A Review of Human Issues in Horticulture in Finland: Urbanization Motivates a Renewed Appreciation for Plants and Nature

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SUMMARY. Approaches using human issues in horticulture (HIH) offer new possibilities to develop nearby nature in cities, especially during a period of rapid urbanization in Finland. New initiatives have been developed in school gardening, environmental education, gardening in training programs for disabled people, therapeutic environments in hospitals and institutions, and in the University of Helsinki horticultural education and research programs. At the University of Helsinki, two contact teaching courses and national seminars were organized in 1996 and 1998. Initial studies in the HIH approach have three main themes: 1) gardening as a tool for better quality of life in homes for the elderly, 2) ecology, native plants and extensive maintenance in parks, and 3) the use of horticulture in environment and science education at the lower level of the comprehensive school.

Finland has always been a country of forests, lakes, peatlands and sparse population. Forests, trees, waterways, rocks, fish, and berries are our natural resources, and Finns feel at home, safe and relaxed in these environments. In 1900 the proportion of the urban population was 12.6%, while in 1930, 1960, and 1990 the proportions were 20.6%, 38.4%, and 61.6%, respectively (Statistics Finland, 1996). In 1960 the labor force employed in agriculture numbered 721,000 persons, while in 1990 it was 170,000 persons, respectively (Statistics Finland, 1996). During three decades over 500,000 agricultural workers and their families left their rural, natural surroundings and moved to population centers and cities in southern Finland. Large suburbs with cheap apartments, big schools and hospitals were built outside the cities. Landscaping was modest due to lack of financial resources. During the boom of the 1980s, improvements were started, but the severe recession in the 1990s stopped this development.

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A large part of the population still maintains close contact with agriculture and their native rural places. Most people living in towns are first or second generation urbanites. Gardening is familiar; 49.2% of households have some kind of place for growing plants (Tiainen et al., 1984). The total number of private kitchen gardens in 1982 was 867,700. Of these, 43.4% were in conjunction with one-family houses, 40.1% with farm houses, 9.2% with summer cottages, 5.1% with rented parcels, 1.3% with allotment gardens, and others 0.9% (Tiainen et al., 1984). The number of allotment gardens has increased from 15 in 1940 to 31 in 1970 and 48 in 1994 (Kauppinen, 1987). A special feature in Finland is the summer cottage, which is often located close to a Finn's native area (place where they were born and raised) and numbered 408,000 in 1994 (Statistics Finland, 1996). People drive long distances to their cottages on weekends and holidays. The desire for contact with nature is the driving force behind this. Because this contact is so necessary for relaxation, we should improve the quality of nearby nature in cities, suburbs, hospitals, schoolyards, and offices in order to improve the quality of life of ordinary citizens. An awareness of the huge changes in society and the poor quality of nearby nature in suburbs and institutions have been a motivating force behind the focus on human issues in horticulture (HIH).

An old application of HIH

The father of Finnish public schools, Uno Cygnaeus (1810–88), was familiar with and thoroughly impressed by the educational ideas of J. J. Rousseau, J. H. Pestalozzi and F. Fröbel. Cygnaeus found gardening and school gardens an excellent means to teach the natural sciences and practical horticultural skills, to promote children's physical and mental development, and to "cultivate the soul and heart for the benefit of human life and society" (Kalervo, 1913). However, it took several decades before the idea of school gardening spread more extensively among teachers and local school authorities.

In the early 20th century, wide enthusiasm for school gardening prevailed in Finland: horticulture was included in teacher training, the National Department of Public Education announced instructions and model plans for school gardens, and several books were

published on the subject (Kalervo, 1915; Hyvönen, 1922). The aim was to decorate school grounds with ornamental settings as well as to train and educate students through practical work in kitchen gardens. Thus, children's sense of beauty, their knowledge of the natural sciences and even their moral and emotional development would be improved.

At that time, most elementary schools were rural with resident teachers. Hence, the site for school gardens and their summertime care were easily arranged. The few bigger cities sought to organize community garden plots to be cultivated by school children during the three-months-long summer vacation.

School gardens were still valued right after World War II, when there was a shortage of food and other necessities in Finland. Since then, conditions have changed substantially, and the ideals of school gardening have been forgotten. Horticulture may still be included in the curriculum, now as an elective subject in the upper grades. In practice, few elementary schools carry out gardening activities: teachers feel their horticultural knowledge is inadequate and the fact that the school vacation coincides with the best growing season is an impediment. Nowadays, most Finnish schools are located in urban areas. School grounds are often crowded and mostly paved, with little, if any, space for greenery. They seem to be planned not for education, nor for recreation, but first and foremost for easy maintenance.

Times are now changing: in the 1990s, a new awareness of the impact of the physical school environment has arisen in Finland. The National Board of Education has initiated a school ground project with the aim of promoting the use of school surroundings as a resource for all aspects of the curriculum. The ideal is an environment that enhances learning and gives children a wealth of experience in the four classical elements: air, water, fire and earth. On the grassroots level, local projects to improve school grounds are being carried out here and there, usually with teachers and parents as initiators and communities providing material aid. In fact, school ground development is one of the main down-to-earth activities among parent-teacher associations.

Current applications of HIH

During the 1990s several authorities as well as local and private services

have understood that the weak link for most communities and institutions is the environment. They have introduced gardening in their programs, focusing on environmental well-being. Some of Finland's promising projects are presented in the following section.

In Helsinki, the capital of Finland, one of the community gardeners has developed a program to teach very young children to enjoy, respect and nurture plants and plant populations. The program, started in 1995 and called Auntie Green, has been met with overwhelming enthusiasm among children, kindergardeners and parents. Furthermore, Auntie Green has received wide publicity in newspapers, radio and TV: the program is now expanding with new aunts and uncles being trained. In several smaller communities, children have been encouraged to participate in city planning and design (Horelli, 1997). The ultimate goal is to support the growth and development of children by means of horticulture in an urban environment.

The Adaptation Training Centre for Disabled together with the city of Lahti has carried out a 3-year-project (1995–97) to involve gardening in training programs designed to create a more meaningful life for disabled people. Persons with a brain injury or physical handicap have grown flowers and herbs in a city-owned greenhouse with the guidance of an occupational therapist, physiotherapist and gardener. The objective was to develop individual initiative and enterprise. The project has been very successful and the line of action is being continued by the Adaptation Training Centre and the city garden.

The Association of Finnish Local and Regional Authorities together with the National Research and Development Centre for Welfare and Health has participated in the international UNESCO project Arts in Hospital. In Finland two hospitals, two homes for the elderly, and one nursing college looked for local opportunities to increase awareness of the importance of a therapeutic environment. The project produced local cultural and art activities and improvement in environments (Kokkola and Kotilainen, 1997).

University involvement

The HIH approach was introduced in Finland at the University of Helsinki's Department of Horticulture in 1993. It began by acquainting students with available literature on the subject. The first contact teaching course for students

and graduate horticultural specialists was organized in 1996. A national seminar (Evers, 1996) was held in conjunction with the course. The 120 participants represented all walks of life: architects, horticultural students, hospital nursing staff and gardeners, local authorities, media, Ministry of Justice, prison administration, social welfare for the disabled, teachers, and advisors. The discussions brought out the clear message that we should improve our immediate natural surroundings and open ourselves to contact with plants. The second course and national seminar were in 1998 (Evers, 1998).

HIH research at the University of Helsinki

A number of students at the University of Helsinki have chosen to pursue graduate research in HIH. The first doctoral thesis in HIH was published in 1998 (Levander, 1998). Other studies in this approach have concentrated on three main themes: 1) gardening as a tool for better life quality in homes for the elderly, 2) ecology, native plants, and maintenance in parks, and 3) the use of horticulture in environmental and science education. These are described below.

GARDENING AS A TOOL FOR BETTER LIFE QUALITY IN HOMES FOR THE ELDERLY. The number of elderly people is increasing rapidly in Finland as well as in many other developed countries. Persons aged 65 and over make up 14% of the population, and it is estimated that 24% of the population will be 65 or older in 2030 (Statistics Finland, 1995). The proportion of very old people (>80 years) in particular is growing (Statistics Finland, 1994).

Old-age care was formerly institution-oriented, but presently over 90% of the elderly live in their own homes (National Board of Social Welfare in Finland, 1987). If they cannot manage in their daily life, home aid services are provided by local government healthcare offices. About 5% of the aged live in old people's homes (National Board of Social Welfare in Finland, 1987). Service apartments for the elderly are increasing, and it is estimated that 3% of the retired will be living in assisted living facilities at the end of the century (Ministry of Social Affairs and Health, 1990).

Before World War II, homes for the elderly were often built outside population centers on a beautiful spot near a lake. They usually had a large garden with vegetables, berries and apple trees,

and residents could participate in the garden work. Over the last decades the tendency has been to build old people's homes in cities, ignoring the healing dimensions of nature and gardening.

In her dissertation, Erja Rappe is studying if it is possible to improve the physical and mental condition of the elderly living in institution-like settings by means of gardening. Because Finland was an agricultural society in the youth of the present-day aged people, they have developed cognitive and emotional skills related to nature and plants. In her first study Rappe interviewed 12 old people in a sheltered housing area to find out the meanings gardening had to the residents. Preliminary results show that gardening was very important to the residents, who desired to practice their former abilities to understand and control their present environment. Gardening also had an important role in social relations. Rappe's next study will be a survey to find out how the personnel in the homes of elderly experience plants in their nursing work.

ECOLOGY, NATIVE PLANTS, AND MAINTENANCE IN PARKS. Landscaping traditions in Finland are based on foreign ideas of landscaping. At present there is a new demand to find a sustainable combination of nature and gardening, introduce ecologically oriented approaches in landscaping, develop lines of action to restore poor nearby environments in population centres, learn how to increase biodiversity, and learn more about extensive maintenance and natural plant communities (Pehkonen and Jansson, 1996). Our wetland theme-interview study is collecting information and attitudes of interviewees concerning wetland plant communities, plant species, growing conditions and human aspects in using wetlands in landscape construction. In a maintenance-intensity study, slides are employed to discover residents' preferences for different maintenance levels (from low to high) for parks in the Helsinki area.

THE USE OF HORTICULTURE IN ENVIRONMENTAL AND SCIENCE EDUCATION. Three master's theses focus on applying horticultural practices in environmental and science education at the lower level of the comprehensive school. One of the studies applies horticultural practices on a city farm used to educate school children, the second study on a school ground, and the third one in a biology classroom. The target is to produce teaching materials on how to use horticulture for environmental and science education.

Conclusions

The HIH approach gives a practical tool to bring gardening and people-plant interaction close to children, adults, and elderly in their everyday life in cities. It is being practiced on an increasing scale in Finland. In the future we need more research results to convince authorities and sponsors that this is one effective way to improve nearby nature.

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