and got the Delft municipali-

ty's environmental prize). Agreement on a plan was eventually reached between the six farmers, including Duijndam's take-over of their tenancy rights.

The Upper Bieslandse polder plan was finalised in March 1997 and, importantly, was adopted in the manifestos of a number of local political parties for the municipal elections of May 1998. Election of a new 'green' administration meant that the plan could go ahead. Work on the ground to implement the plan began in the winter of 1999-2000. Total costs of implementation, excluding maintenance, were around 250,000 Dutch guilders (US\$ 100,000).

THE ECONOMICS

Duijndam now has a twelve-year lease of the land from the municipality. He added 30 of the 35 hectares of the Upper Bieslandse polder to the 50 hectares he already farmed organically in the area, to improve economic viability. As for many organic products in Europe, organic milk commands a (slight) premium price in the Netherlands.

The remaining five hectares Duijndam devoted to nature development, setting land aside for traditional Dutch polder landscape features with an ecological function: a water meadow with fluctuating groundwater level, reed bed and marshy woodland. Each gives a habitat to wildlife that is under more and more pressure from rising urbanisation. The nature areas are laid out along the edges of the site to make them visible for visitors making use of the footpaths, cycling and bridle paths constructed as part of the plan. This also means that farming can be carried out more or less unrestricted in the centre of the area (see photo).

Whilst this land does not bring agricultural income, it does generate subsidies from the provincial government for land

management that benefits nature development and recreation. In addition, Duijndam receives subsidies from the local water board ('waterschap') for his contribution to their integrated water management strategy. In effect, the farmer carries out the work of the others and gets paid by them for that work. Such subsidies deliver approximately 10% of the farmer's income.

Similar initiatives exist elsewhere in the Netherlands where local authorities have an obligation to provide a certain amount of water storage for water-management reasons. By paying farmers to devote a part of their land to water storage, the municipality 'buys off' its obligation relatively cheaply and, in effect, the farmer gets paid for cultivating water.

CONCLUSIONS

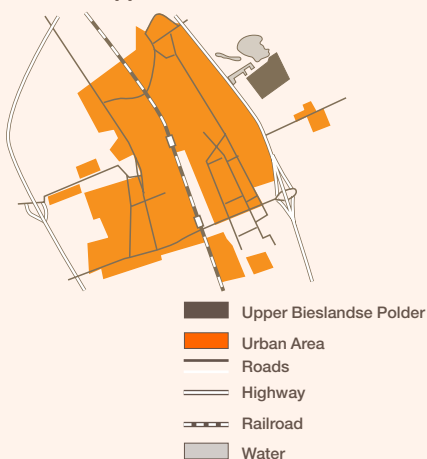
The case of the Upper Bieslandse polder shows that urban agriculture can offer cities in industrialised countries more than "only" food production. Through a combination of land uses and integration of policies between different organisations at different levels, Delft has obtained a viable organic farm, an attractive recreation area and has restored the opportunities for wildlife in the urban fringe. Combining land use functions can deliver extra income for farmers from unexpected sources. This in turn provides a valuable resource for environmental education in a densely populated urban region. Essential benefits in environmental, health, education, recreation and nature terms are provided to the city and its residents. Combining land use functions can also deliver extra income for farmers from unexpected sources.

Since food production is not an argument for local politicians and planners to allocate scarce urban land to agriculture, these additional benefits of urban agriculture, as 'host' of other land use functions must be made clear. In this sense, interpretation of the term urban agricul-

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The Upper Bieslandse Polder



In Europe, almost 80% of the population now lives in urban areas (European Commission 1996). Cities have become largely disconnected from their surrounding countryside. Post World War II agricultural policy in Europe has turned agriculture into a 'food generator' with which city dwellers have little affinity. The one-dimensional role of agriculture is now being challenged by a number of factors: the enormous cost of the European Common Agricultural Policy (CAP), concern amongst consumers about food quality, worries about and the effects of pesticides and other chemicals used in food production on health and the wider environment, genetically modified crops and animal welfare issues (Pederson and Robertson 2001).

There are limits to the powers of planners. For years now, two nesting site poles have stood in the open space, now farmed by Jan Duijndam in the Upper Bieslandse polder. The aim was to attract storks back to the area, a rare bird in The Netherlands nowadays. Finally, this year the stork has returned to nest in Delft, not on one of the poles, but on a high-rise apartment building on the edge of the city 500 metres away!

ture should be broadened to include cultivation of useful products and performance of valuable tasks for society.

The Dutch planning system offers little long-term security (twelve years is not a long lease), but perhaps this is inherent in a situation where so many competing land-use demands exist. Inclusion in local land-use plans would provide urban agriculture with a firmer legal basis.

Urban planners must translate politicians' (still too often) one-dimensional policies into three-dimensional spatial realities on the ground. Realisation of multifunctional land use demands integration of planning between different levels of government. In the highly institutionalised planning systems common to most industrialised countries where national, regional and local plans are drawn up, such an approach even if sometimes difficult, should be possible. This integration should be accompanied by the application of innovative economic instruments, which favour multifunctional land use, such as subsidies or tax breaks where possible. Farmers should be made aware of the possibilities of such support.

Integration of policy *between* different types of organisation is also vital. In the Netherlands, for example, independent water boards have a key role to play in water management. Any decision to combine a productive function of urban agriculture or aquaculture with water storage, recreation or a natural park would require agreement between, amongst others, the water board, the province and the municipality.

The success of the Upper Bieslandse polder can be at least partly attributed to the fact that representatives of three different groups of society – farmer, environmentalist and municipality – realised the benefits of combining multiple land use in the area.

NOTE

(1) For some years rumours had circulated of plans for construction of a high value housing development on the site, even though the regional plan did not permit this.



Spanish edition

The *UA Magazine* has been published in Spanish: *La Revista Agricultura Urbana*, No. 1. Soon No. 2 on livestock and No. 3 on health will also be released in Spanish. From now on the *UA Magazine* will be released in English, Spanish, and French. Furthermore a more regional focus will be developed, with a focus on Latin America in the Spanish edition and a focus on West and Central Africa in the French edition.

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