

Food production and its retail sales are increasingly perceived to be presenting risks to society in Europe. Consumers are concerned, and have lost trust and confidence in their food supply. Policies are therefore needed to limit the risks and to promote the assets of different means of food production and distribution, and also to restore consumer confidence.

Antoaneta Yoveva



Market in Sofia

Food Policies are Essential for Healthy Cities

Food security is defined as “all people at all times have physical and economic access to enough food for an active, healthy life.” This concept encompasses the belief that production, distribution and consumption of food are sustainable and governed by social justice and values that are equitable and morally and ethically sound; the ability to acquire food is assured; food is nutritionally adequate, and personally and culturally acceptable; and food is obtained (and consumed) in a manner that upholds basic human dignity (working definition of Food Security, World Food Day Association of Canada 1995).

Maintaining food security in a way that is both sustainable and ethically sound for the increasing number of people living in cities, is a challenge. The level of urbanisation in the European Union (EU) is around 80% compared with 66% in Central and Eastern Europe. It is predicted that 90% of all Europeans will be living in cities by the year 2015. How food is produced and retailed to this large population is a matter for serious attention by policy-makers.

Urbanisation combined with global food production and retail-level sales can detrimentally affect food and nutrition security unless appropriate policies are made. Within a European context, local food policies could provide part of

the solution and reduce the problems. Urban agriculture is seen as an increasingly important means of attaining local food security.

FOOD-RELATED URBAN HEALTH ISSUES

There are three key health issues which urban food policies need to address: food safety, inadequate population nutrition and socio-economic differences in food availability.

In Europe, discussions on the health effects of agriculture have been dominated by food safety issues although the effects of agriculture on nutrition are quantitatively more important for population health. Food production, its sales and food-borne disease are increasingly perceived as presenting public health risks. Consumers are increasingly concerned about microbiological safety (*Campylobacter*, *Salmonella*, *E. coli*, and *Listeria*), chemical safety (pesticide residues, nitrates and heavy metal contamination) and genetically modified food, novel foods and new processing techniques. Consumer confidence has suffered due to reports about antibiotic resistance, mad cow disease (BSE) and dioxin scares.

Many of the food-borne diseases are associated with mass-produced food. Some of the risks might be more easily controlled and potentially reduced if more

food is produced closer to the consumer. However, many municipal authorities are at times unnecessarily restrictive in terms of the retail sales of local foods. Despite this, local foods in some countries in Central and Eastern Europe contribute substantially to the availability of vegetables and fruit, and provide a way to earn extra income. Local markets must therefore be preserved at all costs.

Diet and nutrition have clear health linkages. A diet which is low in vegetables and fruits is associated with an increased risk of cardiovascular disease. Estimates suggest that 30–40% of certain cancers can be prevented by eating enough vegetables and fruit (WCRF 1997). A low intake of vegetables and fruit is also associated with micronutrient deficiencies, hypertension, anaemia, premature delivery, low birthweight, obesity, diabetes and cerebrovascular disease (WHO 1990).

The WHO, and EURO’s CINDI dietary guide to healthy eating, recommends eating *at least* 400 grams of vegetables (not including potatoes) and fruit daily (WHO 1990). More than half of the 51 countries in the WHO European Region do not currently produce a sufficient amount of vegetables and fruit to support this recommendation. It has been estimated, using FAO’s food production data,

Much of this article is based on WHO EURO’s Urban Food and Nutrition Action Plan. This provides more detail on the potential assets arising from local food policies as well as many examples. For more information on WHO, activities please visit our website (www.who.dk/nutrition/main.htm) or write and ask for more information.

Robert M. Pederson
Danish Cancer Society,
Copenhagen, Denmark

Aileen Robertson
World Health Organization –
Regional Office for Europe,
Copenhagen, Denmark.
✉ aro@who.dk

that 600 grams of vegetables and fruit per capita per day (needed to secure an intake of 400g/person/day) were available only in 11 countries in the European Region (Belgium, France, Greece, Israel, Italy, Luxembourg, Malta, The Netherlands, Portugal, Spain and Turkey) in 1995. The question is how to increase the availability of and access to enough vegetables and fruit for all urban dwellers.

Urbanisation and urban food access may contribute to poverty and socio-economic inequalities. Poverty is associated with poor health and an increased risk of disease. Current policies may not support

Local urban food policies promote the benefits of urban agriculture

retail outlets to sell affordable vegetables and fruit. Supermarkets are increasingly built on the periphery of cities making regular access, especially for vulnerable groups such as the elderly or disabled, difficult. Street markets, food co-operatives and community schemes that bring producers closer to their customers may be non-existent.

The population of Athens have access to fresh vegetables and fruits at traditional street markets where farmers, market gardeners, and even households sell their produce in almost every neighbourhood. Greece, which has the greatest amount of vegetables and fruit available nationally, also has the lowest rate of premature death from heart diseases. Data from household budget surveys show that twice the amount of vegetables and fruits (600 grams) is available at the household level in Greece, as compared to only 300 grams in Russia. This low availability is bound to result in inequalities and very low intakes for the poor living in St Petersburg, compared with Athens.

THE POTENTIAL HEALTH BENEFITS

Fortunately, periurban and urban conditions are conducive to the production of vegetables and fruit. Increased growing of these nutrient-dense foods will make an important contribution to urban food and nutrition security. Production closer to cities helps to ensure that the produce is as fresh as possible and likely to have a higher nutrient content, compared with that which is stored or transported for long periods (Lobstein 1999).

In Central and Eastern Europe and the former Soviet countries, while output from large-scale collective farms has decreased, local food production is rapidly increasing (Box 1). In order to ensure food security and supplement income during times of social and economic hardship or war, people start growing their own food. For example, during the Second World War, people in Britain were urged to 'Dig for Victory,' and more recently, similar activities occurred in Sarajevo during the 1992-96 war (Curtis 1995). Even in Western Europe, urban food production is increasing; for instance, the City Harvest Project in London estimated that almost 20% of the WHO recommended vegetable and fruit intake could be produced in the city.

Local urban food policies promote the benefits of urban agriculture for increasing food security and other health improvements. Incentives to produce more food locally and to sell it at affordable prices through healthy market places could help reduce poverty and social inequalities. The percentage of income spent on food is much higher in Central and Eastern Europe (up to 60-70%) compared with the EU (20%). Inequitable access to food will get worse if local food policies are not implemented. The cost of local foods may be lower than globally mass-produced foods because of savings on transport, storage, fewer middle-men, less processing and packaging. Any savings made on food expenditures by the poor translates

Box Examples of urban food production in WHO European Region

- ❖ In Russia town dwellers produce 88% of their potatoes. These are grown on plots of 0.2-0.5 hectares which constitute only 4% of the agricultural land in Russia .
- ❖ In Poland 500,000 tonnes of vegetables and fruits (1/6 of the national consumption) were produced on 8,000 council gardens in 1997.
- ❖ In cities of the former Soviet Republic of Georgia home produced food made up 28 % of the income.
- ❖ In Romania the share of home produced food rose from 25 to 37% between 1989 and 1994.
- ❖ In 1998 in Bulgaria 47% of the urban population was self-sufficient in fruit and vegetables; 90% of families prepared preserves for the winter.

Source: *Urban Food & Nutrition Action Plan, WHO, EURO 2000.*

into more income and are available for improvements in living conditions.

Other benefits of urban food policies include direct economic benefits arising from income generation, local employment and the development of small enterprises, and indirect economic benefits arising from more opportunity for education, recreation, and the multiplier effect of attracting new businesses and services. There are also many environmental benefits including water and waste reuse. (For more on benefits of increased vegetable production, see Knai & Robertson, *Horticultura*, 2000 (in Spanish and English, from WHO EURO.) These benefits come on top of social benefits, including increased leisure possibilities, improved social cohesion and inclusion, and the health benefits of improved physical and mental well-being.

THE NEED FOR LOCAL URBAN FOOD POLICIES

Governments at local and national levels need to create explicit policies to improve safe access to food and nutrition in urban areas. Many urban health and environmental problems have similar solutions. Local urban food policies seek to increase the availability of and access to locally produced foods and at the same time improve the local economy, create more jobs and promote social cohesion by linking urban dwellers more directly with growers. Moreover, incentives can be given to produce food using environmentally sound and sustainable methods.

Municipal authorities involved in environment, health and community development are beginning to link these different issues, through projects or networks. NGO projects aiming at poverty alleviation, urban renewal and community development, Healthy Cities networks and Local Agenda 21 initiatives can all be linked through food projects to improve nutrition security. One example is the St Petersburg Urban Gardening Club (Garilov 2000).

The successful implementation of food policies requires the participation of various stakeholders: local/municipal authorities, food producers, consumer groups, neighbourhood and environmental groups, local schools, community health centres, retailers, markets, banks and food control/safety authorities. Community involvement, both to find sustainable

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solutions and to facilitate action, is essential. Although ensuring broad community involvement is daunting since it is both time and resource consuming, it is vital to ensure equitable and sustainable solutions. This requires public debate, and also effective interaction between policy-makers, institutions, commercial interests and community groups. The family allotment gardening scheme in Georgia illustrates the problems and benefits of community involvement in implementing local food projects (Chatwin 1998). This pilot project involved the community, local authorities and NGOs and was proposed as an institutional mechanism for increasing urban food security, with a secondary aim of democratic institution building. Forty of the poorest families were allotted a 250m² plot of land and they were organised as a (community-based) group to manage this as family allotments. Despite many disputes among participants, the benefits of the approach led to assessment of the model for its potential application to other urban areas of Georgia and the Caucasian region.

The creation of mechanisms, such as Community Food and Nutrition councils, will help to develop and

implement local food policies and ensure an integrated approach. These councils should be organised by the local/municipal authorities with representation from local food producers, retailers, public interest groups working with the environment and community development. Community Food and Nutrition Councils could provide a local framework for: identifying objectives and strategies; monitoring community-based projects; co-ordinating research into sustainable agriculture, urban planning, community development, and reviewing and updating food and nutrition policies.

CONCLUSION

The health risks associated with urban food production and retail sales need to be minimised while more attention should be paid to potential health benefits. The objective of urban food policies should be to promote health through an integrated approach within the local community. Health - including physical and mental well-being - and socio-economic gains achieved could help reduce the widening gap in social inequalities in many cities.

Clearly there are major differences within and between cities. However, important lessons and appropriate actions can be learned by sharing these differences. Action requires the participation and collaboration of citizens, voluntary organisations, retailers, wholesalers, food producers and the local authorities and politicians. Local Agenda 21 and Local Environmental Health Action Plans are being implemented in Europe, which provide a platform for participation.

Implementing local food policies which advocate sustainable food production and equitable distribution, provide a concrete way of improving public health. Growing, buying, and eating the right kinds of food can reduce the risk of major diseases and simultaneously promote a sustainable urban environment.

Designing a Research Agenda on Malaria and Agriculture

Over the last decades, a considerable investment of financial resources has been directed towards the development of curative drugs and vaccines against malaria, and towards the evaluation of chemical insecticides for mosquito control. Historically, the agricultural dimension has received little attention from the research community, despite its importance as a contributory factor to malaria transmission risks and its inherent opportunities for paradoxically minimising such risks. The incorporation of a relevant health component in agricultural research could contribute to the identification of opportunities for minimising malaria risks through agriculturally-based interventions, both in rural and in urban and periurban settings. The CGIAR System-wide Initiative on Malaria and Agriculture (SIMA) co-ordinated by the International Water Management Institute (IWMI) (see the Networking Section in this issue) has taken up this challenge.

How can agricultural interventions help reduce malaria? Some practical examples:

- ❖ **Problem** → Flooding of rice fields promotes mosquito breeding. **Opportunity** → Intermittent irrigation may increase rice yields and control mosquito breeding.
- ❖ **Problem** → Cattle expand mosquito populations through provision of blood meals and creation of vector-breeding habitat. **Opportunity** → Cattle can be used to divert hungry mosquitoes from people (zooprophyllaxis). They are also 'dead-end' hosts to malaria parasites.
- ❖ **Problem** → Pesticides used in production of high-value crops induce insecticide resistance in malaria mosquitoes and can also lead to acute and chronic poisoning of people. **Opportunity** → Control of crop pests through integrated pest management (IPM) approaches may reduce the need for synthetic insecticides.
- ❖ **Problem** → Poor nutritional status contributes to low immunity against infections among children. **Opportunity** → Micronutrients (e.g. vitamin A in varieties of sweet potato, vegetables, etc.) may enhance immunity against infections, including those due to malaria parasites. **Opportunity** → Bucket-kit drip irrigation systems and treadle pumps may enhance food security and income (for purchase of nets, drugs, etc.) among poor households in Africa, Asia and Latin America.
- ❖ **Problem** → Synthetic fertilisers used for rice production cause a rapid increase in populations of important vectors of disease including malaria (Africa). **Opportunity** → Rice fields with freshly applied synthetic fertilisers may enhance the biological control of mosquitoes using *Bacillus thuringiensis israelensis* (Bti). First, by serving as important concentration sites for mosquito larvae. Secondly, by improving the timing of the application of the entomo-pathogenic bacteria, since peaks of larvae appear to closely follow fertiliser application in the field. Improved timing could increase the efficiency of applying Bti, thereby reducing costs.