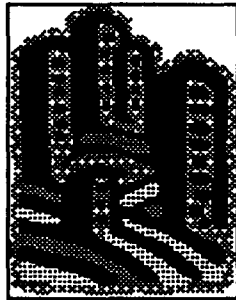
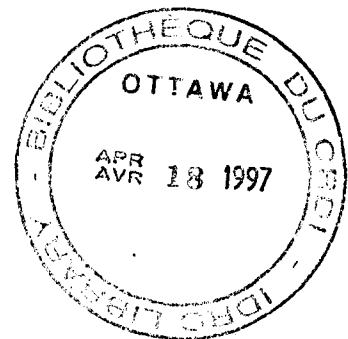


**Urban Agriculture: Can Planners
Make a Difference**

by
Timothy Greenhow
SWEDPLAN/Swedish National Board of
Housing Building and Planning
1994



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URBAN AGRICULTURE: CAN PLANNERS MAKE A DIFFERENCE?

INTRODUCTION

Agriculture in one form or another is a fairly common feature in urban areas around the world. It fills a variety of roles, being a basic element of survival in some cities and an important form of recreation in others. It is surprising therefore that it receives so little deliberate attention by urban planners, sociologists and economists. In this paper, three very different situations are described to show the range of attitudes towards urban agriculture by planners in three countries: Lesotho and Botswana in southern Africa, and Sweden in northern Europe. A basic question is addressed: in the three cases, has planning had a significant role in influencing the extent to which agriculture is represented in urban areas?

The wider context, of course, is that of the possibility of creating more sustainable cities. Much literature on this subject focuses on the problems of energy and traffic, rather than on the basic ability of urban places to feed themselves or deal with wastes. The role of planning, as used in this paper, encompasses the functions of physical design, of zoning and development control, and of enforcement of planning decisions. The planner here should take cognisance of the economic, social, and environmental factors which are significant in urban agriculture.

In some circles the concept of urban agriculture includes forestry. This specific land-use is not directly addressed in this paper. However, it should be noted, that in all three countries and their capitals there is some type of "forestry" within city boundaries. In Maseru, the purpose is primarily for soil conservation; in Gaborone, for fuelwood and fence post production using waste-water; in greater Stockholm for recreation areas, aesthetics and maintenance of woodland ecology, as part of the city's green structure (with timber as a by-product). In both Maseru and Gaborone, the density of trees is higher in the urban area than in the surrounding rural areas.

1. LESOTHO

Lesotho is a mountainous kingdom surrounded by South Africa, with a very narrowly based, and decidedly poor economy. Maseru, the capital, lies at about 1500 m above sea level and enjoys a temperate climate. The town had

approximately 110,000 inhabitants in 1986 and has the special feature of having maintained its traditional communal land tenure.

Physical planning is carried out by the Physical Planning Division in the Department of Lands, Surveys and Physical Planning. Until the mid-1980s, the general approach to urban planning was one of strict zoning. In residential areas, for example, only residential uses were permitted. This would allow for the compression of plot sizes to achieve high densities and low infrastructural costs per plot. Rural activities, particularly the keeping of animals, were viewed as inappropriate in a modern urban setting. Horticulture might be tolerated, but was certainly not given any place in planners' concepts of land-use or integrated urban functions.

Control and enforcement of urban development in the mid-1980s was weak, and even the allocation and administration of land was, in reality, uncontrolled by State authorities. Physical planning was not able to keep abreast, and certainly not ahead, of the demand for serviced land. Maseru was experiencing a period of rapid population growth and physical expansion.

In 1986-89, the Physical Planning Division carried out a Master Planning exercise with the support of a team of Swedish planners. Among other sectoral investigations, a special study of agriculture within the town was undertaken as part of the master planning process (2). Given the prevailing attitude to "urban character" this was in itself a departure from the norm. The findings were unexpected:

- 55% of all plots surveyed (4280 in total) had some form of on-going agricultural activity.
- Where soils are decent, low-income and self-help housing areas have a high frequency of horticulture (with over 80% of households with some form of agriculture). Low-income areas on rocky soils have relatively more livestock production, especially pigs and poultry.
- A surprising number of medium-income and high-income residents engage in agriculture with dairy farming and poultry raising being fairly common.

A more detailed survey of 10% of the plots was made in which people were asked why they engaged in agriculture on their residential plots. The results were as follows:

- Saving money and making money were the two most frequent answers to reasons for keeping livestock. Two-thirds of high-cost area households

- claimed to sell produce regularly while 29% of households in site and service (low-cost) areas claimed to do so.
- Even with vegetable gardening, saving money was most important. Sixty-nine per cent of low-income households try to save money by growing vegetables at home, 51% of medium-income households and 32% high-income households do likewise.
 - Most medium-income (60%) and high-income (64%) households felt that they had sufficient production, while fewer than half in lower-income groups felt that way. When asked what they considered to be the greatest constraints to increasing crop production, the residents claimed that lack of space was the principle factor, with other reasons including inadequate security, water problems and climatic conditions. Only in medium-cost and high-cost areas was labour considered a production constraint.

Apart from home-based agriculture, Maseru has a considerable commercial agricultural sector. The following statistics refer to activities that occur within the city limits.

- In the mid-1980s, seven major egg producers owned 75,000 birds between them, and the marketing agency (The Egg Circle) had a monthly throughput of 90,000 dozen eggs.
- There were at that time over thirty large-scale poultry producers, with one broiler unit having a capacity of 25,000 chickens and a slaughter unit capacity of 2,500 birds a day. This sector was still expanding at the time.
- The national pig-breeding herd lies within the town, and can produce 2500 weaners per year.
- The dairy sector, estimated to cater to about 40% of the town's milk production, processed 3000 litres of milk a day, from 94 urban producers.

Based on this study and several others done at about the same time (4), it was conservatively estimated that the economic value of urban agriculture exceeded nine million Maloti per year. (The Loti was equivalent to the South African Rand. The plural form of Loti is Maloti.) This is estimated to be several times the economic value achieved when the same area was still rural agricultural land under semi-traditional management.

It was fairly clear from the study that provision of water through a modern reticulation system and at minimal (in some cases subsidized) cost had much to do with the widespread popularity of gardening.

An interesting result of the planning exercise was the change in attitude of the planning cadre to single-use zoning and the willingness to accept the residential plot as a productive land unit. There remain serious reservations about livestock in the city and there is recognition that this sector must be controlled for health

reasons. Box 1 illustrates the potential produce from 100 m² garden in a low income plot of 350-400 m². Figure 1 shows a typical plot layout in a low-income area in Lesotho - the plot size is larger than the size advocated by the World Bank and other urban financiers.

Box 1

Maseru, Lesotho: An example of how a 350 m² plot with 100 m² for garden, could be used productively.

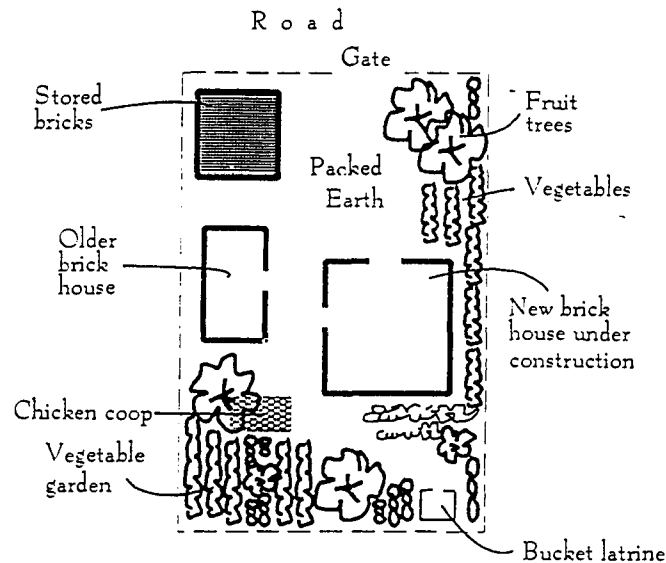
Type of crop	No. of yields/year	No. of units/m ²	Total yield (kg)
Carrot	2	5	15
Peas	2	5	5
Potato	2	5	20
Tomato	1	10	20
Swiss chard	2	5	15
Onion	2	5	15
Pumpkin	1	10	15
Green beans	1	10	15
Cabbage	2	5	35
Beetroot	2	5	15
		65	165

With 65 m² used for these vegetables, there is an average yield of 2.5 kg per m². The rest of the 100 m² would be used for maize and access, (maize gives medium yields). Alternatively, and equally common, is to plant one or two fruit trees, usually peach. Yields of peach are good for well looked-after trees.

Source: Greenhow, T. 1987. **Agricultural Land Use**. Maseru Development Plan Working Paper No 9. Physical Planning Division and Institute of Land Use Planning. Horticultural details worked out by Kurt Petersson (Agric. Economist) of the Institute of Land Use Planning.

Maseru is a case where there has been an economic pressure in support of urban agriculture, plus an opportunity (in the form of reticulated water, soils of reasonable quality, and lack of controls on livestock and other development) for its growth. Up to the mid-1980s, it was doubtful that the planners could do much to stop urban agriculture even if they had wanted to.

The main threat to continued intensive horticulture has in fact been the World Bank, whose emissaries have pressed for smaller plots for low-income households on the grounds of cost efficiency. This is in turn based on a zoning concept that treats residential land as non-productive sleeping quarters, rather than potentially productive land units. This approach has also been supported by certain international planning groups who have similar attitudes to urban form and function.



Not drawn to scale. Plot is area is 675 sq. metres.

Figure 1: Typical low-income residential plot in Lesotho

2. BOTSWANA

Botswana has a different agricultural tradition than Lesotho. The climate is drier and hotter, the soil generally not fertile. The growing environment is not naturally kind to horticulture. Water is scarcer and more expensive, although in major rural settlements, water at public taps is provided free of charge.

Planning is undertaken by the Department of Town and Regional Planning. Gaborone, the capital, was planned and established just prior to Independence by British consultants. It is located on State Land, but adjacent to two areas of traditional tenure. The Planning Department views modern urban areas as very

different in form and function from the large traditional towns that exist in Botswana. For example, agriculture is clearly seen by the Department as being inappropriate in modern urban centres and is given no acknowledgement in zoning or land development control. No provision is made for horticultural allotments, although some private attempts have been made to develop small gardening plots. At the same time, the Ministry of Health encourages horticulture on a national basis and the Prison service is known for its vegetable production and horticultural training of inmates.

Development control and enforcement are much more effective in Gaborone than in Maseru. Plans have tended to keep ahead of demand and prices for state land leases are fixed. Demand beyond this has been met through the acquisition of land in communal (tribal) land outside the city. Squatter settlements that grew up in the 1960s and early 1970s were upgraded and strict measures were adopted to prevent further expansion.

Many households in Gaborone try to maintain kitchen gardens. Yet, even when waste water is used, the practice is neither so prevalent nor so successful as in Maseru. There is general dislike of any vegetative cover by householders in Gaborone and in Botswana. Shade trees are tolerated in residential plots but most often all grass is carefully removed to reveal bare sand. This is done, so it is said, to hinder mosquitos and snakes from approaching close to the house. The effects on the microclimate are entirely negative.

Botswana's dry climate and Gaborone's rapid growth have resulted in a number of water shortages in Gaborone. The first step in reducing water consumption has always been to forbid watering of gardens (and lawns) except with grey water. At the same time, the building code does not encourage the use of water-saving toilets, nor do planners and builders encourage the use of rainwater catchment tanks.

The income gap in Botswana has been increasing in recent years, and poverty is more widespread and open than previously. Yet the overall view is that economic necessity has not been great enough to overcome the lack of skills and experience or the financial and other costs involved in practising horticulture on urban residential plots.

Other than dogs and cats, only poultry is permitted within the city boundaries. Other types of animals are prohibited for veterinary reasons (the national veterinary vaccine laboratory and production centre is located in Gaborone). Botswana has a fairly effective system of livestock impoundment. There have been unsuccessful attempts to ban chickens on the grounds that chickens are noisy. But poultry owners contend that the numerous dogs are a much greater noise problem and they do not provide eggs or meat to their owners

as poultry does. In years of serious drought, a limited number of cattle are allowed into the city to graze road margins.

The conclusion which can be drawn from the case of Botswana is that the attitude of planning authorities regarding urban agriculture is at most one of neglect and antipathy. It is not the planning authority that enforces the prohibition of livestock; nor have planning decisions directly led to the low level of horticulture in the city. At the same time, the planning authorities have not provided a physical context in which urban horticulture could be aggressively supported.

More recently, the problems of sewage disposal have made large-scale intensive agriculture (fodder and fuelwood production) based on waste water more attractive. However, these activities are still conceived as taking place outside the city.

3. SWEDEN

Under the Planning and Building Act of 1987, Swedish planning is the responsibility of the municipal level of Government, where responsibilities for primary health and education, waste management, and recreation also lie. Swedish municipalities are furthermore significant land owners, and have developed special methods of land development by negotiation with private developers. Control is effective and the population is basically compliant, partially because there is adequate means for participation in municipal decision-making.

Urban agriculture takes a number of forms in Sweden. It is likely that these forms closely resemble those found in other European countries. For many years, little attention was given to this activity by authorities. In the past 10-15 years, with greater attention being given to sustainable life-styles and recycling of waste (especially the composting of kitchen wastes), urban agriculture has received the blessing of local authorities and the national parliament.

The kitchen garden, located on the residential plot is a common form of urban agriculture. Berry bushes and fruit trees are popular as are table vegetables. In virtually no case is this type of home gardening an economic necessity today, but is a reflection of interest, a hobby, a source of homemade preserves, juices, and even wine.

In the late nineteenth century, a new movement came to Sweden from the continent. This movement led to the development of garden allotments. During the first world war in Stockholm, workers at a sugar mill began to grow vegetables on vacant city land. This illegal activity was tolerated in view of the circumstances. After the war, the city council laid-out allotments within the city

at various times as the gardening associations became organized and pressed for additional land.

Poverty and necessity were driving forces in the beginning of this movement. Later, this led to a period in which allotment farming became stigmatized. Having an allotment garden indicated poverty, so the movement experienced a downturn in popularity. However, the movement never completely died out, and by the 1960s and 1970s it had regained its popularity. Box 2 provides a short history of the allotment movement in the City of Stockholm. There is continued pressure for new allotments, with applicants waiting as long as eight years for a lot at an existing site. Today, the Swedish Association of Allotment and Leisure Gardens has 30,000 members in over 300 local chapters in virtually every municipality in Sweden. It produces a regular journal, provides advice in the form of pamphlets, has a telephone support service covering a wide range of relevant topics, and produces training materials.

In Stockholm City, there are currently 75 allotment and leisure garden areas, with about 7,500 lots (7). There are generally two types of areas: those where small cabins may be built (300-400 m²) and smaller areas (150 m²) where no shed or cabin is permitted. Prior to the mid-1970s, allotments were frequently closed to make room for the expanding city. In the mid-1970s, Stockholm politicians decided that these areas should be recognized as legitimate uses in city planning, that space should be reserved on city land for future allotment gardens, that leases should be of fairly long duration, and that the economics surrounding this land use would be studied. Most of these decisions have been implemented.

In most cases, the land is owned by the City of Stockholm and leased to the designing of housing), waste management and control of greenhouse gas emissions have been significant considerations. This movement has grown steadily, and it is now a strong force for the development of a recycling society - the sustainable community. Sorting of wastes is an obvious part of the recycling philosophy, and it has been pursued vigorously in spite of questions about its economic justification. Sorting of kitchen wastes and composting of organic components are currently key elements of recycling programs. gardeners for 25 years. Gardeners must be members of the Association. The City negotiated with the Association regarding the lease arrangements. In 1985, set the price at 0:50 SEK/m² for leisure gardens (without cabins) and 1:60/m² for allotments where cabins are permitted. The fee increases each year at a rate equivalent to 60% of the consumers price index increase.¹

¹ At the time of writing (August 1994) the exchange rate is approximately 12 SEK = £ 1 Sterling and SEK7.60 = US\$1.

Box 2

Important dates in the history of the allotment movement in Stockholm

- 1904 Anna Lindhagen organizes the first allotment area in Stockholm by Värtan
- 1906 The Stockholm Allotment Association is established, with Anna Lindhagen as Chairperson. Allotment owners are permitted to build small structures to a maximum floor size of 6 m².
- 1914 Outbreak of war. Stockholm has 10,000 allotments for potato production.
- 1915 Stockholm's Federation of Allotment Gardeners is founded.
- 1918 Stockholm City Council becomes actively engaged in planning allotment areas: an Allotments Committee is established, responsible to the Real Estate Board. It consists of Board representatives and allotment holders.
- 1920 Colonists vote to give more authority to the City Council. The Council creates a 21,000 kr loan fund for building colony cabins.
- 1921 The City takes over responsibility for running the leisure and colony gardens. Restructuring of associations takes place and a national federation is established.
- 1922 The Allotments Committee now responsible for 49 allotment areas covering 176 ha. Year-round habitation becomes an issue. The first allotment site closure to make way for a streetcar line.
- 1923 Three more areas given up to new residential areas.
- 1927 Large demonstration in which colonist demand greater attention by authorities.
- 1936 Stockholm's largest colony garden established in Skarpnäck (southern Stockholm) with 554 allotments.
- 1939-1945 Wartime: many temporary garden areas arranged for potato production. Many established colony gardens disappear, but a number of new ones are created.
- 1960 Another large demonstration: colonists react against the City's lukewarm treatment.
- 1965 The City Real Estate Office lays down a strategic program for allotment areas.
- 1969 The Stockholm City Council determines to preserve the allotment areas of the inner city.
- 1975 The City Estate Office adopts guidelines for dealing with allotment areas:
- leisure gardening will be included in urban plans;
 - all new residential area plans will include space for gardening;
 - allotment environment will be improved by planting bushes and trees; such areas will also get improved street furniture (entrances, signs, notice boards);
 - they will be made more accessible to the general public;
 - design will be more variable and pleasant, less rectangular;
 - colonists' needs for information and education will be met.
- 1977 The detailed physical plan for Järvfältet (former military area) is adopted. It includes space for allotment gardens.
- 1985 Leasehold rates are negotiated, principles will hold for 25 yrs.
- 1989 The Allotments Committee is asked by the City Estate Office to hold a contest for design of allotment cottages. Fifty-two entries received.
- 1993 With over 8,000 allotments provided by the authorities and occupied in greater Stockholm, there are still over 7,000 names on the waiting list!

The Association arranges for general upkeep of the area and for maintenance of any buildings provided, such as ablution blocks. In areas where cabins are permitted, they can be lived in between April 1st and September 30th and otherwise over weekends. There can be additional costs in infrastructure (water, lighting, refuse collection, public telephone, or rain shelters). Apart from the land rental fees, gardeners must pay service fees of between 400-800 SEK/yr in areas with cabins, or 200-300 SEK/yr for other areas.

There are other institutions also active in the field. The Swedish Association of Allotment and Leisure Gardeners is only one of five associations that make up the National Organization of Leisure Gardeners, which together have 65,000 members. It is estimated that over 3 million households in Sweden that practice some form of leisure gardening (10). The 4H clubs support children's training and encourage their interest in gardening, municipal councils are increasingly supportive of small-scale agriculture, and in many cases provide land for allotments.

From the 1970s onward, there has been a parallel growth in environmental awareness and in the interest in planning with special regard to resource management. The referendum to end the use of nuclear power was perhaps the most widely publicized act in environmental movement in Sweden. Since the referendum, issues of urban energy use (especially the use of private vehicles and the design of residential housing), waste management and control of greenhouse gas emissions have become part of the environmental movement. This movement has grown steadily and is now a strong force behind recycling and the concept of sustainable communities. The sorting of wastes is an integral part of the recycling philosophy and is being pursued despite questions about its economic value. The sorting and composting of kitchen wastes is of importance to urban gardening.

Many housing developers are now incorporating composting and kitchen gardening into designs and lay-outs for housing projects. For example, greenhouses may be built on the south facing walls of apartment buildings (5). Redevelopment is also being undertaken in some large-scale housing schemes built in the 1960s, with composting facilities and space for gardening being provided.

To date little has been done in the area of animal and poultry rearing in urban areas of Sweden. There are only a few municipalities which can competently evaluate and advise on proposals or set reasonable controls within built-up areas. However, some councils have leased public land within built-up areas to farmers to provide demonstration farms, which school classes and the general public are encouraged to visit. These farms generally incorporate some animal husbandry. Otherwise, many municipalities actually discourage or forbid the keeping of animals other than the usual pets, in residential areas. At the same

time, in many urban areas, wildlife, such as deer and hares, represent a major pest to gardeners.

In summary, Swedish planners are now taking a more active part in encouraging urban agriculture, through the provision of land, and the recognition of the sector as a useful component of the urban landscape. The close integration of planning with other sectors in municipal affairs (health, education, waste management, building control) also allows for an integrated approach that gives agriculture a recognized place. The situation is not uniform across the country, but there are definite signs that this type of small-scale horticulture will receive greater recognition through the local Agenda 21 programmes being developed, and by an incorporation of urban agriculture as a legitimate sub-set of the green structure of urban areas. Agenda 21 activities are typically coordinated by municipal environmental authorities which work in close collaboration with planners.

4. COMPARATIVE COMMENTS

The three cases presented in this paper represent to some degree three types of cities and three planning situations. Maseru represents the city (or parts thereof) whose inhabitants farm out of necessity and where suitable preconditions exist favouring agriculture. The planning system is not particularly strong, especially with regards to enforcement, but it is not entirely opposed to the horticultural components of urban agriculture.

Gaborone represents those situations where planning control is effective and other regulations are enforced. In that city, there are neither the preconditions, nor the planning attitude conducive to widespread urban agriculture. Either the subsistence need (at present) is not as great as in Maseru or the need is displaced to surrounding communities where the poor can more easily obtain free land and the cost of living is lower.

The Swedish example is more representative of a situation where planners are beginning to recognize the value of urban agriculture to the extent of making regular provision for agriculture in housing designs, zoning and development regulations and by encouraging it through specific financial incentives. In a growing number of Swedish municipalities, urban agriculture is not seen as an activity on its own, but as a valuable component in a new approach to planning with the environment and the sustainable city in mind. There is still much to do in many areas such as alternatives to water-borne sewage and use of wetlands for water purification.

A number of additional comments can be made on the three cases presented:

- Urban agriculture in Maseru is of major economic significance, both at the household level and on a commercial scale. At the household level, it is an important part of the survival strategy for low-income families as well as a attractive source of additional income for middle-income and high-income earners. In Botswana, urban agriculture is not a significant contributor to the urban economy. Urbanites have retained links to rural land holdings which may serve similar purposes. In Sweden, the economic dimension is more variable, but the role of agriculture as a hobby and recreation is recognized as having significant health (therapeutic) value especially for the elderly (11). As part of the waste management process, kitchen gardening is theoretically able to halve the solid refuse collection costs from residential areas². Box 3 gives an idea of the economic value of allotment gardening to a Swedish household.
- In all three cases, urban planners have traditionally viewed urban agriculture with little more than tolerance, certainly not as an activity to encourage or promote. This has changed in the 1980s in Lesotho. The change has not occurred in Botswana, while in Sweden, the changes which started in the 1970s have become an integral part of the larger, and increasingly important, trend towards ecologically sound physical planning. Swedish municipalities which can commit themselves to ecological principles in planning and management also become eligible for additional funds from the national government³.
- Agricultural extension services in Lesotho and Botswana are not organized to cover urban centres. The Ministries of Agriculture do not formally acknowledge the agricultural sector in cities. There is no organization of urban agriculturalists to promote the art and science of small-scale intensive horticulture, nor to represent and promote their interests vis-a-vis the authorities neither in Lesotho nor in Botswana. By contrast, there are large, sophisticated, and active organizations in Sweden, through whom negotiations and contact with authorities are continuously undertaken.

² In many municipalities households that obtain and commit themselves to use an approved composter, have their refuse bill reduced by 50% and refuse is collected half as often. There is therefore an economic incentive for households to compost.

³ See for example *Eko Bulletin*, an information bulletin published jointly by the Swedish National Board of Housing, Building and Planning and the Ministry of Rural Development.

Box 3

Some examples of actual outlays and income from allotment gardens in Sweden

Olle Bergenstahl's 150 m² lot, 1984: (prices in Swedish Kronor, from grocers' prices in August 1984, measurements in litres (l) and kilograms (kg))

Raspberries, 50 l @ 27.50	1375.00
Currants, 55 l @ 30	1650.00
Blackberries, 10 l @ 33	330.00
Strawberries, 25 l @ 14	350.00
Parsnips, 10 kg @ 6.50	65.00
Carrots, 25 kg @ 5.10	127.50
Beetroot, 20 kg @ 3	60.00
Onions, 30 kg @ 4.90	147.00
Leeks, 30 kg @ 6.50	195.00
Brussels sprouts, 10 kg @ 8.25	82.50
Cabbage, 10 kg @ 7.80	78.00
Cauliflower, 20 kg @ 9.60	75.00
Potatoes, 30 kg @ 2.50	75.00
Tomatoes, 20 kg @ 12.90	258.00
String beans, 40 kg @ 7	280.00
Lettuce, dill, parsley, Swiss chard, spring onions, about...	500.00
TOTAL	5765.00

Value of flowers not included.

Costs:

Lease rent	150.00
Fertilizer	50.00
Seeds	100.00
TOTAL	300.00

Profit* 5465.00

* at 4% average annual inflation this is equivalent today to 8,090 kr. or approximately C\$ 1,450.00.

Source. Agneta Ander, "Istället för tomt och

Ingrid Nordwall, 1992. (prices from Central Statistical Bureau and vegetable markets, August 1992 measurements in litres (l) and kilograms (kg))

Raspberries, 30 l @ 30.00	900.00
Black currants, 10 l @ 20.00	200.00
Red currants, 30 l @ 10.00	300.00
Blackberries, 10 l @ 45	450.00
Strawberries, 25 l @ 20	500.00
Parsnips, 5 kg @ 25.00	125.00
Carrots, 15 kg @ 13.60	340.00
Beetroot, 10 kg @ 10.00	100.00
Onions, 15 kg @ 6.30	94.50
Leeks, 5 kg @ 15.70	78.50
Brussels sprouts, 4 kg @ 30.00	120.00
Cabbage, 3 kg @ 90.00	270.00
Cauliflower, 5 kg @ 15.00	75.00
Potatoes, 30 kg @ 6.40	192.00
Tomatoes, 10 kg @ 16.00	160.00
String beans, 5 kg @ 30.00	150.00
Lettuce, dill, radishes, parsley, spring onions, 3 kg @ 20.00	60.00
Apples, 30 kg @ 10.00	300.00
Cucumbers, 10 kg @ 16.08	160.80
Turnip, 10 kg @ 6.00	60.00
TOTAL	4635.80

Value of flowers not included

Costs:

Approx. 1000kr for lease, seedlings, seeds, fertilizers, and accessories 1000.00

Profit* 3635.00

* at 3% average annual inflation this is equivalent today to 3,856 kr or about C\$ 688.00.

Source. Ingrid Nordwall, "Potatis, frukt, bär

- There is no literature available to home gardeners, nor specialized seed suppliers in Lesotho and Botswana. Little competent advice is available on the use of agricultural chemicals or on composting, for example. The misuse of agricultural chemicals in intensive agriculture in medium to high-density residential areas has considerable risk to public health, as does the mismanagement of livestock. In Sweden, there is a wide assortment of information available and organic farming is actively encouraged. Most allotment associations actually forbid the use of insecticides and herbicides.
- World Bank-financed urban infrastructure projects in Lesotho and Botswana consistently press for reduced sizes of plots on the grounds of cost. The potential for cost recovery through intensive kitchen gardening and the cost savings in reduced runoff, reduced waste collection and management costs are not taken into account. Similarly, less tangible benefits to micro-climate and nutrition and an improvement in urban aesthetics are also overlooked.

5. CONCLUSIONS AND RECOMMENDATIONS

We would conclude that planners do have a role to play, primarily by contributing to the creation of preconditions favourable for urban agriculture. This contribution alone, however, is not sufficient to assuring a thriving urban agricultural sector - other factors and other actors are also important. On the other hand, refusing to make a provision for agriculture where urban residents feel a need for it, will most likely lead to the citizenry adopting approaches that circumvent planning and other control systems. The institutional context within which planners operate will also determine the effectiveness of the contributions planners make.

A number of actions and objectives are recommended. These include actions directed at urban agriculturalists themselves, at local and national planners and other government authorities, and at international financial institutions and donor agencies.

- Mobilize the well-organized urban agricultural organizations in Europe and North America to take a more active part in Third World development by:
 - lobbying their respective national donor agencies to become involved in this field;
 - building links with non-government organizations in developing countries and offering institutional advice and support.

- Seize the initiative and build on the momentum created by Agenda 21 to publicize the environmental and economic values of urban agriculture. It has special relevance to the current trend for "sustainable cities." Planners have a key role in this initiative.
- Major international financial institutions (e.g.: World Bank, Asian, Inter-American, European, African, Arab, Caribbean Development Banks and IBRD) must be urged to give room for agriculture in their support to urban development programs, particularly where these programs are aimed at the urban poor. A specific area of concern here is in altering the perception of residential areas as tightly packed bedrooms to considering these areas as potentially productive land units.
- Professional town planning societies and associations should take note of the potential of urban agriculture and ensure that it is taken seriously in the practice of physical planning as well as in professional training. Encourage HABITAT to stimulate attention in this field. Of specific planning interest are:
 - adjusting legislation (especially, but not only, planning legislation) to be more favourable toward urban agriculture;
 - the explicit incorporation of household kitchen/organic waste management features (kitchen design, plot layout, development control codes) for both single and multi-family dwellings;
 - zoning and permissible land-uses;
 - provision of land for allotments;
 - incorporation of gardening areas close to school and nursery sites, if not included within them;
 - explicit incorporation of household urban agriculture in green area and recreational land uses.
- Agricultural Ministries should develop appropriate extension services to urban agriculturalists, whether hobbyists or semi-subsistence households. Alternatively, this is a field that could be developed by non-governmental organizations, special interest groups, or even suppliers of horticultural inputs. Horticulture within the urban sector should be encouraged in nursery and primary schools.
- Encourage and promote applied research in the field of urban agriculture. There are potential hazards in uncontrolled urban gardening - plants do recycle toxic chemicals from the soil, unscrupulous use of chemical can be dangerous, and intensive livestock production has additional health implications, so the approach must be balanced. But the fear of something going wrong should not be allowed to stifle support before it gets underway.

Urban agriculturalists are a creative and ingenious group of people. with or without support of planners and other institutions, they will continue to garden, either out of necessity, or out of the sheer joy of it. It would be better to recognize, support, and direct their contributions to sustainable communities than to pretend they are not there, or worse, to deliberately undermine them.

NOTE

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**Cities Feeding People: Urban Agriculture and City Planning
in the North & the South**
Session D1, Edmonton Convention Centre
September 20, 1994, 15:30 - 17:00
Edmonton, Alberta, Canada

This panel discussed and compared the recent evolution of food production within and on the edge of cities in the North and the South, its current significance (land use, practitioners, consumers, share of urban food supply, market value). It presented recent changes in official recognition, regulation and promotion of urban agriculture. The panel addressed important challenges for urban agriculture which the city planning community can assist in overcoming to render our cities more sustainable. The session included a 10-minute introduction, four 15-minute presentations, and a 20-minute question and answer period.

"Urban Food Production: A Survey of Evolution, Official Support and Significance (with special reference to Africa)"*

Chairperson: Luc J.A. Mougeot, Senior Program Officer, International Development Research Centre (IDRC), Ottawa, Ontario, Canada (fax: 613-567-7749).

"Promoting Urban Agriculture: A Strategy Framework for Planners in North America, Europe and Asia"*

Speaker: Paul Sommers, Tropical Horticulture Consultant, and Jac Smit, President, The Urban Agriculture Network, Washington, D.C. USA (fax: 202-986-6732).

"Urban Agriculture and The Sustainable Dar-es-Salaam Project, Tanzania"*

Speaker: Camillus Sawio, UNCHS-IDRC Research Project Coordinator, Department of Geography, University of Dar-es-Salaam, Tanzania (fax: 255-51-43038/46718).

"Une Histoire des Deux Villes: Comparing Canadian Community Gardening Programs in Montreal and Toronto"*

Speaker: Sean Cosgrove, Design Consultant, Toronto Food Policy Council, and Board Member of American Community Gardening Association, Toronto, Canada (fax: 416-393-1357).

"Urban Agriculture: Can Planners Make a Difference?"*

Speaker: Timothy Greenhow, Urban/Regional Planner, SWEDEPLAN - International Divisional of Sweden's National Board of Housing, Building and Planning, Stockholm, Sweden (fax: 46-8-644-4689).

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